

2009

[JESSE MORROW MOUNTAIN DRAFT ENVIRONMENTAL IMPACT REPORT: ANALYSIS AND REVIEW]



Fresno State Environmental Learning

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Introduction

Fresno State Environmental Learning presents an independent analysis of the Draft Environmental Impact Report (DEIR) prepared for CEMEX's mining operations of Jesse Morrow Mountain. Jesse Morrow Mountain is located south east of Fresno along State Route (SR) 180 near the Sequoia and Kings Canyon National Parks. This report will contain the impacts of the proposed project on the surrounding area, with a focus placed on the sections of study in the DEIR.

The findings will include a wide variety of topics from aesthetics to traffic and transportation. Aesthetically the physical features of Jesse Morrow Mountain will change, scarring the natural appearance of the mountain. The Project will create levels of NO_x beyond what is acceptable; even after all mitigation procedures are conducted. In the presentation of the Biological Resources section the attention given to wildlife are not given to the plant life. The protection of Native American remains could be in jeopardy because of the practice of blasting during the mining process. With respect to Geology and Soils the level of erosion could rise from the planned mining practices presented for use. Water usage, discussed in the Hydrology section, could conflict with the Fresno County General Plan if excessive withdrawal takes place. A lack of current funding for infrastructure support presented in the mitigation of traffic issues and concerns has placed these plans on hold. Each of these will be covered in greater depth within each of the corresponding sections of the report.

Our group reviewed and analyzed the findings and claims made by Resource Design. The analysis provides an overview of the entire DEIR, with each of the topic sections broken down into key findings supported by a summation of the information contained within them, for a clearer understanding of the reader.

Contents

3.1 – Aesthetics.....	4-6
3.2 – Agricultural Resources.....	7-9
3.3 – Air Quality.....	10-11
C2 – Health Risk Assessment.....	12-13
3.4 – Biological Resources.....	14-18
3.5 – Cultural Resources.....	19-22
3.6 – Geology and Soils.....	23-25
3.7 – Hazards and Hazardous Materials.....	26
3.8 – Hydrology.....	27-29
3.9 – Land Use and Planning.....	30-32
3.10 – Noise.....	33-34
3.11 – Traffic and Transportation.....	35-37
4.0 – Other CEQA Topics.....	38
5.0 – Alternatives.....	39
Appendix.....	40-42
References.....	43-44

3.1 Aesthetics

Key Findings

- The Project Mining would conflict with California Scenic Highway Program
- Project Goals would inevitably not “conserve the physical environment and beauty of the County.”

Summary

The section of Aesthetics essentially describes all visual characteristics of the Jesse Morrow Mountain Project; it describes characteristics of vegetation and its impact on the current topography. Additionally, the Aesthetics section explains the distance from the Project Site that these changes can be seen and the duration of these physical changes.

The regional area and location of the Project is located in, what is described as, three general regions. They are: the Sierra Nevada Mountains, the San Joaquin Valley, and the Coastal Ranges, located far west of the Project Site. The area around the site is mostly rural. There are few residents in close proximity of the Project. Located eight miles east of the Project Site is the town of Sanger, which is urban and more densely populated. In general, most of the direct area surrounding Jesse Morrow Mountain is farmland with the exception of a few residents and SR 180 that borders the nearby Project Site.

The vegetation around the site is mostly grassland that changes depending on the season; the color of grassland transforms from green in the wet season to tan in the dry season. There are other similar rolling hills and mountains around the location of Jesse Morrow Mountain. The elevation range of Jesse Morrow Mountain's is between 600 and 2,100 feet.

Both residents and tourists will be impacted by the altered landscape. SR 180 runs in close proximity to Jesse Morrow Mountain and serves as the only highway for several tourist attractions including Pine Flat Lake, the upper portions of the Kings River, and Sequoia and Kings Canyon National Parks.

SR 180 is “designated as an eligible state scenic highway.” The Project Site is visible from SR 180 for approximately two miles; it can be inferred this is a brief stretch of highway due to length and the 55mph speed limit along the route. Furthermore, Project trucks from the site will be visible to those on the highway which will serve as the Project’s main transportation link to and from the site.

SR 180 is currently undergoing evaluation to determine whether it will become a Designated Scenic Highway. The factors in the determination of a Scenic Highway are “selected based on unique or outstanding scenic quality or because they provide access to regionally significant scenic recreational areas.” In this case, Kings Canyon and Sequoia National Parks are the recreational areas that SR 180 would lead to. If SR 180 were to be deemed a Scenic Highway, the Project must be managed in such a way to limit the visibility of equipment at the Project Site (towers, signs, transmission lines, etc).

The immediate physical effects of the Project won’t be as prominent to Jesse Morrow Mountain as the affects of the presence of machinery equipment, trucking, and lighting. The lighting is set to be arranged to not light public areas or surrounding properties. In compliance with the lighting ordinance, the Project Applicant/Management (CEMEX) is required to submit a lighting plan to County Planning.

There are several portions of the DEIR that mention Key Observation Points or KOP’s. A KOP is a technical point from which impacts are observed. In the case of Jesse Morrow Mountain, a KOP may be a location where the noise from blasting may be measured—in this case, by decibels—or from a specific vantage point of where the physical features of the Mountain may be “observed.”

KOP 1 is located on the south side of the Friant-Kern Canal facing north towards the site. The view from the Friant-Kern Canal will incur obvious changes of Jesse Morrow Mountain because the surrounding area is completely undeveloped. Furthermore, the changes of the natural landscape and surrounding areas will be greatly apparent.

Other changes include the quarry slope, which will decrease gradually as mining occurs due to removal of large portions of the mountain from this KOP. Additionally, there is proposed re-vegetation of removed native-vegetation that alters the scenic

view. The changes of KOP 1 will affect the Mountain's landscape and physical features within the first ten years and more so as mining continues.

KOP 2 is less than one mile (.75 mile) southeast of the Project Site. This KOP consists of vineyards which includes a bed & breakfast. The view of Jesse Morrow Mountain, from this location, will undergo drastic changes in appearance. There will be obvious portions of the mountain removed as depicted in simulated pictures included in the DEIR.

KOP 3 is less than a mile west of the Project Site. This area is where most of the travelers along SR 180 will be able to view the changes to Jesse Morrow Mountain's landscape and features. Here, the simulated pictures of the mountain appear to not be as great as those in KOP 1 and 2, but are still recognizable.

KOP 4 is located less than two miles (~1.7 miles) northwest of the Project Site. This KOP faces the northwest side of Jesse Morrow Mountain. KOP 4, in the simulated pictures, appears to have the least significant differences but will have a high viewer rate because this is the region that faces a rural residential area.

KOP 5 is located approximately 100 feet north of the Project Site. Most of the viewers from this KOP will be residents of Tivy Valley. Although residents or viewers from this location have an immediate view of Jesse Morrow Mountain, the plans for the Project are of low visibility from this region.

3.2 Agricultural Resources

This section will summarize the Agricultural Resources section of the Project DEIR. The Agricultural Resources section analyzes the impacts of the Project on agricultural lands and agriculture.

According to the Fresno County General Plan Background Report the area encompassed by the Project is in the Sierra Foothill region of Fresno County, a region traditionally utilized as rangeland. The Project Site is currently used for grazing; additionally, surrounding areas are utilized for grazing and include orchard, vineyard, and row crops.

The Project DEIR addresses three areas of concern with respect to agricultural resources: Farmland Conversion, Other Environmental Changes That Could Result in Farmland Conversion, and Agricultural Zoning or Williamson Act conflicts.

Key Findings

- Project will result in conversion of agricultural land and cancellation of Williamson Act contracts
- Project will use extensive groundwater resources which may have an impact on the water availability of agricultural operations in the vicinity

Farmland Conversion

The Project Site contains lands designated as Prime Farmland, Local Farmland, Unique Farmland, Farmland of Statewide Importance, and Grazing Land, as designated by the California Department of Conservation. The only conversion of land to non-agricultural uses would take place on grazing lands. The mining and processing facilities would avoid all Prime, Local, and Unique Farmland, as well as Farmland of Statewide Importance. Converted grazing land would eventually be reclaimed to grazing land after Project completion. However, due to the Project's timeframe, the conversion is considered semi-permanent. For the reasons above, the farmland conversion impact is considered less than significant and no mitigation for impacts is required.

Other Environmental Changes That Could Result in Farmland Conversion

The Project DEIR determines that since no additional agricultural operations will be established the threat of pests and/or disease being introduced into surrounding agricultural areas is non-existent.

While the Project will use extensive groundwater resources the Hydrology portion of the DEIR suggests that the impacts to the water table will be less than significant due to efforts by the Applicant to recapture water used by the Project. According to the analysis in the Hydrology section, future net water use will be less than historical use which included the water consumption by an orchard located on the site formerly in production. Questions remain about the validity of the water use assumptions which will be addressed in the Hydrology analysis. The impacts are considered less than significant in the DEIR and no mitigation is required.

Agricultural Zoning or Williamson Act Conflict

Currently, the entire Project Site is under California Land Conservation Contract also known as the Williamson Act contract. The contracts pertaining to the Project area were drawn up in 1968 and 1970 with the intent of preserving agriculture by discouraging conversion to urban uses. In recompense for DEIR contractual agreement to retain land in agricultural and open space uses, landowners receive reductions in property taxes over the duration of DEIR contract. According to state law, one of the compatible uses of the Williamson Act includes mining and all necessary infrastructures for development of natural resources. As a result, the entire Project Site, with the exception of the 40 acre processing plant, will remain in compliance with the Williamson Act. A substantial portion of the lands on the Project Site, undisturbed by mining operations, will continue to be grazed—consistent with its current use. It has been determined in the DEIR that based on soil characteristics (and a site assessment of the surrounding areas) that the 40 acres (which will be converted to a processing plant)

were of low agricultural productivity and DEIR conversion does not represent a significant impact on agricultural resources. No mitigation is required for the above impacts.

3.3 Air Quality

Key Findings

- Existing geographic features in conjunction with the average air flow and direction of flow prohibit the adequate clearing of air pollutants
- The Project will compound the pollutant levels currently found in the valley beyond DEIR level of failure already held
- Creation of Nitrogen Oxide (NOx) levels beyond accepted concentrations

Summary

The existing geography of the valley prevents adequate clearing of pollutants in the air. A bowl-like scenario of the foothills in the west, the Sierras in the east, and the Grape Vine to the south prevent a current of air from the north from clearing the air in the valley. Table 3.3-1 depicts the average air flow and its direction, this table clearly shows the average wind direction is from the northwest. This flow of air from the northwest pushes all air pollutants down into the bowl area creating a retention area in the south valley in which the levels of pollutants is already beyond state standards of acceptable levels. The creation of PM₁₀ and NO_x from the Project are the most prevalent risk-associated with the operation and daily activities on the site.

The San Joaquin Valley has made great improvements regarding PM₁₀ levels but still remains a non-attainment region under state requirements. According to the 2006 PM₁₀ Plan the San Joaquin Valley must adhere to a list of requirements, one of which is an annual reduction of at least five percent in PM₁₀ levels. This increase in pollutants from the proposed Project likely prevents the valley from attaining the goals of lowering levels by five percent.

The production of NO_x by the Project is likely to present an issue of compliance with the county regulations. San Joaquin Valley authorities consider 10 tons per year (TPY) to be a level of significance for a Project output; the projected output for the Project is 133.9 TPY. This level of output Projected is well beyond the level of significance as defined by San Joaquin Valley; however, the mitigation

procedures presented by the DEIR expect the levels of NO_x to drop by as much as 90% if all steps are taken to ensure minimal impact. Even with the mitigation measure in place, the output will still exceed the level of significance by more than 3 TPY. The level created after the steps taken is considered unavoidable and significant.

C-2 Health Risk Assessment

Health Risk Assessment Key Findings:

- Diesel Particulate Emission (DPM) is the primary focus of emissions highlighted in the Health Risk Assessment
- The study predicts a gradual decline in DPM emissions over the project life
- DEIR concludes that both the cancer risk rate and chronic hazard index are within acceptable range
- The findings in the Health Risk Assessment appear to contradict findings in the Air Quality Assessment

Health Risk Assessment Summary:

A health risk assessment was conducted by Air Permitting Specialists using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) which employs a risk assessment calculation of 70 year exposure with a project life of 40 years. Large portions of data belonging to Greystone (previously contracted to conduct the DEIR) were used for this study and in calculating emission projections. The DEIR states that some data was reconfigured, most notably that of the diesel particulate emissions (DPM) which—according to the assessment—will gradually decline over time due to a decrease in mining operations and government-imposed regulatory measures.

The study assumed all emissions would originate from one general area—the mine itself, where the majority of the DPM emission (accounting for 90% of the health risk) would be concentrated. In the study, risk is defined as “a cancer risk of 10 in a million or a chronic hazard index greater than 1.0”. A three step procedure was used to calculate risks: calculation of current and future emission rates of toxic air pollutants, estimation of atmospheric dispersion, and the estimation of health risks associated with exposure to toxic air pollutants. The DEIR identifies the following five categories as possible emission contributors: mining, rock processing and storage, concrete ready-

mix plant, asphalt plant, and miscellaneous (trucks, on-site equipment, etc.). Factored into the emission calculation was an overall decrease in DPM by 50% beyond 2007 due to future state and federal regulatory measures.

The final analysis concluded the four-year cancer risk was within acceptable range (.1-3.4 cancers per million). Additionally, the chronic hazard index was estimated at .212. Both levels led analysts to conclude that the proposed project would not cause significant impacts to public health to people working and/or living near the site. Important to note, however, is the discrepancy, in this report, with the Air Quality Assessment (Section 3.3-14) which concludes the impact to air quality as “considerable,” and “significant”. The air quality analysis criteria do not appear to correspond with criteria used in the health risk assessment; nonetheless, the inconsistency appears noteworthy.

3.4 Biological Resources

This section will summarize the Biological Resources portion of the Project DEIR which will “provide a discussion of the biological resources including the special-status plant, wildlife, and invertebrate species that may be significantly impeded by the Project. This section identifies any potentially significant impacts to the biological resources.” The following is a species-by-species summary of a number of species mentioned in the DEIR likely to be impacted by Project operations. The summary includes DEIR status and Project impacts on population and habitat.

Key Findings

While the DEIR is generally well done, several problems are evident:

- Plant portions of the DEIR lack the same level of attention as the portions dedicated to wildlife. Local botanists, with extensive and nearly exclusive knowledge of the San Joaquin Adobe Sunburst and Keck's Checkerbloom, were not sought out as sources of information. Additionally, the DEIR lacks a comprehensive plant species list which, according to some scientists, is an indicator of a sound DEIR and a number of critical surveys appear to be conducted outside the flowering season which makes detection of some species difficult.
- The Northern Harrier was not identified as a Species of Special Concern in the DEIR.
- Portions of the DEIR discussing nesting habitat for Prairie Falcon and Golden Eagle, allude to potentially suitable habitat on the north side of the mountain, but never offer a clear answer as to whether those locations were closely evaluated. It only mentions that they were viewed through binoculars.
- The possibility of nesting Burrowing Owls is downplayed in the DEIR. Absent, were more thorough surveys concerning the presence of nesting pairs which cannot be unequivocally determined.
- The DEIR states that there is no potential for the Kit Fox to occur on site due to a lack of recorded locations in the vicinity and also asserts that the site is outside of

its current and historic range. However, a search of species records turns up two records of this species in quadrants adjacent to the Project Site. Questions remain as to why these were excluded.

San Joaquin Adobe Sunburst

San Joaquin Adobe Sunburst is a Federally Threatened and State Endangered plant. It is listed in category 1B of the California Native Plant Society (CNPS) Rare Plant inventory, which is the highest rarity ranking for a species not presumed to be extinct and is considered very threatened by the CNPS.

The Sunburst is restricted to certain types of soils: heavy clay and dark adobe. Much of the Project Site is comprised of soils conducive to the plant. According to Department of Fish and Game surveys, one of the last remaining populations exists on the Project Site (CA DFG, 1991, p.22). The last thorough survey available, conducted in 1990, showed 30 small populations in Tulare, Kern, and Fresno Counties. It is possible, in light of development that the number and/or quality of habitats have decreased significantly.

While site surveys did not yield plant specimens, local botanists and biologists attest to the presence of a healthy population on the Project Site. It is not currently known whether Project activities will affect Sunburst populations, since the locations of various wells and pipelines have not been finalized

Keck's Checkerbloom

Keck's Checkerbloom is a Federally Endangered and CNPS Inventory category 1B plant. The Checkerbloom was not found on the Project Site and according to the DEIR has low potential to occur on the Project Site due to a lack of serpentine soils. However, local botanists as well as other data sources contend that the Keck's Checkerbloom is not limited to serpentine soils and could plausibly occur on the Project Site during a year of adequate rainfall, specifically spring rainfall. According to the CalFlora website, anywhere from 25% to 33% of Keck's Checkerbloom do not occur on

serpentine soils (Calflora, 2009). It might be fair to suggest that more thorough surveys for the plant should have been conducted.

Burrowing Owl

The Burrowing Owl is a California species of special concern. The owl faces threats from urbanization and has experienced declines in population. Numerous organizations have petitioned to have the owl listed as threatened or endangered in California.

A total of five Burrowing Owls were observed on the Project Site along with three active burrows. According to the DEIR, owls were detected only outside of the breeding season and it is unlikely that breeding Burrowing Owls are on the Project Site.

However, a four day survey timeframe is suggested by the California Department of Fish and Game since Burrowing Owls may be present, but undetectable during shorter periods of time. The DEIR indicates that such surveys were not completed during the site visits, but will be completed no more than 30 days prior to the start of Project activity. Until proper survey completion, the true status of Burrowing Owls in the Project area is unknown. Furthermore, if proper surveys are conducted outside the breeding season, it may never be determined whether there is/was a breeding population on the Project Site.

California Tiger Salamander

The California Tiger Salamander is a Federal Threatened species. Surveys of the site did not reveal any breeding habitat that would be impacted by the Project. However, site surveys did reveal aestivation, or non-breeding habitat. It is plausible, due to the presence of potential breeding habitat in the vicinity, that the Project could present a negative impact to California Tiger Salamander aestivation habitat.

Northern Harrier

Northern Harriers are noted in the DEIR as being the most commonly observed raptor on the Project Site and suggests that, as ground nesters, Harriers may be

impacted by Project activities. However, the DEIR fails to mention the Harrier's status as a species of special concern as defined by the California Department of Fish and Game, which places it in roughly the same status as the Burrowing Owl.

According to DFG literature, the Central Valley is home to the majority of remaining Northern Harriers which have experienced population declines primarily as a result of habitat loss and degradation as well as human disturbance of nests. While Project activities would likely avoid actual take of Northern Harriers, destruction and degradation of suitable nesting and foraging habitat appears plausible. Furthermore, the DEIR's evaluation of the Project Site as potential Northern Harrier nesting habitat, leaves much to be desired.

Loggerhead Shrike

The Loggerhead Shrike is a California bird species of special concern. The shrike is experiencing significant population declines throughout its California range. Loggerhead Shrikes are present on the Project Site, and while suitable nesting habitat does not exist on site, it does exist in the Project vicinity. Foraging habitat for the species will be degraded or lost due to Project operations.

Prairie Falcon/Golden Eagle

Prairie Falcon and Golden Eagle are California Species of Special Concern observed on site. The Project Site is foraging habitat for the two declining species. While the DEIR states that there is no suitable nesting habitat for either species on site, the Supplemental Biological Survey suggests that there may be suitable nesting habitat on the North side of the mountain. According to the DEIR, these areas were only evaluated through binoculars during the survey. No definitive answer on the suitability of the northern cliffs and outcroppings was found in the DEIR.

Valley Elderberry Longhorn Beetle

Valley Elderberry Longhorn Beetle is a Federally Threatened insect which makes its home in elderberry shrubs. Surveys of the Project Site identified several shrubs;

some of these shrubs are near a proposed well and pipeline. Since the precise location of the well has not been determined, it is difficult to determine the threat to the beetle.

San Joaquin Kit Fox

The San Joaquin Kit Fox is a Federally Endangered mammal. The DEIR states that there is no potential for the Kit Fox to occur on site due to a lack of recorded locations in the vicinity and also asserts that the site is outside of its current and historic range. However, a search of the California Department of Fish and Game's California Natural Diversity Database turns up two records of this species in quadrants adjacent to the Project Site. It is likely that those individuals were outliers--possibly lost or dispersed juveniles--and it would be hard to make a case for Kit Fox occupation when it is outside the DEIR current known range.

Cultural Resources

Key Findings:

- The DEIR cultural resource section was done properly
- Native American remains are potentially vulnerable as a result of blasting
- The cultural significance of Jesse Morrow Mountain has been disputed because of a contract between one group of Choinumni Indians and CEMEX
- The Project may not adhere to Public Resources code 2773.3

Summary:

There has been public debate of the DEIR because the consulting company (Resource Design Technology) did not consult local Native American Tribes. However, Public Resources Code 5097.02 states: "Upon receipt of plans for a proposed construction Project upon state lands, the department may conduct an archaeological site survey on the affected state lands in order to determine whether the lands may contain any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological sites, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature. The department shall submit to the state agency, by or on whose behalf the Project is to be constructed, its recommendations concerning the preservation, photographing, recording, or excavation for, any archaeological, paleontological, or historical features which may be located upon the lands (CA Codes (prc:5097-5097.6)."

No law states that the cultural resource study must be conducted with the assistance or cooperation with any Native American tribe. The California Native American Commission can make recommendations to have Resource Design Technology assist them, but that is all.

Another issue to be examined the mitigation measure to lower the threat of destroying Native American remains, is called into some questioning. The plan to mitigate damages according to the DEIR is "**K - I: Implement a Plan to Address the Discovery of Unanticipated Cultural Resources**

The mine operator shall implement the following plan:

- 1. If cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are discovered during construction or operational activities, the developer or operator shall stop work in the area within 100 feet of the find; retain a qualified archaeologist to assess the significance of the find; and, if necessary, develop appropriate treatment measures in consultation with the California State Historic Preservation Officer.
- 2. If human bone is found as a result of any construction or operational activity, the developer or operator shall stop all disturbance activities and notify the Fresno County Coroner within 48 hours in compliance with California Public Resource Code Sections 5079.94 and 5097.98. If the coroner determines that the remains are of Native American origin, the California Native American Heritage Commission shall be notified.
- 3. If cultural resources are identified, they should be avoided if it is feasible to do so.
- 4. If avoidance is not feasible, then the significance of these resources should be assessed by a qualified archaeologist and, if they are determined to be significant resources in accordance with the State CEQA Guidelines, adverse impacts should be mitigated. In the case of archaeological sites, mitigation usually consists of data recovery excavations to retrieve the data that would be lost through disturbance.”
(Fresno County, Fresno County Planning Commission)

At the present, the DEIR is following the laws to protect Native American remains to the letter of the law; however the proposed plan involves blasting of the site. How many remains will possibly be destroyed if you are blasting away the Project Site? This could be a possible point of contention in the future, due in part to Public Resource code section 5097.97., which states “In the event that any Native American organization, tribe, group, or individual advises the commission that a proposed action by a public agency may cause severe or irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, or may bar appropriate access thereto by Native Americans, the

commission shall conduct an investigation as to the effect of the proposed action. Where the commission finds, after a public hearing, that the proposed action would result in such damage or interference, the commission may recommend mitigation measures for consideration by the public agency proposing to take such action. If the public agency fails to accept the mitigation measures, and if the commission finds that the proposed action would do severe and irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, the commission may ask the Attorney General to take appropriate legal action pursuant to subdivision (g) of Section 5097.94.”(CA Codes (prc: 5097-5097.6).) The method of extraction may cause irreparable damage to possible sacred Native American resources.

According to the DEIR, it stated on pg.613, “The County has concluded that Jesse Morrow Mountain in its totality may be considered a traditional cultural property. As explained in Section 3.5, there are differing opinions among the local Native American groups, specifically the Choinumni, regarding whether Jesse Morrow Mountain (Wahahlish) is a place of traditional cultural significance (County of Fresno - Public Works and Planning - Jesse Morrow Mountain DEIR). A disagreement between the Choinumni Indians has been because of an agreement between CEMEX and the Henry Jeff Choinumni group. The agreement was Henry Jeff’s Choinumni Indian group would agree that Jesse Morrow Mountain has no cultural significance to them in return for money from CEMEX. Henry Jeff can be contacted at 4233 W. Sierra Madre, Fresno, CA 93722, 559-274-1580 (California Tribes & Organizations)”.

According to Public Resource Code section 2773.3. “(a) In addition to other reclamation plan requirements of this chapter and regulations adopted by the board pursuant to this chapter, a lead agency may not approve a reclamation plan for a surface mining operation for gold, silver, copper, or other metallic minerals or financial assurances for the operation, if the operation is located on, or within one mile of, any Native American sacred site and is located in an area of special concern, unless both of the following criteria are met: (1) The reclamation plan requires that all excavations be backfilled and graded to do both of the following: (A) Achieve the approximate original contours of the mined lands prior to mining. (B) Grade all mined materials that are in

excess of the materials that can be placed back into excavated areas, including, but not limited to, all overburden, spoil piles, and heap leach piles, over the Project Site to achieve the approximate original contours of the mined lands prior to mining. (2) The financial assurances are sufficient in amount to provide for the backfilling and grading required by paragraph (1). (b) For purposes of this section, the following terms have the following meaning: (1) "Native American sacred site" means a specific area that is identified by a federally recognized Indian Tribe, Rancheria or Mission Band of Indians, or by the Native American Heritage Commission, as sacred by virtue of its established historical or cultural significance to, or ceremonial use by, a Native American group, including, but not limited to, any area containing a prayer circle, shrine, petro glyph, or spirit break, or a path or area linking the circle, shrine, petro glyph, or spirit break with another circle, shrine, petro glyph, or spirit break. (2) "Area of special concern" means any area in the California desert that is designated as Class C or Class L lands or as an Area of Critical Environmental Concern under the California Desert Conservation Area Plan of 1980, as amended, by the United States Department of the Interior, Bureau of Land Management, pursuant to Section 1781 of Title 43 of the United States Code.".(CA Codes (prc: 2770-2779) nowhere in the DEIR does it address this fundamental code, thus it may not be adhered to.

3.6 Geology and Soils

Geology and Soils Key Findings:

- The DEIR describes the local and regional geological, soils, and seismic conditions that occur in the area of the Jesse Morrow Mountain Project Site.
- The Project Site will not be affected by seismic hazards such as earthquakes and ground rupture.
- The studies predict that there are multiple factors of the Project Site that will contribute to erosion rates.
- The DEIR describes the mineral resources that will be extracted from the Project Site. This section concludes that the minerals are well suited for the use in cement production.

Geology and Soils Summary:

The Project Site is located in the Great Valley Province - the majority of Fresno County is located in the San Joaquin Valley portion of this province. The province resides on a broad alluvial plain and consists of upper and lower sediment ranges. The upper sediment ranges from the recent Holocene Epoch to Oligocene Epoch (37 to 24 million years ago). The lower sediments are composed of marine rocks of the Pliocene Epoch (5.3 to 1.6 million years ago) to Eocene Epoch (58 to 37 million years ago) (CGS 2002a). The site is located in a transition zone that lies between the Great Valley Province and the Sierra Nevada Province.

Seismic and Other Hazards

The DEIR determines that the Project Site is in an area of lower dormant seismic activity; the closest fault to the site is the Clovis Fault. The Clovis Fault is approximately five miles north of the Project Site and has not been active for over 1.6 million years (Quaternary Period). There is no data suggesting recent activity along the fault line, however, it is classified as “potentially active”. The Uniform Building Code (UBC) has labeled the site as a Seismic Zone 3. Almost all of

California falls between Seismic Zone 3 or 4 because of the number of faults that underlie the state. The risk of surface faulting and ground shaking is considered to be minimal in the Project Site area. Other hazards described in the DEIR such as tsunamis, liquefaction, and soil subsidence are considered to be “minimal to insignificant” potential risks.

The Project Site has areas with an elevation change of approximately 1,000 feet vertical to 4,000 feet horizontal. The DEIR classifies these relatively steep slope areas as low to moderate risk for landslides. This was established using the *Five County Seismic Safety Element* criteria. The Tulare County criteria states, “Low risk slopes for landslides are located near hillside and mountain terrain of competent igneous and metamorphic rocks and sedimentary rocks with favorable bedding and composition”, “Moderate risk” category is defined as “natural slopes that are parallel to bedding in sedimentary rock” (Tulare County, 2004). The site falls between these two risk categories due to the average slope which is a 14-degree angle. The DEIR states that if the granitic rocks in steeper areas of the Project Site are fractured this will make the area more susceptible to landslides.

DEIR describes erosion as a natural process, stating that human activity can increase the rate of erosion. There are multiple factors on the Project Site that will contribute to increased erosion rates. Surface soils have been previously exposed due to the grazing of livestock, removal of additional soil for construction of the facilities and mining operation will remove more vegetation from the soil surface. This will lead to increased exposure of surface soils, which will increase the rate of erosion. Therefore, areas of the site are subject to erosion impacts.

Mineral Resources

The DEIR states, that with increasing population growth in Fresno County, additional production of aggregate rock will be needed. The mining operation would provide a long-term source of additional aggregate rock. Data was collected from twelve test pits which were excavated to a depth of twelve feet. The soils that were collected determined that the Project Site contained sufficient aggregate material. After

several feet, the weathered remains of boulders and other bedrock were encountered. DEIR concluded that the Project Site was composed of granitic materials. The materials found ranged from Mesozoic Basic Intrusive materials to materials that were highly plastic and highly expansive. The report states that the California Geologic Society (CGS) has not identified the materials on site as a significant MRZ. MRZ describes the types of mineral potential present in an area. However, the applicant has identified the material at the location as a resource for granitic material that could be used for base rock, asphalt, and other construction operations.

Mitigation

Erosion is a significant environmental impact and requires mitigation measurements on the site. The measures are highlighted in the DEIR to help minimize wind and water erosion on the site. The location of the processing plant site is located on expansive soil that poses potential risks to life or property (BSK Associates, 2005). The DEIR states that all the recommendations addressed in the geotechnical survey should be followed in the construction and operation of the Project Site. Compliance laws of the San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VIII should also be followed to reduce crystalline silica exposure and emissions. Crystalline silica is a basic component of soil, sand, granite, and many other minerals, and has been classified as a human lung carcinogen.

3.7 Hazards and Hazardous Materials

Key Findings

- Exposure to toxic or hazardous materials by the public is minimal
- Mitigation steps for safety are feasible

Summary

A potential for the exposure of the public to hazardous materials does exist in the proposed plan for the development of the Jesse Morrow Mountain site. Exposure would be limited to the actual Project and potential exposure to a section of SR 180. Hazards of prime concern are chemicals that are going to be used in daily operations and maintenance of the Project Site and its equipment.

With the implementation of proposed mitigation measures, the containment and daily use of such chemicals should result in minimal environmental or health related issues. The prime area of focus with respect to the implementation of the measures is the transport and storage of the fuel that is going to be needed for daily operations of the site equipment and vehicles. Fuel storage is overseen by federal regulations restricting the environmental impacts and potential damage caused by its storage. The transportation of the fuel is also covered under federal regulations. All fuel standards will require attainment of federal standards in order for operations to begin.

Transport and handling of explosives used in the mining process at the Project will be overseen by contract employees who are responsible for the storage and transport of the explosives used in the daily mining practices. The responsibility of the storage or transport of explosives to be used does not fall under the requirements of CEMEX.

3.8 Hydrology

Key Findings

- “Project operations may result in soil erosion or alteration of drainage patterns leading to increased siltation or turbidity. Operations could also potentially degrade surface water quality as a result of the use of these fuels, oils, and solvents.”
- The Project would use groundwater resources for washing aggregate and dust control. Excessive withdraw could affect surrounding wells. Water budget numbers need further clarification.
- “Use of explosives may affect groundwater and surface water quality; blasting could damage nearby canals and wells.” If blasting is done according to the limits described in the DEIR then surrounding structures will not be damaged.
- “The Project would require the construction of a wastewater system to treat domestic wastewater, which could potentially impact groundwater quality.”
- Since the Project is not located in a floodplain there are no flood related impacts.

Summary

A small potential exists that fine sediments and hazardous material may be washed into surrounding water. The Friant-Kern Canal is 2.5 miles away. The DEIR states that the Stormwater Pollution Prevention Plan should be enacted and "drainage control structures" constructed to mitigate runoff problems, however, there is no stated plan or outline of how the runoff will be captured. There needs to be additional information on how runoff will be controlled and what recapture methods will be used.

The DEIR states the Project will not deplete surrounding local ground water supplies; this is only possible if recharge estimates are met and usage is correct. All wells could potentially produce more or less water. If usage is underestimated then CEMEX is not limited on withdraw amounts of water from any of the five permitted wells. There are five non-Project wells within a two mile radius of the Project. Excessive withdraw could affect surrounding wells.

The DEIR estimates the Project will use 145 acre feet per year (AC ft/yr). Appendix I states that consumption pump rates are based on "assumed" production of 2,000,000 tons per year. The DEIR gives no values for consumption if production is higher or lower than estimated.

The stated 140 AC ft/yr that will be recaptured is not described with an adequate water budget. Runoff numbers need to be more clearly explained (see Appendix 3.8-1).

The stated 128 AC ft/yr that orchards currently use could be greater or less. Appendix I states orchard irrigation use may range from 3.2-5.5 AC ft/yr. There is no reason stated for the use of 4.0 AC ft/yr, the value appears arbitrary and the resulting 128 acre feet per year is, as stated in Appendix I, "approximate" and could affect the water balance of the Project.

The conclusion that "therefore consumptive use is much less than previous base line... the Project will not decrease groundwater levels" is based on numbers that are vague and/or approximate, and is therefore questionable.

The DEIR needs to further clarify the recycling of water to be used in the storage tanks. Is water to be recycled out? If water is to be recycled out, will injection wells be installed?

The DEIR states a "county permitted wastewater system" will need to be installed, but gives no other details about the treatment of wastewater. The permits required for wastewater disposal need to be defined. If an estimated 2,400 gallons per day of wastewater is produced, is a passive treatment system permissible or is an active system required?

The use of non-water soluble ANFO, or similar products, will need to be used to eliminate the potential of explosives contaminating ground and surface water. Since the maximum fracture radius will not exceed 7.3 feet, it is unlikely that blasting will affect

any canals or wells since they are all located over 1,000 feet from the blasting area, according to the study conducted by US Bureau of Mines.

3.9 Land Use and Planning

Key Points

- The DEIR does not have consistent goals with the County. Currently the land for the Project is designated for agriculture. The Zoning must change to accommodate CEMEX's Project mining.
- The Thresholds of Significance lists: "The Project would result in a significant impact if it would:" "be incompatible with the surrounding land use." It appears to be incompatible and conflict with the County's General Plan in terms of Zoning and surrounding land use.

Summary

The purpose of the Land Use and Planning section is to explain, describe, and review county documents, such as the Zoning ordinance, and County General and Regional Plans. Visits around, and onsite, were made to help determine land use plans. Furthermore, it also helped to determine and identify the effects, and impacts, that would be made in and around the general area due to the Project.

The Land Use in Fresno County currently has an array of existing conditions. For example, commercial and industrial land use, rural residential land use in unincorporated portions of the county, as well as industrial uses in agriculture land. The Table 3.9-1 shown describes the land uses by Fresno County.

The majority of land around Jesse Morrow Mountain is farming land. For example, crops, vineyards, and horse farming, are also part of the Wildwood community. The surrounding area also consists of a golf course, a restaurant, a Bed & Breakfast (that is also a winery), and an art gallery.

There are also many residents in the Tivy Valley area on the northern portion of the Project Site. Although these residents are on the perimeter of the site, the mining of the Project is not within the vicinity of this northern edge location.

Within the total property owned by the Applicant, not all of it will be mined. The property is comprised of thirteen parcels, but only nine of the southern parcels are

where mining will occur. The Project Site is currently determined to be zoned agriculture. Also, this location has a “General Plan Land Use Designated of Open Space.” And as stated in the first sentence of the Zoning Ordinance section: “The County’s Zoning Ordinance is the primary implementation tool of the General Plan.” The zoning will change to accommodate CEMEX’s needs. The first thing mentioned to be changed is the parcel size, and the Project “may be permitted to [Exclusive Agriculture] zone[s].” These zones are supposed to be used primarily for agriculture purposes. The Project will also be subjected to surface mining, which is not agriculture related, but must follow specific guidelines.

Fresno County General Plan helps to outline policies, standards, and programs. The General Plan sets to create proposals, goals, thresholds of significance, and specific elements in determining the future of the county development. The elements are:

- Land Use Element- all uses of the land.
- Circulation Element- any form of transportation: roads, rail, and airports.
- Housing Element- any form having or involving housing.
- Conservation Element- conservation and development including natural resources.
- Open Space Element- the preservation of open space concerning itself with wildlife and natural scenery.
- Noise Element- protection to the community for excessive noise.
- Safety Element- programs and policies to help with hazards such as flood and wildlife hazards.

The Project Site is located in the Sierra South Regional Plan, which is a portion of the County’s General Plan. The Sierra South Regional Plan has three main concerns in its region: transportation, land use, and management of environmental resources. Policies and objectives are created and set for each of these three main concerns. Both the County General Plan and the Sierra South Regional Plan have a consistent ‘land use element’.

The County of Fresno Zoning Ordinance is set to create the best use of land. The Zoning ordinances goals and policies are consistent with those of the County's General Plan, although some zoning will change.

The Thresholds of Significance follow the significance of impacts found in Appendix G and the CEQA Guidelines. Results for the Project creating significant impact if it would:

- Physically divide a community.
- Conflict with the land use plan.
- Conflict with habitat conservation.
- Conflict with surrounding land use.

More specific details on these Thresholds of Significance can be found in section 3.9.4.

The nearest residence to the Project Site, with the exception of the single-family residence located on "Applicant-Owned land," is roughly 1.5 miles north of the Project Site itself. There are approximately 320+ acres between the residences and the Project Site. This is considered to be a buffer zone between the residences and the Project Site. Project mining could make impacts on nearby land uses to residential neighborhoods to the west of the Project Site. Mining, dust emissions, construction noise, and equipment (truck) traffic could disturb the residential land uses.

3.10 Noise

Key Findings

- County exterior noise standards will be violated until the mining actions can be conducted in a recessed portion of the Project
- Noise levels would break the thresholds of significance for the first months of construction
- All Projected noise levels from various parts of the Project are at, or near, the maximum allowed value of decibels
- Noise and vibrations generated from blasting practices require specific implementation for minimal effect

Summary

Noise standards for the Project will affect a small number of homes in the surrounding area. There are only two homes within the one mile radius of the Project Site, and one of the two homes is occupied by a Project Manager on the CEMEX Project. The anticipated decibel output of 52 for the first portion of the site is over the county exterior noise standards for a 30 minute interval, as laid out in Table 3.10-1. This level of noise is expected to drop down to the maximum expected level of tolerance, at 45 decibels, once the mining actions are able to be recessed into the ground. Although the standards of decibel output will then be met by the buffer created by the recessed Project, they will still fail to meet the thresholds of significance set forth by the county. The county defines a threshold significant if there is a permanent, temporary, or periodic increase in the ambient noise in the vicinity beyond what the levels would be without the Project. An increase in sound production by the Project would be inevitable, even with the mitigation measure of recessing the daily activities into the ground or behind sound barriers.

The creation of noise by machines and Project activities on the site are projected to be at, or near, the maximum expected noise levels from construction equipment, Table 3.10-2. This increase in decibel output from the Project will raise the average ambient noise in the area in violation of the threshold of significance, as set

forth by the county. Another form of noise pollution comes in the form of blasting on the site. However, this noise creation will not violate any of the federal, state, or county decibel limits because of the short period in which it is going to take place. It will also have to be overseen by a contractor who will be responsible for maintaining this level of compliance with all regulations, while attempting to minimize the effects of blast vibrations on surrounding structures.

The creation of blast vibrations is expected to be within accepted levels, so long as the mitigation procedures are adhered to. These steps will not only protect the citizens within the region, but also the structures like the Kern Canal, from adverse reactions to the vibrations created by the blasting of the mine.

3.11 Traffic and Transportation

Key Findings

- The Traffic and Transportation section contains no study or engineering assessment on the structural integrity of bridges along the supporting roads and DEIR ability to handle the increased traffic and payloads
- According to the study, a degradation in Level of Service (LOS) for roads around the site will occur with or without the Project taking place
- An additional 534-954 trucks/vehicles per day are estimated to be generated by mining operations; the majority of this traffic (84%) is expected to service the greater Fresno area using SR 180 as the primary route of travel; the study contains no data on traffic impact in the city of Fresno proper
- No LOS analysis took place in the greater Fresno area, despite the increased volume of traffic via SR 180, from the site into Fresno city limits
- There are currently mitigation plans in place to address traffic concerns around the site area; however, a lack of funding has put these plans on hold until further notice

Summary

A traffic and circulation study was conducted in the vicinity of the JMM Project Site, focusing on both current and future traffic conditions (volume, intersections, turning lanes, and signals) in the surrounding area. The study was conducted during morning (7am-9am) and evening (4pm-6pm) “peak” times, in order to accurately measure the impact of traffic in the vicinity. The focus of the study was to identify possible traffic conditions dropping below an acceptable Level of Service (LOS), which are defined as levels “A-F” with levels “D” and below considered as serious impediments to traffic flow on rural roads. The DEIR strongly recommends the County of Fresno and Caltrans collectively determine the appropriate LOS for the site area. The LOS takes into

consideration speed, travel time, maneuverability, interruptions, and safety. The focus of the study was six roadway segments and 13 intersections vicinity the Project Site.

The JMM Project Site currently has no paved roads; however, it does contain an unimproved dirt road granting access to the southern area of the site. SR 180 (E. Kings Canyon Road) is a two-lane highway running south of the site and serves as the main access point into the area. All lanes running west from the site are wide enough to accommodate large vehicles, with some roadway shoulders having insufficient space to pull a vehicle completely off the road. A concern not captured in the DEIR involves bridges along SR 180 and whether they have been checked by county and state engineers in order to determine the structural integrity and DEIR ability to support the increased payloads produced by the Project.

State and county regulations would determine any transportation improvements required around the site; federal regulations are not applicable because the Project is not near any interstate highways. The DEIR identifies seven significant conditions that would degrade traffic conditions, in and around the Project Site; these conditions include—but are not limited to—increase in traffic capacity, downgrade of LOS, and substantial increase in hazards due to design.

County and Caltrans officials agreed on an average rate of growth of 3% per year in order to calculate future traffic Projections in the year 2030. The study found that an unsatisfactory LOS would occur with, or without, the Project on some of the roadways. The DEIR further identifies potential Projects planned for construction prior to 2030 that would improve—albeit minimal—projected road conditions; however, the funding for these Projects is uncertain, therefore, placing these Projects “on hold”. When comparing data tables depicting LOS, with and without the Project, it appears short and long term impacts to traffic operations vicinity the Project Site are minimal.

The estimated volume of operational traffic produced by mining operations range from 534-954 trucks/vehicles per day, depending on the month and demand for aggregate from surrounding communities. Each truck would carry an estimated 25 ton payload. Of the estimated traffic generated, roughly 84% is projected to service Fresno

and surrounding communities utilizing SR 180; the remaining 16% will service the remaining surrounding areas. According to the estimate, the majority of this traffic will not take place during either morning or evening peak travel hours.

The County has developed a mitigation plan for short term potential impacts around the site. Collectively, the Project's impact appears to exacerbate existing problems, therefore, affecting future conditions. While the County and Caltrans have a mitigation plan outlined, without funding, the worsening of these conditions is inevitable. Without the mitigation measures in place, according to DEIR data, the Project impacts one intersection (SR 180 at Oliver Ave.) causing a decrease in LOS by one level (C to D). Overall, the DEIR determines that impact of the Project is significant barring the passage of already planned mitigation Projects.

Other CEQA topics

Key Findings:

- The most significant cumulative impact is air quality, however effects would be temporary.
- In the event that air quality becomes a health risk the county has checks to discontinue the Project.

Summary:

CEQA is the California Environmental Quality Act. According to the guidelines of the CEQA, cumulative impacts must be considered with any environmental impact report. The cumulative impacts after further analysis, shows that the most imperative impact that would be felt, has to deal with air quality. According to an excerpt from the DEIR of Jesse Morrow Mountain pg.590, "Air pollution in the SJVAPCD comes primarily from mobile sources, which includes on-road and off-road motor vehicles." According to this draft report also pg.590, "However, any Project that is constructed in the SJVAPCD has the potential to add traffic and other pollution-emitting sources that would contribute to the cumulative degradation of air quality in the region." (County of Fresno - Public Works and Planning - Jesse Morrow Mountain Draft DEIR.) This means, every Project singularly has the potential to affect the air quality in a significantly negative way.

The impact will be temporary however; as the extra emissions would only be felt for the amount of time the Project lasts. The Project is projected to be able to last at most 100 years, but the county adhering to any reclamation plan means they have to extend the Project in increments, thus they have the option to not extend the Project if the air quality is significantly too bad. Thus the cumulative effects would only be temporary, and if they were to become a huge health risk, then the county board can correct it.

Alternatives

Key Findings:

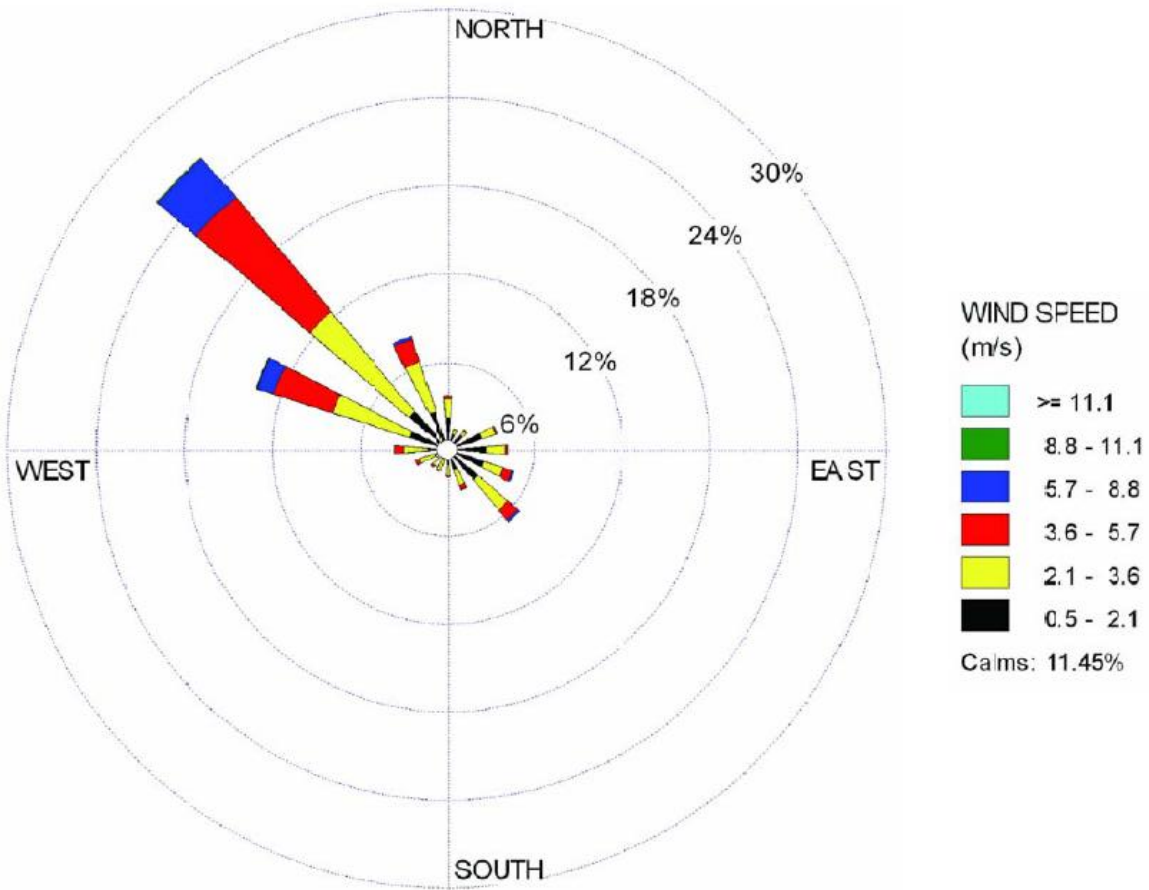
- The mitigation plans will lower the impacts of potentially significant impacts.
- The six significant impacts cannot be mitigated by any mitigation plans presented.

Summary:

After Examination of the Alternatives portion of the DEIR on the Jesse Morrow Mountain, the results have been broken down into the amount of impacts that significantly impact, potentially impact, and less than likely will impact the environment. The results are shown with one being the amount of impacts if no mitigation plans were made and after all mitigation plans were implemented. There are 43 less than significant impacts, 23 potential impacts, and 6 significant impacts, if no mitigation plans were implemented. (County of Fresno - Public Works and Planning - Jesse Morrow Mountain Draft DEIR.) If all the mitigation plans were implemented, then there would be 65 less than significant impacts, and 6 significant impacts, that are unavoidable. The successful accomplishment of the mitigation plans can be viewed with the 12 lowered impacts produced after the mitigation plans; however the 6 significant impacts are unavoidable. The significant impacts that will be felt are on the effect to the visual character of the site and surroundings, long term operations emissions, creation of considerable odor, substantial adverse change in significance of a historical or archeological resource, substantial increase in traffic in county and substantial increase in traffic, according to 2030 cumulative conditions. (County of Fresno - Public Works and Planning - Jesse Morrow Mountain Draft DEIR.)

Appendix

Table 3.3-1



Source: Jesse Morrow Mountain DEIR, Volume 1, Page 206

Table 3.8-1

Water Balance Calculations
CEMEX Jesse Morrow Mountain Project
Fresno County, California

Water Balance Term:	A		B		C		D		E		F	
	Class A Pan Evap (mm)	(inches)	Lake Evap (mm)	(Pan X 0.7) (inches)	Rainfall on Pond Surface (In)	Net (Inches)	Retention Pond Gain or Loss (AF)	Plant Use (AF)	Dust Control Water (AF)	Runoff from Mining Area	Monthly Loss (AF)	
Oct	107	4.2	75	2.9	0.65	-2.3	-0.38	-12.08	-1.611	13.677	-0.40	
Nov	52	2.0	36	1.4	1.10	-0.3	-0.06	-12.08	-1.611	18.380	4.63	
Dec	26	1.0	18	0.7	1.34	0.6	0.10	-12.08	-1.611	18.380	4.79	
Jan	29	1.1	20	0.8	2.16	1.4	0.23	-12.08	-1.611	18.380	4.91	
Feb	52	2.0	36	1.4	2.12	0.7	0.11	-12.08	-1.611	18.380	4.80	
Mar	100	3.9	70	2.8	2.20	-0.6	-0.09	-12.08	-1.611	18.380	4.59	
Apr	150	5.9	105	4.1	0.76	-3.4	-0.56	-12.08	-1.611	15.992	1.73	
May	218	8.6	153	6.0	0.39	-5.6	-0.94	-12.08	-1.611	8.206	-6.43	
June	262	10.3	183	7.2	0.23	-7.0	-1.17	-12.08	-1.611	4.840	-10.02	
July	278	10.9	195	7.7	0.01	-7.7	-1.28	-12.08	-1.611	0.000	-14.97	
Aug	233	9.2	163	6.4	0.01	-6.4	-1.07	-12.08	-1.611	0.000	-14.76	
Sep	170	6.7	119	4.7	0.26	-4.4	-0.74	-12.08	-1.611	5.471	-8.96	
Annual Total	1677	66.0	1174	46.2	11.23	-35.0	-5.83	-145.01	-19.34	140.09	-30.10	

Pump rate: 140 gpm
26951.9 cu ft/day
16.2 AF/month

Assumes production rate of 2,000,000 tons per year
Assumes all months are 30 calendar days and 26.25 operating days
Pan Evaporation Data from DWR Bulletin 73-79
Rainfall from Weather.com
mm = millimeters
AF = acre-feet

Source: Jesse Morrow Mountain DEIR, Appendix I, Page 75

Table 3.9-1

SUMMARY OF EXISTING LAND USE BY GENERALIZED LAND USE CATEGORIES

Generalized Land Use Category	Square Miles	Percent
Residential	152	2.50%
Commercial	7	0.12%
Industrial	11	0.18%
Agriculture	2,911	48.00%
Resource Conservation (including national forests and parks, timber preserves)	2,691	44.80%
Unclassified (includes streets and highways, rivers, etc.)	11	0.18%
Incorporated Cities	154	2.60%
TOTAL	6,005	100.00%

Source: Jesse Morrow Mountain DEIR, Volume 1, Page 396

Table 3.10-1

EXTERIOR NOISE STANDARDS

Category	Cumulative Number of Minutes in Any One-Hour Time Period	Noise Level Standard, dBA	
		Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

Source: Jesse Morrow Mountain DEIR, Volume 1, Page 452

Table 3.10-2

TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Equipment	Noise Level (dBA) at 50 feet	
	Maximum Range	Anticipated Value
Pile Driver	81-96	93
Rock Drills	83-99	96
Jack Hammers	75-85	82
Scrapers	83-91	87
Cranes	79-86	82
Rollers	75-82	80
Front-End Loaders	77-90	86
Hydraulic Excavators	81-90	86
Air Compressors	76-89	86
Vibratory Conveyors	70-80	77
Trucks	81-87	86
Pneumatic Tools	78-88	85
Pumps	74-84	80
Bull Dozers	77-90	85
Haul Trucks	83-94	88
Portable Generators	71-87	80
Tractors	77-82	80
Hydraulic Backhoes	81-90	86
Graders	79-89	86
Concrete Batch Plants	80-85	83
Concrete Vibrators	68-81	78
Blasting	93-94	94

Source: Jesse Morrow Mountain DEIR, Volume 1, Page 455

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