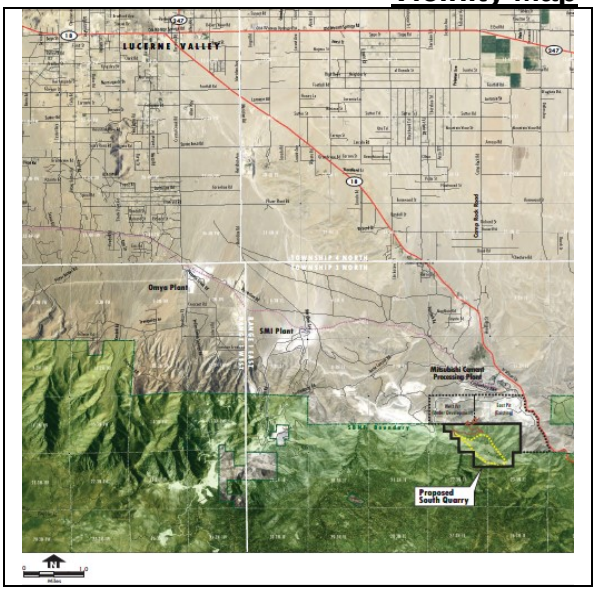
LAND USE SERVICES DEPARTMENT
PLANNING COMMISSION STAFF REPORT

HEARING DATE: May 21, 2020 **AGENDA ITEM #2**

Project Description

APN:	0447-091-03; 0447-041-02; 0447-031-11; 0447-101-02
Applicant:	Mitsubishi Cement Corporation (MCC)
Community:	Lucerne Valley, 3rd Supervisorial District
Location:	6 miles south of Lucerne Valley on the west side of Hwy 18
Project No:	Reclamation Plan No. 2020M-01
Staff:	Reuben Arceo, Contract Planner
Rep:	Austin Marshall
Proposal:	Approve a Reclamation Plan for 120 years for MCC to develop and reclaim a new high grade limestone quarry, the South Quarry, consisting of 128-acre quarry, 2.7-acre landscape berm, 22.2-acre haul road, 0.7-acre temporary construction road.

Vicinity Map



Hearing Notices Sent on : May 7, 2020 **Report Prepared By: Reuben Arceo, Contract Planner**

SITE INFORMATION:

Project Size:	153.6 acres
Terrain:	Montane
Vegetation:	Pinyon/Juniper Woodlands

TABLE 1 – SITE AND SURROUNDING LAND USES AND ZONING:

AREA	EXISTING LAND USE	LAND USE ZONING DISTRICT
SITE	Open Space/SBNF	Resource Conservation
North	East Pit (Existing); West Pit (under development)	Resource Conservation
South	Open Space/SBNF	Resource Conservation
East	Open Space/SBNF	Resource Conservation
West	Open Space/SBNF	Resource Conservation

	Agency	Comment
City Sphere of Influence:	N/A	N/A
Water Service:	Onsite Wells	Presently Served
Sewer Service:	Portable Toilets	Presently Served

STAFF RECOMMMENDATION: That the Planning Commission **APPROVE** the Water Supply Assessment, **CERTIFY** the Joint EIR/EIS, **ADOPT** the recommended CEQA findings and Statement of Overriding Considerations, **ADOPT** the Mitigation Monitoring and Reporting Program, **APPROVE** the Reclamation Plan, subject to the Conditions of Approval, **ADOPT** the findings for the Reclamation Plan, and **DIRECT** staff to file the Notice of Determination.[1]

[1] In accordance with Section 86.08.010 of the Development Code, the action taken by the Planning Commission may be appealed to the Board of Supervisors within ten (10) days after the Planning Commission hearing.

Figure 1 – Regional Location Map

Figure 2 – Project Vicinity Map

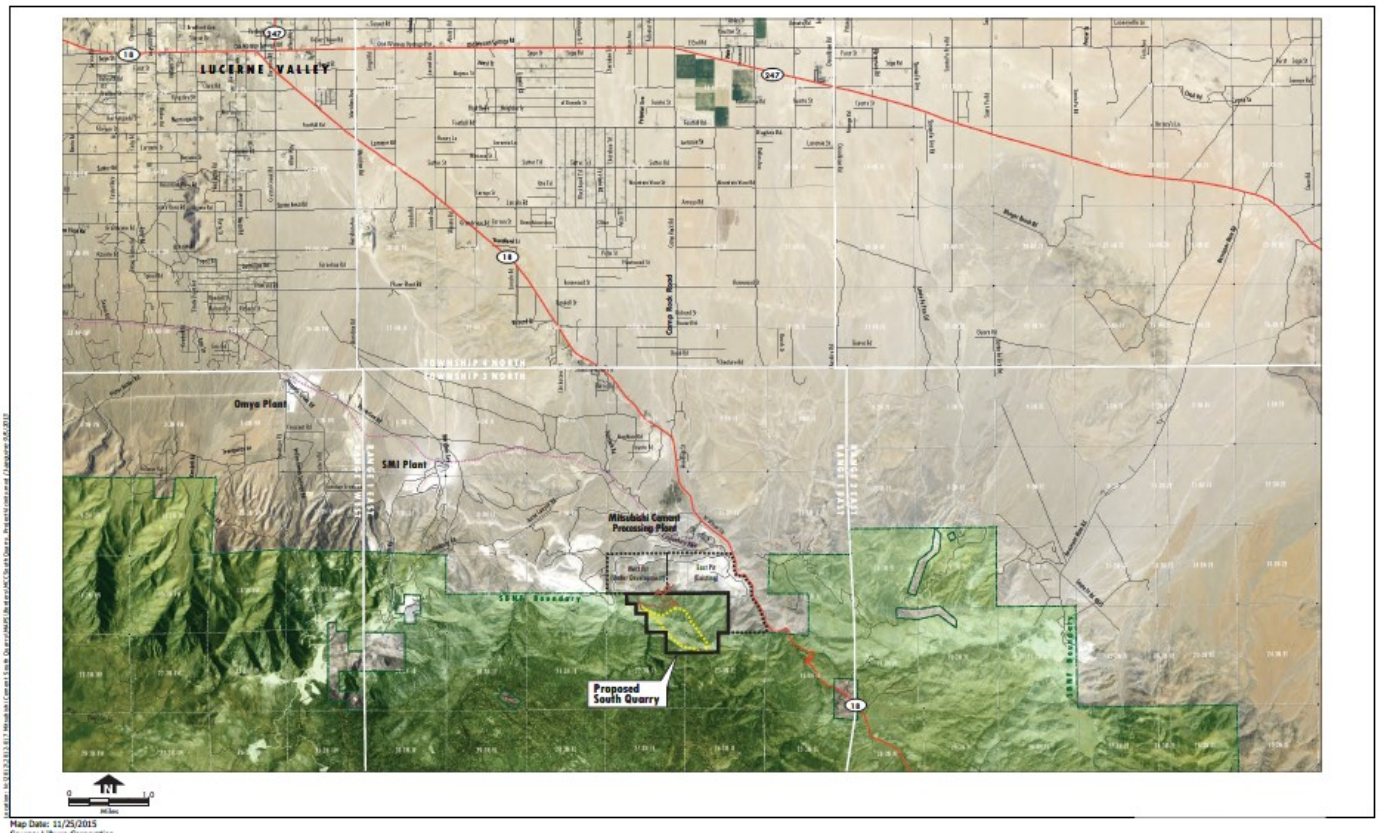


Figure 3 – Proposed South Quarry Plot Plan

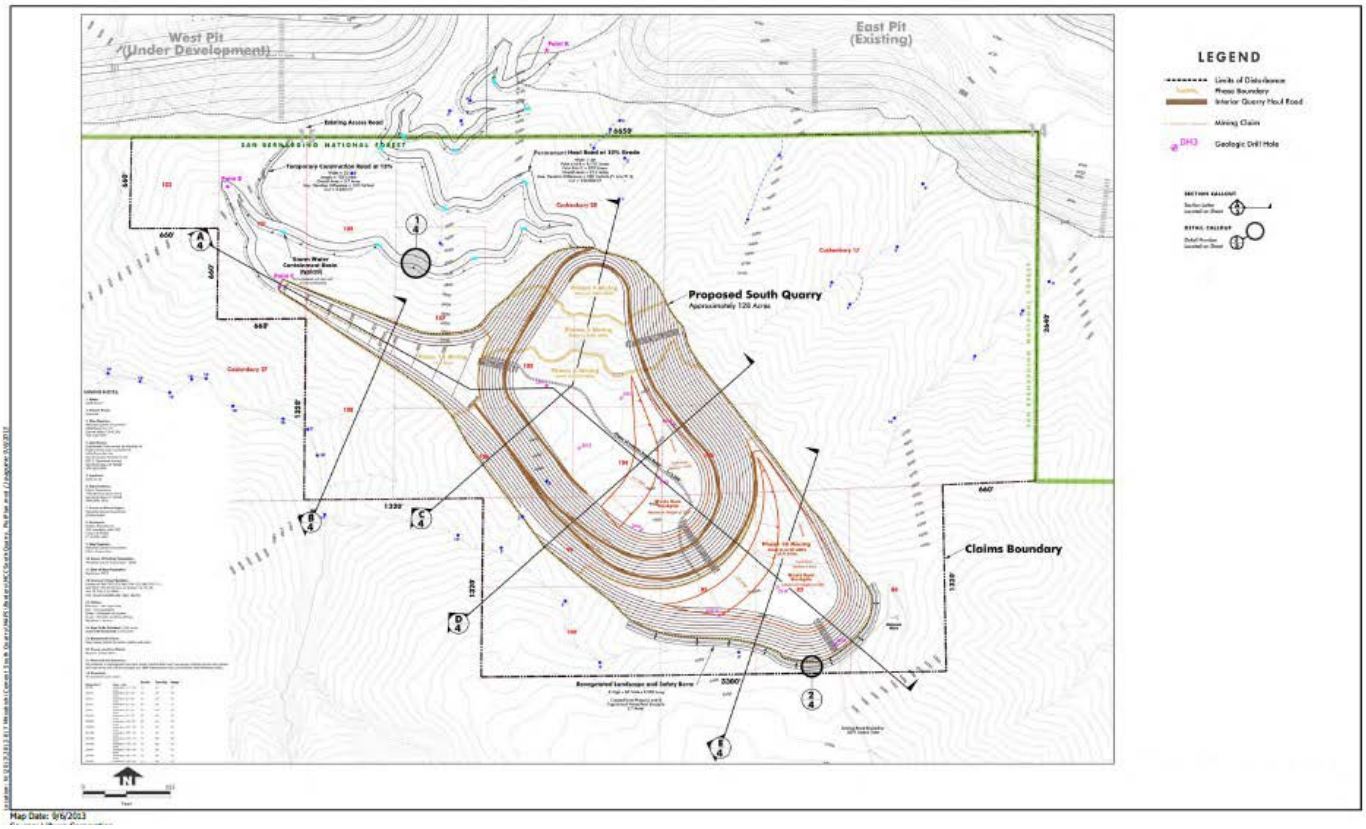
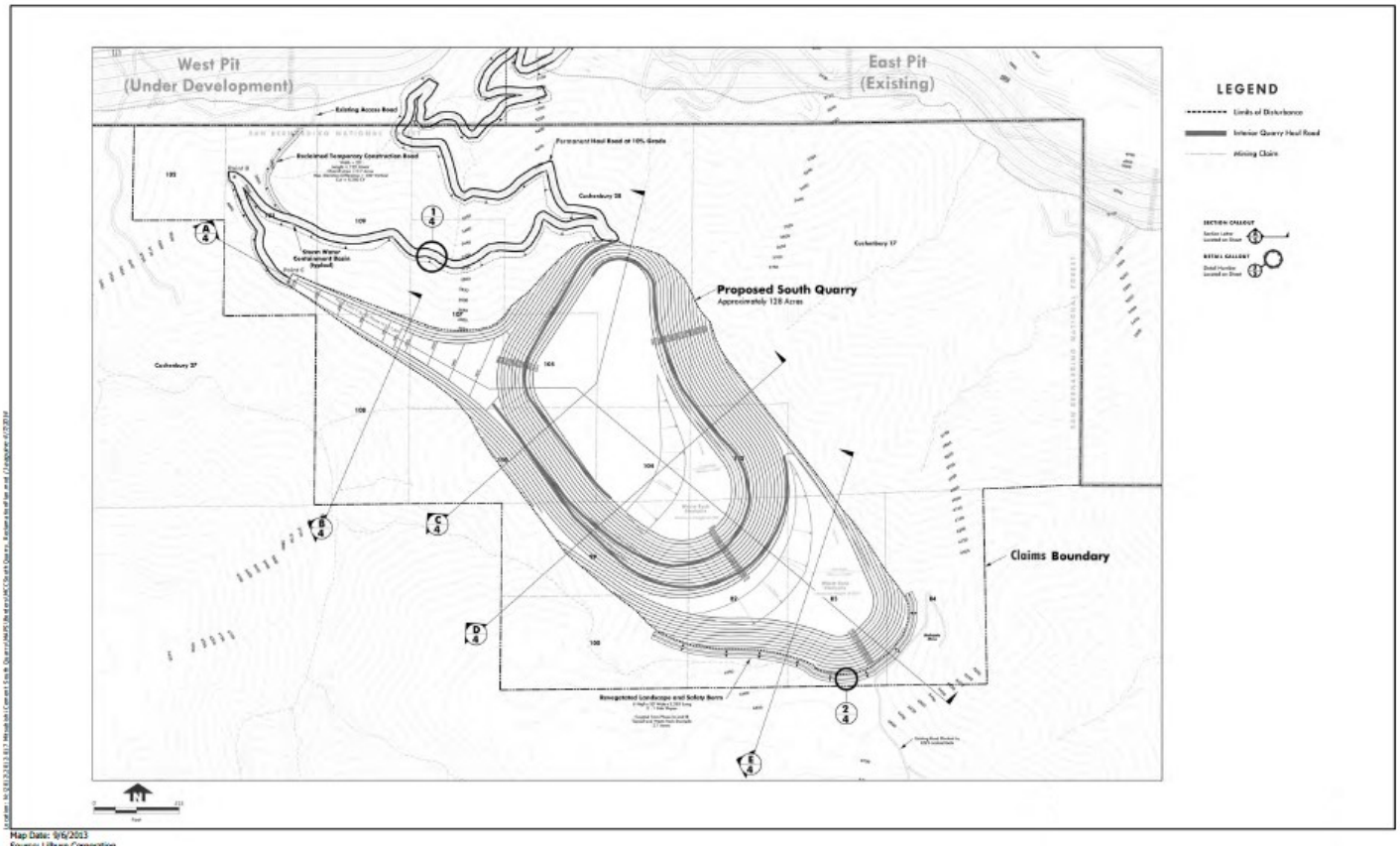


Figure 4 – Reclamation Plan



PROJECT DESCRIPTION:

Mitsubishi Cement Corporation (MCC) has submitted a Plan of Operation and a Reclamantion Plan to the United States Forest Service (USFS) and the County of San Bernardino (County), respectively, for the proposed South Quarry project (Project), which would be located south of the existing East Pit and approved West Pit at MCC's Cushenbury Mine. The South Quarry would be used to provide higher grade limestone rock to blend with lower-grade limestone to meet the limestone specifications to support MCC's adjacent existing Cushenbury Cement Plant. The total disturbance area would be 153.6 acres mined in four phases, including a 128-acre quarry, a 2.7 acre landscape berm, 22.2 acres for a haul road, and 0.7 acre for a temporary construction road. The entirety of the 128-acre quarry and 15.6 acres of the haul road are located on land within the San Bernardino National Forest (SBNF), which is administered by the USFS. The balance of the land on which the haul road will be constructed (6.6 acres) is located on land owned by MCC within the unincorporated County. Reclamation would be completed five years after the completion of mining at the quarry.

Project's Requested Approvals

As the entirety of the 128-acre quarry is located within the SBNF, the USFS has jurisdiction to approve the mining operations of the South Quarry through a Plan of Operations. Pursuant to the state and county requirements under the Surface Mining and Reclamation Act of 1975 (SMARA) (Pub. Resources Code Sections 2710 *et seq.*), water supply planning law (Water Code Section 10910 *et seq*.) and other County requirements, the County has jurisdiction to approve the Reclamation Plan and Water Supply Assessment for the Project. A joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. Section 4321 *et seq.*) and California Environmental Quality Act (CEQA) (Pub. Resources Code Sections 21000 *et seq.*) was prepared to evaluate the Project's potential environmental impacts for all requested approvals (Exhibit A). Table 2 below presents a summary of the requested agency approvals for the Project.

Table 2 - Summary of Requested Approvals

Public Agency	Requested Approvals	Approval of Environmental Review
U.S. Forest Service	Plan of Operations	Approve Joint EIR/EIS pursuant to NEPA
County of San Bernardino	Reclamation Plan; Water Supply Assessment	Certify Joint EIR/EIS pursuant to CEQA

Project Location and Environmental Setting

MCC's Cushenbury Mine and the South Quarry are located approximately 6.0 miles south of the unincorporated community of Lucerne Valley. The South Quarry is within portions of Sections 14, 15, 22, and 23 Township 3 North, Range 1 East San Bernardino Baseline Meridian (SBBM). The South Quarry site and adjacent surrounding land uses consist of vacant public lands administered by the USFS. MCC currently operates two quarries on private land outside of the San Bernardino National Forest just north of the proposed South Quarry, the existing East Pit

on 214 acres and the West Pit (under development) on 191 acres. The existing Cushenbury Cement Plant is also located north of the proposed South Quarry. The Cushenbury Cement Plant, East Pit, and West Pit, as well as the proposed South Quarry site, are accessed from Highway 18 south of Lucerne Valley.

Specialty Minerals, Inc.'s Marble Canyon Quarry is located to the west of the proposed South Quarry on 132 acres and other quarries, waste rock stockpiles, and a process plant operated by Specialty Minerals, Inc. are located to the northwest of the proposed South Quarry.

The proposed South Quarry is located within the portion of the SBNF designated as the Desert Rim Place in the SBNF Land Management Plan. The Desert Rim Place is remote and rugged, formed by complex geologic faulting. This is the location where the north slope of the San Bernardino Mountains meets the Mojave Desert.
The South Quarry is within the Carbonate Habitat Management Strategy (CHMS), a regional planning effort aimed at protecting four federally-listed carbonate endemic plant species. The naturally-occurring calcium carbonate soils found in the area provide valuable habitat supporting these four plant species. The CHMS is designed to provide long-term protection for the carbonate endemic plants and also provide for continued mining. Identified areas of the carbonate habitat reserves are protected from mining impacts in perpetuity by being dedicated and managed as described in the CHMS. A Memorandum of Understandings and Agreement (MOUA) was signed in 2003 by public agencies the USFS, Bureau of Land Management (BLM), and the County; private owners/operators Omya, Specialty Minerals, MCC, and Cushenbury Mine Trust; and the environmental group California Native Plant Society. The MOUA stipulated that the signatories will implement the CHMS for the dual purpose of conserving threatened and endangered carbonate plants and streamlining the permitting of mining operations.

Background and Project Site History

The Cushenbury area has been mined since 1861; limestone mining has occurred since the early 1950s. In 1988, MCC acquired the Cushenbury Cement Plant and the existing East Pit from Kaiser Cement Corporation. The cement produced at the Cushenbury plant has been used to meet local Southern California and Southern Nevada building and infrastructure needs. In 1999, MCC intended to identify sources of limestone to replace diminishing reserves in the East Pit. During this process the location for a new quarry, the West Pit, was identified. The West Pit required approval of a Mining and Reclamation Plan (2004M-001) by the County and associated CEQA review, which was completed in 2004.

Geologic reconnaissance during completion of the final plans for the West Pit confirmed reserves of low-grade limestone, but also identified a shortage of high-grade material needed for cement production. MCC initiated a comprehensive survey of properties in the Burnt Flats area, near existing operations, in an effort to identify high-grade limestone sources. The analysis of samples gathered during a drilling program confirmed both quality and quantity of the high grade limestone resource in the location of the proposed South Quarry.

MCC has identified that the most efficient and effective means to continue Cushenbury Cement Plant operations would be to combine low-grade material from the West Pit with high-grade material from the proposed South Quarry at a ratio of approximately 50/50 to meet the limestone

specifications necessary to feed the Cushenbury Cement Plant. Current estimates project that the South Quarry, in combination with the West Pit, could feed the cement plant at anticipated demand levels for approximately 120 years.

MCC's Cushenbury Cement Plant requires a limestone feed of approximately 2.6 MTPY of a specific blend of limestone to manufacture cement. In 2004, as the existing East Pit neared its exhaustion of cement grade limestone, the West Pit expansion was approved by the County on 191 acres to the west of the existing East Pit, with approximately 217 million tons of limestone reserves. Based on subsequent limestone testing, the amount of high-grade limestone to blend with the lower grades of limestone to meet the feed requirement for the cement plant will not be adequate for the life of the East and West Pits drilling sampling conducted during 2009 and 2010, the proposed South Quarry site has estimated proven and inferred reserves of over 200 million tons of high- to medium-grade limestone rock. Should a source of high-quality limestone not be developed near the existing cement plant, the high-quality limestone for blending would need to be mined elsewhere in the region and trucked to the plant to ensure the proper blend to manufacture cement.

Proposed South Quarry

Pre-Construction and Pre-Mining Activities

The following activities would be conducted prior to haul road construction and prior to commencing rock extraction in each new area of the quarry to facilitate ongoing and future reclamation and revegetation:

- Construction and excavation limits would be surveyed and marked in the field;

- Specified plants that can withstand removal would be salvaged and stored in a nursery to ultimately be replanted on reclaimed land as areas become available for revegetation. MCC, in coordination with the USFS and U.S. Fish & Wildlife Service (USFWS) (for federally-listed species) would determine where and how the plants would be grown, propagated, and used in the interim;

- Seeds of specified plants would be collected and either used for revegetation or stored appropriately for maximum future viability. MCC, in coordination with the USFS (and with the USFWS for federally-listed species) would determine where and how the seeds would be propagated and plants used in the interim; and

- Any available soils would be placed in separate identified stockpiles near the edges of the excavations for use as a seed bank and seedbed during reclamation. Soil stockpiles would be clearly marked and seeded with an erosion control native seed mix and/or covered with larger material to limit wind and water erosion.

Haul Road Construction

Limestone ore excavated at the proposed South Quarry would be hauled by off-road haul trucks to the existing primary crusher located at the north end of the existing East Pit. During the first

two years of the Project, the 9,585-foot or 1.8-mile long haul road would be constructed. The haul road would access the South Quarry at 5,950 feet above mean sea level and traverse down the north slope to an elevation of 5,050 feet at the southwest corner of the existing East Pit. The road's surface width would be 50 to 60 feet with a grade not to exceed 10 percent. It would have a surface of crushed limestone.

In addition, to aid in the cutting of the access road, a temporary construction road approximately 755 feet in length and 25 feet wide (0.7 acre) would be cut from the end of an existing access road from the West Pit area. On completion of the main access road, this temporary road would be reclaimed and revegetated. The estimated disturbance area of the proposed haul road is 22.2 acres, of which 6.6 acres are on MCC fee land in the County of San Bernardino and 15.6 acres are within the SBNF boundary.

Excavation

As noted, higher grade limestone in the proposed South Quarry would be blended with lower grade limestone excavated from the East and West Pits at a ratio of approximately 50/50 to meet the limestone specifications to feed the adjacent Cushenbury Cement Plant, which requires a limestone feed of approximately 2.6 MTPY. The South Quarry would be mined at an average production rate of 1.3 MTPY of ore and 150,000 tons per year of waste rock for up to 120 years. Production from the East and West Pits would be reduced to an average of approximately 1.3 MTPY of ore and 150,000 tons per year of waste rock. Therefore, the overall average limestone production of 2.6 MTPY and 300,000 tons per year of waste rock at the mining complex would not change from the currently-approved production.

Limestone would be excavated by standard open pit practices. Once an area is stripped of vegetation and available soil is salvaged, controlled blasting would loosen the rock at a vertical benching interval of 45 feet. Limestone that does not meet cement quality specifications and other rock types would be pushed or hauled directly to waste rock stockpiles located within the quarry. To limit additional land disturbance and to reduce potential visual and erosion impacts, no new waste stockpiles would be developed outside the perimeter of the proposed quarry. The excavations would be designed to develop a series of stable rock slopes up to 45 feet in height with horizontal benches 25 feet wide. The site-specific geotechnical study (Golder Associates 2010) determined that the planned slopes would meet the stability criteria for sliding and earthquakes. This type of site investigation during the mining operation would provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. An annual report discussing the geotechnical program would be prepared for the USFS and the County.

Operating Hours and Equipment

The proposed South Quarry would normally operate approximately 250 days per year, five days per week, and 10 hours per day. Factors such as market conditions and maintenance requirements may vary this schedule, occasionally requiring a second shift or weekend work. In addition, snow or other weather conditions may suspend quarry operations for one or two months during the winter. Approximately 11 employees would work at the new quarry; eight of these would be existing employees and three would be new employees.

The average daily ore production is estimated to be 5,200 tons, which would require approximately 50 to 55 off-road, on-site truck trips to the crusher per day. An average of 600 tons of waste rock would be extracted per day, requiring approximately six or seven internal truck trips per day. Table 3 lists the typical equipment that would be used for the mining activities conducted within the quarry.

Table 3 - Typical Quarry Equipment

Equipment	Typical Number	Net Increase of Equipment from Current Conditions	Purpose
Dozer	1-2	0	Removal of topsoil and waste rock. Construction and maintenance of the haul road.
Off Road Haul Trucks	2-9	0-5	Transportation of material to the primary crusher and onsite waste rock stockpiles. Two trucks would be dedicated to the South Quarry. Up to seven trucks would rotate with the West Pit operations, as required.
Drill Rig	1	0	Drill holes for placement of explosives
Water Trucks	1-2	0	Water haul roads, active excavation areas, stockpiles, and general dust suppression
Front End Loaders	2-3	0	Loading of materials into haul trucks at active mining area.

Blasting

To extract the limestone rock, blasting activities would be required to develop a series of benches and to break the rock into smaller pieces so that it can be removed. Blasting operations involve drilling along the mining face, placing charges, and detonating the charges. All blasting activities would be conducted by a licensed blaster under permit through the Bureau of Alcohol, Tobacco, Firearms and Explosives for handling explosives. Blasting would typically be conducted twice each week between the hours of 10:00 am and 6:00 pm Monday through Saturday. During the initial construction of the haul road, more frequent (up to once per day) smaller blasts would occur.

Quarry Phasing

The excavation plan for the South Quarry is divided into four phases based on operational, engineering, and environmental concerns. Table 4 summarizes relevant data by mining phase.

Table 4
Planned Quarry Phasing and Production

Phase	Area[1] (acres)	Cumulative Area[1] (acres)	Total Material Excavated (millions of tons)[2,3,4]	Ore Reserves (millions of tons)[2,3]	Waste Rock (millions of tons)[2,3]	Max. Depth (feet amsl)	Years of Operation[5]
1A	11	11	5.1	4.5	0.5	5,860[6]	3.5
1B	32	43	32.1	28.8	3.2	6,130[6]	22.0
2	65	108	21.0	18.8	2.2	6,220[6]	14.5
3	12[5]	120	58.0	52.0	6.0	5,905	40
4	8[5]	128	58.0	52.0	6.0	5,365	40
Total	**128**	**128**	**174.0**	**156.0**	**18.0**	**5,365**	**120**

Notes:

[1]Area has been rounded to the nearest whole acre. Totals may be slightly different due to rounding.
[2]Millions of tons rounded to the nearest tenth.
[3] Waste rock estimated at 0.15 million tons per year or approximately 10 percent, which would vary depending on area being excavated.
[4]Years of operation based on average ore production of 1.3 million tons per year.
[5] Phases 3 and 4 areas are generally deeper excavations within the previously disturbed Phase 2 area, except for the north slope area.
[6] Phases 1A, 1B and 2 are distinct separate areas with varied excavation depths.

The South Quarry is proposed to be excavated according to this phasing plan. However, mining operations may experience unscheduled interruptions and/or phasing changes due to various market/economic demands and variation in slopes and material quality beyond the operator's control, because the natural deposit is not of uniform quality. It may be necessary, therefore, to excavate selectively from different locations within the quarry to achieve a suitable blend of raw materials. The USFS and the County would be updated on the status of the operational phases in the annual monitoring report.

Production Water

Water would be used for road and mine dust control and would be obtained from existing water wells on MCC-owned land outside of the SBNF boundary. This water would be hauled in a water truck and sprayed on haul roads and active mine areas to minimize fugitive dust. The proposed South Quarry would require a net increase of approximately 58.6 acre-feet per year (79.2 af/yr minus 20.6 af/yr) or a 12.1 percent increase from existing conditions. The supply would be the existing MCC wells, which use groundwater pumped from the Este sub-area of the Mojave Basin. No new wells are proposed.

Approved chemical dust suppressants may also be used to control road dust and reduce water spraying frequency.

Wastes/Waste Rock

There are no ponds or tailings-type wastes associated with limestone mining. All usable limestone would be transported to the existing cement plant to be used in the cement manufacturing process.

The production of limestone would generate approximately 10 percent waste rock or approximately 150,000 tons per year of rock unsuitable for cement processing depending on the quality of the limestone. Minimal amounts of overburden are expected as the limestone is generally exposed across the quarry site. Instead of removing the waste rock from the site and creating separate waste stockpiles outside of the rim of the quarry, the waste rock would be stockpiled within the mining footprint.

The development of internal waste rock stockpiles would reduce the area of disturbance outside of the quarry rim, reduce potential visual impacts of the waste rock piles, and reduce internal slopes, thus aiding in revegetation. Based on 250 days of operations per year, an average of 600 tons of waste rock would be extracted per day, which would require six or seven internal off-road truck trips per day depending on the volume of the haul truck. Note that the amount of waste rock would be highly variable depending on the area being mined.

Drainage and Erosion Controls

Diverting undisturbed area runoff: Drainage structures would be located and constructed to control flow velocities, provide for stability during their planned operating life, and minimize additional contributions of sediment to runoff flows.

Disturbed area drainage control: In active quarry areas, drainage control would generally not be a significant concern because all disturbed area drainage is anticipated to be retained within the basin created by the quarry excavation. For quarry development areas, roads, stockpile areas, and other disturbed areas, erosion and sediment loss and transport would be controlled through the use of localized drainage and sediment control measures.

Stabilization of disturbed areas: Disturbed areas would be stabilized to minimize both short- and long-term erosion and sediment loss. In the case of mine roads, short-term stabilization measures include proper road design and construction methods, including minimizing disturbed areas and the use of site-specific drainage and sediment control measures.

Long-term stabilization, or reclamation, would generally involve grading or reshaping disturbed areas, establishing effective drainage, placement of plant growth media, and revegetation. Due to both operational and economic limitations, surface stabilization of quarry areas would be limited to removal of loose rocks from high wall areas, and growth media replacement and revegetation of quarry bench surfaces. Following reclamation, the majority of surface runoff from quarry areas will be retained in the quarry limits where it will either infiltrate or evaporate.

Reclamation

Specific reclamation activities would occur concurrent with excavations and throughout the life of mining operations, including slope reduction, stockpile management, erosion control, and revegetation. At the conclusion of excavations, five years of active reclamation and revegetation will be implemented followed by revegetation monitoring and remediation until revegetation performance standards are achieved.

The site would be reclaimed to meet both the requirements of SMARA and the USFS Locatable Minerals Regulations (36 CFR 228 Subpart A). The objectives of the Reclamation Plan are to:

- Eliminate or reduce environmental impacts from mining operations;
- Reclaim the site in a usable condition for post-mining end uses that will include open space and wildlife habitat;
- Reshape mining features and revegetated disturbed areas to minimize aesthetic, biological, and hydrologic impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

The mining and reclamation plan are for an average rate of 1.3 MTPY of ore. Because market demand for the finished product determines the rate of extraction, it is difficult to precisely forecast future demand for limestone and to make exact long-term predictions for annual production. The time span of the total life of the operation is an estimate that may vary based on actual market conditions.

Another factor that may affect the time frame and phasing of the mining operation, and therefore the reclamation, is the quality of material encountered as mining progresses. The natural deposit at the site is not of uniform quality, so it is necessary to excavate selectively from different locations to achieve a suitable blend of raw materials. Until the ultimate exhaustion of the limestone deposit, reclamation would progress in the manner described below.

The permanent perimeter quarry slopes would be reclaimed from the rim downward as each phase is completed to meet slope design as specified in the ongoing slope stability assessments. Reclamation would consist of sloping excavated cuts and benches as necessary to meet the designed 0.55H:1V overall slope and to round the rims of the final benches. Each bench would be sloped inward toward the vertical wall to capture any precipitation or runoff. The individual benches would be approximately 45 feet high and 25 feet wide unless required to be flatter in specific areas, as determined by geological mapping during ongoing quarry operations.

During reclamation, the upper slopes that may be visible from Lucerne Valley or areas of the SBNF would be sculpted or roughened to reduce straight lines, create shadowing, and reduce visual impacts. In addition, at approximately every 500 feet, a ramp would be constructed to connect the benches to allow for wildlife movement within the reclaimed quarry.

Surface material salvaged for revegetation would be limited due to the surficial rock conditions on the site. Available material containing the native seed bank would be placed on the benches and would be augmented with additional growth media and mulch in islands to provide future sources of seeds. Revegetation would be accomplished by one or more of the following

methods: by reseeding with native plant perennial species including seeds collected at or near the site, from plantings grown in a nursery, from plant cuttings, and from whole plants salvaged from new mining areas.

A summary of the planned reclamation by planned phase for the South Quarry is provided in Table 5 below.

Table 5
Summary of Reclamation and Revegetation Phasing

Phase	Estimated Years of Operation*	Planned Activities
1A	1-5	Sloping, erosion control, and revegetation of haul road cuts and fills and south and north slopes of Phase 1A excavations. Reclamation of the temporary access road of 0.7 acre.
1B	6-82	Sloping, erosion control, and revegetation of upper slopes and benches as they are completed in the southern area to about the 6,400-foot amsl bench. Construction and vegetation of the landscape berm. Stockpiling of waste rock to reduce slopes to occur throughout phase.
2	26-42	Erosion control and stockpiling of waste rock in Phase 1B area. The Phase 2 area would be mined to greater depth in Phases 3 and 4; therefore, no additional reclamation is proposed in this Phase.
3	43-82	Sloping, erosion control and revegetation of upper benches as completed on the southwest and northeast sides of the site to about the 5,950 feet amsl bench. Stockpiling of waste rock in Phase 1B. Reclamation and revegetation of completed sections of Phase 1B waste rock stockpile.
4	83-120	Sloping, erosion control, and revegetation of upper benches as completed in the central portion of the site. Stockpiling of waste rock in Phase 4 area. Reclamation of Phase 1B waste rock stockpiles.
Final Reclamation	121-126	Removal of equipment, stockpiles, and internal roads not needed for site access during revegetation and site monitoring. Sloping, erosion control, and revegetation of any remaining unreclaimed benches and waste stockpiles in Phase 4 and quarry floor.

*Note: The estimated life of each quarry phase is dependent on the slope stability and slopes, extraction rate, and product demand. These estimates assume an ore and waste rock extraction rate of 1.45 MTPY and a five-year period to conduct final reclamation at the estimated completion of Phase 4 to be followed by revegetation monitoring until success criteria are achieved.

A reclamation financial assurance cost estimate, in an amount sufficient to pay for the cost of reclamation, would be prepared. The County and the USFS would annually review and update, as needed, the cost estimate, as required by SMARA. The reclamation assurance would be reviewed and approved by the California Office of Mine Reclamation (OMR) to fulfill an additional SMARA requirement. MCC currently provides a financial assurance mechanism in the form of a letter of credit payable to the County and OMR for the approved amount to assure reclamation of its existing operations. An additional letter of credit or other acceptable financial assurance mechanism would be provided for the South Quarry, which would include the USFS as a payable party.

Revegetation

A Revegetation Plan has been prepared for the project as part of the Plan of Operations. The Revegetation Plan would:

- Establish islands of native shrubs and perennial grasses covering at least 30 percent of the site where access allows;
- Establish young pinyon pine and canyon oak seedlings and salvaged yuccas onto revegetated islands after initial shrub nurse plant establishment;
- Establish some cover of rabbitbrush and curl-leaf mountain mahogany on roll down and overburden sites; and
- Revegetate disturbed sites progressively as mining or related disturbance is completed to maximize the acreage of reclamation completed before completion of mining.

The Revegetation Plan is intended to enhance or restore suitable habitat for listed carbonate-endemic plants and enhance both foraging and cover habitat for Nelson's bighorn sheep. The Revegetation Plan also includes measures to salvage yuccas and to include pinyon pines in the revegetation plant palette to comply with the County's Native Plant Protection Policy.

The primary goal for revegetation of the South Quarry is to revegetate approximately 30 percent of bench and other areas disturbed by mining with a self-sustaining vegetative cover of native species, including listed carbonate plant species. The Plan goals include minimizing visual effects; restoring biodiversity and ecological function; enhancing habitat for rare plants and animals; and mitigating losses of protected plants. The revegetation goals would conform to SMARA requirements and the guidelines in the CHMS.

Detailed descriptions of success criteria are included in the Revegetation Plan. The success criteria are based on the revegetation guidelines and success criteria described in CHMS and other vegetation data. Quantitative thresholds for vegetation cover and climax species densities may be adjusted if more precise data are available in the future.

SMARA requires mine operators to test revegetation strategies on test plots prior to implementing revegetation more widely through the mine areas. Two types of test plots are planned: test plots to experiment with replacement soil composed mostly of crusher fines, and plots to test climax species establishment. The Revegetation Plan may be modified based on the results of these test plots.

Revegetation tasks would begin on approval of the Plan of Operations. Reclamation and revegetation in any given part of the permit area would commence when mining would no longer affect the area. This would allow vegetation recovery within some parts of the Pproject site before completion of mining.

Monitoring is intended to (1) verify correct implementation of the revegetation plan; (2) evaluate the degree of success in terms of the specified objectives; and (3) determine if maintenance or remediation are needed. Beginning one year after initial seeding at any site (test plots, pre-

closure revegetation areas, and final closure), and continuing annually as needed until success criteria are achieved, a series of quadrats would be evaluated to estimate cover, diversity and density of each species. Monitoring would occur for at least five years, or until success criteria are achieved. Each year, recommendations would be made (if necessary) for remediation, which could include weeding, changes in irrigation, re-seeding or re-planting, etc. In the final year of monitoring, data would be compared to the baseline data to determine if the success criteria have been met.

Annual monitoring reports describing revegetation progress and making recommendations, as needed, for appropriate reseeding, maintenance, or other action would be prepared. These reports would be provided to the USFS and the County.

Post-Reclamation Uses

The planned land use subsequent to mining, reclamation, and revegetation is **open space** and wildlife habitat managed by the USFS. The quarry excavation and reclamation would result in a series of revegetated benches 25 feet wide and 45 feet high. Portions of the quarry would be partially backfilled, aiding in the reclamation and revegetation of these quarry slopes.

Existing Ore Processing

Mineral processing would be conducted at the adjacent existing MCC Cushenbury Cement Plant north of the existing East Pit. There would be no change in existing operations or production at the plant with approval of the South Quarry. Limestone would continue to be crushed, mixed with other materials, and heated in the rotary kiln, then cooled and stored for shipping. Cement would continue to be shipped to various markets by bulk truck, train, and in sacks.

Mineral Withdrawal

As part of the proposed Project, MCC would convey conservation easements and relinquish unpatented mining claims on over 540 acres to compensate for potential impacts to carbonate plant species. These compensation lands also contain unknown limestone reserves, some of which are also classified as MRZ-3a, which would be withdrawn from public use and would be unavailable for future mineral extraction. The withdrawal of these mining claims is consistent with the requirements of the SBNF Land Management Plan and the CHMS, which, as noted, allows use of the withdrawal of mining claims and other land acquisition strategies to increase the carbonate plant habitat reserve while allowing for future mining in other areas. The mineral withdrawal could be accomplished through an administrative withdrawal approved by the BLM or through a legislative withdrawal through an action by Congress.

Water Supply Assessment

MCC is also requesting approval from the County of a Water Supply Assessment (WSA), provided as Exhibit B to this report. Upon request of a local agency, a public water supplier (PWS) is required by law to provide documentation regarding the water supply for certain new projects. If a PWS cannot be identified, the local government must complete its own WSA. In

the case of the proposed Project, there is no PWS that provides water service to the area of the Project site. Therefore, the County prepared a WSA in conjunction with the EIR/EIS.

As discussed in the WSA, the Project is located in the Mojave Basin-Este Subarea, which is the subject of an adjudication to determine the water rights of the various producers. The Mojave Water Agency (MWA) is the Watermaster for the Mojave Water Basin. A final judgment was entered in 1996 to adjudicate groundwater in the Mojave Basin. To carry out the final judgment, the MWA assigned Based Annual Production (BAP) amounts to each producer using 10 acre-feet per year or more. MCC has a Free Production Allowance (FPA) of 1,116 acre-feet. Historically, MCC has had prior year carryover from unused FPA. It is anticipated that the Project would increase demand for groundwater by approximately 58.6 acre-feet/year. Accordingly, the WSA concludes that this increase in demand for groundwater is not expected to exceed MCC's FPA, and the Project's impacts to groundwater would be less than significant.

PROJECT ANALYSIS:

Purpose and Need for the Project

- **Limestone Resource:** MCC has identified that the most efficient and effective means to continue its Cushenbury Plant operations would be to combine low-grade material from its West Pit with a source of high-grade material. The high-grade material is not present in the West Pit under development. The South Quarry would allow MCC to exhaust its mineral resources in the South Quarry and feed its Cushenbury Cement Plant in combination with material from the West Pit for approximately 120 years.

  Based on drilling sampling conducted during 2009 and 2010, the proposed South Quarry site has estimated proven and inferred reserves of over 200 million tons of high- to medium-grade limestone rock. This higher grade limestone rock would be blended with lower-grade limestone excavated from the East and West Pits at a ratio of approximately 50/50 to meet the limestone specifications to feed the adjacent Cushenbury Cement Plant. Should a source of high-quality limestone not be developed near the existing cement plant, the high-quality limestone for blending would need to be mined elsewhere in the region and trucked to the plant to ensure the proper blend to manufacture cement.

- **SBNF Land Management Plan**: Under the National Forest Management Act of 1976 (P.L. 94-588)), the USFS is required to identify the best use of forest land, including potential options such as mining, timber, range and recreation. The management of these resources within the SBNF is described in the SBNF Land Management Plan (LMP). The purpose of the SBNF LMP is to articulate the long-term vision and strategic management direction for the SBNF and to facilitate the development of activities that will contribute towards the realization of the National Forests' desired conditions. The LMP includes goals that emphasize the processing and administration of mineral exploration and development proposals and operations while providing adequate protection of surface resources, wildlife habitat, scenery and recreation settings. Therefore, part of the purpose and need for this Project is to facilitate the development of management activities that will contribute towards the realization of the National

Forests' desired conditions as identified in the LMP Southern California National Forest Vision.

- **Economic Benefit**: Long-term cumulative economic benefits of limestone mining along the north range front of the San Bernardino Mountains have added to the County economy for decades, including tax payments and jobs. The limestone mining industry provides stable high paying jobs and professional careers for many people. The Project would allow continued (up to 120 years) mining of the resource and provide long-term employment for many employees.

  MCC helps support federal, state and local governments and schools through payment of property taxes, excise, fuel and other taxes for the long term. MCC supports local economies through direct purchases of equipment, materials, supplies, and services, and indirect turnover of these expenditures in the economy. Specifically, MCC has continued to support the local and regional community through its sponsorship of programs through the Lucerne Valley High School, tours of the Cushenbury Cement Plant for local schools, and sponsorships of the annual Ride in the Rocks event, which raises money to enhance local education by funding college scholarships and field trips. The South Quarry Project will help MCC maintain its vitality and that of the surrounding community.

Project Objectives

The overall intent of the Project is to allow MCC to exhaust its mineral resources and supply the quality of limestone needed to blend with materials from the MCC's East and West Pits to feed its adjacent Cushenbury Cement Plant. Specifically, the Project was developed with these specific objectives and goals:

- To develop a high-grade limestone resource to blend with the existing East and approved West Pits' limestone to supply the required feed specifications for the adjacent existing Cushenbury Cement Plant for an extended period;
- To supply cement for construction and other uses in an efficient and environmentally sound manner;
- To continue to realize the economic value from the investment made in the existing Cushenbury mine and cement plant and the limestone resource at the Project site;
- To avoid logistical and environmental costs associated with non-contiguous operations;
- To meet the USFS regulations to cause no undue and unnecessary degradation;
- To meet the State and County SMARA requirements;
- To be consistent with the intent of the SBNF's CHMS in order to provide long-term protection for the rare carbonate endemic plants through contribution of lands to the Carbonate Habitat Reserve;
- To minimize impacts to rare plants and wildlife, such as the Cushenbury herd of Nelson's bighorn sheep, through quarry design and offsite mitigation;
- To reclaim the site for post-mining uses, which will include open space and wildlife habitat;

- To contour mining features and revegetate disturbed areas to minimize aesthetic and erosion impacts; and
- To reclaim and maintain the site as necessary to eliminate hazards to public safety.

ENVIRONMENTAL ANALYSIS:

Preparation of Joint EIR/EIS

Because the Project is located within the SBNF, and in accordance with Article 14 of the CEQA Guidelines - *Projects Also Subject to the National Environmental Policy Act* (NEPA) Section 15222 - *Preparation of Joint Documents* and Section 15226 - *Joint Activities*, a joint Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) was prepared. The involvement of the USFS is necessary because federal law generally prohibits a federal agency from using an EIR prepared by a state agency unless the federal agency was involved in the preparation of the document. Pursuant to the 1992 Memorandum of Understanding by and between the State of California and the U.S. Department of Agriculture (USFS), the County as "lead agency" designated by the State Mining and Geology Board, has the principal responsibility under SMARA for approving a surface mining operation's reclamation plan. The provisions of SMARA apply to all public and private lands throughout the unincorporated areas of the County.

The joint EIR/EIS was prepared for the Project in accordance with the requirements of CEQA and the California Code of Regulations Title 14, Section 15000 et seq. (CEQA Guidelines), as well as the NEPA regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508). The EIR/EIS evaluated potentially significant effects for several environmental areas of concern. The conclusions of the EIR/EIS indicate that all of the potentially significant environmental impacts may be reduced to a less than significant level with implementation of recommended mitigation measures except for the Project-specific and cumulative impacts to the Cushenbury herd of the Nelson bighorn sheep and the Project-specific impacts to scenery resources. The Final EIR/EIS includes the Draft EIR/EIS, public and agency comments, responses to comments, errata and the Mitigation Monitoring and Reporting Program (MMRP).

The following identify the process that has been followed for the preparation of this EIR/EIS:

- **Distribution of a Notice of Preparation (NOP) and Initial Study**: The County prepared a NOP and an Initial Study. The NOP and Initial Study was distributed to all responsible agencies and interested parties, including the California State Clearinghouse, beginning on March 5, 2012. The USFS prepared a Notice of Intent (NOI) which was published in the Federal Register on February 22, 2012 (Federal Register Volume 77, Number 25, p. 10472). The NOI and NOP were mailed to the agencies, organizations and individuals on both the USFS and County mailing lists.

  The NOI was also published as a legal notice in San Bernardino's *The Sun* on March 5, 2012. The NOP was published in daily publications of San Bernardino's *The Sun* and the Victorville *Daily Press* on March 5, 2012. The NOP was also published on March 7, 2012, in the weekly publications of the *Big Bear Grizzly* and the Lucerne

Valley *Leader*. Copies of the scoping notices, Initial Study, and proposed Plan of Operations and Reclamation Plan were posted to the agency websites.

- **Conduct of a Scoping Meeting**: Two public scoping meetings were held to provide the public and government agencies an opportunity to receive information on the CEQA/NEPA process and the Project, as well as provide verbal and written comments. The first public Scoping Meeting was held on March 13, 2012, at the Lucerne Valley Community Center, and a total of seven attendees signed the voluntary sign-in sheet at that meeting. The second public scoping meeting was held on March 20, 2012, at the Big Bear Discovery Center, and a total of 18 attendees signed the voluntary sign-in sheet at that meeting.

- **Circulation of the Draft EIR/EIS**: The Notice of Availability (NOA) for the Draft EIR/EIS was filed at the San Bernardino County Clerk and California State Clearinghouse on December 15, 2016, and published in the San Bernardino *Sun* on December 19, 2016, reflecting a February 1, 2017. end period for the public comment period. The NOA was published in the Federal Register on December 30, 2017, which extended the public comment period to February 13, 2017 (Federal Register Volume 81, Number 251, p. 96451). A corrected NOA was published in the San Bernardino County *Sun* on January 11, 2017, notifying the public of the extended comment period. The NOA was posted on both the County's and USFS's Internet websites, along with links to download the Draft EIR/EIS. In addition, notices were sent to the agencies, organizations and individuals on the County and USFS mailing lists posted in the San Bernardino County *Sun*.

  The Draft EIR/EIS was circulated for review and comment between December 19, 2016, and February 13, 2017.

  The Draft EIR/EIS was made available for public review at both the San Bernardino and Fawnskin SBNF field offices, as well as the County Planning Division offices in San Bernardino and at the Lucerne Valley Branch Library and Big Bear Lake Branch Library. The Draft EIR/EIS was also available on both the USFS's and County's internet websites. Copies of the Draft EIR/EIS were provided, upon request, to responsible, trustee, and other federal, state, and local agencies expected or known to have expertise or interest in the resources that the Project may affect, as well as to organizations and individuals.

- **Distribution of the Final EIR/EIS:** Responses to comments on the Draft EIR/EIS were addressed in the Final EIR/EIS and the Final EIR/EIS was distributed to commenting parties on May 8, 2020.

  The County of San Bernardino planning staff has reviewed and provided comments on the Draft and Final EIR/EIS, and the technical studies/reports. Presentation of these documents reflect the County's own independent judgment, including reliance on applicable County technical personnel from other departments and review of all technical sub consultant reports.

- **Division of Mine Reclamation (DMR):** The County submitted the Plan of Operations and Reclamation Plan to (OMR [currently Division of Mine Reclamation (DMR)] in December of 2011. DMR provided their comments in a letter dated December 5, 2011, and submitted a letter dated January 12, 2017, on the Project's Draft EIR/EIS in which DMR stated it had no comments on the Draft EIR/EIS. County staff has reviewed DMR's comments and intends to adopt said comments with clarifications and additions included in the attached County Response Letter. These clarifications and additions are provided as Exhibit C to this Staff Report. These revisions will be required to be incorporated into the approved Final South Quarry Plan of Operations and Reclamation Plan in addition to any recommendations from the Planning Commission.

CEQA Appendix G Environmental Checklist – Initial Study:

The environmental resource areas (effects) identified below were determined not to be significantly affected by the implementation of the Project and did not require further analysis in the Draft EIR/EIS.

- Agriculture and Forestry
- Hazards/Hazardous Materials
- Land Use and Planning
- Population and Housing
- Public Services
- Transpiration and Traffic
- Utilities and Service Systems

The following environmental resources (effects) identified below are described and evaluated in detail within Section 3.0 of the Draft EIR/EIS. If determined necessary and feasible, Project design features and mitigation measures were identified to maintain impacts to a less than significant level or reduce impacts to a less than significant level. The Draft EIR/EIS section numbers are provided in parentheses.

- Air Quality (3.2)
- Biological Resources (3.3)
- Cultural/Heritage Resources (3.4)
- Geology, Soils, and Mineral Resources (3.5)
- Greenhouse Gases (3.6)
- Hazards and Hazardous Materials (3.7)
- Hydrology and Water Quality (3.8)
- Noise (3.9)
- Recreation (3.10)
- Scenery Resources (3.11)

The Draft EIR/EIS identified significant and unavoidable impacts to biological resources through the Project-level and cumulative effects to the Cushenbury herd of Nelson's bighorn sheep and Project-level significant effects to scenery resources. All feasible mitigation measures have

been identified to address those impacts. However, those impacts will remain significant and unavoidable. A summary of the Project design features and mitigation measures and the Mitigation Monitoring and Reporting Plan (MMRP) are provided in the Draft EIR/EIS Chapter 2 (Section 2.3.2.13) and the Final EIR/EIS (Appendix M), respectively.
Below is a summary of the impacts evaluated in the EIR/EIS.

Air Quality

The proposed Project's construction and operational emissions would be less than the Mojave Desert Air Quality Management District thresholds and less than federal *de minimis* thresholds with implementation of design features/mitigation measures. Cancer risks for all receptors are below the Office of Environmental Health Hazard Assessment significance threshold of 10 in a million for both Project construction and operations. Visibility and acidic compound disposition impacts at the nearest Class I area (San Gorgonio Wilderness) would also be below Federal Land Manager Air Quality Related Values Workgroup thresholds.

Project-level and cumulative impacts related to air quality would be less than significant. The full analysis of the proposed Project's potential air quality impacts can be found in Chapter 3.2 and in Appendices B-1 and L of the EIR/EIS.

Biological Resources

The proposed Project's impacts to general and special status plants and wildlife would be less than significant with the implementation of design features/mitigation measures. Those design features/mitigation measures include long-term adaptive management strategies to adapt to mitigation needs if circumstances change over time. One of those long term strategies requires MCC participation in and funding for a North Slope Bighorn Sheep Conservation Strategy. That strategy would include guidance for monitoring and herd augmentation. The proposed Project's mitigation would also add approximately 540 acres of habitat to the CHMS.

The exception is for direct, indirect, and cumulative effects to the Cushenbury heard of Nelson's bighorn sheep, which remain significant even after implementation of design features/mitigation measures.

The proposed Project would also lead to an approximately 12.1 percent increase in water usage. That increase in water usage would not affect Cushenbury Springs because the wells used to supply the water are disconnected from the springs by faulting.

Project-specific and cumulative impacts would be less than significant, except for Project-specific and cumulative impacts to the Cushenbury heard of Nelson's bighorn sheep. The impacts related to biological resources are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C, D-1 and D-2, E, and L.

Cultural/Heritage Resources

Three cultural resources were recorded within the Project area: (i) an electrical transmission line; (ii) the former Mohawk Mine; and (iii) USFS Road 3N04. All three of those cultural resources

were determined not to be eligible for the National Register of Historic Places or California Register of Historical Resources.

Implementation of the proposed Project would not result in effects to historic properties or impacts to historical resources, and Project-specific and cumulative impacts would be less than significant. Impacts to cultural/heritage resources are discussed in more detail in the EIR/EIS Chapter 3.4.

Geology, Soils, and Mineral Resources

With respect to faulting and seismicity, no active faults are known to cross or trend towards the Project site. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible. With incorporation of design features/mitigation measures, these impacts would be reduced to a less than significant level.

With respect to unstable slopes, unstable soils underneath three landslide deposit areas within the quarry could affect the stability of cut slopes in the quarry, resulting in a potentially significant impact. With incorporation of design features/mitigation measures, these impacts would be reduced to a less than significant level.

Soil erosion could occur during construction and operation of the proposed Project. With implementation of design features/mitigation measures, these impacts would be reduced to a less than significant level.

With respect to mineral resources, development of the limestone resource is consistent with the policies of the USFS, SMARA, and the County. The relinquishing of mining claims on over 540 acres to compensate for potential impacts to carbonate plant species is consistent with the requirements of the SBNF Land Management Plan and the CHMS. The loss of these compensation lands is unlikely to affect the regional or statewide availability of limestone. Impacts would be less than significant.

Project-specific and cumulative impacts related to geology, soils, and mineral resources would be less than significant. The impacts related to geology, soils, and mineral resources are discussed in detail in the EIR/EIS Chapter 3.5 and Appendices F and L.

Greenhouse Gases

Construction and operations greenhouse gas (GHG) emissions would be less than the significance threshold of 10,000 MTCO2e/year. The proposed Project also would not conflict with the County's *Greenhouse Gas Reduction Plan*.

Project-specific and cumulative impacts would be less than significant. Impacts related to greenhouse gases are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices B-1 and L.

Hazards and Hazardous Materials

With respect to hazards related to the transport or use of hazardous materials or waste, Best Management Practices (BMPs) would be applied during refueling and maintenance of mine equipment. The equipment would be moved to the existing Cushenbury Cement Plant area shops for major maintenance and repairs. With BMPs required by existing regulations, hazardous materials or wastes associated with transportation, refueling and maintenance of mine equipment are not reasonably anticipated to result in a significant hazard to the public or environment. Impacts would be less than significant.

With respect to hazards related to blasting, mining operations would require two blasts per week, reducing the number of blasts from the existing mining operations at the East Pit by a similar number.

All explosives and detonators would be transported, handled, and stored in accordance with all federal, state, and local regulations and permitted under the San Bernardino County Sheriff's Department and San Bernardino County Fire Department pursuant to Uniform Fire Code adopted by the Department. In compliance with County regulations, blasting would only be conducted by a licensed blaster upon issuance of a blasting permit. Impacts would be less than significant.

With respect to hazards related to the upset or accidental release of hazardous materials, it is unlikely that excavation of the mine would disturb contaminated soils or groundwater based on the historic undeveloped use of the property and lack of environmental concerns identified during a database search and site visit. Impacts would be less than significant.

With respect to hazards related to wildfire, the proposed Project is located in Fire Safety Review Area (FS), which is characterized by areas with moderate and steep terrain and moderate to heavy fuel loading contributing to high fire hazard conditions. The proposed Project's design includes internal haul roads to allow for emergency egress and safe zone in the event of a wildfire in the event of a wildfire. No human-occupied structures are proposed. Impacts would be less than significant.

Project-specific and cumulative impacts related to hazards and hazardous materials are discussed in more detail in the EIR/EIS Chapter 3.7 and Appendices G and L.

Hydrology and Water Quality

The Project's impacts related to hydrology and water quality would be less than significant because the Project has been designed to retain runoff within the Project's excavation. The Project would meet waste discharge requirements are required by the State Water Resources Control Board.

The Project would not affect any waters that are subject to the jurisdiction of the U.S. Army Corps of Engineers and would not require a Section 404 permit under the Clean Water Act. The Project would affect approximately 0.74 acre and 3,622 linear feet of streambed under

the jurisdiction of the California Department of Fish and Wildlife (CDFW), requiring a Streambed Alteration Agreement.

The Project would increase demand for groundwater by approximately 58.6 acre-feet/year for the South Quarry. Combined with the water demand for the West Pit, the cumulative increase in water demand would be 101.3 acre-feet/year. This increase in demand would not exceed MCC's allotted free production allowance form the Mojave Basin Judgment.

With implementation of design features/mitigation measures, Project-specific and cumulative impacts would be less than significant. The impacts related to hydrology and water quality are discussed in detail in the EIR/EIS Chapter 3.8 and Appendices D-1, D-2, E F and L.

Noise

With respect to noise, due to the shift in operations from the West Pit to the South Quarry, operational noise is expected to decrease at the nearest sensitive receptors in Lucerne Valley. Noise from off-road haul trucks and water trucks would not exceed the County's noise standards for adjacent mobile noise sources. The addition of employee vehicle round-trips together would result in a negligible increase in noise on local roads. Impacts would be less than significant.

With respect to vibration, groundborne vibration as a result of blasting would be less than the County criteria for the nearest industrial and commercial zoned areas and the closest residential receptor. Blast-generated air overpressure at the closest residential structures would also not exceed United States Bureau of Mines (USBM) thresholds. Impacts would be less than significant.

Project-specific and cumulative impacts related to noise and vibration are discussed in more detail in the EIR/EIS Chapter 3.9 and Appendices I and L.

Recreation

With respect to effects from displacement and changes to quality of the recreation experience, the Project could indirectly displace recreation activities from the Project area. However, visitor displacement is not expected to result in noticeable changes to the surrounding recreation setting because of the lack of developed recreational facilities, existing and expected low levels of recreation traffic, the minimal extent of visitor impacts, and because alternative settings are readily available nearby. In addition, changes to the natural soundscape would be minimally noticeable above existing operational sound levels form dispersed recreation sites within the Desert Rim Place and would not be noticeable form the Big Bear Backcountry Place. Impacts would be less than significant.

Project-specific and cumulative impacts to recreation are discussed in more detail in the EIR/EIS Chapter 3.10 and Appendices J and L.

Scenery Resources

The proposed Project would cause the scenic integrity from four of the viewpoints analyzed within Lucerne Valley to incrementally decrease during Phases 1 and 3, which would then trend higher as concurrent reclamation succeeds. Scenic integrity would decrease from an existing level of High to Very Low during Phase 2 and 4, and then gradually increase to a level of Low. Impacts would be localized, but long term (over 20 years). This would not be consistent with the area's Scenic Integrity Objective of high. Overall direct effects of implementing the Project would be major and adverse to the site's level of scenic integrity resulting in a potentially significant impact to a scenic vista and the existing visual character of the site and its surroundings. Project-level impacts would remain significant even after implementation of all feasible design features/mitigation measures. Cumulative impacts would be less than significant because the Project area comprises a very small area relative to the large scale of the landscape being viewed. Direct effects may lower the scenic integrity of the Project site, but cumulatively, this would have a minor to neutral effect on the overall scenic integrity of the area.

Project-specific impacts would be significant and unavoidable. However, cumulative impacts would be less than significant. Impacts related to scenery resources are discussed in detail in the EIR/EIS Chapter 3.11 and Appendices K and L.

Project Alternatives

CEQA requires that a lead agency identify and evaluate a range of reasonable alternatives to the Project in the EIR to foster informed decision making and public participation. The alternatives identified should achieve most of the basic objectives of the proposed Project while substantially lessening or avoiding significant environmental damage of the proposed Project (CEQA Guidelines Section 15126.6(a).) The review must focus on feasible alternatives capable of either eliminating any significant adverse effects, or reducing them to a less than significant level. The USFS and County identified three alternatives, including the Project, for detailed analysis in the Draft EIR/EIS.

The USFS and County also identified several alternatives that were not carried forward for further analysis. Because those would be infeasible due to technical challenges or would cause greater or comparable environmental impacts, the County and USFS determined the alternatives summarized below need not be carried forward for further review. Those alternatives included: (i) alternative design without a haul road; (ii) alternative mining methods; (iii) alternative haul road routes; (iv) alternative reclamation methods; (v) congressional withdrawal instead of administrative withdrawal; (vi) full restoration alternative; (vii) off-site alternative.

Each alternative evaluated in the EIR/EIS are summarized below and a detailed analysis of the potential impacts associated with the alternatives is provided in Section 3 of the Draft EIR/EIS.

Alternative 1 – Proposed Action: Alternative 1 is the proposed Project (Proposed Action). It reflects the activities identified in the Plan of Operations and Reclamation Plan submitted to the USFS and to the County.

Alternative 2 – Partial Implementation: This alternative was developed in response to public comments requesting an alternative with a shorter duration and/or smaller footprint. Alternative 2 – Partial Implementation, would only implement Phases 1A, 1B, and 2 of the Plan of Operations (see Figure 2.3-11 in the EIR/EIS). With this alternative, the final quarry would also not be as deep as with the proposed Project. Mining in the quarry would last 40 years rather than 120 years. As with the proposed Project, reclamation activities would be initiated as mining is completed in each part of the quarry. Reclamation of Phases 1A, 1B, and 2 is expected to occur on the same schedule as the proposed Project; however, final reclamation activities for the South Quarry would be concluded in year 46, unless a separate extension for further mining activities, including associated NEPA documentation, was sought and approved after year 40.

With this alternative, the higher-grade limestone would still be required for cement plant operations. This limestone would be obtained from elsewhere in the region and trucked to the cement plant after Phase 2 is completed (approximately year 41 through year 120).

Approximately 52,000 haul truck trips per year would be required, assuming import of 1.3 million tons per year of high-grade limestone using 25-ton on-road trucks (approximately 150 truck trips per day assuming deliveries 350 days per year). Trucks would likely access the cement plant using local roads through Lucerne Valley. Three alternative sites for high grade limestone have been identified, two in California and one in Nevada.

Alternative 2 – Partial Implementation would reduce impacts to other biological resources; cultural/heritage resources; geology and soils; hazards and hazardous materials; hydrology and water quality; and recreation. However, due to need to truck high-grade limestone from off-site sources to the Cushenbury Cement Plant, impacts to air quality, noise, and greenhouse gases would be greater with this alternative. Further, the significant, unmitigable impact to the Cushenbury herd of Nelson's bighorn sheep would remain the same. The impact to scenery resources would be reduced but would remain significant and unmitigable. In addition, Alternative 2 – Partial Implementation would satisfy the majority of the proposed Project objectives, but not to the same degree as the proposed Project. For those reasons, Alternative 2 – Partial Implementation is not desirable.

Alternative 3 – No Action/No Project: With Alternative 3 – No Action/No Project, MCC would not develop the limestone deposit in the South Quarry under the current Plan of Operations. However, the existing Cushenbury Cement Plant would continue to operate. The ore reserves in the West Pit, when blended with high grade ore, are sufficient to feed the cement plant for approximately 120 years. Therefore, it is assumed that higher-grade limestone for blending would be trucked to the plant from elsewhere in the region during that 120-year period. Trucks would likely access the cement plant using local roads through Lucerne Valley. Approximately 52,000 haul truck trips per year would be required, assuming import of 1.3 million tons per year of high-grade limestone using 25-ton on-road trucks (approximately 150 truck trips per day assuming deliveries 350 days per year). Two sites in California and one site in Nevada have been identified as potential off-site sources of high-grade limestone.

Although on-site impacts resulting from development and operation of the proposed Project would not occur with Alternative 3 – No Action/No Project, this alternative would require trucking higher-grade limestone from elsewhere in the region, resulting in environmental effects to air

quality, greenhouse gas emissions, and noise related to increased haul truck use of local roads and State Highway 18. Additionally, Alternative 3 – No Action/No Project would not meet the proposed Project objectives. For those reasons, Alternative 3 – No Action/No Project is not desirable.

Minor Changes to the Final EIR

After publication of the proposed Final EIR/EIS by the County, it came to staff's attention that the USFS desired to clarify the EIS portion of the proposed Final EIR/EIS document pursuant to NEPA.

While the Draft EIR/EIS did not identify a preferred alternative by the USFS, the Final EIR/EIS published by the County identified Alternative 2- Partial Implementation as the USFS's preferred alternative. The USFS has now identified Alternative 1 – Proposed Action, Phases 1 and 2 as its preferred alternative, and has requested the following modifications to the Final EIR/EIS:

- *Summary Chapter, Abstract*: . . . Phases 1 and 2 of the Plan of Operations as evaluated under Alternative 1 – Proposed Action ~~Alternative 2 – Partial Implementation~~ is the Forest Service's preferred alternative. . . .

- *Chapter 2, Description of Alternatives including the Proposed Action, Section 2.4 Preferred Alternative (NEPA)*: NEPA requires that the Lead Agency identify the preferred alternative, if one exists (40 CFR 1502.14). A preferred alternative need not be identified in the Draft EIS if the responsible official does not have one at that stage. The preferred alternative must, however, be identified in a final EIS (FSH 1909.15 Sec. 16). The Forest Service did not identify a preferred alternative at the Draft EIS stage. For this Final EIS, the Forest Service has identified approving Phases 1 and 2 as evaluated under Alternative 1 – Proposed Action ~~Alternative 2 – Partial Implementation~~ as the preferred alternative.

With respect to CEQA, these modifications made pursuant to NEPA are provided in the Final EIR/EIS for informational purposes. These modifications merely clarify and refine the Final EIR/EIS to provide supplemental information to the County decisionmakers and the public. These modifications do not change the analysis or environmental conclusions in the Final EIR/EIS for purposes of CEQA. Further, these modifications do not constitute "significant new information" pursuant to CEQA Guidelines Section 15088.5 and do not require recirculation of the Draft EIR/EIS.

Statement of Overriding Considerations

Pursuant to CEQA Section 21081 and CEQA Guidelines Section 15093, the County must balance the benefits of the proposed Project against any unavoidable environmental impacts in determining whether to approve the proposed Project. The Final EIR/EIS identified the following significant and unavoidable impacts from the proposed Project:

- Substantial Adverse Project-Level Effect to the Cushenbury Herd of Nelson's Bighorn Sheep;

- Substantial Adverse Cumulative Effect to the Cushenbury Herd of Nelson's Bighorn Sheep; and
- Substantial Adverse Project-Level Effect to Scenery Resources.

The benefits of the proposed Project are summarized in the Statement of Overriding Considerations, provided in Exhibit D to this Staff Report. Staff recommends that the County find that the benefits of the proposed Project outweigh the unavoidable adverse environmental impacts. The proposed Project will provide several benefits to the residents of the County. Any one of those benefits individually would be sufficient to outweigh the adverse environmental impacts of the Project and justify its approval and certification of the Final EIR/EIS. Those benefits include:

- The proposed Project will develop an existing aggregate mine within a State-classified Mineral Resource Zone designated MRZ-3a, an area of mineral resources of statewide or regional significance, for limestone resources.
- The proposed Project will develop the limestone resource and allow MCC to exhaust its mineral rights at the South Quarry site, consistent with the policies of the County, SBNF, and SMARA.
- The proposed Project allows for the most efficient and environmentally sound method for MCC to exhaust its mineral resource and deliver the mineral resource to market, as the South Quarry will provide the necessary high-grade limestone to feed MCC's on-site cement plant and MCC's existing pits can provide sufficient low-grade limestone to feed the cement plant for 120 years.
- The proposed Project will supply the existing Cushenbury Cement Plant, which contributes to a stable domestic supply of cement that is used to meet local southern California and southern Nevada building and infrastructure needs.
- Project mitigation will convey conservation easements and relinquish unpatented mining claims on over 540 acres in the CHMS Habitat Reserve (an approximately 3:1 ratio), which would provide an immediate and long-term benefit to four federally-listed plant species and their critical habitat and biological resources in general.
- The proposed Project will ensure long-term predictability with respect to employment and purchasing for the local community, regional and local supplies of vital building materials and a domestic source of cement to address concerns related to supply and pricing.
- The proposed Project will allow for continued operations in proximity to the existing Cushenbury Cement Plant, which would reduce haul truck vehicle miles traveled and associated environmental impacts that would occur from importing off-site resources.
- Project mitigation will contribute to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The Fund will be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep both within the Cushenbury herd and on proximate habitats, occupied or unoccupied, including the Bighorn Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation. MCC will be a partner in the North Slope Bighorn Conservation Strategy and will help support the long-term management goals of maintaining a sustainable population of bighorn sheep on the North Slope.

Based on the benefits of the proposed Project, staff recommends the County adopt the Statement of Overriding Considerations for the proposed Project.

Public Comment

As discussed above, the Draft EIR/EIS was circulated for review and comment from December 19, 2016, to February 13, 2017. The USFS and County received 19 letters in total within the comment period, including ten letters from public agencies, four letters from organizations, and five letters from individuals. The USFS and County also received four comment letters after the close of the comment period.

The County evaluated comments on environmental issues received from person who commented on the Draft EIR/EIS. The Final EIR/EIS provides adequate, good faith and reasoned responses to each of the comments, including "Master Responses" to address general concerns. Neither the comments received nor the responses to such comments add significant new information pursuant to CEQA Guidelines Section 15088.5 and do not require recirculation of the Draft EIR/EIS..

Status of USFS Approval

The USFS should be finalizing its Record of Decision to approve the Plan of Operations soon. To be consistent with the terms of years of operations for other mining projects on USFS administered lands, the USFS may approve only Phases 1 and 2 for the first forty years of South Quarry. If the USFS approves only Phases 1 and 2, MCC understands that it is the USFS intention to approve Phases 3 and 4 based on the analysis in the Final EIR/EIS with the proper documentation needed pursuant to NEPA regulations and the USFS policy in place at that time. If new information or changed circumstances arise that result in new or unforeseen effects during Phases 3 and 4, or significantly increased severity of effects, the USFS will correct or supplement documentation as needed pursuant to NEPA regulations and USFS policy.

While the USFS may approve only Phases 1 and 2 of the South Quarry at this time, MCC requests approval of the 120-year Reclamation Plan for all proposed phases of the South Quarry. USFS approval of Phases 1 and 2 will not affect implementation of the Reclamation Plan. As summarized in Table 5 above, the reclamation will take place concurrently with each phase. If only Phases 1 and 2 are ultimately approved by the USFS, reclamation under the Reclamation Plan would be complete five years after completion of Phase 2 pursuant to the Reclamation Plan. In addition, the environmental analysis and associated mitigation measures evaluated in the EIR/EIS address the impacts of all four phases of the proposed South Quarry, and MCC will be responsible for implementing all mitigation in the Mitigation Monitoring and Reporting Program (Exhibit E to this report) for all four phases of the South Quarry. For any future changes that could be required to the Reclamation Plan with future USFS approval pf Phases 3 and 4, the Project's conditions of approval (Exhibit F to this report) require MCC to file an amendment to secure approval from the County before any procedures that change from those outlined in the Reclamation Plan.

RECOMMENDATION: That the Planning Commission:

1) **APPROVE** the Water Supply Assessment (Exhibit B);

2) **CERTIFY** the Final Environmental Impact Report (SCH No. 2012031009)(Exhibit A) with the minor modifications to the *Summary Chapter, Abstract* and Section 2.4 as discussed herein;

3) **ADOPT** the recommended CEQA Findings and Statement of Overriding Considerations (Exhibit D);

4) **ADOPT** the Mitigation Monitoring and Reporting Program (Exhibit E);

5) **APPROVE** the Reclamation Plan for 120 years for MCC to develop and reclaim a new high grade limestone quarry, the South Quarry, consisting of 128-acre quarry, 2.7-acre landscape berm, 22.2-acre haul road, 0.7-acre temporary construction road, subject to the recommended Conditions of Approval (Exhibit F);

6) **ADOPT** the recommended Findings for approval for the Reclamation Plan (Exhibit G); and

7) **DIRECT** Staff to file a Notice of Determination.

ATTACHMENTS:

Exhibit A:	Draft and Final EIR/EIS and Technical Studies http://cms.sbcounty.gov/lus/Planning/Environmental/Desert.aspx
Exhibit B:	Water Supply Assessment http://www.sbcounty.gov/Uploads/lus/Environmental/MitsubishiCementCorp/Appendix%20H%20-%20Water%20Supply%20Assessment.pdf
Exhibit C:	County Response Letter to Comments of DMR
Exhibit D:	CEQA Findings and Statement of Overriding Considerations
Exhibit E:	Mitigation Monitoring and Reporting Program
Exhibit F:	Conditions of Approval
Exhibit G:	Findings for Reclamation Plan
Exhibit H:	Additions and revisions to Plan of Operations and Reclamation Plan
Exhibit I:	Site Plan
Exhibit J:	Email from City of Hesperia

EXHIBIT A

Draft and Final EIR/EIS and Technical Studies

http://cms.sbcounty.gov/lus/Planning/Environmental/Desert.aspx

EXHIBIT B

Water Supply Assessment

http://www.sbcounty.gov/Uploads/lus/Environmental/MitsubishiCementCorp/Appendix%20H%20-%20Water%20Supply%20Assessment.pdf

EXHIBIT C

County Response Letter to Comments of DMR

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SAN BERNARDINO COUNTY

Land Use Services Department
Mining

Terri Rahhal
Director

April 15, 2020

SENT VIA EMAIL
Carol.Atkins@conservation.ca.gov

Carol E. Atkins
Department of Conservation
Division of Mine Reclamation
Manager, Environmental Services Unit
801 K Street, MS 09-06
Sacramento, CA 95814-3529

RE: Response to DMR's December 5, 2011 Comment Letter for Mitsubishi Cement Corporation's South Quarry Reclamation Plan; Project No. AP20100105/SMAR

Dear Ms. Atkins:

San Bernardino County staff has considered the comments on the Plan of Operations (POO) and Reclamation Plan offered by the then Office of Mine Reclamation (OMR) (now Division of Mine Reclamation (DMR)) in their letter dated December 5, 2011 (see Enclosure 1) and appreciates this opportunity to provide the necessary responses that will enable the County's approval of the South Quarry Reclamation Plan. In addition, DMR reviewed the Draft EIR/EIS and provided no specific comments on this document in their letter dated January 12, 2017 (see Enclosure 2).

The following provides San Bernardino County Planning Division's response to comments from DMR's letter that is numbered to correspond to the attached letter. Mitsubishi Cement Corporation (MCC), Lilburn Corporation, and Golder Associates provided additional information, which are included in the corresponding responses.

Comment Page 2 - Paragraph 1:

Mining Operation and Closure

(Refer to SMARA sections 2770, 2772, 2773, CCR sections 3502, 3709, 3713)

According to CCR section 3502(d), each surface mining operation shall have no more than one approved reclamation plan applicable to that operation, except as allowed in CCR section 3502(h) when the mining operator proposes to utilize a new surface area, not included within the approved reclamation plan of the existing mining operation. Mitsubishi Cement Corporation proposes to develop the South Quarry as a separate, stand-alone mine. However, discrepancies appear to exist between the proposed project and the requirements of CCR section 3502(h). For example, the overlap between the reclamation boundaries of the East Pit and the proposed South Quarry is inconsistent with the requirement that the new surface area is not included within the reclamation boundary of the existing mining operation. Additionally, parts of the proposed haul road that will connect the existing Cushenbury Mine and the proposed South Quarry are shown within the reclamation boundaries of both mines and is inconsistent with the approved reclamation plan for the existing mine. The reclamation plan should be revised to ensure that proposed South Quarry truly is a new and separate mining operation not included in the reclamation plan of the existing mine. If this is not achievable, the proposed South Quarry will need to treated as an expansion of the Cushenbury Mine and included in an amended reclamation plan for the entire surface mining operation (California mine ID #91-36-0054, Reclamation Plan #2004M-001).

Response:

It is recognized that all surface mining operations are not always an efficient "fit" under SMARA. The County had considered the "one mine one reclamation plan" requirement when the project was first proposed, but found it very problematic in addressing a number of complicating factors such as addressing differences in land status and environmental/ habitat settings, geographic separation, delineating jurisdictional limits within the financial assurances, etc.; therefore, the County is providing its authorization of the South Quarry as a separate, stand-alone mine. The South Quarry is located on unpatented claims owned by MCC on public federal lands within the San Bernardino National Forest (SBNF) under the jurisdiction of the United States Forest Service with the exception of approximately 6.6 acres of the haul road located on MCC owned land where it links with the existing East Pit. The East and West Pits (CA Mine #91-36-0054) are operating under Mining/Reclamation Plan 2004M-01 approved by the County of San Bernardino in May 2004. This 2004 Mine/Reclamation Plan will be revised (apart from the Forest Service) to exclude that portion of the planned haul road that links with the East Pit.

In addition, on Sheets 2 and 3, the line defined as the Project Boundary to the right of the proposed South Quarry will be re-defined as the perimeter claims boundary in the Final POO and Reclamation Plan. The South Quarry boundary is defined on page SB1 in the Plan of Operations and Reclamation Plan document as "approximately 153.6 acres consisting of a 128-acre quarry; a 2.7 acre landscape berm; a 22.2-acre haul road, 1.8 miles in length; and a temporary construction road of 0.7 acres. The South Quarry and haul

road will be located almost entirely (147.0 acres) on 440 acres of unpatented claims owned by MCC on public federal land under the jurisdiction of the San Bernardino National Forest (SBNF) with approximately 6.6 acres of the haul road located on MCC fee land where it links with the existing East Pit."

Comment Page 2 – Paragraph 2:

SMARA Section 2772(c)(3) requires that the reclamation plan include a termination date. The reclamation plan indicates that the term of mining to be 120 years, with a termination date of December 31, 2136. OMR recommends that the lead agency approve the reclamation plan for a more manageable period of time, such as 40 years, with periodic review and renewal based on past compliance. OMR recommends that the reclamation plan be revised with a more manageable termination date, such as December 31, 2052. Alternatively, the plan could be approved for the requested period, but with a Condition of Approval imposed that would require periodic review, such as every 20 years.

Response:

The Reclamation Plan includes a proposed date for termination of surface mining as required by SMARA Section 2772(c)(3), and has since been updated to terminate on December 31, 2140. Neither SMARA nor the implementing regulations dictate a sooner termination date. MCC has explained that the proposed termination date is based on the specifics of the South Quarry site and will develop separately from the existing East and West Pits in accordance to differing resource needs at the Cushenbury Cement Plant. After careful consideration of the designed phasing among other SMARA obligations, the County believes that 120 years represents a reasonable and "manageable" termination date for this particular project.

The South Quarry will develop reserves of more than 156 million tons of limestone ore, most of which is high to medium grade limestone. This limestone will be blended with lower-grade limestone from the existing East Pit and the West Pit at a ratio of approximately 50/50 in order to meet the limestone specifications necessary to feed the Cushenbury Cement Plant. The 120-year term of mining was selected because the South Quarry is estimated to contain enough high-grade limestone to supply the Cement Plant for that time period. Equally important, 120 years was selected because at the end of Phase 2 of the development (which will occur at approximately year 40 of mining), this particular resource is situated in a way that allows an extended period of additional mining (an additional period of approximately 80 years) without substantially expanding the mine's footprint or substantially impacting additional habitat, thus maximizing the resource recovered for the environmental impact considerations. Further, the 120-year term will give MCC the certainty it needs to commit for the long term for the Cement Plant location and this important regional source of limestone.

Development of the South Quarry over the time period proposed maintains limestone production in the same general location to minimize possible impacts. Proximity of the South Quarry to existing operations prevents additional environmental impacts that would be caused by the development of an off-site source of material and truck traffic associated with moving off-site material to the Cushenbury Cement Plant. At this juncture, the County concurs with MCC's assessment.

Given its long history of mining, the County is confident that the proposed term is "manageable". Any reclamation plan approved by the County will include reclamation standards consistent with SMARA and the County's ordinances. In addition to mitigation monitoring required by the California Environmental Quality Act (CEQA), the County will conduct annual inspections under SMARA. In the event that mining is not conducted in accordance with the approved reclamation plan and applicable laws, both SMARA and the County's ordinances provide ample authority for the County to intervene through enforcement actions or other measures. Refer to Section 2774.1 of the Public Resources Code.

Comment Page 2 – Paragraph 3, Number 1:

SMARA section 2772(c)(5) requires that the reclamation plan include maps with information pertinent to the reclamation of the site. Maps and plot plans should clearly show boundaries of active and future mining areas, topographic details, geology, streams, utilities, haul roads, and stockpile areas (topsoil and material) to scale. The following items related to maps should be included in the reclamation plan for the site:

1. The northeastern part of the reclamation/project boundary of the proposed South Quarry overlaps with the reclamation boundary of the existing East Pit. To ensure that the mines are separate entities, the boundary should be adjusted so that the proposed South Quarry does not overlap with the boundaries of the existing Cushenbury mining operation.

Response:

On Sheets 2 and 3, the line defined as the Project Boundary to the right of the quarry will be re-defined as the perimeter claims boundary in the Final POO and Reclamation Plan.

Comment Page 2 – Paragraph 3, Number 2:

2. The maps in the reclamation plan show the planned haul road that will connect the proposed South Quarry to the existing Cushenbury Mine within the reclamation boundaries of both mines. The approved reclamation plan for the Cushenbury Mine includes no such haul road, which is being developed for the new mining operation. The haul road should either be encompassed entirely within the reclamation boundary for the new proposed mining operation, or other provisions will have to be made for

including the road (wholly or partially) in the reclamation boundary for the existing mine by amending reclamation plan #2004M-001.

Response:

MCC will develop the South Quarry as a separate, stand-alone mine. The South Quarry is located on unpatented claims owned by MCC on public federal land under the jurisdiction of the SBNF with the exception of approximately 6.6 acres of the haul road located on MCC owned land where it links with the existing East Pit. The East and West Pits are operating under Mining/Reclamation Plan (2004M-01) approved by the County of San Bernardino in May 2004. This 2004 Mining/Reclamation Plan will be revised through the County to include that portion of the planned haul road that links with the existing approved East Pit by conditions of approval for the South Quarry.

Comment Page 3 –Number 3:

3. Some maps include lines and symbols not shown on the "Legend" for that map, and the "Legend" on some maps appears to include symbols/lines that do not match those used on the map. Additionally, some of the language in the Legend should be reviewed for accuracy. For example, the Legend for Sheet 3 of 4 indicates that the "Limit of Disturbance" as a short dashed line; however, this limit of disturbance does not include some areas of disturbance, such as the "Revegetated Landscape and Safety Berm," the proposed permanent haul road, and the temporary construction road. OMR recommends that the maps be revised to correct such inconsistencies.

Response:

The map sheets will be reviewed for accuracy and consistency and revised in the Final POO and Reclamation Plan.

Comment Page 3 – Number 4:

4. The scales on some maps do not seem to accurately reflect some of the measurements given on the maps. For example, Sheet 3 of 4 has a scale (both written and bar scales) of one-inch equals 200 feet, and the lengths of various segments of the Project Boundary are depicted on the map. The length given for the southern boundary is 3300 feet, but OMR measures a length of 3400 feet for this boundary. OMR is unclear if the map scale is erroneous or if the line work is imprecise. The map scales should be checked for accuracy and revised as needed.

Response:

The distances listed on the outside of the claims' boundaries were from the claim descriptions which were estimated by the clamant in the field. Corners and distances were

mapped to the best of their ability. The map scale is correct. These outside distances will be corrected based on the map scales in the Final POO and Reclamation Plan.

Comment Page 3 – Number 5:

5. Cross sections may need to be revised to accurately depict haul roads. Some haul roads appear to be shown on some cross sections, and some do not appear to be shown. The cross sections should be checked for accuracy and revised as necessary.

Response:

The cross sections will be reviewed and revised in the Final POO and Reclamation Plan to show where the planned quarry haul roads access the quarry.

Comment Page 3 – Number 6:

6. Even though "Detail" sections are shown as "N.T.S." (Not to Scale), some are distorted to the point that they do not appear practical as portrayed. For example, "Detail 2" on Sheet 4 of 4 (also shown as Figure 11 in text) shows a very imprecise view of the safety berm, and the discussion of the safety berm in the text is internally inconsistent and in some cases inconsistent with the figure and plate. A trapezoidal-shaped, 6-foot-high berm with 2H:1V (horizontal to vertical ratio) side slopes would not have the dimensions indicated on the figures. Such a berm would require a 26-foot-wide crest to attain a total basal width of 50 feet. The figures indicate that the crest will be 10-feet-wide, although the width as depicted on the figures is only slightly smaller than the 20-foot-wide side slopes. The 50-foot-wide base of the berm is shown to be more than four times (4X) the width of the 25-foot-wide benches; the vertical scale is similarly distorted. Also, the section indicates that the toe of the berm will be 10 feet from the outer edge of the top safety bench (i.e., where the slope drops into the quarry); however, this 10-foot width somehow will include the 25-foot-wide bench and some additional distance between the toe of the berm and the inside edge of the bench. This section should be revised to present a more realistic portrayal of the berm.

   For another example, "Detail 3" shows an example of a sign that will read "Danger Rock Fall Hazard" that will be placed at the top of the slope. It would be more appropriate for the sign to read "Danger Open Pit Mine" or "Danger Steep Slopes" as indicated in the text. This and all "Detail" sections should be reviewed for accuracy and revised as necessary.

Response:

Detail 2 on Sheet 4 is inaccurate and will be revised in the Final POO and Reclamation Plan to show a more-accurately depicted berm.

The language on the signs will be revised as suggested.

Comment Page 4 – Paragraph 1:

Geotechnical Requirements

(Refer to CCR sections 3502, 3704)

CCR sections 3502 and 3704 require reclamation plans to include final slope configurations that are designed to be stable with a minimum slope stability factor of safety that is suitable for the proposed end use and that conforms with surrounding topography and/or end use. Final reclaimed fill slopes, including permanent piles or dumps of mine waste rock and overburden, shall not exceed 2H:1V (horizontal to vertical), except when site-specific geologic and engineering analysis demonstrate that the proposed final slope will have a minimum slope stability factor of safety that is suitable for the proposed end use, and when the proposed final slope can be successfully revegetated. The slope stability study by Golder Associates, included as Appendix C, indicates that the proposed 1.5H:1V slopes on waste dumps will be stable with a suitable minimum factor of safety. The "Average Rockfill" curve of Leps (1970), based on large-scale triaxial tests, was used as an estimate of shear strength in the stability analyses. No data were presented that would indicate the similarity of the rockfill at the proposed South Quarry with the "Average Rockfill" of Leps. OMR notes that use of the "Low density, poorly graded, weak particle" curve of Leps would result in an unsuitable pseudostatic factor of safety. OMR recommends that the reclamation plan be revised to include 2H:1V slopes for the waste rock piles; the plan could be revised to include a 1.5H:1V inclination once waste rock becomes available in sufficient quantities for testing. Additionally, fill slopes with a 2H:1V inclination likely will be much easier to revegetate than more steeply inclined slopes.

General Response to Geotechnical Comments:

In support of the POO and Reclamation Plan for the proposed South Quarry, Golder prepared a report entitled "Assessment of Slope Stability and Hydrologic Conditions, Proposed South Quarry, Mitsubishi Cement Corporation – Cushenbury Mine, Lucerne Valley, California" and dated July 13, 2010 (referred to as "Golder's 2010 Report" in the remainder of the responses). This report was included as Appendix C to the Reclamation Plan.

In June 2013, Golder prepared a letter report responding to the DMR comments dated December 5, 2011. The pertinent responses by Golder are included in this overall response letter and are from the Golder letter report dated June 5, 2013 (Golder 2013 report – Enclosure 3).

Response:

Golder considers the use of the "Average Rockfill" curve of Leps (1970)[1] appropriate to model the proposed waste rock that would be generated from the South Quarry operations.

[1] Leps, T.M., 1970, "Review of Shearing Strength of Rockfill," ASCE Journal of the Soil Mechanics and Foundation Division, Vol. 96, No. SM4, p. 1159-1170.

However, Golder re-analyzed the global stability of the proposed waste rock stockpiles using the "low density, poorly-graded, weak particles" curve of Leps (1970). The results of these analyses are presented in Enclosure 3, Attachment D and summarized in Table 2 below.

Table 2
Summary of Additional Stability Analyses for Final Waste Rock Stockpile Fill Slopes

Case*	Description	Static Factor of Safety (FS)	Pseudostatic FS	Yield Acceleration
WR-2	Proposed waste rock stockpile fill slope using the "low density, poorly-graded, weak particles" curve of Leps (1970)	1.4	1.0	0.18g

*Case WR-1 is contained in Golder's 2010 Report.
Source: Golder, June 2013

As can be seen in Table 2, the computed Factor of Safety (FS) values assuming the "low density, poorly-graded, weak particles" curve of Leps (1970) are slightly below the slope stability criteria of Golder's 2010 Report (i.e., a minimum static FS of 1.5 and a minimum pseudostatic FS of 1.1). Golder used the procedure of Makdisi and Seed (1978)[2] to estimate the seismic deformations of the waste rock stockpiles during the design earthquake event if the waste rock is modeled as having a shear strength corresponding to the "low density, poorly-graded, weak particles" curve of Leps (1970). This analysis is contained in Enclosure 3, Attachment D and indicates that less than 1 inch of seismic displacement in the waste rock stockpiles would occur during the design earthquake event. The proposed waste rock stockpiles will be able to accommodate up to several inches or more of displacement without compromising their intended end use. Therefore, it is Golder's opinion that the proposed 1.5H:1V slopes of the maximum 200-foot tall waste rock stockpiles will be globally stable, especially considering that the waste rock materials are anticipated to be well-graded with relatively strong particles and, as such, will very likely have a shear strength significantly higher than that given by the "low density, poorly-graded, weak particles" curve of Leps (1970).

[2] Makdisi, F.I., and Seed, H.B., 1978, "Simplified Procedure for Estimating Dam and Embankment Earthquake-Induced Deformations," ASCE Journal of the Geotechnical Engineering Division, Vol. 104, No. GT7, p. 849-867.

Comment Page 4 – Paragraph 2, Number 1:

CCR section 3704(f) requires that cut slopes have minimum factor of safety appropriate for the end use and that they conform with surrounding topography. The slope stability study by Golder Associates, Appendix C, concludes that the proposed final steep cut slopes will be stable with appropriate minimum factors of safety for global stability. The report indicates that the study is not intended for final design of the quarry slopes and that additional studies may be needed. The reclamation plan proposes to include ongoing geologic studies of slope stability during quarry operations. OMR agrees with the approach to conduct ongoing studies given the paucity of data and the concomitant assumptions necessary for Golder to complete the analyses. However, the following items should be addressed prior to approval of the reclamation plan:

1. Discontinuity data from surface mapping were presented in stereonet plots; however, subsurface discontinuity data from borehole televiewer apparently were not included in the analyses. These data should be incorporated in the analyses.

Response:

The stereonet pole plot for joints provided in Appendix A of Golder's 2010 Report includes the discontinuity data from the optical televiewing of the drillholes (see the note on Figure A-1 in Appendix A as well as Section 2.3 of Golder's 2010 Report). The stereonet pole plot for bedding/foliation in Appendix A of Golder's 2010 Report did not contain data from the optical televiewing; therefore, this data has been included in the stereonet pole plot of bedding/foliation that is included Enclosure 3 as Attachment B. In this updated plot, the data from the optical televiewing has been denoted with different symbols to distinguish this data from the surface mapping data. In addition, Golder has also reproduced the stereonet pole plot for joints in a similar manner. This updated plot is also included in Attachment B.

Comment Page 4 – Paragraph 2, Number 2:

2. No kinematic analysis of the discontinuity data were presented in the report. The report describes conclusions that apparently were derived from such an analysis. The kinematic analysis incorporating both surface and subsurface discontinuity data should be completed and presented in a manner that allows for independent review.

Response:

Golder's 2010 Report only addresses the global (i.e., overall or gross) stability of the proposed final quarry configuration, including the waste rock stockpiles. As stated in Section 4.1 of Golder's 2010 Report, the overall stability of the proposed South Quarry cut slopes will be controlled by the strength of the rock mass because no geologic structures or large-scale zones of weakness were identified that could significantly impact the global stability of the proposed quarry cut slopes. Therefore, no kinematic analyses were required to support the overall stability of the proposed quarry cut slopes. The discontinuities in the

rock mass were taken into account through the use of the Generalized Hoek-Brown failure criterion as discussed in Golder's 2010 Report.

In Section 4.4.1 of Golder's 2010 Report it is noted that local toppling instability may occur in certain areas of the quarry during its development. These are qualitative considerations that relate to local (i.e., bench scale) stability of the quarry cut slopes and are of little to no consequence to the overall quarry stability. Quantitative kinematic analyses should be periodically conducted during the development of the quarry, as recommended in Section 4.4.1 of Golder's 2010 Report.

Comment Page 4 – Paragraph 2, Number 3:

3. Discontinuity data should be reported in tabular form that includes all pertinent characteristics, such as type, orientation (strike and dip), shape, spacing, continuity, openness, roughness, coatings, fillings, and so on.

Response:

Appendix A of Golder's 2010 Report contains two tables that present detailed information (type, strike, dip, persistence, termination, aperture/width, nature of filling, roughness, shape, spacing, and general comments) for a total of 36 discontinuities that were window mapped at two representative rock outcrops (Sites A and B) within the proposed footprint of the South Quarry. The locations of Sites A and B were carefully chosen such that the discontinuities that were window mapped at these locations would be as representative as possible of the proposed quarry area. However, the primary focus of Golder's field investigation activities in 2009 was to identify any major (i.e., large-scale) discontinuities that could potentially affect and/or control the global stability of the proposed quarry cut slopes. Since Golder did not identify any discontinuities that could significantly influence the global stability of the proposed quarry cut slopes, further detailed data collection for individual discontinuities and/or discontinuity sets was not undertaken.

Comment Page 4 – Paragraph 2, Number 4:

4. The slope stability analyses assume a circular failure surface. Geologic cross sections indicate that bedding will dip out of slope in some proposed quarry walls, indicating that other failure types, such as planar failures, may be more likely in the jointed rocks. The analyses should be revised to include other failure types.

Response:

As stated in Section 3.3 of Golder's 2010 Report, the geologic cross-sections shown on Figures 5 and 6 of Golder's 2010 Report are schematic only, largely because the cross-sections are based on very limited subsurface information. In addition, the lines shown on

the geologic cross-sections within each lithologic unit are not intended to represent actual discontinuities but rather to convey a conceptual image of the generalized rock mass structure (typically bedding/foliation) that may exist within each unit. As stated in Golder's response to comment above, no discontinuities were observed that could significantly impact the global stability of the proposed quarry cut slopes. Golder considers, therefore, that additional analysis of the global stability of the proposed quarry cut slopes is not necessary at the present time.

Comment Page 5 – Number 5:

5. The slope stability analyses fail to take into account surcharging the slope with Waste Rock Stockpiles. For example, Cross Section A on Sheet 4 of 4 shows that Waste Rock Stockpiles will be established in the floor of the quarry at elevation 5365 feet and at elevation 6130 feet. The slope stability analyses should account for surcharging the slope with the Waste Rock Stockpile.

Response:

Golder's 2010 Report only presented the slope stability analysis results for the critical quarry cross-section, which consisted of an idealized cut slope that has a height of approximately 855 feet, an overall slope angle of approximately 60 degrees, and no waste rock stockpile surcharges or buttressing. This idealized cross-section had a static factor of safety (FS) of 1.8 and a pseudostatic FS of 1.3 (Case QS-1 in Golder's 2010 Report).

Golder analyzed the stability of the proposed quarry cut slopes that would be surcharged with the waste rock stockpiles. Using the same slope stability procedures, slope stability criteria, material properties, and seismic coefficients as described in Section 4.2 of Golder's 2010 Report, an idealized cross-section that approximately corresponds to cross-section A on Sheet 4 of 4 of the Reclamation Plan was analyzed to evaluate the global stability of the proposed quarry cut slopes under the influence of surcharging from the waste rock stockpiles. The idealized cross-section analyzed consisted of: 1) the lower quarry floor at Elevation 5365 feet that transitions up to the upper quarry floor at Elevation 6130 feet that transitions up to the surrounding native ground surface elevation of 6580 feet, 2) quarry cut slopes that consist of 25-foot wide benches every 45 vertical feet with vertical faces between benches, and 3) 200-foot tall waste rock stockpiles with a slope inclination of 1.5H:1V (horizontal: vertical) on the lower and upper quarry floors. Two cases were analyzed: 1) potential sliding surfaces that extend from the upper waste rock stockpile to the quarry cut slope and floor below, and 2) potential sliding surfaces that extend from above the upper waste rock stockpile to the lower quarry cut slope and floor. Attachment C of Golder's 2010 Report presents the results of the global stability analyses of this idealized cross-section and Table 1 presents a summary of the results.

Table 1
Summary of Additional Stability Analyses for Final Quarry Cut slopes

Case*	Description	Static Factor of Safety (FS)	Pseudostatic FS
QS-4	Proposed South Quarry cut slope with waste rock surcharge using Generalized Hoek-Brown strength criterion (shear surface from upper quarry floor to lower quarry floor)	2.1	1.5
QS-5	Proposed South Quarry cut slope with waste rock surcharge using Generalized Hoek-Brown strength criterion (shear surface from rim to lower quarry floor)	2.4	1.7

*Case QS-1 through QS-3are contained in Golder's 2010 Report, Appendix C, 2011.
Source: Golder, June 2013

The calculated FS values in Table 1 satisfy slope stability criteria in Golder's 2010 Report (i.e., a minimum static FS of 1.5 and minimum pseudostatic FS of 1.1) and, therefore, are considered to possess adequate global stability.

Comment Page 5 – Paragraph 1:

CCR section 3704(b) states that where backfilling is required for resource conservation purposes, fill material shall be backfilled to the standards required for the resource conservation use involved. The reclamation plan should be revised to describe the placement and compaction effort for the Waster Rock Stockpiles.

Response:

Golder notes that the waste rock shear strength and unit weight parameters that were used in the overall slope stability analyses were based in part on the assumption that only a nominal amount of compactive effort would be applied to the waste rock, primarily from haul truck traffic during placement of said material.

Comment Page 5 – Paragraph 2:

Hydrology and Water Quality

(Refer to SMARA sections 2772, 2773, CCR sections 3502, 3503, 3706, 3710, 3712)

CCR sections 3706 and 3710 require that surface and ground water be protected in accordance with the Porter-Cologne and Clean Water Acts as implemented by the Regional Water Quality Control Board and the State Water Resources Control Board. Regulations approved by the State Water Resources Control Board require that a mine site which discharges storm waters that may have contacted any overburden, raw material, intermediate products, by-products, or waste products on the mine site obtain a general industrial activities storm water permit and submit a Storm Water Pollution Prevention Plan (SWPPP). The reclamation plan indicates that a NPDES permit will be obtained for the site. This comment is simply a reminder that the required information, monitoring requirements and water quality standards of the permit and SWPPP, once they are obtained, should be appended to the reclamation plan in order to satisfy the erosion and sediment control requirements of SMARA.

Response:

The National Pollution Discharge Elimination System (NPDES) and the Stormwater Pollution Prevention Plan (SWPPP) and any conditions and monitoring required will be included in the final Plan of Operations and Reclamation Plan and in the project's conditions of approval.

Comment Page 5 – Paragraph 3:

CCR section 3706(d) requires that erosion and sedimentation be controlled during all phases of mining and reclamation, and provides for performance standards for drainage, diversion structures, and erosion control. Erosion control measures employed on site should be designed to handle runoff from not less than the 20 year, 1 hour intensity storm event. The reclamation plan indicates that culverts and sediment and erosion control facilities will be constructed. The sizing calculations for the culverts should be included with the revised reclamation plan for OMR's review.

Response:

Erosion control is discussed in Sections 1.5 and 2.12 in the POO and Reclamation Plan and will be documented in the SWPPP. A permit-level design of the surface water management system including a system of channels, culverts, and sediment basins to manage stormwater runoff and reduce the potential for scour has been completed by Golder (see Enclosure 4).

The site is located along and between a series of ridges. Any storm water runoff from adjacent areas will naturally flow to existing off-site drainages or allowed to enter the quarry excavation. The quarry will be very rocky and water erosion is expected to be minimal. The site will be visually inspected after major precipitation events to determine if any substantial erosion is evident such as sheet, rill or gully erosion or any surficial instability. Appropriate erosion control measures will be implemented where erosion is observed. These erosion control measures could include an interceptor ditch or small berm along portions of the quarry rim, placement of rocks or rip-rap, or down slope drains. Note that excavated benches will be designed to slope slightly back towards the vertical wall or cut to limit water flowing down the slopes.

Erosion Monitoring

After each major storm event or at least once per month, the quarry site and haul road will be visually inspected to determine if any substantial erosion is evident such as sheet, rill or gully erosion or any surficial instability. A major storm event is defined as precipitation totals of 0.5 inches per 24-hour period. The operator will visually inspect the perimeter of the excavations and haul road culverts and slopes to observe all drainage that may be impacting the site and document the observed and potential erosion occurring. Monitoring times, the person conducting the inspections, inspection results, and maintenance, repair, or construction of any erosion control measures (date, type, and location) shall be noted in a log maintained onsite.

Significant erosion is defined below to include any erosion identified as "Class 3" or higher. Qualitative Descriptors of Soil Surface Status (Stoddard *et al.* 1975) (modified for site specific application):

Class 1: No surface material loss or erosion; surface material layer intact; no obvious rills forming.

Class 2: Surface material movement slight and difficult to recognize; small deposits of sand in form of fans or cones at end of small gullies or fills, or as accumulations back of plant crowns.

Class 3: Soil movement or loss more noticeable; surface material loss evident, with some plants on pedestals or in hummocks; rill marks evident. Any rills or gullies in excess of 8 square inches in cross sectional area and are more than 10 linear feet located on slopes shall be arrested using straw mulch, hay bales, sandbag barriers, and/or silt fences within one week of observation.

Class 4: Soil movement and loss readily recognizable; sand and gravel remnants with vertical sides and exposed plant roots; roots frequently exposed; soil washed into erosion-protected patches. Class 4 erosion shall be arrested using those measure

identified in Class 3 above, rock mulch, and/or sediment traps within one week of observation.

Class 5: Advanced erosion; active gullies with steep sidewalls; well-developed erosion pavement on gravelly soils. Class 5 erosion shall be arrested using those measure identified in Class 4 above, drainage swales and lined ditches, and/or reinforced drains within one week of observation.

If erosion is observed onsite (Class 3 or greater), the physical measures listed above will be implemented as determined on a case-by-case basis in order to immediately limit the erosion. Revegetation will be used for the long-term control of erosion. Diversion ditches, straw bales, or rock will be used to reinforce ditches and drains where erosion of the slopes, roadway or other parts of the property is occurring. If needed, drains may be constructed with one of the following: rock reinforced with energy dissipaters; a corrugated metal pipe (CMP); or a flexible conduit of heavy-duty fabric.

Haul Road Stormwater Management System

A permit-level design of the surface water management system including a system of channels, culverts, and sediment basins to manage stormwater runoff and reduce the potential for scour has been completed by Golder. This information is included in Enclosure 4 as a technical memorandum dated February 5, 2013. The preliminary designs include specific control facilities and the sizing calculations of culverts for the haul road construction and were determined to be adequate by the Forest Service at this phase of the project planning. The EIR/EIS will also review the adequacy and possible environmental impacts of the planned haul road stormwater management system. Detailed construction design will be required for review by the Forest Service and this requirement will be part of the conditions of approval. The designs shall be reviewed and approved by the Forest Service prior to any new disturbance on the haul road route and quarry site.

Comment Page 5 – Paragraph 4:

CCR section 3706(e) states that where natural drainages are altered by the mining activity, mitigation measures shall be proposed and specifically approved in the reclamation plan to insure that runoff shall not cause increased erosion or sedimentation. Several smaller drainages will be impacted by the mining operation. The reclamation plan should include appropriate mitigation measures to ensure that affected drainages do not result in increased erosion or sedimentation.

Response:

Erosion control is discussed in Sections 1.5 and 2.12 in the POO and Reclamation Plan and in the Response to Comment Page 5 – Paragraph 3 above and will be documented in the SWPPP and final Reclamation Plan.

Comment Page 5 – Paragraph 5 and Page 6 – Paragraph 1:

CCR section 3706(f) states that when stream diversions are required, they shall be constructed in accordance with the Department of Fish and Game, the requirements of the Clean Water Act Section 301 and 404, and Section 10 of the Rivers and Harbors Act. Glen Lukos Associates' study, Appendix H, indicate that several smaller drainages will be impacted by the mining operation and will require streambed alteration agreements for the California Department of Fish and Game (DFG). The operator should contact DFG about the need for a SAA, and if obtained, the reclamation plan should include any requirements of the SAA that affect reclamation of the site.

Response:

The assessment of the potential impact to jurisdictional drainages will be included in the EIR/EIS document. The California Department of Fish and Wildlife (CDFW) will be a responsible agency for the review of the EIR/EIS and will provide comments to the document as necessary. MCC will be required to obtain a Streambed Alteration Agreement (SAA) from the CDFW prior to any new surface disturbance by the conditions of approval. The Reclamation Plan will incorporate any SAA requirements that may affect the site.

Comment Page 6 – Paragraph 2:

Environmental Setting and
Protection of Fish and Wildlife Habitat

(Refer to CCR sections 3502, 3503, 3703, 3704, 3705, 3710, 3713)

Potential adverse effects from the mining operation will be identified and mitigation will be proposed during the environmental review process. Due to the fact that the project is in the early stage of environmental review under CEQA, it is recommended that the reclamation plan not be finalized or approved until mitigation is determined, since mitigation measures recommended under CEQA may substantially change the manner in which mining and reclamation are accomplished.

Response:

Recommended mitigation from the Draft and Final EIR/EIS will be included into the final Reclamation Plan as part of the project review and approval process. This is typically accomplished at the Planning Commission hearing through discussions with the Commissioners, County planning staff and the Applicant. The Planning Commission will decide on the final mitigation measures and the conditions of approval and these will be incorporated into the approved Final Reclamation Plan. As required by SMARA, the County shall notify DMR 30 days prior to the public hearing in which the Reclamation Plan will be heard.

Comment Page 6 – Paragraph 3:

Appendix O: "Carbonate Plant Mitigation Proposal" has the parenthetical note "to be updated". OMR has a 2003 copy of the Carbonate Habitat Management Strategy (CHMS). OMR requests that a copy of the updated CHMS be forwarded to our office once it has been developed as it will potentially affect the revegetation plan and performance standards.

Response:

The CHMS has not been updated since its approval in 2003. Appendix O provided in the January 2012 Plan (see Enclosure 5) provided the latest draft "Carbonate Plan Mitigation Proposal" that is currently being assessed by the Forest Service to determine its consistency with the CHMS. The draft mitigation proposal may be revised based on the Forest Service review, available mitigation lands, and the environmental assessment presented in the EIR/EIS. If the draft mitigation proposal is revised, it will be provided to DMR.

Comment Page 6 – Paragraph 4:

Resoiling and Revegetation

(Refer to SMARA section 2773, CCR sections 3503, 3704, 3705, 3707, 3711)

CCR section 3711(b) requires that the location of the topsoil stockpile(s) be indicated on a map in the reclamation plan. On page SB446, it states that "surface material will be salvaged and graded into shallow stockpiles along the quarry perimeters". At least one of the maps will need to be revised to depict the location(s) of topsoil stockpiles. It is unclear whether the 2330 feet long by 6 feet deep "Revegetated Landscape and Safety Berm" is the only location for stockpiling topsoil. If so, salvaged topsoil will not be available for concurrent reclamation, only for final reclamation when the berm is removed, if that is the plan. It may be better to use overburden to construct the safety berm and store the topsoil in a separate location(s). This topic needs to be further discussed and clarified in the text of the plan.

Response:

The soil stockpiles will be located as feasible on completed benches as the quarry is excavated. These will be shown on the Final POO and Reclamation Plan sheets. The landscape berm will be composed mostly of overburden covered with salvaged soil to aid in its revegetation and landscaping.

Comment Page 6 – Paragraph 5:

SMARA section 2773(a) requires that the reclamation plan establish "site-specific criteria for evaluating compliance with the approved reclamation plan". For revegetation elements, monitoring should be conducted annually until performance standards are attained, not just for a specified number of years. On page SB49 at the end of the first paragraph, it states: "The above procedure will be repeated annually for a total of five years". This sentence should be revised with the addition of: "or until performance standards have been achieved."

Response:

The sentence will be revised to state "or until performance standards have been achieved" in the Final POO and Reclamation Plan. Under Monitoring on page SB51, it is stated as follows, "Revegetation efforts will be monitored annually for five years after seeding and planting or until success criteria are met and vegetation is self-sustaining."

Comment Page 6 – Paragraph 6:

CCR section 3705(m) requires that the reclamation plan include success criteria that can be quantified by cover, density, and species richness. On page SB51 under Monitoring, it states: "Data on plant species diversity, cover, survival and vigor will be collected on revegetated sites…" The word "density" needs to be added to this sentence. A density standard is given on page SB49 as 42 plants per acre; it is just not mentioned again under the Monitoring section.

Response:

The word density will be added to the sentence on page SB51 as recommended in the Final POO and Reclamation Plan.

Comment Page 7 – Paragraph 1:

CCR section 3705(k) requires that noxious weeds be managed. The plan does discuss weed control, but with a performance criterion of less than 15 percent cover of non-native species on page SB49 and 20 percent on page SB50. OMR recommends setting a lower tolerance for weeds, not to exceed 5 or 10 percent, especially in a desert setting where overall plant cover is low.

Response:

The Reclamation Plan will revise its performance standard for non-native invasive species cover to 10 percent within the Final POO and Reclamation Plan.

Comment Page 7 – Paragraph 2:

If specific performance standards are set for the 3 federally listed plant species under the CHMS, these should be added to the revegetation plan.

Response:

Specific performance standards for the 3 federally listed plant species will be added to the revegetation plan if required by the CHMS or Forest Service.

Comment Page 7 – Paragraph 3:

CCR section 3705 (h) requires that planting be conducted during the most favorable period of the year for plant establishment. In California, this is usually during the fall or winter months to take advantage of the natural precipitation. A statement should be added to the revegetation plan regarding the timing of seeding and planting. It may also be useful to experiment with spring versus fall seeding and planting in the test plots.

Response:

The timing of seeding and planting may vary from mid-late spring to early summer based on weather conditions for that season. Weather conditions at this altitude vary dramatically from year to year due to cold winters and snow and late season precipitation. The revegetation program will be experimenting with varied timing for seeding and planting based on the plant species and results of ongoing revegetation efforts. These will be reported in the annual report to the County and the Forest Service.

Comment Page 7 – Paragraph 4:

Administrative Requirements

(Refer to SMARA sections 2772, 2773, 2774, 2776, 2777, PRC section 21151.7)

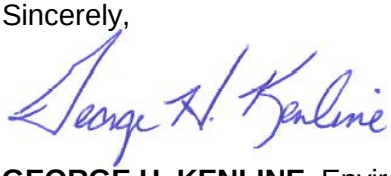
PRC section 2774 addresses the requirements with respect to lead agency approvals of reclamation plans, plan amendments, and financial assurances. Once OMR has provided comments, a proposed response to the comments must be submitted to the Department at least 30 days prior to lead agency approval. The proposed response must describe whether you propose to adopt the comments. If you do not propose to adopt the comments, the reason(s) for not doing so must be specified in detail. At least 30 days prior notice must be provided to the Department of the time, place, and date of the hearing at which the reclamation plan is scheduled to be approved. If no hearing is required, then at least 30 days notice must be given to the Department prior to its approval. Finally, within 30 days following approval of the reclamation plan, a final response to these comments must be sent to the Department. Please ensure that your department allows adequate time in the approval process to meet these SMARA requirements.

Response:

The County will comply with SMARA notification requirements by notifying DMR 30 days in advance of a scheduled hearing date.

County staff requests that DMR consider the above responses to attain the objectives provided in Public Resources Code, Section 2712. If you have any questions, please feel free to email or call me direct at (909) 387-0145.

Sincerely,



GEORGE H. KENLINE, Environmental Compliance Manager

Enclosures:

1. OMR (now DMR) Comment Letter dated December 5, 2011
2. DMR Review Letter of the South Quarry Draft EIR/EIS, January 12, 2017
3. "Response to OMR Comments on Geotechnical Requirements", Golder Associates, June 5, 2013
4. "Haul Road Stormwater Management", Golder Associates, February 5, 2013
5. Appendix O – Carbonate Plant Mitigation Proposal, Mitsubishi Cement Corporation (revised January 4, 2012)

EXHIBIT D

CEQA Findings and Statement of Overriding Considerations

EXHIBIT D

Mitsubishi Cement Corporation South Quarry Project

California Environmental Quality Act

Facts, Findings, And Statement Of Overriding Considerations

State Clearinghouse Number 2012031009

San Bernardino County, California

TABLE OF CONTENTS

I. INTRODUCTION AND BACKGROUND

The County of San Bernardino (County), in approving the Mitsubishi Cement Corporation South Quarry Project (proposed Project), makes the Findings set forth below and adopts the Statement of Overriding Considerations presented in the Findings. The Findings are based on the entire record before the County, including the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the proposed Project in compliance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] §§ 2100 et. seq.), the State CEQA Guidelines (14 California Code of Regulations [CCR] §§ 1500 et seq.), the National Environmental Policy Act (NEPA) (40 United States Code [USC] 4371 et seq.), the Council on Environmental Quality's regulations for NEPA (40 Code of Federal Regulations [CFR] 1502-1508), and the Forest Service's NEPA procedures (Forest Service Manual 1950). To ensure coordination between the CEQA and NEPA processes, and to avoid duplication of effort, a joint EIR/EIS was prepared as recommended by CEQA Guidelines Section 15222 and 40 CFR 1506.25. The CEQA Lead Agency is the County, and the NEPA Lead Agency is the U.S. Department of Agriculture, Forest Service (Forest Service). The record also includes the Initial Study, the technical reports, the Draft EIR/EIS, the Responses to Comments, and the Mitigation Monitoring and Reporting Program.

The County, prior to taking action, has heard, been presented with, reviewed, and considered all of the information and data in the administrative record, including the Final EIR/EIS and all oral and written evidence presented to it during all meetings and hearings. The EIR/EIS reflects the independent judgement of County and is deemed adequate for purposes of making decisions on the merits of the proposed Project. The omission of some detail or aspect of the EIR/EIS within these Findings does not constitute an overt or implied rejection by the County.

II. PROJECT SUMMARY

A. Project Description

The Project is the proposed Mitsubishi Cement Corporation (MCC) South Quarry Project, which proposes to develop and reclaim a new high-grade limestone quarry to the south of its existing East Pit, its West Pit (under development), and MCC's existing Cushenbury Cement Plant. The proposed South Quarry is located approximately 6 miles south of the community of Lucerne Valley in San Bernardino County, California.

The proposed Project would total approximately 153.6 acres consisting of a 128-acre quarry, a 2.7- acre landscape berm, a 22.2-acre haul road 1.8 miles in length, and a temporary construction road of 0.7 acre. The South Quarry and haul road would be located almost entirely (147 acres) on 440 acres of unpatented claims owned by MCC on public federal land in the San Bernardino National Forest (SBNF) with approximately 6.6 acres of the haul road located on MCC fee land where it enters the existing East Pit. A total of approximately 174 million tons of high-grade limestone and waste rock would be mined in four phases over an estimated 120 years of operation. Reclamation would occur as mining is completed in each area/phase, and final reclamation would take place in years 121 to 126, followed by monitoring until success criteria are met. There would be

no change in existing operations or production at the adjacent existing Cushenbury Cement Plant, which is not part of the proposed Project.

The proposed Project includes all aspects of construction, implementation, and reclamation of the South Quarry and associated entitlements, permits, and agreements noted in Section 1.6, Decision Framework, of the Draft EIR/EIS.

B. Site Location and Characteristics

The proposed South Quarry is located approximately 6 miles south of the community of Lucerne Valley within portions of Sections 14, 15, 22, and 23 of Township 3 North, Range 1 East, San Bernardino Baseline and Meridian (SBBM). MCC's existing Cushenbury Cement Plant and related quarries are accessed directly from State Highway 18 south of Lucerne Valley. The proposed South Quarry site and the adjacent surrounding land uses consist of vacant public lands administered by the Forest Service. MCC currently operates two quarries on private land just north of the proposed South Quarry site, the existing East Pit on 214 acres and the West Pit (under development) on 191 acres. The Specialty Minerals, Inc. Marble Canyon Quarry is located to the west of the proposed South Quarry on 132 acres, and other quarries, waste rock stockpiles, and a process plant operated by Specialty Minerals, Inc. are located to the northwest of the proposed South Quarry.

C. Project Objectives

The objectives of the proposed Project are as follows:

- To develop a high-grade limestone resource to blend with the existing East and approved West Pits' limestone to supply the required feed specifications for the adjacent existing Cushenbury Cement Plant for an extended period;
- To supply cement for construction and other uses in an efficient and environmentally sound manner;
- To continue to realize the economic value from the investment made in the existing Cushenbury mine and cement plant and the limestone resource at the proposed Project site;
- To avoid logistical and environmental costs associated with non-contiguous operations;
- To meet the Forest Service regulations to cause no undue and unnecessary degradation;
- To meet the State and County Surface Mining and Reclamation Act (SMARA) requirements;
- To be consistent with the intent of the SBNF's Carbonate Habitat Management Strategy (CHMS) in order to provide long-term protection for the rare carbonate endemic plants through contribution of lands to the Carbonate Habitat Reserve;

- To minimize impacts to rare plants and wildlife, such as the Cushenbury herd of Nelson's bighorn sheep, through quarry design and offsite mitigation;
- To reclaim the site for post-mining uses, which will include open space and wildlife habitat;
- To contour mining features and revegetate disturbed areas to minimize aesthetic and erosion impacts; and
- To reclaim and maintain the site as necessary to eliminate hazards to public safety.

III. ENVIRONMENTAL REVIEW AND PUBLIC PARTICIPATION

A. Public Participation

Pursuant to CEQA and the CEQA Guidelines, the County determined that an EIR should be prepared in order to analyze all potentially adverse environmental effects of the proposed Project. A joint EIR/EIS was prepared as recommended by CEQA Guidelines Section 15222 and 40 CFR 1506.25. To comply with the statutory requirements of CEQA and NEPA, the County and Forest Service undertook the following:

- The County prepared an Initial Study for the proposed Project, on which basis the decision was made to complete an EIR.
- The County issued a Notice of Preparation (NOP) to prepare a joint EIR/EIS on or about March 5, 2012.
- The County solicited comments on the scope of the EIR/EIS from potential responsible and trustee agencies and members of the public.
- The County held two scoping meetings to gather public comments on the proposed Project and its potential effects on the physical environment. Scoping meetings were held on March 13, 2012 in Lucerne Valley and on March 20, 2012 in Fawnskin.
- The County received written comments in response to the NOP, which assisted the County in determining the issues and alternatives for analysis in the Draft EIR/EIS.
- On or about December 15, 2016, the County initiated a 45-day public review period by filing a Notice of Completion and a Notice of Availability with the State Office of Planning and Research and the County Clerk, and by releasing the Draft EIR/EIS for public review and comment.
- Due to a delay in publishing the NEPA Notice of Availability in the *Federal Register*, the public review period on the Draft EIR/EIS was extended from February 1, 2017, to February 13, 2017.
- Pursuant to CEQA Guidelines § 15086, the County consulted with and requested comments from all responsible and trustee agencies, other regulatory agencies, and others during the comment period.
- The County received written comments during the public review period for the Draft EIR/EIS.

- The County has prepared a Final EIR/EIS, consisting of comments received during the public review and comment period on the Draft EIR, written responses to those comments, revisions to the Draft EIR, and the Mitigation Monitoring and Reporting Program.
- The County held a noticed public hearing on May 21, 2020, which allowed public testimony on the proposed Project to the Planning Commission.

B. Independent Judgment

The County and the Forest Service selected ECORP Consulting, Inc. (ECORP) to prepare the EIR/EIS for the proposed Project. ECORP prepared the EIR/EIS under the supervision and direction of the County Land Use Services Department and the Forest Service.

The County has endeavored in good faith to set forth the basis for its decision on the proposed Project. All the requirements of CEQA and the State CEQA Guidelines have been satisfied by the County in the EIR/EIS, which is sufficiently detailed so that all of the potentially significant environmental effects of the proposed Project have been adequately evaluated. The EIR/EIS prepared for the proposed Project sufficiently analyzes both the feasible Mitigation Measures necessary to avoid or substantially lessen the proposed Project's potential environmental impacts and a range of feasible alternatives capable of eliminating or reducing those effects in accordance with CEQA and the State CEQA Guidelines. All of the findings and conclusions made by the County pursuant to this matter are based upon the oral and written evidence presented to it as a whole and not based solely on the information presented in these Findings.

The County prepared an Initial Study for the proposed Project and found that no significant direct or cumulative impact would occur to:

- Agriculture and forestry resources,
- Land use and planning,
- Population/housing,
- Public services,
- Transportation/traffic,
- Utilities/service systems,
- Air quality regarding creation of objectionable odors affecting a substantial number of people;
- Geology and soils regarding if the soils on the site could support septic tanks or alternative wastewater disposal systems;
- Hazard and hazardous materials for hazardous emissions or handling hazardous or acutely hazardous materials, substances or waste within 0.25 mile of an existing or proposed school; hazards and hazardous materials for sites located on the list of hazardous materials sites compiled pursuant to

Government Code Section 65962.5; hazards and hazardous materials for projects located within an airport land use plan or within 2 miles of a public or private use airport; hazards and hazardous materials for projects in the vicinity of a private airstrip; hazards and hazardous materials for projects that would impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan;

- Hydrology and water quality for housing within a 100-year flood hazard area; hydrology and water quality for structures within a 100-year flood hazard area; hydrology and water quality regarding exposing people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; hydrology or water quality for inundation by seiche, tsunami or mudflow;
- Excessive noise for people residing or working in the proposed Project Area within an airport land use plan or within 2 miles of a public- or private-use airport; excessive noise for people residing or working in the proposed Project Area within the vicinity of a private airstrip; and
- Construction or expansion of recreational facilities.

Accordingly, these resources were scoped out of the EIR/EIS and not addressed in detail in the corresponding impact analysis sections (See Draft EIR/EIS, Section 1.7.3).

Based on the evaluation of potential proposed Project effects during scoping, the following environmental resources were evaluated in the EIR/EIS:

- Air Quality
- Biological Resources
- Cultural/Heritage Resources
- Geology, Soils, and Mineral Resources
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Recreation
- Scenery Resources (Aesthetics)

The County also analyzed cumulative impacts and growth-inducing impacts. The environmental impacts identified in the EIR/EIS that the County finds are less than significant and do not require mitigation are described in Section IV.A hereof. The environmental impacts identified in the EIR as potentially significant but which the County finds can be mitigated to a level of less than significant, through the imposition of feasible Mitigation Measures identified in the EIR and set forth herein, are described in Section IV.B hereof. The environmental impacts identified in the EIR as potentially significant but which the County finds cannot be mitigated to a level of less than significant, despite the imposition of feasible Mitigation Measures identified in the EIR and set forth herein, are described in Section IV.C hereof. The cumulative impacts of the proposed Project identified in the EIR and set forth herein, are described in Section IV.D hereof. The existence of any growth-inducing impacts resulting from the proposed Project identified in the EIR and set forth herein, are described in Section IV.E hereof. The significant and

irreversible environmental changes that would result from the proposed Project, but which would be largely mitigated, and which are identified in the EIR and set forth herein, are described in Section IV.F hereof. Alternatives to the proposed Project that might eliminate or reduce significant environmental impacts are described in Section IV.G hereof.

In addition, technical review has been conducted that confirms that technical studies and reports completed for the Draft and Final EIR/EIS remain accurate and adequate, and that no new or changed circumstances or conditions have arisen which would alter the reports' conclusions. Studies and reports for the following resources were reviewed for the Draft and Final EIR/EIS: air quality; biological resources; waters potentially under the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, or California Department of Fish and Wildlife; cultural (heritage) resources; hydrogeology; geology and soils; hazardous materials; water supply; and noise, recreation, and scenery.

Based on the review of the technical studies and reports, and the County's independent determination, no substantial changes are proposed or have occurred with respect to the circumstances under which the proposed Project will be undertaken which will require major revisions of the EIR/EIS, and no new information has become available which was not known and could not have been known at the time the EIR/EIS was completed.

Prior to taking action, the County has heard, been presented with, reviewed and considered all of the information and data in the administrative record, including the EIR/EIS, and all oral and written evidence presented to it during all the meetings and hearings, all of which is incorporated herein by this reference. No comments made in the public hearings conducted by the County or any additional information submitted to the County have produced substantial new information requiring recirculation or additional environmental review under State CEQA Guidelines section 15088.5; and all other legal prerequisites to the adoption of these Findings have occurred. Therefore, the EIR reflects the independent judgment of the County, and the County finds that the EIR was prepared in compliance with CEQA.

C. Custodian and Location of Records

The documents and other materials which constitute the record of proceedings for the County's approval of the proposed Project are located at the San Bernardino County Land Use Services Department Planning Division, 385 North Arrowhead Avenue, First Floor, San Bernardino, CA 92415-0182. The Planning Division is the custodian of all such documents. This information is provided pursuant to Public Resources Code § 21081.6(a)(2) and 14 California Code of Regulations § 15091(e).

IV. ENVIRONMENTAL IMPACTS AND FINDINGS

The County's staff reports; the EIR/EIS; written and oral testimony at public hearings; these Facts, Findings, and Statement of Overriding Considerations; and other information in the administrative record serve as the basis for the County's CEQA determination.

The County prepared an Initial Study (Appendix A-2 to Final EIR/EIS) for the proposed Project and found that no significant direct or cumulative impact would occur to:

- Agriculture and forestry resources,
- Land use and planning,
- Population/housing,
- Public services,
- Transportation/traffic,
- Uutilities/service systems,
- Air quality regarding creation of objectionable odors affecting a substantial number of people;
- Geology and soils regarding if the soils on the site could support septic tanks or alternative wastewater disposal systems;
- Hazard and hazardous materials for hazardous emissions or handling hazardous or acutely hazardous materials, substances or waste within 0.25 mile of an existing or proposed school; hazards and hazardous materials for sites located on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; hazards and hazardous materials for projects located within an airport land use plan or within 2 miles of a public- or private-use airport; hazards and hazardous materials for projects in the vicinity of a private airstrip; hazards and hazardous materials for projects that would impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Hydrology and water quality for housing within a 100-year flood hazard area; hydrology and water quality for structures within a 100-year flood hazard area; hydrology and water quality regarding exposing people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; hydrology or water quality for inundation by seiche, tsunami or mudflow;
- Excessive noise for people residing or working in the Project area within an airport land use plan or within 2 miles of a public- or private-use airport; excessive noise for people residing or working in the Project area within the vicinity of a private airstrip; and
- Construction or expansion of recreational facilities.

Accordingly, these resources were scoped out of the EIR/EIS and not addressed in detail in the corresponding impact analysis sections (See Draft EIR/EIS, Section 1.7).

The County identified and analyzed the following environmental categories: Air Quality; Biological Resources; Cultural (Heritage) Resources; Geology, Soils, and Mineral Resources; Greenhouse Gases; Hazards and Hazardous Materials, Hydrology and Water Quality; Noise; Recreation; and Scenery (Aesthetics). The County also analyzed cumulative impacts and growth-inducing impacts.

The environmental impacts identified in the EIR/EIS that the County finds are less than significant and do not require mitigation are described in Section IV.A hereof. The County concurs with the determinations in the EIR/EIS with respect to these impacts.

The environmental impacts identified in the EIR/EIS as potentially significant but which the County finds can be mitigated to a level of less than significant through the imposition of feasible mitigation measures identified in the EIR/EIS and set forth herein are described in Section IV.B of hereof. The County concurs with the determinations in the EIR/EIS with respect to these impacts.

The environmental impacts identified as potentially significant but which the County finds cannot be mitigated to a level of less than significant despite the imposition of all feasible mitigation measures identified in the EIR/EIS and set forth herein are described in Section IV.C hereof. The County concurs with the determinations in the EIR/EIS with respect to these impacts and, for reasons set forth below, finds that overriding considerations exist that make these impacts acceptable.

A. Impacts Determined to be Less than Significant Without Mitigation

The following issues were identified in the Initial Study as having the potential to cause significant impacts and were carried forward in the EIR/EIS for detailed evaluation. After further study, these issues were found in the EIR/EIS as having no potential to cause significant impacts and therefore require no project-specific mitigation. In the following sections, each resource issue is identified and the potential for significant adverse environmental effects is discussed.

1. Air Quality

a) Construction Phase Emissions

Finding

Based on the entire record, the County finds that no significant impacts related to construction air emissions in excess of thresholds adopted by the Mojave Desert Air Quality Management District (MDAQMD) are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

Construction of the haul road includes mass site grading to create a uniform haul road surface, moving rock from the cut sections to fill sections, and hauling the cut rock that cannot be used in fill activities to limestone crushers or waste piles. The construction is anticipated to take two years, and emissions were calculated for the following categories: fugitive dust (particulate matter 10 microns or less in diameter [PM_{10}] and particulate matter 2.5 microns or less in diameter [$PM_{2.5}$], emissions from solid material handling and diesel PM_{10} and $PM_{2.5}$, oxides of nitrogen (NO_x), volatile organic compounds (VOC), carbon monoxide (CO), oxides of sulfur (SO_x), and carbon dioxide (CO_2) emissions from mobile heavy equipment used in mass site grading, as described in CalEEMod. All emissions increases for these categories are estimated to be below the MDAQMD CEQA

emissions significance thresholds. Therefore, the proposed Project's air quality impact for the construction phase would be less than significant. Impacts related to construction air emissions are discussed in detail in the EIR/EIS Chapter 3.2 and Appendix B-1.

b) Clean Air Act Conformity Analysis

Finding

Based on the entire record, the County finds that no significant impacts related to construction or operations emissions in excess of the thresholds stated in the Clean Air Act General Conformity Rule are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

Because the proposed Project approvals are also subject to NEPA, proposed Project emissions were reviewed to determine if PM_{10} emissions would be below the federal *de minimis* threshold of 100 tons per year and emissions of O_3 precursors (NO_x and VOCs) would be below the federal *de minimis* thresholds of 25 tons per year for those pollutants. The proposed Project's emissions would be below these thresholds for the worst-case year for each pollutant, and a formal Conformity Determination is not required. Impacts would be less than significant. Impacts related to the federal General Conformity Rule are discussed in detail in the EIR/EIS Chapter 3.2 and Appendix B-1.

c) Class I Area Analysis

Finding

Based on the entire record, the County finds that no significant impacts related to construction or operations emissions to Class I areas are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

Class I areas are designated in 40 CFR Part 81 and are defined as areas of special national or regional value from a natural, scenic, recreational, or historic perspective. Mandatory federal Class I areas include the following areas in existence on August 7, 1977:

- International parks;
- National wilderness areas that exceed 5,000 acres in size;
- National memorial parks that exceed 5,000 acres in size; and
- National parks that exceed 6,000 acres in size.

The federal land manager responsible for the Class I area has authority under the Clean Air Act to require impact analyses if a project is thought to affect the air quality related values in a Class I area. Two Class I areas are located within 50 kilometers of the proposed Project Area, the San Gorgonio Wilderness located 21 kilometers (13 miles) from the proposed Project Area and a portion of the Joshua Tree National Park, located

48 kilometers (30 miles) from the proposed Project Area. Potential effects from the proposed Project were evaluated for the San Gorgonio Wilderness, which is the closest Class I area, using the Federal Land Manager Air Quality Related Values Workgroup (FLAG) guidance. After modeling, significant effects to visibility in the Class I areas were determined to be below FLAG thresholds. Ozone (O_3) is a pollutant of concern that may damage flora in a Class I area. Emissions of O3 from the proposed Project would be below FLAG thresholds. Emissions of NO_x and SO_x may be converted into nitrates, sulfates, and sulfites in the atmosphere. When it rains, these acidic compounds in turn may be deposited onto water bodies and vegetated surfaces, damaging the plants and wildlife in the Class I area. Emissions of these compounds would be below FLAG thresholds, and significant effects from acid deposition in Class I areas are not anticipated. Impacts related to Class I areas are discussed in detail in the EIR/EIS Chapter 3.2 and Appendix B-1.

d) Health Risk Assessment

Finding

Based on the entire record, the County finds that no significant health risk impacts related to construction or operations emissions are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

The EIR/EIS provided a Health Risk Assessment to address the potential for the proposed Project to expose sensitive receptors to substantial pollutant concentrations. Emission calculations for toxic air contaminants (TACs) and health risk calculations for the proposed Project were provided. TAC emission estimates are based on diesel PM_{10} and fugitive dust calculations and metal concentrations in fugitive dust obtained from laboratory analyses of road dust samples. Health Risk Assessment calculations use AERMOD modeling and spreadsheet-based health risk calculations (derived from the Office of Environmental Health Hazard Assessment [OEHHA]) guidance. The Health Risk Assessment identified the maximally exposed individual resident (MEIR), the maximally exposed individual worker (MEIW), and the nearest sensitive receptor, as recommended in OEHHA guidance. The Health Risk Assessment presented the results of the analysis for excess cancer risk, non-cancer chronic hazard index, and acute hazard index at these receptors for both construction and operations. Cancer risks for all receptors are below the significance threshold of 10 in a million for both construction and operations. The chronic and acute hazard indices are below the significance threshold of 1.0 for both construction and operations. Therefore, the proposed Project would not expose sensitive receptors to substantial pollutant concentrations. Impacts are less than significant. Impacts related to human health risk are discussed in detail in the EIR/EIS Chapter 3.2 and Appendix B-1.

2. Cultural/Heritage Resources

Finding

Based on the entire record, the County finds that no significant impacts to cultural/heritage resources are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

All three of the cultural resources recorded within the proposed Project Area have been determined to be not eligible for the National Register of Historic Places or California Register of Historic Resources. The implementation of the proposed Project would not result in effects to historic properties or impacts to historical resources. Impacts to cultural/heritage resources are discussed in more detail in the EIR/EIS Chapter 3.4.

3. Mineral Resources

Finding

Based on the entire record, the County finds that no significant impacts to mineral resources are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

With the proposed Project, the South Quarry would be mined at an average production rate of 1.3 million tons per year (MTPY) of ore and would operate for 120 years, ultimately excavating approximately 156 million tons of ore. The Cushenbury Cement Plant requires a limestone feed of approximately 2.6 MTPY. The amount of limestone excavated from the existing Cushenbury Mine would be reduced to an average of 1.3 MTPY of ore, therefore the total limestone production of 2.6 MTPY would remain the same. A Plan of Operations for Mining Activities on National Forest System Lands and a Reclamation Plan per the County's Mine and Reclamation Plan have been submitted for the proposed Project. The CEQA significance criteria associated with the loss of availability of a known mineral resource is based on the State's interest in ensuring that important mineral resource deposit areas not be lost to the development of incompatible land uses. The California Department of Conservation Division of Mines and Geology has classified the proposed Project Area as MRZ-3a, an area of mineral resources of statewide or regional significance, for limestone deposits. The SBNF Land Management Plan allows development of mineral resources under a Plan of Operations, which is processed under the authority of the Forest Service mining regulations (36 CFR 228.A) to avoid or minimize impacts to the environment. Development of this resource is consistent with the policies of the SBNF, SMARA, and the County and would result in a beneficial impact with respect to the availability and use of mineral resources.

As part of the proposed Project, MCC would convey conservation easements and relinquish unpatented mining claims on over 540 acres to compensate for potential impacts to carbonate plant species. These compensation lands also contain unknown limestone reserves, some of which are also classified as MRZ-3a, which would be withdrawn from public use and would be unavailable for future mineral extraction. The withdrawal of these mining claims is consistent with the requirements of the SBNF Land Management Plan and the Carbonate Habitat Management Strategy, which allows use of the withdrawal of mining claims and other land acquisition strategies to increase the

carbonate plant habitat reserve while allowing for future mining in other areas. The loss of these lands is unlikely to affect the regional or statewide availability of limestone, and a less than significant impact would occur. No mitigation is required. Impacts to mineral resources are discussed in more detail in the EIR/EIS Chapter 3.5.

4. Greenhouse Gas Emissions

a) Project Greenhouse Gas Emissions

Finding

Based on the entire record, the County finds that no significant impacts from greenhouse gas emissions (GHG) are forecast to occur in relation to the proposed Project, and, therefore, no mitigation is required.

Facts in Support of the Finding

The construction phase baseline consists of operation in the East and West pits, while the with-Project condition consists of the ongoing operation of the East and West pits, which remain unchanged, and the construction associated with the South Quarry. GHG emissions (difference between baseline and with-Project) for the proposed Project's construction phase consist of the construction GHG emissions associated with the South Quarry project elements. To evaluate the contribution from construction on the annualized emissions for the lifetime of the proposed Project, construction emissions were amortized over a 30-year period. GHG emissions for the truck activity during the construction phase would be below the 10,000 metric tons per year of carbon dioxide equivalents (MT/year of CO_2e) threshold; therefore, impacts would be less than significant and no mitigation is required.

For the operational phase, calculations for baseline and post-project emissions were calculated. Comparing the sum of the amortized construction GHG emissions and the operational GHG emissions to the significance threshold of 10,000 MT/year of CO_2e for industrial projects shows that for the worst-case year, the sum is below the significance threshold. Operational impacts would be less than significant and no mitigation is required. Impacts from greenhouse gas emissions are discussed in more detail in the EIR/EIS Chapter 3.6 and Appendices B-1 and L.

b) Conformity with San Bernardino County's Greenhouse Gas Emissions Reduction Plan

Finding

Based on the entire record, the County finds that the proposed Project would not conflict with San Bernardino County's Greenhouse Gas Emissions Reduction Plan, and, therefore, no mitigation is required.

(1) Facts in Support of the Finding

The County of San Bernardino has adopted a Greenhouse Gas Emissions Reduction Plan that is designed to reduce emissions of GHGs to meet the requirements of AB 32.

However, specific requirements for mining projects to reduce emissions of GHGs have not been adopted and so were not included in the Plan. As explained further in Section 3.2.2 of the Air Quality Study (EIR/EIS Appendix B-1), the pathways identified in the County's Greenhouse Gas Emissions Reduction Plan to reduce GHG emissions are not relevant to a mining project like the proposed Project. As such, while the proposed Project would not conflict with the County's Greenhouse Gas Emissions Reduction Plan per se, the plan does not provide a meaningful benchmark for determining the significance of proposed Project impacts. As noted above, the proposed Project's GHG emissions would be below the quantitative significance threshold of 10,000 MT of CO_2e. Impacts would be less than significant and no mitigation is required. Impacts from greenhouse gas emissions are discussed in more detail in the EIR/EIS Chapter 3.6 and Appendices B-1 and L.

5. Hazards and Hazardous Materials

a) Routine Transport, Use, or Disposal of Hazardous Materials or Waste

Finding

Based on the entire record, the County finds that the proposed Project would not result in significant impacts related to the routine transport, use, or disposal of hazardous materials or waste, and, therefore, no mitigation is required.

Facts in Support of the Finding

The proposed Project is not anticipated to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or wastes. Hazardous materials to be used during mining activities include diesel fuel and lubricants for mine equipment. Refueling and maintenance of the mine equipment would be conducted by mobile fuel and maintenance vehicles. Best Management Practices (BMPs) would be applied during refueling and maintenance of the mine equipment. The equipment would be moved to the existing Cushenbury Cement Plant area shops for major maintenance or repairs. With BMPs required by existing regulations, hazardous materials or wastes associated with transportation, refueling and maintenance of mine equipment are not reasonably anticipated to result in a significant hazard to the public or environment and a less than significant impact would occur. Impacts from hazards and hazardous materials are discussed in more detail in the EIR/EIS Chapter 3.7 and Appendices G and L.

b) Hazards Related to Blasting

Finding

Based on the entire record, the County finds that the proposed Project would not create significant hazards related to blasting, and, therefore, no mitigation is required.

Facts in Support of the Finding

Proposed mining operations would require two blasts per week, reducing the number of blasts from the existing mining operations by a similar number. Therefore, the overall

current levels of blasting would remain the same. Blasting operations would continue to be conducted by licensed individuals in such a manner as to meet or exceed Cal-OSHA requirements. MCC has three individuals licensed through BATF&E for handling explosives on staff. Blasting would typically be conducted twice each week at the South Quarry between the hours of 10:00 a.m. and 6:00 p.m. Monday through Saturday. During the initial construction of the haul road, more numerous (up to once per day) but smaller blasts would occur. Blasting materials would continue to be secured in an existing appropriate magazine located at the adjacent cement plant facilities.

Blasting operations would continue to involve drilling along the mining face, placement of charges, and detonation of the charges by a blaster licensed through the BATF&E for handling explosives. All explosives and detonators would be transported, handled, and stored in accordance with all federal, State, and local regulations and permitted under the San Bernardino County Sheriff's Department and San Bernardino County Fire Department pursuant to the Uniform Fire Code adopted by the Department. In compliance with County regulations, blasting would only be conducted by a licensed blaster upon issuance of a blasting permit and a site-specific blasting permit. A significant hazard risk to the public is not anticipated from blasting activities; a less than significant impact would occur. Impacts from hazards and hazardous materials are discussed in more detail in the EIR/EIS Chapter 3.7 and Appendices G and L.

c) Hazards Related to Upset or Accidental Release of Hazardous Materials

Finding

Based on the entire record, the County finds that the proposed Project would not create significant hazards related to upset or accidental release of hazardous materials into the environment, and, therefore, no mitigation is required.

Facts in Support of the Finding

Based on a review of historical aerial photographs and topographic maps, the proposed Project Area has historically been undeveloped. Hazardous materials, wastes, structures, dumps, mines/prospects, or other man-made features were not observed at the proposed Project Area during the proposed Project Area reconnaissance. Properties or features of potential environmental concern were not identified within the proposed Project Area during a database search. One facility, the Mitsubishi Cement Plant Cushenbury Landfill, located at 5808 State Highway 18, approximately 0.75 mile north-northeast of the proposed Project Area, was listed in the EMI, FINDS, LUST, SWEEPS UST, and WDS databases. According to the LUST database, the facility has a closed unauthorized release case involving removal of underground storage tanks that contained fuels and motor oil. Based on the distance to the proposed Project Area (greater than 0.5 mile), the LUST case closed status, and downgradient hydrologic position, this facility is not considered an environmental concern that may be disturbed by mining at the South Quarry site.

Based on the depth to groundwater (greater than approximately 85 feet) and the proposed depth of the mine, encountering groundwater during implementation of the proposed

Project is unlikely. It is unlikely that excavation of the mine would disturb contaminated soils or groundwater based on the historic undeveloped use of the property and lack of environmental concerns identified during the database search and site visit. A less than significant impact would occur. Impacts from hazards and hazardous materials are discussed in more detail in the EIR/EIS Chapter 3.7 and Appendices G and L.

d) Hazards Related to Wildfire

Finding

Based on the entire record, the County finds that the proposed Project would not create significant hazards related to exposure of people or structures to wildfire, and, therefore, no mitigation is required.

Facts in Support of the Finding

The proposed Project site is located in Fire Safety Review Area 1 (FS-1), which includes areas within the mountains and valley foothills. It also includes all the land generally within the SBNF boundary and is characterized by areas with moderate and steep terrain and moderate to heavy fuel loading contributing to high fire hazard conditions. The proposed Project's design includes internal haul roads to allow for emergency egress and safe zones in the event of a wildfire. The proposed Project would not contribute to or be affected by surrounding fuel loads and a fuel modification zone would not be required. No human-occupied structures are proposed as part of proposed Project. The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, therefore, impacts would be less than significant. Impacts from hazards and hazardous materials are discussed in more detail in the EIR/EIS Chapter 3.7 and Appendices G and L.

6. Hydrology and Water Quality

a) Impacts to Groundwater

Finding

Based on the entire record, the County finds that the proposed Project would not have significant effects to groundwater, and, therefore, no mitigation is required.

Facts in Support of the Finding

The Mojave Basin, including the Este Subarea where the proposed Project site is located, has been the subject of adjudication to determine the water rights of the various producers. Final Judgment was entered in 1996 adopting the physical solution set forth in the Judgment. The purpose of the 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. To carry out the Mojave Basin Judgment, the Mojave Water Agency (MWA), Watermaster for the adjudicated area, assigned Base Annual Production (BAP) amounts to each producer using 10 acre-feet per year or more. MCC has a Free Production Allowance (FPA) of 1,116 acre-feet.

Groundwater level data indicate that, within the proposed Project vicinity, the groundwater levels generally follow the pumping trends. Over the past several years there has been a relative equilibrium with withdrawal and replenishment. To carry out the Mojave Basin Judgment, MCC has been assigned a variable FPA of 1,116 acre-feet, which is 85.9 percent of BAP. Any groundwater that MCC pumps over and above the FPA is subject to replacement either by paying the Watermaster to purchase supplemental water from the MWA or by acquiring/ transferring unused production rights within the same area from another party. Historically, MCC has had prior year carryover from unused FPA and has sold FPA to others for replacement water. It is anticipated that the proposed Project would increase the demand for groundwater by approximately 58.6 acre-feet/year. This increase in demand for groundwater is not expected to exceed the allotted FPA. Therefore, impacts to groundwater would be less than significant. Impacts to groundwater are discussed in more detail in the EIR/EIS Chapter 3.8 and Appendices E, F, H, and L.

7. Noise and Vibration

a) Noise and Vibration from Quarry Construction and Operations, Including Blasting

Finding

Based on the entire record, the County finds that the proposed Project would not have significant effects to sensitive receptors from noise or vibration and no mitigation is required.

Facts in Support of the Finding

The closest sensitive receptors are located in the community of Lucerne Valley, which is located north of the proposed South Quarry and the existing East Pit and Cushenbury Cement Plant. Mining operations would be moved from the East Pit to the South Quarry, which is located further away from these sensitive receptors. Therefore, the proposed Project would shift noise sources from vehicles, equipment, and blasting, away from sensitive receptors in the community of Lucerne Valley. Worst case scenario noise levels at the property line of the nearest sensitive receptors were modeled using representative noise measurements taken at the existing quarry. Due to the shift in operations to the south, away from Lucerne Valley, noise at sensitive receptors would actually slightly decrease. Groundborne vibration from blasting activities were modeled. Vibration levels at the closest industrial, commercial, and residential receptors would be less than the County criteria. Air overpressure generated from the proposed Project at the closest residential structures would be well below the U.S. Bureau of Mines threshold. Impacts from noise and vibration are discussed in more detail in the EIR/EIS Chapter 3.9 and Appendices I and L.

8. Recreation

a) Restricted Public Access

Finding

Based on the entire record, the County finds that the proposed Project would not have significant effects from restricted public access and no mitigation is required.

Facts in Support of the Finding

Safety requirements of implementing the proposed Project would result in the direct effect of removing approximately 154 acres from public access. However, removal of access is not expected to result in noticeable changes to the surrounding recreation setting because of the lack of developed recreational facilities, existing and expected low levels of recreation traffic, the minimal extent of visitor impacts, and because alternative settings are readily available nearby. Interaction between users at the nearest recreation area, Burnt Flat, is expected to remain at a low level, keeping the setting consistent with a semi-primitive Recreational Opportunity Spectrum (ROS) class as designated in the SBNF Land Management Plan. Users in the remainder of the Desert Rim Place and Big Bear Backcountry Place are also not expected to be adversely affected. Recreational values, settings and activities associated with the Pacific Crest Trail (solitude, low levels of managerial control, evidence of humans, distance from roads, etc.) would not be affected due to its distance (greater than two miles) from the proposed Project Area. Impacts to recreation are discussed in more detail in the EIR/EIS Chapter 3.10 and Appendices J and L.

b) Noise and Dust

Finding

Based on the entire record, the County finds that the proposed Project would not have significant effects on recreation from increased dust and noise and no mitigation is required.

Facts in Support of the Finding

Indirect impacts on the dispersed recreation experience from increased dust could occur. Because of requirements for fugitive dust by MDAQMD regulations, effects from dust are expected to be minimal, and are not expected to negatively affect the recreation setting or recreational uses in the short or long term. Potential increases in noise at nearby recreation locations were modeled. None of the locations would experience increases in noise above the threshold of 3 decibels. Impacts to recreation are discussed in more detail in the EIR/EIS Chapter 3.10 and Appendices J and L.

B. Impacts Determined to be Less than Significant After Mitigation

1. Air Quality

a) Operational Phase Emissions

Finding

Based on the entire record, the County finds that impacts from operations air emissions are potentially significant but can be mitigated to a less than significant level through Mitigation Measures AIR-1 and AIR-2. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

AIR-1: Within three years after the commencement of mining in the South Quarry, or whenever the total quarry haul truck operating horsepower-hours/year reach 6 million per year, whichever is later, the applicant shall:

a. a. Add to its fleet no fewer than five quarry haul trucks meeting Tier 4 standards; and

b. b. Retire all remaining Tier 0 quarry haul trucks.

"Tier 0" and "Tier 4" refer to those terms as defined by the CARB off-road diesel rule, CCR Title 13 Sections 2449-2449.3. For the purposes of this condition, "mining" shall not include the construction of the South Quarry Road.

AIR-2: Every day of active mining, the Project proponent shall apply water to unpaved roads and disturbed mine areas that are in active use on that day no less than once every 1.25 hours at a rate of no less than 0.11 gallons per square yard. Alternatively, the Project proponent shall apply chemical dust suppressants to unpaved road and disturbed mine areas in active use

at a frequency and application rate in accordance with manufacturer specifications.

Facts in Support of the Finding

Operations emissions were calculated for the worst case year for each pollutant and compared to the MDAQMD significance thresholds for the following categories: fugitive dust (PM_{10} and $PM_{2.5}$) emissions from blast hole drilling; bulldozing, scraping and grading of materials; material handling (limestone ore and waste rock); wind erosion from stockpiles; wind erosion from active disturbed mine areas; wind erosion from unpaved roads; dust entrainment from unpaved roads (haul trucks and water trucks. Mobile emissions include diesel PM_{10} and $PM_{2.5}$, NO_x, VOC, CO, and SO_x emissions from haul trucks, water trucks and other trucks. Emissions would be less than significant with the implementation of Mitigation Measures AIR-1 and AIR-2. The impacts related to operational air emissions are discussed in detail in the EIR/EIS Chapter 3.2 and Appendices B-1 and L.

2. Biological Resources

a) General Biological Resources

Finding

Based on the entire record, the County finds that impacts to general, non-sensitive biological resources are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEN-1 through GEN-15, BHS-2, BHS-4 through BHS-7, BIRD-1, BIRD-2, CARB-2, GEO-1, NNS-1 through NNS-4, and RAPTOR-1 through RAPTOR-3. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

GEN-1: MCC shall minimize disturbance or hazards to surrounding vegetation, habitat, and wildlife, such as toxic substances, dust, noise, and lighting, as follows:

a. New lighting shall be established at the minimum necessary to meet safety requirements, and shall be shielded to avoid lighting the surrounding habitat and the night sky;

b. Except as necessary to survey or maintain the safety of the mine site, the Project's disturbance footprint shall be limited to areas designated for mining and related activities;

c. Equipment staging areas and other construction or related habitat disturbance shall be limited to areas within the new or existing quarry footprint(s) and shall be designed and operated to the goal of minimizing impacts to adjacent habitat and sensitive biological resources;

d. Any rock stain for scenic mitigation or soil bonding or wetting agents to be used for dust control on unpaved surfaces shall be non-toxic to

wildlife and plants and non-attractants for wildlife. If staining, wetting or soil bonding agents appear to be attracting wildlife to the roadways (e.g., by pooling or creating mineral licks), the mining operator will work with the Forest Service to develop remedies;

e. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for spill of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Spills will be cleaned up as quickly as possible;

f. All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site;

g. Only authorized agency or security personnel (including the California Department of Fish and Wildlife [CDFW], USFWS, and Forest Service) shall bring firearms or weapons to the site.

h. No recreational target shooting will occur on Forest Service lands within the permit area.

i. Standard erosion control measures commensurate with those typically required in an Industrial Stormwater Pollution Prevention Plan for a limestone surface mining operation shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes may enter native soils or habitat or jurisdictional streambeds;

j. Disturbed soils and roads within the project site shall be stabilized to reduce erosion potential; and

k. For drainages that cannot be avoided, MCC shall obtain a Streambed Alteration Agreement in compliance with Section 1602 of the California Fish and Game Code and an application for waste discharge requirements (WDRs) or a waiver of WDRs in compliance with Section 13260 of the California Water Code, as applicable prior to the issuance of a grading permit. Impacts to waters of the State shall be mitigated by replacement on an in-kind basis. Compensatory mitigation will be commensurate with impacts and may consist of establishing restoring, and preserving similar on-site habitat, and/or purchasing off-site credits from an approved mitigation bank.

GEN-2: *Employee Training:* MCC shall conduct wildlife/plant awareness programs for employees (including new employee orientation and annual refresher trainings). The program will address bighorn sheep, desert tortoise, golden eagles, rare reptiles/amphibians, other animals of the area, and rare plants. This will include the importance of avoiding harassment/disturbance, adherence to speed limits, adherence to defined project boundaries, reporting guidelines, discouraging ravens and other scavengers, etc. Specific items as described in the employee education component of the North Slope Bighorn Conservation Strategy, Raptor Conservation Strategy, and the desert tortoise design features below will be included in the training.

MCC will solicit input from CDFW and USFS in developing the training program.

GEN-3: *Fencing:* MCC shall identify likely or potential wildlife movement routes across or around the site and then avoid or minimize potential impediments to wildlife movement by fencing only those areas where access must be restricted for safety or security reasons.

In the event fencing is necessary during construction and/or extraction activities, project personnel shall ensure that any such fence meets existing specifications that have been developed to preclude accidental entanglement of bighorn sheep, deer, and other animals. Biologists from the USFS and CDFW will be consulted for appropriate fence guidelines. Where this Design Feature conflicts with Mine Safety and Health Administration guidelines, attempts will be made to meet the intention of both. Where that is not possible, Mine Safety and Health Administration guidelines will be applied.

GEN-4: *Reclamation:* Reclamation of the South Quarry shall include the creation of angled pathways and interlacing reclaimed benches in order to facilitate the movement of bighorn sheep and other wildlife through the quarries. These benches will be created as the mining sequence is completed and prior to restoration. The design of the benches shall be coordinated with Forest Service and/or CDFW biologists. Forest Service and CDFW biologists shall have 60 days to comment on the proposed bench design.

GEN-5: *Haul Road Crossings:* The final design and construction of the haul road shall ensure movement pathways for wildlife, including bighorn sheep, deer, and small mammals, between the existing East and West Pits and the proposed South Quarry. This will include terracing or stair-stepping or micro-benches of steep and vertical cuts, especially at strategic crossing locations. Design and construction of the haul road shall be completed in coordination with CDFW and Forest Service biologists. A study to analyze the efficacy of long-term mammal usage of the haul roads shall be designed in consultation with CDFW and Forest Service biologists and shall be implemented by MCC within one year of construction of the haul road. The objective of the study will be to analyze the efficacy of the measures intended to prevent a movement barrier and address corrective measures through adaptive management, if needed.

GEN-6: *Pets and Domestic Animals:* MCC employees shall not bring pets or domestic animals to the work site. MCC will not authorize the housing or grazing of domestic animals on the project site.

GEN-7: *Feeding Animals:* Feeding of animals will be prohibited to discourage the spread of non-native birds, to discourage the spread of disease and pathogens, etc.

GEN-8: Mine operators will maintain facilities and grounds in a manner that minimizes any potential impacts to hunting or scavenging raptors and other predators/scavengers (e.g., minimize storage of equipment near active

quarries that may attract prey, remove trash/garbage daily, etc.). All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site. MCC shall avoid practices that attract/enhance prey populations and opportunities for raptor hunting or scavenging near active quarries, haul roads, and processing areas. This would also help discourage the spread of non-native birds and discourage the spread of disease and pathogens, etc.

GEN-9: To reduce vehicle collision risk to raptors and other scavengers, intact animal carcasses (with the exception of bighorn sheep and deer) will be removed immediately from mine roads and mining areas. Carcasses will be removed far enough away from roads and active mining areas that scavengers would not be in danger of vehicle collision or other mining-related hazards. Bighorn sheep and deer carcasses shall be covered with a tarp and left in place until the CDFW or Forest Service biologist is notified and provides direction. As much as is feasible, care will be taken to avoid disturbing the area around the carcass to preserve predator tracks, parasites, etc.

GEN-10: *Disturbance Avoidance:* MCC employees and contractors will not use MCC roads in order to access National Forest lands for recreation or hunting. Access for personal use will be through National Forest system roads and trails that are open to the general public.

GEN-11: *Blasting:* Prior to blasting activities within the project area, designated mine employees trained by CDFW and/or Forest Service biologists shall conduct a visual inspection (both naked eye and with binoculars or spotting scope) for a minimum of five minutes to ascertain the presence or absence of bighorn sheep, deer, golden eagles, peregrine falcons, or other large animals. If animals are located within the blast area, mine employees shall wait until animals have moved from the area before initiating the blast procedures. The designated mine employee may use noise deterrents (e.g., shouts, vehicle, or air horns) to move them out of the blast area prior to detonation of any blasting materials. The blasting log will be available upon request by CDFW and Forest Service personnel.

GEN-12: *Biomass Disposal:* All woody vegetation to be cleared from the surface (quarry site, haul road, etc.) will be disposed of as follows:

a. Small size vegetation and organic material (stems less than 6 inches in diameter) will be applied to inactive quarry benches, overburden piles, and on sidecast areas along roads and quarries. Material may be chipped and/or stockpiled prior to use. Stockpiling and use should be done as part of phased reclamation to minimize stockpile duration and associated weed risk.

b. All wood greater than 6 inches in diameter will be either reduced to less than 6 inches and applied as described in GEN-12a or removed from the site and decked by MCC at a location to be determined by the

Forest Service. The decked wood will be sold to the public by the Forest Service.

GEN-13: The BLM's withdrawal of approximately 540.4 acres of land from mineral entry and MCC's quit-claim of specified unpatented mining claims (discussed in EIR/EIS Section 1.6 and below under Carbonate Plants) is also designed to mitigate for the loss of pinyon-juniper woodland and desert transition habitats as wildlife habitat.

GEN-14: The current regular groundwater monitoring program within the general MCC Cushenbury operating area will continue through the life of the project (South Quarry Operating Plan and Reclamation Plan). MCC will continue to submit a report regarding the monitoring to the Forest Service and the County at least annually. If this regular report indicates a change in groundwater levels, use, or recharge rates that may pose a substantial threat to surface water and wetland vegetation at Cushenbury Springs, or if unusual vegetation mortality is observed at the wetlands, a pump test will be performed for all wells supplying the Cushenbury Cement Plant and associated monitoring wells to determine if there has been a change in the groundwater basin between the subject wells and Cushenbury Springs. If there are future adverse changes to water quantity, seasonal duration of surface flow, or extent of wetland vegetation related to the project, MCC will respond to minimize these effects. Future minimization actions may include, but are not limited to, water conservation programs and shifts in the usage of various available water sources.

GEN-15: Due to the long life of the proposed Project (40 or 120 years plus reclamation), monitoring of effects to wildlife, plants, and water resources, including at Cushenbury Springs, shall be conducted as described in Design Features/Mitigation Measures GEN-2, GEN-4, GEN-5, GEN-11, GEN-14, BHS-2, BHS-4, BHS-6, BIRD-1, BIRD-2, RAPTOR-1, RAPTOR-2, RAPTOR-3, DETO-1, NNS-1, NNS-3, CARB-1, and the Raptor Conservation Strategy, Carbonate Habitat Conservation Strategy, and Bighorn Sheep Conservation Strategy. At a minimum of every 10 years for the life of the project, the Forest Service and CDFW will review the monitoring efforts to address changes in the scale and scope of predicted effects. The objective is to use adaptive management to adjust Design Features/Mitigation Measures and strategy plans in the light of new information, new species of concern, and/or new mining technology. If effects to federal or state protected species are determined to be different than the predicted effects, appropriate steps shall be taken, which may include but are not limited to development of new or adjusted Design Features/Mitigation Measures or best management practices to ensure avoidance of "take".

BHS-2: *Water Developments:* In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the development of the South Quarry, MCC shall create additional water development(s) after consulting with appropriate agency personnel (Forest

Service and CDFW) to select location(s) for additional water development(s). MCC shall ensure that any existing water development(s), as well as any created as part of the Design Features/Mitigation Measures, are maintained in good operating condition for the duration of the project.

BHS-4: *Monitoring/Adaptive Management:* MCC shall monitor bighorn sheep use in and near their operations and at water sources in and adjacent to their operations. Monitoring shall consist of installation and maintenance of cameras stationed at CDFW- and Forest Service-identified water sources and recording of data from cameras in a database developed by CDFW, as well as collection of observations by MCC employees. The North Slope Bighorn Sheep Management Strategy may identify other monitoring methodologies to be developed over time. An annual monitoring report will be provided to the Forest Service and CDFW.

BHS-5: *Highway Crossing:* Upon obtaining the necessary approvals from Caltrans, MCC shall fund, purchase, and install highway warning signs on State Route 18. MCC shall use best efforts to obtain the Caltrans approvals necessary to install the highway warning signs on State Route 18. The intent of the signs is to avoid vehicle-strike mortality or "take" of bighorn sheep crossing the highway.

BHS-6: *Conservation Strategy:* A Draft North Slope Bighorn Sheep Conservation Strategy will be developed by CDFW and the Forest Service. The management plan will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs. The management plan shall include guidelines/thresholds for population status that would trigger augmentation of the herd; a strategy/guidelines for developing water sources to respond to drought years; and herd monitoring methodology and objectives. MCC will be a partner in the North Slope Bighorn Conservation Strategy and will help support the long-term management goals of maintaining a sustainable population of bighorn sheep on the North Slope, as described in BHS-7.

BHS-7: *Future Conservation and Management:* Within one year after approval of the South Quarry Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC shall begin contributing to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The amount of MCC's contributions shall be determined by CDFW in coordination with MCC prior to final approval of the South Quarry project. The Fund shall be administered by an entity approved by the CDFW and the Forest Service, such as the National Fish and Wildlife Foundation as a sub-account of the California Department of Fish and [Game] Master Mitigation Account. The Fund shall be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep both within the Cushenbury herd and on proximate habitats, occupied or unoccupied, including the Bighorn

Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation.

BIRD-1: *Migratory Bird Treaty Act Compliance:* During the development of the quarry, haul roads, and associated facilities, all initial ground clearing (vegetation removal, grading, etc.) shall occur outside the avian breeding season (i.e., do not remove potential nesting habitat from February 1 through August 31, or appropriate dates based on on-site nesting phenology determined by a qualified biologist).

For initial ground clearing (vegetation removal, grading, etc.) that is not feasible to be conducted outside the nesting season, surveys will be conducted to locate active nests within 10 days of the initiation of ground-disturbing activities. Any active nest sites that are located will be buffered and no work will be conducted within those buffered areas until the nests are no longer active. The buffer distances would be determined by a qualified biologist referencing current species-specific standards, and taking into account the conservation status of the species (e.g., larger buffers may be appropriate for Sensitive species, etc.), species-specific biology, and the nature of the planned disturbance (e.g., driving past a nest versus extensive grading).

BIRD-2: Nesting bird surveys for passerine birds, as outlined in BIRD-1, shall be conducted by a qualified biologist experienced and familiar with robust nest-locating techniques or comparable to those described by Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines:

a. Surveys shall cover all potential nesting habitat to be disturbed and a 500 foot buffer surrounding areas to be disturbed;

b. At least two pre-construction surveys, separated by a minimum 10 day interval, shall be completed prior to initial grading or grubbing activity; the later survey shall be completed no more than 10 days preceding initiation of initial grading or grubbing activity. Additional follow-up surveys shall be required if periods of construction inactivity exceed one week in any given area, in interval during which birds may establish a nesting territory and initiate egg laying and incubation. Copies of the bird survey reports shall be provided to the County and the Forest Service.

CARB-2: MCC shall, upon BLM's withdrawal of approximately 540.4 acres of land from mineral entry, quit-claim specified unpatented mining claims held within the SBNF, and convey specified patented lands, which have been verified by the Forest Service to contain occupied endangered species habitat on an approximately 3 to 1 ratio (species-acres and CHMS conservation value) as mitigation for impacts of the South Quarry project on Cushenbury buckwheat (*Eriogonum ovalifolium var. vineum*), Cushenbury puncturebract (formerly oxytheca) (*Acanthoscyphus parishii var. goodmaniana*), and Parish's daisy (*Erigeron parishii*) pursuant to the

guidance provided by the CHMS as follows: MCC shall determine total project disturbance acreage, to include the South Quarry and haul road as well as rock and debris roll-down areas below them. MCC shall evaluate the Conservation Value of the acreage proposed for disturbance according to the CHMS.

GEO-1: Control of surface drainage, erosion, and sedimentation of the proposed haul road and quarry operations will involve the following primary components currently being implemented for existing operations:

a. Limiting surface disturbance to the minimum area required for active operations.

b. Diverting runoff, where operationally feasible, such that runoff from undisturbed areas does not enter the area of active operations.

c. Using ditches, sediment basins, and localized control and maintenance measures to intercept and control runoff along the haul road.

d. Stabilizing disturbance areas through re-grading, revegetation, and other restoration practices.

NNS-1: MCC shall monitor the occurrence of non-native invasive plants in the Project Area by visual inspection. The goal is to prevent non-native invasive plants from becoming established and depositing seeds in areas to be re-vegetated at a later date. If inspections reveal that weeds are becoming established in the Project Area, then removal would be initiated by MCC in coordination with the Forest Service botanist. Inspections shall be made in conjunction with revegetation monitoring.

NNS-2: To reduce the risk of introducing non-native invasive plants, insects, and pathogens from off-site, all heavy mining equipment (e.g., drill rigs, haul trucks, loaders) must be thoroughly washed of all soil and vegetation debris prior to being brought into the company's operating area (i.e., the MCC Cushenbury Cement Plant and associated local quarries).

NNS-3: If any new non-native invasive plants, animals, or pathogens are identified as having a potential for establishment in the Project Area, MCC will consult with the Forest Service to develop measures for detection, control, and eradication as necessary. MCC shall be responsible for funding detection, control, and eradication efforts in the Project Area.

NNS-4: MCC personnel will be trained on the need to report sightings of feral or domestic sheep, goats, dogs, or cats on, in, and near the Project Area to the Forest Service and CDFW within two hours of the observation. In the event of domestic or feral animals being found, MCC shall employ a trained trapper to catch and remove the animals following County regulations. CDFW may assist in capture/removal efforts, if available.

RAPTOR-1 A Raptor Conservation Strategy (RCS) will be developed in coordination with the Forest Service, USFWS, and CDFW. MCC shall provide input to

the development/finalization of the RCS and shall follow the guidelines put forth in the effort. The RCS will be tailored for activities associated with mining activities and effects. Upon approval of the Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC will participate in the implementation of the RCS by contributing to specified survey and monitoring efforts, and by following applicable operational guidelines.

The RCS will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs, and will address special status raptors (currently, golden eagle, California condor, and peregrine falcons). The RCS may be updated to include other raptors in the future if concerns develop over their local population status.

The RCS will be a dynamic document and will be updated as new data and scientific understanding of the aforementioned species become available. It will include monitoring and information gathering, and measures to avoid, minimize, rectify, and reduce (or eliminate over time) effects to raptors nesting on the North Slope. The intent is to use systematic monitoring of raptor nesting chronology and observed behavior to develop site- and activity-specific measures to ensure successful nesting and provide for adaptive management opportunities.

RAPTOR-2: If an occupied nest for a federally-protected species, a California-listed species, or a California fully protected species is found within 1.5 miles of an active quarry operation, the Forest Service will determine if additional monitoring is needed and undertake the appropriate coordination/consultation with the appropriate agencies. If required, the appropriate authorization(s) will be requested from USFWS or CDFW, under the applicable law (federal or state Endangered Species Act, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act). MCC will cooperate in such efforts and implement the resulting measures designed to minimize or avoid “take”.

Facts in Support of the Finding

Native species in the Project Area may be affected in two ways: 1) through habitat loss/degradation; and, 2) through direct and indirect effects to individual plants and animals. With the inclusion of Mitigation Measures GEN-1 through GEN-15, BHS-2, BHS-4 through BHS-7, BIRD-1, BIRD-2, CARB-2, GEO-1, NNS-1 through NNS-4, and RAPTOR-1 through RAPTOR-3, effects from 153.6 acres of habitat loss and associated effects to individual, non-sensitive plants and animals are expected to be less than significant. The impacts related to general biological resources are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

b) Sensitive Natural Communities and Jurisdictional Waters

Finding

Based on the entire record, the County finds that impacts to sensitive natural communities and jurisdictional waters are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEN-1(k) and GEN-14, above. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

The analysis area includes several Riparian Conservation Areas (RCAs), including Cushenbury Springs. A short segment of one RCA extends into the Project Area. Alternative 1 – Proposed Action would result in continued extraction of water from wells between the Cushenbury Cement Plant and Cushenbury Springs and the backup wells in Lucerne Valley. The proposed Project would result in a 12.1-percent increase in water extractions from MCC's wells near Cushenbury Springs. The hydrology report prepared for the proposed Project (EIR/EIS Appendix E) did not identify a direct connection between the wells and Cushenbury Springs; the aquifers are separated by faulting. Thus, no changes to Cushenbury Springs and its associated habitat are expected from the proposed Project. However, because hydrogeological systems can change over time in response to climate and fault movements, Mitigation Measure GEN-14 requires continued tracking of groundwater levels and action in the event it is determined that the Project has caused adverse changes that pose a substantial threat to water or wetland vegetation in Cushenbury Springs. No effects to Cushenbury Springs are expected, and if effects do occur, they would be identified and minimized through application of Mitigation Measure GEN-14. The proposed Project would not affect any waters of the United States, including traditional navigable waters, relatively permanent tributaries to navigable waters, or associated wetlands. Therefore, the proposed Project would not be subject to the jurisdiction of the U.S. Army Corps of Engineers, and therefore, would not require compliance with Section 404 of the Clean Water Act or a Section 401 certification from the Regional Water Quality Control Board. However, the proposed Project would affect 0.74 acre and 3,622 linear feet of streambed under the jurisdiction of the CDFW, requiring a Lake or Streambed Alteration Agreement in compliance with Section 1602 of the California Fish and Game Code. This effect would be less than significant with the implementation of Design Feature GEN-1k. The impacts related to sensitive natural communities and jurisdictional waters are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

c) Habitat Connectivity and Fragmentation

Finding

Based on the entire record, the County finds that impacts regarding habitat connectivity and fragmentation are potentially significant but can be mitigated to a less than significant level through Mitigation Measure GEN-5, above. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

The proposed Project would change the landscape on the proposed Project site, resulting in reduced connectivity of habitat areas, increased fragmentation, and the potential for isolation of groups of animals due to inhospitable terrain and inability to move across the parts of the proposed Project site where cut and fill slopes are the steepest. Mitigation Measure GEN-5 includes movement pathways for wildlife at the haul road. The proposed Project would also set aside 540 acres for mitigation; the prohibition of future mining on these properties would help prevent future fragmentation of the habitat in and across Cushenbury Canyon and preserve important sections of undeveloped land that may serve as movement corridors for many species. The impacts related to habitat connectivity and fragmentation are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

d) Threatened and Endangered Species

Finding

Based on the entire record, the County finds that impacts to threatened and endangered species are potentially significant but can be mitigated to a less than significant level through Mitigation Measure CARB-2, BIRD-1, BIRD-2, GEN-2, GEN-11, GEN-14, RAPTOR-1, RAPTOR-2, NNS-1 through 4, above. Impacts will also be mitigated to a less than significant level through Mitigation Measure CARB-1, DETO-1, DETO-2, RAPTOR-3, below. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

CARB-1: As specified under the CHMS, and within the Project Area, MCC or the Forest Service may at their discretion salvage carbonate endemic plant species (whole plants, cuttings, or seed), and propagules of associated species, to aid in carbonate habitat revegetation efforts on or off-site.

DETO-1: MCC will consult with the Forest Service to incorporate desert tortoise education and awareness into their training for employees, customers, and contractors. This will include how to minimize impacts to desert tortoise and their habitats. Information about penalties will also be included. These briefings will include guidelines about driving in desert tortoise habitat, handling prohibitions, etc. MCC will solicit input from the Forest Service to develop other protective measures if a need is identified through reporting from Design Feature DETO-2 or other CDFW or Forest Service requirements.

DETO-2: Any sightings of desert tortoises, including dead tortoises, in the Project Area must be reported to the Forest Service biologist. The report will include photos if possible, location, date, time, cause of death (if obvious), and any other pertinent information.

RAPTOR-3: If monitoring detects that blasting or other mine activities are resulting in disturbance of nesting raptors that could lead to mortality or nest abandonment, the Forest Service, MCC, and USFWS and CDFW, as

appropriate, will evaluate the feasibility of implementing measures to avoid or reduce effects. The RCS will contain potential methods, such as establishment of buffers and parameters for work stoppage, for reducing or avoiding effects.

Facts in Support of the Finding

Four federally listed plant species and their designated critical habitat occur within the proposed Project Area: Cushenbury puncturebract, Cushenbury milk vetch, Parish's daisy, and Cushenbury buckwheat. Direct effects to these species include the complete and permanent removal of the soils, rocks, and vegetation on the land surface. While some revegetation would occur through mine reclamation, and some natural revegetation would occur over time, this is considered to be a permanent loss of habitat for these species. Potential indirect effects to these plant species and their designated critical habitat would include dust deposition on plants adjacent to the proposed quarry and haul road, increased weed risk, and microclimate changes. Implementation of Mitigation Measures CARB-1, CARB-2, and NNS-1 through 4 would result in a less than significant impact.

The proposed contributions of carbonate habitat land (CARB-1 and CARB-2) to the CHMS Habitat Reserve would provide an immediate and long-term beneficial effect to these species and Critical Habitat by removing the primary threat to the continued existence within the relinquished 540 acres (i.e., mining).

A No Effect (No Impact) determination was made for the four federally listed wildlife species (California condor, southwestern willow flycatcher, least Bell's vireo, and desert tortoise) that are known from or have the potential to occur within the analysis area. The proposed Project would also have less than significant effect to southern rubber boa, a Forest Service Sensitive Species and a state-threatened species, and the Swainson's hawk and Mohave ground squirrel, both state-threatened species. Mitigation Measures DETO-1 and DETO-2, BIRD-1 and 2, RAPTOR-1 through 3, and GEN-2, GEN-11, and GEN-14 would further reduce effects to these species and their habitats. No designated Critical Habitat for these species or any other species is present or proposed in the analysis area, including the proposed Project Area. The impacts related to threatened and endangered species are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

e) California Fully Protected Species (Golden Eagle and American Peregrine Falcon)

Finding

Based on the entire record, the County finds that impacts to golden eagle and American peregrine falcon, which are California fully protected species, are potentially significant but can be mitigated to a less than significant level through Mitigation Measures RAPTOR-1 through RAPTOR-3, above. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the proposed Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

The primary effect to the golden eagle and American peregrine falcon is foraging and nesting habitat loss through removal of the land surface, potential mortality and injury of individuals, and disturbance from increased human activity and noise. However, the proposed Project is not expected to result in a significant effect for the golden eagle and American peregrine falcon with the implementation of Design Features/Mitigation Measures RAPTOR-1 through RAPTOR-3. The impacts related to California fully protected species are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

f) Forest Service Sensitive Species and California Species of Special Concern

Finding

Based on the entire record, the County finds that impacts to Forest Service Sensitive Species and California Species of Special Concern are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEN-1 through GEN-15, CARB-1, and CARB-2, above and PLANT-1 and PLANT-2, below. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

PLANT-1: MCC shall inventory all accessible yucca species (Joshua trees, Mojave yucca, and chaparral yucca) within the proposed project disturbance areas, and identify yuccas (all species) likely to survive transplantation.

Prior to grading, accessible yucca plants suitable for translocation shall be transported to off-site reclamation or restoration areas. The suitability for salvage and transplantation shall be determined by a qualified botanist or horticulturalist, based on their size, stability, and location. A qualified horticulturalist shall direct the removal, transport, and replanting, and follow-up maintenance including irrigation and physical support as needed until transplantation is successful. Relocation sites shall be within the same general area. Suitable reclamation/restoration sites will be identified in coordination with the Forest Service botanist.

PLANT-2: MCC will solicit input from the Forest Service and will provide for salvage of rare native plants within the Project Area to be propagated and/or transplanted to protected habitat reserve areas at the discretion of the Forest Service.

Facts in Support of the Finding

Seven Forest Service Sensitive plant species have been observed or have the potential to occur in the Project Area. These species would be affected by ground-disturbing activities in the Project Area, as described under general effects earlier in this section. The proposed Project may affect individuals but is not likely to lead to a trend to listing of the sensitive species with potential to occur in the Project Area and would not threaten

the viability of the populations. Mitigation Measures CARB-1, CARB-2, PLANT-1 and PLANT-2 would reduce impacts to a less than significant level.

The primary effect to Forest Service Sensitive and State Sensitive wildlife species is habitat loss through removal of the soil, rocks and vegetation on the land surface. Habitat loss through burial of the surface features would also occur, mainly associated with the haul road fill areas and the berm. Indirect effects would include the effects of dust, weeds, and hydrology, and would be expected to be localized and minimized through application of Mitigation Measures GEN-1 through GEN-15. The impacts related to Forest Service sensitive species and California species of special concern are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

3. Geology and Soils

a) Faulting and Seismicity

Finding

Based on the entire record, the County finds that impacts from faulting and seismicity are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEO-2 through GEO-4. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

As with most of southern California, the Project Area has a high potential for strong ground motions (ground shaking) due to earthquakes on adjacent and nearby active faults. No active faults are known to cross or trend towards the Project site. Therefore, the potential for ground surface rupture due to faulting at the site is considered low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible. With implementation of Design Features/Mitigation Measures GEO-2, GEO-3 and GEO-4, these impacts would be reduced to a less than significant level.

Based on the dense nature of the underlying materials and anticipated depth to groundwater, the site is not subject to liquefaction or seismically induced settlement during a nearby seismic event provided proper drainage of the site is maintained. In addition, the soils underlying the Project site are not considered to be susceptible to seismically-induced lateral spread during a nearby seismic event. The impacts related to faulting and seismicity are discussed in detail in the EIR/EIS Chapter 3.5 and Appendices F and L.

GEO-2: A geotechnical program of ongoing field mapping, drilling, and geophysical surveys and laboratory testing will be established and implemented as the quarry is excavated. This type of site investigation during the mining operation will provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. An annual report discussing the

geotechnical program will be prepared for the Forest Service and the County.

GEO-3: Areas mapped as underlain by landslides shall be further evaluated. Should landslides be found present within the quarry, appropriate mitigating engineering measures shall be employed to stabilize cuts into quarry walls. Such measures may include removal of landslide debris, construction of buttresses, or other stabilization measures. Monitoring of cut slopes by an Engineering Geologist shall also be performed during excavation of the quarry so that further recommendations for slope stabilization can be provided as appropriate.

GEO-4: There is a high potential for ground shaking at the Project during a nearby seismic event, and this would include the proposed quarry and haul road. Engineering measures designed by a geotechnical engineer to mitigate the effects of ground shaking shall be included in slope design and construction.

b) Unstable Slopes

Finding

Based on the entire record, the County finds that impacts from unstable slopes are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEO-2 and GEO-3, above. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the proposed Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

If fill soils are placed without engineering supervision they may be loosely or inadequately compacted, may contain oversize materials unsuitable for reuse in engineered fills, and may contain unsuitable organic materials and debris that may preclude their re-use in engineered fills. Three areas within the proposed South Quarry are underlain by young landslide deposits. Unstable soils in these landslide deposit areas could affect the stability of cut slopes in the quarry, resulting in a potentially significant impact. Design Features/Mitigation Measures GEO-2 and GEO-3 would reduce this impact to a less than significant level.

A site-specific geotechnical study was conducted that determined that the slopes designed for the proposed Project would meet the stability criteria for sliding and earthquakes. Mitigation Measure GEO-2 requires a geotechnical program of ongoing field mapping, drilling, geophysical surveys, and laboratory testing as the quarry is excavated. Therefore, impacts are anticipated to be less than significant. The impacts related to unstable slopes are discussed in detail in the EIR/EIS Chapter 3.5 and Appendices F and L.

c) Soil Erosion

Finding

Based on the entire record, the County finds that impacts from soil erosion are potentially significant but can be mitigated to a less than significant level through Mitigation Measure GEO-1. This mitigation measure is adopted and incorporated into the Mitigation Monitoring and Reporting Program for the Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

GEO-1: Control of surface drainage, erosion, and sedimentation of the proposed haul road and quarry operations will involve the following primary components currently being implemented for existing operations:

a. Limiting surface disturbance to the minimum area required for active operations.

b. Diverting runoff, where operationally feasible, such that runoff from undisturbed areas does not enter the area of active operations.

c. Using ditches, sediment basins, and localized control and maintenance measures to intercept and control runoff along the haul road.

d. Stabilizing disturbance areas through re-grading, revegetation, and other restoration practices.

Facts in Support of the Finding

The site is underlain by metacarbonate rock. Soil erosion could occur during construction and operation of the proposed Project. The potential for soil erosion would be less than significant with the inclusion of Design Feature GEO-1. The impacts related to soil erosion are discussed in detail in the EIR/EIS Chapter 3.5 and Appendices F and L.

4. Hydrology and Water Quality

a) Water Quality and Waste Discharge

Finding

Based on the entire record, the County finds that impacts to water quality from waste discharge are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEN-1(k), above. This mitigation measure is adopted and incorporated into the Mitigation Monitoring and Reporting Program for the proposed Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

The site is at a topographic high and construction of the quarry creates a low area for surface drainage. Water runoff due to rainfall events and snow melt would occur at the site. Offsite runoff from the quarry excavation would not be significant because the proposed Project has been designed to retain runoff within the excavation. Runoff water

collected using BMPs would leave by evaporation or infiltration. As required by Mitigation Measure GEN-1(k), standard erosion control measures would be implemented for all phases of construction and operation. The proposed Project would meet waste discharge requirements as required by Department of Water Resources, California Environmental Protection Agency, NPDES, and San Bernardino County. This includes meeting requirements for surface runoff that can enter into the groundwater by infiltration. In addition, the on-going water quality monitoring program that includes testing of groundwater wells and monitoring wells located within and outside of the operations area of the mine would continue. One of the purposes of the on-going monitoring is to ensure proper treatment of runoff. The proposed Project would meet all waste-discharge requirements from the State Water Resources Control Board and would not violate any water quality standards; a less than significant impact would occur. The impacts related to water quality and waste discharge are discussed in detail in the EIR/EIS Chapter 3.8 and Appendices F and L.

b) Drainage Patterns and Water and Wind Erosion

Finding

Based on the entire record, the County finds that impacts to drainage patterns and from water and wind erosion are potentially significant but can be mitigated to a less than significant level through Mitigation Measures GEN-1(i) through GEN-1(k), above. These mitigation measures are adopted and incorporated into the Mitigation Monitoring and Reporting Program for the proposed Project, and will be implemented as specified therein, thereby reducing this potentially significant impact to less than significant.

Facts in Support of the Finding

The proposed Project's design includes a vegetated earthen berm along the south side of the South Quarry. The vegetated berm would allow up-slope runoff occurring southeast of the proposed Project site to continue the natural flow. Runoff occurring on the southwest side of the proposed Project site would flow naturally into Marble Canyon Creek. Rainfall or snow occurring within the largest area of disturbance, the South Quarry excavation, would be contained within the excavation by design and would leave either by evaporation or infiltrated as groundwater. A vegetated earthen berm would be constructed along the northern edge of the haul road to direct concentrated runoff from the road onto the adjacent descending natural slope. Storm water catch basins would be constructed on the south side of the road to collect the concentrated flow on the roadway and intercept naturally occurring drainage flow. The water would pond in the catch basins and would leave the basins either by evaporation or infiltration. In addition, collection ditches, berms, check dams (placement of erosion control materials, sediment fences, or straw bales) and other appropriate measures would be used to reduce the flow and velocity of runoff. Although the soil thickness in the vicinity of the site is relatively thin, gradual siltation would occur in the catch basins over time. Periodic maintenance would be performed to ensure that the size of the basins and the absorption rates are not affected by siltation. During mining operations water trucks would apply water to the haul road and within the quarry excavation to mitigate dust and wind related erosion. With implementation of Mitigation Measures GEN-1i through GEN-1k, substantial erosion or siltation on- or off-site is not expected, even though the natural drainage pattern of the

site would be changed. Impacts would be less than significant after mitigation. The impacts related to drainage patterns and water and wind erosion are discussed in detail in the EIR/EIS Chapter 3.8 and Appendices F and L.

C. Impacts Not Fully Mitigated to a Level of Less than Significant

1. Biological Resources

a) California Fully Protected Species (Nelson's Bighorn Sheep)

Finding

Based on the entire record, the County finds that impacts to the Cushenbury herd of Nelson's bighorn sheep, a California fully protected species, is potentially significant and can be reduced through mitigation measures. The County finds that Mitigation Measures BHS-1 through BHS-10, below, are adopted into the Mitigation Monitoring and Reporting Program for the proposed Project, and that these mitigation measures will be implemented as specified therein. However, while Mitigation Measures BHS-1 through BHS-10 would reduce impacts to the Cushenbury herd of Nelson's bighorn sheep, impacts would remain significant.

BHS-1: *Foraging Habitat:* When trucks spray water on haul roads to control fugitive dust, some overspray occurs on road berms for a short distance beyond. Those watered areas sometimes support vegetation that bighorn sheep consume. MCC will not make an effort to eliminate the overspray. The Revegetation Plan will focus on using native species that will help enhance bighorn sheep habitat.

BHS-2: *Water Developments:* In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the development of the South Quarry, MCC shall create additional water development(s) after consulting with appropriate agency personnel (Forest Service and CDFW) to select location(s) for additional water development(s). MCC shall ensure that any existing water development(s), as well as any created as part of the Design Features/Mitigation Measures, are maintained in good operating condition for the duration of the project.

BHS-3: *Reporting of Mortality:* MCC shall immediately report any bighorn sheep mortalities, whatever the cause, to the CDFW and Forest Service as soon as possible after the observation. The bighorn sheep carcass shall be covered and left in place until the CDFW or Forest Service biologist can examine it and determine the proper disposal method. In the event that mountain lion predation is occurring at levels that compromise the viability of the population, MCC shall cooperate fully by ensuring access to MCC properties for Forest Service and/or CDFW personnel for the purpose of

determining the predator involved or, in the event that an individual predator has been identified, to remove the predator.

BHS-4: *Monitoring/Adaptive Management:* MCC shall monitor bighorn sheep use in and near their operations and at water sources in and adjacent to their operations. Monitoring shall consist of installation and maintenance of cameras stationed at CDFW- and Forest Service-identified water sources and recording of data from cameras in a database developed by CDFW, as well as collection of observations by MCC employees. The North Slope Bighorn Sheep Management Strategy may identify other monitoring methodologies to be developed over time. An annual monitoring report will be provided to the Forest Service and CDFW.

BHS-5: *Highway Crossing:* Upon obtaining the necessary approvals from Caltrans, MCC shall fund, purchase, and install highway warning signs on State Route 18. MCC shall use best efforts to obtain the Caltrans approvals necessary to install the highway warning signs on State Route 18. The intent of the signs is to avoid vehicle-strike mortality or "take" of bighorn sheep crossing the highway.

BHS-6: *Conservation Strategy:* A Draft North Slope Bighorn Sheep Conservation Strategy will be developed by CDFW and the Forest Service. The management plan will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs. The management plan shall include guidelines/thresholds for population status that would trigger augmentation of the herd; a strategy/guidelines for developing water sources to respond to drought years; and herd monitoring methodology and objectives. MCC will be a partner in the North Slope Bighorn Conservation Strategy and will help support the long-term management goals of maintaining a sustainable population of bighorn sheep on the North Slope, as described in BHS-7.

BHS-7: *Future Conservation and Management:* Within one year after approval of the South Quarry Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC shall begin contributing to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The amount of MCC's contributions shall be determined by CDFW in coordination with MCC prior to final approval of the South Quarry project. The Fund shall be administered by an entity approved by the CDFW and the Forest Service, such as the National Fish and Wildlife Foundation as a sub-account of the California Department of Fish and [Game] Master Mitigation Account. The Fund shall be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep both within the Cushenbury herd and on proximate habitats, occupied or unoccupied, including the Bighorn Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation.

BHS-8: *Employee Awareness Training:* MCC will consult with the CDFW to incorporate bighorn sheep education and awareness into their training for

employees and contractors. Training will include how to minimize impacts to bighorn sheep and include guidelines for driving, operation of heavy equipment, general quarry operation, and blasting in bighorn sheep habitat.

BHS-9: *Trained Mine Employee*: Prior to blasting activities within the Project area, one to two mine employees shall be trained by the CDFW's or the Forest Service's biologist to ensure a minimum skill level in detection of target animals (bighorn sheep, golden eagles, etc.). The trained mine employee(s) shall be responsible for the completion of visual inspections for bighorn sheep and other species specified in GEN-11, within the Project area prior to the commencement of all blasting activities. The trained mine employee(s) shall maintain a logbook detailing the location, date, time, and species observations of each visual inspection for each blasting activity. The logbook will be available upon request by CDFW or Forest Service personnel.

BHS-10: *Work Boot Decontamination.* As part of the worker training required under Design Feature/Mitigation Measure BHS-8 and BHS-9, all quarry workers will be trained on the importance of and procedures for decontaminating boots to prevent transmission of disease from domesticated sheep and goats to bighorn sheep. In addition, all quarry workers who have potential contact with domesticated sheep and/or goats (for example at farms, fairs, etc.) will be identified and shall decontaminate work boots prior to entering the Project area. Decontamination shall involve scrubbing the soles of work boots with a 10-percent bleach solution to remove all organic matter and kill pathogens. Alternatively, footwear may be changed to ensure that potentially contaminated footwear does not enter any quarry area.

Facts in Support of the Finding

Nelson's bighorn sheep is a State of California Fully Protected Species. Nelson's bighorn sheep is also identified by the Forest Service as a local viability concern species and is a SBNF Watchlist species. Nelson's bighorn sheep in the San Bernardino Mountains consist of two separate populations: the larger population (San Gorgonio herd) occurs in the vicinity of Mount San Gorgonio in the San Gorgonio Wilderness; the other population (Cushenbury herd) occurs on the northern edge of the range in desert-facing canyons (e.g., Furnace, Bousic, Arctic, and Marble Canyons), including the analysis area and the proposed Project Area.

Although the proposed Project is not expected to affect the viability of Nelson's bighorn sheep as a species on the SBNF, it may contribute to viability concerns for the Cushenbury herd of Nelson's bighorn sheep. Potential effects to the Cushenbury sheep herd include loss of individuals, loss of habitat, further habitat fragmentation, additional disturbance, increased possibility of displacement, and stress.

The proposed Project would affect approximately 153.6 acres of habitat on the North Slope, some of which is suitable for foraging, resting, moving between use areas, and escape terrain for bighorn sheep. Some of the area, particularly the rugged area at the north margin of the proposed South Quarry is likely to provide lambing habitat; most of

this area would become part of the South Quarry with the proposed Project. The proposed haul road would likely present an impediment to movement for bighorn sheep for much of the haul road length. While some of the existing haul roads do not pose an impediment to movement for bighorn sheep, the proposed haul road is qualitatively different from any existing haul road on the North Slope; the proposed haul road would traverse a steeper slope with taller cut banks for a longer span than any other existing haul road. The vertical cuts of up to 15 feet would effectively block movement by bighorn sheep. The proposed Project would incorporate some haul road crossings. However, the effectiveness of those crossings cannot be predicted. With the proposed Project, the Cushenbury herd's frequently-used habitat would be fragmented by unusable habitat.

Blasting during road construction and associated with pioneering of the previously undisturbed South Quarry site may displace animals to the east or west. Displacement eastward could result in an increased risk of vehicle strike on State Highway 18. The footprint of the South Quarry and haul road is within preferred habitat for the herd. If abandonment of currently used habitat causes reduction in home range size or displacement to lower quality habitat, the effects to the North Slope population could be significant. This is especially important for small, isolated populations such as the Cushenbury herd.

A population of fewer than 15 animals is especially susceptible to the effects of random or uncontrolled disturbances or changes in habitat areas for lambing. Over the life of the proposed Project, it could be determined that the herd will warrant augmentation (introducing additional individuals into the population) to achieve genetic stability of the Cushenbury herd.

If the proposed Project is implemented, concern for the long-term viability for the North Slope occurrence of this species would be addressed through an adaptive management approach in the North Slope Bighorn Sheep Management Plan (Mitigation Measures BHS-6 and BHS-7). Mitigation Measures BHS-1 through BHS-10 would reduce the likelihood of death or injury of bighorn sheep. Mitigation Measures BHS-6 and BHS-7 require MCC participation in and funding for a North Slope Bighorn Sheep Conservation Strategy. The Strategy would include guidance for monitoring and herd augmentation.

The Mitigation Measures BHS-1 through BHS-10 include measures to help reduce the likelihood of collision by mine vehicles or injury/death from blasting. Mitigation Measure BHS-5 also requires installation of signs on State Highway 18 to increase driver awareness and reduce the risk of collisions with wildlife. However, risk of death or injury of individual bighorn sheep over the life of the proposed Project cannot be completely avoided or mitigated. Therefore, both Project-level and cumulative effects to the Cushenbury herd of Nelson's bighorn sheep are expected to remain significant, even after implementation of Mitigation Measures BHS-1 through BHS-10. See Section IV.D below for a discussion of cumulative effects. Impacts related to Nelson's bighorn sheep are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

2. Scenery

Finding

Based on the entire record, the County finds that impacts to scenery resources is potentially significant and can be reduced through mitigation measures. The County finds that Mitigation Measures SCEN-1 through SCEN-14, below, adopted into the Mitigation Monitoring and Reporting Program for the Project, will be implemented as specified therein. However, while Mitigation Measures SCEN-1 through SCEN-14 would reduce impacts to scenery resources, Project-specific impacts would remain significant.

SCEN-1: The haul road shall be designed with minimal fill slopes to reduce the contrast of the lighter-colored fill on the natural slopes and boulder roll-down.

SCEN-2: Approved color-staining product(s) shall be used to darken the access road cuts and visible southern quarry slopes where shown to be successful. Prior to commencement of construction of the access road, MCC shall submit information to the Forest Service summarizing available staining products and whether they are appropriate for application to the South Quarry road cuts and visible quarry slopes, considering color, effectiveness, and durability. If appropriate products are not available at the commencement of construction, MCC shall update the information no less than once every five years thereafter until an appropriate product is identified. MCC may use an alternative method to reduce visual contrast as approved by the Forest Supervisor.

SCEN-3: Adequate erosion control features shall be designed along the haul road to limit erosion downslope.

SCEN-4: Onsite structures shall be painted a color with low contrast and reflectivity.

SCEN-5: A berm shall be constructed along the south rim of the quarry and planted with native vegetation.

SCEN-6: The footprint of the quarry shall be designed to minimize impacts to any streams and riparian habitat to the extent feasible.

SCEN-7: Surface disturbances shall be limited to those areas identified in the Mine Reclamation Plan. Disturbances outside of these areas shall be prohibited.

SCEN-8: The quarry shall be designed to limit views of the quarry site from the east and southeast.

SCEN-9: Upper slopes that may be visible from Lucerne Valley shall be cut or roughened to reduce straight lines and visual impacts as benches are completed (not applicable to Alternative 2 – Partial Implementation).

SCEN-10: The quarry shall be designed to limit views of the lower half of the quarry by not removing the north slope through approximately Phase 3, allowing

reclamation and revegetation (including tree growth) to occur to reduce contrast (not applicable to Alternative 2 – Partial Implementation).

SCEN-11: A 20- to 25-foot high natural perimeter berm (half of a vertical bench height) shall be left in place on the outside ridge of each excavated bench until the interior area of the next lower excavation level is completed to limit views of active mining and equipment from Lucerne Valley (not applicable to Alternative 2 – Partial Implementation).

SCEN-12: Waste rock shall be deposited into waste rock stockpiles within the quarry footprint to reduce the area of disturbance and visual impact outside the quarry rim and to reduce internal slopes and aid in revegetation.

SCEN-13: Reclamation and revegetation shall be implemented per the approved Reclamation Plan on completed benches concurrent with mining.

SCEN-14: MDAQMD dust controls shall be implemented to reduce visible dust plumes.

Facts in Support of the Finding

The proposed Project's impacts to scenery from six key public viewpoints was evaluated. The Project area has an existing scenic integrity level ranging from High to Very High, and a Scenic Integrity Objective (SIO) of High. Direct effects of Alternative 1 – Proposed Action would decrease the scenic integrity to Low during the first 10 years of implementation (Phase 1A) for all views other than Viewpoint 5 along SR-18 from which the Project site is screened throughout the life of the Project and the farthest key viewpoint (Viewpoint 6) located at a distance of 14 miles. From this key viewpoint, the scenic integrity level would drop to Moderate. Between year 10 and year 40 (Phases 1B and 2), Viewpoint 6 would maintain its level of Moderate and scenic integrity as seen from the SBNF would continue to be Low. All other views from the Lucerne Valley would drop to a level of Very Low.

After year 40 (Phase 3), the scenic integrity of the area viewed from within the SBNF along Road 3N02 would revert to Very High, as the active quarry is screened from view by an intervening ridge. However, views from the Lucerne Valley would remain Very Low during Phase 3 and 4 until reclamation at approximately year 120. The exception again is Viewpoint 6, which would remain at a level of Moderate due to its distance from the Project site.

The scenic integrity from the four (4) viewpoints within Lucerne Valley would incrementally decrease during Phases 1 through 3 and then trend higher as concurrent reclamation begins to take hold. Scenic integrity would decrease from an existing level of High to Very Low during Phase 2 through 4, and then gradually increase to a level of Low. In 120 years, after full reclamation, the scenic integrity of the Project area would be at a level consistent with Low. Impacts would be localized, but long term (over 20 years). This would not be consistent with the area's SIO of High. Overall direct effects of implementing the Project would be major and adverse to the site's level of scenic integrity resulting in a potentially significant impact to a scenic vista and the existing visual character of the site and its surroundings.

The proposed Project Area has an SBNF LMP SIO of High and an existing scenic integrity level ranging from High to Very High. SBNF LMP direction is to maintain the landscape as modified to natural appearing because of the site's long cultural history and the local and regional economic impacts associated with mining, particularly mining for high-quality limestone mineral deposits. According to LMP Aesthetic Management Standards S10, temporary drops of more than one SIO level may be made during and immediately following implementation of a project providing they do not exceed three years in duration. With the proposed Project, the SIO level would be reduced by more than one level, from High to Low during the first 10 years of implementation. Therefore, due to this deviation from the LMP Aesthetic Management Standard S10, a project-specific Forest Plan Amendment to the SIO is being considered that would change to SIO for the South Quarry Project Area to Low. The proposed project-specific amendment is shown on Figure 2.3-1 in Section 2.3.2.1 of the EIR/EIS. The proposed SIO for the South Quarry Project Area, defined as the claim boundary, within the Desert Rim Place would be Low. Impacts related to scenery resources are discussed in detail in the EIR/EIS Chapter 3.11 and Appendices K and L.

D. Finding Regarding Cumulative Environmental Impacts

The range of projects to be included in the cumulative analysis encompasses past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those outside of the control of the agency." (State CEQA Guidelines §15130). A cumulative effect is deemed significant if the proposed Project's incremental contribution to a cumulative impact is "considerable." A cumulative impact is not considered significant if the impact can be mitigated to below the level of significance by providing improvements and/or contributing funds through fee-payment programs. The EIR examined "reasonable options for mitigating or avoiding any significant cumulative effects of a Project" (State CEQA Guidelines §15130).

CEQA Guidelines Section 15130 requires identification of related projects, both public and private, that together with the proposed project could have cumulative impacts on the environment. To analyze the cumulative impacts of all Project alternatives, an area of analysis was selected based on the resources that are found within the Project site. The area of analysis encompasses an area with similar resources as the Project site to evaluate how a particular resource would be affected by the collective impacts of the Project alternatives and past, present, and foreseeable actions in the analysis area. The area of analysis that was developed is composed of the San Bernardino National Forest's (SBNF's) Desert Rim Place and the non-urban areas of Lucerne Valley (Figure 3.1-1). Table 3.1-1 in the Final EIR/EIS for the cumulative impacts analysis.

Based on analysis in the Final EIR/EIS, the Project will have significant and unavoidable impacts on only one resource area—cumulative impacts to the Cushenbury heard of Nelsons' Bighorn Sheep. The Project's cumulative impacts in all other resource areas will be less than significant.

1. Air Quality

Finding

Based on the entire record, the County finds that cumulative impacts to air quality are potentially significant, but can be mitigated to a less than significant level through the implementation of Mitigation Measures AIR-1 and AIR-2, as listed in Section IV, above.

Facts Supporting the Finding

The proposed Project would be in compliance with all MDAQMD rules and regulations and with the permit conditions. The mining operation would be in compliance with MDAQMD prohibitory regulations designed to regulate emissions of nonattainment pollutants, including O_3 and particulate matter. The proposed Project would therefore be consistent with the O_3 and PM_{10} Attainment Plans developed by the MDAQMD. The proposed expansion of the Omya Butterfield and Sentinel Quarries would occur approximately five miles from the proposed South Quarry site. The Omya White Knob/White Ridge Limestone Quarries Expansion is approximately nine miles from the proposed South Quarry site. Both of these operations would be subject to the requirements of the MDAQMD for the control of emissions including particulate emissions and O_3 precursors and would be required to be consistent with the MDAQMD's Attainment Plans. The Omya mining operations would use different haul routes and different processing plants than the proposed Project. Furthermore, because the proposed Project does not result in an increase in overall mine throughput, and because the proposed Project's air quality emissions would be below MDAQMD significance thresholds, the proposed Project would not significantly contribute to cumulative air quality impacts.

2. Biological Resources

a) Cumulative Impacts to the Cushenbury Herd of Nelson's Bighorn Sheep

Finding

Based on the entire record, the County finds that cumulative impacts to the Cushenbury herd of Nelson's bighorn sheep, a California fully protected species, is potentially significant and can be reduced through mitigation measures. The County finds that Mitigation Measures BHS-1 through BHS-10, listed in Section IV, are adopted into the Mitigation Monitoring and Reporting Program for the Project, and that these mitigation measures will be implemented as specified therein. However, while Mitigation Measures BHS-1 through BHS-10 would reduce impacts to the Cushenbury herd of Nelson's bighorn sheep, impacts would remain significant. Impacts related to Nelson's bighorn sheep are discussed in detail in the EIR/EIS Chapter 3.3 and Appendices C and L.

b) Cumulative Impacts to All Other Biological Resources

Finding

Based on the entire record, the County finds that cumulative impacts to air quality are potentially significant, but can be mitigated to a less than significant level through the implementation of Mitigation Measures GEN-1 through GEN-15, BHS-1 through BHS-10, BIRD-1 and BIRD-2, RAPTOR-1 through RAPTOR-3, DETO-1 and DETO-2, NNS-1 through NNS-4, PLANT-1 and PLANT-2, and CARB-1 and CARB-1, as listed in Section IV.B.

Facts Supporting the Finding

In general, the continued development of the North Slope is expected to result in fragmentation of habitat, barriers to movement, and loss of habitat. Continued development is also expected to result in further carbonate habitat reserve contributions under the CHMS, and management of these lands for carbonate species and the habitat upon which they depend. These reserve contributions are also expected to be habitat for many general and sensitive species that would be affected by cumulative effects. For the majority of species, the proposed Project is not expected to contribute considerably to a significant cumulative effect. The exception is potential effects to the Cushenbury herd of Nelson's bighorn sheep, which are discussed in Section IV.C, above. Effects to this species would be significant, even after implementation of Mitigation Measures BHS-1 through BHS-10, on a Project level and would also be significant on a cumulative level.

The effects of climate change, discussed above, will likely result in changes to distribution and status of sensitive plant and animal species and vegetation patterns over the landscape of the analysis area. Species for which effects are evaluated in the EIR/EIS may move out of the analysis area, and species that have not been evaluated may move in. Additional fragmentation of habitat and isolation of species may occur early in the development of this alternative. However, it is difficult to predict when, where, and to which species cumulative habitat changes will affect species populations, and to what degree. Plants and associated species (e.g., pollinators) would likely shift to higher elevations over time in response to changing temperature and precipitation patterns, and barriers to dispersal could lead to loss of populations. Plants and pollinators, among other mutualistic interactions, may become decoupled as a result of these shifts. How, when, and to what extent the Project would ultimately contribute to effects to the vegetation and species in light of these concurrent changes is unknown. The Project-level and cumulative analysis describes the effects of habitat loss and fragmentation for the overall landscape and specific species to the extent known. However, it is difficult to predict when, where, and to which species habitat effects will occur. The adaptive management and other requirements of the Mitigation Measures GEN-1 through GEN-15, BHS-1 through BHS-10, BIRD-1 and BIRD-2, RAPTOR-1 through RAPTOR-3, DETO-1 and DETO-2, NNS-1 through NNS-4, PLANT-1 and PLANT-2, and CARB-1 and CARB-1 would avoid or minimize the proposed Project's contribution to cumulative effects to biological resources.

3. Geology, Soils, and Mineral Resources

Finding

Based on the entire record, the County finds that cumulative impacts to geology and soils are potentially significant but can be mitigated to a less than significant level through the

implementation of Mitigation Measures GEO-1 through GEO-3 as listed in Section IV.B, above.

Facts Supporting the Finding

Past mining activities in the area surrounding the proposed Project site have already brought about changes to the geology, soils and mineral resources in the area. In addition to past mining activities, current mining activities occur in the area surrounding the proposed Project site. These activities would continue to alter the geology, soils, and mineral resources in the area. The proposed Project would contribute to the cumulative actions identified above because it would alter the geology, soils and mineral resources in a similar way. It was determined that the effects are less than significant with implementation of Design Features/Mitigation Measures GEO-1 through GEO-4 and are restricted to the proposed Project site.

There are other mining projects within the proposed Project vicinity. While geologic hazards due to seismic shaking and fault rupture are common throughout Southern California, 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 Mine Safety and Health Administration (MSHA) and Occupational Safety and Health Administration (OSHA).Each excavation at each project site is unique; therefore, the potential impacts of mining due to geologic hazards and potential slope instability vary depending on the site. The potential impacts are not cumulative the same way other impacts are, such as air quality or biological resources. For example, the height of a cut slope proposed at one mine may require mitigation to achieve an acceptable factor of safety, but it does not influence the stability of slopes at other locations. The mines in the vicinity of the proposed Project site are spread over large areas, which tend to diffuse impacts due to geologic hazards. Cumulative impacts related to geology, soils, and mineral resources are considered less than significant.

4. Greenhouse Gas Emissions

Finding

Based on the entire record, the County finds that cumulative impacts from greenhouse gas emissions are less than significant.

Facts Supporting the Finding

Global climate change is inherently a cumulative issue, because no single project would be expected to result in a measurable change in global climate. The cumulative nature of global climate change is considered by agencies in adopting significance thresholds and adopted significance thresholds represents levels at which a project is considered cumulatively significant. As discussed in Section IV.A, the proposed Project's GHG emissions for both construction and operations would be below the GHG significance threshold, resulting in a less than significant impact. Additionally, the proposed Project would not conflict with the County's Greenhouse Gas Emissions Reduction Plan.

Therefore, the proposed Project would not significantly contribute to cumulative GHG impacts.

5. Hazards and Hazardous Materials

Finding

Based on the entire record, the County finds that cumulative impacts regarding hazards and hazardous materials are less than significant.

Facts Supporting the Finding

The cumulative projects considered include alternative energy, limestone mining, communication and electrical infrastructure, hazardous fuels reduction, and residential and commercial development projects. All of these projects would be subject to the federal, state, and local laws, regulations and standards and would not produce or emit hazardous substances or waste and are not expected to cumulatively create a significant hazard to the public or the environment through routine transportation or risk of upset related to hazardous materials or waste generated by these projects. The proposed Project is not anticipated to create a significant hazard to the public or the environment through routine transportation or risk of upset or accident of hazardous waste or materials. There would be no existing hazardous waste sites that would be disturbed by the proposed Project. The proposed Project's contribution to hazards to the public or environment related to hazardous materials or wastes is not anticipated to be cumulatively considerable.

The Project is in compliance with the requirements of the FS1 overlay, and other projects would also be required to comply with the FS overlay, as applicable. Additionally, two of the projects anticipated are fuels reduction projects designed to reduce wildland fire impacts in the region. The proposed Project would comply with the applicable FS1 overlay development requirements and would not contribute to or be affected by surrounding wildfire fuel loads and would not create a significant wildland fire risk to people or structures. The proposed Project's contribution to wildland fire risk is not anticipated to be cumulatively considerable.

Other mining projects in the region would include blasting, which involves handling hazardous explosives during the blasting process, and potentially storing the hazardous explosives on the site. Cumulative impacts from blasting operations would be less than significant, because blasting activities, including handling explosives, placement of charges, detonation of charges, and transporting and storing explosives and detonators, are heavily regulated by the BATF&E, State and County. While the proposed Project would require two blasts per week, blasts would be reduced from existing mining operations, and overall current levels of blasting would remain the same. Therefore, the proposed Project would not contribute to cumulative impacts to public health and safety from potential blasting hazards.

6. Hydrology and Water Quality

Finding

Based on the entire record, the County finds that cumulative impacts regarding hydrology and water quality are potentially significant, but can be mitigated to a less than significant level through the implementation of Mitigation Measures GEN-1(i) through GEN-1(k) as listed in Section IV.B.

Facts Supporting the Finding

The proposed Project incorporates the use of BMPs that would ensure that erosion, siltation, and flooding impacts remain local to the proposed Project site and less than significant. MCC has been assigned a variable FPA of 1,116 acre-feet. Water use is expected to increase 58.6 acre-feet/year with the proposed Project. Combined with the water demand for the West Pit, the cumulative increase in water demand would be 101.3 af/yr. This increase in demand for groundwater is not expected to exceed the allotted FPA. The FPA for each user in the basin is calculated by the Watermaster to avoid cumulative significant impacts to the availability of groundwater in the basin. Therefore, the proposed Project's contribution to cumulative hydrology and water quality impacts is anticipated to be minor and not considerable.

7. Noise and Vibration

Finding

Based on the entire record, the County finds that cumulative impacts from noise and vibration are less than significant.

Facts Supporting the Finding

Noise impacts from mining operations would shift in a southerly direction with the proposed Project. Because the closest sensitive receptors are to the north, the noise levels at the nearby sensitive receptors would decrease by 1 to 2.5 dBA. There would be a beneficial impact or no impact to the nearby sensitive receptors from the proposed Project. The other reasonably foreseeable future actions include four other mining projects, energy projects, fuel reduction projects, and a variety of other development. Because the proposed Project would result in no impact or a reduction in noise and vibration at sensitive receptors, the contribution from the proposed Project would not be cumulatively considerable and, when added to the noise generated by other projects, would not result in a significant cumulative impact.

8. Recreation

Finding

Based on the entire record, the County finds that cumulative impacts to recreation are less than significant.

Facts Supporting the Finding

The cumulative effects analysis includes a land area encompassing the whole of the Desert Rim Place. The area of cumulative effects analysis was bounded in this manner to ensure that the intended diversity of ROS recreation settings within the Desert Rim Place is maintained.

The Desert Rim Place consists of 30,666 acres managed for dispersed recreation, of which 17,517 acres are classified as semi-primitive/non-motorized. The proposed Project would remove 154 acres from public access. Past, present, and reasonably foreseeable future actions include the nearby Omya Butterfield 3 Quarry expansion project, which is expected to remove an additional 28.8 acres, bringing the cumulative total to 182.8 acres of semi-primitive/non-motorized land from public access within the Desert Rim Place. This amounts to a total one-percent reduction in land designated with a ROS class of semi-primitive/non-motorized from within the Desert Rim Place. Ninety-nine percent of the area would continue to contain natural-appearing recreation settings with low levels of traffic, few social encounters and visitor impacts, and minimal site management. Industrial intrusions such as sights and sounds of mining activity may continue to intermittently reduce the area's naturalness, solitude, and feeling of remoteness. However, these recreation conditions would continue to be consistent with the Recreational Opportunity Setting thresholds as established by the LMP, resulting in a neutral overall effect on the recreation setting.

9. Scenery

Finding

Based on the entire record, the County finds that cumulative impacts to scenery are less than significant.

Facts Supporting the Finding

The cumulative effects analysis for scenery includes a land area encompassing the north slope of the San Bernardino Mountains as seen from the key viewpoints in Lucerne Valley. There are approximately 16,000 acres of viewshed within the area of cumulative effects analysis. The proposed Project would affect approximately 153.6 acres (less than 1 percent) by introducing landscape disturbances caused from active limestone mining, including changes to the form, texture and color of the valued landscape character. Past and present actions affect approximately 1,600 additional acres, bringing the total cumulative visual impacts to 1,754 acres.

Most of the mining operations along the north face of the San Bernardino Mountains are active and are permitted for many decades. Concurrent reclamation in the form of revegetation, covering of exposed areas with darker material, erosion control, and rock staining is required of most mining operations as a specific phase or area is completed. Despite these requirements, existing and permitted mining on the north face of the San Bernardino Mountains has resulted in extensive surface disturbances that are visible from Lucerne Valley. The valued scenery appears heavily altered due to the combination of the landscape's contiguous texture, the sloping topography, and the light color of the limestone soil – all of which highlight disturbances in the landscape. Therefore, the existing scenic integrity is congruent with a level of Very Low, trending away from the SIO of High and towards No Integrity.

The proposed Project would have an adverse effect on the valued landscape character by incrementally adding to the cumulative existing scenic impacts. However, the proposed Project Area comprises a very small area relative to the large scale of the landscape

being viewed. After implementation of Mitigation Measure SCEN-2, the scenic integrity levels are expected to remain unchanged by cumulative effects, as the additional South Quarry site would comprise less than one percent of the area of analysis. Direct effects may lower the scenic integrity of the proposed Project site, but cumulatively, this would have a minor to neutral effect on the overall scenic integrity of the area.

E. Growth-Inducing Impacts

Finding

Based on the entire record, the County finds that the proposed Project would not directly or indirectly induce population growth. Therefore, no growth-inducing impacts would occur.

Facts Supporting the Finding

CEQA requires a consideration of a project's capacity to induce growth. CEQA Section 15126.2(d), *Growth Inducing Impacts of the Proposed Project*, discusses the ways in which a project could foster economic or population growth, or induce additional housing, either directly or indirectly in the surrounding environment.

Growth inducement would occur if the amount of population or employment growth projected to occur as a result of the proposed Project would exceed planned levels. Increased development and growth in an area depend on a variety of factors, including employment and other opportunities, availability of developable land, and availability of infrastructure, water, and power resources. The proposed Project would not generate long-term population growth in the community or change area demographics. The proposed Project involves the construction and operation of a use that is consistent with existing land use designations. With the proposed Project, approximately eleven employees would be assigned to the South Quarry. Eight of those employees would be transferred from existing operations and three new employees would be required. The proposed Project would not increase MCC's overall ore production or increase the production of cement at the existing Cushenbury Cement Plant. None of the proposed Project's activities would induce or assist future development and/or mining operations in the area. The only roadway proposed as part of the proposed Project would service only the South Quarry, and the public would not have access to this road. The new haul road would not connect to public roadways, nor would it be available for use by other individuals or entities. No aspect of the proposed Project might be considered as public infrastructure. Therefore, neither alternative would involve major employment opportunities that could result in direct population growth or demand for additional housing.

F. Significant Irreversible Environmental Changes

a) Significant Environmental Effects to the Cushenbury Herd of Nelson's Bighorn Sheep and Scenery Resources

Finding

Based on the entire record, the County finds that the proposed Project would cause both Project-level and cumulative significant irreversible environmental changes to the Cushenbury herd of Nelson's bighorn sheep and Project-level significant irreversible environmental changes to scenery resources.

Facts Supporting the Finding

Although mitigation measures will be implemented that will reduce impacts to the extent possible, Project-level and cumulative effects to the Cushenbury herd of Nelson's bighorn sheep and Project-level effects to Scenery Resources, which are detailed in the EIR/EIS Chapters 3.3 and 3.11 will remain significant and irreversible.

b) Removal of Mineral Resources on the Project Site

Finding

Based on the entire record, the County finds that the proposed Project would permanently remove 156 million tons of limestone ore from the South Quarry site.

Facts Supporting the Finding

With the proposed Project, the South Quarry would be mined at an average production rate of 1.3 MTPY of ore and would operate for 120 years, ultimately excavating approximately 156 million tons of ore. The loss of availability of a known mineral resource is based on the State's interest in ensuring that important mineral resource deposit areas not be lost to the development of incompatible land uses. The California Department of Conservation Division of Mines and Geology has classified the proposed Project Area as MRZ-3a, an area of mineral resources of statewide or regional significance, for limestone deposits. The SBNF Land Management Plan allows development of mineral resources under a Plan of Operations, which is processed under the authority of the Forest Service mining regulations (36 CFR 228.A) to avoid or minimize impacts to the environment. Although the proposed Project would permanently remove 156 million tons of limestone from the South Quarry site, development of this resource is consistent with the policies of the SBNF, SMARA, and the County.

c) Relinquishment of Mining Claims

Finding

Based on the entire record, the County finds that the proposed Project would convey conservation easements and relinquish unpatented mining claims on more than 540 acres, making these properties unavailable for mining.

Facts Supporting the Finding

As part of the proposed Project, MCC would convey conservation easements and relinquish unpatented mining claims on over 540 acres to compensate for potential impacts to carbonate plant species. These compensation lands also contain unknown limestone reserves, some of which are also classified as MRZ-3a, which would be withdrawn from public use and would be unavailable for future mineral extraction. The withdrawal of these mining claims is consistent with the requirements of the SBNF Land

Management Plan and the Carbonate Habitat Management Strategy, which allows use of the withdrawal of mining claims and other land acquisition strategies to increase the carbonate plant habitat reserve while allowing for future mining in other areas. The loss of these lands is unlikely to affect the regional or statewide availability of limestone.

G. Alternatives

1. Project Objectives

In accordance with Section 15124 of the State CEQA Guidelines, an EIR must present a statement of objectives sought by the proposed project. A description of the project's objectives defines the project's intent and facilitates the formation of project alternatives. The following objectives for the proposed Project in the Plan of Operations and Reclamation Plan were identified:

- To develop a high-grade limestone resource to blend with the existing East and approved West Pits' limestone to supply the required feed specifications for the adjacent existing Cushenbury Cement Plant for an extended period;
- To supply cement for construction and other uses in an efficient and environmentally sound manner;
- To continue to realize the economic value from the investment made in the existing Cushenbury mine and cement plant and the limestone resource at the proposed Project site;
- To avoid logistical and environmental costs associated with non-contiguous operations;
- To meet the Forest Service regulations to cause no undue and unnecessary degradation;
- To meet the State and County Surface Mining and Reclamation Act (SMARA) requirements;
- To be consistent with the intent of the SBNF's CHMS in order to provide long-term protection for the rare carbonate endemic plants through contribution of lands to the Carbonate Habitat Reserve;
- To minimize impacts to rare plants and wildlife, such as the Cushenbury herd of Nelson's bighorn sheep, through quarry design and offsite mitigation;
- To reclaim the site for post-mining uses, which will include open space and wildlife habitat;
- To contour mining features and revegetate disturbed areas to minimize aesthetic and erosion impacts; and
- To reclaim and maintain the site as necessary to eliminate hazards to public safety.

2. Alternatives Considered and Rejected

Finding

The County finds, on the basis of the entire record, that eight alternatives were considered and rejected on the basis that they are infeasible, do not meet proposed Project objectives, would not reduce or eliminate the significant impacts identified for the proposed Project, and/or would have additional or more severe environmental impacts when compared to the proposed Project.

Facts Supporting the Finding

Public comments received during the scoping period provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives may have been outside the scope of the South Quarry project, duplicative of the alternatives considered in detail, or determined to be components that would cause unnecessary environmental harm. Eight alternatives were considered but dismissed from detailed consideration for reasons detailed in the EIR/EIS Section 2.6 and summarized below.

a) Alternative Design

This alternative would continue mining south from the East Pit to reach the high-grade ore in the South Quarry area. Ore would be hauled on roads within the quarry footprint as the quarry is expanded southward. Even though the new haul road would not be constructed and Phases 1A and 1B would not be mined, the overall footprint of the mine would be increased. Impacts related to ground disturbance and removal of public access to the property (such as air emissions, impacts to biological resources from removal of vegetation, erosion impacts, recreation impacts, etc.) would all be greater than with either action alternative. With this alternative, the ridgeline between the East Pit and the South Quarry area would be removed, and there would be a greater visual impact from viewpoints in the Lucerne Valley. Impacts to other environmental resources would be similar to those resulting from the proposed Project. Therefore, this alternative design was not selected for detailed environmental review.

b) Alternative Mining Methods

Alternative mining methods for transporting ore to the cement plant were considered to reduce the footprint of disturbance at the South Quarry site. These alternative mining methods included: 1) the use of a conveyor to move rock down to the cement plant instead of using haul trucks, and 2) the use of the shaft and tunnel mining method, where most of the excavation would take place under the ground, minimizing disturbance at the surface. With these methods, there would still be a surface mine with the same surface area disturbance if the conveyor or shaft and tunnel methods were used and, instead of the haul road, only a small access road for workers and equipment would be constructed. Portions of the haul road would not be needed, and impacts associated with constructing the haul road would be avoided. No haul trucks would be required to move rock to the cement plant, and air emissions impacts associated with these vehicles would be avoided. However, haul trucks would still be needed within the South Quarry to transport rock to the alternative transport method (e.g., conveyor, shaft); therefore, air emissions from haul trucks would not be completely eliminated. These alternative mining methods were rejected because site conditions make them infeasible to implement. The conveyor

would require a primary crusher in the quarry at the conveyor and associated power lines and cables. The very steep terrain at the site would make the installation and maintenance of such a system infeasible. The shaft and tunnel mining method was rejected because the limestone at the project site does not have sufficient strength/integrity to safely implement this method.

c) Alternative Haul Road Routes

Two alternative haul road routes were considered and rejected because they would be infeasible and would not reduce environmental impacts. In some cases, environmental effects would be more severe.

(1) East Side Haul Road Route

A haul road route on the east side of the proposed South Quarry was evaluated. The terrain in this location is steeper than the haul road proposed for the proposed Project, resulting in a longer road with more switchbacks. Construction of such a long road in steep terrain would substantially increase ground-disturbing impacts. These more severe effects include greater air emissions during both construction and operation. The longer road would also be in an area that would be more visible to the Lucerne Valley community, resulting in more severe effects to scenery resources. Impacts to biological resources from habitat removal, noise, and roadway conflicts would also be increased. This alternative haul road route was rejected because it would result in more severe environmental effects than the alternatives that were selected for evaluation.

(2) Marble Canyon Haul Road Route

A second alternative haul road route that would access the South Quarry from the west, through Marble Canyon, was evaluated. Although the route would be longer, because a portion of this route would be within the canyon, it was initially thought that it would have a less severe impact to scenery resources. With additional analysis, it was determined that, while scenery impact would be slightly reduced, significant adverse effects to viewpoints in Lucerne Valley would remain until reclamation is fully implemented. This alternative would have more severe effects to air quality and biological resources. Additionally, construction of the 2H:1V slopes required for slope stability would be infeasible in the steep terrain and limited space available in Marble Canyon. Therefore, this alternative was not examined further in the EIR/EIS.

d) Alternative Reclamation Methods

Alternative reclamation methods, including an alternative bench construction method and phasing the mining based on achieving reclamation goals, were considered. An alternative bench construction method, such as microbenching, was rejected because this type of construction would require a larger mine footprint to result in the same amount of ore. This method also depends on thick vegetative cover to cover the microbenching and would not work well in the sparser habitat at the proposed Project site; therefore, this method would not significantly reduce scenery effects. Additionally, the reclamation plans for all of the alternatives include sculpting of upper visible benches for shadowing to reduce scenery effects.

e) Congressional Withdrawal Instead of Administrative Withdrawal

The proposed Project includes a mineral withdrawal of National Forest System lands from mineral location and entry under the General Mining Laws of the U.S., subject to valid existing rights, and achieving the requirement to maintain and conserve habitat for four listed threatened and endangered plant species. An alternative was considered to withdraw the land for conservation of biological resources using a Congressional withdrawal instead of an administrative withdrawal. This alternative was rejected because there is no procedural mechanism for getting Congress to act on a withdrawal in this instance.

f) Full Restoration Alternative

A Full Restoration Alternative was considered that would include filling in the mine with rock to re-create the pre-project condition. This type of alternative would not be feasible with this type of mining because limestone mining for cement production, particularly at the South Quarry location, has very little overburden/waste rock. Therefore, this alternative would require purchasing rock from other areas to have sufficient rock to completely backfill the South Quarry. This alternative would result in a greater environmental impact, because there would be environmental effects at the off-site location in addition to the environmental effects at the proposed Project site.

g) Off-Site Alternative

Three off-site alternatives for high grade limestone in the region were evaluated in Alternative 2 – Partial Implementation and Alternative 3 – No Action/No Project (described further below), two in southern California and one in Nevada (see Figures 2.3-12 through 2.3-15 and Table 2.3-A in Section 2.4). Additional off-site alternative locations would have similar environmental effects from increased vehicle trips and associated air quality and greenhouse gas emissions. Therefore, additional alternative high-grade limestone resources beyond the three analyzed for Alternative 2 – Partial Implementation and Alternative 3 – No Action/No Project were not carried forward for detailed analysis.

A scenario under which MCC would acquire the necessary high-grade limestone from the existing mines in the Desert Rim Place (mines operated by Specialty Minerals, Inc. [SMI] and Omya) was also not selected for evaluation. These mines are located closer to the proposed South Quarry site and the existing Cushenbury Cement Plant and would have fewer impacts related to truck trips than Alternative 2 – Partial Implementation or Alternative 3 – No Action/No Project. However, given the shared geology, topography, and meteorology, similar habitat, sensitive receptors, and environmental setting of those existing mining operations as compared to those of the South Quarry site, the potential environmental impacts of further developing the adjacent SMI and Omya limestone resources would largely be the same as the impacts resulting from the proposed Project, for all of the environmental resource areas except traffic, air quality, greenhouse gases, and noise. Impacts to traffic, air quality, greenhouse gases, and noise would be greater than with the proposed Project. Therefore, these sites would not “avoid or substantially

lessen any of the significant effects of the project" (CEQA Guidelines Section 15126.6). For those reasons, further analysis of the potential impacts related to the potential development of high-grade limestone resources from existing mines in the Desert Rim Place was not pursued.

3. Alternatives Selected for Analysis

a) Alternative 2 – Partial Implementation

Finding

Based on the entire record, the County finds that Alternative 2- Partial Implementation would not avoid the significant, unavoidable impacts to the Cushenbury herd of Nelson's bighorn sheep. Impacts to scenery resources would be slightly less severe but would remain significant and unmitigable. Impacts to other biological resources, geology and soils, and hydrology and water quality would be reduced from the proposed Project but would still require mitigation. Impacts to cultural/heritage resources, mineral resources, hazards and hazardous materials, and recreation would be reduced from those resulting from the proposed Project and would also be less than significant and would not require mitigation. Impacts to air quality, noise, and greenhouse gases would be greater than those resulting from the proposed Project. This alternative is feasible from an engineering perspective and would meet most proposed Project objectives. However, the alternative would not avoid the significant, unmitigable impact to the Cushenbury herd of Nelson's bighorn sheep and scenery resources and would increase impacts from air quality, noise and greenhouse gases. Therefore, the County finds that Alternative 2 – Partial Implementation is less desirable than the proposed Project, and rejects Alternative 2 – Partial Implementation.

Facts Supporting the Finding

Description. This alternative was developed in response to public comments requesting an alternative with a shorter duration and/or smaller footprint. Alternative 2 – Partial Implementation, would only implement Phases 1A, 1B, and 2 of the Plan of Operations (see Figure 2.3-11 in the EIR/EIS). The sequence of mining in these phases would be the same as the proposed Project. This alternative was developed in response to public comments requesting an alternative with a shorter duration and/or smaller footprint. Mining of the north slope, which is proposed in Phases 3 and 4 of the proposed Project, would not occur; therefore, the footprint of the quarry would be approximately 20 acres smaller. With this alternative, the final quarry would also not be as deep as with the proposed Project. Mining in the quarry would last 40 years rather than 120 years. As with the proposed Project, reclamation activities would be initiated as mining is completed in each part of the quarry. Reclamation of Phases 1A, 1B, and 2 is expected to occur on the same schedule as the proposed Project; however, final reclamation activities for the South Quarry would be concluded in year 46, unless a separate extension for further mining activities, including associated NEPA documentation, was sought and approved after year 40.

With this alternative, the higher-grade limestone would still be required for cement plant operations. This limestone would be obtained from elsewhere in the region and trucked

to the cement plant after Phase 2 is completed (approximately year 41 through year 120). Three alternative sites for high grade limestone have been identified, two in California and one in Nevada.

Environmental Analysis

Air Quality. Daily operations at the quarry would be the same as for the proposed Project, until mining ceased in year 40. Therefore, the air quality impacts of mining at the South Quarry until year 40 would also be below all CEQA significance thresholds. Design Features/Mitigation Measures AIR-1 and AIR-2 would still be required to reduce air emissions from haul truck operations. With this alternative, the existing Cushenbury Cement Plant would continue to operate after year 40. Higher grade limestone would be trucked to the plant from elsewhere in the region from year 41 to year 120. Approximately 52,000 haul truck trips per year would be required, assuming import of 1.3 million tons per year of high-grade limestone using 25-ton on-road trucks (approximately 150 truck trips per day assuming deliveries 350 days per year). Three alternative sites for high-grade limestone have been identified: Omya Amboy (approximately 128 miles away), Big Maria Mountains (approximately 173 miles away), and Moapa (approximately 248 miles away). For Alternative 2, these emissions would commence at the conclusion of Phase 2, approximately 41 years after Project approval. Air emissions would be greater than those resulting from the proposed Project but would still be below emissions thresholds with the exception of the Big Maria Mountains high-grade limestone source. Both daily and annual PM_{10} and $PM_{2.5}$ emissions from trucking from Big Maria Mountains would be above thresholds and would be significant (EIR/EIS, Appendix B-2).

For all three potential sources, emissions of PM_{10} would be below the federal *de minimis* threshold of 100 tons per year, and emissions of O_3 precursors (NOx and VOCs) would be below the federal *de minimis* thresholds of 25 tons per year for those pollutants. Therefore, Alternative 2 – Partial Implementation would not be required to prepare a Conformity Determination and no further analysis is required.

With respect to Class I Area analysis, before year 40, mining would occur at the South Quarry location and impacts would be the same as described for Alternative 1 – Proposed Action. After year 40, offsite mines would be used for high-grade limestone. Each of the three potential off-site quarry locations is more than 50 kilometers from any Class I area and is subject to the 2010 FLAG guidance initial screening. The initial screening of tons of PM_{10} /distance to Class I area for all three areas is less than the FLAG guidance threshold of 10 and shows that no further analysis is required for the offsite quarry locations. No impact to Class I areas from mining at offsite locations would occur (EIR/EIS Appendix B-3).

For roadway segments that are more than 50 kilometers from the offsite quarry locations, the screening method indicates that no further analysis is required. However, there are roadway segments for all three offsite quarries that are within 50 kilometers of a Class I area; the closest one is Joshua Tree National Park, which is along the route from the Big Maria quarry. This road segment was analyzed for a worst-case representation of potential impacts to Class I areas from truck traffic on all routes. The analysis (EIR/EIS Appendix B-3) concluded that there were no visual, O_3, or acid deposition impacts from

the roadway segment nearest Joshua Tree National Park; therefore, impacts to Class I areas at further distances would also not have these impacts.

With respect to the Health Risk Assessment, the potential for mining to expose sensitive receptors to substantial pollutant concentrations through year 40 would be the same as discussed for Alternative 1 – Proposed Action. After year 40, high-grade limestone would be mined from offsite sources and trucked to the Cushenbury cement plant. The potential for mining at the alternative sites after year 40 to expose sensitive receptors to substantial pollutant concentrations was evaluated. The modeling showed that cancer risk, non-cancer chronic hazard, and acute hazard would be less than significant for mining at all three sites (EIR/EIS, Appendix B-3). For potential impacts near roadways from trucking, a representative roadway segment along the route from the Big Maria quarry near Joshua Tree National Park was selected. Health risk assessment calculations were modeled to be below applicable risk threshold. Less than significant impacts are anticipated (EIR/EIS, Appendix B-3).

Biological Resources. With Alternative 2 – Partial Implementation, mining would occur for 40 years plus the reclamation period. As such, mining effects would have a shorter duration, and reclamation would be completed sooner, than for the proposed Project. Additionally, Alternative 2 – Partial Implementation would disturb 20 fewer acres (133.6 acres) than the proposed Project (153.6 acres). Alternative 2 – Partial Implementation would result in permanent direct effects of approximately 64 acres of pinyon/juniper woodlands, 52 acres of desert scrub, 13 acres of mixed chaparral, and less than 1 acre of mixed hardwood-conifer forest. With the implementation of the same mitigation measures listed for the proposed Project, effects are expected to be less than significant with the exception of direct, indirect, and cumulative effects to the Cushenbury herd of Nelson's bighorn sheep. As with the proposed Project, even after implementation of design features/mitigation measures, effects to the Cushenbury herd would remain significant.

With this Alternative, higher-grade limestone would be trucked from elsewhere in the region for the remaining life of the East and West Pits (approximately 80 years). Three alternative off-site locations have been identified, one in Nevada and two in California. Approximately 52,000 on-road truck trips per year (150 truck trips per day) would be required from year 41 to year 120. Effects to biological resources could also occur at the alternate sites, the severity of which would depend on the exact location of the resource. However, these sites are existing sites with permitted and approved mining operations that considered effects to biological resources and have associated best management practices and reclamation requirements specific to those mines. With this alternative, truck traffic on local roads and State Highway 18 may increase, potentially resulting in greater risk to wildlife, such as desert tortoise and bighorn sheep.

Cultural/Heritage Resources. Three cultural resources were recorded within the proposed Project Area: an electrical transmission line (P36-020876), the Mohawk Mine (P36-020877), and Forest Service Road 3N04 (P36-020878). Eight of 14 pole stumps from the electrical transmission line are located within the quarry plan of the Partial Implementation APE. All eight of these pole stumps would be destroyed with Alternative 2 – Partial Implementation. The remaining six pole stumps, Mohawk Mine, and Forest Service Road 3N04 and would not be affected by the Alternative 2 – Partial

Implementation. None of the three resources identified in the proposed Project Area are historic properties (eligible for the NRHP) or historical resources (eligible for the CRHR). Therefore, Alternative 2 – Partial Implementation would not cause any adverse direct or indirect effects to historic properties under NEPA, and no impact to historical resources would occur under CEQA. Two sites in California and one site in Nevada have been identified as potential off-site sources of high-grade limestone. However, these sites are existing sites with permitted and approved mining operations that considered effects to cultural resources and have associated best management practices and reclamation requirements specific to those mines.

Geology/Soils/Mineral Resources. Direct and indirect impacts to geology, soils, and mineral resources from Alternative 2 – Partial Implementation would be similar to the effects that would result from the implementation of the proposed Project although they would occur over a smaller area. The geology, soils and mineral resource impacts of Alternative 2 would also be less than significant with implementation of Design Features/Mitigation Measures GEO-1 through GEO-4. Two sites in California and one site in Nevada have been identified as potential off-site sources of high-grade limestone. The effects of using limestone from an off-site location after Phase 2 (year 41 to 120) would occur outside the area of analysis and would have a neutral effect on geology, soils and mineral resources on the site. Effects of mining limestone at an offsite location would be subject to the same regulations as at the proposed Project site and would be expected to be less than significant.

Greenhouse Gases. Due to the smaller footprint and shorter operating time period, direct and indirect GHG emissions from construction and operation of the South Quarry with Alternative 2 – Partial Implementation would be less than from the proposed Project and would be below the 10,000 MT/year of CO_2e emissions threshold. Therefore, Alternative 2 – Partial Implementation GHG emissions would not conflict with the County's *Greenhouse Gas Emissions Reduction Plan*. Impacts would be less than significant.

However, with this alternative, the existing Cushenbury Cement Plant would continue to operate after year 40. Higher grade limestone would be trucked to the plant from elsewhere in the region from year 41 to year 120. Approximately 52,000 on-road truck trips per year (150 truck trips per day) would be required. Such transport would increase vehicle trips on public roadways; thereby resulting in GHG emissions related to truck traffic that would be greater than Alternative 1 – Proposed Action after year 40. GHG emissions would range from 18,215 to 35,292 MT CO_2e per year depending on the offsite location selected. Emissions for all locations would be above the 10,000 MT CO_2e threshold and would be significant (EIR/EIS, Appendix B-2).

Hazards and Hazardous Materials. Direct and indirect effects from hazards and hazardous materials with Alternative 2 – Partial Implementation would be similar to those of the proposed Project for the first 40 years, and would be less than significant. The effects of trucking limestone from an off-site location after year 40 would also be less than significant, as blasting (if required) and maintenance and fueling of equipment at the off-site location would also be subject to all federal, state, and local environmental regulations.

Hydrology and Water Quality. With this alternative, impacts to hydrology and water quality would be similar to the proposed Project but would end earlier (after year 40). With Alternative 2 – Partial Implementation, a higher-grade limestone would still be required for blending at the existing Cushenbury Cement Plant and would be trucked to the plant after Phase 2 is completed, from approximately year 40 through year 120. The effects of trucking in limestone after Phase 2 (years 40 to 120) would occur outside the area of analysis and are expected to have a neutral or less significant effect on the hydrology setting.

Noise. With this alternative, mining in the South Quarry would last 40 years rather than 120 years. Noise and vibration impacts related to mining would be the same as with the proposed Project but would end after year 40. With this alternative, a higher-grade limestone would still be required for blending at the existing Cushenbury Cement Plant and would be trucked to the plant after Phase 2 is completed, from approximately year 40 through year 120.

Recreation. Direct and indirect effects of this alternative on the recreation setting would be similar to those of the proposed Project, but would be shorter in duration and would also be less than significant. Two sites in California and one site in Nevada have been identified as potential off-site sources for high-grade limestone. The effects of trucking in limestone after Phase 2 (years 40 to 120) would have a neutral effect on the recreation setting.

Scenery. Alternative 2 – Partial Implementation would cause the SIO level to be reduced by more than one level, from High to Low during the first 10 years of implementation and a Forest Plan Amendment to the SIO would also be needed. The proposed amendment would be the same as described for Alternative 1 – Proposed Action and would change the SIO for the proposed Project Area to Low, resulting in a significant, unavoidable impact.

There are no state scenic highways in the vicinity of Alternative 2 – Partial Implementation; therefore, no impacts to scenic resources within a state scenic highway would occur.

There would be minor to neutral indirect effects to the future landscape character as viewed from SBNF lands or from the Lucerne Valley with implementation of the MDAQMD rules and regulations that would minimize the creation of visible dust from the mining operation. Alternative 2 – Partial Implementation would not include the installation of additional lighting from what currently exist at the existing cement plant; therefore, light or glare impacts would not occur.

Two sites in California and one site in Nevada have been identified as potential off-site sources for high-grade limestone. However, these sites are existing sites with permitted and approved mining operations that considered effects to scenic resources and have associated best management practices and reclamation requirements specific to those mines.

b) Alternative 3 – No Action/No Project

Finding

Based on the entire record, the County finds that Alternative 3 – No Action/No Project would eliminate many of the on-site project-specific and cumulative impacts analyzed in the EIR. However, the County finds that this alternative would not meet any of the proposed Project objectives and would result in environmental impacts related to hauling high grade limestone from off-site sources. Therefore, the County finds that Alternative 3 – No Action/No Project is less desirable than the proposed Project and rejects Alternative 3 – No Action/No Project.

Facts Supporting the Finding

Description

With Alternative 3 – No Action/No Project, MCC would not develop the limestone deposit in the South Quarry under the current Plan of Operations. However, the existing Cushenbury Cement Plant would continue to operate. The ore reserves in the West Pit, when blended with high grade ore, are sufficient to feed the cement plant for approximately 120 years. Therefore, it is assumed that higher-grade limestone for blending would be trucked to the plant from elsewhere in the region during that 120-year period. Trucks would likely access the cement plant using local roads through Lucerne Valley. Approximately 52,000 haul truck trips per year would be required, assuming import of 1.3 million tons per year of high-grade limestone using 25-ton on-road trucks (approximately 150 truck trips per day assuming deliveries 350 days per year). The number of off-site, on road haul truck trips would be much greater for Alternative 3 – No Action than the number of on-site off-road haul truck trips required for mining the South Quarry with Alternative 1 – Proposed Action. On-road haul trucks are much smaller than on-site, off-road haul trucks, and a greater number of trucks would be required to haul limestone from an off-site source. Two sites in California and one site in Nevada have been identified as potential off-site sources of high-grade limestone.

Environmental Analysis

Air Quality. With Alternative 3 – No Action/No Project, MCC would not develop the limestone deposit in the South Quarry under the current Plan of Operations. With this alternative, the direct and indirect air quality impacts associated with the proposed Project would not occur. However, the existing Cushenbury Cement Plant would continue to operate. Higher grade limestone would be trucked to the plant from elsewhere in the region. Such transport would increase vehicle trips on public roadways; thereby resulting in traffic and air quality impacts related to truck traffic that would be greater than the proposed Project. Therefore, emissions would be greater than mining in the South Quarry but would still be below emissions thresholds with the exception of the Big Maria Mountains high-grade limestone source. Both daily and annual PM_{10} and $PM_{2.5}$ emissions from trucking from Big Maria Mountains would be above thresholds and would be significant (EIR/EIS, Appendix B-2).

As shown in Table 3.2-13 of the EIR/EIS, for all three potential sources, emissions of PM_{10} would be below the federal *de minimis* threshold of 100 tons per year, and emissions of O_3 precursors (NOx and VOCs) would be below the federal *de minimis* thresholds of 25 tons per year for those pollutants. Therefore, Alternative 3 – No

Action/No Project would not be required to prepare a Conformity Determination and no further analysis is required.

With respect to Class I Area analysis, before year 40, mining would occur at the South Quarry location and impacts would be the same as described for Alternative 1 – Proposed Action. After year 40, offsite mines would be used for high-grade limestone. Each of the three potential off-site quarry locations is more than 50 kilometers from any Class I area and is subject to the 2010 FLAG guidance initial screening. The initial screening of tons of PM_{10} /distance to Class I area for all three areas is less than the FLAG guidance threshold of 10 and shows that no further analysis is required for the offsite quarry locations. No impact to Class I areas from mining at offsite locations would occur (EIR/EIS Appendix B-3).

For roadway segments that are more than 50 kilometers from the offsite quarry locations, the screening method indicates that no further analysis is required. However, there are roadway segments for all three offsite quarries that are within 50 kilometers of a Class I area; the closest one is Joshua Tree National Park, which is along the route from the Big Maria quarry. This road segment was analyzed for a worst-case representation of potential impacts to Class I areas from truck traffic on all routes. The analysis (EIR/EIS Appendix B-3) concluded that there were no visual, O_3, or acid deposition impacts from the roadway segment nearest Joshua Tree National Park; therefore, impacts to Class I areas at further distances would also not have these impacts.

With respect to the Health Risk Assessment, the potential for mining to expose sensitive receptors to substantial pollutant concentrations through year 40 would be the same as discussed for Alternative 1 – Proposed Action. After year 40, high-grade limestone would be mined from offsite sources and trucked to the Cushenbury cement plant. The potential for mining at the alternative sites after year 40 to expose sensitive receptors to substantial pollutant concentrations was evaluated. The modeling showed that cancer risk, non-cancer chronic hazard, and acute hazard would be less than significant for mining at all three sites (EIR/EIS, Appendix B-3). For potential impacts near roadways from trucking, a representative roadway segment along the route from the Big Maria quarry near Joshua Tree National Park was selected. Health risk assessment calculations were modeled to be below applicable risk threshold. Less than significant impacts are anticipated (EIR/EIS, Appendix B-3).

Biological Resources. With Alternative 3 – No Action, the baseline condition would persist. MCC would retain existing mineral rights in the proposed Project Area, but mining and reclamation would not occur under the subject mining and reclamation plan. Vegetation and wildlife, including threatened, endangered, sensitive, Watchlist, and common species, would not be removed or disturbed under the subject mining and reclamation plan. Individual plants, plant communities, and special soil types that support rare plant and wildlife habitats would not be altered under the subject mining and reclamation plan. Associated carbonate habitat conservation measures on 540 acres would also not occur as proposed, and these areas would be available for mining in the future.

With this alternative, the high-grade limestone that is needed to operate the Cushenbury Cement Plant for the next 120 years would be recovered under a future mining plan, or alternatively that the needed ore would be mined elsewhere in the region and transported

to the plant. One site in Nevada and two sites in California have been identified as potential off-site sources for high-grade limestone resources. However, these sites are existing sites with permitted and approved mining operations that considered effects to biological resources and have associated best management practices and reclamation requirements specific to those mines. It is estimated that approximately 52,000 on-road truck trips per year (150 per day) would be required. This increase in truck trips on local roads and State Highway 18 is anticipated to result in greater risk to wildlife, such as desert tortoise and bighorn sheep.

Cultural/Heritage Resources. With the implementation of Alternative 3 – No Action/No Project, the site would not be developed according to the proposed Plan of Operation. The electrical transmission line (P36-020876) pole stumps would not be removed with this alternative. No impacts to cultural resources on or near the proposed Project site would occur. Two sites in California and one site in Nevada have been identified as potential off-site sources of high-grade limestone. However, these sites are existing sites with permitted and approved mining operations that considered effects to cultural resources and have associated best management practices and reclamation requirements specific to those mines.

Geology/Soils/Mineral Resources. If Alternative 3 – No Action/No Project is implemented and the South Quarry is not developed under this Plan of Operations, there would be no direct or indirect effect on geology, soils, or mineral resources in the South Quarry area. Minerals and geologic resources within the proposed Project Area would remain undisturbed. However, MCC would maintain the legal right to develop the subject mining claims under a different Plan of Operations. With this alternative, high-grade limestone would be trucked in from another location in the region through year 120 to feed the existing Cushenbury Cement Plant. Two sites in California and one site in Nevada have been identified as potential off-site locations for high-grade limestone. Mining limestone at the South Quarry site under a different Plan of Operations or at an offsite location would be subject to the same regulations as at the proposed Project site and the effects would be expected to be less than significant with similar mitigation as with Alternative 1 – Proposed Action.

Greenhouse Gases. With Alternative 3 – No Action/No Project, GHG emissions associated with South Quarry operations would not occur. However, the existing Cushenbury Cement Plant would continue to operate. The ore reserves in the West Pit, when blended with high grade ore, are sufficient to feed the cement plant for approximately 120 years. Therefore, it is assumed that higher grade limestone would be trucked to the plant from elsewhere in the region during that 120-year period. Approximately 52,000 on-road truck trips per year (150 truck trips per day) would be required. Such transport would increase vehicle trips on public roadways; thereby resulting in traffic and air quality impacts related to truck traffic that would be greater than Alternative 1 – Proposed Action or Alternative 2 – Partial Implementation. GHG emissions would range from 18,215 to 35,292 MT CO_2e per year depending on the offsite location selected. Emissions for all locations would be above the 10,000 MT per year CO_2e threshold and would be significant.

Hazards and Hazardous Materials. If Alternative 3 – No Action/No Project is implemented, and the South Quarry is not developed with the proposed Plan of Operations, there would be no direct or indirect adverse effects from hazards or hazardous materials associated with mining at this location under this Plan of Operations. With this alternative, high-grade limestone would be trucked to the Cushenbury cement plant from an off-site location. The effects of trucking limestone from an off-site location would also be less than significant, as blasting (if required) and maintenance and fueling of equipment at the off-site location would also be subject to all federal, state, and local environmental regulations. Transporting limestone from an offsite location is not expected to result in significant effects relating to hazards or hazardous materials because limestone is not a hazardous substance.

Hydrology and Water Quality. If the No Action Alternative is implemented and the Cushenbury Cement Plant is not expanded into the South Quarry under this Plan of Operations, there would be no direct or indirect adverse effect to hydrology and water quality. Two sites in California and one site in Nevada have been identified as potential off-site sources for high-grade limestone. However, these sites are existing sites with permitted and approved mining operations that considered effects to hydrology and water resources and have associated best management practices and reclamation requirements specific to those mines.

Noise. If Alternative 3 – No Action/No Project is implemented, and the South Quarry is not developed under this Plan of Operations, there would be no direct or indirect adverse noise impacts at the South Quarry site. Development of the limestone reserve under a different Plan of Operation or trucking limestone from an offsite source would result in noise impacts. Approximately 52,000 on-road truck trips per year (150 truck trips per day) would be required. The number of off-site, on-road haul truck trips would be much greater for Alternative 3 – No Action/No Project than the number of on-site, off-road haul truck trips analyzed for mining in the South Quarry because on-road haul trucks are much smaller than the off-road haul trucks. Additionally, these trucks would use local roads through Lucerne Valley to access the existing Cushenbury Cement Plant, bringing the noise source from haul trucks much closer to sensitive receptors. Depending on the location of the alternative limestone source, noise and vibration impacts from these haul trucks may be significant.

Recreation. If Alternative 3 – No Action/No Project is implemented and the South Quarry is not developed under this Plan of Operations, there would be no direct or indirect adverse effect on recreation. Recreation opportunities, activities and setting would continue to be very similar to existing conditions. Two sites in California and one site in Nevada have been identified as potential off-site sources for high-grade limestone. The effects of trucking in limestone would have a neutral effect on the recreation setting.

Scenery. If Alternative 3 – No Action/No Project is selected and the proposed South Quarry Project does not take place, there would be no direct or indirect effects to the scenery of the proposed Project Area. The existing scenic integrity level would continue to range from High to Very High. No LMP Amendment would be required. With the No Action/ No Project Alternative, mining would continue within the East and West Pits at the rate of approximately 2.6 MTPY. Mining would be conducted at lower elevations to the north of the SBNF boundary on private lands and BLM claims by MCC and others to the

west of the Project area along the north slope of the San Bernardino Mountains. MCC would continue mining within the existing East Pit for approximately 5 years and would continue developing the West Pit according to its 2004 County-approved mine and reclamation plan (2004M-001). The West Pit would excavate a ridge on the north slope directly west of the existing East Pit outside of SBNF lands. Note that the Cushenbury Mine Expansion EIR determined that scenery impacts from the expansion of the West Pit would be potentially significant.

Two sites in California and one site in Nevada have been identified as potential off-site sources for high-grade limestone. However, these sites are existing sites with permitted and approved mining operations that considered effects to scenic resources and have associated best management practices and reclamation requirements specific to those mines.

4. Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires that the EIR identify the environmentally superior alternative. If that alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Although on-site impacts resulting from development and operation of the proposed Project would not occur with Alternative 3 – No Action/No Project, this alternative would require trucking higher-grade limestone from elsewhere in the region. Approximately 52,000 haul truck trips per year would be required, assuming import of 1.3 million tons per year of high-grade limestone using 25-ton on-road trucks (approximately 150 truck trips per day assuming deliveries 350 days per year) resulting in environmental effects to air quality, greenhouse gas emissions, and noise related to increased haul truck use of local roads and State Highway 18. The GHG emissions from trucking for all three alternative locations would exceed thresholds and would be significant and unmitigable. Particulate matter emissions from the Big Maria Mine off-site location would exceed thresholds and would be significant and unmitigable. Additionally, Alternative 3 – No Action/No Project would not meet the proposed Project objectives. Therefore, this alternative is rejected (see also Section IV.D).

The environmentally superior alternative of the two build alternatives is Alternative 2 – Partial Implementation, because this alternative would end mining at the South Quarry site approximately 80 years sooner and would have a slightly smaller footprint. However, Alternative 2 – Partial Implementation would also have environmental effects to air quality, greenhouse gas emissions, and noise related to increased haul truck use of local roads and State Highway 18. Approximately 52,000 haul truck trips per year would be required, assuming import of 1.3 million tons per year of high-grade limestone using 25-ton on-road trucks (approximately 150 truck trips per day assuming deliveries 350 days per year). GHG emissions from trucking from all three locations after year 40 would be significant. Particulate matter emissions from the Big Maria Mine off-site location would exceed thresholds and would be significant.

Alternative 2 – Partial Implementation would reduce impacts to other biological resources; cultural/heritage resources; geology and soils; hazards and hazardous materials; hydrology and water quality; and recreation. However, impacts to air quality, noise, and

greenhouse gases would be greater with this alternative. Further, the significant, unmitigable impact to the Cushenbury herd of Nelson's bighorn sheep would remain the same. The impact to scenery resources would be reduced but would remain significant and unmitigable.

In addition, Alternative 2 – Partial Implementation would satisfy the majority of the proposed Project objectives, but not to the same degree as the proposed Project. Specifically, given its shorter time frame and limit to two phases of excavation and MCC's supply of lower grade limestone to feed its cement plant for 120 years, Alternative 2 – Partial Implementation would not achieve the following objectives to the same degree as the Project: (i) to develop a high-grade limestone resources to blend with the existing East and approved West Pits' limestone to supply the required feed specifications for the adjacent existing Cushenbury Cement Plant for an extended period; (ii) to supply cement for construction and other uses in an efficient and environmentally sound manner; (iii) to continue to realize the economic value from the investment made in the existing Cushenbury mine and cement plant and the limestone resource at the proposed Project site; and (iv) to avoid logistical and environmental costs associated with non-contiguous operations

In sum, the County finds that Alternative 2 – Partial Implementation is undesirable based on the alternative's (i) significant and unavoidable impacts that would remain for biological resources and scenery impacts; (ii) greater air quality, greenhouse gas, and noise impacts; and (iii) failure to meet the Project objectives to the same degree as the Project.

V. OTHER CEQA CONSIDERATIONS

- The County, acting through its Land Use Services Department, is the "Lead Agency" for the Proposed Project evaluated in the Final EIR/EIS. The County finds that the Final EIR/EIS was prepared in compliance with CEQA and the CEQA Guidelines. The County finds that it has independently reviewed and analyzed the Final EIR, and that the Final EIR/EIS reflects the independent judgment of the County.

- The County finds that the Final EIR/EIS provides objective information to assist the decision-makers and the public at large in their consideration of the environmental consequences of the Project. The public review period provided all interested jurisdictions, agencies, private organizations, and individuals the opportunity to submit comments regarding the Draft EIR/EIS. The Final EIR/EIS was prepared after the review period and adequately responds to comments made during the public review period.

- The County evaluated comments on environmental issues received from persons who reviewed the Draft EIR/EIS. In accordance with CEQA, the County prepared written responses describing the disposition of significant environmental issues raised. The Final EIR/EIS provides adequate, good faith and reasoned responses to the comments. The County reviewed the comments received and responses thereto and has determined that neither the comments received nor the responses to such comments add significant new information regarding environmental impacts to the Draft EIR/EIS as defined under CEQA. The lead agency has based its actions on full appraisal of all viewpoints,

including all comments received up to the date of adoption of these findings, concerning the environmental impacts identified and analyzed in the Final EIR/EIS.

- The mitigation measures which have been identified for the Project were identified in the text and summary of the Final EIR/EIS. The final mitigation measures are described in the Mitigation Monitoring and Reporting Program. Each of the mitigation measures identified in the Mitigation Monitoring and Reporting Program, and contained in the Final EIR/EIS, is incorporated into the Project. The County finds that the impacts of the Project have been mitigated to the extent feasible by the mitigation measures identified in the Mitigation Monitoring and Reporting Program, and contained in the Final EIR.

- CEQA requires the lead agency approving a project to adopt a Mitigation Monitoring Program for the changes to the project which it has adopted or made a condition of project approval in order to ensure compliance with project implementation. The mitigation measures included in the Final EIR/EIS as certified by the County and included in the Mitigation Monitoring and Reporting Program as adopted by the County serve that function. The complete Mitigation Monitoring Program includes all the mitigation measures identified in the Final EIR and has been designed to ensure compliance during implementation of the Project. In accordance with CEQA, the Mitigation Monitoring and Reporting Program provides the means to ensure that the mitigation measures are fully enforceable. In accordance with the requirements of Public Resources code section 21081.6, the County hereby adopts the Mitigation Monitoring and Reporting Program.

- In accordance with the requirements of Public Resources Code section 21081.6, the County hereby adopts each of the mitigation measures expressly set forth herein as conditions of approval for the Project.

- The custodian of the documents or other materials which constitute the record of proceedings upon which the County's decision is based is the San Bernardino County Land Use Services Department, located at 385 N Arrowhead Ave, First Floor, San Bernardino, CA 92415.

- The County finds and declares that substantial evidence for each and every finding made herein is contained in the Final EIR/EIS, which is incorporated herein by this reference, or is in the record of proceedings in the matter.

- The citations provided as references in the Final and Draft EIR/EIS for each impact area discussed in these Findings are for reference purposes only and are not intended to represent an exhaustive listing of all evidence that supports these Findings.

- The County is certifying the EIR for, and is approving and adopting findings for, the entirety of the actions described in these Findings and in the Final EIR. It is contemplated that there may be a variety of actions undertaken by other State and local agencies (who might be referred to as "responsible agencies" under CEQA). Because the County is the lead agency for the Project, the Final EIR/EIS

is intended to be the basis for compliance with CEQA for each of the possible discretionary actions by other State and local agencies to carry out the Project.

VI. STATEMENT OF OVERRIDING CONSIDERATIONS

Finding

Based on the entire record and having considered the unavoidable adverse impacts of the proposed Project, the County hereby determines that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the EIR/EIS and that no additional feasible mitigation is available to further reduce significant impacts. The County finds that economic, social, and environmental considerations of the proposed Project outweigh the unavoidable significant adverse impacts described in Section IV.C. Further, the County finds that each of the separate benefits of the proposed Project is hereby determined to be, independent of the other proposed Project benefits, a basis for overriding all unavoidable environmental impacts identified in the EIR/EIS and in these Findings. The reasons for accepting these remaining significant impacts are described below. In making these findings, the County has balanced the benefits of the proposed Project against its unavoidable environmental impacts and finds that the benefits outweigh and override the significant unavoidable impacts for the reasons stated below.

Facts Supporting the Finding

Pursuant to CEQA Section 21081 and StateCEQA Guidelines Section 15093, the County must balance the benefits of the proposed Project against any unavoidable environmental impacts in determining whether to approve the proposed Project. If, in the County's determination, the benefits of the proposed Project outweigh the unavoidable adverse environmental impacts, those impacts may be considered acceptable. The County finds that the proposed Project will provide several benefits to the residents of the County. Any one of these benefits individually would be sufficient to outweigh the adverse environmental impacts of the Project and justify its approval and certification of the Final EIR/EIS. These benefits include:

- The proposed Project will develop an existing aggregate mine within a State-classified Mineral Resource Zone designated MRZ-3a, an area of mineral resources of statewide or regional significance, for limestone resources.
- The proposed Project will develop the limestone resource and allow MCC to exhaust its mineral rights at the South Quarry site, consistent with the policies of the County, SBNF, and SMARA.
- The proposed Project allows for the most efficient and environmentally sound method for MCC to exhaust its mineral resource and deliver the mineral resource to market, as the South Quarry will provide the necessary high-grade limestone to feed MCC's on-site cement plant and MCC's existing pits can provide sufficient low-grade limestone to feed the cement plant for 120 years.
- The proposed Project will supply the existing Cushenbury Cement Plant, which contributes to a stable domestic supply of cement that is used to meet local southern California and southern Nevada building and infrastructure needs.

- Project mitigation will convey conservation easements and relinquish unpatented mining claims on over 540 acres in the CHMS Habitat Reserve (an approximately 3:1 ratio), which would provide an immediate and long-term benefit to four federally-listed plant species and their critical habitat and biological resources in general.
- The proposed Project will ensure long-term predictability with respect to employment and purchasing for the local community, regional and local supplies of vital building materials and a domestic source of cement to address concerns related to supply and pricing.
- The proposed Project will allow for continued operations in proximity to the existing Cushenbury Cement Plant, which would reduce haul truck vehicle miles traveled and associated environmental impacts that would occur from importing off-site resources.
- Project mitigation will contribute to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The Fund will be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep both within the Cushenbury herd and on proximate habitats, occupied or unoccupied, including the Bighorn Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation. MCC will be a partner in the North Slope Bighorn Conservation Strategy and will help support the long-term management goals of maintaining a sustainable population of bighorn sheep on the North Slope.

CEQA (Public Resources Code section 21002) provides: “In the event specific economic, social, and other conditions make infeasible such project alternatives or such mitigation measures, individual projects can be approved in spite of one or more significant effects thereof.” Section 21002.1 provides “In the event that economic, social, or other conditions make it infeasible to mitigate one or more significant effects of a project on the environment, the project may nonetheless be approved or carried out at the discretion of a public agency if the project is otherwise permissible under applicable laws and regulations” Finally, the CEQA Guidelines Section 15093(a) states: “If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered acceptable.”

The County adopts this Statement of Overriding Considerations with respect to the significant unavoidable impacts as identified in the EIR/EIS and previously discussed in Section IV.C of this document. Specifically, these significant, unavoidable impacts are:

- Substantial Adverse Project-Level Effect to the Cushenbury Herd of Nelson’s Bighorn Sheep;
- Substantial Adverse Cumulative Effect to the Cushenbury Herd of Nelson’s Bighorn Sheep; and
- Substantial Adverse Project-Level Effect to Scenery Resources.

As the CEQA Lead Agency for the proposed Project, the County of San Bernardino has reviewed the project description and the EIR and fully understands the proposed Project. Further, the County finds that all potential adverse environmental impacts and all feasible mitigation measures to reduce these impacts have been identified in the EIR/EIS. These impacts and mitigation measures are discussed in Section IV, above. The County also finds that a reasonable range of alternatives was considered in the EIR/EIS and in Section IV of this document, and that no feasible alternatives that substantially lessen proposed Project impacts are available for adoption.

The County has identified economic, social, and environmental benefits and important project objectives that will result from implementing the proposed Project. The County has balanced these substantial social, economic, and environmental benefits against the unavoidable significant adverse effects of the proposed Project. Given the substantial benefits that will occur in the County of San Bernardino, the County finds that the benefits identified herein override the unavoidable significant environmental effects.

VII. ADOPTION OF A MITIGATION MONITORING AND REPORTING PROGRAM

Section 21081.6 of the Public Resources Code requires the County to adopt a monitoring or compliance program regarding the changes to the proposed Project and mitigation measures imposed to lessen or avoid significant effects on the environment. The County has prepared a Mitigation Monitoring and Reporting Program (MMRP), which is included in the Final EIR/EIS. The MMRP is designed to ensure compliance with changes in the proposed Project and mitigation measures imposed on the proposed Project throughout Project implementation. The measures in the MMRP are fully enforceable through permit conditions, agreements, or other measures. Pursuant to Public Resources Code Section 21081.6, the County hereby adopts the MMRP.

EXHIBIT E

Mitigation Monitoring and Reporting Program

APPENDIX M

Mitigation Monitoring and Reporting Program

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Mitigation Monitoring and Reporting Program
Mitsubishi Cement Corporation South Quarry Project
County of San Bernardino

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
Air Quality				
AIR-1: Within three years after the commencement of mining in the South Quarry, or whenever the total quarry haul truck operating horsepower-hours/year reach 6 million per year, whichever is later, the applicant shall: (1) Add to its fleet no fewer than five quarry haul trucks meeting Tier 4 standards; and (2) Retire all remaining Tier 0 quarry haul trucks. "Tier 0" and "Tier 4" refer to those terms as defined by the CARB off-road diesel rule, CCR Title 13 Sections 2449-2449.3. For the purposes of this condition, "mining" shall not include the construction of the South Quarry Road.	Within three years of commencement of mining in the South Quarry OR Whenever the total quarry haul truck operating horsepower-hours/year reach 6 million per year Whichever is later	Require as Condition of Approval by County	County Land Use Services Department MDAQMD Project Applicant	Applicant to record and report horsepower-hours/year to the County until mitigation action is triggered. Compliance shall be demonstrated and verified through periodic inspections by the County and MDAQMD.
AIR-2: Every day of active mining, the Project proponent shall apply water to unpaved roads and disturbed mine areas that are in active use on that day no less than once every 1.25 hours at a rate of no less than 0.11 gallons per square yard. Alternatively, the Project proponent shall	Daily during active mining	Require as a Condition of Approval by County	County Land Use Services Department MDAQMD	Compliance shall be demonstrated and verified through periodic inspections by the County and MDAQMD.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
apply chemical dust suppressants to unpaved road and disturbed mine areas in active use at a frequency and application rate in accordance with manufacturer specifications.			Project Applicant	
Biological Resources				
GEN-1: MCC shall minimize disturbance or hazards to surrounding vegetation, habitat, and wildlife, such as toxic substances, dust, noise, and lighting, as follows: a. New lighting shall be established at the minimum necessary to meet safety requirements, and shall be shielded to avoid lighting the surrounding habitat and the night sky; b. Except as necessary to survey or maintain the safety of the mine site, the Project's disturbance footprint shall be limited to areas designated for mining and related activities; c. Equipment staging areas and other construction or related habitat disturbance shall be limited to areas within the new or existing quarry footprint(s) and shall be designed and operated to the goal of minimizing impacts to adjacent habitat and sensitive biological resources;	At all times during construction and operation of the South Quarry and haul road.	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance with GEN-1(d) shall be demonstrated by conferring with USFS as necessary. Compliance with GEN-1(k) shall be documented by approval of any necessary Streambed Alteration Agreement by CDFW.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
d. Any rock stain for scenic mitigation or soil bonding or wetting agents to be used for dust control on unpaved surfaces shall be non-toxic to wildlife and plants and non-attractants for wildlife. If staining, wetting or soil bonding agents appear to be attracting wildlife to the roadways (e.g., by pooling or creating mineral licks), the mining operator will work with the Forest Service to develop remedies; e. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for spill of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Spills will be cleaned up as quickly as possible; f. All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site; g. Only authorized agency or security personnel (including the California Department of Fish and Wildlife [CDFW], USFWS, and Forest Service) shall bring firearms or weapons to the site.				

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
h. No recreational target shooting will occur on Forest Service lands within the permit area. i. Standard erosion control measures commensurate with those typically required in an Industrial Stormwater Pollution Prevention Plan for a limestone surface mining operation shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes may enter native soils or habitat or jurisdictional streambeds; j. Disturbed soils and roads within the project site shall be stabilized to reduce erosion potential; and k. For drainages that cannot be avoided, MCC shall obtain a Streambed Alteration Agreement in compliance with Section 1602 of the California Fish and Game Code and an application for waste discharge requirements (WDRs) or a waiver of WDRs in compliance with Section 13260 of the California Water Code, as applicable prior to the issuance of a grading permit. Impacts to waters of the State shall be mitigated by replacement on an in-kind basis. Compensatory mitigation will be commensurate with impacts and may				

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
consist of establishing restoring, and preserving similar on-site habitat, and/or purchasing off-site credits from an approved mitigation bank.				
GEN-2: *Employee Training:* MCC shall conduct wildlife/plant awareness programs for employees (including new employee orientation and annual refresher trainings). The program will address bighorn sheep, desert tortoise, golden eagles, rare reptiles/amphibians, other animals of the area, and rare plants. This will include the importance of avoiding harassment/disturbance, adherence to speed limits, adherence to defined project boundaries, reporting guidelines, discouraging ravens and other scavengers, etc. Specific items as described in the employee education component of the North Slope Bighorn Conservation Strategy, Raptor Conservation Strategy, and the desert tortoise design features below will be included in the training. MCC will solicit input from CDFW and USFS in developing the training program.	During construction and operation of the South Quarry and haul road	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's solicitation of input from USFS and CDFW to develop training materials.
GEN-3: *Fencing*: MCC shall identify likely or potential wildlife movement routes across or around the site and then avoid or minimize potential impediments to wildlife	During fencing construction	Require as a Condition of	County Land Use Services Department	Compliance shall be demonstrated and verified

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	movement by fencing only those areas where access must be restricted for safety or security reasons. In the event fencing is necessary during construction and/or extraction activities, project personnel shall ensure that any such fence meets existing specifications that have been developed to preclude accidental entanglement of bighorn sheep, deer, and other animals. Biologists from the USFS and CDFW will be consulted for appropriate fence guidelines. Where this Design Feature conflicts with Mine Safety and Health Administration guidelines, attempts will be made to meet the intention of both. Where that is not possible, Mine Safety and Health Administration guidelines will be applied.		Approval by County	County Building and Safety Department Project Applicant	through periodic inspections by the County. Compliance will be further demonstrated by constructing fencing in compliance with measure and conferring with USFS and CDFW biologists pursuant to mitigation measure.
GEN-4:	*Reclamation:* Reclamation of the South Quarry shall include the creation of angled pathways and interlacing reclaimed benches in order to facilitate the movement of bighorn sheep and other wildlife through the quarries. These benches will be created as the mining sequence is completed and prior to restoration. The design of the benches shall be coordinated with Forest Service and/or CDFW biologists. Forest Service and CDFW biologists shall have 60	During reclamation	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's solicitation of input from USFS and

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
days to comment on the proposed bench design.				CDFW pursuant to mitigation measure.
GEN-5: *Haul Road Crossings:* The final design and construction of the haul road shall ensure movement pathways for wildlife, including bighorn sheep, deer, and small mammals between the existing East and West Pits and the proposed South Quarry. This will include terracing or stair-stepping or micro-benches of steep and vertical cuts, especially at strategic crossing locations. Design and construction of the haul road shall be completed in coordination with CDFW and Forest Service biologists. A study to analyze the efficacy of long-term mammal usage of the haul roads shall be designed in consultation with CDFW and Forest Service biologists and shall be implemented by MCC within one year of construction of the haul road. The objective of the study will be to analyze the efficacy of the measures intended to prevent a movement barrier and address corrective measures through adaptive management, if needed.	During design and construction of the haul road	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's solicitation of input from USFS and CDFW pursuant to mitigation measure. Project Applicant will confer with USFS and CDFW to design efficacy study and will maintain record of study to provide to County, USFS, and CDFW upon request.

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
GEN-6:	*Pets and Domestic Animals*: MCC employees shall not bring pets or domestic animals to the work site. MCC will not authorize the housing or grazing of domestic animals on the project site.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
GEN-7:	*Feeding Animals:* Feeding of animals will be prohibited to discourage the spread of non-native birds, to discourage the spread of disease and pathogens, etc.	At all times during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
GEN-8:	Mine operators will maintain facilities and grounds in a manner that minimizes any potential impacts to hunting or scavenging raptors and other predators/scavengers (e.g., minimize storage of equipment near active quarries that may attract prey, remove trash/garbage daily, etc.). All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site. MCC shall avoid practices that attract/enhance prey populations and opportunities for raptor hunting or scavenging near active quarries, haul roads, and processing areas. This	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County .

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	would also help discourage the spread of non-native birds and discourage the spread of disease and pathogens, etc.				
GEN-9:	To reduce vehicle collision risk to raptors and other scavengers, intact animal carcasses (with the exception of bighorn sheep and deer) will be removed immediately from mine roads and mining areas. Carcasses will be removed far enough away from roads and active mining areas that scavengers would not be in danger of vehicle collision or other mining-related hazards. Bighorn sheep and deer carcasses shall be covered with a tarp and left in place until the CDFW or Forest Service biologist is notified and provides direction. As much as is feasible, care will be taken to avoid disturbing the area around the carcass to preserve predator tracks, parasites, etc.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's coordination with USFS and CDFW pursuant to mitigation measure.
GEN-10:	*Disturbance Avoidance*: MCC employees and contractors will not use MCC roads in order to access National Forest lands for recreation or hunting. Access for personal use will be through National Forest system roads and trails that are open to the general public.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
GEN-11: *Blasting:* Prior to blasting activities within the project area, designated mine employees trained by CDFW and/or Forest Service biologists shall conduct a visual inspection (both naked eye and with binoculars or spotting scope) for a minimum of five minutes to ascertain the presence or absence of bighorn sheep, deer, golden eagles, peregrine falcons, or other large animals. If animals are located within the blast area, mine employees shall wait until animals have moved from the area before initiating blast procedures. The designated mine employee may use noise deterrents (e.g. shouts, vehicle, or air horns), to move them out of the blast area prior to detonation of any blasting materials. The blasting log will be available upon request by CDFW and Forest Service personnel.	Prior to all blasting activities during the construction and operation phase of rock excavation	Require as Condition of Approval by County	County Land Use Services Department Project Applicant-trained mine employees	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's coordination with USFS and CDFW pursuant to mitigation measure. Documentation demonstrating compliance to be maintained by Project Applicant pursuant to mitigation measure and provided to County, USFS, and CDFW upon request.
GEN-12: *Biomass Disposal:* All woody vegetation to be cleared from the surface (quarry site, haul road, etc.) will be disposed of as follows: a. Small size vegetation and organic material (stems less than 6 inches in diameter) will be applied to inactive quarry benches, overburden piles, and	During construction and operation of both the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
on sidecast areas along roads and quarries. Material may be chipped and/or stockpiled prior to use. Stockpiling and use should be done as part of phased reclamation to minimize stockpile duration and associated weed risk. b. All wood greater than 6 inches in diameter will be either reduced to less than 6 inches and applied as described in GEN-12a or removed from the site and decked by MCC at a location to be determined by the Forest Service. The decked wood will be sold to the public by the Forest Service.				Applicant's coordination with USFS pursuant to mitigation measure.
GEN-13: The BLM's withdrawal of approximately 540.4 acres of land from mineral entry and MCC's quit-claim of specified unpatented mining claims (discussed in EIR/EIS Section 1.6 and Section 3.2.4.2) is also designed to mitigate for the loss of pinyon-juniper woodland and desert transition habitats as wildlife habitat.	Prior to project construction and implementation	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated to County and USFS through documentation of withdrawal.
GEN-14: The current regular groundwater monitoring program within the general MCC Cushenbury operating area will continue through the life of the project (South Quarry Operating Plan and Reclamation Plan). MCC will continue to	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department	Compliance will be demonstrated through Project Applicant's submittal of reports to

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	submit a report regarding the monitoring to the Forest Service and the County at least annually. If this regular report indicates a change in groundwater levels, use, or recharge rates that may pose a substantial threat to surface water and wetland vegetation at Cushenbury Springs, or if unusual vegetation mortality is observed at the wetlands, a pump test will be performed for all wells supplying the Cushenbury Cement Plant and associated monitoring wells to determine if there has been a change in the groundwater basin between the subject wells and Cushenbury Springs. If there are future adverse changes to water quantity, seasonal duration of surface flow, or extent of wetland vegetation related to the project, MCC will respond to minimize these effects. Future minimization actions may include, but are not limited to, water conservation programs and shifts in the usage of various available water sources.			Project Applicant	County and USFS, at least annually. Compliance will also be demonstrated by Project Applicant's coordination with USFS and County pursuant to mitigation measure. .
GEN-15:	Due to the long life of the proposed Project (40 or 120 years plus reclamation), monitoring of effects to wildlife, plants, and water resources, including at Cushenbury Springs, shall be conducted as described in Design Features/Mitigation Measures GEN-2, GEN-4, GEN-5, GEN-11, GEN-14, BHS-2, BHS-4, BHS-6, BIRD-1, BIRD-2, RAPTOR-1, RAPTOR-	At a minimum of every 10 years for the life of the project	Require as Condition of Approval by County	County Land Use Services Department USFS	Compliance verified through USFS and CDFW periodic review, at least every 10 years.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
2, RAPTOR-3, DETO-1, NNS-1, NNS-3, CARB-1, and the Raptor Conservation Strategy, Carbonate Habitat Conservation Strategy, and Bighorn Sheep Conservation Strategy. At a minimum of every 10 years for the life of the project, the Forest Service and CDFW will review the monitoring efforts to address changes in the scale and scope of predicted effects. The objective is to use adaptive management to adjust Design Features/Mitigation Measures and strategy plans in the light of new information, new species of concern, and/or new mining technology. If effects to federal or state protected species are determined to be different than the predicted effects, appropriate steps shall be taken, which may include but are not limited to development of new or adjusted Design Features/Mitigation Measures or best management practices to ensure avoidance of "take".			CDFW Project Applicant	
Bighorn Sheep				
BHS-1: *Foraging Habitat:* When trucks spray water on haul roads to control fugitive dust, some overspray occurs on road berms for a short distance beyond. Those watered areas sometimes support vegetation that bighorn sheep consume. MCC will not make an effort to eliminate the overspray. The	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	Revegetation Plan will focus on using native species that will help enhance bighorn sheep habitat.				Compliance will also be demonstrated through Revegetation Plan.
BHS-2:	*Water Developments:* In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the development of the South Quarry, MCC shall create additional water development(s) after consulting with appropriate agency personnel (Forest Service and CDFW) to select location(s) for additional water development(s). MCC shall ensure that any existing water development(s), as well as any created as part of the Design Features/Mitigation Measures, are maintained in good operating condition for the duration of the project.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination with USFS and CDFW pursuant to mitigation measure.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
BHS-3: *Reporting of Mortality:* MCC shall immediately report any bighorn sheep mortalities, whatever the cause, to the CDFW and Forest Service as soon as possible after the observation. The bighorn sheep carcass shall be covered and left in place until the CDFW or Forest Service biologist can examine it and determine the proper disposal method. In the event that mountain lion predation is occurring at levels that compromise the viability of the population, MCC shall cooperate fully by ensuring access to MCC properties for Forest Service and/or CDFW personnel for the purpose of determining the predator involved or, in the event that an individual predator has been identified, to remove the predator.	During construction and operation of both the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated by Project Applicant's reporting and coordination with USFS and CDFW pursuant to mitigation measure.
BHS-4: *Monitoring/Adaptive Management:* MCC shall monitor bighorn sheep use in and near their operations and at water sources in and adjacent to their operations. Monitoring shall consist of installation and maintenance of cameras stationed at CDFW- and Forest Service-identified water sources and recording of data from cameras in a database developed by CDFW, as well	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	as collection of observations by MCC employees. The North Slope Bighorn Sheep Management Strategy may identify other monitoring methodologies to be developed over time. An annual monitoring report will be provided to the Forest Service and CDFW.				with USFS and CDFW and through implementation of the North Slope Bighorn Sheep Management Strategy, which includes monitoring and reporting to USFS and CDFW.
BHS-5:	*Highway Crossing:* Upon obtaining the necessary approvals from Caltrans, MCC shall fund, purchase, and install highway warning signs on State Route 18. MCC shall use best efforts to obtain the Caltrans approvals necessary to install the highway warning signs on State Route 18. The intent of the signs is to avoid vehicle-strike mortality or "take" of bighorn sheep crossing the highway.	Prior to construction of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated through Project Applicant's application to Caltrans for necessary approval and funding and installation of highway warning signs.
BHS-6:	*Conservation Strategy:* A Draft North Slope Bighorn Sheep Conservation Strategy will be developed by CDFW and the Forest Service. The management plan will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs. The management plan shall include guidelines/thresholds for population status that would trigger augmentation of the	Plan development prior to construction of the South Quarry and haul road Plan implementation during the construction and operation of the	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated by Project Applicant's coordination with USFS and CDFW and

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
herd; a strategy/guidelines for developing water sources to respond to drought years; and herd monitoring methodology and objectives. MCC will be a partner in the North Slope Bighorn Conservation Strategy and will help support the long-term management goals of maintaining a sustainable population of bighorn sheep on the North Slope, as described in BHS-7.	South Quarry and haul road			through implementation of the North Slope Bighorn Sheep Management Strategy, which includes monitoring and reporting to USFS and CDFW.
BHS-7: *Future Conservation and Management:* Within one year after approval of the South Quarry Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC shall begin contributing to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The amount of MCC's contributions shall be determined by CDFW in coordination with MCC prior to final approval of the South Quarry project. The Fund shall be administered by an entity approved by the CDFW and the Forest Service, such as the National Fish and Wildlife Foundation as a sub-account of the California Department of Fish and [Game] Master Mitigation Account. The Fund shall be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep both within the Cushenbury herd and on proximate	Within one year of approval of the South Quarry Plan of Operations and the Reclamation Plan	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated by Project Applicant's coordination with USFS and CDFW and through implementation of the North Slope Bighorn Sheep Management Strategy, which includes monitoring and reporting to USFS and CDFW.

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	habitats, occupied or unoccupied, including the Bighorn Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation.				
BHS-8:	*Employee Awareness Training:* MCC will consult with the CDFW to incorporate bighorn sheep education and awareness into their training for employees and contractors. Training will include how to minimize impacts to bighorn sheep and include guidelines for driving, operation of heavy equipment, general quarry operation, and blasting in bighorn sheep habitat.	During construction and operation of both the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination with CDFW pursuant to mitigation measure.
BHS-9:	*Trained Mine Employee*: Prior to blasting activities within the Project area, one to two mine employees shall be trained by the CDFW's or the Forest Service's biologist to ensure a minimum skill level in detection of target animals (bighorn sheep, golden eagles, etc.). The trained mine employee(s) shall be responsible for the completion of visual inspections for bighorn sheep and other species specified in GEN-11, within the Project area prior to	Prior to blasting activities for construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	the commencement of all blasting activities. The trained mine employee(s) shall maintain a logbook detailing the location, date, time, and species observations of each visual inspection for each blasting activity. The logbook will be available upon request by CDFW or Forest Service personnel.				with CDFW pursuant to mitigation measure.
BHS-10:	*Work Boot Decontamination.* As part of the worker training required under Design Feature/Mitigation Measure BHS-8 and BHS-9, all quarry workers will be trained on the importance of and procedures for decontaminating boots to prevent transmission of disease from domesticated sheep and goats to bighorn sheep. In addition, all quarry workers who have potential contact with domesticated sheep and/or goats (for example at farms, fairs, etc.) will be identified and shall decontaminate work boots prior to entering the Project area. Decontamination shall involve scrubbing the soles of work boots with a 10-percent bleach solution to remove all organic matter and kill pathogens. Alternatively, footwear may be changed to ensure that potentially	During worker training sessions AND Prior to and during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated by Project Applicant's implementation of worker training program.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
contaminated footwear does not enter any quarry area.				
Nesting Birds				
BIRD-1: *Migratory Bird Treaty Act Compliance:* During the development of the quarry, haul roads, and associated facilities, all initial ground clearing (vegetation removal, grading, etc.) shall occur outside the avian breeding season (i.e., do not remove potential nesting habitat from February 1 through August 31, or appropriate dates based on on-site nesting phenology determined by a qualified biologist). For initial ground clearing (vegetation removal, grading, etc.) that is not feasible to be conducted outside the nesting season, surveys will be conducted to locate active nests within 10 days of the initiation of ground-disturbing activities. Any active nest sites that are located will be buffered and no work will be conducted within those buffered areas until the nests are no longer active. The buffer distances would be determined by a qualified biologist referencing current species-specific	During construction of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's nesting bird surveys and coordination with qualified biologist.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
standards, and taking into account the conservation status of the species (e.g., larger buffers may be appropriate for Sensitive species, etc.), species-specific biology, and the nature of the planned disturbance (e.g., driving past a nest versus extensive grading).				
BIRD-2: Nesting bird surveys for passerine birds, as outlined in BIRD-1, shall be conducted by a qualified biologist experienced and familiar with robust nest-locating techniques or comparable to those described by Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines: a. Surveys shall cover all potential nesting habitat to be disturbed and a 500 foot buffer surrounding areas to be disturbed; b. At least two pre-construction surveys, separated by a minimum 10 day interval, shall be completed prior to initial grading or grubbing activity; the later survey shall be completed no more than 10 days preceding initiation of initial grading or grubbing activity. Additional follow-up surveys shall be required if periods of construction inactivity exceed one week in any given area, in interval during which	Prior to construction of the South Quarry and haul road. Then, during construction of the South Quarry and haul road if a period of construction inactivity 1 week in length or longer occurs	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's nesting bird surveys and coordination with qualified biologist.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
birds may establish a nesting territory and initiate egg laying and incubation. Copies of the bird survey reports shall be provided to the County and the Forest Service.				
Conservation of Special Status Raptors				
RAPTOR-1: A Raptor Conservation Strategy (RCS) will be developed in coordination with the Forest Service, USFWS, and CDFW. MCC shall provide input to the development/finalization of the RCS and shall follow the guidelines put forth in the effort. The RCS will be tailored for activities associated with mining activities and effects. Upon approval of the Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC will participate in the implementation of the RCS by contributing to specified survey and monitoring efforts, and by following applicable operational guidelines. The RCS will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs, and will address special status raptors (currently, golden eagle, California condor, and peregrine falcons). The RCS may be	Develop RCS prior to construction and operation of the South Quarry and haul road Implement RCS during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of the Raptor Conservation Strategy.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
updated to include other raptors in the future if concerns develop over their local population status. The RCS will be a dynamic document and will be updated as new data and scientific understanding of the aforementioned species become available. It will include monitoring and information gathering, and measures to avoid, minimize, rectify, and reduce (or eliminate over time) effects to raptors nesting on the North Slope. The intent is to use systematic monitoring of raptor nesting chronology and observed behavior to develop site- and activity-specific measures to ensure successful nesting and provide for adaptive management opportunities.				
RAPTOR-2: If an occupied nest for a federally-protected species, a California-listed species, or a California fully-protected species is found within 1.5 miles of an active quarry operation, the Forest Service will determine if additional monitoring is needed and undertake the appropriate coordination/consultation with the appropriate agencies. If required, the appropriate authorization(s) will be requested from USFWS or CDFW, under the applicable law (federal or state Endangered Species Act, Bald and Golden	Both prior to and during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFWS, or CDFW pursuant to mitigation measure.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
Eagle Protection Act, Migratory Bird Treaty Act). MCC will cooperate in such efforts and implement the resulting measures designed to minimize or avoid "take".				
RAPTOR-3: If monitoring detects that blasting or other mine activities are resulting in disturbance of nesting raptors that could lead to mortality or nest abandonment, the Forest Service, MCC, and USFWS and CDFW, as appropriate, will evaluate the feasibility of implementing measures to avoid or reduce effects. The RCS will contain potential methods, such as establishment of buffers and parameters for work stoppage, for reducing or avoiding effects.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of the Raptor Conservation Strategy. Compliance shall be further demonstrated through coordination with USFS, USFWS, and CDFW pursuant to mitigation measure.
Desert Tortoise				

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
DETO-1: MCC will consult with the Forest Service to incorporate desert tortoise education and awareness into their training for employees, customers, and contractors. This will include how to minimize impacts to desert tortoise and their habitats. Information about penalties will also be included. These briefings will include guidelines about driving in desert tortoise habitat, handling prohibitions, etc. MCC will solicit input from the Forest Service to develop other protective measures if a need is identified through reporting from Design Feature DETO-2 or other CDFW or Forest Service requirements.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
DETO-2: Any sightings of desert tortoises, including dead tortoises, in the Project Area must be reported to the Forest Service biologist. The report will include photos if possible, location, date, time, cause of death (if obvious), and any other pertinent information.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's reporting to USFS.
Non-Native Species – Plants, Animals, and Pathogens				

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
NNS-1:	MCC shall monitor the occurrence of non-native invasive plants in the Project Area by visual inspection. The goal is to prevent non-native invasive plants from becoming established and depositing seeds in areas to be re-vegetated at a later date. If inspections reveal that weeds are becoming established in the Project Area, then removal would be initiated by MCC in coordination with the Forest Service botanist. Inspections shall be made in conjunction with revegetation monitoring.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
NNS-2:	To reduce the risk of introducing non-native invasive plants, insects, and pathogens from off-site, all heavy mining equipment (e.g., drill rigs, haul trucks, loaders) must be thoroughly washed of all soil and vegetation debris prior to being brought into the company's operating area (i.e., the MCC Cushenbury Cement Plant and associated local quarries).	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
NNS-3:	If any new non-native invasive plants, animals, or pathogens are identified as having a potential for establishment in the Project Area, MCC will consult with the Forest Service to develop measures for detection, control, and eradication as	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
necessary. MCC shall be responsible for funding detection, control, and eradication efforts in the Project Area.			Project Applicant	Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
NNS-4: MCC personnel will be trained on the need to report sightings of feral or domestic sheep, goats, dogs, or cats on, in, and near the Project Area to the Forest Service and CDFW within two hours of the observation. In the event of domestic or feral animals being found, MCC shall employ a trained trapper to catch and remove the animals following County regulations. CDFW may assist in capture/removal efforts, if available.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
Salvage and Recovery of Plants				
PLANT-1: MCC shall inventory all accessible yucca species (Joshua trees, Mojave yucca, and chaparral yucca) within the proposed project disturbance areas, and identify yuccas (all species) likely to survive transplantation. Prior to grading, accessible yucca plants suitable for translocation shall be transported to off-site reclamation or restoration areas. The suitability for salvage	Prior to all grading activities	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
and transplantation shall be determined by a qualified botanist or horticulturalist, based on their size, stability, and location. A qualified horticulturalist shall direct the removal, transport, and replanting, and follow-up maintenance including irrigation and physical support as needed until transplantation is successful. Relocation sites shall be within the same general area. Suitable reclamation/restoration sites will be identified in coordination with the Forest Service botanist.				pursuant to mitigation measure.
PLANT-2: MCC will solicit input from the Forest Service and will provide for salvage of rare native plants within the Project Area to be propagated and/or transplanted to protected habitat reserve areas at the discretion of the Forest Service.	Prior to removal of rare native plants before grading activities	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
Carbonate Endemic Plant Species				

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
CARB-1: As specified under the CHMS, and within the Project Area, MCC or the Forest Service may at their discretion salvage carbonate endemic plant species (whole plants, cuttings, or seed), and propagules of associated species, to aid in carbonate habitat revegetation efforts on or off-site.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's compliance with the CHMS.
CARB-2: MCC shall, upon BLM's withdrawal of approximately 540.4 acres of land from mineral entry, quit-claim specified unpatented mining claims held within the SBNF, and convey specified patented lands, which have been verified by the Forest Service to contain occupied endangered species habitat on an approximately 3 to 1 ratio (species-acres and CHMS conservation value) as mitigation for impacts of the South Quarry project on Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*), Cushenbury puncturebract (formerly oxytheca) (*Acanthoscyphus parishii* var. *goodmaniana*), and Parish's daisy (*Erigeron parishii*) pursuant to the guidance provided by the CHMS as	After BLM's land withdrawal and prior to construction of the South Quarry and haul road	Require as condition of approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through quit-claim of unpatented mining claims and conveyance of patented lands. Compliance will be further demonstrated through

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
follows: MCC shall determine total project disturbance acreage, to include the South Quarry and haul road as well as rock and debris roll-down areas below them. MCC shall evaluate the Conservation Value of the acreage proposed for disturbance according to the CHMS.				Project Applicant's compliance with the CHMS.
Geology and Soils				
GEO-1: Control of surface drainage, erosion, and sedimentation of the proposed haul road and quarry operations will involve the following primary components currently being implemented for existing operations: a. Limiting surface disturbance to the minimum area required for active operations. b. Diverting runoff, where operationally feasible, such that runoff from undisturbed areas does not enter the area of active operations. c. Using ditches, sediment basins, and localized control and maintenance measures to intercept and control runoff along the haul road.	During operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
d. Stabilizing disturbance areas through re-grading, revegetation, and other restoration practices.				
GEO-2: A geotechnical program of ongoing field mapping, drilling, and geophysical surveys and laboratory testing will be established and implemented as the quarry is excavated. This type of site investigation during the mining operation will provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. An annual report discussing the geotechnical program will be prepared for the Forest Service and the County.	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of geotechnical program and annual reporting to County and USFS.
GEO - 3: Areas mapped as underlain by landslides shall be further evaluated. Should landslides be found present within the quarry, appropriate mitigating engineering measures shall be employed to stabilize cuts into quarry walls. Such measures may include removal of landslide debris, construction of buttresses, or other stabilization measures. Monitoring of cut	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	slopes by an Engineering Geologist shall also be performed during excavation of the quarry so that further recommendations for slope stabilization can be provided as appropriate.				monitoring of cut slopes by Engineering Geologist.
GEO-4:	There is a high potential for ground shaking at the Project during a nearby seismic event, and this would include the proposed quarry and haul road. Engineering measures designed by a geotechnical engineer to mitigate the effects of ground shaking shall be included in slope design and construction.	Prior to and during construction of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with geotechnical engineer pursuant to mitigation measure.
Scenery					

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-1:	The haul road shall be designed with minimal fill slopes to reduce the contrast of the lighter-colored fill on the natural slopes and boulder roll-down.	Prior to and during construction of haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-2:	Approved color-staining product(s) shall be used to darken the access road cuts and visible southern quarry slopes where shown to be successful. Prior to commencement of construction of the access road, MCC shall submit information to the Forest Service summarizing available staining products and whether they are appropriate for application to the South Quarry road cuts and visible quarry slopes, considering color, effectiveness, and durability. If appropriate products are not available at the commencement of construction, MCC shall update the information no less than once every five years thereafter until an appropriate product is identified. MCC may use an alternative method to reduce visual contrast as approved by the Forest Supervisor.	Prior to commencement of construction of the access road OR Every five years during operation of the South Quarry and access road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's reporting to USFS pursuant to mitigation measure.

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-3:	Adequate erosion control features shall be designed along the haul road to limit erosion downslope.	Prior to and during construction of haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-4:	Onsite structures shall be painted a color with low contrast and reflectivity.	During construction and maintained as needed during operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-5:	A berm shall be constructed along the south rim of the quarry and planted with native vegetation.	During construction and maintained as needed during operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-6: The footprint of the quarry shall be designed to minimize impacts to any streams and riparian habitat to the extent feasible.	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-7: Surface disturbances shall be limited to those areas identified in the Mine Reclamation Plan. Disturbances outside of these areas shall be prohibited.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of Reclamation Plan.
SCEN-8: The quarry shall be designed to limit views of the quarry site from the east and southeast.	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure		Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-9:	Upper slopes that may be visible from Lucerne Valley shall be cut or roughened to reduce straight lines and visual impacts as benches are completed (not applicable to Alternative 2 – Partial Implementation).	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-10:	The quarry shall be designed to limit views of the lower half of the quarry by not removing the north slope through approximately Phase 3, allowing reclamation and revegetation (including tree growth) to occur to reduce contrast (not applicable to Alternative 2 – Partial Implementation).	During construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-11:	A 20- to 25-foot high natural perimeter berm (half of a vertical bench height) shall be left in place on the outside ridge of each excavated bench until the interior area of the next lower excavation level is completed to limit views of active mining and equipment from Lucerne Valley (not applicable to Alternative 2 – Partial Implementation).	During the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-12: Waste rock shall be deposited into waste rock stockpiles within the quarry footprint to reduce the area of disturbance and visual impact outside the quarry rim and to reduce internal slopes and aid in revegetation.	During the construction of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-13: Reclamation and revegetation shall be implemented per the approved Reclamation Plan on completed benches concurrent with mining.	During the construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of Reclamation Plan.
SCEN-14: MDAQMD dust controls shall be implemented to reduce visible dust plumes.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department MDAQMD	Compliance shall be demonstrated and verified through periodic inspections by the County or MDAQMD.

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
			Project Applicant	

Notes: [1]Acronyms in this table are defined as follows:
MDAQMD = Mojave Desert Air Quality Management District
SBNF = San Bernardino National Forest
USFS = United States Forest Service
USFWS = United States Fish and Wildlife Service

EXHIBIT F

Conditions of Approval

CONDITIONS OF APPROVAL

MITSUBISHI SOUTH QUARRY
Reclamation Plan 2020M-01
Mitsubishi Cement Corporation

Conditions of Operation and Reclamation, and Procedures

GENERAL CONDITIONS

LAND USE SERVICES DEPARTMENT– Planning Division (909) 387-8311

1. Project Description. Reclamation Plan 2020M-01 approval for the South Quarry limestone mine on a 147-acre surface mining operation within the San Bernardino National Forest (SBNF) land and 6.6 acres on private land owned by Mitsubishi Cement Corporation (Mitsubishi or MCC). The Project will produce an average of 1.3 million tons of high-quality limestone per year. The South Quarry could be mined and reclaimed for up to 120 years per approval of the Records of Decision by the SBNF.

2. Project Location. The proposed South Quarry is located approximately 6 miles south of Lucerne Valley and 5 miles north of Big Bear Lake within the SBNF, in San Bernardino County, California. The Land Use Zoning District is Resource Conservation (RC), however, the project site is non-jurisdictional Federal lands managed by the SBNF per an approved Mining Plan of Operations. The County as the local lead agency through the Surface Mining and Reclamation Act (SMARA), has jurisdiction over the approved Reclamation Plan. Note that one document, *Plan of Operations and Reclamation Plan,* incorporates both the SBNF mining and reclamation requirements and the County's Reclamation Plan requirements (APNs: 0447-031-03, -07, -11; 0447-041-02; 0447-091-03; & 0447-101-02; Project No. AP20100105/SMAR, Reclamation Plan No. 2020M-01)

3. Effective Dates. This Reclamation Plan approval shall be effective from the time of approval for 120 years. Final reclamation will require an additional 10 years. The approval shall be considered exercised on the effective date. At the conclusion of all mining activities, the site will be reclaimed to vacant open space and support wildlife habitat.

4. Reclamation Plan Recordation. Pursuant to Public Resources Code Section 2772.7, Planning will prepare a "Notice of Reclamation Plan Approval" on a form to be approved by the County Recorder's Office. The operator shall be responsible for review costs and recording fees.

5. Revisions/Amendments. Any alteration or expansion of these facilities or increase in the developed area of the site from that shown on the final approved Mining and Reclamation Plan will require submission of an additional application for review and approval. If Mining and Reclamation Plan procedures change from those outlined in the South Quarry Plan of Operations and Reclamation Plan prepared by Mitsubishi, and their consultants Lilburn Corporation, dated April 2020, the applicant/operator shall file an amendment and secure approval before such changes can be made effective.

6. Continuous Effect/Revocation. All conditions of the South Quarry Reclamation Plan 2020M-01 are continuing conditions. Failure of the applicant/operator to comply with any or all of said conditions at any time could result in the notice of a public hearing before the Planning Commission to consider revocation of the Reclamation Plan. If revocation is confirmed, the Planning Commission may provide for a reasonable period of time to amortize any lawful existing uses and require the commencement of reclamation in accordance with approved Reclamation Plan 2020M-01.

7. Written Notification. The Land Use Services Department shall be notified in writing, within 30 days, regarding any:

   a) Change in operating procedures, or inactive periods of operation for one (1) year or more.

   b) Changes of Company ownership, address, or telephone number during the life of the Reclamation Plan.

   c) Changes to provisions in lease agreements or real property having any effect on the approved Reclamation Plan.

8. Mining and Reclamation Plan. The approved South Quarry Mining and Reclamation Plan 2020M-01 and these corresponding Conditions of Approval shall be kept at the site at all times during active operations and be presented to the inspector upon request.

9. CA Mine ID. Mitsubishi shall obtain a California Mine Identification number from the California Department of Conservation pursuant to Public Resources Code, Section 2207 and pay all associated fees to the State. Mitsubishi shall file annual reports to the State and County and pay all associated fees to the State.

10. Blasting. Blasting shall be conducted in compliance with the Mine Safety and Health Administration (MSHA) and California Safety and Health Administration (Cal OSHA) requirements. Blasting may be conducted approximately twice a week during daylight hours.

11. Interim Management Plan. The applicant shall implement measures to stabilize and secure the site during periods of inactivity as per the approved Reclamation Plan. An Interim Management Plan (IMP) as required by SMARA, Public Resources Code Section 2770(h)(1) shall be submitted to Planning for review and approval within 90 days of the mining operation becoming idle.

12. Additional Permits/Approvals. The applicant/operator shall ascertain and comply with requirements of all County, State, and Federal agencies as may be applicable to the Project. These include, but are not limited to the following: US Forest Service, San Bernardino County Departments of Land Use Services, Public Health, Environmental Health Services, Public Works, Fire Department, Mojave Desert Air Quality Management District (MDAQMD), Lahontan Regional Water Quality Control Board (RWQCB) Region 6, , State Fire Marshal, Mojave Water Agency, California Department of Fish and Wildlife (CDFW) Region 6, U.S Fish and Wildlife, Army Corp of Engineers, State Mining and Geology Board, California Department of Conservation, California Highway Patrol, California Occupational Safety and Health Administration (OSHA), and the Mine Safety and Health Administration (MSHA).

13. Indemnification. In compliance with San Bernardino County Code (SBCC) Section 81.01.070, the applicant shall agree, to defend, indemnify, and hold harmless the County or its "indemnitees" (herein collectively the County's elected officials, appointed officials (including Planning Commissioners), Zoning Administrator, agents, officers, employees, volunteers, advisory agencies or committees, appeal boards or legislative body) from any claim, action, or proceeding against the County or its indemnitees to attack, set aside, void, or annul an approval of the County by an indemnitee concerning a map or permit or any other action relating to or arising out of County approval, including the acts, errors or omissions of any person and for any costs or expenses incurred by the indemnitees on account of any claim, except where such indemnification is prohibited by law. In the alternative, the applicant may agree to relinquish such approval.

    Any Condition of Approval imposed in compliance with the County Development Code or County General Plan shall include a requirement that the County acts reasonably to promptly notify the applicant of any claim, action, or proceeding and that the County cooperates fully in the defense. The applicant shall reimburse the County and its indemnitees for all expenses resulting from such actions, including any court costs and attorney fees, which the County or its indemnitees may be required by a court to pay as a result of such action. The County may, at its sole discretion, participate at its own expense in the defense of any such action, but such participation shall not relieve the applicant of their obligations under this condition to reimburse the County or its indemnitees for all such expenses.

    This indemnification provision shall apply regardless of the existence or degree of fault of indemnitees. The applicant's indemnification obligation applies to the indemnitees' "passive" negligence but does not apply to the indemnitees' "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

14. Financial Assurances. The applicant/operator shall maintain an acceptable form of Financial Assurance for Reclamation Plan 2020M-01. The Financial Assurance mechanism shall identify the County of San Bernardino and the California DOC as the beneficiaries.

    The Financial Assurance shall be calculated based on a cost estimate submitted by the applicant/operator and approved by the County and the California DOC, Division of Mine Reclamation (DMR) for the approved reclamation procedures.

    Within 30 days following the mine site inspection, a Financial Assurance Cost Estimate (FACE) shall be provided to the Land Use Services Department. The assurance amount shall be reviewed and, if necessary, adjusted to account for new lands disturbed by surface mining operations, inflation and reclamation of lands accomplished in accordance with approved Reclamation Plan 2020M-01.

    The Financial Assurance is not established to replace the applicant's/operator's responsibility for reclamation, but to assure adequate funding to complete reclamation per the Reclamation Plan 2020M-01 and Conditions of Approval. Should the applicant/operator fail to perform or operate within all of the requirements of the approved Reclamation Plan, the County or

Department of Conservation will follow the procedures outlined in Sections 2773.1 and 2774.1 of SMARA regarding the encashment of the assurance and applicable administrative penalties, to bring the applicant/operator into compliance. The requirements for the assurance will terminate when reclamation of the site has been completed in compliance with the approved Mining and Reclamation Plan and accepted by the County and the California Department of Conservation, Division of Mine Reclamation pursuant to California Code of Regulations (CCR), Section 3805.5.

15. SMARA and State Regulations. The provisions of the California Surface Mining and Reclamation Act of 1975 ("SMARA", Public Resources Code Section 2710 et seq.), Public Resources Code Section 2207, and the regulations implementing SMARA ("State Regulations", California Code of Regulations Section 3500 et seq.) are made a part of the Reclamation Plan. In the event that the State amends SMARA to the extent it adds to or conflicts with the Conditions of Approval, State law shall prevail.

16. Annual Reporting and Inspection. The applicant/operator shall provide a Mining Operation Annual Report to the California DOC and to Land Use Services Department on a date established by the California DMR, using forms furnished by the State Mining and Geology Board. The County is required to conduct an inspection in intervals of no more than 12 months to determine if the operation is in compliance with the approved Conditions of Approval, Reclamation Plan, and SMARA statutes and regulations. The County is required to notify the California DMR upon completion of the inspection that the inspection has been conducted and provide a statement regarding the status of compliance of the operation within 90 days after completion of the inspection. The operator of the mining operation is responsible for filing an application with the County to request an inspection and shall be responsible for paying the County's costs in conducting the mine site inspection.

17. Applicant/Operator. Requirements extend to the property owner and any person, lessee, tenant or sub-tenant, operator, individual, firm, association, corporation, organization, limited liability company or partnership, or any city, county, district, or the state or any department or agency thereof for any disturbance or improvements to the mined lands. The applicant/operator may include an agent or other interested party, and any heir or successor in interest in the project land use by sale or by lease of all or of a portion of the mine site including land use within any or all of the mine structures or areas on the mine site.

Definitions

18. Minerals. Include any naturally occurring chemical element or compound, or groups of elements and compounds, formed from organic and inorganic processes. Clay, sand, gravel, rock, decomposed granite, salts, alumina, silica, alkali, topsoil or growth medium, organic humus and gems represent the aggregate of different minerals.

19. Construction and Demolition (C&D). Materials left on site shall be deemed as waste material produced in the process of site clearing activities, construction, renovation, or demolition of structures of all types to include roads and bridges. Waste materials include, but is not limited to concrete, asphalt, wood, metals, gypsum wallboard and brick. The Financial Assurance

Cost Estimate shall include costs to remove C&D materials to an approved offsite facility that is permitted to receive such materials.

20. Exploration or Prospecting. Includes the activities in search for minerals by geological, geophysical, geochemical or other techniques, including, but not limited to, sampling, assaying, drilling, or any surface or underground works needed to determine the type, extent, or quantity of minerals present.

21. Project Design Features: Project Design Features (PDFs) are aspects of the proposed project that have been designed into the mining operations.

22. Mitigation Measures: Mitigation Measures (MMs) are environmental protection measures developed during the CEQA/NEPA process (in addition to the proposed PDFs) that have been determined necessary to further protect the environment.

23. Ownership. The person(s) involved in the ownership of the property include all persons having interest in the ownership of the surface and subsurface property, including mineral rights. If the applicant/operator is not the recorded owner(s) of the property must submit a signed statement by the property and mineral rights owner(s) authorizing the Applicant to act on their behalf.

24. Operator. The Operator includes the Applicant and any person who is engaged in surface mining operations, and others contracted to conduct operations on his or her behalf, except a person who is engaged in surface mining operations as an employee with wages as his or her sole involvement and compensation.

25. Operations. Surface mining operations include all, or any part of, the process involved in the mining of minerals on mined lands, borrow pitting, segregation and stockpiling of mined materials (and recovery of same).

26. Mined Lands. Include the surface, subsurface, and groundwater of an area in which surface mining operations will be, are being, or have been conducted, including private ways and roads appurtenant to any such area, land excavations, workings, mining waste, and areas in which structures, facilities, equipment, machines, tools, or other materials or property which result from, or are used in, surface mining operations are located.

27. Parcel Map. The applicant/operator shall, prior to final inspection for reclamation and release of the financial assurance, record a parcel map for Assessor Parcel Numbers (APNs): 0447-031-03, -07, -11; 0447-041-02; 0447-091-03; & 0447-101-02 any other parcel(s) where unconsolidated fill is part of the final reclamation. The parcel map shall indicate those areas backfilled with uncompacted material and designate said areas as unbuildable. At such time a California Building Code (CBC) compaction report has been approved by Building and Safety, that particular area can have the building restriction removed.

28. Limestone Removal. The applicant shall not sell or otherwise move off the mine site any limestone or other produced minerals to a public agency unless the operator certifies, under penalty of perjury, that the mining operation is identified in the AB 3098 List published pursuant to PRC Section 2717(b).

29. Produced Minerals. As defined in CCR Section 3501 includes all minerals sold, given or otherwise moved off the site of the operation, as defined in the approved reclamation plan. Recycled products (e.g. broken concrete, bricks, asphaltic concrete, etc.) or stockpiles of mineral products that remain on the site are not produced minerals for purposes of CCR Section 3695(b).

30. Project Account. As determined necessary on a case by case basis, the applicant/operator shall deposit funds with the County necessary to compensate staff time and expenses for review of compliance monitoring reports and site inspections. The project account number for this Reclamation Plan is AP20100105. This is an actual cost project with a deposit account to which hourly charges are assessed by various county agency staff, including but not limited to: Land Use Services, Public Works, and County Counsel.

    Upon notice, the applicant shall deposit additional funds to maintain or return the account to a positive balance. The applicant/operator is responsible for all expenses charged to this account.

COUNTY FIRE DEPARTMENT – Community Safety Division (760) 254-5474

31. Jurisdiction. The above referenced Project is under the jurisdiction of the San Bernardino County Fire Department herein ("Fire Department"). Prior to any construction occurring on any parcel, the developer shall contact the Fire Department for verification of current fire protection requirements. All new construction shall comply with the current Uniform Fire Code requirements and all applicable statutes, codes, ordinances and standards of the Fire Department.
32. Access. The primary access route shall comply with the minimum requirements for fire protection and/or emergency response with applicable local ordinances, codes, and/or fire protection standards.

MINING OPERATIONS

LAND USE SERVICES DEPARTMENT – Planning Division (909) 387-8311

General

33. Operations. Extraction and processing operations shall proceed in accordance with the South Quarry Reclamation Plan 2020M-01. Mineral extraction, stockpiling and crushing will adhere to the mining operations outlined in the South Quarry Mining Plan of Operations.

34. Best Management Practices (BMP's). The operator shall implement BMP's procedures. BMP provisions shall include, but not limited to, the following:

- Good Housing Keeping – Dust minimization, waste spills, discharges.
- Preventive Maintenance – Minimize spills, and on-site leaks, prompt maintenance.
- Spill and Leak Preventive Response – In place spill procedures and controls.
- Material Handling and Waste Mgmt. – Waste covering, storm water diversion practices, waste clean ups.
- Implement Erosion and Sediment Controls – Sediment and Erosion Stabilization.
- Employee Training Program- BMP Training.
- Exposure Minimization – Storm resistant shelters to prevent contact of storm water with mining materials, as feasible.
- Storm Water Containment & Discharge Reduction – BMP's that divert, reuse, contain or reduce volume of storm water runoff.

35. Employee Training. Develop an Employee Training Awareness Plan that addresses training requirements, as necessary to comply with relevant regulations and approval conditions and mitigations identified in the Final EIR/EIS. (MM/PDF: GEN-1; GEN-2; BHS-8)

36. Additional Environmental Control Measures. In addition to the BMPs, MMs, and PDFs stated herein, the Operator shall implement the environmental control measures identified below in the specific resource sections of these COAs.

Cultural Resources

37. Archaeological Resources. The developer/property owner shall submit a letter to the County Land Use Services Department- Planning Division (County) agreeing to adhere to the following requirements:

In the event archaeological resources are uncovered during earthmoving activities, all work in that area shall cease immediately and the County and SBNF shall be notified. A qualified archeologist shall be retained to access the findings, and if, necessary, provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. Earthmoving shall be allowed to proceed on the site when the archaeologist, in consultation with the appropriate Native American Tribe(s), the County, the SBNF, and the qualified archaeologist determines the resources are recovered to their satisfaction.

38. Paleontological Resources. The developer/property owner shall submit a letter to County Land Use Services Department- Planning Division (County) agreeing to adhere to the following requirements:

In the event paleontological resources are uncovered during earthmoving activities, all work in that area shall cease immediately and the County and SBNF shall be notified. A qualified paleontologist shall be retained to access the findings, and, if necessary, provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. In

consultation with the Project proponent, the County, and the SBNF, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation in the find a local qualified repository, and preparation of a report summarizing the find.

Hydrology, Drainage and Water Quality

39. Drainage and Sedimentation. In accordance with the Geology and Soils section in the EIR/EIS and the slope stability report prepared by Golder Associates (Golder, 2010), the following MM/PDFs shall be implemented to address drainage control:

a) Control of surface drainage, erosion, and sedimentation of the proposed haul road and quarry operations would involve the following primary components currently being implemented for existing operations: (MM/PDF: GEO-1)

- Limiting surface disturbance to the minimum area required for active operations.
- Diverting runoff, where operationally feasible, such that runoff from undisturbed areas does not enter the area of active operations.
- Using ditches, sediment basins and localized control and maintenance measures to intercept and control runoff along the haul road.
- Stabilizing disturbed areas through regarding, revegetation and other restoration practices.
- Direct runoff into the quarry, haul road sediment catchment basins, and culverts.

b) Implement standard erosion control measures commensurate with those typically required in an Industrial Stormwater Pollution Prevention Plan (SWPPP) for a limestone surface mining operation for all phases of construction and operation where sediment run-off from exposed slopes may enter native soils or habitat or jurisdictional streambeds. (MM/PDF: GEN-1i)

c) Disturbed soils and roads within the project site and along the haul road shall be stabilized to reduce erosion potential. (MM/PDF: GEN-1j)

40. Water Supply.

a) Ensure that water production will remain within Mitsubishi's designated Free Production Allowance (FPA).

b) Continue current regular groundwater monitoring program within the general MCC Cushenbury operating area through the life of the project (South Quarry Reclamation Plan) and submit a report regarding the monitoring to the SBNF and the County at least annually.(MM/PDF: GEN-14)

41. Compliance. Comply with all SMARA, water quality and hazardous materials management regulatory requirements and identified BMP/design features. (MM/PDF: GEN-1e, i, & j; GEO-1)

Air Quality

42. Air Quality – General. Comply with all relevant MDAQMD regulations and permit conditions to minimize air emissions.

43. Dust Control Plan. Prepare and implement a Dust Control Plan pursuant to SBCC Chapter 88.02 and Section 88.02.040 and the Mojave Desert Air Quality Management District (MDAQMD) Rule 403.2(C)(3)(a). The Plan shall, at minimum, include the following aspects:

a) Every day of active mining, the operator shall apply water to unpaved roads and disturbed mine areas that are in active use on that day no less than once every 1.25 hours at a rate of no less than 0.11 gallons per square yard. Alternatively, the operator shall apply chemical dust suppressants to unpaved roads and disturbed mine areas in active use at a frequency and application rate in accordance with manufacturer specifications. (MM/PDF: AIR-2)

b) Mining activities will be limited or stopped during significant wind events per MDAQMD Rule 403.2(C)(2)(f).

c) Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than thirty days per MDAQMD Rule 403.2(C)(2)(d).

44. Diesel Emissions. Within three years after the commencement of mining in the South Quarry, or whenever the total quarry haul truck operating HP-hrs./year reach 6 million per year, whichever is later, the applicant shall:

- Add to its fleet no fewer than five quarry haul trucks meeting Tier 4 standards; and
- Retire all remaining Tier 0 quarry haul trucks.

"Tier 0" and "Tier 4" refer to those terms as defined by the CARB off-road diesel rule, CCR Title 13 Sections 2449-2449.3. For the purposes of this condition, "mining" shall not include the construction of the South Quarry Road. (MM/PDF: AIR-1)

45. Equipment Emission Reduction and Idling. Maintain and operate construction equipment so as to minimize exhaust emissions. During mining, trucks and vehicles in loading and unloading shall have their engines turned off when not in use, to reduce vehicle emissions.

46. Exhaust Control Measures. Comply with all existing and future EPA (Clean Air Non-road Diesel Rule-May 2004), CARB and MDAQMD regulations related to diesel-fueled trucks and equipment, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures (SBCC, Section 83.01.040 (c)) including but not limited to:

a) Equipment/vehicles shall not be left idling for period in excess of five minutes;
b) Engines shall be maintained in good working order to reduce emissions;
c) Onsite electrical power connections shall be made available where feasible;
d) Ultra-low-sulfur diesel fuel shall be utilized;
e) Electric and gasoline powered equipment shall substitute for diesel powered equipment where feasible; and
f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.

Hazardous and Hazardous Materials; Geology Slope Stability

47. Hazardous Materials Business Plan / Emergency/Contingency Plan. The operator shall establish a Business Emergency/Contingency Plan to establish protocol in the event of release or threatened release of hazardous materials and wastes. Contact Office of the Fire Marshall, Hazardous Materials Division at (909) 386-8401.

48. Hazardous Materials Handling. The operator shall be required to apply for one or more of the following permits: Hazardous Materials Permit, a Hazardous Waste Permit, and/or an Aboveground Storage Tank Permit, as appropriate.

49. Chemical Spills/Leakage. All vehicles and equipment shall be maintained in proper working condition to minimize the potential for spill of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Spills will be cleaned up as quickly as possible (MM/PDF: GEN-1e) and shall be remediated in compliance with applicable federal, state and local regulations regarding cleanup and disposal of the contaminant released. Contaminated wastes shall be collected and disposed of at an appropriately licensed disposal or treatment facility.

In the event of any soil contamination on-site, the applicant/operator shall remove any soils that become chemically contaminated to a County-approved disposal site so as to preclude any chemical leaching into the local ground water supply over time.

50. Compliance. Comply with the Hazardous Materials Business Plan, SWPPP, SPCC Plan and BMPs as required and applicable by these plans and hazardous materials and waste regulatory requirements.

51. Management of Hazardous Materials. Ensure that the use, transport, management, storage and disposal of fuels (i.e. diesel and gasoline) and other hazardous materials used for mining operations (i.e. motor oil, transmission fluids, hydraulic fluids, lubricating greases, brake fluids and/or antifreeze) are in accordance with federal, state and local hazardous materials and waste management regulations and BMPs.

52. Above Ground Storage Tank. Inspect and maintain any above ground fuel storage tank to ensure that the secondary containment (i.e. double wall tank) and spill prevention controls and countermeasures are present and/or operating as required.

53. Hazardous Materials Business Plan. Maintain an updated Hazardous Materials Business Plan and hazardous materials inventory per CUPA requirements as applicable.

54. Blasting Schedule. Minimize blasting events to the extent possible (approximately twice per week) and only blast during daylight hours Monday through Saturday.

55. Management of Explosive Materials. Conduct transportation, storage and handling of explosives and detonators in accordance with regulatory requirements and only with licensed, trained and qualified professionals in accordance with all federal, State, and local regulations and permitted under the San Bernardino County Sheriff's Department and San Bernardino County Fire Department pursuant to Uniform Fire Code adopted by the Department. In compliance with County regulations, blasting would only be conducted by a licensed blaster upon issuance of a blasting permit and a site-specific blasting permit.

56. Emergency Response Equipment. Maintain all emergency and spill response equipment in proper operating condition and have available at areas where hazardous materials and waste are used, transported and/or stored.

57. Hazardous Material/Waste Training. Ensure all personnel are appropriately trained in hazardous materials and waste management, including spill prevention and response procedures.

58. Seismic Events: There is a high potential for ground shaking at the Project during a nearby seismic event, and this would include the proposed quarry and haul road. Engineering measures designed by a geotechnical engineer to mitigate the effects of ground shaking shall be included in slope design and construction. (MM/PDF: GEO-4)

    Inspect slope conditions after seismic events and remove precarious rocks from slopes. Slope conditions in the Project Area shall be inspected after a seismic event exceeding 5.5 magnitude on the Richter Scale originating from an epicenter located within 100 miles of the Project Area. Quarry operations shall be halted until a qualified geotechnical engineer is retained to inspect slope conditions for potential loose blocks or other unsafe or unstable conditions. Any required slope stabilization measures must lead to achievement of a minimum factor of safety of 1.5 before quarry operations continue.

59. Blasting. Blasting shall be conducted in accordance with applicable regulations, including but not limited to MSHA, CalOSHA, SMARA, DOT). The blasting agent used at the quarries shall be stored off the Project site, in magazines at designated locations at the Mitsubishi Cushenbury operations. Explosives are only transported to the site by a licensed contractor as necessary.

60. Slope Inspections. A geotechnical program of ongoing field mapping, drilling, and geophysical surveys and laboratory testing will be established and implemented as the quarry is excavated. This type of site investigation during the mining operation will provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. An annual report discussing the geotechnical program will be prepared for the Forest Service and the County. (MM/PDF: GEO-2)

61. Landslides. Areas mapped as underlain by landslides shall be further evaluated. Should landslides be found present within the quarry, appropriate mitigating engineering measures shall be employed to stabilize cuts into quarry walls. Such measures may include removal of landslide debris, construction of buttresses, or other stabilization measures. Monitoring of cut slopes by an Engineering Geologist shall also be performed during excavation of the quarry so that further recommendations for slope stabilization can be provided as appropriate.(MM/PDF: GEO-3)

62. Slope Design. Implement quarry and overburden slope designs and procedures recommendations identified in approved slope stability investigations and per SMARA requirements.

63. Slope Monitoring. Slope inspections and monitoring shall be implemented to assure that unnecessary hazards are not created with the active or final reclaimed slopes. A qualified independent California Certified Professional Civil Engineer and/or Engineering Geologist shall complete a stability assessment of existing and new quarry development areas when deemed necessary by the County inspector. The analysis shall identify and discuss significant structural features or indications of potential instability encountered.

Biological Resources

64. General Biological Resource Protection: Mitsubishi shall minimize disturbance or hazards to surrounding vegetation, habitat, and wildlife, such as toxic substances, dust, noise, and lighting, as follows (MM/PDF: GEN-1):

a) New lighting shall be established at the minimum necessary to meet safety. requirements, and shall be shielded to avoid lighting the surrounding habitat and the night sky;

b) Except as necessary to survey or maintain the safety of the mine site, the Project's disturbance footprint shall be limited to areas designated for mining and related activities;

c) Equipment staging areas and other construction or related habitat disturbance shall be limited to areas within the new quarry footprint and shall be designed and operated to the goal of minimizing impacts to adjacent habitat and sensitive biological resources;

d) Any rock stain for scenic mitigation or soil bonding or wetting agents to be used for dust control on unpaved surfaces shall be non-toxic to wildlife and plants and non-attractants for wildlife. If staining, wetting or soil bonding agents appear to be attracting wildlife to the roadways (e.g., by pooling or creating mineral licks), the mining operator will work with the Forest Service to develop remedies;

e) All vehicles and equipment shall be maintained in proper working condition to minimize the potential for spill of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Spills will be cleaned up as quickly as possible;

f) All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site;

g) Only authorized agency or security personnel (including the California Department of Fish and Wildlife [CDFW], USFWS, and Forest Service) shall bring firearms or weapons to the site;

h) No recreational target shooting will occur on Forest Service lands within the permit area;

i) Standard erosion control measures commensurate with those typically required in an Industrial Stormwater Pollution Prevention Plan for a limestone surface mining operation shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes may enter native soils or habitat or jurisdictional streambeds;

j) Disturbed soils and roads within the Project Area shall be stabilized to reduce erosion potential; and

k) For drainages that cannot be avoided, MCC shall obtain a Streambed Alteration Agreement in compliance with Section 1602 of the California Fish and Game Code and an application for waste discharge requirements (WDRs) or a waiver of WDRs in compliance with Section 13260 of the California Water Code, as applicable prior to disturbance to the issuance of a grading permit. Impacts to waters of the State shall be mitigated by replacement on an in-kind basis. Compensatory mitigation will be commensurate with impacts and may consist of establishing restoring, and preserving similar on-site habitat, and/or purchasing off-site credits from an approved mitigation bank. (MM/PDF: GEN-1)

65. Employee Training. MCC shall conduct wildlife/plant awareness programs for employees (including new employee orientation and annual refresher trainings). The program will address bighorn sheep, desert tortoise, golden eagles, rare reptiles/amphibians, other animals of the area, and rare plants. This will include the importance of avoiding harassment/disturbance, adherence to speed limits, adherence to defined project boundaries, reporting guidelines, discouraging ravens and other scavengers, etc. Specific items as described in the employee education component of the North Slope Bighorn Conservation Strategy, Raptor Conservation Strategy, and the desert tortoise design features below will be included in the training. MCC will solicit input from CDFW and USFS in developing the training program. (MM/PDF: GEN-2)

66. Fencing. MCC shall identify likely or potential wildlife movement routes across or around the site and then avoid or minimize potential impediments to wildlife movement by fencing only those areas where access must be restricted for safety or security reasons.

In the event fencing is necessary during construction and/or extraction activities, project personnel shall ensure that any such fence meets existing specifications that have been developed to preclude accidental entanglement of bighorn sheep, deer, and other animals.

Biologists from the USFS and CDFW will be consulted for appropriate fence guidelines. Where this Design Feature conflicts with Mine Safety and Health Administration guidelines, attempts will be made to meet the intention of both. Where that is not possible, Mine Safety and Health Administration guidelines will be applied. (MM/PDF: GEN-3)

67. Reclamation. Reclamation of the South Quarry shall include the creation of angled pathways and interlacing reclaimed benches in order to facilitate the movement of bighorn sheep and other wildlife through the quarry. These benches will be created as the mining sequence is completed and prior to restoration. The design of the benches shall be coordinated with Forest Service and/or CDFW biologists. Forest Service and/or CDFW biologists shall have 60 days to comment on the proposed bench design. (MM/PDF: GEN-4)

68. Haul Road Crossings: The final design and construction of the haul road shall ensure movement pathways for wildlife, including bighorn sheep, and deer, and small mammals, between the existing East and West Pits and the proposed South Quarry. This will include, but may not be limited to, terracing or stair-stepping or micro-benches of steep and vertical cuts, especially at strategic crossing locations. Design and construction of the haul road shall be completed in coordination with CDFW and Forest Service biologists. A study to analyze the efficacy of long-term mammal usage of the haul roads shall be designed in consultation with CDFW and Forest Service biologists and shall be implemented by MCC within one year of construction of the haul road. The objective of the study will be to analyze the efficacy of the measures intended to prevent a movement barrier and address corrective measures through adaptive management, if needed. (MM/PDF: GEN-5)

69. Pets and Domestic Animals. Mitsubishi employees shall not bring pets or domestic animals to the work site. Mitsubishi will not authorize the housing or grazing of domestic animals on the project site. (MM/PDF: GEN-6)

70. Feeding Animals: Feeding of animals will be prohibited to discourage the spread of non-native birds, to discourage the spread of disease and pathogens, etc. (MM/PDF: GEN-7)

71. Attract Raptors. Maintain facilities and grounds in a manner that minimizes any potential impacts to hunting or scavenging raptors and other predators/scavengers (*e.g.*, minimize storage of equipment near active quarries that may attract prey, remove trash/garbage daily, etc.). All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site. Avoid practices that attract/enhance prey populations and opportunities for raptor hunting or scavenging near active quarries, haul roads, and processing areas. This would also help discourage the spread of non-Native birds and to discourage the spread of disease and pathogens, etc. (MM/PDF: GEN-8)

72. Collision Risk. To reduce vehicle collision risk to raptors and other scavengers, intact animal carcasses (with the exception of bighorn sheep and deer) will be removed immediately from mine roads and mining areas. Carcasses will be removed far enough away from roads and active mining areas that scavengers would not be in danger of vehicle collision or other mining-related hazards. Bighorn sheep and deer carcasses shall be covered with a tarp and left in place until the CDFW or Forest Service biologist is notified and provides direction. As much as is feasible, care will be taken to avoid disturbing the area around the carcass to

preserve predator tracks, parasites, etc. (MM/PDF: GEN -9)

73. Disturbance Avoidance. Mitsubishi employees and contractors will not use Mitsubishi roads in order to access National Forest lands for recreation or hunting. Access for personal use will be through National Forest system roads and trails that are open to the general public. (MM/PDF: GEN-10)

74. Blasting – Visual Inspections. Prior to blasting activities within the Project Area, designated mine employees trained by CDFW and/or Forest Service biologists shall conduct a visual inspection (both naked eye and with binoculars or spotting scope) for a minimum of five minutes to ascertain the presence or absence of bighorn sheep, deer, golden eagles, peregrine falcons, or other large animals. If animals are located within the blast area, mine employees shall wait until animals have moved from the area before initiating the blast procedures. The designated mine employee or may use noise deterrents (e.g., shouts, vehicle, or air horns) to move them out of the blast area prior to detonation of any blasting materials. The blasting log will be available upon request by CDFW and Forest Service personnel. (MM/PDF: GEN-11)

75. Biomass Disposal. All woody vegetation to be cleared from the surface (quarry site, haul road, etc.) will be disposed of as follows:

a. Small size vegetation and organic material (stems less than 6 inches in diameter) will be applied to inactive quarry benches, overburden piles, and on sidecast areas along roads and quarries. Material may be chipped and/or stockpiled prior to use. Stockpiling and use should be done as part of phased reclamation to minimize stockpile duration and associated weed risk.

b. All wood greater than 6 inches in diameter will be either reduced to less than 6 inches and applied as described in GEN-12a or removed from the site and decked by MCC at a location to be determined by the Forest Service. The decked wood will be sold to the public by the Forest Service. (MM/PDF: GEN-12)

76. Quit-Claim. The BLM's withdrawal of approximately 540.4 acres of land from mineral entry and MCC's quit-claim of specified unpatented mining claims (discussed in EIR/EIS Sections 1.6 and 3.2.4.2) is also designed to mitigate for the loss of pinyon-juniper woodland and desert transition habitats as wildlife habitat. (MM/PDF: GEN-13)

77. Groundwater Monitoring. The current regular groundwater monitoring program within the general MCC Cushenbury operating area will continue through the life of the project (South Quarry Operating Plan and Reclamation Plan). MCC will continue to submit a report regarding the monitoring to the Forest Service and the County at least annually. If this regular report indicates a change in groundwater levels, use, or recharge rates that may pose a substantial threat to surface water and wetland vegetation at Cushenbury Springs, or if unusual vegetation mortality is observed at the wetlands, a pump test will be performed for all wells supplying the Cushenbury Cement Plant and associated monitoring wells to determine if there has been a change in the groundwater basin between the subject wells and Cushenbury Springs. If there are future adverse changes to water quantity, seasonal duration of surface flow, or extent of wetland vegetation related to the project, MCC will

respond to minimize these effects. Future minimization actions may include, but are not limited to, water conservation programs and shifts in the usage of various available water sources. (MM/PDF: GEN-14)

78. Wildlife, Plant and Water Resource Monitoring. Due to the long life of the proposed Project (40 or 120 years plus reclamation), monitoring of effects to wildlife, plants, and water resources, including at Cushenbury Springs, shall be conducted as described in MM/PDFs GEN-2, GEN-4, GEN-5, GEN-11, GEN-14, BHS-2, BHS-4, BHS-6, BIRD-1, BIRD-2, RAPTOR-1, RAPTOR-2, RAPTOR-3, DETO-1, NNS-1, NNS-3, CARB-1, and the Raptor Conservation Strategy, Carbonate Habitat Conservation Strategy, and Bighorn Sheep Conservation Strategy. At a minimum of every 10 years for the life of the project, the Forest Service and CDFW will review the monitoring efforts to address changes in the scale and scope of predicted effects. The objective is to use adaptive management to adjust MM/PDFs and strategy plans in the light of new information, new species of concern, and/or new mining technology. If effects to federal or state protected species are determined to be different than the predicted effects, appropriate steps shall be taken, which may include but are not limited to development of new or adjusted Design Features/Mitigation Measures or best management practices to ensure avoidance of "take". (MM/PDF: GEN-15)

Carbonate Endemic Plant Species

79. Carbonate Endemic Plant Species. As specified under the Carbonate Habitat Management System (CHMS) and within the Project Area, Mitsubishi or the Forest Service may, at their discretion, salvage carbonate endemic plant species (whole plants, cuttings, or seed), and propagules of associated species, to aid in carbonate habitat revegetation efforts on or off-site. (MM/PDF: CARB-1)

80. Threatened and Endangered Plants. MCC shall, upon BLM's withdrawal of approximately 540.4 acres of land from mineral entry, quit-claim specified unpatented mining claims held within the SBNF, and convey specified patented lands, which have been verified by the Forest Service to contain occupied endangered species habitat on an approximately 3 to 1 ratio (species-acres and CHMS conservation value) as mitigation for impacts of the South Quarry project on Cushenbury buckwheat (*Eriogonum ovalifolium var. vineum*), Cushenbury puncturebract (formerly oxytheca) (*Acanthoscyphus parishii var. goodmaniana*), and Parish's daisy (*Erigeron parishii*) pursuant to the guidance provided by the CHMS as follows: MCC shall determine total project disturbance acreage, to include the South Quarry and haul road as well as rock and debris roll-down areas below them. MCC shall evaluate the Conservation Value of the acreage proposed for disturbance according to the CHMS. (MM/PDF: CARB-2)

Conservation of Special Status Raptors

81. Raptor Conservation Strategy (RCS)**:** An RCS has been developed in coordination with the Forest Service, USFWS, and CDFW. MCC shall follow the guidelines put forth in the effort. The RCS has been tailored for activities associated with mining activities and effects. Upon approval of the Plan of Operations and the Reclamation Plan by the County and the Forest

Service, MCC will participate in the implementation of the RCS by contributing to specified survey and monitoring efforts, and by following applicable operational guidelines.

The RCS covers the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs, and addresses special status raptors (currently, golden eagle, California condor, peregrine falcon, and prairie falcon). The RCS may be updated to include other raptors in the future if concerns develop over their local population status.

The RCS will be a dynamic document and will be updated as new data and scientific understanding of the aforementioned species become available. It will include monitoring and information gathering, and measures to avoid, minimize, rectify, and reduce (or eliminate over time) effects to raptors nesting on the North Slope. The intent is to use systematic monitoring of raptor nesting chronology and observed behavior to develop site- and activity-specific measures to ensure successful nesting and provide for adaptive management opportunities. (MM/PDF: RAPTOR-1)

82. Raptor Nesting Regulatory Coordination**:** If an occupied nest for a federally-protected species, a California-listed species, or a California fully-protected species is found within 1.5 miles of an active quarry operation, the Forest Service will determine if additional monitoring is needed and undertake the appropriate coordination/consultation with the appropriate agencies. If required, the appropriate authorization(s) will be requested from USFWS or CDFW, under the applicable law (federal or state Endangered Species Act, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act). MCC will cooperate in such efforts and implement the resulting measures designed to minimize or avoid "take". MM/PDF: RAPTOR-2).

83. Raptor Monitoring: If monitoring detects that blasting or other mine activities are resulting in disturbance of nesting raptors that could lead to mortality or nest abandonment, the Forest Service, MCC, and USFWS and CDFW, as appropriate, will evaluate the feasibility of implementing measures to avoid or reduce effects. The RCS will contain potential methods, such as establishment of buffers and parameters for work stoppage, for reducing or avoiding effects. (MM/PDF: RAPTOR-3)

Desert Tortoise

84. Personnel Training – Desert Tortoise: MCC will consult with the Forest Service to incorporate desert tortoise education and awareness into their training for employees, customers, and contractors. This will include how to minimize impacts to desert tortoise and their habitats. Information about penalties will also be included. These briefings will include guidelines about driving in desert tortoise habitat, handling prohibitions, etc. MCC will solicit input from the Forest Service to develop other protective measures if a need is identified through reporting from Design Feature DETO-2 or other CDFW or Forest Service requirements.(MM/PDF: DETO-1)

85. Desert Tortoise Reporting: Any sightings of desert tortoises, including dead tortoises, in the Project Area, must be reported to the Forest Service biologist. The report will include photos

if possible, location, date, time, cause of death (if obvious), and any other pertinent information. (MM/PDF: DETO-2)

Nesting Birds

86. Ground Clearing **(***Migratory Bird Treaty Act Compliance):* During the development of the quarry, haul roads, and associated facilities, all initial ground clearing (vegetation removal, grading, etc.) shall occur outside the avian breeding season (i.e., do not remove potential nesting habitat from February 1 through August 31, or appropriate dates based on on-site nesting phenology determined by a qualified biologist).

    For initial ground clearing (vegetation removal, grading, etc.) that is not feasible to be conducted outside the nesting season, surveys will be conducted to locate active nests within 10 days of the initiation of ground-disturbing activities. Any active nest sites that are located will be buffered and no work will be conducted within those buffered areas until the nests are no longer active. The buffer distances would be determined by a qualified biologist referencing current species-specific standards and taking into account the conservation status of the species (e.g., larger buffers may be appropriate for Sensitive species, etc.), species-specific biology, and the nature of the planned disturbance (e.g., driving past a nest versus extensive grading).(MM/PDF: BIRD-1)

87. Nesting Surveys**:** Nesting bird surveys for passerine birds, as outlined under BIRD-1, guidelines area as follows: A qualified biologist shall be experienced and familiar with robust nest-locating techniques or comparable to those described by Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines: 1) Surveys shall cover all potential nesting habitat to be disturbed and a 500-foot buffer surrounding areas to be disturbed; and 2) At least two pre-construction surveys, separated by a minimum 10-day interval, shall be completed prior to initial grading or grubbing activity; the later survey shall be completed no more than 10 days preceding initiation of initial grading or grubbing activity. Additional follow-up surveys shall be required if periods of construction inactivity exceed one week in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation. Copies of the bird survey reports shall be provided to the County and the Forest Service. (MM/PDF: BIRD-2)

Bighorn Sheep

88. Bighorn Sheep Foraging Habitat**:** When trucks spray water on haul roads to control fugitive dust, some overspray occurs on road berms for a short distance beyond. Those watered areas sometimes support vegetation that bighorn sheep consume. MCC will not make an effort to eliminate the overspray. The Project's Revegetation Plan shall focus on using native species that will help enhance bighorn sheep habitat. (MM/PDF: BHS-1)

89. Water Developments: In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the development of the South Quarry, MCC shall create additional water development(s) after consulting with appropriate agency personnel (Forest Service and CDFW) to select location(s) for additional water development(s). MCC shall ensure that any existing water development(s), as well as any

created as part of the Design Features/Mitigation Measures, are maintained in good operating condition for the duration of the project. (MM/PDF BHS-2)

90. Bighorn Sheep Reporting of Mortality**:** MCC shall immediately report any bighorn sheep mortalities, whatever the cause, to the CDFW and Forest Service as soon as possible after the observation. The bighorn sheep carcass shall be covered and left in place until the CDFW or Forest Service biologist can examine it and determine the proper disposal method. In the event that mountain lion predation is occurring at levels that compromise the viability of the population, Mitsubishi shall cooperate fully by ensuring access to Mitsubishi properties and the Project site for Forest Service and/or CDFW personnel for the purpose of determining the predator involved or, in the event that an individual predator has been identified, to remove the predator. (MM/PDF: BHS-3)

91. Monitoring/Adaptive Management: MCC shall monitor bighorn sheep use in and near their operations and at water sources in and adjacent to their operations. Monitoring shall consist of installation and maintenance of cameras stationed at CDFW- and Forest Service-identified water sources and recording of data from cameras in a database developed by CDFW, as well as collection of observations by MCC employees. The North Slope Bighorn Sheep Management Strategy may identify other monitoring methodologies to be developed over time. An annual monitoring report will be provided to the Forest Service and CDFW. (MM/PDF: BHS-4)

92. Highway Crossing: Upon obtaining the necessary approvals from Caltrans, MCC shall fund, purchase, and install highway warning signs on State Route 18. MCC shall use best efforts to obtain the Caltrans approvals necessary to install the highway warning signs on State Route 18. The intent of the signs is to avoid vehicle-strike mortality or “take” of bighorn sheep crossing the highway. (MM/PDF: BHS-5)

93. North Slope Bighorn Sheep Conservation Strategy***:*** A North Slope Bighorn Sheep Conservation Strategy (RCS) has been developed by CDFW and the Forest Service which includes: 1) guidelines/thresholds for population status that would trigger augmentation of the herd; 2) a strategy/guidelines for developing water sources to respond to drought years; 3) herd monitoring methodology and objectives. Mitsubishi is a partner in the North Slope Bighorn Sheep Conservation Strategy and shall help support the long-term management goals of maintaining a sustainable population of bighorn sheep on the North Slope. (MM/PDF: BHS-6)

94. Future Conservation and Management**:** Within one year after approval of the South Quarry Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC shall begin contributing to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The amount of MCC’s contributions shall be determined by CDFW in coordination with MCC prior to final approval of the South Quarry Project. The Fund shall be administered by an entity approved by the CDFW and the Forest Service, such as the National Fish and Wildlife Foundation as a sub-account of the California Department of Fish and [Game] Master Mitigation Account. The Fund shall be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep

both within the Cushenbury herd and on proximate habitats, occupied or unoccupied, including the Bighorn Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation. (MM/PDF: BHS-7)

95. Bighorn Sheep Employee Awareness Training: Mitsubishi shall consult with the CDFW to incorporate bighorn sheep education and awareness into their training for employees and contractors. Training shall include how to minimize impacts to bighorn sheep and include guidelines for driving, operation of heavy equipment, general quarry operation, and blasting in bighorn sheep habitat. (MM/PDF BHS-8)

96. Trained Mine Employee: Prior to blasting activities within the Project area, one to two mine employees shall be trained by the CDFW's or the Forest Service's biologist to ensure a minimum skill level in detection of target animals (bighorn sheep, golden eagles, etc.). The trained mine employee(s) shall be responsible for the completion of visual inspections for bighorn sheep and other species specified in GEN-11, within the Project area prior to the commencement of all blasting activities. The trained mine employee(s) shall maintain a logbook detailing the location, date, time, and species observations of each visual inspection for each blasting activity. The logbook will be available upon request by CDFW or Forest Service personnel. (MM/PDF: BHS-9)

97. Work Boot Decontamination. As part of the worker training required under Design Feature/Mitigation Measure BHS-8 and BHS-9, all quarry workers will be trained on the importance of and procedures for decontaminating boots to prevent transmission of disease from domesticated sheep and goats to bighorn sheep. In addition, all quarry workers who have potential contact with domesticated sheep and/or goats (for example at farms, fairs, etc.) will be identified and shall decontaminate work boots prior to entering the Project area. Decontamination shall involve scrubbing the soles of work boots with a 10-percent bleach solution to remove all organic matter and kill pathogens. Alternatively, footwear may be changed to ensure that potentially contaminated footwear does not enter any quarry area. (MM/PDF: BHS-10)

Non-Native Species – Plants, Animals, and Pathogens

98. Non-Native Invasive Plant Monitoring. MCC shall monitor the occurrence of non-native invasive plants in the Project Area by visual inspection. The goal is to prevent non-native invasive plants from becoming established and depositing seeds in areas to be re-vegetated at a later date. If inspections reveal that weeds are becoming established in the Project Area, then removal would be initiated by MCC in coordination with the Forest Service botanist. Inspections shall be made in conjunction with revegetation monitoring. (MM/PDF: NNS-1)

99. Heavy Equipment Washing. To reduce the risk of introducing non-native invasive plants, insects, and pathogens from off-site, all heavy mining equipment (e.g., drill rigs, haul trucks, loaders) must be thoroughly washed of all soil and vegetation debris prior to being brought into the company's operating area (i.e., the MCC Cushenbury Cement Plant and associated local quarries). (MM/PDF: NNS-2)

100. New Non-Native Invasive Plants. If any new non-native invasive plants, animals, or pathogens are identified as having a potential for establishment in the Project Area, MCC will consult with the Forest Service to develop measures for detection, control, and eradication as necessary. MCC shall be responsible for funding detection, control, and eradication efforts in the Project Area. (MM/PDF: NNS-3)

101. Personnel Training – Domestic and Feral Animals: MCC personnel will be trained on the need to report sightings of feral or domestic sheep, goats, dogs, or cats on, in, and near the Project Area to the Forest Service and CDFW within two hours of the observation. In the event of domestic or feral animals being found, MCC shall employ a trained trapper to catch and remove the animals following County regulations. CDFW may assist in capture/removal efforts, if available. (MM/PDF: NNS-4)

Salvage and Recovery of Plants

102. Salvage and Recovery of Yucca Species. MCC shall inventory all accessible yucca species (Joshua trees, Mojave yucca, and chaparral yucca) within the proposed project disturbance areas and identify yuccas (all species) likely to survive transplantation.

Prior to grading, accessible yucca plants suitable for translocation shall be transported to off-site reclamation or restoration areas. The suitability for salvage and transplantation shall be determined by a qualified botanist or horticulturalist, based on their size, stability, and location. A qualified horticulturalist shall direct the removal, transport, and replanting, and follow-up maintenance including irrigation and physical support as needed until transplantation is successful. Relocation sites shall be within the same general area. Suitable reclamation/restoration sites will be identified in coordination with the Forest Service botanist. (MM/PDF: PLANT-1)

103. Rare Native Plants. MCC will solicit input from the Forest Service and will provide for salvage of rare native plants within the Project Area to be propagated and/or transplanted to protected habitat reserve areas at the discretion of the Forest Service. (MM/PDF: PLANT-2)

Aesthetics (Scenery)

104. On-Site Lighting. The area of illumination from any on-site lighting shall comply with SBCC Section 83.07.040 Glare and Outdoor Lighting. Light pollution shall be minimized and confined within the site boundaries to limit impacts to surrounding properties. The glare from any luminous source, including on-site lighting shall not exceed one-half (0.5) foot- candle at property line. On-site lighting shall be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting shall be limited to that necessary for maintenance activities, security and safety purposes. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign.

105. Site Maintenance. The applicant/operator shall maintain the premises in a neat and orderly manner at all times. All refuse generated at the premises shall at all times be stored in

approved containers and shall be placed in a manner so that visual or other impacts and environmental public health nuisances are minimized. All refuse not containing garbage shall be removed from the premises at least one time per week, or as often as necessary to minimize public health nuisances. Refuse containing garbage shall be removed from the premises at least two times per week, or as often as necessary to minimize public health nuisances, by a permitted hauler to an approved solid waste facility. For information, call DEHS/LEA at (800) 442-2283.

106. Haul Road Slopes. The haul road shall be designed with minimal fill slopes to reduce the contrast of the lighter-colored fill on the natural slopes and boulder roll-down. (MM/PDF SCEN-1)

107. Color Staining. Approved color-staining product(s) shall be used to darken the access road cuts and visible southern quarry slopes where shown to be successful. Prior to commencement of construction of the access road, MCC shall submit information to the Forest Service summarizing available staining products and whether they are appropriate for application to the South Quarry road cuts and visible quarry slopes, considering color, effectiveness, and durability. If appropriate products are not available at the commencement of construction, MCC shall update the information no less than once every five years thereafter until an appropriate product is identified. MCC may use an alternative method to reduce visual contrast as approved by the Forest Supervisor. (MM/PDF: SCEN-2)

108. Erosion Control. Adequate erosion control features shall be designed along the haul road to limit erosion downslope. (MM/PDF: SCEN-3)

109. Structure Color. Onsite structures shall be painted a color with low contrast and reflectivity. (MM/PDF: SCEN-4)

110. South Side Berm. A berm shall be constructed along the south rim of the quarry and planted with native vegetation. (MM/PDF: SCEN-5)

111. Minimize Stream Impacts. The footprint of the quarry shall be designed to minimize impacts to any streams and riparian habitat to the extent feasible. (MM/PDF SCEN-6)

112. Surface Disturbances. Surface disturbances shall be limited to those areas identified in the Mine Reclamation Plan. Disturbances outside of these areas shall be prohibited. (MM/PDF: SCEN-7)

113. Limit Views from East. The quarry shall be designed to limit views of the quarry site from the east and southeast. (MM/PDF: SCEN-8)

114. Slope Contouring. Upper slopes that may be visible from Lucerne Valley shall be cut or roughened to reduce straight lines and visual impacts as benches are completed (not applicable to Phases 1 and 2). (MM/PDF: SCEN-9)

115. Limit Views from North. The quarry shall be designed to limit views of the lower half of the quarry by not removing the north slope through approximately Phase 3, allowing reclamation and revegetation (including tree growth) to occur to reduce contrast (not applicable to Phases 1 and 2). (MM/PDF: SCEN-10)

116. Perimeter Berm. A 20- to 25-foot high natural perimeter berm (half of a vertical bench height) shall be left in place on the outside ridge of each excavated bench until the interior area of the next lower excavation level is completed to limit views of active mining and equipment from Lucerne Valley (not applicable to Phases 1 and 2). (MM/PDF: SCEN-11)

117. Waste Rock. Waste rock shall be deposited into waste rock stockpiles within the quarry footprint to reduce the area of disturbance and visual impact outside of the quarry and to reduce internal slopes and aid in revegetation. (MM/PDF: SCEN-12)

118. Reclamation Management. Reclamation and revegetation shall be implemented per the approved Reclamation Plan on completed benches concurrent with mining. (MM/PDF: SCEN-13)

119. Visible Dust Plumes. MDAQMD dust controls shall be implemented to reduce visible dust plumes. (MM/PDF: SCEN-14)

Noise

120. Noise Level. Should results of a noise study indicate that operations would not comply with the County noise ordinance; the Planning Director may require modification of such operations.

121. Noise Operations. Noise levels shall be maintained at or below County Standards, SBCC Section 83.01.080.

Reclamation and Revegetation

122. Reclamation Plan 2020M-01. Surface mining operations shall adhere to the Mining and Reclamation Plan. Any changes from the Reclamation Plan's provisions shall not be undertaken until review by the Land Use Services Department.

123. Reclamation Time Schedule. Reclamation shall be initiated at the earliest possible time on those portions of the disturbed lands that will not be subject to further disturbance by the surface mining operation.

124. Reclamation and Revegetation. Reclamation and revegetation of the site shall proceed in accordance with the South Quarry Reclamation Plan 2020M-01.

125. Plant Seeds. The operator shall provide for the collection of seed and other propagules as needed in support of the revegetation plan. Propagules shall be collected within the Project Area to the extent possible.

126. Barriers/Signage. Safety barriers and signage per MSHA requirements shall be maintained around the mined slopes.

127. Growth Medium Stockpiles. The operator shall stockpile topsoil and vegetation from areas to be disturbed. Stockpiled topsoil shall be identified with clearly labeled signs stating "Topsoil – Do Not Disturb" and stored separately from overburden material stockpiles and protected to preserve as much of the organic material and seeds as practicable. Locations for these topsoil stockpiles are to be identified in the Mining Plan.

Stockpiles shall be maintained with temporary erosion control methods and shall be stabilized through establishment of temporary vegetative cover or other acceptable means of surface treatment for prolonged storage periods. At the time of reclamation, areas being reclaimed shall have the stockpiled growth medium and vegetation spread over them. Revegetation shall be supplemented by broadcast seeding with native and locally adapted seed and planting of established seedlings and/or shrubs in accordance to the approved Reclamation Plan.

128. Seed Types and Amounts. A seed mix is designed for the Project site to promote a plant community similar to that found in undisturbed areas. The seed mix will serve as a guideline for the revegetation plant community. Seed types and amounts will conform to the site's Revegetation Plan. The seed mixes will be applied based on the seed mix plan cited in the Revegetation Plan.

129. Re-vegetation Annual Monitoring. The project biologist will document the progress of the revegetation effort at the mine site and submit Annual Maintenance and Monitoring reports to the County of San Bernardino and Forest Service as necessary.

130. Revegetation Attainment. Revegetation will be deemed successful by the Forest Service and County when all success criteria in the Reclamation Plan have been achieved on an average property-wide basis. If these criteria have not been achieved, maintenance seeding and monitoring will continue annually until success criteria has been met.

131. Financial Assurances - Revegetation. Revegetation in arid areas is tenuous at best and, therefore, the applicant shall provide in the Financial Assurance Cost Estimate, the costs to monitor and report on revegetation, incidental disturbance and erosion control for a time period of ten (10) years following the termination date of operation unless the County and Forest Service deem the success criteria have been achieved.

PUBLIC HEALTH – Environmental Health Services (DEHS) (800) 442-2283

132. Refuse. Refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that visual, or other impacts, and environmental public health nuisances are minimized and complies with the SBCC, Section 33.0803 et seq. For information, please call DEHS/Local Enforcement Agency (LEA) at: 800-442-2283.

133. Solid Waste Removal. No landfilling of wastes shall occur on-site. In the event that refuse is stored onsite, all refuse containing garbage shall be removed from the premises at least one time per week, or as practicable, to an approved solid waste facility in conformance with SBCC Section 33.0803 et seq. For information, please call DEHS/LEA at: 800-442- 2283.

134. Portable Toilets. An adequate number of portable toilets shall be provided and maintained so as not to create a public nuisance and shall be maintained by a DEHS permitted pumper. Portable unit shall provide hand washing capacity. Units shall be serviced at least weekly while in use. Submit a copy of the service contract from an approved pumper to DEHS. For information, call DEHS/Wastewater Section at 800-442-2283.

135. Ponding Water. Applicant/Operator shall manage ponding water to avoid vector breeding, e.g., mosquitoes, midges, and gnats.

PRIOR TO FINAL CLOSURE
The Following Conditions Shall Be Met

LAND USE SERVICES – Planning Division (909) 387-8311

136. Equipment. At the time of termination of the operation for any reason, all equipment, structures and refuse associated with the operation shall be removed from the site, all hazards mitigated, and reclamation initiated as per the approved Reclamation Plan 2020M-01.

137. Wells. If applicable, upon final reclamation, evidence shall be provided that all wells, exploration holes or test holes, as defined by DWR Bulletin 74-81 as revised in 1988 or the latest revision are destroyed in accordance with DEHS regulations and in such a manner that will no longer be a hazard to the health and safety of people and wildlife.

138. Access Roads. All access roads on site, which will not be retained for post-operation uses, shall be reclaimed at the conclusion of ground-disturbing activities.

139. Site Re-Contour. The applicant/operator shall re-contour the site at the conclusion of operations (slopes, stockpiles, roads, etc.). to resemble natural landforms where possible.

140. Reclamation Verification. As portions of the site are reclaimed, they shall be identified on a map. The final map shall be provided to County Planning Division for review and approval.

141. Reclamation Completion. Following reclamation verification and release of Financial Assurances pursuant to CCR Section 3805.5, Planning will prepare a “Notice of Reclamation Plan Completion” on a form to be approved by the County Recorder’s Office. The operator shall pay any and all review and recording fees.

CONCLUSION OF CONDITIONS

EXHIBIT G

Findings for Reclamation Plan

SOUTH QUARRY PROJECT
MITSUBISHI CEMENT CORPORATION
Project No. AP20100105
Mine ID: 91-36- to be supplied
Reclamation Plan No. 2020M-01

Findings: Reclamation Plan No. 2020M-01

These Findings are for Reclamation Plan No. 2020M-01 for the reclamation of a new Mining Plan of Operations (POO) and Reclamation Plan (Project) to develop the South Quarry on 147 acres of San Bernardino National Forest (SBNF) land and approximately 6.6 acres of private lands owned by Mitsubishi Cement Corporation (Mitsubishi). The South Quarry would be mined for up to 120 years with the number of years of operation based upon Decision Records from the SBNF. An average of 1.45 million tons of material (limestone and waste rock) would be excavated resulting in 1.3 million tons of quality limestone being produced annually for the production of cement at the adjacent Cushenbury Cement Plant operated by Mitsubishi.

Pursuant to Development Code Section 88.03.060(k)(1) and (2), the following findings must be made in the affirmative in order to approve the Project's Reclamation Plan:

1. **The South Quarry Reclamation Plan (Reclamation Plan) complies with the California Surface Mining and Reclamation Act (SMARA)(Public Code Sections 2772-2773) and any other applicable provisions.**

   The Reclamation Plan was reviewed, and conditioned, for compliance with SMARA. It has also been reviewed and accepted by the California Department of Conservation- Division of Mine Reclamation.

2. **The Reclamation Plan complies with applicable requirements of State regulations (California Code of Regulations Sections 3500-3505 and 3700-3713).**

   The Reclamation Plan was reviewed, and conditioned, for compliance with SMARA. It has also been reviewed and accepted by the California Department of Conservation- Division of Mine Reclamation.

3. **The Reclamation Plan and potential use of land reclaimed in compliance with the Reclamation Plan are consistent with the Development Code, General Plan and any applicable resource plan or element.**

   As set forth in the Initial Study (Final EIR/EIS, Appendix A-2), the South Quarry Project is consistent with all applicable land use policies and regulations of the County of San Bernardino General Plan. The South Quarry is consistent with the

San Bernardino National Forest Land Management Plan (LMP), with the exception of the LMP's scenic integrity objectives. The LMP's scenic integrity objectives will be amended as part of the Forest Service approval of the South Quarry. The Reclamation Plan and potential end use of lands disturbed and reclaimed in compliance with the Plan, as conditioned, are consistent with the Development Code and General Plan.

4. **The Reclamation Plan has been reviewed in compliance with the California Environmental Quality Act (CEQA) and the County's environmental review guidelines. Potential significant adverse impacts from reclamation of the surface mining operations are mitigated below a level of significance or to the maximum extent feasible. A Statement of Overriding Considerations has been reviewed and considered.**

An Initial Study and a joint Environmental Impact Report and Environmental Impact Statement (EIR/EIS) were prepared in compliance with CEQA and the National Environmental Protection Act (NEPA). The Project will not have a significant adverse impact on the environment, subject to implementation of the proposed Conditions of Approvals and mitigation measures, except for biological impacts related to bighorn sheep, both at the Project level and cumulatively, and impacts to scenery on a Project level. A Statement of Overriding Consideration has been prepared for this Project. The County as lead agency for the State of California has reviewed and considered the Initial Study, EIR/EIS, supporting documents/technical reports, and the Facts, Findings, and Statement of Overriding Considerations prior to its adoption and prior to approval of the Project. The Initial Study, EIR/EIS, and the Facts, Findings, and Statement of Overriding Considerations reflect the independent judgment of the County.

5. **The Project site and/or resources will be reclaimed to a condition that is compatible with, and blends in with, the surrounding natural environment, topography, and other open space resources, or suitable off-site development will compensate for related disturbance to resource values.**

Affected lands will be reclaimed to a condition compatible with, and blending with, the surrounding natural environment, topography, and other open space resources as identified in the Reclamation Plan. Financial Assurances and annual mine inspections pursuant to SMARA will take place to ensure this occurs. Biological resources will also be monitored and mitigated should related disturbance to this resource occur.

The planned land use subsequent to mining, reclamation, and revegetation is open space and wildlife habitat managed by the Forest Service. The quarry excavation

and reclamation would result in a series of revegetated benches 25 feet wide and 45 feet high. Portions of the quarry would be partially backfilled, aiding in the reclamation and revegetation of these quarry slopes.

6. **The Reclamation Plan will reclaim the mined lands to a usable condition which is readily adaptable for alternative land uses consistent with the General Plan and applicable resource plan.**

   The Reclamation Plan, as conditioned, along with annual mine inspections pursuant to SMARA will ensure reclamation of the mined lands return to a usable condition that is readily adaptable for alternative land uses, which with regard to this Project, is open space.

7. **The County has responded to comments and recommendations raised by the Division of Mine Reclamation (DMR), a division of the State Department of Conservation, in its review of the Project's Reclamation Plan, describing the disposition of major issues raised by DMR.**

   In a letter dated December 5, 2011, DMR (OMR at that time) provided comments on the Project's Reclamation Plan. On April 15, 2020, the County provided comment responses to DMR. The County has not received any further comments from DMR. The County notified DMR of the Planning Commission hearing scheduled for May 21, 2020, at which time approval of the Project is to be considered. Pursuant to the County's responses, and the Conditions of Approval required for this Project, the concerns expressed by DMR have been addressed.

EXHIBIT H

Additions and revisions to Plan of Operations and Reclamation Plan

PLAN OF OPERATIONS
AND
RECLAMATION PLAN

FOR

MITSUBISHI CEMENT CORPORATION'S
SOUTH QUARRY

Submitted to:

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
SAN BERNARDINO NATIONAL FOREST
602 S. Tippecanoe Avenue
San Bernardino, CA 92408

COUNTY OF SAN BERNARDINO
Land Use Services Department
Planning Division
385 N. Arrowhead Avenue
San Bernardino, CA 92415

Prepared by:

MITSUBISHI CEMENT CORPORATION
5808 State Highway 18
Lucerne Valley, CA 92356

JULY 2011
Revised APRIL 2020

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COUNTY OF SAN BERNARDINO MINING AND LAND RECLAMATION PLAN

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APPENDICES (Under Separate Hard Cover upon request; included on CD)

APPENDICES (Under Separate Hard Cover upon request; included on CD)

F	Potential Environmental Impacts to Nelson's Bighorn Sheep and Suggested Mitigation– Vernon C. Bleich, Eastern Sierra Center for Applied Population Ecology, 2010 (included in Appendix C in the South Quarry EIR/EIS)
G	Air Quality Assessment Yorke Engineering LLC, 2016 (included in the South Quarry EIR/EIS, Appendix B)
H1	Waters of the U.S. & State Jurisdiction Delineation Impact Memo - Glenn Lukos Assoc.
H2	Updated December 2018. Waters of the U.S. & State Jurisdiction Delineation Impact Memo - Glenn Lukos Assoc.
I	Reclamation Compliance Report 2018 for Cushenbury Mine
J	Scenic Report – Lilburn Corporation 2012
K	Financial Assurance Cost Estimate – Lilburn Corp. (Draft 2020)
L	Revegetation Plan – Aspen Environmental Group, 2010
M	Phase III Cultural Resources Survey - U.S. Forest Service, SBNF (on file with SBNF and County)
N	Water Supply Assessment – Lilburn Corporation, Updated January 2017
O	Carbonate Plant Mitigation Proposal, Revised January 2012
P	Permit-Level Design of the Surface Water Management System for the Proposed South Quarry Haul Road," Golder Associates, 2013.

MAP SHEETS (attached)

Sheet 1	Title Sheet
Sheet 2	South Quarry Plot Plan
Sheet 3	South Quarry Reclamation Plot Plan
Sheet 4	South Quarry Cross Sections and Details

PROFESSIONAL CERTIFICATIONS

Assessment of Slope Stability and Hydrological Conditions Proposed South Quarry (Appendix C)

The California Registered Professional Engineer, Certified Engineering Geologist and the Registered Geologist, by stamping the *Assessment of the Slope Stability and Hydrological Conditions for the Proposed South Quarry* prepared by Golder Associates Inc. (attached in Appendix C) for Mitsubishi Cement Corporation solely in respect to the report's scope of work, is accepting responsibility for its findings and recommendations within said report.

Golder appreciates the opportunity assist Mitsubishi Cement Corporation on this important project. If you have any questions, please contact any of the undersigned.

Sincerely,

GOLDER ASSOCIATES INC.

Ryan Hillman, P.E.
Senior Project Engineer

Donald Lowry, P.G., C.E.G.
Senior Project Geologist

for: Kuantsai Lee, Ph.D., P.E., G.E.
Principal

Alan Hull, Ph.D., P.G., C.E.G.
Principal

Golder Associates Inc.
230 Commerce, Suite 200
Irvine, CA 92602
Tel: (714) 508-4400 Fax: (714) 508-4401 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

Permit-Level Design of the Surface Water Management System Proposed South Quarry Haul Road (Appendix P)

The California Registered Professional Engineer, by stamping the *Permit-Level Design of the Surface Water Management System Proposed South Quarry* prepared by Golder Associates Inc. (attached in Appendix P) for Mitsubishi Cement Corporation solely in respect to the report's scope of work, is accepting responsibility for its findings and recommendations within said report.

GOLDER ASSOCIATES INC.

Ryan Hillman, P.E.
Senior Project Engineer

2-5-2013

Attachment:

Design Memorandum – Permit-Level Surface Water Design for Haul Road

MITSUBISHI CEMENT CORPORATION
PLAN OF OPERATIONS AND RECLAMATION PLAN
FOR THE SOUTH QUARRY

EXECUTIVE SUMMARY

1.0 INTRODUCTION

Mitsubishi Cement Corporation (MCC) is proposing to develop and reclaim a new high grade limestone quarry, the South Quarry, to the south of its East Pit (existing), West Pit (under development) and in proximity to the Cushenbury Cement Plant. The South Quarry will total approximately 153.6 acres consisting of a 128-acre quarry, a 2.7 acre landscape berm, a 22.2-acre, 1.8-mile haul road and a temporary construction road of 0.7 acres. The South Quarry and haul road will be located almost entirely (147 acres) on 440 acres of unpatented claims owned by MCC on public federal land under the jurisdiction of the San Bernardino National Forest (SBNF) with approximately 6.6 acres of the haul road located on MCC owned land where it enters the existing East Pit. The South Quarry is located adjacent to existing MCC facilities approximately 6 miles south of the community of Lucerne Valley in San Bernardino County, California.

2.0 HISTORY

Mining has been an important part of Lucerne Valley for more than 100 years. The Cushenbury area has been mined since 1861, and limestone mining began in the early 1950s. In 1988, MCC acquired the Cushenbury Cement Plant and the existing East Pit. Since that time, it has continued developing this important local source of limestone and producing a regional source of cement from the Cushenbury Cement Plant. Continued limestone mining in the Cushenbury area is the most efficient and environmentally responsible way for the Cushenbury Cement Plant to continue supplying these markets in the future.

MCC's existing operations are a source of local jobs and purchasing. Additionally, MCC's Cushenbury operations contribute to a stable domestic supply of cement. The cement produced at the Cushenbury plant has been used to meet local Southern California and Southern Nevada building and infrastructure needs. Notable projects using MCC cement include: the Ontario Airport expansion; the new Hoover Dam bridge; Ronald Reagan Federal Courthouse; the Ritz Carlton Hotel Resort; McCarran International Airport, Wynn Hotel & Casino and the MGM Grand Hotel.

Over the course of its operations at the Cushenbury site, MCC has sought to be a responsible company that is cognizant of the needs of its surrounding community. To that end, it has invested in projects intended to improve and protect the local environment. MCC established an electric vehicle fleet and retrofitted haul trucks with cleaner-burning engines. MCC was a founding member of the Cement Industry Environmental Consortium, the Mojave Environmental Education Consortium, and the Mojave Sustainability Project, which works with Victor Valley College and others on restoration, re-vegetation and habitat enhancement. MCC also provides numerous public and educational tours for groups from elementary school students to visiting scientists each year.

In recognition of these and other efforts, MCC has received awards from state and local agencies, industry associations and Victor Valley College. In 1997, MCC received its first Exemplar Award from the Mojave Desert Air Quality Management District (MDAQMD) for its pollution prevention efforts. In 2000, it received a second MDAQMD Exemplar Award in recognition of its establishment of an electric vehicle fleet and its retrofitting of haul trucks with cleaner-burning engines. MCC won additional Exemplar Awards in 2004 and 2007. MCC was also selected as a recipient of one of the first annual Cement Industry Environmental Awards in 2001. One of five inaugural honorees, MCC received the Land Stewardship Award, and was recognized for its care of land in and near plant property; its efforts to maintain and restore native plant and animal life; and its program to ensure protection of adjacent wetlands. In 2002, MCC was recognized by the County of San Bernardino for the same land stewardship achievements. In 2003, MCC won a second Cement Industry Environmental Award for energy efficiency. In 2006, it won a Global Cement Award for its Environmental Program. In 2008, MCC was recognized by the County again, receiving an Outstanding Business Award. MCC was a finalist for the Portland Cement Association's 2008 National Environmental Outreach Award in 2009. Victor Valley College honored MCC executives with its Distinguished Service Award in 2005 and 2008.

3.0 WEST PIT APPROVAL

A major step in forecasting operations to meet regional construction materials needs began about 1999 with planning to identify a source of limestone to replace diminishing reserves in the East Pit. Following several years of careful analysis and regulatory scrutiny, permits for a new quarry, the West Pit, were approved in 2004. The West Pit is currently under development.

The West Pit required approval of a Reclamation Plan by the County of San Bernardino and associated California Environmental Quality Act (CEQA) review. Over the course of the approval process, MCC and its consultants made efforts to facilitate an open dialogue and encourage community participation. Furthermore, via the CEQA process various mitigation measures were incorporated into the West Pit project. As examples, MCC set aside land for the protection of the local herd of Nelson's bighorn sheep, agreed to create new water sources aimed at helping the population thrive and committed funds to collaring efforts intended to help the California Department of Fish and Wildlife (CDFW) better understand the habits and needs of the local population, so that it might best be protected. MCC also set aside land for the protection of five sensitive carbonate plant species native to the region and were active in the development of the Carbonate Habitation Management Strategy (the CHMS), a regional planning effort aimed at protecting the same. A number of additional measures addressed issues including, but not limited to, traffic, air quality and water quality.

4.0 SOUTH QUARRY

Geologic reconnaissance during completion of final plans for the West Pit confirmed the projected supply of low-grade limestone but also identified a shortage of the anticipated high-grade material needed for long-term cement production. MCC initiated a comprehensive survey of properties in proximity to existing operations in an effort to identify high-grade limestone sources. In addition

to relying on the traditional exploration approaches of historic data and geologic inference, MCC conducted a sophisticated drilling program of target properties. Helicopter transit delivered drilling rigs to inaccessible areas. Targeted drilling and analysis of samples retrieved during the program confirmed both quality and quantity of the high-grade resource in the location of the proposed South Quarry. Planning identified the most effective and efficient means to continue Cushenbury Cement Plant operations with a combination of low-grade material from the West Pit and the high-grade material resource identified in the proposed South Quarry.

MCC is proposing the South Quarry to develop reserves of more than 156 million tons of mostly high to medium grade limestone. As discussed above, this higher-grade limestone will be blended with lower-grade limestone excavated from the existing East Pit and the West Pit at a ratio of approximately 50/50 in order to meet the limestone specifications necessary to feed the Cushenbury Cement Plant. Current estimates project the South Quarry could feed the cement plant for approximately 120 years. MCC is pursuing permits for that 120-year period to provide certainty for blending material excavated at the East and West Pits consistent with the rate of production anticipated in the West Pit approvals.

Because the South Quarry will be located primarily on land controlled by SBNF, permitting will require compliance with both United States Forest Service Minerals Regulations under the jurisdiction of the SBNF and the State of California Surface Mining and Reclamation Act (SMARA) implemented by the County of San Bernardino (County). Therefore, in consultation with both the SBNF and the County, MCC is submitting a Plan of Operations for Mining Activities on National Forest System Lands, and a Reclamation Plan per the County's Mine and Reclamation Plan, Information Sheet and Application. Obtaining the necessary SBNF and County approvals will require compliance with both the National Environmental Policy Act ("NEPA") and CEQA.

The proposed South Quarry minimizes surface impacts by excavating deeper into the limestone deposit. After the first 40 years of mining, an additional 80 years of limestone can be extracted without expanding the mine's footprint or impacting additional natural habitat. In addition to limiting surface disturbance, the South Quarry has been designed to: (1) reduce open views of the quarry from the northeast and the east; (2) ensure slope reduction, stockpile management, erosion control, revegetation and other reclamation activities occur concurrent with mining, to the extent feasible; and (3) limit air quality impacts.

Because the South Quarry will not increase throughput at the Cushenbury Cement Plant, there will be no increase in traffic. Furthermore, consistent with its past environmental commitments, MCC proposes mitigation measures that will further facilitate consistency with the project objectives. These mitigation measures include, but are not limited to the following:

- The set-aside of lands to compensate for impacts to sensitive carbonate endemic plants and streambeds;

- Measures to expand on the programs initiated during the West Pit approval process and minimize potential impacts to the Cushenbury herd of Nelson's big-horn sheep;

- Site development and reclamation procedures intended to limit views of the South Quarry from the surrounding area; and

- Comprehensive approaches to revegetation and reclamation for the East Pit, West Pit and the South Quarry.

MCC believes the South Quarry is the next step in the responsible development of this important regional source of cement. The South Quarry will ensure long term predictability with respect to employment and purchasing for the local community, regional and local supplies of vital building materials and a domestic source of cement to address concerns related to supply and pricing. Development of the South Quarry maintains limestone production in the same general location with the fewest possible impacts. Proximity of the South Quarry to existing operations prevents additional environmental impacts that would be caused by development of an off-site source of material and truck traffic associated with moving off-site material to the Cushenbury Cement Plant. MCC proposes the South Quarry as the best way to ensure responsible development of an important limestone resource for continued long-term production from an equally important local cement industry.

USDA, Forest Service

PLAN OF OPERATIONS FOR MINING ACTIVITIES ON NATIONAL FOREST SYSTEM LANDS

FS-2800-5
OMB NO. 0596-0022

USE OF THIS FORM IS OPTIONAL! **1st TIME USERS SHOULD DIRECT QUESTIONS REGARDING THIS FORM OR REGULATIONS (36 CFR 228A) TO THE FOREST SERVICE DISTRICT OFFICE NEAREST YOUR AREA OF INTEREST.**

Submitted by:	_____ Signature	**Mine Superintendent** Title	_____ Date *(mm/dd/yy)*
Plan Received by:	_____ Signature	_____ Title	_____ Date *(mm/dd/yy)*

I. GENERAL INFORMATION

A. Name of Mine/Project: **Mitsubishi Cement Corporation/South Quarry**

B. Type of Operation: **Mining**
(lode, placer, mill, exploration, development, production, other)

C. Is this a (☒new/☐continuing) operation? (check one). If continuing a previous operation, this plan (☐replaces/☐modifies/☐supplements) a previous plan of operations. (check one)

D. Proposed start-up date *(mm/dd/yy)* of operation: **1/1/2021**

E. Expected total duration of this operation: **120 years of operations followed by 5 years of reclamation activities**

F. If seasonal, expected date *(mm/dd/yy)* of annual reclamation/stabilization close out: **N/A**

G Expected date *(mm/dd/yy)* for completion of all required reclamation: **12/31/2145 (followed by ongoing monitoring)**

II. PRINCIPALS

A. Name, address and phone number of operator:
Mitsubishi Cement Corporation
5808 State Hwy 18
Lucerne Valley, CA 92356
Austin Marshall, Plant Manger (760) 248-7373

B. Name, address, and phone number of authorized field representative (if other than the operator).
Attach authorization to act on behalf of operator. Same as A above.

C. Name, address and phone number of owners of the claims (if different than the operator):
Same as A above.

D. Name, address and phone number of any other lessees, assigns, agents, etc., and briefly describe their involvement with the operation, if applicable:

Not Applicable

III. PROPERTY OR AREA

Name of claim, if applicable, and the legal land description where the operation will be located. **See attached Claims List in Appendix B for a complete description.**

MC#	*Name*	*Section*	*Township*	*Range*
26128	**Cushenbury 17 – 150 acres**	**14**	**3N**	**1E**
26133	**Cushenbury 28 – 60 acres**	**15**	**3N**	**1E**
26182	**Cushenbury 82 – 20 acres**	**23**	**3N**	**1E**
26183	**Cushenbury 83 – 20 acres**	**23**	**3N**	**1E**
26184	**Cushenbury 84 – 20 acres**	**23**	**3N**	**1E**
237601	**Cushenbury 99 – 20 acres**	**22**	**3N**	**1E**
237602	**Cushenbury 100 - 20 acres**	**22**	**3N**	**1E**
258070	**Cushenbury 101 – 20 acres**	**15**	**3N**	**1E**
264488	**Cushenbury 103 – 10 acres**	**14**	**3N**	**1E**
264489	**Cushenbury 104 – 10 acres**	**15**	**3N**	**1E**
264490	**Cushenbury 105 – 10 acres**	**15**	**3N**	**1E**
264491	**Cushenbury 106 – 20 acres**	**15**	**3N**	**1E**
264492	**Cushenbury 107 – 20 acres**	**15**	**3N**	**1E**
264493	**Cushenbury 108 – 20 acres**	**15**	**3N**	**1E**
264494	**Cushenbury 109 – 20 acres**	**15**	**3N**	**1E**

IV. DESCRIPTION OF THE OPERATION

A. **Access.** Show on a map (USGS quadrangle map or a National Forest map, for example) the claim boundaries, if applicable, and all access needs such as roads and trails, on and off the claim. Specify which Forest Service roads will be used, where maintenance or reconstruction is proposed, and where new construction is necessary. For new construction, include construction specifications such as widths, grades, etc., location and size of culverts, describe maintenance plans, and the type and size of vehicles and equipment that will use the access routes.

Please refer to Figure 1 – Regional Location Map; Figure 2 – Project Vicinity; Figure 3 – Existing and Planned Operations (including claims boundaries); and Figure 4 – Extent of Holdings including claims boundaries.

Access and haul roads are shown on the Mine and Reclamation Plan Sheets 1 through 4.

During the first 2 years, the 1.8-mile long haul road will be constructed. The planned haul road will access the South Quarry at 5,950 feet amsl and traverse down the north slope to an elevation of 5,050 feet amsl at the southwest corner of the existing East Pit. The road's surface width including drainage and side berm will be approximately 60 feet with a grade not to exceed 10% and it will have a surface of crushed limestone (see Figure 6 and Sheet 2). The preliminary road design has estimated a cut of approximately 450,000 cubic yards (CY) and based on 1 horizontal:1 vertical (1H:1V) slopes required to develop the road. The estimated disturbance area of the proposed haul road is 22.2 acres of which 6.6 acres is on MCC fee land and 15.7 acres on SBNF land. Cut material will be used for road construction or transported to the processing plant.

B. **Map, Sketch or Drawing.** Show location and layout of the area of operation. Identify any streams, creeks or springs if known. Show the size and kind of all surface disturbances such as trenches, pits, settling ponds, stream channels and run-off diversions, waste dumps, drill pads, timber disposal or clearance, etc. Include sizes, capacities, acreage, amounts, locations, materials involved, etc.

Please refer to attached Mine and Reclamation Plan Sheets 1 through 4.

A Jurisdictional Delineation of surrounding drainage features is included in Appendix H.

C. **Project Description.** Describe all aspects of the operation including mining, milling, and exploration methods, materials, equipment, workforce, construction and operation schedule, power requirements, how clearing will be accomplished, topsoil stockpile, waste rock placement, tailings disposal, proposed number of drill holes and depth, depth of proposed suction dredging, and how gravels will be replaced, etc. Calculate production rates of ore. Include justification and calculations for settling pond capacities, and the size of runoff diversion channels.

Mitsubishi Cement Corporation (MCC) is proposing to develop and reclaim a new high grade limestone quarry to the south of its East Pit (existing), West Pit (under development), and the Cushenbury Cement Plant. The proposed quarry is designated as the South Quarry and is located approximately 6 miles south of the community of Lucerne Valley in San Bernardino County, California (see Figures 1 and 2). The South Quarry will total approximately 153.7 acres consisting of a 128-acre quarry; a 2.7 acre landscape berm; a 22.3-acre haul road 1.8 miles in length; and a temporary construction road of 0.7 acres. The South Quarry and haul road will be located almost entirely (147.0 acres) on 440 acres of unpatented claims owned by MCC on public federal land under the jurisdiction of the San Bernardino National Forest (SBNF) with approximately 6.6 acres of the haul road located on MCC fee land where it enters the existing East Pit (see Figure 3).

A complete Project Description is included in the following Section 1.0. The proposed South Quarry is a mining operation only (no milling or processing onsite) that will supply high grade limestone to the Cushenbury Cement Plant. The excavations planned including the area, phasing, slopes, and depth are discussed in Section 1.1. The ore will be transported to the existing primary crusher adjacent to the existing East Pit via a new haul road discussed above and in Section 1.1. Proposed production phases, rates and reserves are listed in Table NF1 below.

Table NF1
Planned Quarry Phasing and Production
South Quarry

PHASE	Area (acres)	Volume (millions of cubic yards)	Weight (millions of tons)	Ore Reserves (millions of tons)	Waste Rock (millions of tons)	Max. Depth (feet amsl)	Years of Operations
1A	11	2.3	5.1	4.5	0.5	5,860	3.5
1B	32	14.6	32.1	28.8	3.2	6,130	22.0
2	65	9.6	21.0	18.8	2.2	6,220	14.5
3	12[1]	26.4	58.0	52.0	6.0	5,905	40
4	8[1]	26.4	58.0	52.0	6.0	5,365	40
Totals	**128**	**79.3**	**174.0**	**156.0**	**18.0**	**5,365**	**120**

Notes: Source: MCC, Lilburn Corp. 2010
All volumes are estimated.
Area rounded to nearest acre. Totals may be slightly different due to rounding.
Millions of cubic yards and tons rounded to nearest tenth.
In-situ or in-place limestone rock weight to volume ratio estimated at 2.2 tons per 1 cubic yard.
Years of operations based on average production of 1.3 million tons per year for 120 years.
Waste rock estimated at 0.15 million tons per year or approximately 10% which will vary depending on area being excavated.
1 – Phases 3 and 4 areas mostly excavated deeper within Phase 2 area previously disturbed.

Waste rock, defined as limestone and other rock not suitable for the manufacture of cement, will be stockpiled within the quarry footprint to eliminate the need for off-site waste rock stockpiles, reducing surface disturbance and potential visual and erosion impacts.

D. **Equipment and Vehicles.** Describe that which is proposed for use in your operation (Examples: drill, dozer, wash plant, mill, etc.). Include: sizes, capacity, frequency of use, etc.

The typical equipment list is included as Table NF2 below.

The quarry will normally operate approximately 250 days per year round, five days per week, 10 hours per day. Factors such as market conditions and maintenance requirements vary this schedule, occasionally necessitating a second shift or weekend work. In addition, due to the higher altitude of the site, the South Quarry operations may be suspended for one or two months during the winter due to snow.

Table NF2
Typical Quarry Equipment
South Quarry

Equipment	Typical Number	Net Increase of Additional Equipment	Purpose
Dozer	1 – 2	0	Removal of topsoil and waste rock. Construction and maintenance of the haul road.
Off-Road Haul Trucks	2 - 9	3	Transportation of material to the primary crusher and waste rock stockpiles onsite. Note that 2 trucks will be dedicated to the South Quarry and up to 7 trucks will rotate with the West Pit operations as needed.
Drill Rig	1	0	Drill holes for placement of explosives.
Water Trucks	1 – 2	0	Water haul roads, active excavation areas, stockpiles, and general dust suppression at site.
Front-End Loaders	2 - 3	0	Loading of materials into haul trucks at active mining area.

Source: MCC, 2019
Note that the typical number of pieces of equipment does not represent a net increase in equipment for the overall Cushenbury Mine area as most operations at the South Quarry will utilize existing equipment. The net increase of additional equipment is three new haul trucks.

E. **Structures.** Include information about fixed or portable structures or facilities planned for the operation. Show locations on the map. Include such things as living quarters, storage sheds, mill buildings, thickener tanks, fuel storage, powder magazines, pipelines, water diversions, trailers, sanitation facilities including sewage disposal, etc. Include engineering design and geotechnical information for Proposed Project facilities, justification and calculations for sizing of tanks, pipelines and water diversions, etc.

There are no structures proposed to be constructed onsite. The haul road construction will require drainage crossings which will be provided in the engineering phase prior to construction to the SBNF and the County. Preliminary conveyance and containment basins for the haul road are included on Sheet 2 and Appendix P.

Geotechnical assessment for the slope stability is included in Appendix C.

Sewage disposal will be handled by portable sanitation facilities.

V. ENVIRONMENTAL PROTECTION MEASURES (SEE 36 CFR 228.8)

A. **Air Quality.** Describe measures proposed to minimize impacts on air quality such as obtaining a burning permit for slash disposal or dust abatement on roads.

Dust control measures will include water spraying haul roads, active mining areas, and waste rock stockpiles.
Haul trucks and diesel equipment shall meet all requirements of the CARB's off-road diesel vehicles regulation to reduce diesel pollutants.

Compliance with MDAQMD Rules 401 (limiting visible emissions from exhaust); 402 (avoid nuisance emissions to people or businesses or property); 403 prohibits visible dust from crossing property lines); and 403.2 (requires requirements for controlling fugitive dust).

For additional information, an air quality assessment will be submitted separately.

B. **Water Quality.** State how applicable state and federal water quality standards will be met. Describe measures or management practices to be used to minimize water quality impacts and meet applicable standards.

1. State whether water is to be used in the operation, and describe the quantity, source, methods and design of diversions, storage, use, disposal, and treatment facilities. Include assumptions for sizing water conveyance or storage facilities.

2. Describe methods to control erosion and surface water runoff from all disturbed areas, including waste and tailings dumps.

3. Describe proposed surface water and groundwater quality monitoring, if required, to demonstrate compliance with federal or state water quality standards.

4. Describe the measures to be used to minimize potential water quality impacts during seasonal closures, or for a temporary cessation of operations.

5. If land application is proposed for waste water disposal, the location and operation of the land application system must be described. Also describe how vegetation, soil, and surface and groundwater quality will be protected if land application is used.

1. Water will be used for road and mine dust control and will be obtained from existing water wells on MCC fee land (not SBNF land). There will be no added diversions or storage for water supply. No treatment facilities will be needed. Water will be hauled in a water truck (Cat 773 or Euclid R-50 typical with 13,000 gallon capacity) and sprayed on the haul roads and active mining area to minimize fugitive dust. The water truck will work continuously during active quarry operations as needed to control visible dust. Typically, the water truck will make eight trips/day and the estimated average usage will be approximately 104,000 gallons/day. This water will evaporate and therefore, the Proposed Project will not produce any wastewater or run-off.

2. Methods to control erosion are discussed in Section 1.5.

3 & 4. All operations on-site will comply with a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with industrial activities and employ storm water BMPs during construction, operations, and temporary cessation of operations. NPDES goals are to eliminate unauthorized non-storm water discharges and to monitor storm water discharges requirements. Any surface water monitoring would be through this requirement as needed.

5. Not applicable.

C. **Solid Wastes.** Describe the quantity and the physical and chemical characteristics of solid waste produced by the operation. Describe how the wastes will be disposed of including location and design of facilities, or treated so as to minimize adverse impacts.

No solid waste will be produced by the operations. Waste rock, defined as limestone which does not meet cement quality specifications, will be stockpiled within the quarry footprint to eliminate the need for off-site waste rock stockpiles, reducing surface disturbance and potential visual and erosion impacts. Following mining, waste rock stockpiles will reduce quarry slopes and will be revegetated.

D. **Scenic Values.** Describe protection of scenic values such as screening, slash disposal, or timely reclamation.

The quarry and haul road will be designed to reduce exposure; waste rock will be deposited within the quarry to reduce impact areas; a 20 to 25-foot high natural perimeter berm (half a vertical bench height) will be left in-place on the outside ridge until the interior area of the next lower excavation level is completed; a landscape berm will be constructed along the south rim; and reclamation and revegetation will be implemented concurrent with mining.

The development of internal waste rock stockpiles will reduce the area of disturbance outside the quarry rim, eliminating potential visual impacts of the waste rock piles that are typically highly visible, and reduce internal slopes to aid in revegetation.

Two visual simulations of the Proposed Project are included in Section 2.2 showing potential visual views of the site from the south in SBNF lands and from the north in Lucerne Valley. Potential impacts to scenic values will be assessed in the environmental document. A Scenic Report is included in Appendix J and in the EIR/EIS.

E. **Fish and Wildlife.** Describe measures to maintain and protect fisheries and wildlife, and their habitat (includes threatened, endangered, and sensitive species) affected by the operations.

MCC intends to be consistent with the CHMS and has proposed to mitigate impacts to these listed species through permanent conservation easements or other surface use restriction burdening unpatented mining claims at a compensation ratio of 3:1 in terms of "Conservation Value." MCC's carbonate plant mitigation proposal is included as Appendix O and in the EIR/EIS.

Prior to clearing and excavation, sensitive plants will be salvaged for future revegetation and study.

MCC will implement the following measures: design quarry to avoid upper Marble Canyon Creek and its sensitive lambing areas; restrict clearing during spring bird nesting season; provide agreed upon mitigation for protection of bighorn sheep; and compliance with applicable biological federal, state, and County regulations.

Potential biological impacts are assessed and mitigation recommended within the EIR/EIS. A Biological Resource Assessment conducted by Aspen Environmental Group is included in Appendix D. A Biological Assessment/Biological Evaluation has also been performed by the San Bernardino National Forest and is included as Appendix E.

F. **Cultural Resources.** Describe measures for protecting known historic and archeological values, or new sites in the Proposed Project area.

Cultural resource surveys were conducted by SBNF (see Appendix M) and the environmental document will assess potential impacts and recommend mitigation measures if needed.

G. **Hazardous Substances.**

1. Identify the type and volume of all hazardous materials and toxic substances which will be used or generated in the operations including cyanide, solvents, petroleum products, mill, process and laboratory reagents.

No hazardous materials will be used or generated in the proposed operations except for the use of diesel fuel and lubricants for the mine equipment. Best Management Practices (BMPs) will be applied during re-fueling and maintenance of the mine equipment which will be undertaken by mobile maintenance trucks and fuel trucks. The equipment will be moved to the main plant area shops for major maintenance or repairs.

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2. For each material or substance, describe the methods, volume, and frequency of transport (include type of containers and vehicles), procedures for use of materials or substances, methods, volume, and containers for disposal of materials and substances, security (fencing), identification (signing/labeling), or other special operations requirements necessary to conduct the proposed operations.

Diesel fuel and lubricants will be transported to onsite equipment by off-road maintenance and fuel trucks that will be in compliance with applicable federal, state and local regulations related to the transport and transferring of fuels.

3. Describe the measures to be taken for release of a reportable quantity of a hazardous material or the release of a toxic substance. This includes plans for spill prevention, containment, notification, and cleanup.

The Hazardous Materials Division of the San Bernardino County Fire Department is designated as the Certified Unified Program Agency or "CUPA" for the County of San Bernardino in order to focus the management of specific environmental programs at the local government level. MCC will update its current Business Emergency/ Contingency Plan to include operations for the South Quarry. The Business Plan includes a hazardous materials inventory and Spill Prevention Control and Countermeasure Plan (SPCC). The Plans will be provided to the SBNF prior to project start-up.

H. **Reclamation.** Describe the annual and final reclamation standards based on the anticipated schedule for construction, operations, and Project closure. Include such items as the removal of structures and facilities including bridges and culverts, a revegetation plan, permanent containment of mine tailings, waste, or sludge which pose a threat of a release into the environment, closing ponds and eliminating standing water, a final surface shaping plan, and post operations monitoring and maintenance plans.

Reclamation and revegetation are discussed in detail in Sections 2.5 and 2.6.

VI. FOREST SERVICE EVALUATION OF PLAN OF OPERATIONS

A. Required changes/modifications/special mitigation for plan of operations:

B. **Bond.** Reclamation of all disturbances connected with this plan of operations is covered by Reclamation Performance Bond No. , dated *(mm/dd/yy)* , signed by (Principal) and (Surety), for the penal sum of . This Reclamation Performance Bond is a guarantee of faithful performance with the terms and conditions listed below, and with the reclamation requirements agreed upon in the plan of operations. This Reclamation Performance Bond also extends to and includes any unauthorized activities conducted in connection with this operation.

The bond amount for this Reclamation Performance Bond was based on a bond calculation worksheet. The bond amount may be adjusted during the term of this proposed plan of operations in response to changes in the operations or to changes in the economy. Both the Reclamation Performance Bond and the bond calculation worksheet are attached to and made part of this plan of operations.

Acceptable bond securities (subject to change) include:
1. Negotiable Treasury bills and notes which are unconditionally guaranteed as to both principle and interest in an amount equal at their par value to the penal sum of the bond; or
2. Certified or cashier's check, bank draft, Post Office money order, cash, assigned certificate of deposit, assigned savings account, blanket bond, or an irrevocable letter of credit equal to the penal sum of the bond.

VII. TERMS AND CONDITIONS

A. If a bond is required, it must be furnished before approval of the plan of operations.

B. Information provided with this plan marked confidential will be treated in accordance with the agency's laws, rules, and regulations.

C. Approval of this plan does not constitute certification of ownership to any person named herein and/or recognition of the validity of any mining claim named herein.

D. Approval of this plan does not relieve me of my responsibility to comply with other applicable state or federal laws, rules, or regulations.

E. If previously undiscovered cultural resources (historic or prehistoric objects, artifacts, or sites) are exposed as a result of operations, those operations will not proceed until notification is received from the Authorized Officer that provisions for mitigating unforeseen impacts as required by 36 CFR 228.4(e) and 36 CFR 800 have been complied with.

F. This plan of operations has been approved for a period of or until *(mm/dd/yy)* . A new or revised plan must be submitted in accordance with 36 CFR part 228, subpart A, if operations are to be continued after that time period.

VIII. OPERATING PLAN ACCEPTANCE

☐I/☐We have reviewed and agreed to comply with all conditions in this plan of operations including the required changes, modifications, special mitigation, and reclamation requirements.

☐I/☐We understand that the bond will not be released until the Authorized Officer in charge gives written approval.

☐Operator (or ☐Authorized Representative)	(Date) *(mm/dd/yy)*

IX. OPERATING PLAN APPROVAL

(Name)	(Title)
(Authorized Officer)	(Date) *(mm/dd/yy)*

"According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB number. The valid OMB number for this information collection is 0596-0022. The time required to complete this information collection is estimated to average 8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information."

MITSUBISHI CEMENT CORPORATION
PLAN OF OPERATIONS AND RECLAMATION PLAN
FOR THE SOUTH QUARRY

1.0 MINE PLAN

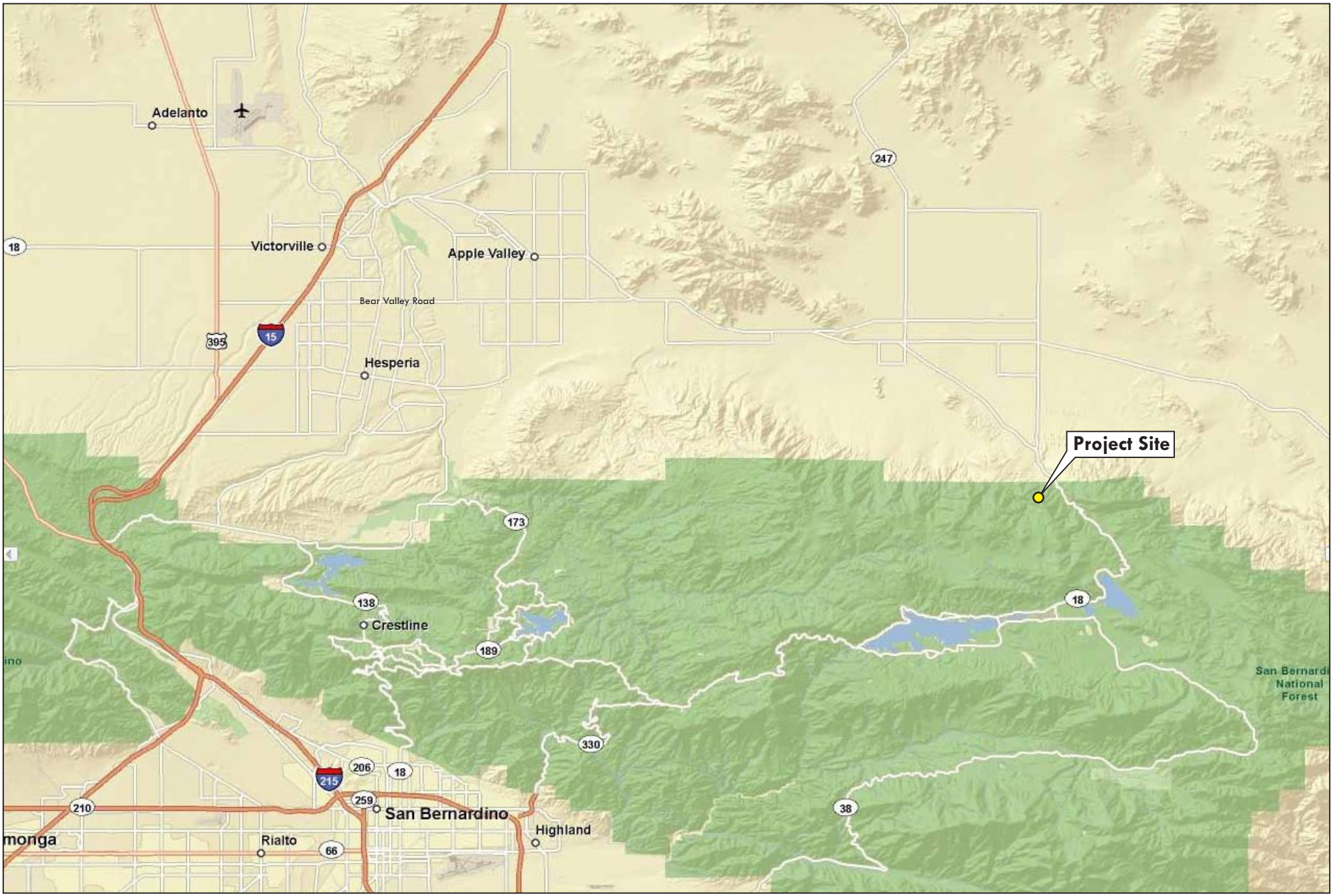
Introduction

Mitsubishi Cement Corporation (MCC) is proposing to develop and reclaim a new high grade limestone quarry to the south of its East Pit (existing), West Pit (under development), and the Cushenbury Cement Plant. The proposed quarry is designated as the South Quarry and is located approximately 6 miles south of the community of Lucerne Valley in San Bernardino County, California (see Figures 1 and 2). The South Quarry will total approximately 153.6 acres consisting of a 128-acre quarry; a 2.7 acre landscape berm; a 22.2-acre haul road 1.8 miles in length; and a temporary construction road of 0.7 acres. The South Quarry and haul road will be located almost entirely (147.0 acres) on 440 acres of unpatented claims owned by MCC on public federal land under the jurisdiction of the San Bernardino National Forest (SBNF) with approximately 6.6 acres of the haul road located on MCC fee land where it enters the existing East Pit (see Figure 3).

MCC is required to comply with both Forest Service Minerals Regulations (36 CFR 228, Subpart A) under the jurisdiction of the SBNF and the State of California Surface Mining and Reclamation Act (SMARA) implemented by the County of San Bernardino (County) (Development Code, Chapter 88.03). Therefore, in consultation with both the SBNF and the County, MCC is submitting a Plan of Operations for Mining Activities on National Forest System Lands (FS-2800-5) and a Reclamation Plan per the County's Mine and Reclamation Plan, Information Sheet and Application. Both of these forms and applications are combined in this document with four attached 30-inch by 40-inch, 200 scale mine and reclamation plan sheets and cross-sections.

The South Quarry is within portions of Sections 14, 15, 22, and 23 Township 3 North, Range 1 East. SBBM and Assessor Parcel Numbers 447-091-003; 447-041-002; 447-031-11; and 447-101-002. The Cushenbury Cement Plant and related quarries are accessed directly from Highway 18 south of Lucerne Valley (refer to Figure 3). The extent of MCC's other adjacent holdings include approximately 990 acres of fee lands and 40 acres of unpatented claims (see Figure 4). The South Quarry site and the surrounding land uses consist of vacant public lands administered by the SBNF. MCC currently operates two quarries on fee land just north of the proposed South Quarry, the existing East Pit on 214 acres and the West Pit on 191 acres (under development), approved by the County in 2004.

Based on drilling conducted during the winter of 2009 and 2010, the South Quarry site has estimated proven and inferred reserves of over 200 million tons of mostly high to medium grade limestone. This higher grade limestone will be blended with lower grade limestone excavated from the West and East Pits at a ratio of approximately 50/50 in order to meet the limestone



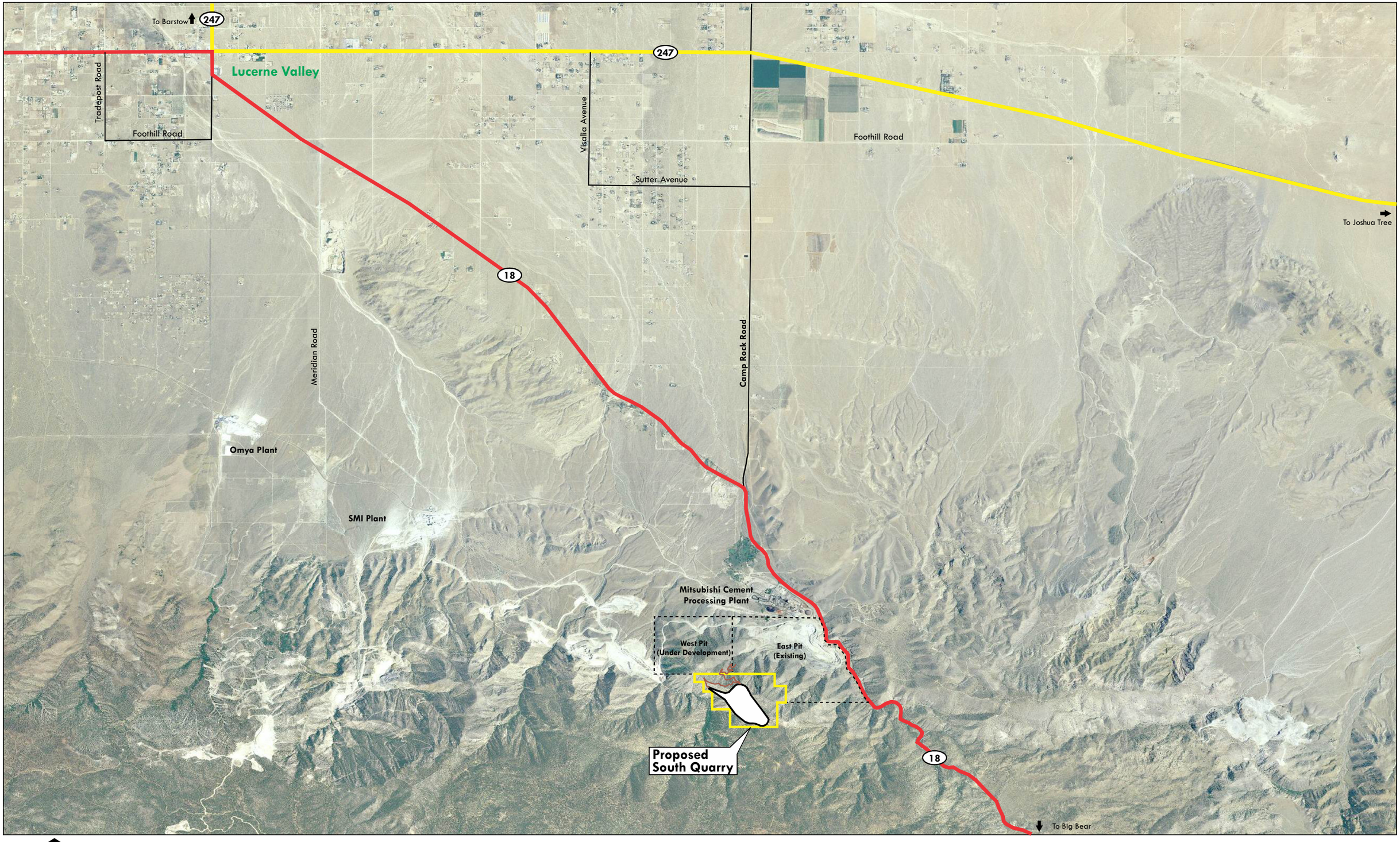
Regional Location

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

0 6
Approximate Miles

LILBURN CORPORATION

Figure 1



N

0 1,2

Miles

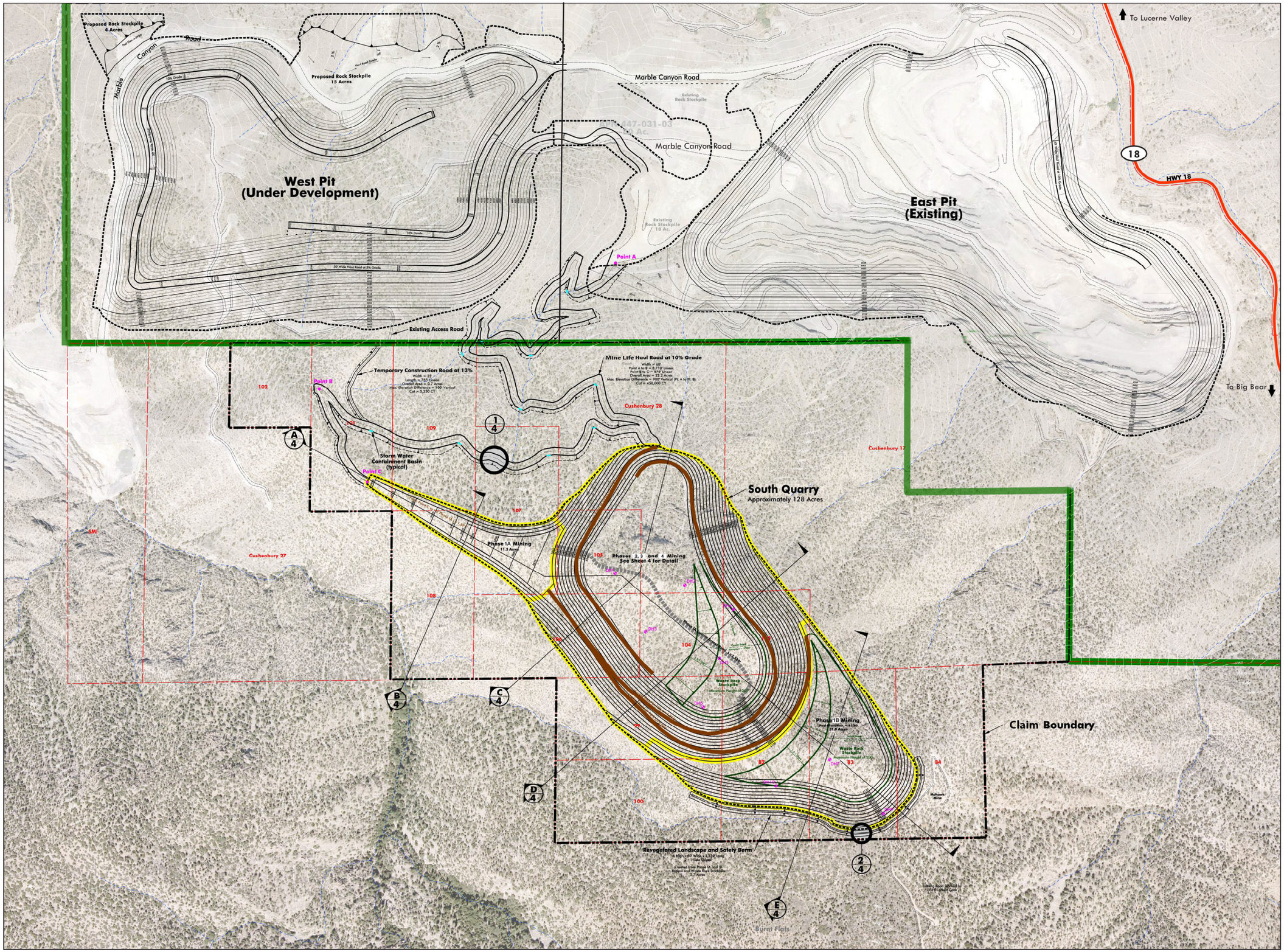
LILBURN CORPORATION

Project Vicinity

Mitsubishi Cement Corporation - South Quarry

County of San Bernardino, California

Figure 2



LEGEND

- Proposed South Quarry Project Boundary
- Phase Boundary
- Proposed South Quarry Limits of Disturbance
- Proposed South Quarry Contours
- Existing Permitted Limits of Disturbance
- Cusheburry Mine
- Claim Boundary

Note: See Appendix B for list of claims.

N

0 800

Feet

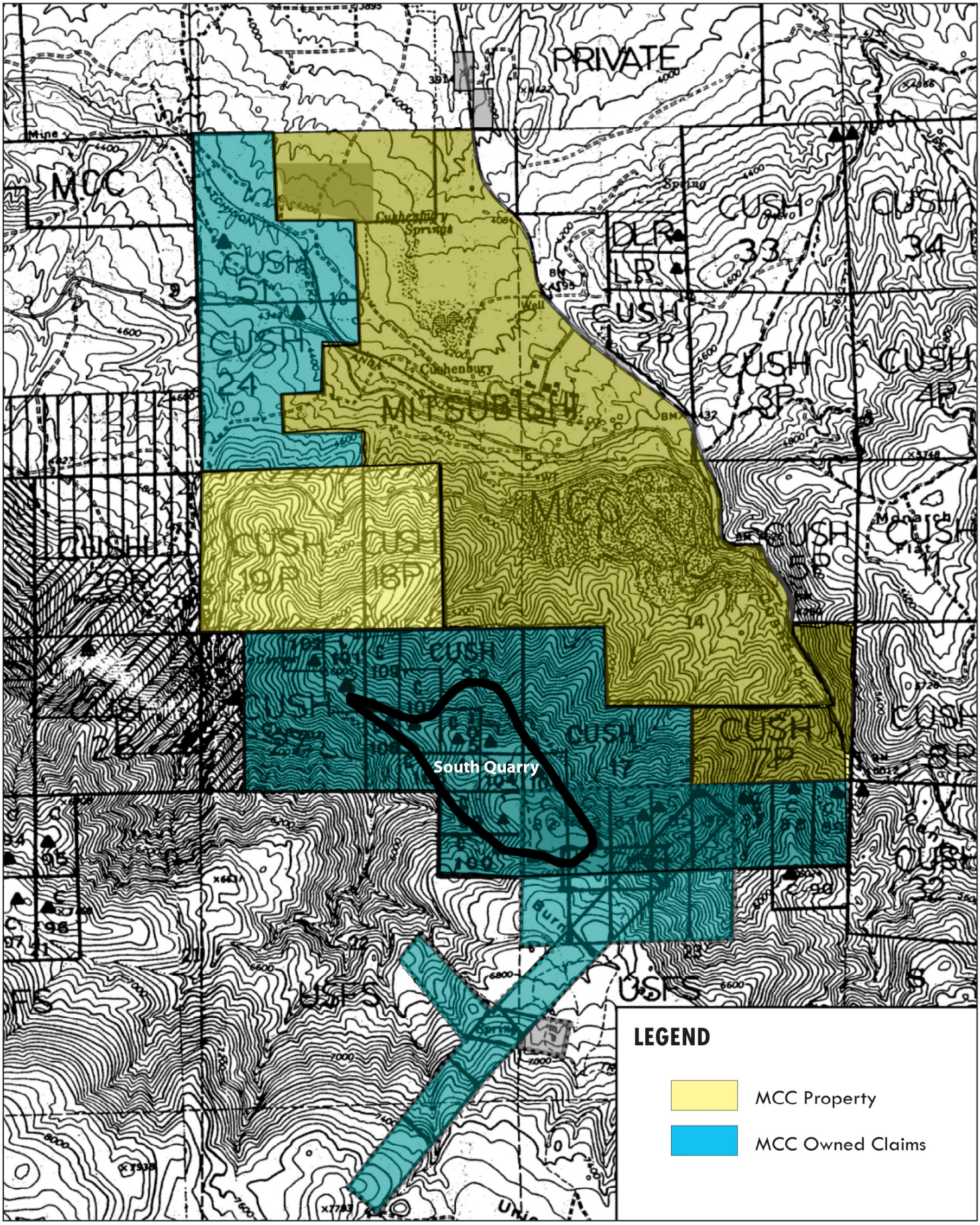
LILBURN CORPORATION

Existing and Planned Operations

Mitsubishi Cement Corporation - South Quarry

County of San Bernardino, California

Figure 3



Source:

LILBURN CORPORATION

Extent of Holdings

Mitsubishi Cement Corporation - Cushenbury Mine
South Quarry Expansion
County of San Bernardino, California

Figure 4

specifications to feed the adjacent Cushenbury Cement Plant. The South Quarry will be mined at an average production rate of 1.3 million tons per year (MTPY) of ore and 150,000 tons per year of waste rock for up to 120 years. At this time, MCC is requesting a 120-year operations plan (through the year 2140) excavating approximately 156 MT of ore. MCC's Cushenbury Cement Plant requires a limestone feed of up approximately 2.6 MTPY, and this will not change as a result of the South Quarry Project. East and West Pits will be reduced to an average of 1.3 MTPY of ore and 150,000 tons per year of waste rock. Therefore the overall limestone production of 2.6 MTPY and 300,000 tons per year of waste rock at the mining complex will not change.

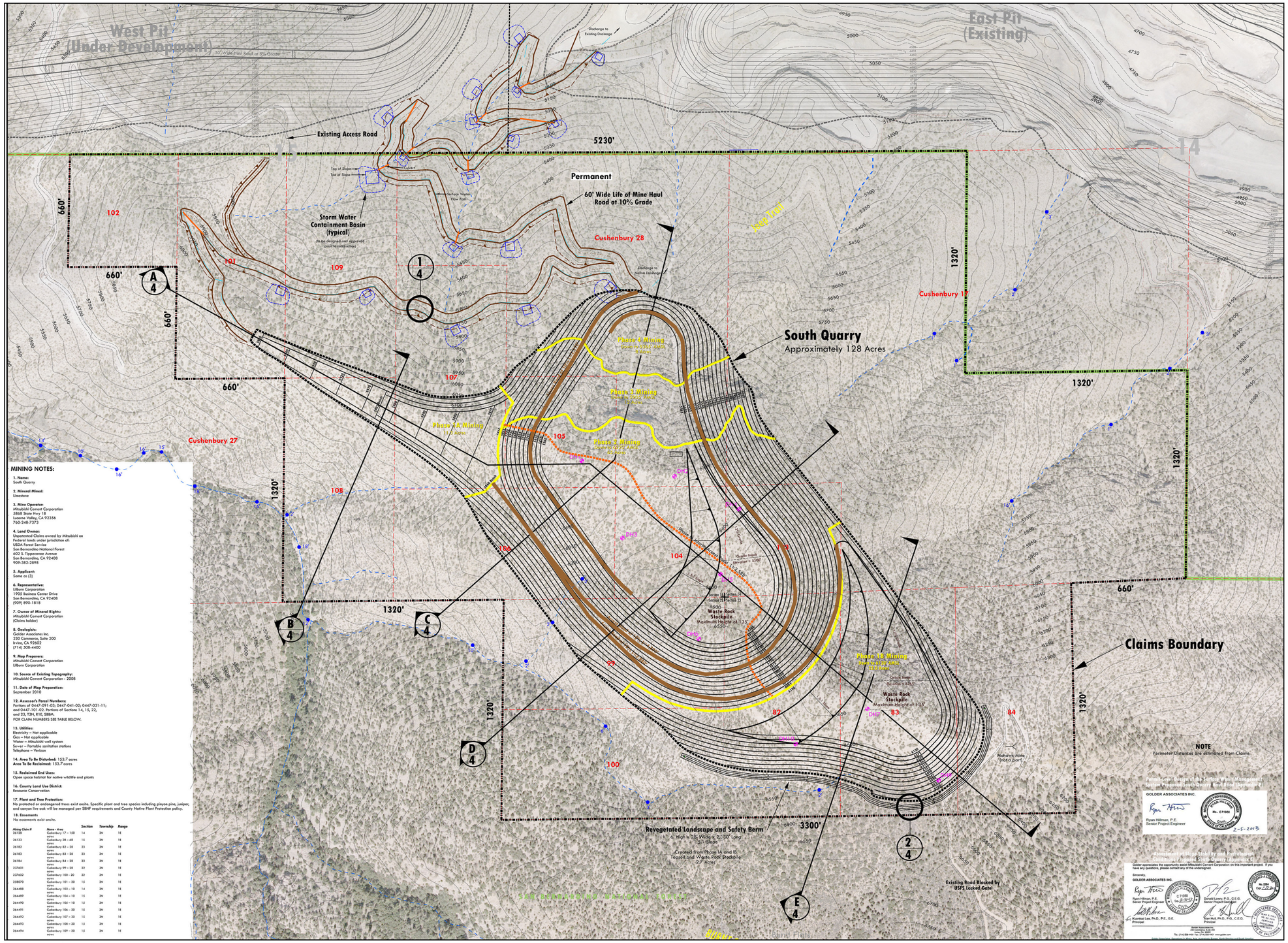
Specific reclamation activities will occur concurrent with excavations and throughout the life of the operations such as slope reduction, stockpile management, erosion control, and revegetation. At the conclusion of excavations, 5 years of active reclamation and revegetation will be implemented followed by revegetation monitoring and remediation until revegetation goals are achieved.

The ore will be transported by off-road haul trucks to the existing crushing and screening system at the adjacent Cushenbury Cement Plant for use in the production of cement. It is estimated that there will be approximately 150,000 tons per year or a total of approximately 18 million tons of waste rock excavated not suitable for the manufacture of cement. Note that annual waste rock production will vary based on the location of the excavations and the quality of the rock. Unlike other limestone mines in the area, the waste rock will be deposited within the quarry itself to fill or reduce slopes in Phases 1B, 2, and 3 and will not create any waste rock stockpiles outside the quarry. This will limit impacted areas to the quarry and haul road and eliminate potential visual, stability, and erosion impacts of a typical waste rock stockpiles.

The Plan proposes excavations to be undertaken in four phases with the development of the main quarry to a maximum depth of 5,365 feet above mean sea level (amsl) or 1,215 feet below the quarry rim on the south (see Figure 5). Elevations at the South Quarry site currently range from 5,555 to 6,675 feet amsl. The planned haul road will access the South Quarry at 5,950 feet amsl and traverse down the north slope for approximately 6,580 feet to an elevation of 5,050 feet amsl at the southwest corner of the existing East Pit. The South Quarry will be generally 1,800 feet northeast to southwest, and 3,600 feet northwest to southeast with an extension along the haul road of 1,450 feet to the northwest.

The phased mining, the haul road, landscape berm, and reclamation with cross-sections, slopes and contours are depicted on the four attached Mine Reclamation Plan sheets. This proposed Plan was developed with the following objectives:

- To develop a high grade limestone resource to blend with the West and East Pits' limestone to supply the required feed specifications for the adjacent Cushenbury Cement Plant for an extended period;
- To supply cement for construction and other uses in an efficient and environmentally sound manner;



LEGEND

- Claim Boundary
- Limits of Quarry Disturbance
- Phase Boundary
- Interior Quarry Haul Road
- 104 — Mining Claim
- DH2 — Geologic Drill Hole
- Jurisdictional Delineation Non-Corps/RWCQB/CDFG Jurisdiction
- 3' — Width of Jurisdiction in Feet
- Cushenbury Mine 2004 M-01 CA Mine ID#91-36-0054

SECTION CALLOUT

Section Letter Located on Sheet — A/5

DETAIL CALLOUT

Detail Number Located on Sheet — 3/5

MINING NOTES:

1. Name:
South Quarry

2. Mineral Mined:
Limestone

3. Mine Operator:
Mitsubishi Cement Corporation
5868 State Hwy 18
Lucerne Valley, CA 92356
760-248-7373

4. Land Owner:
Unpatented Claims owned by Mitsubishi on Federal lands under jurisdiction of:
USDA Forest Service
San Bernardino National Forest
602 S. Tippecanoe Avenue
San Bernardino, CA 92408
909-382-2898

5. Applicant:
Same as (3)

6. Representative:
Lilburn Corporation
1900 Business Center Drive
San Bernardino, CA 92408
(909) 890-1818

7. Owner of Mineral Rights:
Mitsubishi Cement Corporation
(Claims holder)

8. Geologists:
Golder Associates Inc.
230 Commerce, Suite 200
Irvine, CA 92602
(714) 508-4400

9. Map Preparers:
Mitsubishi Cement Corporation
Lilburn Corporation

10. Source of Existing Topography:
Mitsubishi Cement Corporation - 2008

11. Date of Map Preparation:
September 2010

12. Assessor's Parcel Numbers:
Portions of 0447-091-02; 0447-041-02; 0447-031-11; and 0447-101-02; Portions of Sections 14, 15, 22, and 23, T3N, R1E, SBBM.
FOR CLAIM NUMBERS SEE TABLE BELOW.

13. Utilities:
Electricity – Not applicable
Gas – Not applicable
Water – Mitsubishi well system
Sewer – Portable sanitation stations
Telephone – Verizon

14. Area To Be Disturbed: 153.7 acres
Area To Be Reclaimed: 153.7 acres

15. Reclaimed End Uses:
Open space habitat for native wildlife and plants

16. County Land Use District:
Resource Conservation

17. Plant and Tree Protection:
No protected or endangered trees exist onsite. Specific plant and tree species including pinyon pine, juniper, and canyon live oak will be managed per SBNF requirements and County Native Plant Protection policy.

18. Easements
No easements exist onsite.

Mining Claim #	Name - Area	Section	Township	Range
26128	Cushenbury 37 – 120 acres	14	3N	1E
26133	Cushenbury 38 – 60 acres	15	3N	1E
26182	Cushenbury 82 – 20 acres	23	3N	1E
26183	Cushenbury 83 – 20 acres	23	3N	1E
26184	Cushenbury 84 – 20 acres	23	3N	1E
237601	Cushenbury 99 – 20 acres	22	3N	1E
237602	Cushenbury 100 - 20 acres	22	3N	1E
238070	Cushenbury 101 – 20 acres	15	3N	1E
264488	Cushenbury 103 – 18 acres	14	3N	1E
264489	Cushenbury 104 – 18 acres	15	3N	1E
264490	Cushenbury 105 – 18 acres	15	3N	1E
264491	Cushenbury 106 – 20 acres	15	3N	1E
264492	Cushenbury 107 – 20 acres	15	3N	1E
264493	Cushenbury 108 – 20 acres	15	3N	1E
264494	Cushenbury 109 – 20 acres	15	3N	1E

NOTE
Perimeter Distances are estimated from Claims.

Permanent Closure of the Surface Water Management System at Mitsubishi Cement Corporation's Cushenbury Mine (Quarry)

GOLDER ASSOCIATES INC.
Ryan Hillman, P.E.
Senior Project Engineer
No. C71959
2-5-2013

Assessment of Slope Stability and Hydrological Impacts

Golder appreciates the opportunity assist Mitsubishi Cement Corporation on this important project. If you have any questions, please contact any of the undersigned.

Sincerely,
GOLDER ASSOCIATES INC.

Ryan Hillman, P.E.
Senior Project Engineer
C71959
exp. 6-30-13

Donald Lowry, P.G., C.E.G.
Senior Project Geologist
No. 5291
exp. 6-30-13

Kvanlad Lee, Ph.D., P.E., G.E.
Principal

Scott Hull, Ph.D., P.G., C.E.G.
Principal

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Irvine, CA 92602
Tel: (714) 508-4400 Fax: (714) 508-4401 www.golder.com

Golder Associates Inc. is a member of the Golder Associates group of companies, which has offices throughout North America and South America.

0 525
Feet

LILBURN CORPORATION

South Quarry Plot Plan

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

Figure 5

- To continue to realize the economic value from the investment made in the existing Cushenbury mine and cement plant and the limestone resource at the project site;
- To avoid logistical and environmental costs associated with non-contiguous operations;
- To meet the USFS regulations to cause no undue and unnecessary degradation;
- To meet the State's and County's Surface Mining and Reclamation Act (SMARA) requirements;
- To be consistent with the intent of the SBNF's Carbonate Habitat Management Strategy (CHMS) in order to provide long-term protection for the sensitive carbonate endemic plants through contribution of lands to the Carbonate Habitat Reserve;
- To minimize impacts to sensitive plants and wildlife including the Cushenbury herd of Nelson's bighorn sheep through quarry design and offsite mitigation;
- To reclaim the site for post-mining uses which will include open space habitat;
- To contour mining features and revegetate disturbed areas to minimize aesthetic and erosion impacts; and
- To reclaim and maintain the site as necessary to eliminate hazards to public safety.

Some of the benefits resulting from the expansion of mining operations adjacent to an existing operation and the cement plant include:

- The avoidance of habitat fragmentation that may result from supplying the existing Cushenbury Cement Plant with limestone mined from a carbonate area not adjacent to the existing cement plant; and
- The avoidance of increases to truck traffic on public roads and associated increases in air combustion and green house gas emissions, diesel fuel consumption, and road maintenance that may result from supplying the existing cement plant from other limestone mines.

Project Need

MCC's Cushenbury Cement Plant requires a limestone feed of approximately 2.6 MTPY of a specific blend of limestone in order to manufacture cement. In 2004, as the existing East Pit neared its exhaustion of cement grade limestone, the West Pit expansion was approved by the County of San Bernardino on 191 acres to the west of the existing East Pit with approximately 217 MT of limestone reserves. Based on subsequent limestone testing, the amount of high grade limestone to blend with the lower grades of limestone to meet the feed requirement for the cement plant will not be adequate for the life of the mine.

Therefore, MCC explored the surrounding area to determine if high grade deposits of limestone could be feasibly developed to augment the lower grade limestone from the developing West Pit. Based on drilling conducted during the winter of 2009 and 2010, the proposed South Quarry site will be able to meet this goal with its estimated proven and inferred reserves of over 200 million tons of high to medium grade limestone rock. This higher grade limestone will be blended with

lower grade limestone excavated from the West and East Pits at a ratio of approximately 50/50 in order to meet the limestone specifications to feed the adjacent Cushenbury Cement Plant.

Operator: Mitsubishi Cement Corporation
5808 State Hwy 18
Lucerne Valley, CA 92356

Representative: Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

General Plan Designation: Resource Conservation

Estimated Operating Life: 120 years (January 1, 2021 through December 31, 2140)

Planned Production: average of 1.3 MTPY of limestone; average of 5,200 tons/day based on 250 days/year, 10 hours/day. Waste rock average of 0.15 MTPY; average of 600 tons/day.

Estimated Mining Termination Date: December 31, 2140

Estimated Reclamation Completion: December 31, 2145 followed by revegetation monitoring

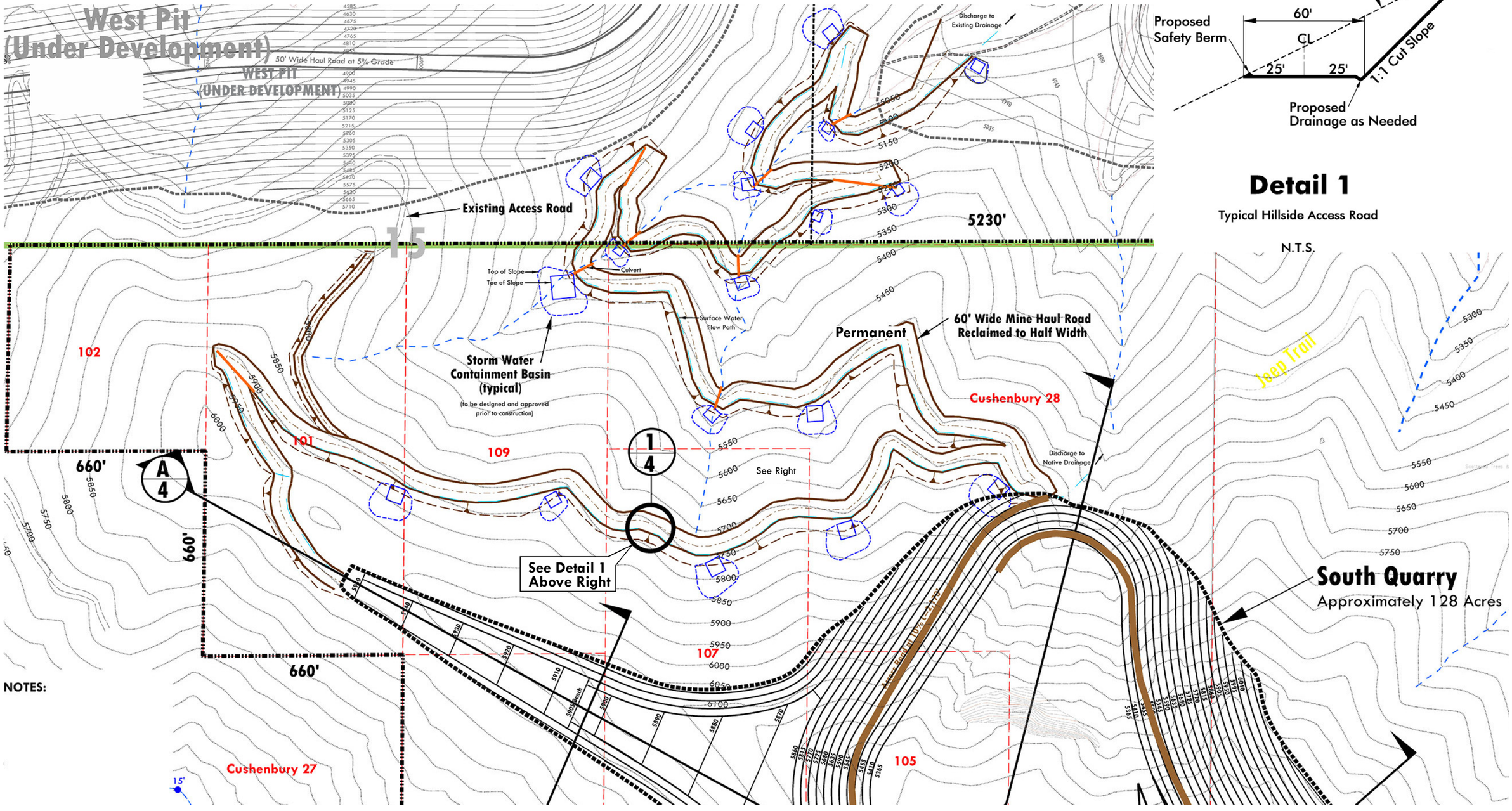
Reclaimed End Use: Open space habitat with native vegetation

1.1 MINING OPERATIONS

MCC currently operates the Cushenbury East Pit (existing) and West Pit (under development) located north of the proposed South Quarry. The existing East Pit is nearing the end of its reserves and mining will shift to the West Pit (now under development) and the proposed South Quarry. The development of the South Quarry will consist of construction of the 1.8 mile long haul road, four phases of excavations, concurrent reclamation, and then final reclamation followed by revegetation monitoring. Sheet 2 shows the quarry design overlaid on the existing topography. Sheet 4 shows the quarry cross-sections. The final bench design is a 45-foot high face and 25-foot wide bench, with an overall final quarry slope angle of 60°.

Haul Road

Limestone ore excavated at the South Quarry will be hauled by off-road haul trucks to the existing primary crusher located at the north end of the existing East Pit. The haul trucks currently in the MCC fleet have capacities of 77 to 105 tons. Any haul trucks added as a result of the Project will be new, 105-ton capacity haul trucks. During the first two years, the 1.8-mile long haul road will be constructed. The planned haul road will access the South Quarry at 5,950 feet amsl and traverse down the north slope to an elevation of 5,050 feet amsl at the southwest corner of the existing East Pit. The road's surface width will be 50 to 60 feet with a grade not to exceed 10% and it will have a surface of crushed limestone (see Figure 6 and Sheet 2). The preliminary road design has estimated the required cut of 450,000 cubic yards (CY) based on 1 horizontal:1 vertical (1H:1V) slopes required to develop the road. The cut will generally be trucked to the primary crusher and



Detail 1

Typical Hillside Access Road

N.T.S.

NOTES:

0 300
Feet

LILBURN CORPORATION

Haul Road Alignment

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

Figure 6

used for cement production with surface material salvaged and stockpiled in the East Pit for reclamation and revegetation. The preliminary haul road design with conveyance and water containment basins are shown on Sheet 2 and Appendix P. In addition, to aid in the cutting of the access road, a temporary construction road approximately 755 feet in length and 25 feet wide (0.7 acres) will be cut from the end of an existing access road from the West Pit area. Upon completion of the main access road, this temporary road will be reclaimed and revegetated. The estimated disturbance area of the proposed haul road is 22.2 acres of which 6.6 acres is on MCC fee land and 15.6 acres on FS land.

Pre-Construction and Pre-Mining Activities

The following activities will be conducted prior to actual haul road construction and rock extraction in the quarry in order to facilitate ongoing and future reclamation and revegetation:

- Construction and excavation limits will be surveyed and marked in the field;
- Specified plants that can withstand removal will be salvaged and stored in a nursery and will be replanted on reclaimed land as areas become available for revegetation;
- Seeds of specified plants will be collected and either used for revegetation or stored appropriately for maximum future viability; and
- Any available soils will be stockpiled in separate identified stockpiles near the edges of the excavations for use as a seed bank and seedbed during reclamation. Soil stockpiles will be clearly marked and seeded with an erosion control native seed mix or covered with larger material to limit wind and water erosion.

Quarry Operations

The Plan proposes excavations to be undertaken in four phases with the development of the main 128-acre quarry to a maximum depth of 5,365 feet amsl or 1,215 feet below the quarry rim on the southeast (refer to Figure 5 and Sheet 2). The South Quarry will be generally oval shaped, 1,800 feet northeast to southwest, and 3,600 feet northwest to southeast with an extension along the haul road of 1,450 feet to the northwest.

In order to extract the limestone rock that exists on the site, blasting activities will be required to develop a series of benches and to break the rock into smaller pieces so that it can be removed. Blasting operations involve drilling along the mining face, placing of charges, and detonating of the charges by a licensed blaster under permit through the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF&E) for handling explosives. All explosives and detonators shall be transported, handled, and stored in accordance with all federal, State, and local regulations and permitted under the San Bernardino County Sheriff's Department and San Bernardino County Fire Department pursuant to Uniform Fire Code. It is expected that an average of two blasts per week will be required for developing the South Quarry depending on production and geology of the particular area being mined. Blasting is discussed in more detail under Section 1.6 below.

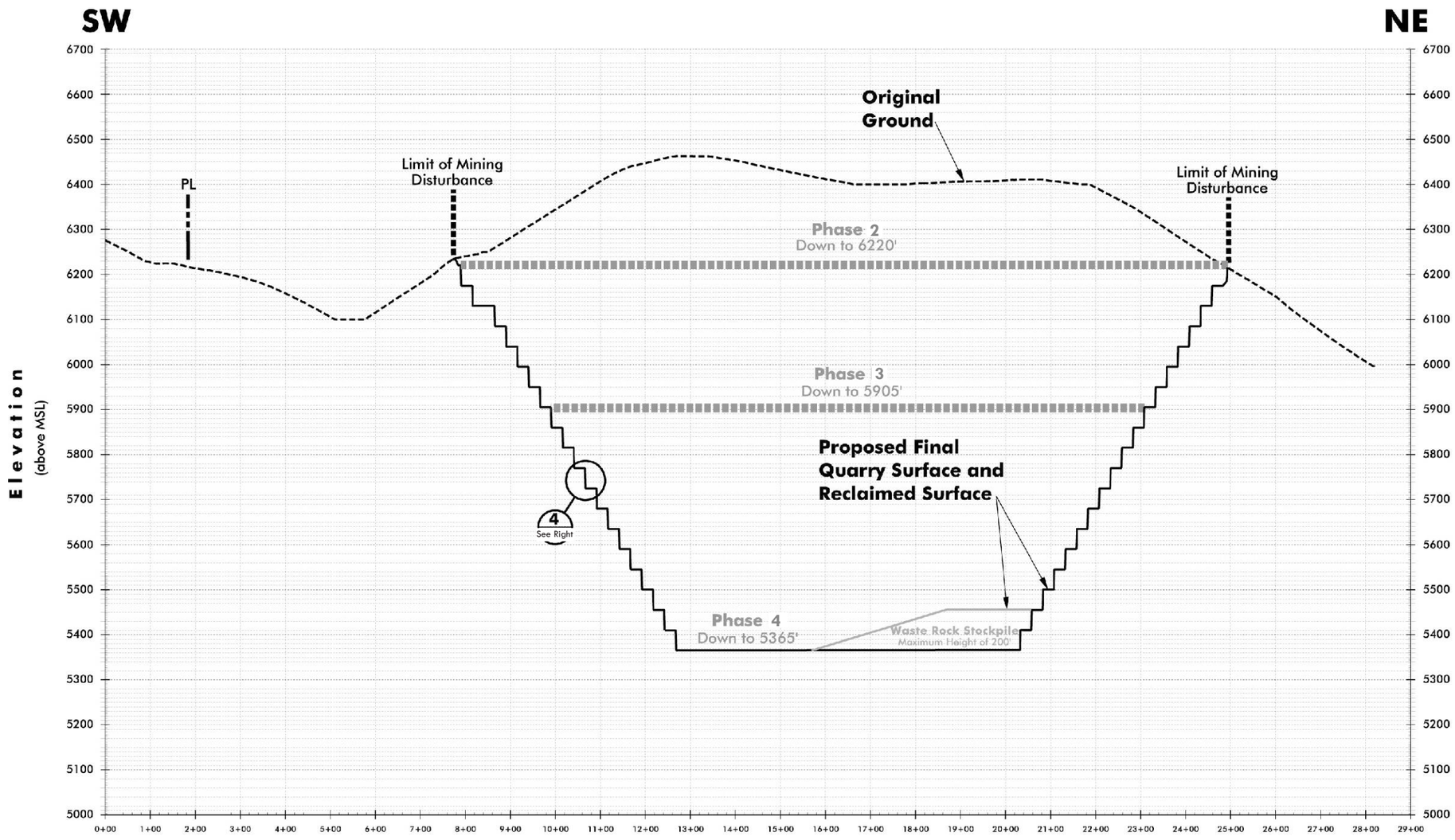
Limestone will be excavated at the South Quarry by standard open pit practices. Once an area is stripped of vegetation and available soil salvaged, controlled blasting will loosen the rock at a vertical benching interval of 45 feet. A dozer will push material and two to three loaders load the shot or broken rock into off-highway haul trucks. These trucks will transport material down the new haul road to the existing primary crusher located at the north end of the existing East Pit near the cement plant. Limestone which does not meet cement quality specifications and other rock types encountered will be pushed or hauled directly to waste rock stockpiles located within the southeast portion of the quarry. No new waste stockpiles will be developed outside the perimeter of the South Quarry to limit additional land disturbance and to reduce potential visual and erosion impacts.

Based on the slope stability analysis conducted by Golder Associates ("Assessment of Pit Slope Stability and Hydrologic Conditions", Golder, 2010; see Appendix C), the excavations will be designed to develop a series of stable rock slopes up to 45 feet in height with horizontal benches 25 feet wide (see Figure 7). Each bench will be sloped inward toward the vertical wall at 1 percent to capture any precipitation or runoff. The overall slope angle will be 60º or a slope of 0.55H:1V. Golder determined that the planned slopes will meet the stability criteria of a factor of safety of at least 1.5 against sliding and a pseudostatic factor of safety of at least 1.1 when subjected to the design earthquake. A geotechnical program of on-going field mapping, drilling and geophysical surveys, and laboratory testing shall be established and implemented as the quarry is excavated. This type of site investigation during the mining operation will provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. An annual report discussing the geotechnical program and its mapping will be prepared for the SBNF and County.

To reduce the possibility of boulder roll down or material erosion off-site on the down slopes to the north and east, specific excavation methods will be implemented. These include limiting the drilling and blasting when the outer quarry rim benches are being cut; blasting designed to undercut the outside wall; and excavating material by pulling into the quarry. Mining during Phases 2, 3, and 4 will expose the hillside on the north side. To reduce visual impacts from active excavations, a 20 to 25-foot high natural perimeter berm (half a vertical bench height) will be left in-place on the outside ridge until the interior area of the next lower excavation level is completed. This perimeter berm will limit views of active excavations except for a short period when the berm is lowered.

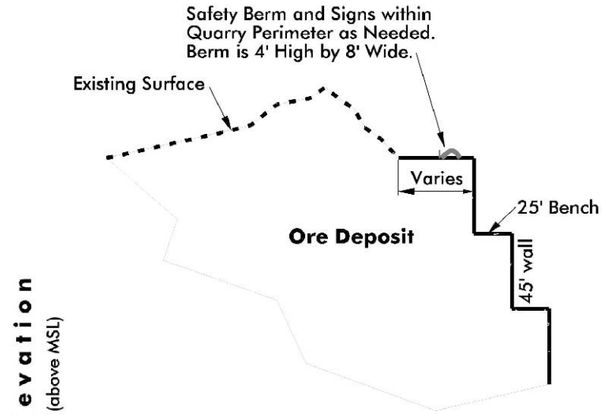
The quarry will normally operate approximately 250 days per year round, five days per week, 10 hours per day. Factors such as market conditions and maintenance requirements vary this schedule, occasionally necessitating a second shift or weekend work. In addition, due to the higher altitude of the site, the quarry operations may be suspended for one or two months during the winter due to snow. Approximately 11 employees will work on the South Quarry with 3 new employees required.

Based on 1.3 MTPY and 250 days/year, the average daily ore production would be 5,200 tons which will require approximately 50 to 55 truck trips to the crusher per day. An average of



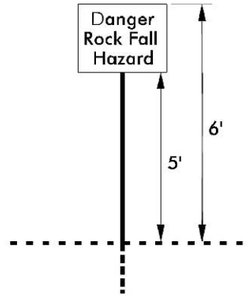
Cross Section D

Looking Northwest



Detail 4

Typical Hillside Mining Cross Section
N.T.S.



Detail 3

Typical Warning Sign Every 250 Feet
N.T.S.

Quarry Slope Details

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

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Figure 7

600 tons of waste rock will be extracted per day which will require 6 to 7 truck trips per day. Note the amount of ore and waste rock will be highly variable. When mining an area with high volumes of waste rock, then a like number of trucks moving ore to the crusher will be reduced.

Quarry Equipment

The following typical equipment in Table 1 will be utilized for the mining activities conducted within the quarry. The number, makes, and sizes of the mobile equipment will vary depending on required diesel emission standards, quarry needs, rock production, and normal replacement of old equipment.

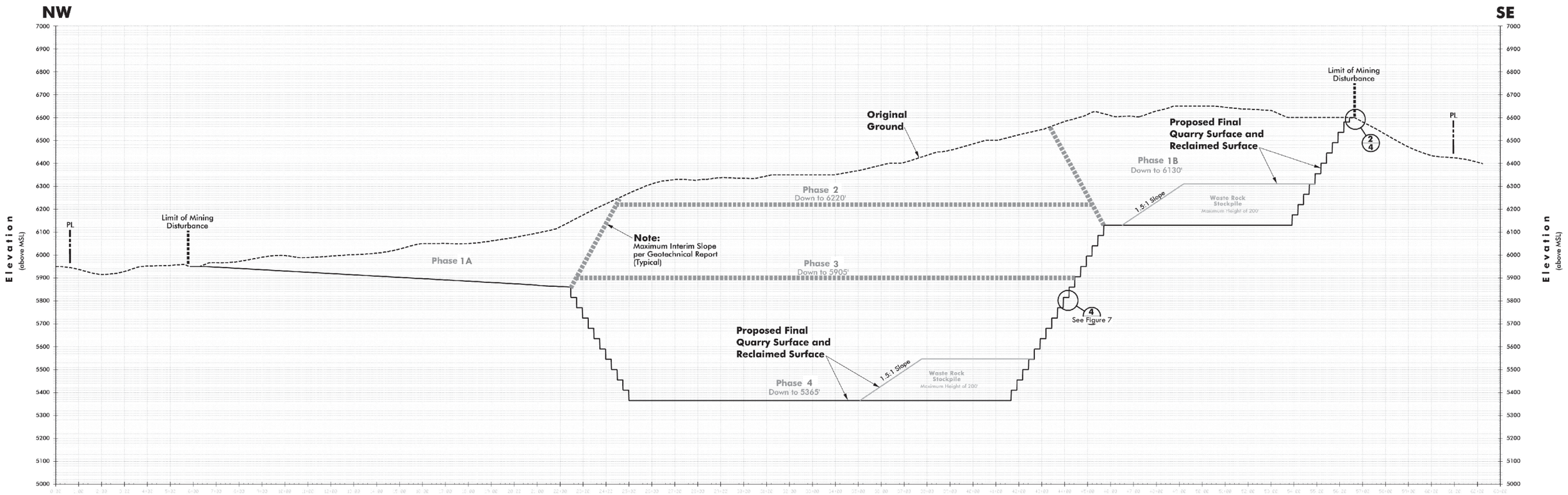
Table 1
Typical Quarry Equipment
South Quarry

Equipment	Typical Number	Net Increase of Additional Equipment	Purpose
Dozer	1 – 2	0	Removal of topsoil and waste rock. Construction and maintenance of the haul road.
Off-Road Haul Trucks	2 - 9	3	Transportation of material to the primary crusher and onsite waste rock stockpiles. Note that 2 trucks will be dedicated to the South Quarry and up to 7 trucks will rotate with the West Pit operations as needed.
Drill Rig	1	0	Drill holes for placement of explosives.
Water Trucks	1 – 2	0	Water haul roads, active excavation areas, stockpiles, and general dust suppression at site.
Front-End Loaders	2 - 3	0	Loading of materials into haul trucks at active mining area.

Source: MCC, 2019
Note that the typical number of pieces of equipment does not represent a net increase in equipment for the overall Cushenbury Mine area as most operations at the South Quarry will utilize existing equipment. The net increase of additional equipment is three new haul trucks.

Quarry Phasing

The excavation plan for the South Quarry is divided into four phases based on operational, engineering, and environmental concerns (refer to Figure 5 and Sheet 2). Figure 8, Cross Section A in Figure 5, and Sheet 2, show the phasing in a cross section from the northwest to the southeast portions of the quarry. Table 2 lists the pertinent data per mining phase including the expected years of operation based on average production rates, size, ore reserves, and waste rock. The South Quarry is proposed to be excavated according to this phasing plan. However, mining operations will experience unscheduled interruptions and/or phasing changes due to various market/economic demands and variation in slopes and material quality beyond MCC's control since the natural deposit is not of uniform quality. It may be necessary, therefore, to excavate selectively from different locations within the quarry to achieve a suitable blend of raw materials. The SBNF and the County will be updated in the annual monitoring report on the status of operational phases.



Cross Section A Looking Northeast

Quarry Cross Section A

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

LILBURN CORPORATION

Figure 8

Table 2
Planned Quarry Phasing and Production
South Quarry

PHASE	Area (acres)	Volume (millions of cubic yards)	Weight (millions of tons)	Ore Reserves (millions of tons)	Waste Rock (millions of tons)	Max. Depth (feet amsl)	Years of Operations
1A	11	2.3	5.1	4.5	0.5	5,860	3.5
1B	32	14.6	32.1	28.8	3.2	6,130	22.0
2	65	9.6	21.0	18.8	2.2	6,220	14.5
3	12[1]	26.4	58.0	52.0	6.0	5,905	40
4	8[1]	26.4	58.0	52.0	6.0	5,365	40
Totals	**128**	**79.3**	**174.0**	**156.0**	**18.0**	**5,365**	**120**

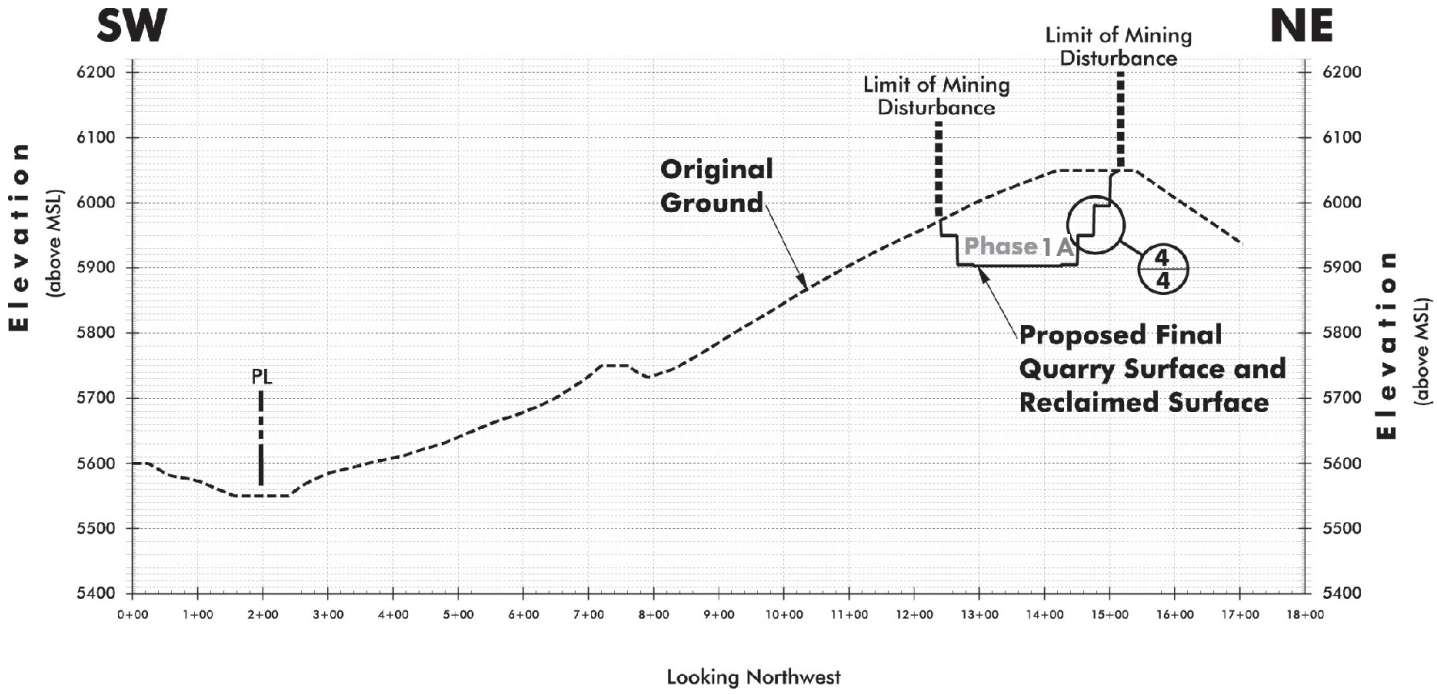
Notes: Source: MCC, Lilburn Corp. 2010
All volumes are estimated.
Area rounded to nearest acre. Totals may be slightly different due to rounding.
Millions of cubic yards and tons rounded to nearest tenth.
In-situ or in-place limestone rock weight to volume ratio estimated at 2.2 tons per 1 cubic yard.
Years of operations based on average production of 1.3 million tons per year for 120 years.
Waste rock estimated at 0.15 million tons per year or approximately 10% which will vary depending on area being excavated.
1 – Phases 3 and 4 areas are mostly excavated deeper within Phase 2 area previously disturbed.

The following is a summary of the planned mining operations by phase.

Phase 1A

Phase 1A will be initiated after construction of the haul road and compliance with pre-construction conditions and has ore reserves of approximately 3.5 years. The expected length of Phase 1A is based on an estimated reserve of approximately 4.5 million tons and an ore production rate of 1.3 MTPY. Approximately 500,000 tons of waste rock or less will be produced which will be used for the southern berm and stored in temporary stockpiles in Phase 1A and deposited into permanent stockpiles in Phase 1B as it is developed. Note that Phase 1A will not be completely excavated prior to initiating mining in Phase 1B.

Based on the bore hole data, minimal waste rock is expected in this area. This phase is essentially an extension of the haul road of which approximately 1,600 feet will be excavated up to 300 feet deep into the quarry area as the quarry is excavated (refer to Figure 5 and Sheet 2). The phase and extended haul road were designed in this way in order to depress this portion of the haul road below the remaining cut on its north facing slope and to reduce the road's grade as it is extended across the quarry to Phases 1B and 2. This will reduce the exposure of this area from views from Lucerne Valley. Please see Cross Section B in Figure 9, which shows the proposed excavations.



Phase 1A Quarry Cross Section B

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

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Figure 9

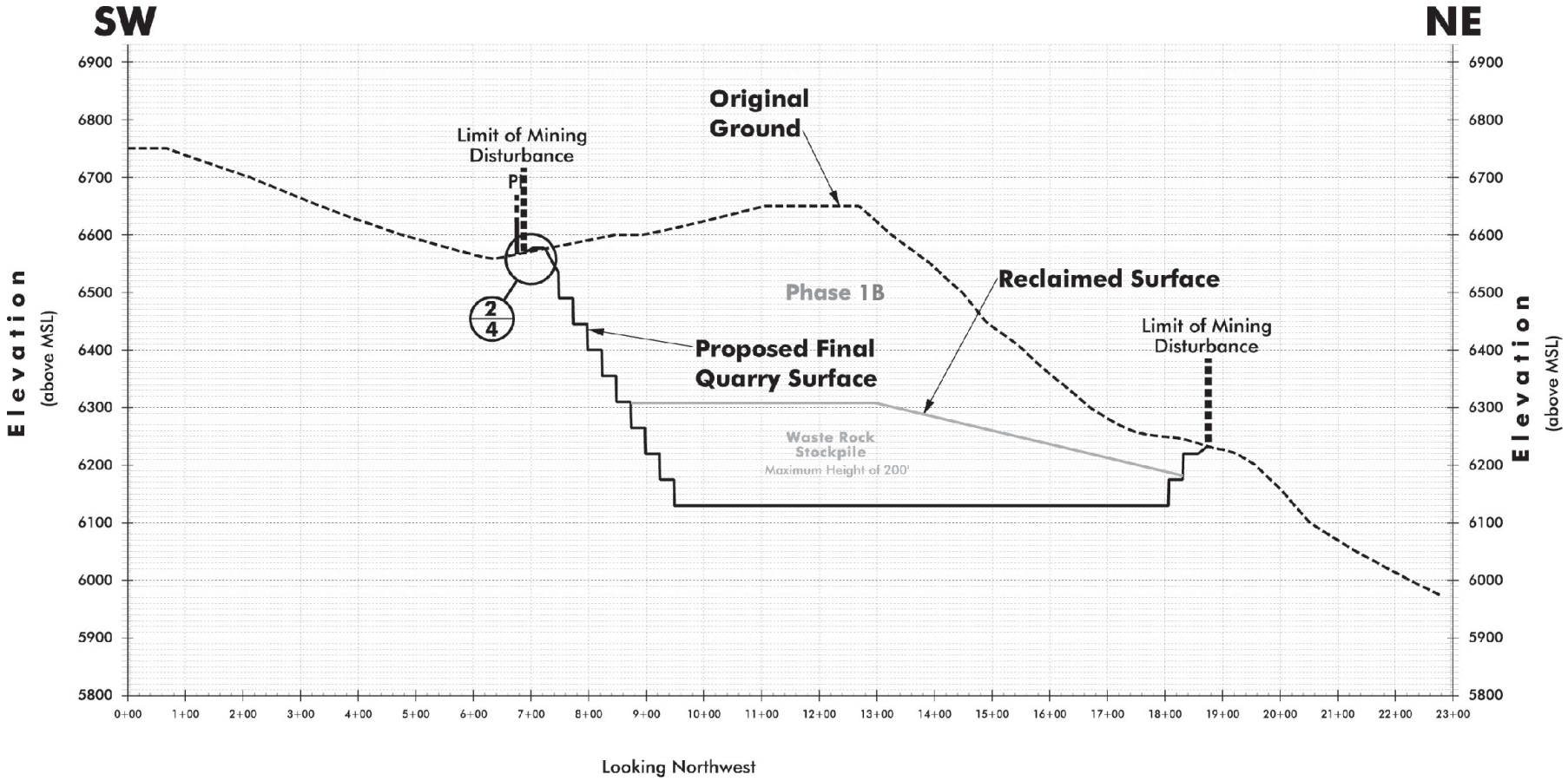
Phase 1B

Phase 1B will excavate the southeast 32 acres of the quarry (refer to Figure 5 and Sheet 2). Mining will create a horseshoe-shaped quarry that will extend from the southern quarry rim of 6,580 feet amsl to a floor elevation of approximately 6,130 feet amsl, a maximum depth of approximately 450 feet. Slopes will be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Reserves are estimated at about 29 million tons of ore. At an ore production rate 1.3 MTPY, 1B will have a life of approximately 22 years. Mining and the transport of ore to the primary crusher will be the same as described for Phase 1A. Approximately 3.2 MT of waste rock may be produced in Phase 1B which will be used for the southern berm and deposited in permanent stockpiles in this phase.

Phase 1B was designed to (1) avoid the access road to the old Mohawk Mine as well as the old Mohawk Mine itself; (2) avoid the stream channel along its southwest rim which drains into Marble Canyon; (3) create at least one bench along the northeast quarry to reduce open views of the quarry from the northeast and east (as compared to daylighting the cut into the downslope); (4) recover the high grade limestone to a depth of 6,130 feet amsl per drilling log data; and (5) provide an internal area within the quarry to permanently stockpile the waste rock from Phases 1A, 1B, and 2. The development of internal waste rock stockpiles will reduce the area of disturbance outside the quarry rim, eliminate potential visual impacts of the waste rock piles, and reduce internal slopes in Phase 1B to 1.5H:1V to aid in revegetation. Please see Cross Section E in Figure 10, which shows the proposed excavations and the waste rock backfill.

This portion of the quarry could be accessible from the south by the public driving or hiking in the Burnt Flat area along the old Mohawk Mine Road. The road from the south is blocked by a permanently locked SBNF gate approximately 0.25 miles south of the site and the road is not maintained north of the gate. To further reduce the accessibility of the quarry, MCC is planning on constructing a landscape and safety berm along the southern rim for a distance of approximately 2,330 feet. This berm will tie into steeper slopes on the east and the southwest to restrict access. The berm will be composed of waste rock and salvaged soil approximately 6 feet in height with 1.5H:1V slopes (see Figure 11) and will cover approximately 2.7 acres with the adjacent set back and access road. The berm will include placement of a mixture of large rocks to discourage riding over it, warning signs, and revegetated with native vegetation.

Along other portions of the quarry rim, a 25-foot wide set back with safety berms 4 feet in height with 1H:1V slopes and oversized boulders will be constructed along any quarry rim areas susceptible to public trespass. Warning signs will be installed along all sides of the rim at least 18” by 18” with contrasting background lettering every 250 feet and shall read in English and Spanish “Danger” “Open Pit Mine” or “Steep Slope.”

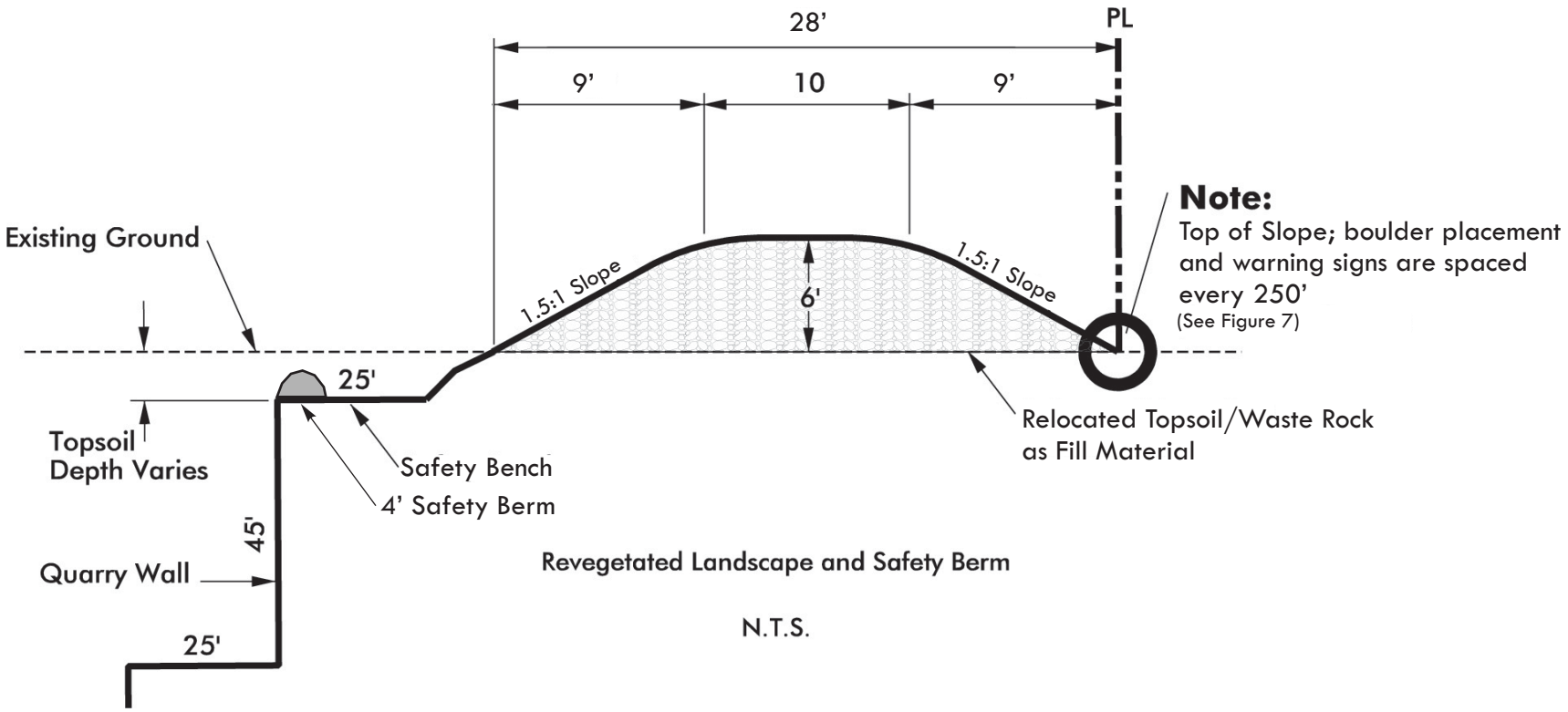


Phase 1B Quarry Cross Section E

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

LILBURN CORPORATION

Figure 10



Typical Landscape Berm

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

LILBURN CORPORATION

Figure 11

Phase 2

Phase 2 will excavate the central 63 acres of the quarry (refer to Figures 5 and 8 and Sheet 2). Mining during this phase will essentially level the quarry and create an oval shaped quarry. The quarry depth will extend from Phase 1B with an average base elevation of 6,220 feet amsl. Slopes will be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Reserves are estimated at 19 million tons of ore. At an ore production rate 1.3 MTPY, Phase 1B will have a life of approximately 14.5 years for a cumulative total of 40 years from the commencement of mining. Mining and the transport of ore to the primary crusher will be the same as described for Phase 1A. Approximately 2 MT of waste rock may be produced in Phase 2 which will be deposited into permanent stockpiles to fill a portion of the southern slopes in Phase 1B.

The development of internal waste rock stockpiles will reduce the area of disturbance outside the quarry rim, eliminate potential visual impacts of the waste rock piles that are highly visible, and reduce internal slopes to aid in revegetation. Please see Cross Section C in Figure 12, which shows the proposed excavations.

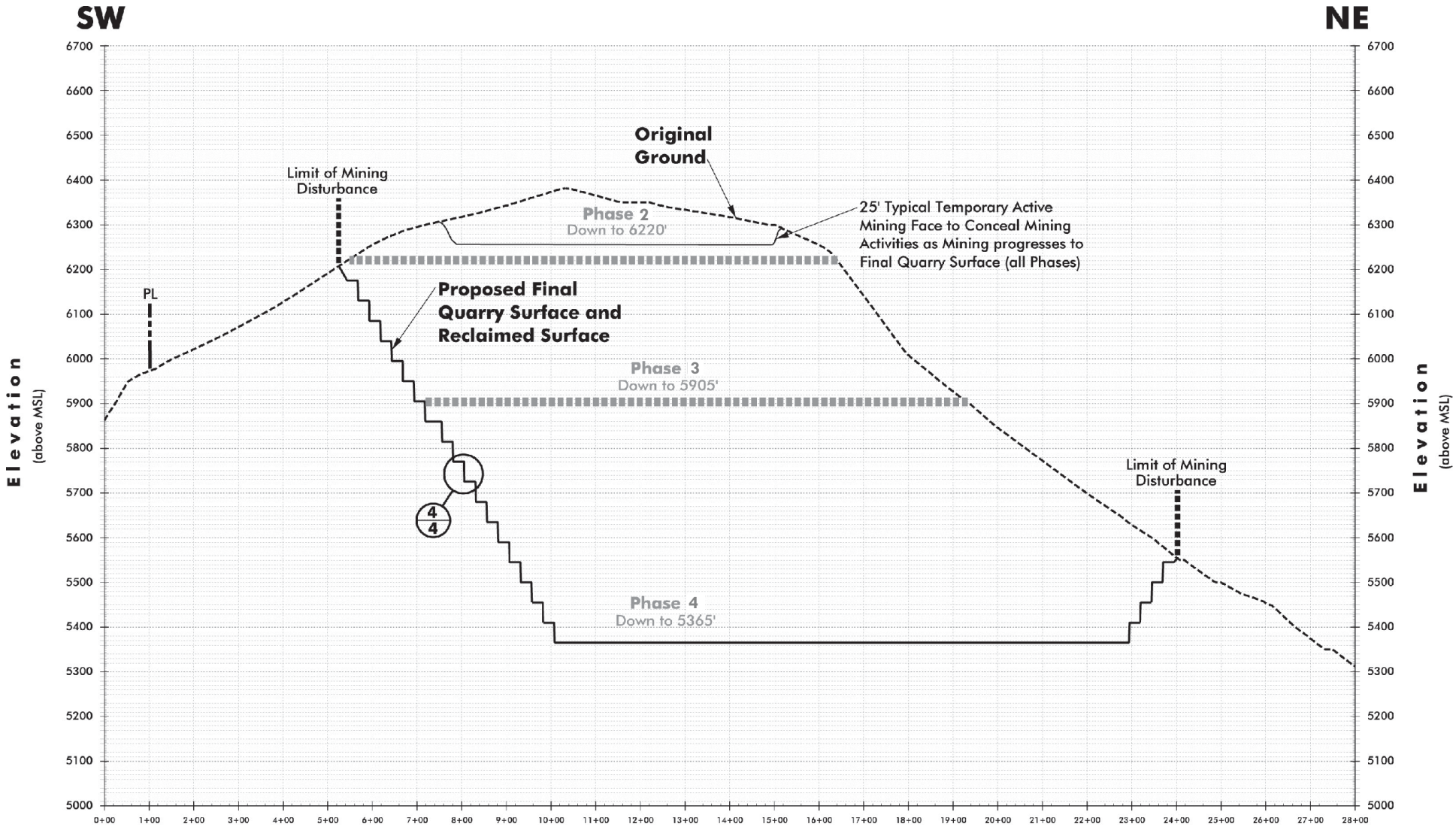
Phase 3

Phase 3 will be 40-year excavation phase on an additional 12 acres within the central part of the quarry mostly within the footprint of Phase 2. Mining will excavate to floor elevation of approximately 5,905 feet amsl, a depth of approximately 315 feet amsl below the Phase 2 floor elevation of 6,130 feet amsl (refer to Figures, 5, 8 and 12). Slopes will be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Reserves are estimated at over 52 million tons of ore. Mining and the transport of ore to the primary crusher will be the same as described above. Approximately 6 MT of waste rock will be produced in Phase 3 which will be deposited into the permanent stockpiles in Phase 1B.

Phase 3 was designed to maximize the recovery of the limestone resource with depth while staying within the planned 128–acre perimeter and create benches on the northeast side of the quarry to reduce open views of the quarry (as compared to daylighting the cut into the downslope).

Phase 4

Phase 4 will be the final excavation phase on an additional 8 acres within the central part of the proposed South Quarry configuration for the 120-year lifespan. Mining will excavate to floor elevation of approximately 5,365 feet amsl, a maximum depth of approximately 550 feet amsl below the Phase 3 floor elevation of 5,905 feet amsl (refer to Figures, 5, 7, 8, and 12). Slopes will be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Reserves are estimated at 52 million tons of ore. At an ore production rate of 1.3 MTPY, Phase 4 will have a life span of approximately 40 years. Mining and the transport of ore to the primary crusher will be the same as described above. Approximately 6 MT of waste rock will be produced in Phase 4 which will be deposited into the permanent stockpiles on the southeast side of Phase 4.



Phases 2, 3 and 4 Cross Section C

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

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Figure 12

1.2 WASTE ROCK

The production of limestone generates approximately 10 percent waste rock or approximately 150,000 tons per year of rock not suitable for cement processing depending on the quality of the limestone which varies throughout the quarry. Minimal amounts of overburden are expected as the limestone is generally exposed across the quarry site. Any topsoil onsite will be in the form of smaller eroded limestone gravel that may contain organic material and seeds. This surface material will be salvaged and stored in separately marked stockpiles for future reclamation efforts along and above the top benches and used for the construction of the landscape berm along the southern rim. Instead of removing the waste rock and depositing it in a separate waste stockpile(s) outside the rim of the quarry, this plan proposes to stockpile the waste rock within Phases 1B and 4 as mining progresses with depth. The development of internal waste rock stockpiles will reduce the area of disturbance outside the quarry rim, eliminate potential visual impacts of the waste rock piles, and reduce internal slopes to aid in revegetation. Based on 250 days of operations per year, an average of 600 tons of waste rock will be extracted per day which will require 6 to 7 truck trips per day depending on the volume of the haul truck. Note the amount of waste rock will be highly variable. When mining an area with high volumes of waste rock, then a like number of trucks moving ore to the crusher will be reduced.

1.3 ORE PROCESSING

Mineral processing will be conducted off the South Quarry site at the adjacent existing Cushenbury Cement Plant north of the existing East Pit. Limestone is crushed in three stages to minus 3/8 inch diameter and mixed with other materials to produce the raw mix which is heated to 2,700 degrees Fahrenheit in a rotary kiln then cooled and stored for shipping. Cement is shipped to various markets by bulk truck, train and in sacks. There will be no change in plant operations due to the proposed South Quarry.

The Cushenbury Cement Plant and its ancillary facilities comply with all applicable Federal, State, and Mojave Desert Air Quality Management District (MDAQMD) rules and regulations.

1.4 PRODUCTION WATER

Water will be used for road and mine dust control and will be obtained from existing water wells on MCC owned land (not SBNF land). This water will be hauled in a water truck (Cat 773 or Euclid R-50 typical with 13,000 gallon capacity) and sprayed on the haul roads and active mining area to minimize fugitive dust. The water truck will work continuously during active quarry operations as needed to control visible dust. Typically, the water truck will make up to eight trips/day and the estimated usage will be approximately 104,000 gallons/day. This water will evaporate and, therefore, the Proposed Project will not produce any wastewater or run-off. Note that MCC may also utilize approved chemical dust suppressants to control road dust which would reduce water spraying frequency depending and the total amount used, depending on the outcome of on-site testing of this method.

A Preliminary Water Supply Assessment (WSA) was prepared (see Appendix N) in conjunction with the preparation of a California Environmental Quality Act (CEQA) Initial Study the Proposed

Project and it becomes information used in the approval process. A WSA is required because the proposed project is a "processing facility" occupying more than 40 acres of land (Water Code Section 10912; SB 610). The Project Site is not within the service area of a public water supplier, but is within the boundaries of the Mojave Water Agency (MWA). MWA is a State Water Project contractor, a regional groundwater management agency, and serves as Watermaster for the adjudicated Mojave Basin. MCC owns four on-site and six off-site water wells, five of which are presently used to provide water for dust control at the mine operations. This water source will be used to meet water demands of the proposed South Quarry operations.

1.5 EROSION AND SEDIMENTATION CONTROL

Control of surface drainage, erosion, and sedimentation of the proposed haul road and quarry operations will involve the following primary components currently being implemented for existing operations:

- Limiting surface disturbance to the minimum area required for active operations.
- Diverting runoff, where operationally feasible, such that runoff from undisturbed areas does not enter the area of active operations.
- Using ditches, sediment basins, and localized control and maintenance measures to intercept and control runoff along the haul road (see Appendix P).
- Stabilizing disturbance areas through regrading, revegetation, and other restoration practices.

Within the quarry, run-off from on-site precipitation will be directed and stored in typical retention basins. All operations on-site will comply with a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with industrial activities and employ storm water BMPs. NPDES goals are to eliminate unauthorized non-storm water discharges and to monitor storm water discharges requirements.

The planned control practices are described in the following:

Limiting Surface Disturbance

MCC will limit surface disturbance to those areas required for the proposed haul road and quarrying operations. Surface disturbance areas which will be subject to potential erosion and sediment loss will be limited through long-range planning, effective-design practices, phased development of quarry expansion areas, sequencing of soil removal, and reclamation of disturbed areas.

Diverting Undisturbed Area Runoff

Drainage structures will be located and constructed to control flow velocities, provide for stability during their planned operating life, and minimize additional contributions of sediment to runoff flows. Based on Project area topography and the proposed development plans, it is anticipated that

the need for diversions will be limited, with most runoff either flowing under the haul road in culverts or collecting temporarily in active quarry areas or containment basins along the haul road.

Disturbed Area Drainage Control

The site is very rocky and water erosion is expected to be minimal. Appropriate erosion control measures will be implemented where erosion is observed. Runoff resulting from direct precipitation on active and unreclaimed disturbed areas and uncontrolled runoff from up gradient undisturbed areas has the potential to cause erosion and resulting sediment loss, transport, and deposition, in both the disturbed and down gradient areas. In active quarry areas, drainage control generally will not be a significant concern since essentially all disturbed area drainage will be retained within the basin created by the quarry excavation.

For the haul road and waste rock stockpile areas, erosion and sediment loss and transport will be controlled through the use of localized drainage and sediment control measures. These measures will include construction of temporary diversion and collection ditches, berms, check dams or catchment basins; placement of erosion control materials, sediment fences, or straw bales; and other appropriate measures individually or in combination. Note that excavated benches will be designed to slope slightly back towards the vertical wall or cut to limit water flowing down the slopes.

The objective of all drainage control measures will be to limit flow volumes and velocities to minimize or prevent erosion and to promote settling of suspended solids before the runoff leaves the disturbed area. It is anticipated that drainage control measures will be implemented as needed based on regular inspection of operating areas. If initial evidence of any significant erosion or siltation is observed down gradient of any disturbed area, appropriate control measures will be identified and implemented on a timely basis.

Stabilization of Disturbed Areas

Disturbed areas will be stabilized to minimize both short- and long-term erosion and sediment loss. In the case of mine roads, short-term stabilization measures include regular road maintenance, establishment of temporary vegetation where appropriate, and stabilization of cut slopes and fills. Growth media stockpiles will be stabilized through establishment of a temporary vegetative cover if they are designed for storage periods exceeding 1 year.

Long-term stabilization, or reclamation, will generally involve grading or reshaping disturbed areas, establishing effective drainage, placement of plant growth media, and revegetation. Surface stabilization of quarry areas will consist of removal of loose rocks from highwall areas, and growth media replacement and revegetation of quarry bench surfaces. Following reclamation, the majority of surface runoff from quarry areas will be retained in the quarry limits where it will either infiltrate or evaporate.

Erosion Monitoring

The site will be visually inspected after major precipitation events of 0.5 inches of precipitation per 24-hour period to determine if any substantial erosion is evident such as sheet, rill or gully erosion or any surficial instability. The operator will visually inspect the perimeter of the excavations and haul road culverts and slopes to observe all drainage that may be impacting the site and document the observed and potential erosion occurring. Monitoring times, the person conducting the inspections, inspection results, and maintenance, repair, or construction of any erosion control measures (date, type, and location) shall be noted in a log maintained onsite.

Significant erosion is defined below to include any erosion identified as "Class 3" or higher. Qualitative Descriptors of Soil Surface Status (Stoddard *et al.* 1975) (modified for site specific application):

Class 1: No surface material loss or erosion; surface material layer intact; no obvious rills forming.

Class 2: Surface material movement slight and difficult to recognize; small deposits of sand in form of fans or cones at end of small gullies or fills, or as accumulations back of plant crowns.

Class 3: Soil movement or loss more noticeable; surface material loss evident, with some plants on pedestals or in hummocks; rill marks evident. Any rills or gullies in excess of 8 square inches in cross sectional area and are more than 10 linear feet located on slopes shall be arrested using straw mulch, hay bales, sandbag barriers, and/or silt fences within one week of observation.

Class 4: Soil movement and loss readily recognizable; sand and gravel remnants with vertical sides and exposed plant roots; roots frequently exposed; soil washed into erosion-protected patches. Class 4 erosion shall be arrested using those measure identified in Class 3 above, rock mulch, and/or sediment traps within one week of observation.

Class 5: Advanced erosion; active gullies with steep sidewalls; well-developed erosion pavement on gravelly soils. Class 5 erosion shall be arrested using those measure identified in Class 4 above, drainage swales and lined ditches, and/or reinforced drains within one week of observation.

If erosion is observed onsite (Class 3 or greater), the physical measures listed above will be implemented as determined on a case-by-case basis in order to immediately limit the erosion. Revegetation will be used for the long-term control of erosion. Diversion ditches, straw bales, or rock will be used to reinforce ditches and drains where erosion of the slopes, roadway or other parts of the property is occurring. If needed, drains may be constructed with one of the following: rock reinforced with energy dissipaters; a corrugated metal pipe (CMP); or a flexible conduit of heavy-duty fabric.

1.6 BLASTING

Blasting operations are and will continue to be conducted by licensed individuals in such a manner as to meet or exceed Cal-OSHA requirements. MCC has four licensed individuals on staff. Blasting will typically be conducted twice each week at the South Quarry between the hours of 10:00 a.m. and 6:00 p.m. Monday through Saturday. Note that during the initial construction of the haul road, more numerous (up to once per day) but smaller blasts will occur. Blasting materials are secured in an appropriate magazine located at the adjacent cement plant facilities.

Blasting operations will involve drilling along the mining face, placement of charges, and detonation of the charges by a blaster licensed through the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF&E) for handling explosives. All explosives and detonators shall be transported, handled, and stored in accordance with all federal, State, and local regulations and permitted under the San Bernardino County Sheriff's Department and San Bernardino County Fire Department pursuant to Uniform Fire Code adopted by the Department. In compliance with County regulations, blasting shall only be conducted by a licensed blaster upon issuance of a blasting permit and a site-specific blasting permit.

2.0 RECLAMATION PLAN

2.1 LAND USE

The site is located on the north slope of the San Bernardino Mountains south of Lucerne Valley in southwestern San Bernardino County. The South Quarry and haul road will be located almost entirely (147 acres) on 440 acres of unpatented claims owned by MCC on public federal land under the jurisdiction of the SBNF with approximately 6.6 acres of the haul road located on MCC fee land (refer to Figure 3). The Proposed South Quarry site is bounded on the west, south, and east by vacant, natural open space forest lands and to the north by approximately 800 feet of SBNF land and then by the existing East Pit, West Pit (under development), and the Cushenbury Cement Plant.

The "Land Management Plan, Part 2 San Bernardino National Forest Strategy" (USDA September 2005) defines the Proposed Project area as the "Desert Rim." The Desert Rim is described as "a high desert, remote, rugged landscape formed by complex geological faulting. Today, the majority of the land is valued in the production of large quantities of high quality, limestone mineral deposits used in the production of pharmaceuticals and cement. These carbonate deposits are also valuable habitat supporting four species of threatened and endangered plants found nowhere else in the world." An intensive collaborative effort led to the development of the Carbonate Habitat Management Strategy (CHMS) in 2003. The strategy is designed to provide long-term protection for the carbonate endemic plants and also provide for continued mining. Carbonate habitats are protected from mining impacts in perpetuity within the carbonate habitat reserves dedicated and managed as described in the CHMS.

The Desert Rim Place is maintained as a modified to natural appearing landscape that functions as a sanctuary for several federally listed native plants and a highly valued area for limestone production. SBNF management is expected to center on implementation of the CHMS and to continue mining while preserving and managing habitat for federally listed plants that occur in this area.

The County land use designation for the site is RC – Resource Conservation.

2.2 VISIBILITY

The Proposed Project will be located at a higher elevation than the existing East Pit and the West Pit now under development. Through Phase 3 of the quarry development (approximately 80 years), only the upper portion of the site will be visible, and it will be visible only from portions of Lucerne Valley directly north and northwest of the site. During the last 40 years, Phase 4 development would excavate the north side of the quarry exposing more of the quarry to the Valley. By this time some of the upper slopes will have undergone reclamation in the form of bench contouring, use of darker rock to reduce contrast, and revegetation of the benches with native plants including trees. Therefore, while more of the disturbed area will be visible, the impacts to the viewshed of the upper slopes will have been reduced through reclamation and revegetation.

Figure 13 shows the location of two viewpoints, No. 1 from the north in Lucerne Valley near the Lucerne Valley High School approximately 9 miles northwest of the site, and No. 4 from SBNF lands from the south along SBNF Road 3N02, approximately one mile south of the site from an elevated road segment looking "down" on the site. Figure 14A shows a photograph of the existing conditions and a visual simulation of the site during Phase 1 mining (10 years). Figure 14B shows simulations for 25 and 40 years with concurrent revegetation. Figure 14C shows the site at the end of Phase 3 mining (80 years) and at the end of Phase 4 mining (120 years) with reclamation. The quarry will be seen as a lighter area on the east side of the mountain slopes.

Figure 15 shows existing and reclaimed site after year 125 looking from the south from SBNF lands. Views of the site from SBNF lands are limited due to terrain and lack of access and recreational facilities in this area. The SBNF Road 3N02 is located to the south of the site but ends at a locked SBNF gate in the Burnt Flat area approximately 0.5 miles south of the site, where the public access ends. The quarry will not be seen from this viewpoint due to the ridge in the foreground. The back ridge seen in the existing photograph will be removed during Phase 2 within years 20 to 40. Mining on this ridge may be visible for several years but thereafter, the quarry and mining activities will not be seen from this viewpoint.

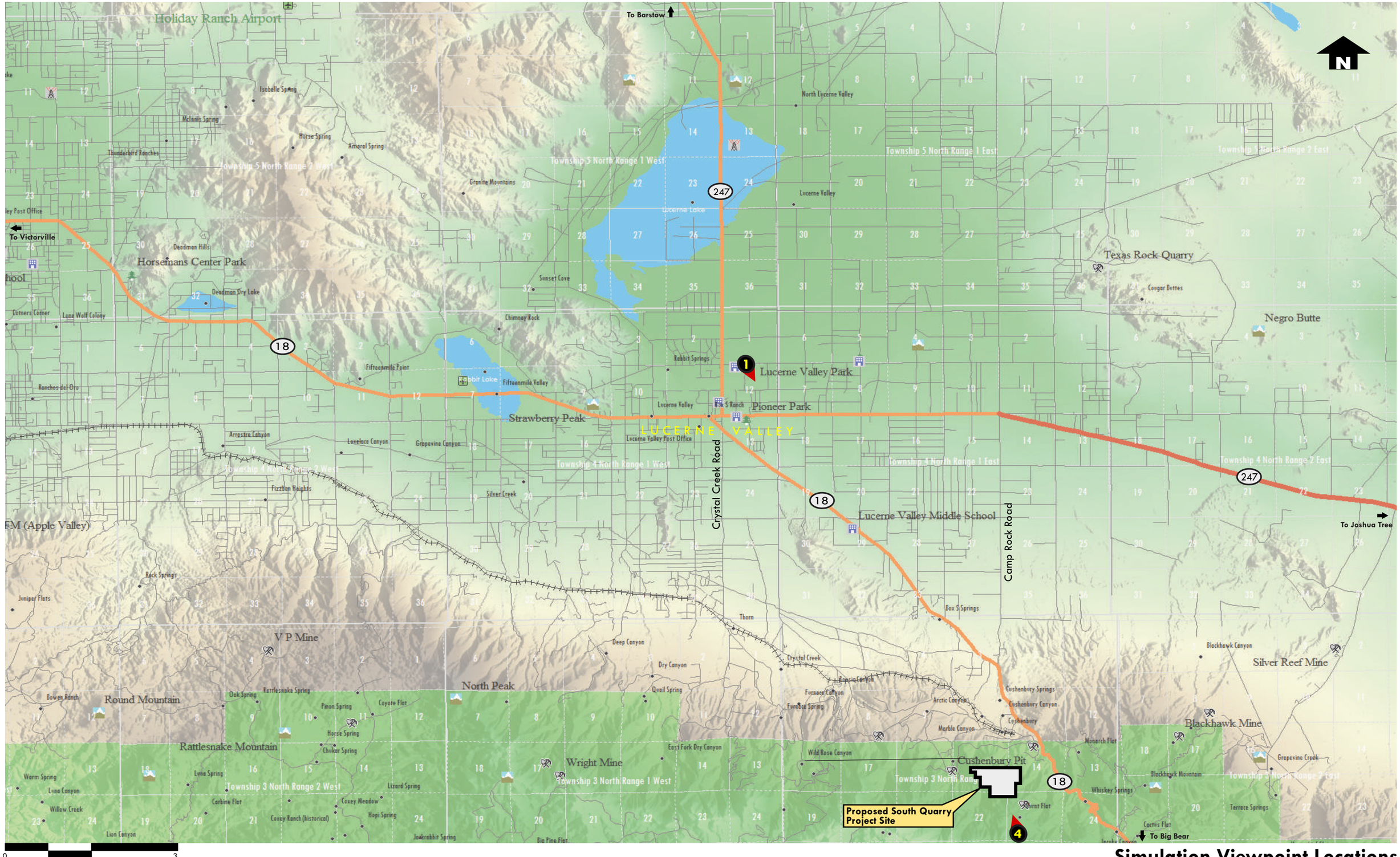
The quarry and haul road will be designed to reduce exposure: the quarry road constructed on mostly cut with minimal fill slopes; waste rock will be deposited within the quarry to reduce the areas of disturbance; a 20 to 25-foot high natural perimeter berm (half a vertical bench height) will be left in-place on the outside ridge until the interior area of the next lower excavation level is completed; a landscape berm will be constructed along the south rim; and reclamation and revegetation will be implemented concurrent with mining to the extent feasible.

The development of internal waste rock stockpiles will reduce the area of disturbance outside the quarry rim, eliminating potential visual impacts of the waste rock piles that otherwise might be highly visible, and reduce internal slopes to aid in revegetation.

Potential impacts to scenic values will be fully assessed with additional viewpoints in the environmental document and a Scenic Report is included in Appendix J.

2.3 VEGETATION

Aspen Environmental Group prepared a Biological Resources Assessment in August 2010 included as Appendix D. A "Biological Assessment/Biological Evaluation and Wildlife and Botany Reports and Draft Raptor Conservation Strategy," SBNF, December 2016, is included as Appendix E. The biology reports provide a detailed discussion on on-site biological resources, which are summarized below. The EIR/EIS provides this biological data and assesses biological resources, potential impacts, application of the CHMS, and mitigation.



1 Viewpoint Simulation and Direction of View

LILBURN CORPORATION

Simulation Viewpoint Locations

Mitsubishi Cement Corporation - South Quarry

County of San Bernardino , California

Figure 13

1. Existing conditions from 9 miles away looking south from Lucerne Valley High School toward the Project Site.

2. Mining during Phase 1A and 1B at approximately 10 years.

Viewpoint 1

Mitsubishi Cement Corporation - South Quarry
San Bernardino National Forest

Figure 14A

LILBURN CORPORATION

3. Mining during Phase 1A and 1B at approximately 25 years with concurrent revegetation/reclamation.

4. End of Phase 2 and at approximately 40 years with concurrent revegetation.

Viewpoint 1

Mitsubishi Cement Corporation - South Quarry
San Bernardino National Forest

LILBURN CORPORATION

Figure 14B

5. End of Phase 3 and at approximately 80 years with concurrent revegetation.

6. End of Phase 4 at approximately 120 years with full reclamation.

Viewpoint 1

Mitsubishi Cement Corporation - South Quarry
San Bernardino National Forest

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Figure 14C

1A. Existing conditions from 1.5 miles away and within San Bernardino National Forest looking north from Burnt Flat Road toward the Project Site.

1B. End of Phase 2 at 80 Years. All other phases will not be visible.

Viewpoint 4

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino , California

LILBURN CORPORATION

Figure 15

Within the site's elevation and geographic area, the northern San Bernardino Mountains support a mosaic of shrub lands and woodlands, including: desert-transition chaparral, generally dominated by cup leaf ceanothus, California juniper, bitterbrush, flannel bush, canyon live oak (shrubby form) and bigberry Manzanita; montane desert scrublands dominated by Great Basin sagebrush or rabbitbrush; and woodlands dominated by singleleaf pinyon and shrubby canyon live oak, often with high cover of curlleaf mountain mahogany. These habitats in the general area support a diverse assemblage of vertebrate wildlife described under Section 2.4 below.

The project area supports woodlands dominated by singleleaf pinyon (*Pinus monophylla*). Other characteristic species throughout the woodland include Utah juniper (*Juniperus osteosperma*), curlleaf mountain mahogany (*Cercocarpus ledifolius*), antelope brush (*Purshia tridentata*), and shrubby canyon live oak (*Quercus chrysolepis*). This vegetation matches the *Pinus monophylla* Woodland Alliance described by Sawyer et al. (2009, It also matches Holland's (1986) description of Mojavean Pinyon Woodland and Laudenslayer and Boggs's (1988) pinyon-juniper vegetation. There are steep canyons on the project site, but no evidence of riparian vegetation (e.g., willows, mulefat, or other characteristic montane riparian species). No running water, pools, or moist soils were noted in these canyons during field surveys conducted by Aspen or by Glenn Lukos Associates.

Pinyon woodland on the site is generally in relatively open stands, characterized by scattered pinyon pines and Utah junipers growing with montane shrubs. This composition is characteristic of early successional pinyon woodlands (Wangler and Minnich 1995; Neel 2000) and also is typical of woodlands on carbonate soils, which tend to be less productive than other soil types. The woodland generally matches Neel's (2000) descriptions of vegetation in the region, based on her extensive sampling on limestone soils throughout the northern San Bernardino Mountains. Neel's previous work is directly applicable to the local vegetation, soils, and flora, and provides more precise and detailed vegetation descriptions than recommended in SMARA guidelines for project site data collection. In Neel's (2000) description, Singleleaf Pinyon Series is dominated in the overstory by singleleaf pinyon pine and several characteristic shrub species, including Great Basin sagebrush (*Artemisia tridentata*), green ephedra (*Ephedra viridis*), narrowleaf goldenbush (*Ericameria linearifolia*), and antelope brush. Average overstory (tree canopy) cover was about 25% and average shrub cover was about 49%. That description is comparable to the pinyon woodlands on the proposed South Quarry site.

There are five federally listed threatened or endangered plant species endemic to carbonate soils, including limestone, in the northern San Bernardino Mountains (USDI Fish and Wildlife Service 1994). The Proposed Project site is within designated critical habitat for these carbonate-endemic plants (USDI Fish and Wildlife Service 2002). A Memorandum of Understandings and agreement was signed in 2003 by the USDA Forest Service, SBNF, Bureau of Land Management (BLM), San Bernardino County, Omya, Specialty Minerals, MCC, California Native Plant Society, and the Cushenbury Mine Trust stipulating that the signatories will implement the CHMS for the dual purpose of conserving threatened and endangered carbonate plants and streamlining mining operations.

Two of these listed species, San Bernardino Mountains bladderpod (*Lesquerella kingii* subsp. *bernardina*), which occurs on limestone outcrops around Big Bear Lake to the south, and

Cushenbury milk-vetch (*Astragalus albens*), do not occur in this area or were not found onsite. Three listed threatened or endangered species were found on the Proposed Project site:

- Cushenbury buckwheat (*Eriogonum ovalifolium* var. *nudum*)
- Cushenbury oxytheca (*Oxytheca parishii* var. *goodmaniana*)
- Parish's daisy (*Erigeron parishii*)

These listed carbonate-endemic plants are managed by the SBNF, San Bernardino County, and other public agencies under the CHMS (Olson 2003). "Take" of listed carbonate-endemic plants is permitted under the strategy, and mitigated by permanent mining claim or private property set-aside and through management of off-site plant occurrences as outlined in the CHMS. MCC intends to be consistent with the CHMS and has proposed to mitigate impacts to these listed species through permanent conservation easements or other surface use restriction burdening unpatented mining claims at a compensation ratio of 3:1 in terms of "Conservation Value." For a more detailed discussion of the conservation easement and the mitigation lands, refer to MCC's carbonate plant mitigation proposal included as Appendix O and assessed in the EIR/EIS.

Other special status plants including Coville's dwarf abronia, Parish's onion, Shockley's rock cress, San Bernardino Mountains dudleya, Johnson's buckwheat, and Parry's sunflower also occur on the site (see Appendix D, Sub-Appendix 2). None are listed, proposed for listing, or candidates for listing under state or federal Endangered Species Acts. Many of them share similar habitat requirements with the listed carbonate-endemic species.

The San Bernardino County Native Plant Protection policy (1989) regulates removal of trees greater than 6 inches diameter at breast height (dbh), and all plants in the agave family including Joshua trees. Pinyon pines greater than 6 inches dbh occur throughout the site.

Impacts from the proposed South Quarry and associated haul road will likely cause losses of listed threatened or endangered species and to other special status plants. These impacts will be quantified in terms of areal extent of occupied habitat or numbers of mapped occurrences of each special status species occurring on or near the Proposed Project site and haul road alignment, and mitigation is recommended within the EIR/EIS.

2.4 WILDLIFE

Aspen Environmental Group prepared a Biological Resources Assessment in August 2010 included as Appendix D and the SBNF prepared a "Biological Assessment/Biological Evaluation and Wildlife and Botany Reports and Draft Raptor Conservation Strategy in December 2016 (Appendix E). Within the site's elevation and geographic area, the northern San Bernardino Mountains support a mosaic of shrub lands and woodlands described above. These habitats support a diverse assemblage of vertebrate wildlife. Characteristic reptiles of the area include common lizard species such as western fence lizard, side-blotched lizard, and western whiptail. Several snake species, including southwestern pacific rattlesnake, California whipsnake, coachwhip, and gopher snake, also occur regularly in the area, though they are less-commonly observed due to their largely nocturnal behavior. Typical bird species of the area include red-tailed hawk, mourning dove, and house finch. Mammals of the area included desert woodrat, antelope ground squirrel,

mule deer, mountain lion, American badger, and Nelson's bighorn sheep. There are no seasonal or perennial water sources on the Proposed Project site which could serve as breeding habitat for frogs or toads.

No state or federally listed wildlife species were observed. There is a low probability that southwestern willow flycatcher, desert tortoise or southern rubber boa could occur. Ongoing field studies will evaluate habitat suitability for these species on the proposed quarry site and haul road impact areas. No other wildlife species listed, proposed for listing, or candidate for listing as threatened or endangered will be affected by the Proposed Project.

In general, expected Project impacts to special status wildlife species will be loss of habitat and indirect effects of noise, lighting, dust, and other project-related disturbances on adjacent habitat. The Proposed Project will eliminate foraging habitat for certain raptors; breeding habitat for some migratory upland bird species; and year-around habitat for small mammals and reptiles, possibly including San Diego horned lizard or San Bernardino golden-mantled ground-squirrel. Several other special status wildlife species are likely to occur on the site. Suitable habitat and perhaps individual animals of these species could be lost during future quarry or access road construction. These impacts will be quantified in terms of areal extent of occupied habitat or numbers of mapped occurrences of each special status species occurring on or near the Proposed Project site and haul road alignment, and mitigation recommended within the environmental document.

Nelson's bighorn sheep are known from the general area, in habitats similar to those on the Proposed Project site. Sightings occur regularly around limestone quarries to the north. Nelson's bighorn (*Ovis canadensis nelsoni*) is one of three bighorn subspecies occurring in California. The others are California bighorn (*O. c. californiana*) of the Sierra Nevada and Peninsular bighorn (*O. c. cremnobates*), of the Santa Rosa Mountains, scattered ranges in San Diego County, and northern Baja California. The California and Peninsular subspecies are both listed as threatened or endangered by both state and federal agencies, but Nelson's bighorn occurs in substantial numbers in several mountain ranges and is not listed, proposed for listing, or a candidate for listing as threatened or endangered. It is managed as a protected species by the California Department of Fish and Wildlife (CDFW).

Mining impacts to Nelson's bighorn sheep are difficult to quantify. Mining eliminates vegetation cover and food plants from the quarry and overburden sites, and increases equipment noise and human activity. On the other hand, bighorn sheep are regularly seen in local limestone quarries and their sign (scat, trails, and beds) is common to the west, including some areas immediately adjacent to active quarries. The local herd seems to have become acclimated to mining activities and makes regular use of quarries, perhaps because quarries provide shaded cover with expansive views. Bighorn sheep rely on rugged topography and early detection to avoid predators. Since bighorn sheep require both feeding habitat and safe areas where they can avoid predators, limestone mining may exchange one habitat requirement for the other. Sufficient data are not available to determine whether either of these habitat elements limits bighorn sheep numbers in the northern San Bernardino Mountains. Impacts to Nelson's bighorn sheep are discussed in Appendix F and will be evaluated along with recommended mitigation within the EIR/EIS.

State and federal law prohibit take of native birds under the federal Migratory Bird Treaty Act and California Fish and Game Code. Golden eagles are fully protected by California law and have special federal protection under the Bald and Golden Eagle Protection Act. To avoid incidental killing of birds protected under the Migratory Bird Treaty Act, two measures will be implemented: (1) Complete all vegetation removal or initial grading outside the breeding season (i.e., do not remove potential nesting habitat from February 1 through August 31), or (2) confirm prior to beginning vegetation removal but after survey flagging is in place showing the limits of grading, that no birds are nesting in areas to be disturbed.

2.5 RECLAMATION

The intent of the California Surface Mining and Reclamation Act (SMARA) is to "maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that: (a) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses; (b) the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and (c) residual hazards to the public health and safety are eliminated" (Section 2712).

Article 9, Section 3700 of SMARA states the following: "Reclamation of mined lands shall be implemented in conformance with standards in this Article (Reclamation Standards). The standards shall apply to each surface mining operation to the extent that:

(1) they are consistent with required mitigation identified in conformance with CEQA; and
(2) they are consistent with the planned or actual subsequent use or uses of the mining site."

MCC proposes to reclaim the quarry site to meet both Forest Service Minerals Regulations (36 CFR 228, Subpart A) under the jurisdiction of the SBNF and SMARA implemented by the County that will minimize impacts to the surrounding environment. The objectives of this Reclamation Plan are to:

- Eliminate or reduce environmental impacts from mining operations;
- Reclaim in a usable condition for post-mining end uses which will include open space/habitat;
- Reshape mining features and revegetate disturbed areas to minimize aesthetic, biological, and hydrological impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

Reclamation procedures are incorporated with the mine plans and operations in order to optimize costs and maintain economic efficiency. It is the intention, with proper reclamation planning, to introduce early reclamation measures for the developing quarry and to minimize impacts during future mining.

Mining plans presented herein are for a 120-year period of operation at a rate of 1.3 MTPY of ore. Since market demand for the finished product determines the rate of extraction, it is difficult to accurately forecast future demand for the limestone and to make exact long-term predictions. The time span of the total life of the operation is only an estimate and is subject to future modification in response to actual market conditions.

Another factor that may affect the time frame and phasing is the quality of material encountered as mining progresses, since the natural deposit is not of uniform quality. It is necessary, therefore, to excavate selectively from different locations to achieve a suitable blend of raw materials. Until the ultimate exhaustion of the limestone deposit, reclamation will progress in the manner described below.

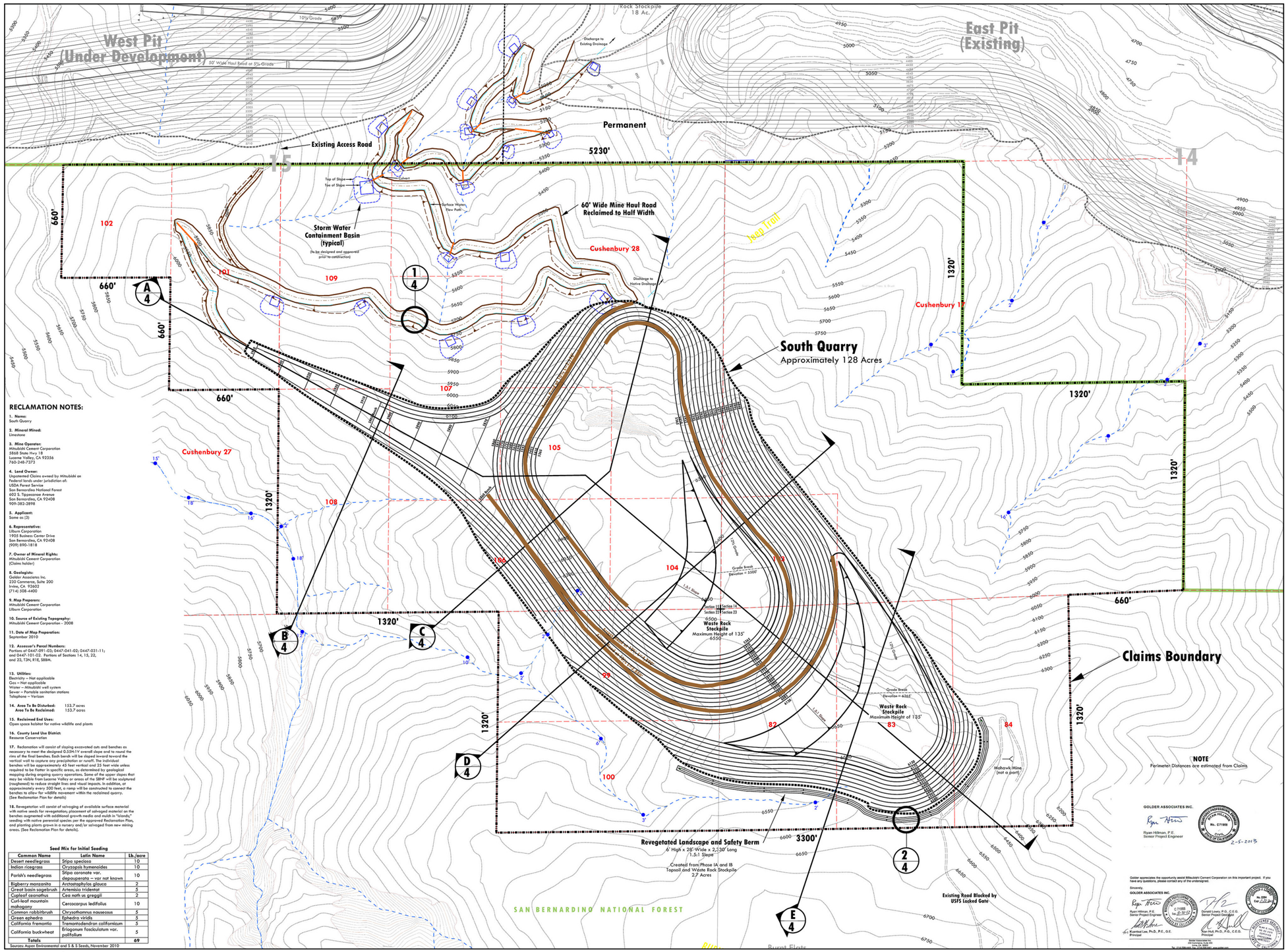
The Reclamation Plot Plan is included as Figure 16 and attached as Sheet 3 of 4. Due to planned extraction, the permanent perimeter quarry slopes will be reclaimed from the rim downward as completed per phase to meet designed slopes dependent on the findings of the ongoing slope stability assessments. Reclamation will consist of sloping excavated cuts and benches as necessary to meet the designed 0.55H:1V overall slope and to round the rims of the final benches. Each bench will be sloped inward toward the vertical wall to capture any precipitation or runoff. The individual benches will be approximately 45 feet vertical and 25 feet wide unless required to be flatter in specific areas, as determined by geological mapping during ongoing quarry operations or where the waste rock stockpiles will be located. General slope construction during excavation will depend upon the nature of the slope material and shall be in accordance with the geotechnical slope reports. Some of the upper slopes as shown on Sheet 3 that may be visible from Lucerne Valley or areas of the SBNF will be sculptured (roughened) to reduce straight lines and visual impacts. In addition, at approximately every 500 feet, a ramp will be constructed to connect the benches to allow for wildlife movement within the reclaimed quarry.

Surface material salvaged for revegetation will be limited due to the surficial rock conditions on-site. Available material containing the native seed bank will be placed on the benches and will be augmented with additional growth media and mulch in "islands" to provide future sources of seeds. The revegetation methods include seeding with native perennial species, plantings grown in a nursery whether started from seed, cuttings or whole plant salvage from seeds collected at or near the site, and planting plants salvaged from new mining areas.

A summary of the general planned reclamation is listed in Table 3.

Phase 1A Reclamation

The initial development of the site includes the construction of the temporary construction road, permanent haul road and the 11 acres in the northwest. The slopes along the haul road and the north and south slopes of Phase 1A will require sloping, erosion control, and revegetation. The temporary access road for construction of the access road will be stripped of any road base material, ripped, covered with available growth media, and revegetated per the revegetation plan after approximately 2 years.



RECLAMATION NOTES:

1. **Name:**
South Quarry

2. **Mineral Mined:**
Limestone

3. **Mine Operator:**
Mitsubishi Cement Corporation
5808 State Hwy 18
Lucerne Valley, CA 92356
760-248-7373

4. **Land Owner:**
Unpatented Claims owned by Mitsubishi on Federal lands under jurisdiction of:
USDA Forest Service
San Bernardino National Forest
602 S. Tippecanoe Avenue
San Bernardino, CA 92408
909-382-2898

5. **Applicant:**
Same as (3)

6. **Representative:**
Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
(909) 890-1818

7. **Owner of Mineral Rights:**
Mitsubishi Cement Corporation
(Claims holder)

8. **Geologists:**
Golder Associates Inc.
220 Commerce, Suite 200
Irvine, CA 92602
(714) 508-4400

9. **Map Preparers:**
Mitsubishi Cement Corporation
Lilburn Corporation

10. **Source of Existing Topography:**
Mitsubishi Cement Corporation - 2008

11. **Date of Map Preparation:**
September 2010

12. **Assessor's Parcel Numbers:**
Portions of 0447-091-03; 0447-041-02; 0447-031-11; and 0447-101-02. Portions of Sections 14, 15, 22, and 23, T3N, R1E, SBM.

13. **Utilities:**
Electricity – Not applicable
Gas – Not applicable
Water – Mitsubishi well system
Sewer – Portable sanitarian stations
Telephone – Verizon

14. **Area To Be Disturbed:** 153.7 acres
Area To Be Reclaimed: 153.7 acres

15. **Reclaimed End Uses:**
Open space habitat for native wildlife and plants

16. **County Land Use District:**
Resource Conservation

17. Reclamation will consist of sloping excavated cuts and benches as necessary to meet the designed 0.33H:1V overall slope and to round the rims of the final benches. Each bench will be sloped inward toward the vertical wall to capture any precipitation or runoff. The individual benches will be approximately 45 feet vertical and 25 feet wide unless required to be flatter in specific areas, as determined by geological mapping during ongoing quarry operations. Some of the upper slopes that may be visible from Lucerne Valley or areas of the SBNF will be sculptured (roughened) to reduce straight lines and visual impacts. In addition, at approximately every 500 feet, a ramp will be constructed to connect the benches to allow for wildlife movement within the reclaimed quarry. (See Reclamation Plan for details)

18. Revegetation will consist of salvaging of available surface material with native seeds for revegetation, placement of salvaged material on the benches augmented with additional growth media and mulch in "islands," seeding with native perennial species per the approved Reclamation Plan, and planting plants grown in a nursery and/or salvaged from new mining areas. (See Reclamation Plan for details).

Seed Mix for Initial Seeding

Common Name	Latin Name	Lb./acre
Desert needlegrass	Stipa speciosa	10
Indian ricegrass	Oryzopsis hymenoides	10
Parish's needlegrass	Stipa coronate var. depauperata – var not known	10
Bigberry manzanita	Arctostaphylos glauca	2
Great basin sagebrush	Artemisia tridentat	5
Cupleaf ceanothus	Ceanothi sp greggii	2
Curl-leaf mountain mahogany	Cercocarpus ledifolius	10
Common rabbitbrush	Chrysothamnus nauseosus	5
Green ephedra	Ephedra viridis	5
California fremontia	Tremontodendron californicum	5
California buckwheat	Eriogonum fasciculatum var. polifolium	5
Totals		**69**

Sources: Aspen Environmental and S & S Seeds, November 2010

LEGEND

- Claim Boundary
- Limits of Quarry Disturbance
- Interior Quarry Haul Road
- 104 Mining Claim
- Geologic Drill Hole
- Jurisdictional Delineation Non-Corps/RWCQB/CDFG Jurisdiction
- 3' Width of Jurisdiction in Feet
- Cushenbury Mine 2004 M-01 CA Mine ID#91-36-0054

SECTION CALLOUT
Section Letter Located on Sheet (A/5)

DETAIL CALLOUT
Detail Number Located on Sheet (3/5)

NOTE
Perimeter Distances are estimated from Claims

GOLDER ASSOCIATES INC.
Ryan Hillman, P.E.
Senior Project Engineer
No. 071988
2-5-2013

Golder appreciates the opportunity assist Mitsubishi Cement Corporation on this important project. If you have any questions, please contact any of the undersigned.

Sincerely,
GOLDER ASSOCIATES INC.
Ryan Hillman, P.E.
Senior Project Engineer
Donald Lowry, P.G. C.E.G.
Senior Project Geologist
Kumbel Lee, Ph.D., P.E., G.E.
Principal
Sean Hull, M.S., P.G., C.E.G.
Principal

0 525
Feet

LILBURN CORPORATION

South Quarry Reclamation Plan

Mitsubishi Cement Corporation - South Quarry
County of San Bernardino, California

Figure 16

Table 3
Reclamation Phasing Data
South Quarry

PHASE	YEARS OF OPERATION (estimated*)	PLANNED RECLAMATION ACTIVITIES
1A	1 - 5	Sloping, erosion control, and revegetation of haul road cuts and fills and south and north slopes of Phase 1A excavations. Reclamation of the temporary access road of 0.7 acres.
1B	6 - 82	Sloping, erosion control, and revegetation of upper slopes and benches as completed in the southern area to about the 6,400-foot amsl bench. Construction and vegetation of the landscape berm. Stockpiling of waste rock to reduce slopes to be occurring throughout phase.
2	26 – 42	Erosion control and stockpiling of waste rock in Phase 1B area.
3	43 - 82	Sloping, erosion control, and revegetation of upper benches as completed on the southwest and northeast sides the site to about 5,950-foot amsl bench. Stockpiling of waste rock in Phase 1B. Reclamation of completed sections of Phase 1B waste rock stockpile.
4	83 - 120	Sloping, erosion control, and revegetation of upper benches as completed in the central portion of site. Stockpiling of waste rock in Phase 4 area. Reclamation of Phase IB waste rock stockpiles.
Final Reclamation	121 - 125	Removal of equipment, stockpiles, and internal roads not needed for site access, revegetation, and site monitoring. Sloping, erosion control, and revegetation of any unreclaimed benches and waste stockpiles in Phase 4 and quarry floor.

Source: MCC, Lilburn Corp., 2016

* The estimated life of each quarry phase is dependent upon the slope stability and slopes, extraction rate and product demand. These estimates assume an extraction rate of 1.45 MTPY and a five year period to conduct final reclamation at the estimated completion of Phase 4.

Phase 1B Reclamation

The upper slopes of the southeastern portion of the quarry will be reclaimed upon completion. Most of this phase will consist of depositing and contouring waste rock to fill portions of the benches and slopes on the southeast slopes to 1.5H:1V as shown on Figure 10. The landscaped berm will be completed early in this phase with waste rock and soil material and revegetated.

Phase 2 Reclamation

Most of Phase 2 will remove the upper hills within the central part of the quarry perimeter and will be mined to depth in Phases 3 and 4. As such, the outside quarry walls will mainly be developed in later phases and no specific reclamation besides the salvaging of the growth media and plants prior to disturbance will take place during this phase.

Phase 3 Reclamation

The upper benches of the northeast and southwest sides of the site are scheduled to be reclaimed as completed during Phase 3. As slopes are completed to greater depths, final sloping, erosion control, and revegetation on the benches will be implemented to about the 5,950-foot amsl bench. The waste rock stockpile in Phase 1B will be finished with 2H:1V vertical slopes, ripped as necessary, covered with available top soil and growth media in “islands” pattern, and revegetated.

Phase 4 Reclamation

Quarry activities will be completed during Phase 4 and the site will be excavated as shown on Sheet 3 to a floor elevation of approximately 5,365 feet amsl. Final sloping, erosion control, and revegetation will be completed on the quarry benches as completed in the central portion of site and on the Phase 1B waste rock stockpiles. The waste rock stockpile in Phase 4 will be finished with 1.5H:1V vertical slopes, ripped as necessary, covered with available top soil and growth media in "islands" pattern, and revegetated.

Final Reclamation

Final reclamation will take place within the 5 years after termination of mining. All remaining equipment, stockpiles, and internal roads not needed for site access, revegetation, and revegetation and general site monitoring will be removed. Final sloping, erosion control, and revegetation of any unreclaimed benches, waste rock stockpiles, and quarry floor will be conducted. Note that some haul roads may be left on-site but reduced in width for use in the revegetation and monitoring activities and for overall site maintenance of fencing, signs, and erosion control. The main access haul road will be reclaimed to half-width. Roads not needed for site and quarry access will be stripped of any road base material, ripped, covered with available growth media, and revegetated per the revegetation plan.

2.6 REVEGETATION

Aspen Environmental Group prepared a "Revegetation Plan" which is included as Appendix L and summarized below.

The mature woodlands onsite are dominated by slow-recruiting species (pinyon pines, canyon live oaks, and juniper), therefore this plan will establish suitable conditions with pioneering species so that the climax species can be become established overtime. This two-phased revegetation will be undertaken on selected "islands" with salvaged topsoil application, seeding with appropriate pioneer shrub species including rabbitbrush, Great Basin sagebrush, California fremontia, and cupleaf ceonothus, and monitoring and maintenance activities until the site is favorable for planting and seeding of "climax" trees and shrubs. Nursery-grown pinyon pine, canyon live oak, Utah juniper, and curl-leaf mountain mahogany will be planted at that time. It is expected that the islands will trap windblown seeds and attract wildlife to aid in seed dispersal. Those areas with steeper slopes on road cuts, will be hydroseeded with appropriate native seeds and mulch.

The revegetation plan will implement a series of activities to revegetate portions of the site including the quarry benches. Due to the very rocky existing conditions, only a limited amount of topsoil or growth media will be available for salvage and resoiling. In addition, the excavated slopes will be solid rock. Revegetation is planned to be undertaken on the 25-foot wide benches in "islands" with available soils, seeds, and salvaged and nursery-grown plants.

The revegetation plan's objectives are to establish islands of shrubs and grasses on approximately 30% of bench and other disturbed areas; plant and seed pinyon pine, canyon live oak, Utah juniper, and salvaged yuccas onto these islands after initial establishment; establish cover on steeper cut

slopes through hydroseeding; conduct concurrent revegetation; and monitor and implement remediation activities to achieve success criteria over the life of the plan.

Physical reclamation procedures will include the following:

- Regrading as necessary to achieve planned slopes;
- Roughening or ripping the compacted surface to hold moisture;
- Adding any stockpiled surface material and soil containing banked seeds in "islands";
- Seeding with native seeds augmented with native commercially available seeds as necessary during mid to late spring or early summer depending on weather conditions;
- Planting with salvaged plants directly and from plants grown in nursery from onsite seeds and cuttings;
- Staking or flagging reclaimed areas to eliminate additional disturbance;
- Irrigate as deemed appropriate to aid initial growth and survival;
- Monitoring for success and determining need for remediation; and
- Application of remedial activities including by not limited to additional seeding and planting, plant protection, irrigation, change of seed and plant mix, adding soil amendments or fertilizer as deemed necessary by the Project botanist.

Revegetation Goals

The primary goal for revegetation of the South Quarry is to revegetate all areas disturbed by mining with a self-sustaining vegetative cover of native species including listed "carbonate" plant species. Related objectives include:

1. Minimize visual impact of disturbances;
2. Initiate biological productivity so that natural processes can restore diversity and ecological function;
3. Minimize erosion
4. Enhance and restore suitable habitat for listed carbonate-endemic plants and for Nelson's bighorn sheep; and
5. Minimize occurrence of exotic plant species.

Mine employees will be provided with training on the goals and practices of concurrent reclamation on the site including: identification of revegetation areas, growth media piles, and salvage plant nurseries; what plants and animals to watch for; and how the reclamation plan integrates into their job. The training will be given by a reclamation specialist in person or on video. The training will emphasize that land stewardship is an integral part of the mining process, rather than something to be done separately after mining.

Baseline Data

Within the site's elevation and geographic area, the northern San Bernardino Mountains support a mosaic of Pinyon – Juniper woodlands, including: desert-transition chaparral, generally dominated by cupleaf ceanothus, California juniper, bitterbrush, flannel bush, canyon live oak (shrubby form) and bigberry Manzanita; montane desert scrublands dominated by Great Basin sagebrush or rabbitbrush; and woodlands dominated by singleleaf pinyon and shrubby canyon live oak, often with high cover of curlleaf mountain mahogany. (Refer to Section 2.3 and Appendices D and E for detailed vegetation descriptions.)

The woodlands portion of the project site is described as pinyon woodland generally in relatively open stands, characterized by scattered pinyon pines and Utah junipers growing with montane shrubs. This composition is characteristic of early successional pinyon woodlands (Wangler and Minnich 1995; Neel 2000) and also is typical of woodlands on carbonate soils, which tend to be less productive than other soil types. The woodland generally matches Neel's (2000) descriptions of vegetation in the region, based on her extensive sampling on limestone soils throughout the northern San Bernardino Mountains. Neel's previous work is directly applicable to the local vegetation, soils, and flora, and provides even more detailed vegetation descriptions than recommended in SMARA guidelines for project site data collection. In Neel's (2000) description, Singleleaf Pinyon Series is dominated in the overstory by singleleaf pinyon pine and several characteristic shrub species, including Great Basin sagebrush (*Artemisia tridentata*), green ephedra (*Ephedra viridis*), narrowleaf goldenbush (*Ericameria linearifolia*), and antelope brush. Average overstory (tree canopy) cover was about 25% and average shrub cover was about 49%, which is comparable to the pinyon woodlands on the proposed South Quarry site (see Table 4 below).

These data are used to establish the cover and diversity of each species per unit area per SMARA guidelines and to determine success criteria for future revegetation. Estimates of plant cover based on these plots are percent, density is plants/acre, and species richness or diversity is number of different species per 0.1 acre plot.

Table 4
Vegetation Characteristics of Pinyon Woodlands
on Limestone Soils in the Northern San Bernardino Mountains

Vegetation Type	Tree Cover	Shrub Cover	Shrub & Tree Cover	Shrub & Tree Species Richness	Tree Density
Pinyon woodland (including mixed stands w/ Utah juniper or Canyon live oak and early-successional shrub-dominated stands)	25%	49%	74%	10 spp. / 0.1 acre plot	84 / acre

Source: (From M. C. Neel 2000) within "Biological Resources Assessment," Aspen Environmental Group, August 2010 included as Appendix D

Plant Salvage

Plant salvage preserves both spatial and temporal diversity. Spatially, salvage preserves rare or protected plants and preserves local genetic material and local genetic diversity. Temporally, whole plant salvage preserves mature plants that take many years of growing time to replace.

In some cases, salvaged material is the easiest way to put plants into revegetation areas. In other cases, salvage is difficult, but is available to preserve genetic material or start plants when seed is not available. For a given plant species, if seed is readily available, and can easily be grown, propagation from cuttings will not be necessary for that species. A listing of plant species to be salvaged is discussed below.

Whole Plant - In this method, the entire plant is excavated, including as much of the root system as possible and transplanted to a new site. For some shrubs and grasses, the tops are cut back (to minimize transpiration pressure) before excavating the root system. Whole plant salvage can be done by hand or by using a tree spade and can preserve up to 100 years of growth. Small to large plants can generally be hand salvaged economically with a good success rate. Tree spading has an even higher success rate, but is too costly to use on a large scale and is best used in special situations where particular large plants need to be saved or where large plants are needed to block access to a revegetation area, or to provide initial amelioration of conditions on bare ground.

Cuttings (Vegetative Reproduction) - In this method, a portion of the plant is separated from the entire plant. This allows the unsalvaged portion to survive while the cutting is planted elsewhere (usually a greenhouse or nursery to allow rooting). For species that can be salvaged by cuttings, salvage can be delayed until plant material is needed because material can be salvaged from: nursery stock, greenhouse stock, or areas that won't be disturbed by mining. This method is most common for cacti, grasses, and some Yucca species, but techniques for growing various shrubs from cuttings have also been developed.

For grasses, whole plants can be salvaged and then can be cut into multiple clumps rather than the taking of "cuttings", as one would from shrubs.

Important Salvageable Plants

Salvageable plants include:

Carbonate Plants

Three listed carbonate plant species, Parish's daisy (*Erigeron parishii*), Cushenbury buckwheat (*Eriogonum ovalifolium*), and Cushenbury oxytheca (*Oxytheca parishii*) have been found on the mine site. These species will be a major focus of salvage efforts because of their sensitive status. Ongoing work by MCC on the salvage of these species will be studied and the best methods for salvaging and transplanting these species from sites ahead of disturbance into a nursery or greenhouse and for outplanting them back into revegetation areas will be developed.

Yucca Species

Yucca species to be salvaged to provide mature plants in revegetation areas include: *Yucca shidigera* (whole plant or cuttings); *Yucca brevifolia* (whole plant); and *Yucca whipplei* (whole plant).

Cacti

Although most Mojave Desert cacti routinely produce viable seed, growth from seed is very slow. Salvage of cacti allows placement of mature cacti into revegetation areas and preserves local genetic diversity. Cacti as found onsite may include the following: *Opuntia basilaris* (beavertail cactus) (whole plants or pads) and *Echinocereus engelmannii* and *E. triglochidiatus* (hedgehog and Mojave mound cactus) (whole or in pieces).

Seed Collection

Seed collection will be conducted continually at the mine utilizing a combination of employees, commercial nurseries, research nurseries and educational institutions. Seeds are collected and either stored for use in broadcast seeding or germinated and used to produce plants that are grown in nurseries for later use in out planting. Experimental test plots have been established on the cement kiln dust stockpile and several mine benches.

Seeding treatments are included to determine potential effectiveness of broadcast seeding in restoring the site. Seed for the experimental plots will be collected from local carbonate soils each year from as many plant species as possible.

Seed is cleaned and weighed to determine total number of seeds per pound. Greenhouse germination analysis is conducted to determine percent viability. Seed of known viability will be scattered onto test plots at known densities to allow calculation of successful germination. Species, seeding densities, viability, will be recorded in permanent notes throughout the experiments.

Results of study plots will be evaluated by allowing growing seedlings to reach a stage where they can be identified to species. All identifiable plants will be recorded from each plot when it is identified. Total number of germinating plants will be tallied by species for each plot.

Germination rates of early and late spring seed bank samples will be used to determine which season will be best suited to revegetation planning. Higher total numbers are expected in the early spring samples, but later samples may contain fewer weed seeds, perhaps resulting in better results.

Germination rates of baseline topsoil samples will be compared each year to the baseline rate and to rates of new samples collected annually to determine rate of decline in stored topsoil seed viability. If these studies show that viability deteriorates severely over the period, then direct seeding shall be used with suitable treatment to break seed dormancy.

Topsoil (Growth Media) Salvage and Conservation

In order to minimize the storage period for salvaged topsoil, vegetation and topsoil shall be collected in increments, removed only from the area to be disturbed during the next two years. Salvageable Joshua trees and cacti will be collected for direct transfer to revegetation sites, temporary planting in a storage nursery, or bare root storage. To the extent feasible, woody material and other plant material shall be removed from the collection site before topsoil collection and mixed with subsoil. Storage time shall be minimized to avoid seed mortality.

The available surface material will be salvaged and graded into shallow stockpiles along the quarry perimeters for ongoing or future reclamation. The salvaged material will be stockpiled separately and clearly identified. This surface material will be used as growth media and seed bank for the revegetation effort. Concurrent revegetation will be undertaken as soon as bench areas are mined to the approved plan design in order to reduce the time the surface materials are stored. In addition, if the stockpiles are composed of fine materials susceptible to wind erosion, there will be water sprayed to form a surface crust or covered with larger gravel materials.

Because there is a lack of surface material, the soil available for revegetation is insufficient to cover the entire disturbed area of the mine. Therefore, soil will be used to create “islands” within the mined area that will be the focus of the initial revegetation efforts.

Site Preparation

The site will be graded to minimize erosion and maximize rainwater holding capacity. Compacted areas will be ripped to depth of 1-foot if feasible due to the rock material to relieve compaction and to create an uneven surface. This will aid in collecting wind borne seeds and moisture and create more favorable microhabitats.

After final grading and contouring, growth media salvaged from newly mined areas will be placed loosely on areas to be revegetated to create an uneven surface to a depth of 6 to 12 inches. Soil will be slightly compacted to reduce erosion. It will not be compacted to engineering standards.

Rocks and salvaged woody plants will be placed upon areas to be seeded to create “islands” where seeds can fall out of the wind and where moisture can be retained though the creation of shaded microhabitats. These “islands” will serve as nursery areas within the larger area to be revegetated. The final surface will not be uniform; rocks, limbs, furrows and crevices will provide topographic diversity, increasing the probability that seed will become located in suitable microhabitat for germination and long-term survival. If surface irregularities cannot be left because of the soil spreading technique or other limitation, then soil roughening or "imprinting" should be used to create irregularities.

Seeding

Seeding will take place during mid to late spring or early summer depending on weather conditions. The main seed mix used for past seeding of quarry benches is included in Table 5 below. The seed mix will be adapted based on seeding and test plot experiments. Many plant

species will not establish when seeded. These species will not be used in the final seed mix. Seed mix for a particular site will be determined by the site's physical characteristics. Seed will be placed by broadcast seeding or by drill seeding. Initially, seeded areas will be alternated with unseeded areas so that success of seed mix can be tested.

Table 5
Proposed Seed Mix for Initial Seeding
South Quarry

Common Name	Latin Name	Lb./acre
Desert needlegrass	*Stipa speciosa*	10
Indian ricegrass	*Oryzopsis hymenoides*	10
Parish's needlegrass	*Stipa coronate var. depauperata – var not known*	10
Bigberry manzanita	*Arctostaphylos glauca*	2
Great basin sagebrush	*Artemisia tridentata*	5
Cupleaf ceanothus	*Cea noth us greggii*	2
Curl-leaf mountain mahogany	*Cercocarpus ledifolius*	10
Common rabbitbrush	*Chrysothamnus nauseosus*	5
Green ephedra	*Ephedra viridis*	5
California fremontia	*Tremontodendron californicum*	5
California buckwheat	*Eriogonum fasciculatum var. polifolium*	5
Totals		**69**

Sources: Aspen Environmental and S & S Seeds, November 2010

Placement of Salvaged Plants

Salvaged plants will be placed in revegetation areas by hand or tree spade and identified for data keeping. Tags will be developed that will last for up to five years. Database data for each plant will include date planted, history of salvaged plant, and method of planting. Altitude and site physical characteristics will determine which species are suitable for the site. Plants spacing and arrangement will be determined by measurements taken in reference areas.

MCC contracts with commercial and research nurseries for plant propagation. In addition, an open structure providing partial shade shall be constructed on-site for plant storage and acclimation before outplanting. Data for all outplantings will be kept in a log book showing propagation conditions, species and height for each plant. Plants will be evaluated throughout the monitoring period.

Seeded areas and outplantings will be irrigated periodically during each of the first two growing seasons. Irrigation schedules will be determined by professional judgment, based on natural rainfall and soil conditions. The objective of irrigation is not to maximize growth rates, but instead to maximize establishment of plants to the point where artificial irrigation is no longer needed.

Placement of Container Grown Plants During Second Phase

Container grown plants including pinyon pine, canyon live oak, Utah juniper, and salvaged yuccas will be placed onto these islands after initial establishment suitable for introduction of the climax species by hand and identified for data keeping. Database data for each plant will include date planted, history of seed or propagule plant was started from, plant propagation history, and method of planting. Tubex, TreePees or hardware cloth herbivore protection will be placed around individual plants if necessary for protection from herbivores. AM fungal inoculum will be added to plants during propagation if necessary.

Herbivore Exclusion

Cattle, sheep, burros and rabbits all can do serious damage to revegetation areas. If cattle and burros are a problem on revegetation sites, the sites will be fenced. If rabbits are a problem, Tubex, TreePees and hardware cloth cages can be placed around individual plants to allow them to establish. Timing of planting can be manipulated to minimize rabbit damage also. In a dry summer after a wet spring, outplantings are very lush compared to surrounding foliage and will be preferentially eaten by herbivores.

Success Criteria

Success criteria are based on the overall quality of the revegetation results compared to the recorded baseline vegetation data from Neel's description of vegetation in the region based on her extensive sampling on limestone soils throughout the northern San Bernardino Mountains (refer to Table 4). From completion of the revegetation for a specific area, the surviving perennial plant species shall be evaluated annually by the consulting botanist for relative growth as determined by diversity and density. Individual specimens or areas shall receive appropriate remedial attention as necessary. Remedial actions may include removing invasive weed species, reseeding, adding soil amendments, and protection from herbivory. The above procedure will be repeated annually for a total of five years or until performance standards have been achieved.

Successful revegetation of the site will be achieved when there is a self sustaining native plant cover established. The plants must be reproducing themselves without intervention such as irrigation, fertilization, additional seeding or plantings. The re-established plant cover will return other biological processes to the site. Wildlife will be able to re-occupy the site when plants are established providing cover and food sources. Soil development processes can begin, however at this location, processes are limited by the arid climate and are not expected to progress noticeably at this site. These processes are complex and subject to a great deal of variation through time due especially to the variable rainfall at the site, consequently, they are difficult if not impossible to measure. A simplified approach can be established based upon direct measures of individual plants.

The three required measures are plant cover (vertical projection of the plant canopy over the ground surface), density (number of individual plants per unit area) and species richness (total number of plant species) as listed in Table 4. Measures of the reference areas resulted in following data: plants of species provided square meters (m^2) of cover over 2,200 m^2 of sample area.

Therefore, cover is percent (m^2/m^2), density is plants/m^2 (plants/m^2) and species richness or diversity of species.

Success will be a measure of the native shrub and tree cover, species density, and species diversity based on achieving 50% of the baseline data areas. Successful revegetation will be achieved when the revegetated areas have achieved the following:

- Cover by native tree and shrub species – 37% (50% of existing cover of 74%);
- Diversity or richness of a minimum 5 native tree and plant species per 0.1 acre (50% of existing 10 species per 0.1 acre);
- Density of average of 42 plants/acre (50% of 84 plants/acre);
- Less than 10 percent cover of non-native invasive plant species cover; and
- Recruitment of seedlings of native plant species must occur demonstrating a positive trend in cover and diversity.

It is expected that initially, species richness will be high and density and cover low relative to the reference areas. As time proceeds, cover and density are expected to increase and richness to level off. Because these goals are being established without an empirical basis they may require adjustment in the future. Three federally listed plant species are known to occur within the mine area and they are intended to be included in the revegetation activities.

Establishment of plantings and volunteers on revegetated sites shall be evaluated according to survival rates, total native plant cover, and species diversity on the monitoring transects. Survival, shrub species diversity (a gauge of successful volunteer establishment) and total native plant cover will be used to determine whether further plantings are needed.

If survivorship plantings is low but total native plant cover and shrub diversity are high (due to volunteers and/or vigor of surviving plantings), then success criteria will be met. Conversely, if survival is high but vigor and volunteer establishment are low, then remedial planting may be needed.

If non-native invasive plant species average 10 percent or greater cover on monitoring plots at a given monitoring period, then that year's planting area will be weeded. Success criteria for seedlings and cuttings will be based on survival, performance, and volunteer establishment. Success criteria for soil loss will be subjectively developed by the geologist or hydrologist overseeing its monitoring.

Supplemental planting will be needed if success criteria are not met. Replacement grasses and shrubs will be planted to raise overall survival and cover to meet success criteria. Replacement plantings may use the same proportions used initially, or these may be modified according to the success of particular species.

Weed Control

The purpose of the weed control plan is to reduce or eliminate the occurrence of noxious non-native invasive plant species that may invade the site where mining activities have removed the native plant cover and where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site.

Weed or non-native species of concern at the site may include some or all of the following. Many of these species are common on-site now and will be difficult to control. Exotic species known to occur in the vicinity of the site include:

Bromus rubens	*Triticum aesitivum*	*Sisymbrium erivio*
Bromus diandrus	*Hirschfeldia incana*	*Erodium circutarium*
Bromus tectorum	*Salsola tragus*	*Marrubium vulgare*
Brassica tournetfourteii	*Descaurania pinnata*	*Galium angustifolium*
Schismus barbatus	*Sisymbrium altissimum*	*Ulmus pumila*
Poa pretense		

The occurrence of weeds on-site shall be monitored by visual inspection. The goal is to prevent weeds from becoming established and depositing seeds in areas to be revegetated at a later date. No areas will be allowed to have more than 10 percent of the ground cover provided by non-native plant invasive species. If inspections reveal that weeds are becoming or have established on-site, then removal will be initiated. Inspections shall be made in conjunction with revegetation monitoring.

Weed removal will be accomplished through manual, mechanical or chemical methods depending on the specific circumstances. For example, solitary or limited numbers of tree and tree-like species will be manually removed (chopped) and the stumps sprayed with an approved weed killer such as Round-Up. Smaller plants (wild oats and bromes) that cover more area may be sprayed, scraped with a tractor, or chopped by hand, depending upon the size of the area of infestation and the number of desired native plants in proximity or mixed in with the weeds.

Reports of inspections and weed control implementation shall be part of the annual revegetation monitoring and kept on file by the operator.

Monitoring

The Biological Monitoring Plan will be an ongoing effort to assess the results of revegetation on the disturbed areas of the site. The monitoring plan will be followed annually to monitor and assess completed revegetated areas and areas where revegetation is being planned or just beginning. A Biological Monitoring Report submitted by MCC to the SBNF and the County will be part of the overall compliance with conditions. Revegetated areas will be assessed utilizing success criteria with successful methods being implemented for future revegetation.

Revegetation efforts will be monitored annually for five years after seeding and planting or until success criteria are met and vegetation is self-sustaining. Data on plant species diversity, cover, density, survival and vigor will be collected on revegetated sites and compared to baseline data from undisturbed sites to evaluate Project success. Revegetation observations will be summarized annually as part of the overall-monitoring program. This schedule may be revised depending on the results of the revegetation effort and the meeting of the success criteria.

2.7 CLEANUP

All clean-up operations will be conducted within one year of the termination of mining. Scrap material, refuse, equipment, and surplus materials will be removed, recycled, and/or disposed of at an appropriate landfill site. Excess material piles and disturbed areas will be regraded for positive drainage, scarified, and revegetated.

2.8 POST RECLAMATION AND FUTURE MINING

The planned land use subsequent to mining is open space and wildlife habitat. The quarry excavation and reclamation will result in a series of revegetated benches 25 feet wide and 45 feet high. The landscape berm on the south will remain as a safety and visual mitigation measure. Southern portions of the quarry will be partially backfilled with 1.5H:1V slopes and will aid in the reclamation and revegetation of this portion of the quarry slopes.

With additional exploratory drilling and expansion of the South Quarry area, future mining with depth and outside the planned configuration may be feasible. The quarry is surrounded by SBNF lands on the west, south, and east and by the existing East Pit and Cushenbury Cement Plant on the north. Currently, the County land use designation is Resource Conservation (RC), which permits intensive land uses such as mining pursuant to a County approved Reclamation Plan.

2.9 SLOPE AND SLOPE TREATMENT

Based on a slope stability analysis conducted by Golder (see Appendix C), the excavations will be designed to develop a series of stable rock slopes up to 45 feet in height with horizontal benches 25 feet wide (refer to Figure 7). Each bench will be sloped inward toward the vertical wall at 1 percent to capture any precipitation or runoff. The overall slope angle will be 60º or a slope of 0.55H:1V. Golder determined that the planned slopes will meet the stability criteria of a factor of safety of at least 1.5 against sliding and a pseudostatic factor of safety of at least 1.1 when subjected to the design earthquake. A geotechnical program of on-going field mapping, drilling and geophysical surveys, and laboratory testing shall be established and implemented as the quarry is excavated. This type of site investigation during the mining operation will provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. A final slope stability assessment report will be prepared for the SBNF and County will assess the final slopes as part of the site closure.

2.10 PONDS, WASTES

There are no ponds or tailings type waste associated with the proposed South Quarry. All usable limestone will be transported to the existing primary crusher and used in the cement manufacturing process. Waste rock (rock which does not meet cement quality specifications and other intrusive rock types) will be stockpiled within the South Quarry so as not to disturb additional land and to reduce visual impact.

The production of limestone generates approximately 10 percent waste rock, approximately 150,000 tons per year or 18 MT of waste rock over 120 years not suitable for cement processing. Minimal amounts of overburden are expected as the limestone is generally exposed across the quarry site. Instead of depositing the waste rock in a separate waste stockpile outside the rim of the quarry, this plan proposes to stockpile the waste rock within approximately 25 acres in Phases IB and 4. The waste stockpiles will be slopes at 1.5H:1V and will backfill the southern area and reduce the steep cut slopes. The development of internal waste rock stockpiles will reduce the area of disturbance outside the quarry rim, eliminate potential visual impacts of the waste rock piles that are highly visible, and reduce internal slopes to aid in revegetation.

2.11 SOILS

The site is generally exposed limestone and has minimal soils onsite. Golder found no significant soil profile except in sheltered north-facing slopes where vegetative cover increases. Any available soils found in minor drainages and loose gravel found onsite that may contain organic material and seeds will be salvaged and stored in clearly marked separate stockpiles along the rim or initial benches and will be used in the southern landscape berm.

2.12 DRAINAGE AND EROSION CONTROLS

Diverting Undisturbed Area Runoff

Drainage structures will be located and constructed to control flow velocities, provide for stability during their planned operating life, and minimize additional contributions of sediment to runoff flows. Based on Project area topography and the proposed development plans, it is anticipated that the need for diversions will be limited, with most runoff collecting in active quarry areas.

Disturbed Area Drainage Control

Runoff resulting from direct precipitation on active and unreclaimed disturbed areas and uncontrolled runoff from upgradient undisturbed areas has the potential to cause erosion and resulting sediment loss, transport, and deposition, in both the disturbed and downgradient areas. In active quarry areas, drainage control is generally not a significant concern since essentially all disturbed area drainage is retained within the basin created by the quarry excavation.

For quarry development areas, roads, stockpile areas, and other disturbed areas, erosion and sediment loss and transport will be controlled through the use of localized drainage and sediment control measures. These measures will include construction of temporary diversion and collection

ditches, berms, check dams or catchment basins; placement of erosion control materials, sediment fences, or straw bales; and other appropriate measures individually or in combination.

The objective of all drainage control measures will be to limit flow volumes and velocities to minimize or prevent erosion and to promote settling of suspended solids before the runoff leaves the disturbed area. It is anticipated that drainage control measures will be implemented as needed based on regular inspection of operating areas. If initial evidence of any significant erosion or siltation is observed downgradient of any disturbed area, appropriate control measures will be identified and implemented on a timely basis.

Stabilization of Disturbed Areas

Disturbed areas will be stabilized to minimize both short- and long-term erosion and sediment loss. In the case of mine roads, short-term stabilization measures include proper road design and construction, regular road maintenance, and establishment of temporary vegetation where appropriate, and to stabilize cut slopes and fills. Growth media stockpiles will be stabilized through establishment of a temporary vegetative cover if they are designed for storage periods exceeding 1 year.

Long-term stabilization, or reclamation, will generally involve grading or reshaping disturbed areas, establishing effective drainage, placement of plant growth media, and revegetation. Due to both operational and economic limitations, surface stabilization of quarry areas will be limited to removal of loose rocks from highwall areas, and growth media replacement and revegetation of quarry bench surfaces. Following reclamation, the majority of surface runoff from quarry areas will be retained in the quarry limits where it will either infiltrate or evaporate.

2.13 PUBLIC SAFETY

The site is located in an isolated area with limited access. The steep slopes and rugged terrain on the adjacent areas limit the potential for the public to trespass on the site. The site's main haul road is controlled and gated at the adjacent Cushenbury Cement Plant, and effectively eliminates public entry.

The southern portion of the quarry could be accessible from the south by the public driving or hiking in the Burnt Flat area along the old Mohawk Mine Road although this area is not open to the public due to sensitive habitat. To reduce the accessibility of the quarry, MCC will construct and maintain a landscape and safety berm along the southern rim for a distance of approximately 2,330 feet. This berm will tie into steeper slopes on the east and the southwest to restrict access. The berm will be composed of waste rock and salvaged soil approximately 6 feet in height with 1.5H:1V slopes (refer to Figure 11) and will cover approximately 2.7 acres. The berm will include large rocks to discourage riding over it, warning signs, and revegetated with native vegetation.

There is no other readily available access to the site; however, along other portions of the quarry rim a 25-foot wide set back with safety berms 4 feet in height with 1:1 slopes, and oversized boulders will be constructed along any quarry rim areas susceptible to public trespass. Warning signs will be installed along all sides of the rim at least 18" by 18" with contrasting background

lettering every 250 feet and shall read in English and Spanish “Danger” “Open Pit Mine” or “Steep Slope.”

2.14 MONITORING AND MAINTENANCE

The California Environmental Quality Act (CEQA, Section 21081.6) requires that an agency prepare an environmental impact report prior to approving a project that may have significant adverse environmental impacts. CEQA also requires adoption of a reporting and monitoring program for the conditions of approval of a project that are intended to mitigate or avoid adverse environmental affects. The program is intended to ensure compliance with mitigation measures throughout the life of the Proposed Project. The program will identify the conditions of approval that act as impact mitigation measures and for each measure, outline who is responsible for implementation and verification of the measure. The program will be flexible in order to accommodate changes that are necessary to mitigate monitoring is not necessary.

In addition, the SMARA requires annual reporting of Mining and Reclamation activities. The reports are filed with the State Division of Mining and Geology, the SBNF, and the County. Revegetated areas will be monitored over a five-year period or until success criteria achieved following initial planting. Data on plant species diversity, cover, survival and vigor will be collected on revegetated sites and compared to baseline data from undisturbed sites to evaluate project success.

Monitoring and maintenance of reclamation is an ongoing responsibility of MCC. The South Quarry will be inspected as needed, at least annually, by the County and by the SBNF. As reclamation efforts increase through establishment of out planting of native species, the frequency of monitoring by MCC will increase commensurate with the activities being conducted. The individual monitor(s) shall be qualified revegetation specialists approved by the SBNF and the County.

2.15 RECLAMATION ASSURANCE

MCC shall post or cause to be posted reclamation assurance in an amount sufficient to pay for the cost of reclamation as outlined in Section 2. As the Proposed Project is within FS lands, the SBNF and the County will annually review the reclamation financial assurance cost estimate updated annually as required by SMARA. San Bernardino County is the lead agency for SMARA, which also requires the reclamation assurance to be reviewed and approved by the California Division of Mine Reclamation (DMR).

STATEMENT OF RESPONSIBILITY

The statement of responsibility for the reclamation of the site (below) will be signed by Mitsubishi Cement Corporation's representative and will be included as a separate form at the time of approval.

I, the undersigned, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et. seq. and 3700 et. seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act commencing with Section 2710 et. seq., and with any modifications requested by the administering agency as conditions of approval.

Signed this_____ day of _____, 20___ by:

Signature: _____Title: _____

Printed Name: _____

3.0 GEOLOGY

A full description of the site's geology is provided in the "Assessment of the Pit Slope Stability and Hydrologic Conditions" prepared by Golder Associates (August 2010) and included in Appendix C. The geology description is summarized below.

The vicinity and immediate surrounding areas are located within the Transverse Ranges geomorphic province of California. This province is marked by a general east-west trend of the nine major mountain ranges that in places have peak elevations that exceed 10,000 feet amsl. The province extends offshore to include San Miguel, Santa Rosa, and Santa Cruz Islands. Its eastern extension, the San Bernardino Mountains, has been displaced to the south along the active San Andreas Fault. Ongoing north-south compression results rapid uplift of many of the ranges within the province.

The Transverses Ranges contain some of the oldest rocks exposed within California. Within the San Bernardino Mountains, located east of the San Andreas Fault, five major groups of rocks are preserved:

- Metamorphosed crystalline and sedimentary rocks up to 1.7 billion years old. These rocks represent part of the ancient North American continent that has been faulted and folded, and uplifted along the now geologically active margin of modern North America.

- Metamorphosed metasedimetary rocks (metacarbonates and quartzites) that were deposited on the North American continental margin more than 300 million years ago. Deposition, burial, and faulting and folding have brought these rocks to the surface, particularly along the northern margin of the San Bernardino Mountains.

- Intrusive granitic rocks intruded into the North American continental margin during several stages of the Mesozoic Era from about 200 to 125 million years ago. A wide range of granitoid rocks have been mapped and dated, and they represent intrusion at both moderate and shallow depths within the ancient crust.

- Upper Cenozoic (less than about 20 million years ago), predominately terrestrial sedimentary rocks of conglomerate, sandstone mudstone and lake deposits. Generally only fragments of these units are preserved, and the sages and structural relations are unclear.

- Alluvial fans, lake, minor glacial and landslide deposits related to the present day landscape and ongoing erosion and deposition processes.

The present day structure of the San Bernardino Mountains is dominated by the San Andreas Fault along the southern boundary and the North Frontal Fault zone that marks its northern boundary. Ongoing movement of these faults results in uplift and eastward translation of the San Bernardino Mountains as a block, with apparently little internal deformation.

The proposed South Quarry will be located atop a broad (600 to 1,200 feet wide), east-west trending ridge that lies at an elevation between about 6,000 and 7,000 feet amsl. To the north, the ridge ends in a bluff and then a steep north-facing slope of almost 2,000 feet down to the active East Pit of the Cushenbury Mine site. To the south, the elevation continues upward to a broader low-relief area comprising Burnt Flats between about 6,700 and 7,000 feet amsl, then up a steep slope 500 to 600 feet to another lower relief area at an elevation of about 7,500 feet amsl. The proposed quarry area is drained by steep-gradient west- and north-draining ephemeral streams.

The proposed location of the quarry is sparsely vegetated with semi-arid species typical of the San Bernardino Mountains at these elevations. Abundant outcrops of fresh and slightly weathered metacarbonate rocks currently cover the location of the proposed quarry. No significant soil profile has developed, except in sheltered north-facing slopes where the density and variety of the vegetative cover increases.

The sequence of meta-sedimentary rocks located within the Proposed Project area consists of primarily metacarbonate rocks of the Paleozoic Bird Spring, Monte Cristo and Sultan Formations. These formations comprise rocks of Devonian to early Permian age (about 360 to 260 million years old) that were deposited as shallow-water limestone, and carbonaceous mudstone and sandstone on the western continental margin of North America. Although fragmented and disrupted by post-Paleozoic faulting, folding and igneous intrusion, this sequence of carbonate rocks is now preserved throughout much of Utah, Arizona, and the southern portions of Nevada and California. No structures were observed in the skarn that would adversely affect the stability of the proposed mine slopes.

4.0 HYDROLOGY

A description of the site's hydrology is provided in the "Assessment of the Pit Slope Stability and Hydrologic Conditions" prepared by Golder Associates (August 2010) and included in Appendix C. The hydrology description is summarized below.

Precipitation

The Lucerne Valley receives approximately 4 to 6 inches of precipitation a year, with the upper valley areas receiving approximately 6 to 8 inches a year (California Dept. of Water Resources, 2004). The Lucerne Valley weather station shows an average annual precipitation of 4.04 inches from September 1919 through September 1973, a total of 8,442 readings (Western Regional Climate Center, http://www.wrcc.dri.edu/). This weather station was located at an elevation of approximately 2,700 feet amsl, approximately 4,000 feet lower than the proposed quarry.

The Big Bear Lake weather station had an average annual precipitation of 21.52 inches from July 1960 through November 2009, a total of 17,432 readings (Western Regional Climate Center). This weather station is located at an elevation of approximately 6,670 feet amsl, comparable to the existing ground surface elevations of the proposed south quarry.

Based on the information from the Lucerne Valley and Big Bear Lake weather stations it is anticipated that the average annual precipitation received at the proposed South Quarry to be between 10 to 15 inches or approximately halfway between the two weather station records.

Groundwater

Mitsubishi's drill hole data within the footprint of the proposed South Quarry found no evidence of groundwater to a depth of 5,528 feet amsl. The existing East Pit, located to the north of the proposed South Quarry, has a floor elevation of 4,400 feet amsl, with no evidence of groundwater. The dry East Pit floor at 4,400 feet amsl demonstrates that the vertical separation between the proposed floor of the South Quarry (5,365 feet amsl) and the groundwater table will exceed 965 feet.

Surface Water

As shown on Sheet 2, the proposed South Quarry is located on top of and oriented along an existing mountain ridge. The layout of the Proposed South Quarry will prevent significant surface water run-on into the final pit. The effect of the proposed quarry on surface water run-off will be a net but minor decrease of surface water flowing into Marble Canyon as some of the run-off will be retained within the final developed quarry. This reduction in surface water run-off is anticipated to be relatively small.

The existing natural surface water drainages in the area of the proposed South Quarry are ephemeral and predominantly unvegetated. The principal channel that drains northwest into Marble Canyon will be avoided by the planned South Quarry configuration. The existing surface

water drainage patterns in the areas surrounding the proposed South Quarry will not be substantially altered as the entire quarry will be situated at the local topographic high. Due to the relatively small amount of average annual precipitation at the site, surface water that accumulates in the final quarry pit as the result of direct precipitation into the pit will likely evaporate, with minor percolation into the pit floor, and will result in minimal impact to the local groundwater conditions.

REFERENCES, ACRONYMS, AND GLOSSARY

REFERENCES

"Air Quality Study for Mitsubishi Cement Corporation's Proposed South Quarry", Yorke Engineering, LLC, October 2016.

"Assessment of Pit Slope Stability and Hydrologic Conditions", Golder Associates, July 2010.

"Biological Assessment/Biological Evaluation and Wildlife and Botany Reports and Draft Raptor Conservation Strategy," San Bernardino National Forest, December 2016.

"Biological Resource Assessment," Aspen Environmental Group, August 2010.

"Carbonate Habitat Management Strategy (CHMS)", San Bernardino National Forest Association, April 2003.

"Draft Environmental Impact Report/Environmental Impact Statement Mitsubishi Cement Corporation South Quarry Project," U.S. Dept. of Agriculture San Bernardino Forest Service and County of San Bernardino. December 2016.

"Environmental Impact Report for the Cushenbury Mine Expansion", LSA and San Bernardino County, 2004.

"Jurisdictional Delineation Report for the South Quarry Expansion Project," Glenn Lukos Associates, June 2010; Revised May 2012 and December 2018.

"Land Management Plan, Part 2 San Bernardino National Forest Strategy" (USDA September 2005)

"Mine Reclamation Plan Cushenbury Mine (2004M-001)," Mitsubishi Cement Corporation, December 2000, Amended January 2005. Approved by County of San Bernardino, May 20, 2004.

"Permit-Level Design of the Surface Water Management System for the Proposed South Quarry Haul Road," Golder Associates 2013.

"Potential Environmental Impacts to Nelson's Bighorn Sheep and Suggested Mitigation," Vernon C. Bleich, Eastern Sierra Center for Applied Population Ecology. September 2010.

"Reclamation Compliance Report 2018" (for Cushenbury Mine), JJ Restoration Service, December 2018.

"Rules and Regulations," Mojave Desert Air Quality Management District, 2019.

"San Bernardino County General Plan," San Bernardino County (with updates).

"Surface Mining and Reclamation Act (SMARA)," California Department of Conservation, Division of Mine Reclamation, 2019.

"Water Supply Assessment," Lilburn Corporation, December 2012 (updated January 2017).

ACRONYMS

amsl	above mean sea level
AQMP	Air Quality Management Plan
BACT	Best available control technology (for control of air emissions)
BATF&E	Bureau of Alcohol, Tobacco, Firearms and Explosives (federal agency)
BLM	Bureau of Land Management
BMP	Best Management Practices
Cal-OSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHMS	Carbonate Habitat Management Strategy
CNPS	California Native Plant Society
CUP	Conditional use permit
CUPA	Certified Unified Program Agency (The Hazardous Materials Division of the San Bernardino County Fire Department is designated as the "CUPA.")
CY	Cubic yards
DMR	Division of Mine Reclamation
DOC	Department of Conservation
EIR	Environmental Impact Report
FESA	Federal Endangered Species Act
H:V	horizontal to vertical; typically in feet (slope inclination)
MCC	Mitsubishi Cement Corporation
MCY	million cubic yards
MT	million tons
MTPY	million tons per year
NEPA	National Environmental Policy Act
NF	National Forest
NPDES	National Pollutant Discharge Elimination System
PM_{10}	10-micron or less particulate matter
RC	Rural Conservation (County zoning designation)
RWQCB	Regional Water Quality Control Board
SBNF	San Bernardino National Forest
SMARA	Surface Mining and Reclamation Act
SPCC	Spill Prevention, Control, and Counter-measure
SWPPP	Storm Water Pollution Prevention Program
WQMP	Water Quality Management Plan
USDA	United States Department of Agriculture
USGS	United States Geological Survey

GLOSSARY OF TERMS

BACT: Best Available Control Technology – Air quality term used to describe air pollutant control equipment for equipment and facilities that produce air emissions.

Bedrock: The solid rock that underlies soil and unconsolidated material.

Bench: Terrace or leveled area breaking the continuity of a slope. For the South Quarry, the bench will be 25 feet wide every 45 feet vertical feet.

Berm: An elongate earthen structure which acts as a barrier; e.g., to make it difficult for a vehicle or ORV to cross, or to redirect the flow of water.

California Endangered Species Act: California state legislation enacted in 1984, with the intent to protect floral (plant) and faunal (animal) species by listing them as "rare," "threatened" "endangered," or "candidate." The Act also provides a consultation process for the determination and resolution of potential adverse impacts to the species.

California Environmental Quality Act (CEQA): Policies enacted in 1970, and subsequently amended, the intent of which is the maintenance of a quality environment for the people of California now and in the future.

Carbonate Habitat Management Strategy (CHMS): An intensive collaborative effort led to the development of the Carbonate Habitat Management Strategy (CHMS) in 2003. The strategy is designed to provide long-term protection for the carbonate endemic plants and also provide for continued mining. Carbonate habitats are protected from mining impacts in perpetuity within the carbonate habitat reserves dedicated and managed as described in the CHMS. A Memorandum of Understanding and agreement was signed in 2003 by the USDA Forest Service, SBNF, Bureau of Land Management (BLM), San Bernardino County, Omya, Specialty Minerals, MCC, California Native Plant Society, and the Cushenbury Mine Trust stipulating that the signatories will implement the CHMS for the dual purpose of conserving threatened and endangered carbonate plants and streamlining mining operations.

Endangered species: A species whose prospects of survival and reproduction in the wild are in immediate jeopardy from one or more causes.

Environmental Impact Report (EIR): "Detailed statement or report prepared under CEQA describing and analyzing the significant effects of a project and discussing ways to mitigate or avoid the effects" (CEQA Guidelines §15362).

Factor of safety: Ratio of forces resisting slope or foundation failure over forces driving slope or foundation failure.

Fine Particulate Matter: Extremely small air pollutants less than 2.5 microns in diameter and that form primarily from engine combustion sources, not from fugitive dust sources ($PM_{2.5}$).

Growth Media: Surface material which contains nutrients, micro flora, and plant seeds.

Hazardous material: Substance, which may cause injury to persons or damage to property because of its potential for corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness.

Haul road: A road used by haul trucks to haul ore and waste rock from the open pit to other locations usually to the crusher feed or to the waste rock stockpiles.

Hazardous material: Substance which, because of its potential for corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness, may cause injury to persons or damage to property.

Hazardous waste: Defined in Section 1004(5) of the federal Resource Conservation and Recovery Act (RCRA) as, "…a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environmental when improperly treated, stored, transported, or disposed of, or otherwise managed."

Hydrogeology: The study of surface and subsurface water.

Ore body: A generally continuous mass of ore distinct from the surrounding rock.

Phasing: Planned stages of project development.

Rare species: A species, which, although not presently threatened with extinction, is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Reclamation: The combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations (SMARA 2007).

Reclamation Plan: A restoration plan for the stabilization and recovery of a mine site after cessation of mining operations for another use; generally open space or other low intensity use.

Revegetation: Establishment of native vegetation on lands that have been disturbed.

Regional Water Quality Control Board (RWQCB): Agency which administers the requirements of the California Administrative Code, Title 23, Division 3, Chapter 15 (Section 2595,g,7) to ensure the highest possible water quality consistent with all demands.

Sensitive species: A plant or animal species, which is recognized by the government or by a conservation group, as being depleted, rare, threatened, or endangered.

Threatened Species: Species, which, although not presently threatened with extinction, are likely to become endangered in the foreseeable future in the absence of special protection and management efforts.

Waste Rock: Limestone which does not meet cement quality specifications and other rock types encountered during excavations which will be pushed or hauled directly to two planned waste rock stockpiles located within the southeast portion of the South Quarry.

Water table: The upper water level of a body of groundwater.

CROSS REFERENCE MATRIX

South Quarry Reclamation Plan
(CA Mine ID# 91-36-xxxx) & Surface Mining and Reclamation Act

Including reference to:
ARTICLE 1. GENERAL PROVISIONS. SECTION 2710 et seq.
ARTICLE 2. DEFINITIONS. SECTION 2725 et seq.
ARTICLE 3. DISTRICT COMMITTEES. SECTION 2740 – 2741
ARTICLE 4. STATE POLICY FOR THE RECLAMATION OF MINED LANDS. SECTION 2755 et seq.
ARTICLE 5. RECLAMATION PLANS AND THE CONDUCT OF SURFACE MINING OPERATIONS. SECTION 2770 et seq., as amended
CCR TITLE 14 (REGISTER 85, No. 18-5-4-83)
CHAPTER 8. MINING AND GEOLOGY
SUBCHAPTER 1. STATE MINING AND GEOLOGY BOARD
ARTICLE 1. SURFACE MINING AND RECLAMATION PRACTIVE. SECTION 3500 et seq.
ARTICLE 9. RECLAMATION STANDARDS. SECTION 3700 et seq.

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2770.5	100-year flood, Caltrans contact	X	---	---
SMARA 2772 (c) (1)	Name and Address of operator/agent.			1.0
SMARA 2772 (c) (2)	Quantity & type of minerals to be mined.			Summary; 1.0
SMARA 2772 (c) (3)	Initiation and termination date.			Summary; 1.0
SMARA 2772 (c) (4)	Maximum anticipated depth of mining.			1.1
SMARA 2772 (c) (5)	Description, including map with boundaries, topographic details, geology, streams, roads, utilities.			1.0, 1.1
SMARA 2772 (c) (6)	Mining plan and time, schedule for reclamation (concurrent or phased reclamation).			1.0, 1.1, 2.5
SMARA 2772 (c) (7)	Proposed subsequent use.			2.8
SMARA 2772 (c) (8)	Description of reclamation measures adequate for proposed end use.			2.5
SMARA 2772 (c) (8) (a)	Description of containment control and mine waste disposal.			1.1, 1.2

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2772 (c) (8) (b)	Rehabilitation of stream banks/beds to minimize erosion			1.5
SMARA 2772 (c) (9)	Impact of reclamation on future mining.			2.8
SMARA 2772 (c) (10)	Applicant statement accepting responsibility for reclamation per the reclamation plan.			2.15
SMARA 2773 (a)	Water quality monitoring plan specific to property.			1.5; SWPPP
SMARA 2773 (a)	Sediment and erosion control monitoring plan specific to property.			1.5, 2.12
SMARA 2773 (a)	Revegetation plan specific to property. Monitoring Plan.			2.6; Appendix F
SMARA 2773.1	Performance (financial) assurances.			2.15
SMARA 2777	Amended reclamation plans required prior to substantial deviations to approved plans.	---	Informational	---26-31
CCR 3502 (b) (1)	Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands, riparian zones, etc.).			2.1-2.4
CCR 3502 (b) (2)	Public health and safety (exposure).			1.1, 2.13
CCR 3502 (b) (3)	Slopes: critical gradient, consider physical properties and landscaping.			1.1, 2.9 App. B
CCR 3502 (b) (4)	Fill materials in conformance with current engineering practice.			1.2
CCR 3502 (b) (5)	Disposition of old equipment			2.7

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3502 (b) (6)	Temporary stream and water diversions shown.			1.5
CCR 3503 (a) (1)	Removal of vegetation and overburden preceding mining kept to a minimum.			2.5 – 2.6
CCR 3503 (a) (2)	Overburden stockpiles managed to minimize water and wind erosion.			1.2
CCR 3503 (a) (3)	Erosion control facilities (dikes, ditches, etc.) as necessary.			1.5; 2.12
CCR 3503 (b) (1)	Settling ponds (sedimentation and water quality).			1.5
CCR 3503 (b) (2)	Prevent siltation of groundwater recharge areas.			1.2; 1.5
CCR 3503 (c)	Protection of fish and wildlife habitat (all reasonable measures).			2.4
CCR 3503 (d)	Disposal of mine waste and overburden (stable-no natural drainage restrictions without suitable provisions for diversion).			1.2; 1.5
CCR 3503 (e)	Erosion and drainage (grading to drain to natural courses or interior basins).			1.5
CCR 3503 (f)	Resoiling (fine material on top plus mulches).			2.5, 2.6
CCR 3503 (g)	Revegetation and plant survival (use available research).			2.6
CCR 3703 (a)	Sensitive species conserved or mitigated			2.3; 2.6
CCR 3703 (b)	Wildlife habitat at least as good as pre-project, if approved end use is habitat.			2.6
CCR 3703 (c)	Wetlands avoided or mitigated at 1:1 minimum	X		---
CCR 3704 (a)	For urban use, fill compacted in accordance	X		---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
	with UBC or local grading ordinance.			
CCR 3704 (b)	For resource conservation, compare to standard for that end use			2.6
CCR 3704 (c)	Mine waste stockpiled to facilitate phased reclamation and separate from growth media.			2.5; 2.6
CCR 3704 (d)	Final reclamation fill slopes not exceed 2:1, except when engineering and revegetation analysis allow.			2.5; 2.9; 2.10
CCR 3704 (e)	Final landforms or fills conform with surrounding topography or end use.			2.5; 2.9; 2.10
CCR 3704 (f)	Cut slopes have minimum factor of safety for end use and conform with surrounding topography.			1.1; 2.5; 2.9
CCR 3704 (g)	Piles or dumps not placed in wetlands without mitigation.	X	---	---
CCR 3705 (a)	Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.			2.6
CCR 3705 (b)	Test plots if success has not been proven previously			2.6
CCR 3705 (c)	Decompaction of site.			2.5; 2.6
CCR 3705 (d)	Roads stripped of road base materials, resoiled and revegetated, unless exempted.			2.6
CCR 3705 (e)	Soil altered or other than native topsoil, required soil analysis. Amend if necessary.			2.6
CCR 3705 (f)	Temporary access not bladed. Barriers installed.	X	---	---

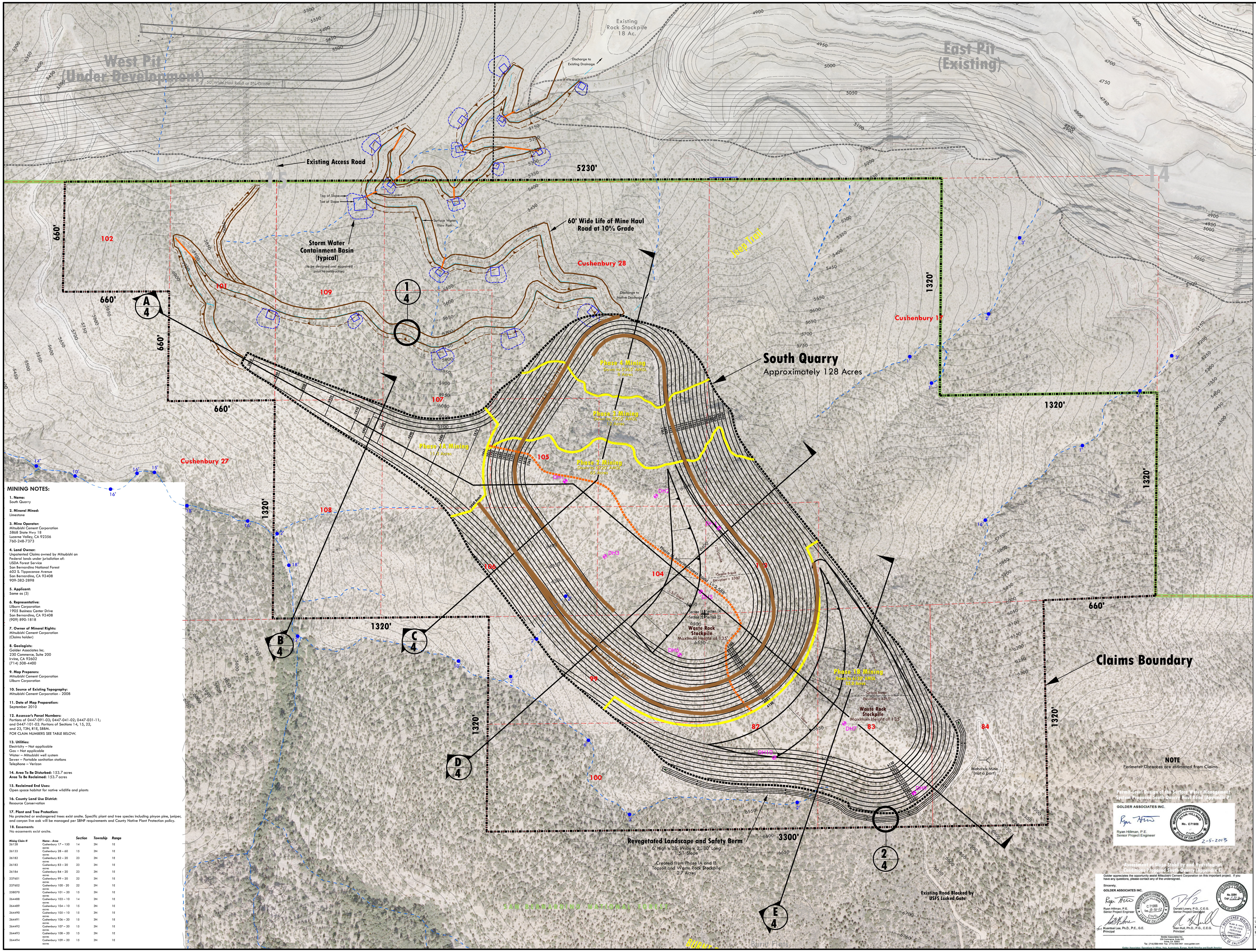
SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3705 (g)	Use native plant species, unless exotic species meet end use.			2.6
CCR 3705 (h)	Plant during correct season.			2.6
CCR 3705 (i)	Erosion control and irrigation, when necessary.	X	---	---
CCR 3705 (j)	If irrigated, demonstrate self-sustaining without for two-year minimum.	X	---	---
CCR 3705 (k)	Weeds managed.			2.6
CCR 3705 (l)	Plant protection measures, fencing, caging.			
CCR 3705 (m)	Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provides 80 percent confidence level, as minimum.			2.6
CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.			1.5; 2.12
CCR 3706 (b)	Water quality, recharge, and groundwater storage shall not be diminished, except as allowed by plan.			1.5; 2.12
CCR 3706 (c)	Erosion and sedimentation controlled during all phases as per RWQCB/SWRCB.			1.5; 2.12
CCR 3706 (d)	Surface runoff and drainage controlled and methods designed for not less than 20 year/1 hour intensity storm event.			1.5; 2.12
CCR 3706 (e)	Altered drainages shall not cause increased erosion or sedimentation.			1.5; 2.12
CCR 3706 (f)	Stream diversions constructed in accordance with DFG 1603, EPA 404, Sec. 10 Rivers and Harbors.			1.5; 2.12

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3706 (g)	All temporary diversions eventually removed.			1.5; 2.12
CCR 3707 (a)	Return prime ag to prime ag, unless exempted.	X	---	---
CCR 3707 (b)	Segregate and replace topsoil by horizon.	X	---	---
CCR 3707 (c)	Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan.	X	---	---
CCR 3707 (d)	Fertilizers and amendments not contaminate water.	X	---	---
CCR 3708	Other ag capable of sustaining crops of area.	X	---	---
CCR 3709 (a)	Equipment stored in designated area and waste disposed of according to ordinance.			2.7
CCR 3709 (b)	Structures and equipment dismantled and removed.			2.7
CCR 3710 (a)	Surface and groundwater protected.			1.5; 2.12
CCR 3710 (a)	Surface and groundwater projected in accordance with Porter Cologne and Clean Water Acts (RWQCB/SWRCB).			1.5; 2.12
CCR 3710 (b)	In-stream in accordance with CFG 1600, EPA 404, and Sec. 10 Rivers and Harbors.		CDFW 1600 as applicable	1.5; 2.12
CCR 3710 (c)	In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, and aerial photos.	X	---	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3710 (d)	In-stream mining activities shall not cause fish to become entrapped in pools or in off-channel pits. California Fish and Game Code section 1600.	X	---	---
CCR 3711(a)	All salvageable topsoil removed. Topsoil and vegetation removal not proceed mining by more than one year.			2.6
CCR 3711 (b)	Topsoil resources mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles.			2.6
CCR 3711 (c)	Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.			2.6
CCR 3711 (d)	Topsoiling phased ASAP. Stockpiles not to be disturbed until needed. Stockpiles clearly identified and planted with vegetation or otherwise protected.			2.6
CCR 3711 (e)	Topsoil redistributed in stable site and consistent thickness.			2.6
CCR 3712	Waste and tailings, and waste disposal governed by SWRCB (Article 7, Chapter 15, Title 23, CCR).			1.2; 2.13
CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.			2.7
CCR 3713 (b)	All portals, shafts, tunnels or openings, gated or protected from public entry, but preserve access for wildlife.			2.7

EXHIBIT I

Site Plan



MINING NOTES:

1. Name:
South Quarry

2. Mineral Mined:
Limestone

3. Mine Operator:
Mitsubishi Cement Corporation
5868 State Hwy 18
Lucerne Valley, CA 92356
760-248-7373

4. Land Owner:
Unpatented Claims owned by Mitsubishi on Federal lands under jurisdiction of:
USDA Forest Service
San Bernardino National Forest
602 S. Tippecanoe Avenue
San Bernardino, CA 92408
909-382-2898

5. Applicant:
Same as (3)

6. Representative:
Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
(909) 890-1818

7. Owner of Mineral Rights:
Mitsubishi Cement Corporation
(Claims holder)

8. Geologists:
Golder Associates Inc.
230 Commerce, Suite 200
Irvine, CA 92602
(714) 508-4400

9. Map Preparers:
Mitsubishi Cement Corporation
Lilburn Corporation

10. Source of Existing Topography:
Mitsubishi Cement Corporation - 2008

11. Date of Map Preparation:
September 2010

12. Assessor's Parcel Numbers:
Portions of 0447-091-03; 0447-041-02; 0447-031-11; and 0447-101-02. Portions of Sections 14, 15, 22, and 23, T3N, R1E, SBBM.
FOR CLAIM NUMBERS SEE TABLE BELOW.

13. Utilities:
Electricity – Not applicable
Gas – Not applicable
Water – Mitsubishi well system
Sewer – Portable sanitation stations
Telephone – Verizon

14. Area To Be Disturbed: 153.7 acres
Area To Be Reclaimed: 153.7 acres

15. Reclaimed End Uses:
Open space habitat for native wildlife and plants

16. County Land Use District:
Resource Conservation

17. Plant and Tree Protection:
No protected or endangered trees exist onsite. Specific plant and tree species including pinyon pine, juniper, and canyon live oak will be managed per SBNF requirements and County Native Plant Protection policy.

18. Easements
No easements exist onsite.

Mining Claim #	Name - Area	Section	Township	Range
26128	Cushenbury 17 – 150 acres	14	3N	1E
26133	Cushenbury 28 – 60 acres	15	3N	1E
26182	Cushenbury 82 – 20 acres	23	3N	1E
26183	Cushenbury 83 – 20 acres	23	3N	1E
26184	Cushenbury 84 – 20 acres	23	3N	1E
237601	Cushenbury 99 – 20 acres	22	3N	1E
237602	Cushenbury 100 - 20 acres	22	3N	1E
258070	Cushenbury 101 – 20 acres	15	3N	1E
264488	Cushenbury 103 – 10 acres	14	3N	1E
264489	Cushenbury 104 – 10 acres	15	3N	1E
264490	Cushenbury 105 – 10 acres	15	3N	1E
264491	Cushenbury 106 – 20 acres	15	3N	1E
264492	Cushenbury 107 – 20 acres	15	3N	1E
264493	Cushenbury 108 – 20 acres	15	3N	1E
264494	Cushenbury 109 – 20 acres	15	3N	1E

NOTE
Perimeter Distances are estimated from Claims

Permit-Level Design of the Surface Water Management System Proposed South Quarry Haul Road (Appendix P)

GOLDER ASSOCIATES INC.
Ryan Hillman, P.E.
Senior Project Engineer
REGISTERED PROFESSIONAL ENGINEER RYAN HILLMAN No. C71988 CIVIL STATE OF CALIFORNIA
2-5-2013

Assessment of Slope Stability and Hydrological Conditions Proposed South Quarry (Appendix C)

Golder appreciates the opportunity assist Mitsubishi Cement Corporation on this important project. If you have any questions, please contact any of the undersigned.

Sincerely,
GOLDER ASSOCIATES INC.

Ryan Hillman, P.E.
Senior Project Engineer
REGISTERED PROFESSIONAL ENGINEER RYAN HILLMAN C 71988 Exp. 3-31-12 CIVIL STATE OF CALIFORNIA

Donald Lowry, P.G., C.E.G.
Senior Project Geologist
CERTIFIED ENGINEERING GEOLOGIST DONALD J. LOWRY No. 2284 Exp: 1-31-2012 STATE OF CALIFORNIA

for Kuantsai Lee, Ph.D., P.E., G.E.
Principal

Alan Hull, Ph.D., P.G., C.E.G.
Principal
REGISTERED GEOLOGIST ALAN G. HULL NO. EG 2315 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

SOUTH QUARRY MINE PLAN

Mitsubishi Cement Corporation
County of San Bernardino California

Scale: 1"=200'
Date: 07/2011
DGN: MIT- Mine Pln May 2010.dgn (T.A.G.)
Sheet **2** of **4**

West Pit (Under Development)

East Pit (Existing)

Existing Rock Stockpile 18 Ac.

10% Grade

50' Wide Haul Road at 5% Grade

Existing Access Road

Discharge to Existing Drainage

Top of Slope

Toe of Slope

Culvert

Surface Water Flow Path

Storm Water Containment Basin (typical)

(to be designed and approved prior to construction)

60' Wide Mine Haul Road Reclaimed to Half Width

Cushenbury 28

Cushenbury 27

Cushenbury 17

Jeep Trail

Discharge to Native Drainage

5230'

660'

1320'

15

14

102

101

109

107

105

108

106

104

103

82

83

84

100

A 4

B 4

C 4

D 4

E 4

1 4

2 4

South Quarry

Approximately 128 Acres

Waste Rock Stockpile
Maximum Height of 135'
6550

Waste Rock Stockpile
Maximum Height of 135'

Grade Break Elevation = 5500'

Grade Break Elevation = 6265'

2% Grade

12% Grade

1.5:1 Slope

Section 15 | Section 14
Section 22 | Section 23

Revegetated Landscape and Safety Berm
6' High x 28' Wide x 2,330' Long
1.5:1 Slope
Created from Phase IA and IB Topsoil and Waste Rock Stockpile
2.7 Acres

Claims Boundary

Mohawk Mine (not a part)

Existing Road Blocked by USFS Locked Gate

SAN BERNARDINO NATIONAL FOREST

Burnt Flats

NOTE
Perimeter Distances are estimated from Claims

RECLAMATION NOTES:

1. Name:
South Quarry

2. Mineral Mined:
Limestone

3. Mine Operator:
Mitsubishi Cement Corporation
5868 State Hwy 18
Lucerne Valley, CA 92356
760-248-7373

4. Land Owner:
Unpatented Claims owned by Mitsubishi on Federal lands under jurisdiction of:
USDA Forest Service
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San Bernardino, CA 92408
909-382-2898

5. Applicant:
Same as (3)

6. Representative:
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1905 Business Center Drive
San Bernardino, CA 92408
(909) 890-1818

7. Owner of Mineral Rights:
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(Claims holder)

8. Geologists:
Golder Associates Inc.
230 Commerce, Suite 200
Irvine, CA 92602
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9. Map Preparers:
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10. Source of Existing Topography:
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11. Date of Map Preparation:
September 2010

12. Assessor's Parcel Numbers:
Portions of 0447-091-03; 0447-041-02; 0447-031-11; and 0447-101-02. Portions of Sections 14, 15, 22, and 23, T3N, R1E, SBBM.

13. Utilities:
Electricity – Not applicable
Gas – Not applicable
Water – Mitsubishi well system
Sewer – Portable sanitation stations
Telephone – Verizon

14. Area To Be Disturbed: 153.7 acres
Area To Be Reclaimed: 153.7 acres

15. Reclaimed End Uses:
Open space habitat for native wildlife and plants

16. County Land Use District:
Resource Conservation

17. Reclamation will consist of sloping excavated cuts and benches as necessary to meet the designed 0.55h:1V overall slope and to round the rims of the final benches. Each bench will be sloped inward toward the vertical wall to capture any precipitation or runoff. The individual benches will be approximately 45 feet vertical and 25 feet wide unless required to be flatter in specific areas, as determined by geological mapping during ongoing quarry operations. Some of the upper slopes that may be visible from Lucerne Valley or areas of the SBNF will be sculptured (roughened) to reduce straight lines and visual impacts. In addition, at approximately every 500 feet, a ramp will be constructed to connect the benches to allow for wildlife movement within the reclaimed quarry. (See Reclamation Plan for details)

18. Revegetation will consist of salvaging of available surface material with native seeds for revegetation; placement of salvaged material on the benches augmented with additional growth media and mulch in "islands;" seeding with native perennial species per the approved Reclamation Plan, and planting plants grown in a nursery and/or salvaged from new mining areas. (See Reclamation Plan for details).

Seed Mix for Initial Seeding

Common Name	Latin Name	Lb./acre
Desert needlegrass	Stipa speciosa	10
Indian ricegrass	Oryzopsis hymenoides	10
Parish's needlegrass	Stipa coronate var. depauperata – var not known	10
Bigberry manzanita	Arctostaphylos glauca	2
Great basin sagebrush	Artemisia tridentat	5
Cupleaf ceanothus	Cea noth us greggii	2
Curl-leaf mountain mahogany	Cercocarpus ledifolius	10
Common rabbitbrush	Chrysothamnus nauseosus	5
Green ephedra	Ephedra viridis	5
California fremontia	Tremontadendron californicum	5
California buckwheat	Eriogonum fasciculatum var. polifolium	5
Totals		**69**

Sources: Aspen Environmental and S & S Seeds, November 2010

LILBURN CORPORATION
1905 Business Center Drive, San Bernardino, CA 92408
909.890.1818 Fax 909.890.1820

No.	Date	By	Revision Description
5			
4			
3	03/30	MD	Updates
2			
1			

Scale: 1 inch = 200 feet
Topography:
Digital Mapping Services Assoc.
08/19/08

SECTION CALLOUT — Section Letter / Sheet Number Where Section is Drawn

DETAIL CALLOUT — Detail Number / Sheet Number Where Detail is Drawn

LEGEND

- Jurisdictional Delineation Non-Cerpa/RWQCB&/CDFG Jurisdiction
- Claim Boundary
- Limits of Quarry Disturbance
- Interior Quarry Haul Road
- Mining Claim
- Geologic Drill Hole

3' — Width of Jurisdiction in Feet

Cushenbury Mine
2004-MM-01
CA Mine ID#91-36-0024

SOUTH QUARRY RECLAMATION PLAN

Mitsubishi Cement Corporation

County of San Bernardino California

GOLDER ASSOCIATES INC.

Ryan Hillman, P.E.
Senior Project Engineer

REGISTERED PROFESSIONAL ENGINEER — RYAN HILLMAN — No. C71988 — CIVIL — STATE OF CALIFORNIA

2-5-2013

Golder appreciates the opportunity assist Mitsubishi Cement Corporation on this important project. If you have any questions, please contact any of the undersigned.

Sincerely,

GOLDER ASSOCIATES INC.

Ryan Hillman, P.E.
Senior Project Engineer — C71988 — Exp. 2-5-13 — CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

Donald Lowry, P.G., C.E.G.
Senior Project Geologist — No. 2284 — Exp. 6-30-13 — GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

Kuenhui Lee, Ph.D., P.E., G.E.
Principal

Ivan Hull, Ph.D., P.G., C.E.G.
Principal — REGISTERED GEOLOGIST — No. 4 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

Scale: 1"=200'
Date: 8/2011
DGN: MIT- Mine Pit May 2010 4pn (T.A.S.)

Sheet 3 of 4

EXHIBIT J

Email from City of Hesperia

From:	Chris Borchert
To:	Planning Commission Comments
Subject:	Mitsubishi Cement Corp AP20100104
Date:	Wednesday, May 13, 2020 9:46:01 AM

The City of Hesperia supports the Mitsubishi Cement Corporations request to expand their mining operations. Mitsubishi has been assisting Victor Valley communities in many different ways for many years.

We support whichever alternative Mitsubishi prefers, however, Alternative 2 seems ridiculous to require long distance trucking which impacts air quality for an 80 year period, in order to save 20 acres.

Thank you,
Chris Borchert
Principal Planner