This section identifies the cumulative impacts associated with the proposed project as statutorily required by the California Environmental Quality Act (CEQA). Cumulative impacts expected from the project are the result of combining the potential effects of the project with other cumulative development anticipated by growth in the greater area. The following discussion considers the impacts of the relevant environmental areas using the information provided in the technical analyses in Sections 3.1 through 3.8 of this Draft EIR.

This section also discusses the long-term implications of the project as required by CEQA. The topics discussed include significant irreversible environmental changes/irretrievable commitment of resources, growth-inducing impacts, and significant and unavoidable environmental effects.

4.1 CUMULATIVE IMPACTS

INTRODUCTION

CEQA requires that an environmental impact report (EIR) contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." *Cumulatively considerable* means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact is an impact created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *. . . the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies the following elements as necessary for an adequate cumulative impact analysis:

> *1) Either:*
>
> *(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,*
>
> *(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.*
>
> *2) A definition of the geographic scope of the area affected by the cumulative effect and a reasonable explanation for the geographic limitation used;*

3) *A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and*

4) *A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.*

Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

This document uses a combination of the projection- and list-based approaches; together, the projections and projects analyzed are referred to as the "cumulative scenario."

APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

The geographic scope of area and time horizon considered for each cumulative impact evaluated in the EIR is dictated by the specific type and nature of impact being considered. For example, when considering a project's incremental contribution to cumulative air quality criteria pollutants, the geographic scope of area is the air basin in which the project is located. In contrast, geology impacts are generally site-specific and limited to the physical footprint of a project site, and water quality impacts are considered within the watershed in which the project is located. Specific geographic and temporal scopes of cumulative effects consideration are identified on a resource-by-resource basis.

The general cumulative setting conditions considered in this Draft EIR are based on:

- **General Plans**. These are the existing land use plans that provide general growth patterns in the region, consisting of unincorporated San Bernardino County and the cities of San Bernardino, Victorville, Apple Valley, Hesperia, Big Bear Lake, Lake Arrowhead, Crestline, and Running Springs.

- **Large-Scale Surface Mining Projects**. This includes current large-scale proposed and approved surface mining projects in San Bernardino County Supervisorial District 1, which encompasses the project site (see **Table 3.0-1**) in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. It should be noted that this list is not intended to be all-inclusive of surface mining activities in the county, but rather a general description of current surface mining activities.

IMPACTS

Aesthetic and Visual Resources

Impact 4.0.1 Implementation of the proposed project, in combination with other reasonably foreseeable mining projects in San Bernardino County, would contribute to the alteration of the visual character of the San Bernardino Mountains. This is considered a **cumulatively considerable** and **significant and unavoidable** impact.

The cumulative setting for cultural resources includes those projects listed in **Table 3.0-1** along the north slope of the San Bernardino Mountains. Large-scale mining operations on the north slope of the San Bernardino Mountains have resulted in surface disturbances that are visible from much of Lucerne Valley. These disturbances are highly evident on the mountain slopes due to the generally light color of the limestone deposits in contrast to other mostly undisturbed steep slopes. The extent of the landscape alteration in the viewshed and the contrast between the linear-appearing mine features and the non-linear nature of the undisturbed areas also contribute to the landscape alteration. Limestone mines contribute a greater share of this impact due to the greater color contrast between mined and unmined areas and because of their position on the mountain slopes overlooking the valley. Due to their lower elevation and lesser color contrast, the aggregate mines are generally less visible to surrounding areas. Most of the existing mining operations are active, and final reclamation has been implemented on relatively small portions of the permitted mining areas. The mines are anticipated to operate for decades, and final reclamation will not be complete until several years after the completion of the last mining. While the existing disturbance is part of the environmental setting or baseline, additional surface disturbance is expected to occur as existing mining operations continue and as proposed new mines and mine expansions are approved and developed. This additional disturbance would have a cumulatively considerable impact on the visual resources in the region.

Changes to the visual character of the area from implementation of the proposed project are shown in **Figures 3.1-3** through **3.1-5**. As discussed under Impact 3.1.1, the proposed project would have a significant and unavoidable effect on the visual character and quality of the site and the surrounding scenic vistas provided by the San Bernardino Mountains. The only true mitigation to remove this impact would be the ceasing of all development. This, however, is not realistic. Feasible mitigation to lessen this impact is not possible. Therefore, the proposed project, along with the projects shown in **Table 3.0-1,** contributes to this cumulative impact and would result in a **cumulatively considerable** and **significant and unavoidable** impact.

Air Quality

Impact 4.0.2 Implementation of the proposed project, in combination with cumulative development in the Mojave Desert Air Basin (MDAB), would result in a cumulatively considerable net increase of criteria air pollutants for which the MDAB is designated nonattainment. This is considered a **less than cumulatively considerable** impact.

The cumulative setting for air quality is the Mojave Desert Air Basin, which is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. The western area of the MDAB where the project is located is designated as nonattainment for federal and state ozone standards as well as for federal and state PM_{10} standards.

Those projects listed in **Table 3.0-1** are considered in this air quality cumulative analysis. According to the MDAQMD, cumulative impacts are similar to direct and indirect impacts of the project, which the project contributes to. Therefore, a new mine project should be evaluated with all other mining projects, from the standpoint of each type of impact (cumulative construction emissions, diesel equipment emissions, blasting emissions, fugitive emissions, transportation, congestion, etc.). As shown in **Table 3.0-1,** there are at least 21 other mine-related projects proposed and/or approved in the county.

As discussed in Chapter 3.0, Project Description, Omya operates two other quarries in the area. These two quarries, the Sentinel and Butterfield Quarries, are located approximately 3 miles south of the processing plant on Crystal Creek Road. (The Sentinel and Butterfield Quarries are currently undergoing a separate CEQA evaluation for proposed expansion.) The air quality analysis for the proposed project is based on all production coming from the project. The combined production from all the operating quarries (Butterfield, Sentinel, and White Knob) is limited by the processing plant's maximum production rate capacity, which is 680,000 tons per year of finished ore. The project would not increase this capacity; however, if all production were to come from the proposed project site, operations at the Sentinel and Butterfield Quarries would cease, thereby eliminating air quality emissions from those sites, and actually decrease the potential air quality impacts.

Considering that the proposed project is the expansion in permitted area and extension of time to mine the area and that the project is an already existing quarry with its attributed existing air emissions and will not result in emissions above those described in Section 3.2, Air Quality, of this Draft EIR, which can be reduced to a less than significant impact, cumulative air quality impacts are considered minimal. Furthermore, as evaluated under **Impact 3.2.1**, the project would not exceed long-term operational standards and therefore would not violate air quality standards. In addition, the project conforms to all MDAQMD Attainment Plans, as it complies with all applicable district rules and regulations, complies with all proposed control measures from the applicable plans, and is consistent with the growth forecasts in the applicable plans.

For these reasons, the project would result in **less than cumulatively considerable** impacts.

Biological Resources

Impact 4.0.3 The proposed project in combination with other reasonably foreseeable projects could result in mortality and loss of habitat for special-status species, as well as biologically sensitive habitats. Therefore, this impact is considered **cumulatively considerable**.

The Project Study Area (PSA) and the surrounding area of San Bernardino County as a whole is considered the cumulative context for the purpose of evaluating land use conversion issues associated with biological resources on a cumulative level. In particular, this cumulative setting condition includes planned development under the current Land Use Element of the San Bernardino County General Plan, existing land use conditions, planned and proposed land uses in the vicinity of the PSA, as well as consideration of development patterns in the rest of San Bernardino County. These land uses and developments have the potential to adversely affect the biological resources in the region and could contribute to the loss of potential habitat.

The implementation of project-related activities would contribute incrementally to the cumulative loss of native plant communities, wildlife habitat values, special-status species and their potential habitat, and wetland/aquatic resources within San Bernardino County region. On a cumulative level, the change in land uses will contribute to a loss of potential habitat for special-status species including, but not limited to, rare plants, special-status wildlife, as well migratory birds and raptors that currently inhabit the area or could inhabit the area in the future. In addition to potential direct impacts on biological resources, project-related activities may also result in indirect impacts biological resources. Indirect impacts could disturb breeding and foraging behavior of wildlife, which would result in a significant and unavoidable cumulative impact. Another indirect impact would be stormwater runoff. Each project is required to participate in the NPDES permit program for stormwater runoff, which effectively reduces water quality impacts to below a level of significance. While project specific measures would be

undertaken to minimize direct and indirect effects to biological resources, the combined effect of all new development approved or planned in the area would create a significant and unavoidable cumulative impact.

The PSA has several biologically sensitive resources that could be impacted during future implementation of project-related activities. The mosaic of upland, aquatic, and riparian habitat types within the PSA provide suitable nesting, breeding, and foraging habitat for a variety of species including mule deer, bighorn sheep, golden eagles, desert tortoise, Mohave ground squirrel, coast horned lizards, Le Conte's thrasher, as well as a variety of other migratory birds and raptors.

The vegetation communities/habitats within the PSA represent only a small portion of the communities/habitats available for special-status species within the project vicinity. However, implementation of the proposed project may result in degradation of habitat through a variety of actions which, when combined with other habitat impacts occurring from mining activities within surrounding areas, would result in significant cumulative impacts. Future development in the vicinity of the PSA would have an unknown and unquantifiable impact on special-status species and biologically sensitive habitats. As project-related activities may contribute incrementally to these effects, the impact is considered **cumulatively considerable**.

Omya, along with other mining stakeholders on the North Slope, are actively participating in the SBNF Raptor Conservation Strategy as well as the Carbonate Habitat Management Strategy. The Raptor Conservation Strategy identifies monitoring objectives, schedules, and protocols; as well as measures to avoid, minimize, rectify, and reduce effects to nesting raptors along the North Slope. The Carbonate Habitat Management Strategy was developed to facilitate the preservation and recovery of Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*), Cushenbury milk-vetch (*Astragalus albens*), Cushenbury oxytheca (*Oxytheca parishii* var. *goodmaniana*), and Parish's daisy (*Erigeron parishii*); while at the same time providing a method for mining projects to obtain FESA compliance. The participation of Omya and other mining stakeholders in the region in the Raptor Conservation Strategy and the Carbonate Habitat Management Strategy will ensure that potential cumulative impacts from mining activities in the region will be mitigated to a **less than cumulatively considerable** level.

In addition, the mining stakeholders in the region would also be required analyze project impacts in accordance with CEQA Guidelines and develop appropriate avoidance, minimization, and mitigation measures to ensure project impacts would not result in substantial adverse impacts. Implementation of avoidance, minimization, and mitigation measures **MM 3.3.1a** through **MM 3.3.1i, MM 3.3.2, MM 3.3.3a** and **MM 3.3.3b, MM 3.3.4, MM 3.3.5, MM 3.3.6, MM 3.3.7, MM 3.3.9,** and **MM 3.3.10** will reduce potentially cumulative impacts to a **less than cumulatively considerable** level.

Cultural and Paleontological Resources

Impact 4.0.4 Implementation of the proposed project could result in the inadvertent disturbance of previously unknown cultural and/or paleontological resources, contributing to a cumulative impact on such resources in the region. This impact would be **less than cumulatively considerable**.

The cumulative setting for cultural resources includes those projects listed in **Table 3.0-1** along the north slope of the San Bernardino Mountains. As discussed in Impacts 3.4.1, 3.4.2, and 3.4.3 in Section 3.4, Cultural and Paleontological Resources, no evidence of significant archaeological, historical, or paleontological resources has been identified for the project site. However, there is

a possibility that previously unknown cultural and/or paleontological resources could be discovered during earthmoving and mining activities. In combination with other mining operations and other development along the north slope of the San Bernardino Mountains and in the surrounding area, such inadvertent discoveries could contribute to a cumulative impact on cultural and paleontological resources. However, implementation of mitigation measures **MM 3.4.1** and **MM 3.4.3**, as well as compliance with Section 5097.98 of the California Public Resources Code, Section 7050.5 of the California Health and Safety Code, and CEQA Section 15064.5(d) and (e), would ensure that any cultural and/or paleontological resources discovered during project activities would be analyzed to determine significance, and if necessary, appropriate mitigation would be implemented to ensure its protection. Therefore, the proposed project's contribution to this potential impact would be **less than cumulatively considerable**.

Geology and Soils

Impact 4.0.5 Implementation of the proposed project, along with other cumulative projects in the area, could result in cumulative geological, soils, or seismic impacts. This impact would be **less than cumulatively considerable**.

Much of California lies within a seismically active region with a wide range of geologic and soil conditions that can vary widely in a short distance; each site has unique conditions that influence susceptibility to these hazards. With respect to mining projects in particular, each mine is subject to the same general hazards and each operation is required to reduce potential hazards to acceptable levels, including compliance with mine safety programs administered by the Mine Safety and Health Administration (MSHA) and the Occupational Safety and Health Administration (OSHA). Thus, the cumulative context for potential impacts on people and structures related to geologic and seismic hazards is more localized or site-specific. In the case of the proposed project, the cumulative setting includes the White Knob Quarry, the Annex Quarry, the White Ridge Quarry, the haul road, and all other areas within the Amended Mine and Reclamation Plan. The temporal scope includes operation and reclamation of the project.

As analyzed in Section 3.5, Geology and Soils, the project would have no impacts related to being located on expansive soils or having soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. The project would cause less than significant impacts related to exposing people or structures to potential substantial adverse effects (e.g., rupture of a known earthquake fault, strong seismic ground shaking, seismically induced ground failure, or landslides), erosion or loss of topsoil, or unstable geologic units or soil. Implementation of mitigation measure **MM 3.5.3** would reduce rock and soil talus impacts on the Western Drainage and Ruby Springs area to a less than significant level.

As a result of the geologic hazards evaluations and resultant procedures adopted by the project applicant, the potential to expose structures or people to seismic hazards is considered less than significant. Additionally, the proposed project's geological impacts are limited to the project site, which is mitigated by the provisions in the Amended Mine and Reclamation Plan, the County of San Bernardino Surface Mining and Reclamation Overlay, Chapter 88.03.000, and mitigation measure **MM 3.5.3** of this Draft EIR. Therefore, the project's incremental contribution to geology and soils would be **less than cumulatively considerable**.

Greenhouse Gas Emissions

Impact 4.0.6 Implementation of the proposed project is consistent with San Bernardino County's Greenhouse Gas Reduction Plan, the County's applicable plan adopted for the purpose of reducing the emissions of greenhouse gases. This impact is **less than cumulatively considerable.**

Because greenhouse gases and climate change have impacts on a global scale, the cumulative setting for greenhouse gas emissions would necessarily have to be all of planet earth. However, because it is virtually impossible to identify all pending, proposed, and future projects on the planet, this greenhouse gas emissions cumulative analysis is based on all areas within San Bernardino County. The County's Greenhouse Gas Reduction Plan identifies a path for achieving consistency with the Assembly Bill (AB) 32 GHG reduction goals, through the reduction of baseline emissions by 15 percent by 2020 (to 5,296,034 metric tons of carbon dioxide equivalents ($MTCO_2e$) for external emissions and to 256,712 $MTCO_2e$ for internal emissions).

The plan describes the reduction strategies currently being employed by the County, as well as those that will be employed by the County, through implementation of the reduction plan, and by the State, through a variety of legislation and regulations. The combination of existing reduction strategies and proposed new strategies identified in the County's Greenhouse Gas Reduction Plan will be assembled into an integrated plan to reduce the countywide greenhouse gas (GHG) emissions level. In addition, proposed new private developments will also contribute to GHG emissions reduction through the County's GHG development review process, AB 32 requirements, and other state initiatives.

The GHG emissions reduction measures identified in the Greenhouse Gas Reduction Plan include existing and proposed state, regional, county, and other local measures that would reduce GHG emissions from the county in both the internal and external categories. Reduction measures have been organized into a classification system that recognizes both the origin of the measures, i.e., state, regional, or local, and also whether the measure is quantifiable in terms of calculating a volume of emissions reduction. The emissions reduction measures are organized as follows for each sector:

- Reduction Class 1 (R1) includes adopted, implemented, and proposed state and regional measures that do not require additional County action and that will result in GHG reductions for the County's land use authority area and internal operations. These measures may require County action to achieve the GHG reductions, but that action is limited and compulsory.

- Reduction Class 2 (R2) includes measures currently implemented or in the process of implementation by the County, as well as any additional quantifiable measures that require County action and will further reduce the GHG emissions for the County's land use authority area and internal operations. R2 also includes any state and regional measures that require substantial action by the County to achieve the expected GHG reductions. These measures are specific, quantifiable measures as well as reductions achieved through the development review process.

  Measurable reductions of GHG emissions will be achieved through the County's development review process by applying appropriate reduction requirements as part of the discretionary approval of new development projects. Through the development review process, the County will implement CEQA, requiring new development projects to quantify project GHG emissions and adopt feasible mitigation to reduce project

emissions below a level of significance. The CEQA process for evaluating GHG impacts and determining significance will be streamlined as follows:

a) County Performance Standards. All development projects, including those otherwise determined to be exempt from CEQA, are subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 $MTCO_2e$ per year are considered to be consistent with the plan and determined to have a less than significant individual and cumulative impact for GHG emissions.

b) Regulatory Agency Performance Standards. When, and if, the South Coast Air Quality Management District or Mojave Basin Air Quality Management District adopts standards, the County will consider such guidance and incorporate all applicable standards.

c) Projects Using Screening Table. For projects exceeding 3,000 $MTCO_2e$ per year of GHG emissions, the County uses Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner 100 or greater points would not require quantification of project-specific GHG emissions. The point system was devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those of existing development, allow the County to meet its 2020 target and support reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the plan and therefore have a less than significant individual and cumulative impact for GHG emissions.

d) Projects Not Using Screening Tables. Projects exceeding 3,000 $MTCO_2e$ of GHG emissions that do not use the Screening Tables are required to quantify project-specific GHG emissions and achieve the equivalent level of GHG emissions efficiency as a 100-point project. Consistent with the CEQA Guidelines, such projects are consistent with the plan and therefore are determined to have a less than significant individual and cumulative impact for GHG emissions.

- Reduction Class 3 (R3) includes additional measures that were not used to demonstrate achievement of the proposed County's 2020 GHG emissions reduction target. For these measures, emissions reductions have either not been quantified due to a lack of available data or protocols required for quantification or because of uncertainty regarding the County's jurisdictional control over relevant emissions sources. Some of these measures are quantifiable but require additional refinement and are therefore not included in R1 or R2.

As noted in the Greenhouse Gas Reduction Plan's discussion of Reduction Class 2 (R2), by meeting San Bernardino County's "applicable Development Code provisions including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency," projects that are exempt from CEQA and small projects that do not exceed 3,000 $MTCO_2e$ per year are considered to be consistent with the plan and determined to have a less than significant individual and cumulative impact for GHG emissions. The proposed project will not exceed 3,000 $MTCO_2e$ per year. It is therefore consistent with the applicable plans and policies adopted for the purpose for reducing GHG emissions and will result in a **less than cumulatively considerable** impact.

Hydrology and Water Quality

Impact 4.0.7 Implementation of the proposed project, as well as other projects in the area, could result in a cumulative impact on hydrology and water quality through alteration of the existing drainage pattern, increasing the potential for erosion and sedimentation. This impact would be **less than cumulatively considerable**.

The cumulative setting for the proposed project hydrology and water quality impacts is the Western Drainage and Ruby Springs watershed area for surface water impacts and the Lucerne Valley Groundwater Basin for groundwater impacts.

Three main drainages cross the White Knob/White Limestone Ridge Quarries area. On-site surface water flow occurs in response to precipitation only (ephemeral flow), flowing northeastward from the crest of the White Mountains downward through the White Knob/White Ridge Quarries area into the nearby Rabbit (dry) Lake-Lucerne Valley depression. No springs or perennial streams occur within the White Knob/White Ridge Limestone Quarries area. Several watersheds drain surface water away from or through the White Knob Quarry area. Erosion and sedimentation in these drainages, as well as impacts on other drainages within the Lucerne Valley watershed that may occur due to development identified in **Table 3.0-1**, would have an adverse cumulative impact if not mitigated to a less than significant level.

As analyzed in Section 3.7, Hydrology and Water Quality, the project would have no impacts related to flooding or inundation by seiche, tsunami, or mudflow. The project would cause less than significant impacts related to violating water quality standards and the depletion of groundwater. Implementation of mitigation measure **MM 3.7.1** would offset the project's potential erosion, sediment, and flow impacts on the area drainages to a less than significant level.

The only existing surface water body located on adjacent to or near the project site is Ruby Springs. With the exception of the proposed project, there are no closely related past, present, or reasonably foreseeable or probable future projects upgradient of Ruby Springs or within the surface drainage that will be affected by the project. However, other projects may impact the Lucerne Valley watershed. Implementation of mitigation measure **MM 3.7.1** would offset the project's potential for water quality and flow impacts due to erosion and sedimentation.

The Lucerne Valley Groundwater Basin is approximately 230 square miles in area or 148,000 acres. The project will disturb 191 acres in this watershed, or 0.13 percent of the area. The 191 acres to be disturbed by the project occur entirely within ephemeral drainage areas. While other projects listed in **Table 3.0-1** may or may not impact the Lucerne Valley Groundwater Basin, the proposed project would not.

Therefore, impacts related to hydrology and water quality would be **less than cumulatively considerable**.

Public Services and Utilities

Impact 4.0.8 Implementation of the proposed project would not result in cumulative impact on storm drainage or water services, as the project provides its own water and stormwater drainage. This impact would be **less than cumulatively considerable**.

The cumulative setting for water supply is the adjudicated Mojave Basin, and for stormwater drainage services it is the project site. The proposed project does not result in the need for additional services from public water or stormwater drainage agencies. The Mojave Basin has been the subject of adjudication to determine the water rights of the various producers. The final judgment for the Mojave Basin was entered in 1996 adopting the physical solution set forth in the Stipulated Judgment. The purpose of the Stipulated Judgment was to create incentives to conserve local water, guarantee that downstream producers will not be adversely affected by upstream producers, and assess producers to obtain funding for the purchase of imported water. The project, which is included in this judgment, provides its own water from two existing wells and will not exceed their permitted groundwater allocation with expansion of the project.

All stormwater facilities are provided by the project, and these facilities would not connect to a public storm drain system. Implementation of the proposed project would not result in the need for additional public water and storm drainage facilities. As such, the proposed project would have a **less than cumulatively considerable** impact in these areas.

4.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Section 21100(b)(2)(A) requires an EIR to identify significant environmental effects that cannot be avoided if a project is implemented. Most of the impacts of the project either would be less than significant or would be mitigated to a less than significant level. The impacts below are those that would remain significant and unavoidable after mitigation.

Aesthetics Impact 3.1 Substantial Adverse Effect on a Scenic Vista and the Existing Visual Character

Implementation of the proposed project could have a substantial effect on a scenic vista. The project design and proposed reclamation activities would minimize this effect. However, the overall visual impacts are still considered unavoidable significant impacts consistent with the 1986 EIR. Therefore, this impact would be **significant and unavoidable**.

Aesthetics Impact 4.1 Cumulative Impact on Aesthetics and Visual Resources

Implementation of the proposed project, in combination with other reasonably foreseeable mining projects in San Bernardino County, would contribute to the alteration of the visual character of the San Bernardino Mountains. There are no feasible mitigations to reduce this impact. Therefore, this is considered a **cumulatively considerable** and **significant and unavoidable** impact.

4.3 GROWTH-INDUCING IMPACTS

CEQA Section 15126.2(d) discusses the requirements for identifying growth-inducing impacts of a proposed project. Section 15126.2(d) reads as follows:

> *Growth-Inducing Impact of the Proposed Project. Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or*

> *cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

The White Knob Quarry has been in operation since 1987. The proposed project is for the expansion of area and extension of time for the operation of the White Knob/White Ridge Quarries. This mine and reclamation plan does not include the development of any residential units or the extension of public utility services to serve the project. Implementation of the proposed project would not create a substantial amount of new employment resulting in a demand for new services or new housing units elsewhere. Therefore, adoption of the Amended White Knob/White Ridge Mine and Reclamation Plan would not result in any growth-inducing impacts.

4.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

INTRODUCTION

Public Resources Code Section 21100(b)(2), a part of CEQA, requires that EIRs prepared for the adoption of a plan, policy, or ordinance of a public agency include a discussion of significant irreversible environmental changes of project implementation. In addition, CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes as follows:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Operation of the proposed project would require some nonrenewable resources, such as fuel for vehicles and equipment. The project currently uses nonrenewable resources for the operation of the site. Some of these nonrenewable resources, such as diesel fuel and gasoline, would represent an increase above baseline conditions for those operations that would mine the expanded quarry areas. However, these uses are not expected to result in substantial increases in the expenditure of a nonrenewable resource.

At the conclusion of the proposed project, all existing buildings and other energy-consuming uses would be decommissioned, dismantled, and removed from the project area. No further energy demand would be generated in the project area.

Accidents, such as the release of hazardous materials, could trigger irreversible environmental damage. However, project operations that would result in the transport of hazardous materials off-site would be transported by an approved carrier in accordance with state and local regulations. Considering the types and minimal quantities of hazardous materials that are and would continue to be used at the site, and emergency response plans and procedures that are ongoing as part of the existing project, accidental release of substantial quantities is unlikely. State and federal regulations and safety requirements would ensure that public health and safety risks are maintained at acceptable levels, so significant irreversible changes from accidental releases are not expected.

4.5 ENERGY CONSERVATION

INTRODUCTION

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct State responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. CEQA Guidelines Appendix F identifies several factors that should be considered in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy and therefore would not create a significant impact on energy resources.

BACKGROUND

Energy usage is typically quantified using the British thermal unit (BTU). As a point of reference, the approximate amounts of energy contained in common energy sources are as follows:

TABLE 4.5-1
BTUS FOR ENERGY USE

Energy Source	BTUs
Gasoline	124,000 per gallon
Diesel Fuel	139,000 per gallon
Natural Gas (compressed gas)	1,000 per cubic foot
Electricity	3,414 per kilowatt-hour

Sources: USDOE 2013

Total energy usage in California was 7,858 trillion BTUs in 2011, which equates to an average of 209 million BTUs per capita. Of California's total energy usage, the breakdown by sector is 38.3 percent transportation, 22.8 percent industrial, 19.6 percent commercial, and 19.3 percent residential. Petroleum satisfies 43 percent of California's energy demand, natural gas 28 percent, electricity 11 percent, and renewables 12 percent. Nuclear electric power accounts for less than 5 percent and coal fuel less than 1 percent of California's total energy demand. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (EIA 2014).

Given the nature of the proposed project, the following discussion focuses on the source of energy that are most relevant to the project, which is the diesel fuel used for vehicle hauling trips and processing equipment, as well as the increased electricity usage at the processing plant. Also, since the Amended Plan would increase the operational years of the quarry by 24 years from the existing permit expiration date of 2031 to the year 2055, the use of the required fuel to power vehicle trips in addition to the fuel and electricity for material processing for an additional 24 years is considered.

Current Energy Use

The baseline conditions report estimates that the White Knob Quarry transports 275,418 tons per year for processing at the processing plant. The baseline fuel use associated with the hauling and processing of this amount of material from the White Knob Quarry is 1,298,818 gallons annually and 3,558 gallons daily (see **EIR Appendix I**).

APPLICABLE REGULATIONS

Federal and state agencies regulate energy use and consumption through various means and programs. At the federal level, the US Department of Transportation, the US Department of Energy, and the US Environmental Protection Agency (EPA) are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements.

Fuel Efficiency Standards for Heavy-Duty Engines and Vehicles

On August 9, 2011, the EPA and the National Highway Traffic Safety Administration (NHTSA) announced fuel economy standards for medium- and heavy-duty trucks, which apply to vehicles from model years 2014–2018. Both the EPA and the NHTSA have adopted standards for fuel consumption tailored to each of three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles.

CEQA Guidelines

CEQA Guidelines Appendix F requires that EIRs contain an evaluation of the potential energy impacts of a project with an emphasis on reducing the wasteful, inefficient, or unnecessary consumption of energy. CEQA Guidelines Appendix F further states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption.
- Decreasing reliance on fossil fuels such as coal, natural gas, and oil.
- Increasing reliance on renewable energy sources.

PROJECT ENERGY CONSUMPTION AND CONSERVATION

As described previously, the proposed project would introduce additional fuel usage above baseline operations. Additionally, the project would increase the operational years of the quarry by 24 years from the existing permit expiration date of 2031 to the year 2055.

Using conversion ratios for carbon dioxide equivalents contained in the California Climate Action registry, the 1,893 metric tons of carbon dioxide equivalents generated by project haul trips and material processing would result from the consumption of 186,502 gallons of fuel annually, which is 0.001 percent of typical annual fuel usage in the state as reported by the CEC (see **Table 4.5-2**). It is noted that new haul trips associated with the project would be subject to the fuel economy standards adopted by the NHTSA and EPA, described above. Therefore, the fuel efficiency by haul trucks traveling from the mine to the processing plant would improve as the vehicle fleet improves.

As also shown in **Table 4.5-2**, the increase of 24 years to the existing permit would equate to the use of an additional 1,485,320 gallons of fuel annually for 24 years (existing baseline fuel use of 1,298,818 gallons + project incremental fuel use of 186,502 gallons = 1,485,320 gallons, which is 0.01 percent of typical annual fuel usage in the state; see **EIR Appendix I**); resulting in the approximate total of 35,647,680 gallons of fuel over this 24-year timeframe.

TABLE 4.5-2
BASELINE AND PROJECT FUEL USAGE

Activity	Gallons of Fuel Used Annually	Percentage of 2014 Fuel Sales in California
White Knob Baseline	1,298,818	0.007%
White Knob Project (Proposed Project)	186,502	0.001%
Combined One Year Total for Baseline and Project	1,485,320	0.01%
24-Year Total Between 2031 and 2055	**35,647,680**	

Source: Appendix I

In 2013, taxable gasoline sales (including aviation gasoline) in California accounted for 14,532,944,431 gallons of gasoline (CEC 2014). As shown in **Table 4.5-1**, the proposed project would result in fuel usage that equals 0.001 percent of the typical annual fuel usage in the state yearly until 2031. From 2031 to 2055, the project would result in fuel usage that equals 0.01 percent of the typical annual fuel usage in the state yearly. The proposed project demand for fuel would not result in the need for new or altered facilities since it would equal a very small percentage of total state fuel sales on an annual basis. In addition, the project is not anticipated to result in an inefficient use of energy, as the mining operation would purchase its own diesel fuel from local suppliers and would conserve the use of their supplies to minimize costs to the project.

CONCLUSION

The proposed project would result in fuel usage that equals 0.001 percent of the typical annual fuel usage in the state yearly until 2031. From 2031 to 2055, the project would result in fuel usage that equals 0.01 percent of the typical annual fuel usage in the state yearly. The proposed project would not result in the need for new or altered energy producing facilities nor would it result in an inefficient use of energy.