
APPENDIX K

Scenery Report

Scenery Report

Mitsubishi Cement Corporation South Quarry



San Bernardino National Forest

Prepared by:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408

Edited by:

Anita Bueno
Landscape Architect
Recreation Solutions Enterprise Team
US Forest Service

September 2014

TABLE OF CONTENTS

	PAGE
1.0 INTRODUCTION	1
1.1 Background.....	5
1.2 Project Need.....	5
2.0 DESCRIPTION OF ALTERNATIVES	6
2.1 Alternative 1 – South Quarry Development (Proposed Action).....	6
2.2 Alternative 2 – Partial Implementation.....	10
2.3 Alternative 3 – No Action/No Project	12
3.0 SCENERY DESIGN FEATURES	12
4.0 PROJECT LEVEL SCENERY INVENTORY	13
4.1 Landscape Character and Sense of Place.....	14
4.2 Public’s Visual Expectations	17
4.3 Scenic Attractiveness.....	17
4.4 Visibility	19
4.5 Viewsheds and Key Viewpoints	20
4.6 Scenic Classes.....	22
4.7 Existing Scenic Integrity.....	22
4.8 Visual Absorption Capacity.....	22
4.9 Issues Addressed.....	24
5.0 MANAGEMENT DIRECTION	24
5.1 San Bernardino National Forest Land Management Plan.....	25
5.2 Landscape Character Goals.....	25
5.3 Scenic Integrity Objectives	25
6.0 EFFECT ANALYSIS	27
6.1 Effects on Scenic Resources	27
6.2 Alternative 1 – South Quarry Development (Proposed Action).....	29
6.3 Alternative 2 – Partial Implementation.....	49
6.4 Alternative 3 – No Action/No Project	52
6.5 Summary of Conclusions.....	54
7.0 REFERENCES	57

TABLE OF CONTENTS

	PAGE
APPENDICES	
Appendix A: Viewpoint Inventory and Analysis Summary	
Appendix B: Methodology	
Appendix C: Monitoring	

LIST OF FIGURES

Figure 1 Regional Location	2
Figure 2 Project Vicinity.....	3
Figure 3 Alternative 1 - Existing and Planned Operations (Aerial).....	4
Figure 4 Alternative 2 – Partial Implementation	11
Figure 5 Desert Rim Place within the SBNF and the Proposed Project	15
Figure 6 Potential Viewshed of Proposed Action within SBNF Lands.....	18
Figure 7 Viewpoint Locations	21
Figure 8 Existing Scenic Classes	23
Figure 9 Scenic Integrity Objectives.....	26
Figure 10A Viewpoint 1	31
Figure 10B Viewpoint 1	32
Figure 10C Viewpoint 1.....	33
Figure 11A Viewpoint 2	35
Figure 11B Viewpoint 2.....	36
Figure 11C Viewpoint 2.....	37
Figure 12A Viewpoint 3	39
Figure 12B Viewpoint 3.....	40
Figure 12C Viewpoint 3.....	41
Figure 13 Viewpoint 4	43
Figure 14 Viewpoint 5	44
Figure 15 Viewpoint 6	46
Figure 16 Viewpoint 1 Alternative 3 – No Action	53

LIST OF TABLES

Table 1 Planned Quarry Phasing & Production for Alternative 1 – Proposed Action	7
Table 2 Planned Quarry Phasing & Production for Alternative 2 – Partial Implementation	12
Table 3 Key Viewpoint Locations	20
Table 4 Potential Change in Scenic Integrity Level from Direct Effects	28
Table 5 Existing and Foreseeable Actions and Effects on Cumulative Scenic Integrity.....	47

1.0 INTRODUCTION

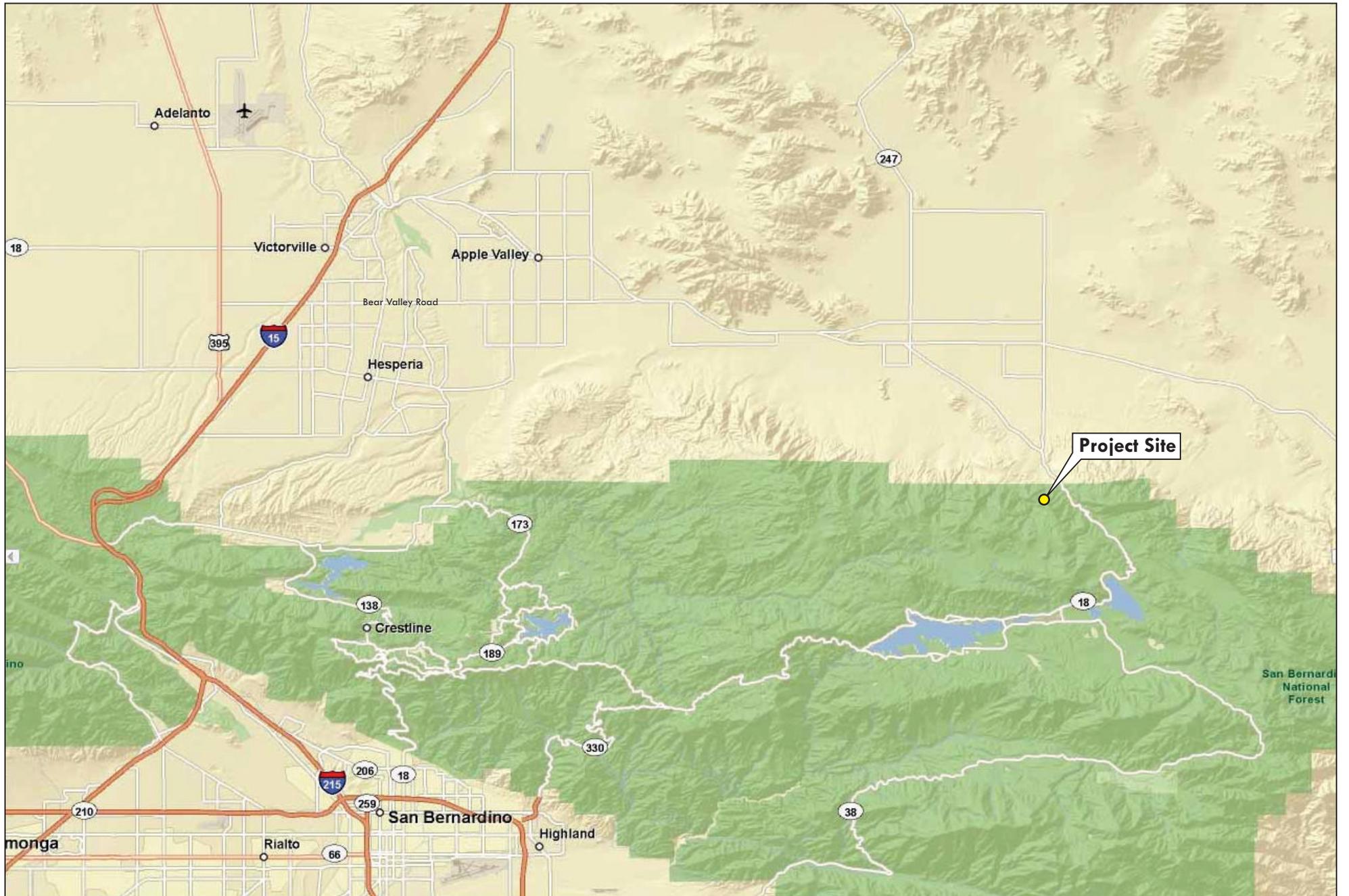
Mitsubishi Cement Corporation (MCC) is proposing to develop and reclaim a new high grade limestone quarry to the south of its existing East Pit and Cushenbury Cement Plant. The proposed quarry is designated as the South Quarry and is located approximately 6 miles south of the community of Lucerne Valley in San Bernardino County, California (see Figures 1 and 2). The South Quarry 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 acres. The South Quarry and the haul road would 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 (henceforth referred to as SBNF or Forest) with approximately 6.6 acres of the haul road located on MCC-owned land where it enters the existing East Pit (see Figure 3).

In the development of the SBNF Land Management Plan (LMP), scenery resources were inventoried on a forest-wide scale to determine the landscape's scenic attractiveness and the public's visual expectations. Based upon these inventories, Scenic Integrity Objectives (SIO) were established for the SBNF. The SIO establish the minimum acceptable thresholds for landscape disturbances in an otherwise natural-appearing forest landscape. The threshold of effects is exceeded when disturbances to the landscape character do not meet the visual intensity and dominance criteria of the refined SIO (see Section 4.1 – Landscape Character).

Impacts to scenic resources were identified as an issue for the Proposed Action both internally and through the public scoping process. Project-specific design features have been incorporated into the Plan of Operations, and are detailed below (see Section 3 - Scenery Design Features). This report discloses the existing conditions, desired conditions, and any direct, indirect, and cumulative environmental effects to scenery that would result from the Proposed Action and other project alternatives. It examines the extent to which the Proposed Action and project alternatives maintain the landscape free from visible disturbances that detract from the valued landscape character in response to the prescribed SIO, and the extent to which alternatives maintain the valued landscape character and its scenery attributes through time and ecological progression within the project area as viewed from Key Viewpoints.

Potential scenery impacts of open pit limestone mining include the construction of haul roads and benches. Both may cause straight lines in the landscape that give the hillside an unnatural appearance. The disturbances may be further exacerbated by the exposure of light-colored, calcium-carbonate soils that contrast sharply against darker vegetation and undisturbed soils.

Due to the Proposed Action's extended timeframe of 120 years, the temporal scope of this evaluation is 0-20 years for short term effects and 20+ years for long term effects. The geographic scope of this analysis is the boundary of the Desert Rim Place to correspond with the LMP's valued landscape character description. Scenery Management System protocols and well as field analysis, site photos, Forest GIS data, and simulations using Google Earth and Adobe Photoshop were used in this analysis.

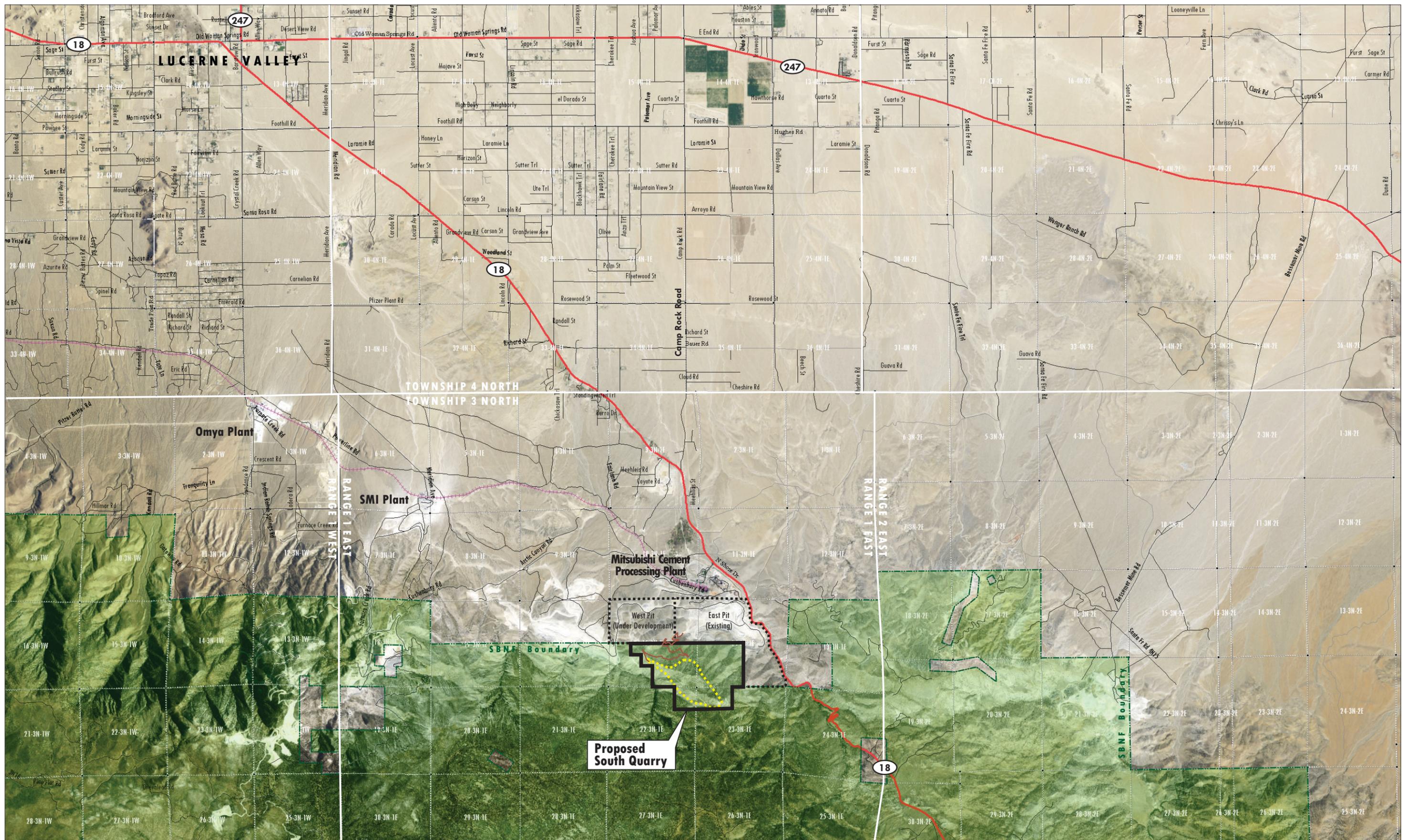


REGIONAL LOCATION

Mitsubishi Cement Corporation - South Quarry Scenic Report
 County of San Bernardino, California

FIGURE 1



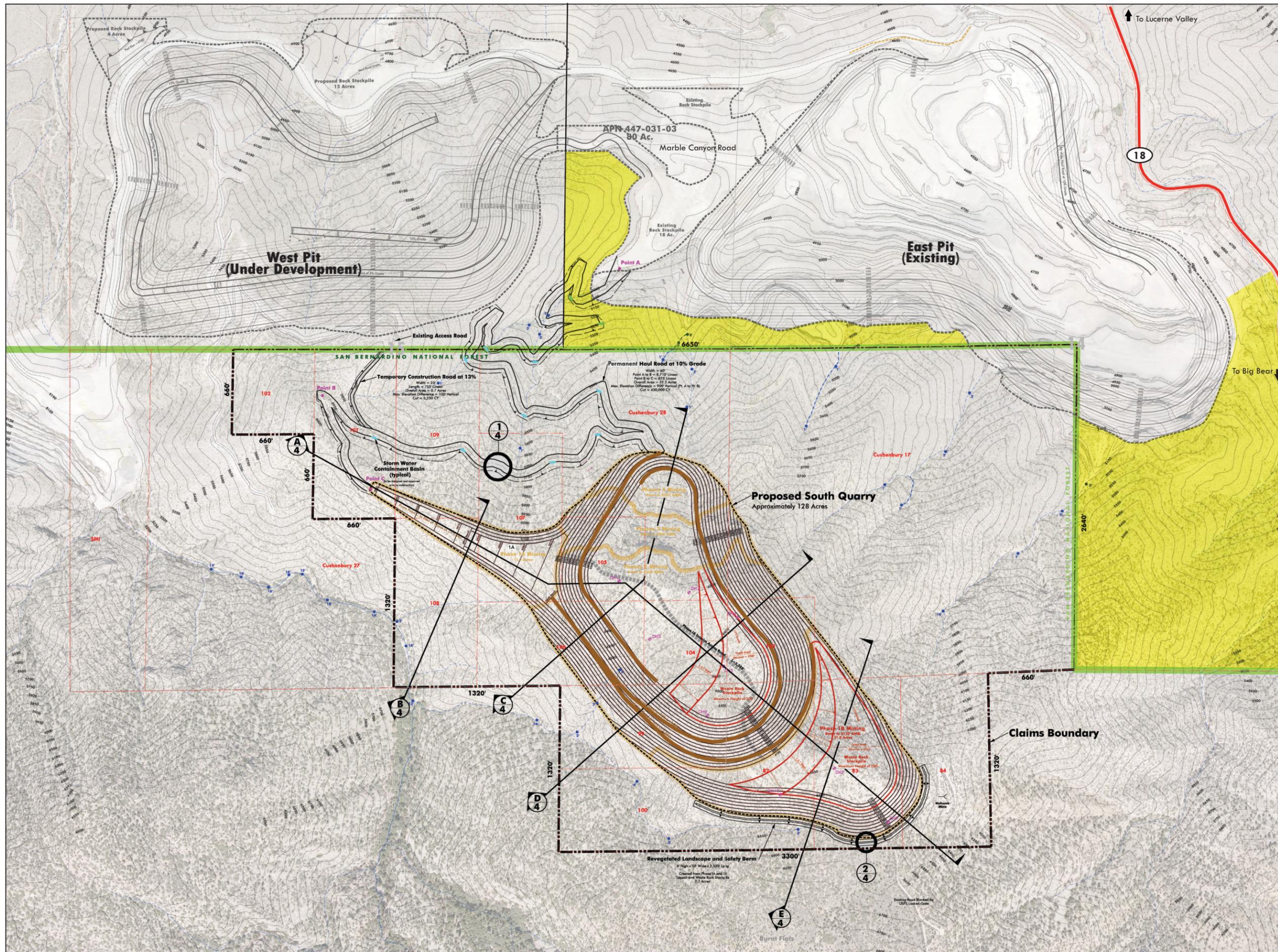


LILBURN CORPORATION

PROJECT VICINITY

Mitsubishi Cement Corporation - South Quarry Scenic Report
County of San Bernardino, California

FIGURE 2



- LEGEND**
- Proposed South Quarry Claims Boundary
 - Proposed South Quarry Limits of Disturbance
 - East Pit Conservation Areas
 - Existing Permitted Limits of Disturbance
 - U.S.F.S Boundary
 - Claim Boundary



**ALTERNATIVE 1
EXISTING and
PLANNED OPERATIONS**

Mitsubishi Cement Corporation
South Quarry Scenic Report
County of San Bernardino, California

FIGURE 3

1.1 BACKGROUND

The South Quarry is within portions of Sections 14, 15, 22, and 23 Township 3 North, Range 1 East, San Bernardino Baseline and Meridian (SBBM). The Cushenbury Cement Plant and related quarries are accessed directly from State Route 18 (SR 18) south of Lucerne Valley. The South Quarry site and the immediately surrounding land uses consist of public lands administered by the SBNF. MCC currently operates two quarries on private land just north of the proposed South Quarry, the existing East Pit on 214 acres, and the West Pit on 191 acres, approved by the County in 2004 and currently under development.

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 requirements.

1.2 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 157 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 would 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 West Pit. Based on drilling conducted during the winter of 2009 and 2010, the proposed South Quarry site would be able to meet most of this goal with its estimated proven and inferred reserves of over 156 million tons of high to medium grade limestone rock. This higher grade limestone would 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 Cushenbury Cement Plant.

Under regulations of the U.S. Department of Agriculture, MCC must conduct mining operations in accordance with the regulations at 36 Code of Federal Regulations (CFR) 228 Subpart A under a plan of operations approved by the Forest Service. The Forest Service must decide whether to approve the Plan of Operations as submitted by MCC or to require changes or additions that are necessary to meet the requirements of the regulations for environmental protection. These include, to the extent practicable, harmonizing operations with scenic values through such measures as the design and location of operating facilities, including roads and other means of access, vegetative screening of operations, and construction of structures and improvements which blend with the landscape character.

2.0 DESCRIPTION OF ALTERNATIVES

2.1 ALTERNATIVE 1- SOUTH QUARRY DEVELOPMENT (PROPOSED ACTION)

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 (MT) of mostly high to medium grade limestone. The South Quarry would be mined at an average production rate of 1.3 million tons per year (MTPY) of ore for up to 120 years. At this time, MCC is requesting a 120-year operations plan (through the year 2131) excavating approximately 156 MT of ore. The overall limestone production of 2.6 MTPY and 300,000 tons of waste rock at the mining complex would not change from the approved production.

The South Quarry 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. Elevations at the South Quarry site currently range from 5,555 to 6,675 feet amsl. The South Quarry would 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 (refer to Figure 3).

It is estimated that there would be approximately 150,000 tons per year of waste rock (excavated rock not suitable for the manufacture of cement) or a total of approximately 18 million tons over the life of the project. Annual waste rock production would vary based on the location of the excavations and the quality of the rock. The waste rock would be deposited within the quarry itself to fill or reduce slopes in Phases 1A, 1B, 2, and 3 (see Quarry Phasing below) and would not create any waste rock stockpiles outside the quarry. This would keep the impacted areas limited to the footprint of the quarry and haul road, and eliminate the potential scenery, stability, and erosion impacts of typical waste rock stockpiles.

Limestone ore excavated at the 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, the 1.8-mile long haul road would be constructed. The planned haul road would 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 southeast corner of the existing East Pit (refer to Figure 3). The road's surface width would be 50 to 60 feet with a grade not to exceed 10%. The road would be designed primarily as cut (not fill) so as to limit the scenery impacts associated with unvegetated fills as seen along other haul roads in the area. The estimated disturbance area of the proposed haul road is 22.2 acres of which approximately 6.6 acres is on MCC fee land and 15.6 acres on SBNF land.

Specific reclamation activities would 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 would be implemented followed by revegetation monitoring until revegetation goals are achieved.

QUARRY PHASING

The excavation plan for the South Quarry is divided into four phases based on operational, engineering, and environmental concerns. Table 1 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 would 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 of San Bernardino would be updated in the annual monitoring report on the status of operational phases.

Table 1
Planned Quarry Phasing and Production
Alternative 1 (Proposed Action) – South Quarry Development

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: ¹Area has been rounded to the nearest whole acre. Totals may be slightly different due to rounding.

²Millions of tons rounded to the nearest tenth.

³Waste rock estimated at 0.15 million tons per year or approximately 10 percent, which would vary depending on area being excavated.

⁴Years of operation based on average ore production of 1.3 million tons per year.

⁵Phases 3 and 4 areas are generally deeper excavations within the previously disturbed Phase 2 area, except for the north slope area.

⁶Phases 1A, 1B and 2 are distinct separate areas with varied excavation depths.

The following is a summary of the planned mining operations by phase:

Phase 1A

Phase 1A would be initiated after construction of the haul road and compliance with pre-construction conditions. Approximately 500,000 tons of waste rock or less would be produced which would be used for the southern berm and stored in stockpiles within the Phase 1B quarry area. Based on the bore hole data, minimal waste rock is expected in this area. Off-road haul trucks would 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. This phase is essentially an extension of the haul road of which approximately 1,600 feet would be excavated up to 300 feet deep into the quarry area as the quarry is excavated. The phase and extended haul road were designed in this way in order to help screen views of this area from Lucerne Valley by

depressing this portion of the haul road below the remaining cut on its north facing slope and reducing the road's grade as it is extended across the quarry.

Phase 1B

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. Leave a higher slope along the northeast side of the quarry to reduce open views of the quarry (as compared to daylighting or opening 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 other phases. The development of internal waste rock stockpiles would reduce the area of disturbance outside the quarry rim, eliminate potential scenery impacts of the waste rock piles, and reduce the lower internal slopes in Phase 1B to 1.5H:1V to aid in revegetation.

Phase 1B would excavate the southeast 31 acres of the quarry. Mining would create a horseshoe-shaped quarry that would 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 would be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Phase 1B would have a life of approximately 22 years. Mining and the transport of ore to the primary crusher would be the same as described for Phase 1A. Waste rock would be used for the southern berm and stored in permanent stockpiles in this phase.

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 would tie into steeper slopes on the east and the southwest to restrict access. The berm would be composed of waste rock and salvaged soil approximately 6 feet in height with 2H:1V slopes and would cover approximately 2.7 acres with the adjacent set back and access road. The berm would include placement of a mixture of large rocks to discourage riding over it, warning signs, and revegetation with native species.

Phase 2

Phase 2 would excavate the central 65 acres of the quarry. Mining during this phase would essentially level the quarry and create an oval shaped quarry. The quarry depth would extend from Phase 1B with an average base elevation of 6,220 feet amsl. Slopes would be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Phase 2 would have a life of approximately 14.5 years, for a cumulative total of 40 years from commencement of mining.

Phase 3

Phase 3 was designed to maximize the recovery of the limestone resource with depth while staying within the planned 128-acre perimeter and while leaving the outside slope on the northeast side of the quarry to screen views of the quarry for as long as possible (as compared to daylighting the cut into the downslope).

Phase 3 would be a 40-year excavation phase on approximately 12 additional acres within the central part of the quarry mostly within the footprint of Phase 2. Mining would 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. Slopes would be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Mining and the transport of ore to the primary crusher would be the same as described above. Approximately 6 MT of waste rock would be produced in Phase 3 which would be stored in the permanent stockpiles from Phase 1B.

Phase 4

Phase 4 would be the final excavation phase on approximately 8 additional acres generally within the central part of the proposed South Quarry configuration for the 120-year lifespan. Mining would excavate to a 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. Slopes would be constructed at a 0.55H:1V with 45-foot vertical cuts and 25-foot horizontal benches in the hard rock formations. Mining and the transport of ore to the primary crusher would be the same as described above. Approximately 6 MT of waste rock would be produced in Phase 4 which would be stored in the permanent stockpiles on the southeast side of Phase 4.

Reclamation Plan

The Reclamation Plan discussed in detail in Section 2 of the 'South Quarry Plan of Operations and Reclamation Plan' 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 would minimize impacts to the surrounding environment. The objectives of this Reclamation Plan are to:

- Eliminate or reduce environmental impacts from mining operations including control of erosion, water runoff, and landslides;
- Reclaim in a usable condition for post-mining end uses which would include open space/habitat;
- Reshape mining features and revegetate disturbed areas to minimize biological, hydrological and scenery impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

The permanent perimeter quarry slopes would 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 would consist of sloping excavated cuts and benches as necessary to meet the designed 0.55H:1V overall slope. Each bench would be sloped inward toward the vertical wall to capture any precipitation or runoff. The individual benches would 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 would be located.

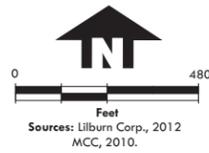
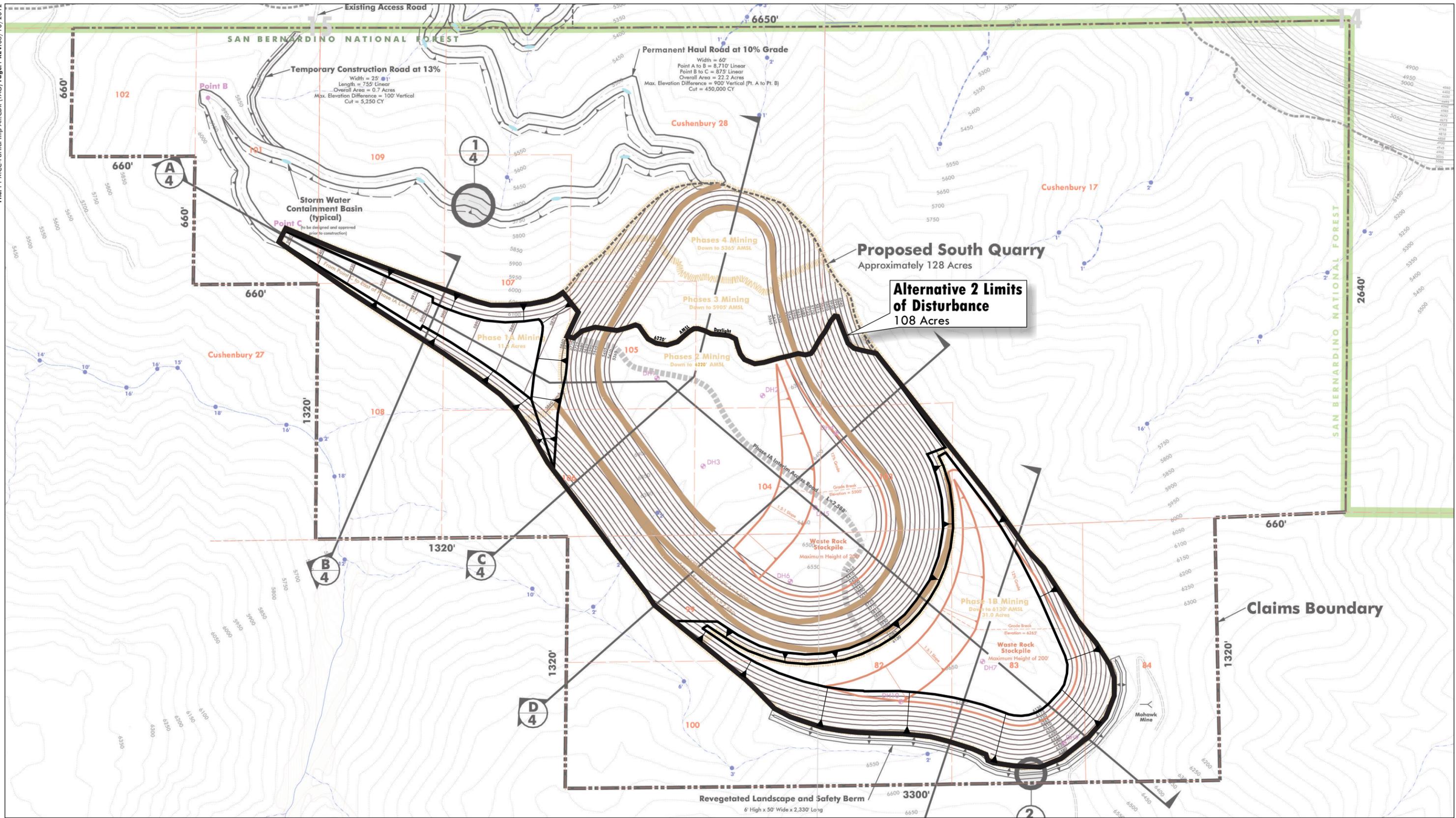
The top four benches on the south and southeast side of the quarry from the rim to approximately 180 feet in height could be visible from Lucerne Valley. These benches would be sculpted (roughened) and the benches rounded to reduce the scenery impacts caused by the straight lines. In addition, at approximately 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-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. 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.

2.2 ALTERNATIVE 2 – PARTIAL IMPLEMENTATION

Alternative 2, Partial Implementation, was developed in response to public comments requesting an alternative with a shorter duration and/or smaller footprint. Alternative 2 would only implement Phases 1A, 1B, and 2 (see Figure 4) fig no. in EIS file 2.3-10. The sequence of mining in these phases would be the same as described in Alternative 1 – Proposed Action. Haul road construction and use would also be the same as Alternative 1. Mining of the north slope, which is proposed in Phases 3 and 4 of the Proposed Action, would not occur; therefore, the footprint of the quarry would be approximately 20 acres smaller. With this alternative, the final quarry would not be as deep as under the Proposed Action. Mining in the quarry would last 40 years rather than 120 years. As a result, reclamation and revegetation at the South Quarry site would be initiated nearly 80 years sooner, and localized impacts related to mining, such as fugitive dust and noise, would also end earlier under this alternative. However, a higher-grade limestone would still be required for blending at the existing Cushenbury cement plant. With this alternative, the higher grade limestone would be obtained from elsewhere in the region and trucked to the cement plant after Phase 2 is completed, from approximately year 40 through year 120.

The excavation plan for Alternative 2 would be the same as described in the first two phases of the Proposed Action. Excavation along the north slope, which would be part of Phases 3 and 4 of the Proposed Action, would not occur with this alternative. Table 2 summarizes relevant data by mining phase.



LEGEND

- Proj Site Boundary
- Limits of Quarry Disturbance
- Phase Boundary
- Interior Quarry Haul Road
- Mining Claim
- Geologic Drill Hole
- Jurisdictional Delineation Non-Corps/RWCQB/CDFG Jurisdiction
- Width of Jurisdiction in Feet

SECTION CALLOUT

Section Letter Located on Sheet

DETAIL CALLOUT

Detail Number Located on Sheet

ALTERNATIVE 2 - PARTIAL IMPLEMENTATION

Mitsubishi Cement Corporation - South Quarry Scenic Report
County of San Bernardino, California

**Table 2
Planned Quarry Phasing and Production for
Alternative 2 – Partial Implementation**

Phase	Area¹ (acres)	Cumulative Area¹ (acres)	Material Excavated (millions of tons)^{2,3,4}	Ore Reserves (millions of tons)³	Waste Rock (millions of tons)^{2,3}	Max. Depth (feet amsl)	Years of Operation⁴
1A	11	11	5.1	4.5	0.5	5,860 ⁵	3.5
1B	32	43	32.1	28.8	3.2	6,130 ⁵	22.0
2	65	108	21.0	18.8	2.2	6,220 ⁵	14.5
Total	108	108	58.2	52.1	5.9	5,860	40

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%, which would vary depending on area being excavated.

4 Years of operation based on average production of 1.3 million tons per year.

5 Phases 1A, 1B, and 2 are distinct, separate areas with varied excavation depths.

2.3 ALTERNATIVE 3 – NO ACTION/NO PROJECT

NEPA requires consideration of a No Action Alternative. CEQA also requires that the No Project Alternative be analyzed. With the No Action/No Project Alternative, MCC would not develop the limestone deposit in the South Quarry under the current Plan of Operations. The existing Cushenbury Cement Plant would continue to operate for the length of the East and West Pit's current estimated life of 120 years. Higher-grade limestone for blending would be trucked to the plant from elsewhere in the region.

3.0 SCENERY DESIGN FEATURES

Following is a list of project-specific design features that have been included into Alternative 1 - Proposed Action and Alternative 2 – Partial Implementation. These features are designed to minimize possible adverse impacts to scenery and other resources. Each design feature would be incorporated in Alternatives 1 and 2 other than the No Action/ No Project Alternative except where noted.

- Design haul road primarily as cut, with minimal fill slopes to reduce the contrast of the lighter-colored fill on the natural slopes and boulder roll-down;
- Utilize approved color-staining product to darken the access road cuts and visible southern quarry slopes where shown to be successful;
- Design adequate erosion control features along the haul road to limit erosion downslope;
- Construct haul road in Phase 1A to be below the north facing slope to block road views;
- Paint any onsite structures a color with low contrast and reflectivity;
- Construct a landscaped berm along the south rim;
- Design footprint of quarry to avoid any streams and riparian habitat;

- Limit surface disturbances to areas identified in the Reclamation Plan. Disturbances outside these areas shall be prohibited;
- Design quarry to limit any views of quarry site from surrounding locations;
- Cut or roughen upper slopes that could be visible from Lucerne Valley as benches are completed to reduce scenery impacts from unnatural-appearing straight lines;
- Design quarry to limit views of the lower half of quarry from Lucerne Valley by not removing north slope through approximately year 80, allowing decades of reclamation and revegetation (including tree growth) to occur to reduce scenery impacts (Alternative 1);
- Leave in-place a 20- to 25-foot high natural perimeter berm (half a vertical bench height) on the outside ridge of each excavated bench until the interior area of the next lower excavation level is completed to limit view of active mining and equipment from areas within Lucerne Valley.
- Deposit waste rock into waste rock stockpiles within the quarry footprint to reduce the area of disturbance and scenery impact outside the quarry rim and to reduce internal slopes to aid in revegetation;
- Implement reclamation and revegetation per approved Reclamation Plan on completed benches concurrent with mining;
- Implement MDAQMD dust controls to reduce visible dust plumes; and
- Mitigate the project's impacts to carbonate plant species by providing permanent conservation of lands supporting these plant species consistent with the CHMS.

A Forest Service staff member trained in scenic resource management shall review the project design features listed above with the project operator before and during implementation of measures, and shall monitor reclamation and revegetation on completed benches and other disturbed areas, and its effect on scenery as included in a Project Monitoring Form in Appendix C.

4.0 PROJECT LEVEL SCENERY INVENTORY

This report applies the latest “best science” in National Forest conservation to achieve the direction of the San Bernardino LMP. Due to the extended timeframe of the proposed action and the alternatives brought forward for analysis, the temporal scope of this evaluation is 0-20 years for short term effects and 20+ years for long term effects. Information used in this analysis includes:

- Field reconnaissance observed in June/July, 2010 and January, 2011
- San Bernardino National Forest's GIS database
- Visual simulations using site photos, Google Earth and Adobe Photoshop
- Scenery Management System protocols, described in detail below

This Scenery Report inventories and analyzes scenery as a manageable resource using the United States Forest Service Scenery Management System. The Scenery Management System (SMS), developed in 1996, presents a systematic approach for determining the relative value and importance of scenery to assist in the establishment of overall resource goals and objectives, monitor the scenic resource, and ensure high-quality scenery for future generations. The SMS process is documented in Agricultural Handbook 701- Landscape Aesthetics, by the United States Department of Agriculture and is described in Appendix B at the end of this document.

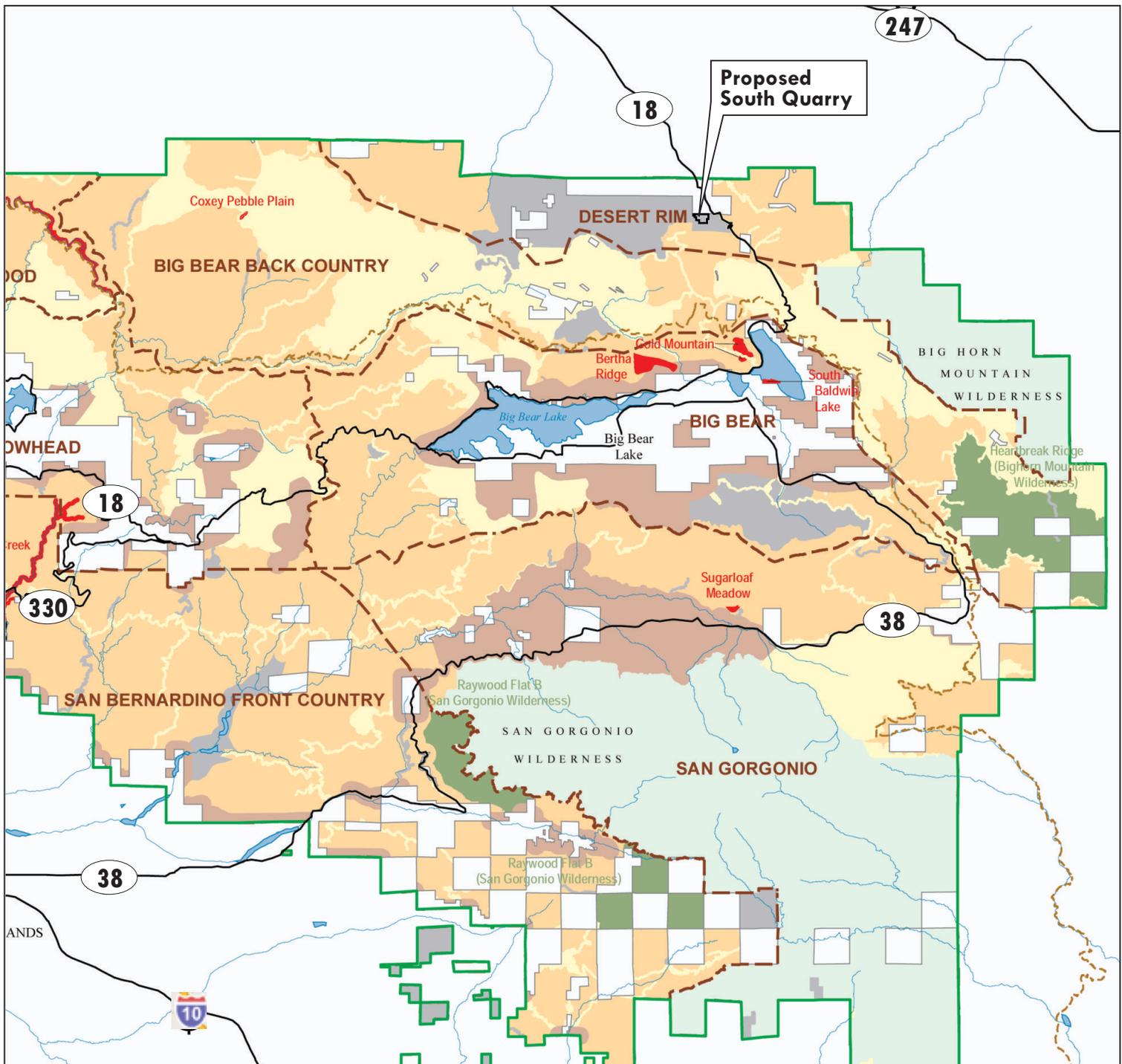
The forest-wide scenery inventory included in the LMP was developed as a coarse-scale overview, with the understanding that it would be refined and expanded via project-level scenery analysis. Through work on the project-scale, sufficient detail is added to the scenery inventory to provide the level of information necessary to achieve stewardship excellence through the project's development and implementation.

4.1 LANDSCAPE CHARACTER AND SENSE OF PLACE

Landscape character refers to the overall visual and cultural impression of the landscape's attributes. It is the physical appearance, and the cultural context, of a landscape which gives it a unique identity and 'sense of place.' The landscape character is derived from the naturally established landscape, and includes the entire scene being viewed in the landscape setting. The landscape character includes the *Scenic Character Description* and its *Ecosystem Context*, both of which are taken from site observation and from the LMP, Part 2: San Bernardino National Forest Strategy, 2005 (pages 62 - 64). The SBNF has been divided into a series of geographical units called "Places." Each Place has its own landscape character. The South Quarry site is located within the Forest's *Desert Rim Place* (see Figure 5).

Scenic Character Description

The Scenic Character Description identifies the "ideal" or optimal set of valued scenery attributes by describing the landscape's inherent positive scenic identity or physical appearance. 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 links up with the Mojave Desert. Desert Rim Place is a convergence of a high desert landscape with extensive historic, as well as active, industrial mining activity. The mountains are a dominant landscape feature, forming a dramatic backdrop along the southern boundary of the community of Lucerne Valley. Valued scenic attributes include the striking elevation drop from rugged ridgelines to the developed community along the valley floor. Slopes are steep, with shaded canyons and forested ridges of Jeffrey pine, white fir and incense cedar. As the landscape drops in elevation northward, toward the desert, vegetation cover changes to pinyon-juniper woodlands and intermix with Joshua tree woodlands and desert scrub. Although the landscape is arid, it contains many intermittent streams and important spring locations.



Legend

- | | | | |
|-----------------------------|---------------------------------------|----------|--------------|
| National Forest Boundary | Pacific Crest Trail | Highways | CAJON Places |
| Land Ownership | | | |
| Adjacent Forest Land | | | |
| Non-Forest System Land | | | |
| Land-Use Zones | | | |
| Back Country | Existing Wilderness | | |
| Back Country, Non-Motorized | Recommended Wilderness | | |
| Critical Biological | Back Country Motorized Use Restricted | | |
| Developed Area Interface | | | |



Source: USDA, Forest Service, Pacific Southwest Region 09/2005.

DESERT RIM PLACE within the SAN BERNARDINO NATIONAL FOREST and the PROPOSED PROJECT

Mitsubishi Cement Corporation - South Quarry Scenic Report
County of San Bernardino, California

Ecosystem Context

The Ecosystem Context provides a summary of the ecological condition of the valued scenic character's attributes and stressors. Additionally, it describes constituent information about the valued scenery attributes, including preferences and thresholds regarding their management, sustainability and scenic integrity and describes important information about other aesthetic values or recreational, spiritual, social, economic, or community values and attachments.

Vegetation patterns in the Desert Rim Place are generally more dense in canyons and seeps, and more sparse and scrubby toward the ridgeline and on calcium carbonate soils, such as within the project area. The naturally-occurring calcium carbonate soils found in the area are a very bright white color that contrasts strongly with the darker vegetation. The carbonate deposits provide valuable habitat supporting four species of threatened and endangered plants endemic to this area. In 2003, a collaborate effort led to the development of the Carbonate Habitat Management Strategy (CHMS), a large area of critical habitat designated for the recovery of carbonate endemic plants. The strategy is designed to provide long-term protection for the carbonate endemic plants and also provide for continued mining.

The Desert Rim Place has a history of mining. In the 1800s, small amounts of gold, silver, and lead were extracted here. Today, the majority of land is valued for the presence of large quantities of high quality, limestone mineral deposits used in the production of pharmaceuticals and cement. The majority of the land is under mining claim for limestone and metals. Three large-scale industrial limestone mines are present (including the MCC Cushenbury Plant), annually producing about three million tons of cement-grade limestone and 1.5 million tons of high-brightness limestone.

A portion of the Bighorn Mountain Wilderness, managed jointly by the Forest Service and the Bureau of Land Management (BLM) is located in the southeast area of the Desert Rim Place. The Bighorn Mountain Wilderness includes the Rattlesnake Grazing Allotment, consisting of 1,386 acres on National Forest System land. The eastern portion of the Desert Rim Place is managed as Wild Burro Territory. Also located in this Place are portions of the North Baldwin Lake and Holcomb Valley Special Interest Area, established for its unique botanical, zoological, and historical features, and the Arrastre Creek Special Interest Area established for its botanical and zoological features. The Desert Rim Place is home to the southwestern willow flycatcher, the desert tortoise, the California spotted owl, and the Cushenbury herd of Nelson's bighorn sheep.

Ninety miles of road provide utility and transportation access throughout the Desert Rim Place, with SR 18 as the main thoroughfare between the mountains and the desert community of Lucerne Valley. Most of the private parcels within the area are utilized for limestone mining operations; no residential uses exist.

Scenery and recreation are closely linked resources. Recreation use is mentioned here as a reference to the landscape's non-scenery specific aesthetic attributes, including cultural and social attachments. Although no developed recreation sites are located within the Desert Rim Place, both primitive and semi-primitive types of recreation experiences can be found here. The Bighorn Mountain Wilderness offers primitive hiking, backpacking, horseback riding and

hunting opportunities. Other popular activities include driving for pleasure, wildlife viewing, and OHV use along designated routes. The project's potential effects to recreation are analyzed in a separate report.

Relative to the large scale of the mountain ridgeline, the project area comprises a small mass located east and south (upslope) of the other existing mining operations (refer to Figure 10A – Viewpoint 1). Distant views (middleground and background) of the mountain backdrop tend to soften landscape details due to the natural prevalence of atmospheric haze from dust and moisture. Scoping comments indicate a public concern for scenery, although the threshold for scenic quality is balanced with the cultural, historic, and economic values associated with limestone mining.

4.2 PUBLIC'S VISUAL EXPECTATIONS

Visual expectations directly influence the relative importance and sensitivity of what is seen and perceived in the landscape. The visual importance given to the landscape is influenced by multiple factors, including distance, duration, existing conditions, and the viewer's intention. The importance of the scenic resource is weighed against other land resources and activities using Scenic Classes described below.

The South Quarry site lies within the northern boundaries of the SBNF in the Desert Rim Place. The map in Figure 6 shows the potential viewshed of the Proposed Action from areas within the SBNF based on USGS topographic mapping. The proposed project area is located in a relatively remote location with a generally low level of public use. It would be visible from a few low volume roads and trails (travelways) but not visible from any use areas, including vista points, trailheads, or campgrounds (see Section 4.4 Visibility below). For viewers living and traveling throughout Lucerne Valley, the San Bernardino Mountains form a scenic backdrop to the developed industrial, residential and commercial areas in the valley. The South Quarry site would be visible from numerous locations outside SBNF lands in Lucerne Valley to the north and northwest.

4.3 SCENIC ATTRACTIVENESS

Scenic attractiveness measures the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, vegetation pattern, and cultural land use. People value all landscapes, but they regard those having attributes such as variety, vividness, mystery, intactness, coherence, harmony, uniqueness, pattern, and balance as having the greatest potential for scenic attractiveness. The landscape character description is used as the frame of reference for determining scenic attractiveness. A landscape's relative scenic attractiveness is classified according to class: Class A = distinctive; Class B = common or typical; and Class C = indistinctive. Class A (distinctive) landscapes have the most positive combinations of attributes.

The South Quarry project area, set within the northern ridges of the San Bernardino Mountains, has a limited diversity of features. The landscape is relatively unified in form, color and texture throughout the expanse of the ridgeline in that the landscape has similar vegetation patterns and topography. The topography, although dramatic, is tempered by the lack of naturalness and



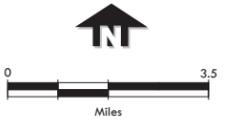
LEGEND

- Proposed South Quarry
- U.S.F.S Lands
- Photograph Viewpoint Locations

Potential Viewshed Analysis out to 25 Miles

- Lesser Potential
- Polygon is Bounded by a Black Line
- Greater Potential

Note: The View Shed Analysis data is comprised of **ONLY** USGS Digital Elevation Models. The data set did not account for trees, air turbidity, houses and other obstructions above ground elevation.



LILBURN
CORPORATION

POTENTIAL VIEWSHED of PROPOSED PROJECT within SBNF LANDS

Mitsubishi Cement Corporation
South Quarry Scenic Report
County of San Bernardino, California

FIGURE 6

intactness due in part to historic land use patterns (mining). This area has a scenic attractiveness of Class B and Class C.

4.4 VISIBILITY

Landscape visibility is determined using three elements: (1) travelways and use areas, (2) concern levels and (3) distance zones.

Travelways are linear concentrations of public-viewing, including roads and trails. Use areas are locations that receive concentrated public-viewing use. They include vista points, trailheads and other recreation sites. Most landscape viewing occurs from travelways and use areas.

Concern levels are a measure of the degree of public importance placed on landscapes as viewed from travelways and use areas. Concern level is a function of both the number of visitors as well as their intent. Three concern levels are used:

Level 1: (High) is the most important. Users have a high level of concern for scenery. It is associated with major highways, areas of concentration such as recreational facilities, special designations such as scenic byways or national recreation/historic trails and cultural sites.

Level 2: (Moderate) areas are of lesser importance such as state routes, county roads, secondary trails, scenic overlooks, summer home tracts etc.

Level 3: (Low) refers to low use areas and low volume roads, trails, waterways or recreation facilities.

Distance zones are measured from Key Viewpoints. As distance between the viewer and the landscape increases, the level of visible landscape detail decreases. Distance zones are divided into three general categories: Foreground (300 feet to ½ mile), Middleground (½ to 4 miles), and Background (4 miles to the horizon).

Visibility levels for the SBNF were established in the 2005 LMP scenery analysis process and verified by field observation in 2010. Travelways and use areas were identified within proximity of the project area, and their concern levels and distance zones documented. There are two travelways within the SBNF. Forest Road 3N02, south of the project area, is at a middleground distance and has a Concern level of 3 due to its low use. State Route 18, east of the project area, has a Concern level of 2 and is also at a middleground distance.

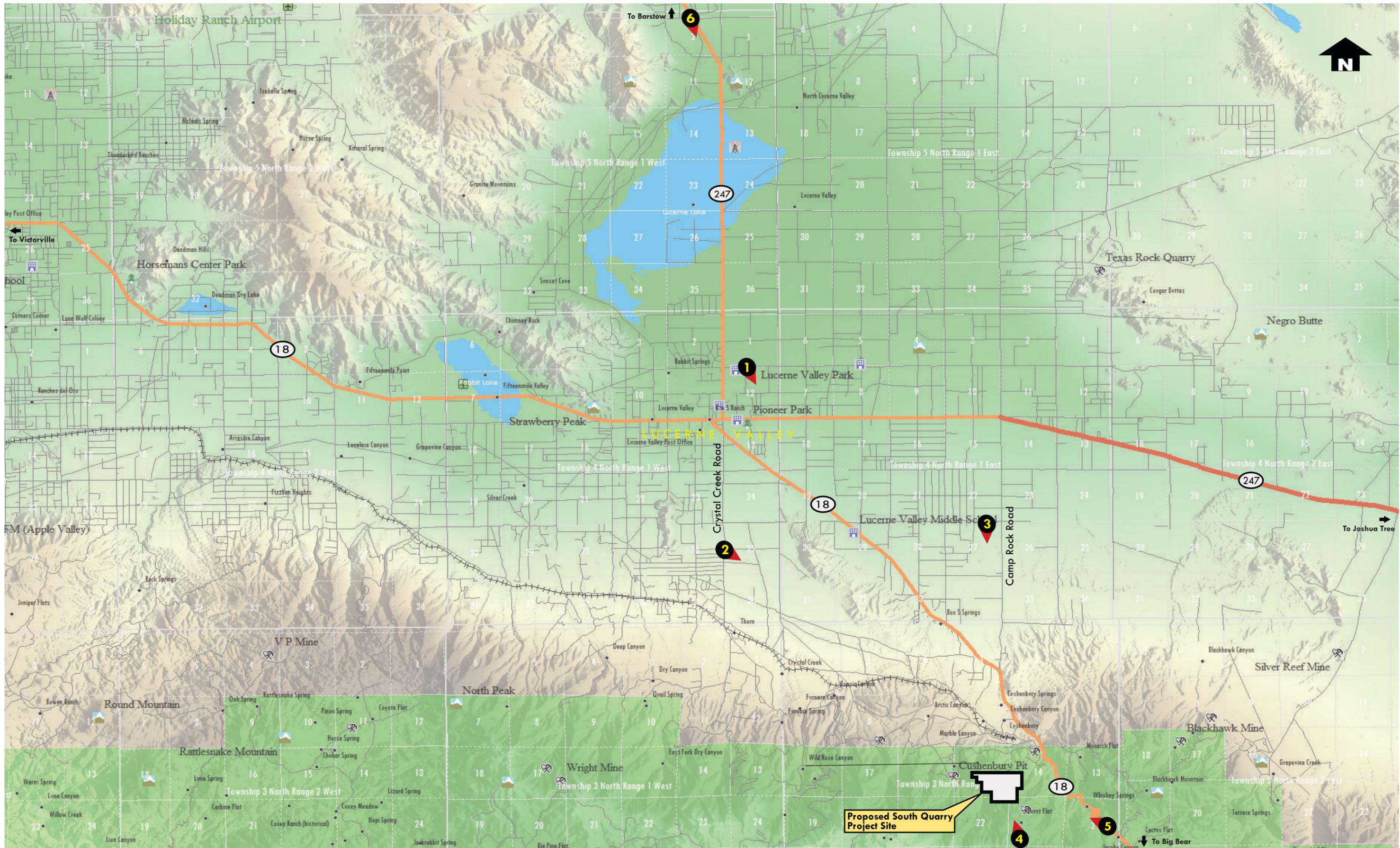
Views from the travelways and use areas (rural residential and commercial) within the Lucerne Valley to the north and west of the site are also Concern Level 2. Most of the travelways and commercial/ residential areas in Lucerne Valley are located at distances greater than 4 miles from the project area, at a background distance zone. Some rural residences are located closer to the mountains at a middleground distance zones (½ to 4 miles distance).

4.5 VIEWSHEDS AND KEY VIEWPOINTS

Viewsheds are visible portions of the landscape as seen from Key Viewpoints. Six Key Viewpoints were identified, documented and included as part of this inventory (see Figure 7 – Key Viewpoint Locations). These viewpoints were selected because they show representative views from the identified travelways and use areas within SBNF lands and from the Lucerne Valley. Each key viewpoint was evaluated based on levels of screening of the direct view of the project area. Views can be either screened, partially screened or open, depending on the location and type of vegetation, topography and/or development between the viewpoints and the project area. A screened viewshed would have all views of the project area blocked. Partial screening occurs where there are dispersed patterns of vegetation and/or development. Open viewshed conditions lack any screening between the viewpoint and the project area. Table 3 shows a summary of the six Key Viewpoints evaluated for potential scenic resource.

Table 3
Key Viewpoint Locations

Key Viewpoints	Travelways and Use Areas	Distance Zone	Visibility	Concern Levels
1	Lucerne Valley High School & rural residential - North of intersection of SR 18 and 247 on Rabbit Springs Rd.	Background (9 miles NE of site)	Open	2 Moderate
2	Crystal Creek Road – Secondary travel way & rural residential	Background (6 miles NE of site)	Open to partially screened	2 Moderate
3	Camp Rock Road Secondary travel way & rural residential	Middleground (4 miles N of site)	Open	2 Moderate
4	Forest Service Road (3N02) – Low use travel way & recreational	Middleground (1 mile S of site)	Open to fully screened with time	3 Low
5	SR 18 within SBNF Lands – Travel way & recreational	Middleground (1 mile SE of site)	Fully screened (Not Visible)	1 High
6	SR 247 - Travel way north side of Lucerne Valley	Background (14 miles NE of site)	Open to partially screened	2 Moderate



1 Viewpoint Simulation and Direction of View

VIEWPOINT LOCATIONS

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

FIGURE 7

4.6 SCENIC CLASSES

Scenic Classes are used to compare the value of scenery to the value of other resources. They are determined and mapped by combining the measure of scenic attractiveness with the distance zones and concern levels of landscape visibility. Scenic Classes 1 and 2 have high public value, Classes 3 through 5 have moderate value, and Classes 6 and 7 have low value. The project area has Scenic Class levels of 1 and 2 (see Figure 8 – Existing Scenic Classes).

4.7 EXISTING SCENIC INTEGRITY

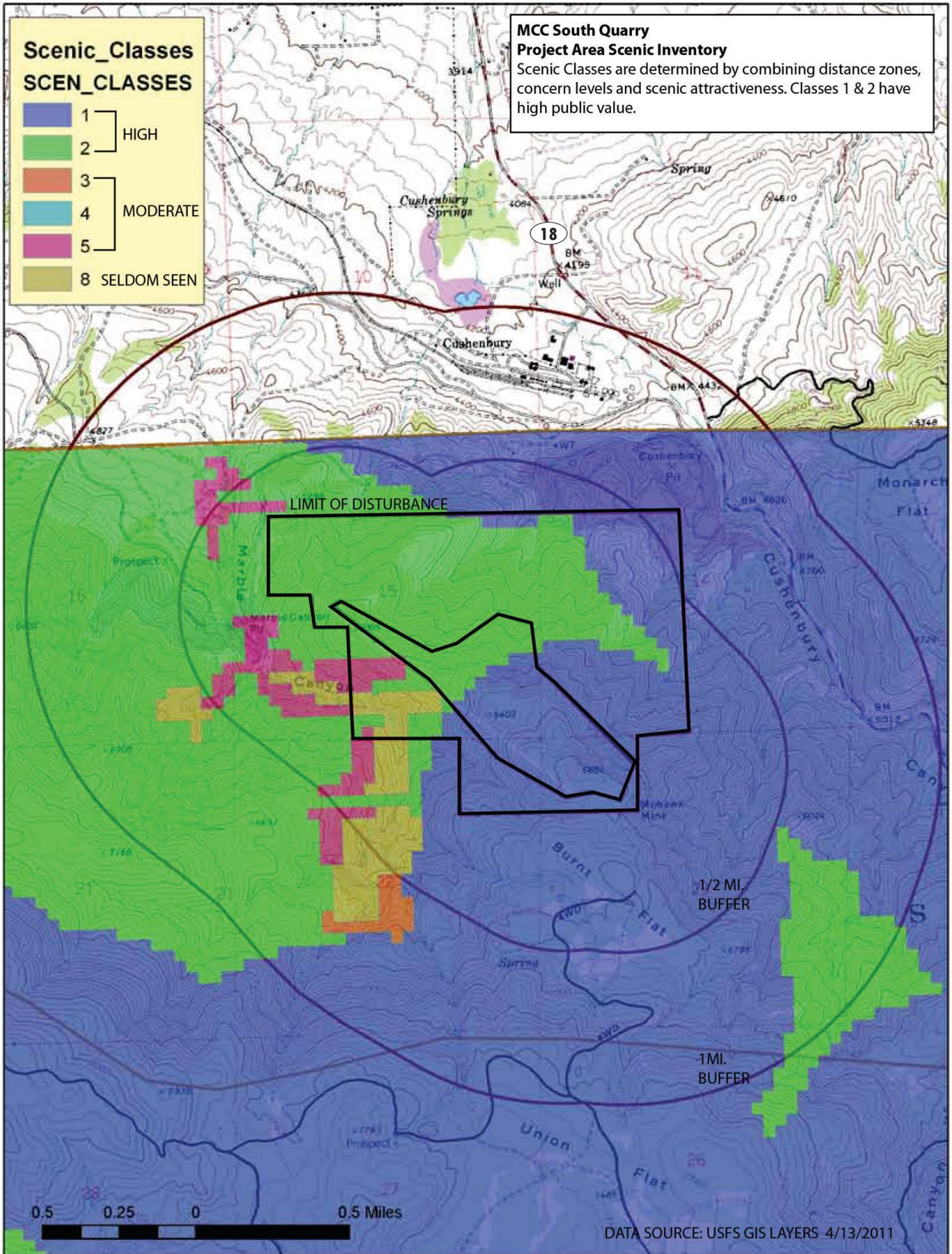
Scenic integrity measures the amount of natural or socially valued appearance in a landscape along with the amount of visual disturbance that detracts from that appearance (the valued landscape character) existing at the time of measurement. Visual disturbances can be human-caused, such as road construction, mining activity, recreation facilities, utility corridors, and other special uses. Scenic Integrity also applies to extreme scenery disturbances caused by natural events whenever these events are outside the historic range of variability, such as catastrophic wildfire, wind/ice storms and disease/insect outbreaks. The valued landscape character forms the baseline for establishing design criteria and/or mitigation measures to be included during project implementation. Scenic integrity is measured in six levels, ranging from Very High to No Integrity. The levels are described in detail in Appendix B – Methodology.

Whether viewed from the SBNF lands to the south or from Lucerne Valley in the north, there are no Key Viewpoints with foreground views of the project area and distant (middle and background) views tend to soften details due to the prevalence of atmospheric haze. Although views from Lucerne Valley show the surrounding area dominated by road cuts and mining activity, views of the project area itself show a natural appearing landscape. The project area has not been disturbed and the valued scenery looks as if it is in a natural state. The existing scenic integrity of the project area is consistent with a level of High to Very High: the valued landscape character appears natural or unaltered. Although minute landscape disturbances may be present, they are not evident to the casual observer.

4.8 VISUAL ABSORPTION CAPACITY

Visual Absorption Capacity (VAC) is the ability of any landscape to accept human disturbance without the loss of landscape character. It provides the basis for predicting future scenic conditions that may result from project proposals. VAC is a relative indicator of the potential difficulty, and thus the potential cost, of maintaining acceptable degrees of scenic integrity. Slope, vegetative screening and vegetation diversity are primary factors incorporated into VAC determinations.

Topography is the primary source of screening in the project area. The area's relative continuity in form, color and texture tends to reveal landscape disturbances (as opposed to a heavily dissected landform that could break up the visual continuity of disturbances). To the south, within the SBNF, there are stands of tall trees that, along with topography, help screen disturbances, but vegetation patterns are generally scrubby on calcium carbonate soils, and offer little vegetative screening. The calcium carbonate soils are naturally a bright white color.



EXISTING SCENIC CLASSES

Mitsubishi Cement Corporation - South Quarry Scenic Report
County of San Bernardino, California

Although exposed surface soil eventually becomes greyed through weathering, any soil disturbance is emphasized due to its strong contrast with the darker vegetation and undisturbed soil. Viewed from the north (Lucerne Valley), the steep slopes have very little vegetative screening and disturbed soils are highly visible and slow to grey-out by exposure to the elements. These factors give the area a low capacity for visual absorption.

4.9 ISSUES ADDRESSED

This report examines the extent to which the Proposed Action and project alternatives maintain the landscape free from visible disturbances that detract from the valued landscape character, and the extent to which the scenery attributes are maintained through time and ecological progression within the project area as viewed from Key Viewpoints.

The Proposed Action or an alternative needs to be executed in a manner consistent with the LMP by preserving the scenic integrity of the area through blending and visually integrating the South Quarry into the larger landscape. Measures to address impacts to scenery, including those incorporated into the project design criteria, are discussed in this analysis.

Issues identified:

- Ability of the Proposed Action and project alternatives to meet the Scenic Integrity Objectives for the Desert Rim Place, identified in the LMP.
- Ability of the Proposed Action and project alternatives to meet CFR 36-228.8(d) Scenic Values requirements, which states the following:

Operator shall, to the extent practicable, harmonize operations with scenic values through such measures as the design and location of operating facilities, including roads and other means of access, vegetative screening of operations, and construction of structures and improvements which blend with the landscape.

- Ability of the Proposed Action and project alternatives to meet CFR 36-228.8(g)(4) reclamation requirements for scenic resources during implementation and also during final reclamation including reshaping and revegetation of disturbed areas, where reasonably practicable.

5.0 MANAGEMENT DIRECTION

According to the National Forest Management Act of 1976, which guided the development of the LMP, landscape aesthetics are treated as a scenic resource that, "...shall be inventoried and evaluated as an integrated part of evaluating alternatives in the forest planning process, addressing both the landscape's visual attractiveness and the public's visual expectation." The LMP's Scenic Integrity Objectives (SIO) establish minimum acceptable thresholds for landscape disturbances. The threshold of effects is exceeded when disturbances do not meet the visual intensity and dominance criteria of the SIO.

5.1 SAN BERNARDINO NATIONAL FOREST LAND MANAGEMENT PLAN

The San Bernardino National Forest Land Management Plan (LMP) was revised in 2005 under the 1982 Planning Rule, and the Scenery Management System was incorporated into the revision. The LMP defines Aesthetic Management Standards (Part 3, Design Criteria for the Southern California National Forests; p. 6) as follows:

- S9: Design management activities to meet the Scenic Integrity Objectives (SIO) shown on the Scenic Integrity Objectives Map (see Figure 9 - Existing Scenic Objectives).
- S10: Scenic Integrity Objectives would be met with the following exceptions:
- Minor adjustments, not to exceed a drop of one SIO level, are allowable with the Forest Supervisor's approval.
 - Temporary drops of more than one SIO level may be made during and immediately following project implementation providing they do not exceed three years in duration.

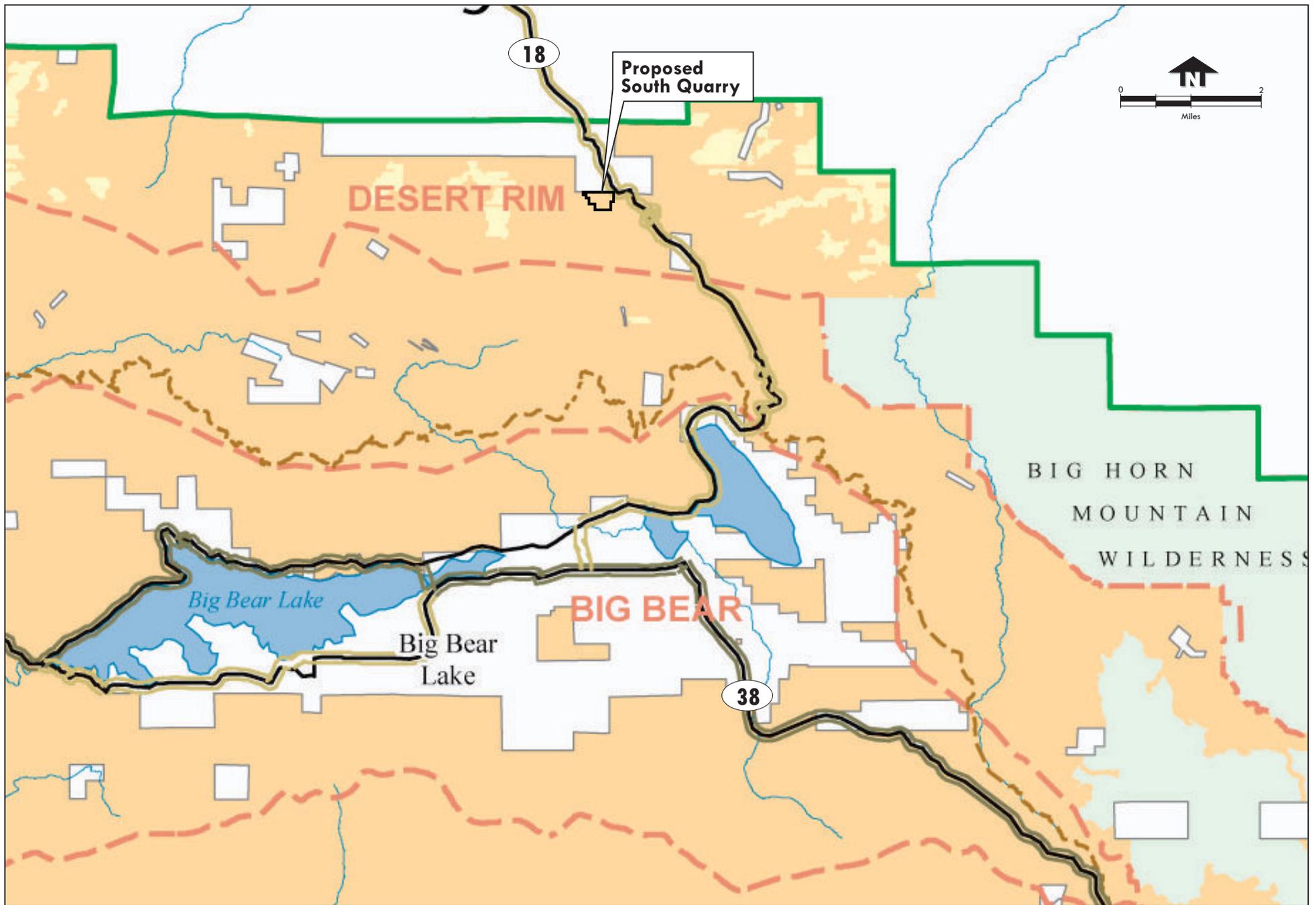
5.2 LANDSCAPE CHARACTER GOALS

The LMP, Part 2 (2005) outlines the desired condition for each Place within the SBNF. The desired landscape character for the Desert Rim Place is as follows:

Desert Rim Place – is maintained as a modified to natural appearing landscape that functions as a sanctuary for a large number of federally listed native plants and a highly valued area for limestone production. The valued landscape attributes to be preserved over time are the Jeffrey pine, white fir and incense cedar in the shaded aspects of ridges and canyons; intermittent streams and springs with riparian features and white carbonate outcrops. Carbonate habitats are protected from mining impacts in perpetuity within carbonate habitat reserves dedicated and managed as described in the Carbonate Habitat Management Strategy. The Carbonate Habitat Reserve is managed to allow public uses that are compatible with the conservation of the listed carbonate plants. Within the Carbonate Habitat Management Area, carbonate plants are likely to persist indefinitely by managing and maintaining geomorphic and ecological processes of the landscape in large, well-placed blocks of habitat. Destruction or modification of critical habitat is avoided. Listed species are recovered and delisted. Future listing is not needed. Areas disturbed through past activity are restored.

5.3 SCENIC INTEGRITY OBJECTIVES

Scenic Integrity Objectives (SIO) are prescribed in the LMP and represent the minimally acceptable scenic integrity levels to be achieved, or exceeded, whenever possible. The threshold of effects is exceeded when disturbances to the landscape character do not meet the visual intensity and dominance criteria of the SIO. Within the proposed project area, the LMP has designated the SIO as High, with a few small areas of Moderate corresponding to private lands



Source: USDA, Forest Service, Pacific Southwest Region 09/2005.



SCENIC INTEGRITY OBJECTIVES

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

and existing mining areas (refer to Figure 9). For the purposes of this report, the proposed project area is considered as having a designated SIO of High. It should be noted that the Proposed Action is located within proximity to scenery impacts from existing mining operations outside of the SBNF. This will be discussed under cumulative impacts.

6.0 EFFECT ANALYSIS

6.1 EFFECTS ON SCENIC RESOURCES

Three alternatives were analyzed; Alternative 1 - South Quarry Development (Proposed Action); Alternative 2 - Partial Implementation; and Alternative 3 - No Action Alternative. Potential change in Scenic Integrity was assessed and impacts to scenic resources were analyzed from six Key Viewpoints. The Key Viewpoints represent critical views from travelways and use areas with varying concern levels. Table 4 identifies the potential for change in the Scenic Integrity of the valued scenic character as they relate to the three alternatives. Direct and indirect effects below are analyzed specifically for the project area and do not refer to the current disturbances caused by existing mining activity west of the project area. Those disturbances are analyzed under cumulative effects.

Photo simulations were prepared from the Key Viewpoints to show potential views and representational changes in the landscape from the Key Viewpoints; two viewpoints from the south in SBNF lands and four viewpoints from the north in Lucerne Valley (refer to Figure 7). Table 3 previously described these viewpoints. Viewpoints 1, 2, and 3 in Lucerne Valley include photographs showing existing conditions and simulations of the quarry development at various stages:

- At 10 and 25-year intervals during Phases 1 and 2
- The end of Phase 2 in 40 years
- The end of Phase 3 in 80 years
- The end of mining in Phase 4 at 120 years with final reclamation

The simulations include concurrent reclamation and revegetation over the years. Simulations for every phase were not prepared for Viewpoints 4, 5, and 6, because either there would be no discernible change over time, or the phase would not be visible.

The West Pit, which is currently under development, has been shown at build-out by year 40 with concurrent reclamation. This was necessary in order for the simulations to show a worst-case scenario view in this area. However, mines operated by the other operators west of the project site are not shown as expanding over time due to the unknown time frame and plans for these other quarries.

Table 4
Potential Change in Scenic Integrity Level from Direct Effects

Key Viewpoint	Visibility ¹	Scenic Integrity Objective (SIO)	Scenic Integrity Level ²									
			Alt: 1 Proposed Action					Alt: 2 Partial Implementation			Alt: 3 No Action (Existing Conditions)	
			10 yrs.	25 yrs.	40 yrs. (End of Phase 2)	80 yrs. (End of Phase 3)	120 yrs. - Reclamation (End of Phase 4)	10 yrs.	25 yrs.	40 yrs. - Reclamation (End of Phase 2)		
1	Lucerne Valley High School	Bg	High	Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Low	High
2	Crystal Creek Road	Bg	High	Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Low	High
3	Camp Rock Road	Mg	High	Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Low	Very High
4	FS Road (3N02)	Mg	High	Low	Low	Low	Very High	Very High	Low	Low	Very High	Very High
5	SR 18	Mg	High	(Not Visible)					(Not Visible)			(Not Visible)
6	SH 247	Bg	High	Moderate	Moderate	Moderate	Moderate	High	Moderate	Moderate	High	Very High

1 Visibility: Bg – Background; Mg – Middleground

2 Scenic Integrity Level of Project Area as seen from Key Viewpoints

Very High = unaltered

High = natural landscape appears unaltered; disturbances are not evident to casual observers

Moderate = landscape appears slightly altered; disturbances are evident but not dominant

Low = landscape appears moderately altered; disturbances are co-dominant with natural landscape character

Very Low = landscape appears heavily altered; disturbances are dominant over natural landscape character

6.2 ALTERNATIVE 1 – SOUTH QUARRY DEVELOPMENT (PROPOSED ACTION)

Direct and Indirect Effects

The details of the Proposed Action have been described in Section 2.1 above. The South Quarry site would be seen from all Key Viewpoints except for Viewpoint 5, from which the proposed South Quarry would not be visible.

When compared against the existing landscape character, the Proposed Action would create contrasts to the natural landscape in color, form, line and texture. The color difference from the newly exposed limestone rock and the existing darker landform would be the main contrasting element as seen from background and middleground views. The color contrast would vary in intensity over time due to atmospheric conditions, natural weathering, shadowing, clouds, and snowfall. Color contrast due to the light colored soils would occasionally be somewhat less in the winter as higher elevations become covered in snow.

The changing topography within the mine excavation area would create straight lines and unnatural forms and texture. The horizontal lines caused by quarry benching would deviate in form, line, and texture from the natural landscape character of the Desert Rim Place and the north slope of the San Bernardino Mountains. With concurrent reclamation, revegetation, and natural weathering, the lighter color of newly cut slopes would darken over time and slowly become less dominant features.

This would be more noticeable in middleground and foreground views looking south from Lucerne Valley (Viewpoints 1, 2, and 3) and only temporarily (40 years) from Viewpoint 4 in the SBNF looking north.

Impacts from the key viewpoint locations are summarized in Table 4 above. During Phases 1A, 1B, and 2 (to approximately year 40), the majority of scenery impacts would be from construction of the haul road along the north slope and the initiation of mining along the upper quarry slopes in the southeast portion of the site near the ridgeline. The haul road would create cut lines that run across the north slope face, and both the quarry and haul road would be readily seen from Lucerne Valley.

During Phases 3 and 4 (approximately years 40 through 120), excavations would deepen the quarry and remove a portion of the north facing slope, exposing a larger area of disturbance as viewed from Lucerne Valley. However, by this timeframe, it is expected that reclamation and revegetation of the upper slopes in Phase 2 would begin to darken the cut slopes and reduce the color contrast and visibility of the upper slopes. The excavations during these two phases would not be seen from Viewpoint 4 along SBNF Road 3N02 as excavations would be blocked from view by an intervening ridge.

Unlike other limestone mines in the area, waste rock (rock not suitable for cement production) would be deposited within the quarry itself to fill or reduce slopes in Phases 1B, 2, and 3 and would not create any waste rock stockpiles outside the quarry. This would limit impacted areas

to the quarry footprint and haul road, and prevent scenery impacts caused by typical waste rock stockpiles located outside the quarry.

Mining operation haul trucks and equipment generally have higher contrast in form, line, texture, and color because of the increased reflectivity, brighter colors, and angled features compared to the natural landscape. The scale and screening of these contrasting features make them primarily visible only from within a foreground distance. Operation plans would leave in-place a 20 to 25-foot high natural perimeter berm or slope (half a vertical bench height) on the outside ridge of each excavated bench until the interior area of the next lower excavation level is completed. The perimeter berm would serve as a screen for mining equipment and activity.

The scenery assessment from each viewpoint is explained below including the figures with the photographs of existing conditions and scenery simulations.

Viewpoint 1 - Lucerne Valley High School

(Please refer to Figures 10A, 10B, and 10C). The South Quarry site is located approximately 9 miles southeast and just below the ridgeline of the scenic backdrop as viewed looking southeast from the Lucerne Valley High School east of SR 247 and north of SR 18 on Rabbit Springs Road. The viewshed is open or unscreened. The project area itself has not been disturbed and the existing scenic integrity is High.

Simulations:

- The simulation for Phase 1A (Figure 10A), approximately 10 years into implementation, shows the addition of straight lines caused by the haul road and the initiation of one or two quarry benches on the upper ridge. These unnatural disturbances highlighted by the light-colored soils, would create a moderate focal point in the landscape and decrease the scenic integrity to a level of Low due to the co-dominance of the disturbances with the natural scenery.
- Simulation 2 (Figure 10B-3), at approximately 25 years, shows the disturbances increasing in size and contrast within the project area due to exposed limestone slopes. At this point, disturbances would be dominant to the natural landscape character and the valued scenery would appear heavily altered, further decreasing the scenic integrity level to Very Low.
- Simulation 3 (Figure 10B-4) shows the quarry at the end of Phase 2 in approximately 40 years. The exposed slope areas may begin to darken slightly and concurrent reclamation would assist by breaking up the straight lines and mimicking the natural landscape forms and texture. Additional mining would be screened by an intervening ridgeline as mining extends downward, therefore scenery disturbances would not increase in size from 25 years. The scenic integrity at this point would remain Very Low but trending up toward a level of Low as reclamation efforts take hold.



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 Lucerne Valley High School

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest



3. Mining during Phase 1 A and 1 B at approximately 25 years with concurrent revegetation/reclamation.



4. End of Phase 2 and at approximately 40 years with concurrent revegetation.

VIEWPOINT 1
Lucerne Valley High School

Mitsubishi Cement Corporation - South Quarry Scenic Report
 San Bernardino National Forest



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
Lucerne Valley High School

Mitsubishi Cement Corporation - South Quarry Scenic Report
 San Bernardino National Forest

- The simulation for the end of Phase 3 (Figure 10C-5), at approximately year 80, shows an increase in the area of disturbance due to the exposure of the back quarry wall as mining removes a portion of the front slope. Disturbances would continue to be dominant to the natural landscape character, the valued scenery would continue to appear heavily altered, and the scenic integrity level would trend downwards to a level of Very Low. At this point there would be the possibility of falling to a level of No Integrity, since the exposed disturbances would be extremely visible and they would not borrow form, line, color or pattern from the valued landscape character.
- The last simulation (Figure 10C-6) shows the South Quarry site at the end of active mining with reclamation and revegetation decreasing the contrast of the site, breaking up the visible straight lines from benching and mimicking the natural landscape forms and texture. The scenic integrity of the project area would again trend upwards, reaching a level of Low: the valued scenery would appear moderately altered and may create a focal point of moderate contrast, but the disturbances would be co-dominant with the valued landscape character.

Viewpoint 2 – Crystal Creek Road

(Please refer to Figures 11A, 11B, and 11C). The South Quarry site is located approximately 6.5 miles southeast and near the ridgeline as viewed looking southeast from near the intersection of Crystal Creek and Azurite roads. The South Quarry site is visible and is only minimally screened by foreground vegetation. The existing scenic integrity of the project area is considered High.

Simulations:

- Simulation 2 shows how the upper quarry benches would become visible as mining is initiated for Phase 1 (Figure 11A-2), in approximately 10 years. The straight, unnatural-looking lines would create a moderate focal point in the landscape and decrease the scenic integrity to a level of Moderate, trending to Low due to the increasing dominance of the disturbances to the natural scenery.
- In Figure 11B-3, in approximately 25 years, the upper slopes have expanded downward showing an increase in the area of disturbance and in contrast due to exposed limestone soils. Although an intervening ridge would hide the lower quarry slopes, visible disturbances would be dominant to the natural landscape character and the valued scenery would appear heavily altered, further decreasing the scenic integrity level to Very Low.
- The simulation for Phase 2 (Figure 11B-4), in approximately 40 years, shows no substantial change to the size of the visual disturbance area. Visible disturbances would begin to decrease in intensity due to weathering and concurrent reclamation. However, the scenic integrity at this point would continue to be consistent with a level of Very Low, as the landscape being viewed would continue to appear heavily altered.



1. Existing conditions from 6.5 miles away looking southeast from the intersection of Azurite Road and Crystal Creek Road toward the Project Site.



2. Mining during Phase 1A and 1B at approximately 10 years.

VIEWPOINT 2
Crystal Creek Road

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest



3. Mining during Phase 1A and 1B at approximately 25 years with concurrent revegetation/reclamation.



4. End of Phase 2 at approximately 40 years with concurrent revegetation.

VIEWPOINT 2
Crystal Creek Road

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest



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 2
Crystal Creek Road

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

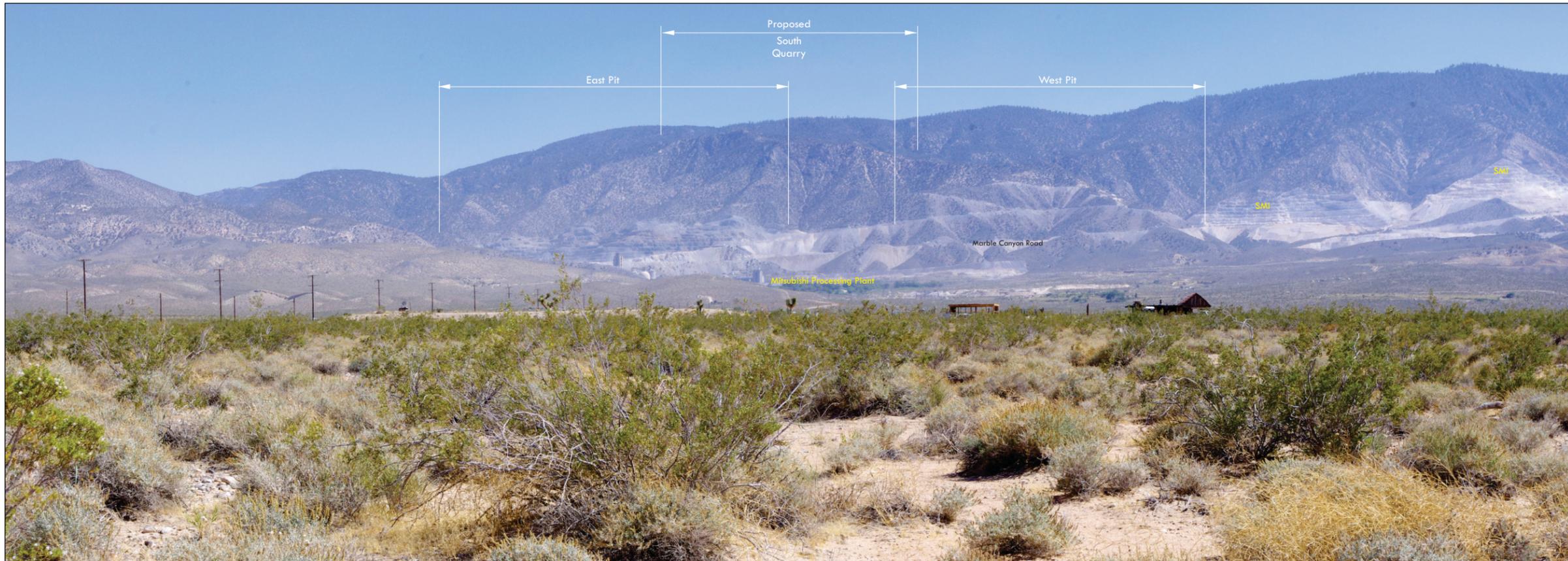
- Simulation for Phase 3 (Figure 11C-5) in approximately 80 years shows the expanded disturbance area caused by active mining down the front slope as the screening ridge is removed. The exposed white limestone soil would additionally highlight the unscreened disturbance. The expanded disturbance would be visible for approximately 40 years, although concurrent reclamation efforts would continue on the upper benches. Nonetheless, the extended duration and nature of the expanded disturbance would make it excessively dominant and would adversely affect the scenic integrity of the landscape being viewed from Very Low trending downward toward No Integrity.
- The last simulation (Figure 11C-6) shows the site with reclamation and revegetation decreasing the color, form and texture contrasts of the site. The scenic integrity of the Proposed Action would appear only moderately altered with the disturbances decreasing in dominance to the valued scenery, equal to a level of Low scenic integrity. This would begin to happen prior to full reclamation, and would proceed incrementally, as reclamation activity would be concurrent to mining activity.

Viewpoint 3 – Camp Rock Road

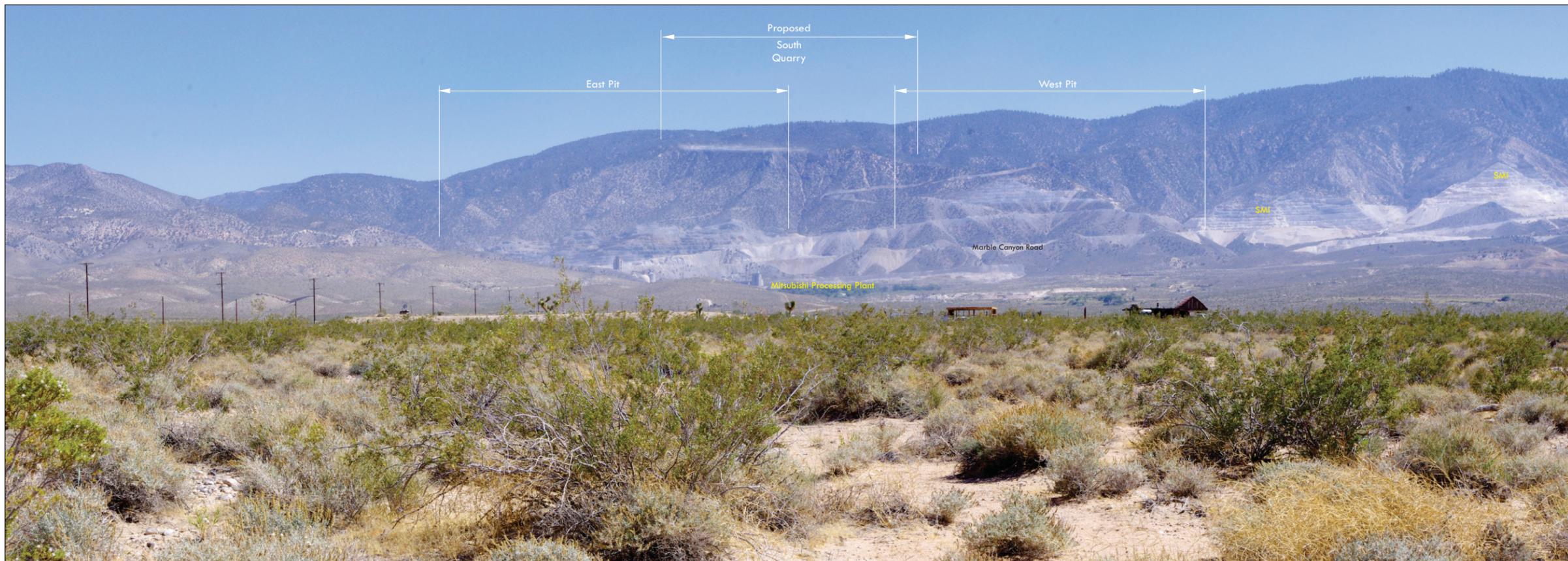
(Please refer to Figures 12A, 12B, and 12C). The South Quarry site is located below the ridgeline of the scenic backdrop as viewed from 5 miles north, just west of Camp Rock Road at Arroyo Road. The viewshed to the South Quarry from Camp Rock Road is open or unscreened. The existing scenic integrity of the project area appears natural or unaltered from this key viewpoint, giving it a scenic integrity level of Very High. The West Pit is simulated to the right and lower than the Proposed Action. The West Pit was approved in 2004 and is under development. It is not a part of the South Quarry Development Project. It is shown in the visual simulations for completeness and will be included in the cumulative effects analysis below.

Simulations:

- Simulation 2 for Phase 1 (Figure 12A-2) at approximately 10 years depicts the addition of an unnatural appearing line representing the initiation of mining on the upper slopes. This will adversely affect the scenic integrity level, lowering it to Moderate (the valued scenery appears slightly altered) and trending towards Low.
- Figure 12B-3 at approximately 25 years shows the increased contrast in color, form and texture of the exposed limestone slopes in the project area. These disturbances would be dominant to the natural landscape character and the valued scenery of the project area would appear heavily altered, further decreasing the scenic integrity level to Very Low.
- Figure 12B-4 at approximately 40 years (Phase 2) simulates the exposed slope areas with slightly less color contrasts due to weathering and concurrent reclamation of the upper benches. The visible disturbance area would not have increased in size, as additional mining would extend downward and be screened by topography. However, the scenic integrity would continue to be consistent with a level of Very Low, as the landscape being viewed would continue to appear heavily altered.



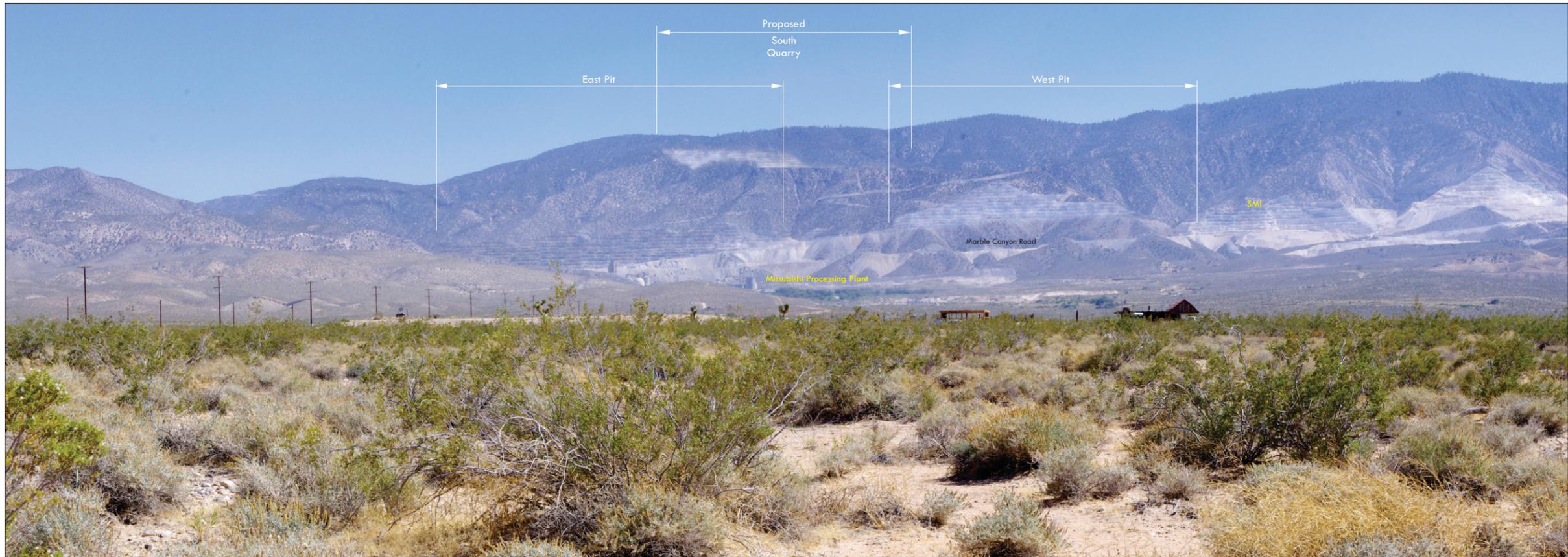
1. Existing conditions from 5 miles away looking south from Arroyo Road, just west Camp Rock Road, toward the Project Site.



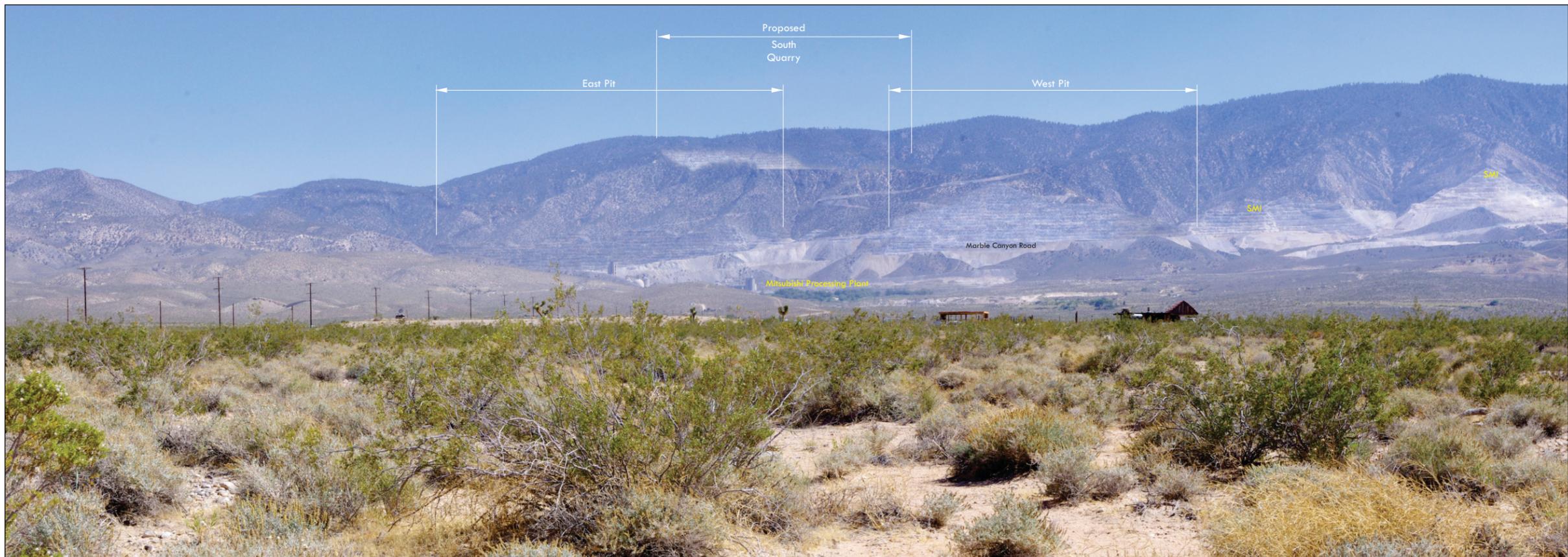
2. Mining during Phase 1A and 1B at approximately 10 years.

**VIEWPOINT 3
Camp Rock Road**

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest



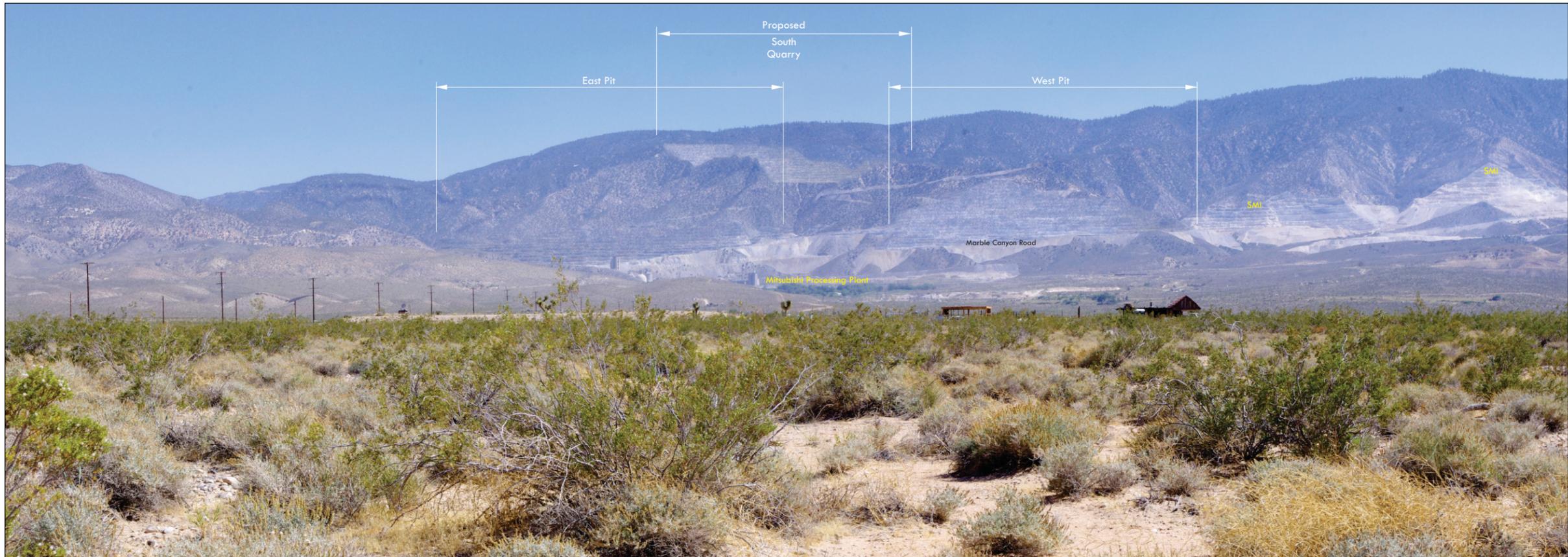
3. Mining during Phase 1A and 1B at approximately 25 years with concurrent revegetation/reclamation.



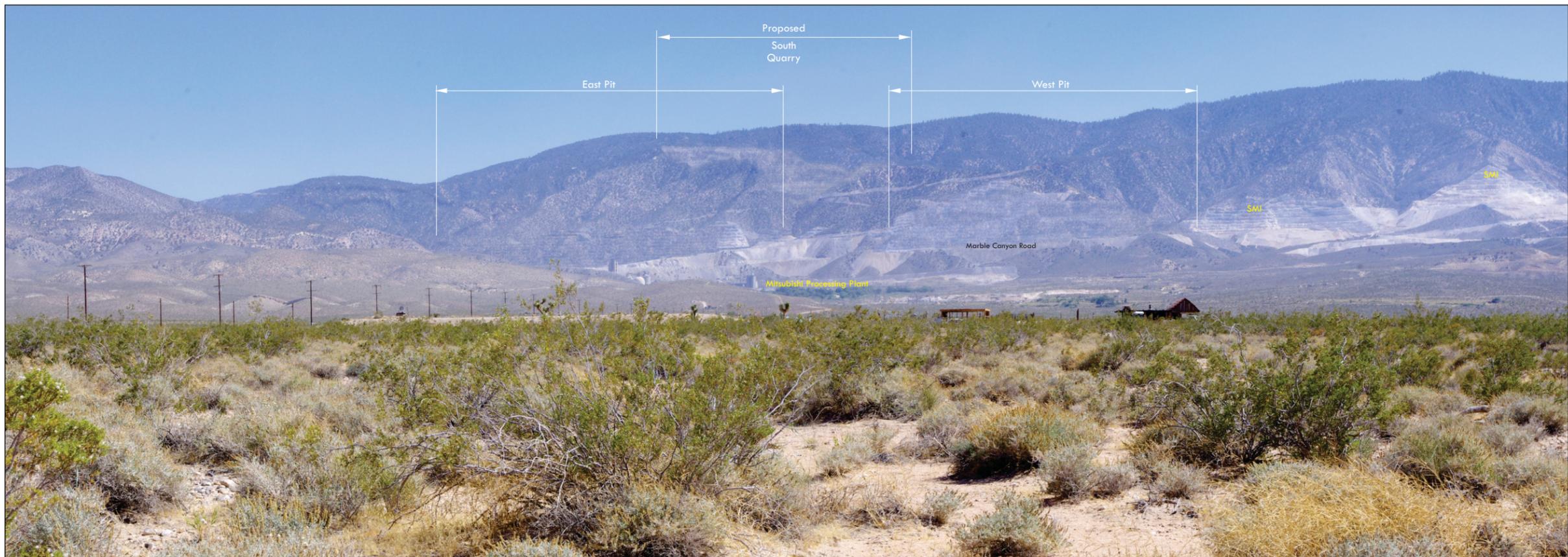
4. End of Phase 2 and at approximately 40 years with concurrent revegetation.

**VIEWPOINT 3
Camp Rock Road**

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest



5. End of Phase 3 and at approximately 80 years with concurrent revegetation.



6. End of Phase 4 at approximately 125 years with full reclamation.

VIEWPOINT 3
Camp Rock Road

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

- Simulation for Phase 3 (Figure 12C-5) in approximately 80 years shows the expanded disturbance area caused by active mining down the front slope as the screening topography is removed. Similar to Viewpoints 1 and 2, the exposed white limestone soils would highlight the unscreened disturbance. The expanded disturbance would be visible for approximately 40 years, although concurrent reclamation efforts would continue on the upper benches. Nonetheless, the extended duration and nature of the expanded disturbance would make it excessively dominant and would adversely affect the scenic integrity of the landscape being viewed from Very Low trending downward toward No Integrity.
- The last simulation (Figure 12C-6) shows the site post active mining in approximately 120 years with concurrent revegetation mimicking the form and texture of the valued landscape character and decreasing the color contrast of the disturbances. The scenic integrity of the Proposed Action would appear only moderately altered, with the disturbances decreasing in dominance equal to a level of Low scenic integrity, and may possibly approach a level of Moderate, where noticeable disturbances are minor and visually subordinate to the valued scenery. This would begin to happen prior to full reclamation, and would proceed incrementally, as reclamation activity would be concurrent to mining activity.

Viewpoint 4 - Forest Service Road 3N02

(Please refer to Figure 13). Viewpoint 4 is located approximately 1.5 miles south of the project site along SBNF Road 3N02, a rugged dirt road with low use within the SBNF. The viewshed along 3N02 is partially screened by pine and oak trees and surrounding ridges. The viewpoint selected is in an opening along the road looking north. The existing scenic integrity for the area is High as the area appears natural or unaltered.

The South Quarry site is located beyond the second ridgeline as viewed north towards Lucerne Valley. The Proposed Action would remove the last ridgeline of more scattered vegetation during Phase 2 in the approximate 20 to 40 year time frame from project start. During this time, active mining would be visible and unscreened, and the scenic integrity would be considered Very Low as landscape will appear heavily altered. After Phase 2, active mining would no longer be visible as the quarry becomes fully screened by the intervening ridge (see Figure 13–2). The scenic integrity at this time would again be Very High, as the landscape character would appear natural or unaltered from this Key Viewpoint.

Viewpoint 5 - SR 18 from Forest Service Lands

(Please refer to Figure 14). This Viewpoint is located about 1 mile southeast of the South Quarry site along SR 18 near Cactus Flats. This Viewpoint shows the ridgeline just above the eastern portion of the Proposed Action in the vicinity of the Old Mohawk Mine. Due to the topography and proximity of steep ridges in this area, there are no views of the project area during any phase of the Proposed Action. The scenic integrity for the area as seen from this viewpoint would remain unchanged by the Proposed Action. Therefore, Viewpoint 5 will not be brought forward for further analysis in other alternatives.



1. Existing conditions from 1.5 miles away and within San Bernardino National Forest looking north from Burnt Flat Road (3N02) toward the Project Site.



2. End of Phase 2 at approximately 80 Years. All other phases will not be visible.

VIEWPOINT 4
Forest Service Road 3N02

Mitsubishi Cement Corporation - South Quarry Scenic Report
 San Bernardino National Forest



View from 1 mile looking northwest towards the Project Site from State Route 18. The majority of the Proposed South Quarry will not be visible due to foreground mountain ridgelines.

VIEWPOINT 5 State Route 18

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

Viewpoint 6 - SR 247 from Northern Lucerne Valley

(Please refer to Figure 15). The South Quarry site is located approximately 14 miles south, just below the ridgeline of the scenic backdrop as viewed from SR 247 from the northern edge of Lucerne Valley. The viewshed is of a desert valley with a background of the San Bernardino Mountains. Distant views (middleground and background) in this setting tend to soften landscape details due to the natural prevalence of atmospheric haze from dust and moisture. The valued scenery appears unaltered from this distance, thus the existing scenic integrity for the area is considered Very High.

Given the distance to the site and the natural air turbidity, even on a clear day, the Proposed Action would only appear slightly altered. Disturbances during Phases 1-4 would create a moderate contrast, as the light colored soils would highlight disturbances, but at this distance they would be minor and visually subordinate to the valued scenery. The scenic integrity of the project area from this distance would trend downward in Phases 1-3 from Very High to Moderate, and would trend back upwards as concurrent reclamation reduces contrasts in color, to a restored scenic integrity level of High.

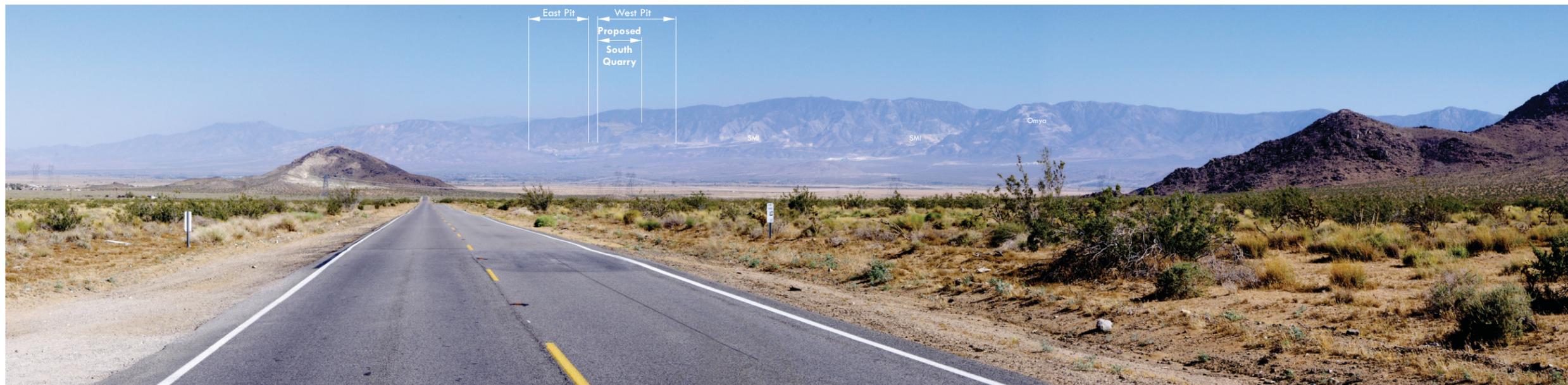
Indirect effects to scenery include airborne particles and dust from the mining operation. Dust control measures included in the Proposed Action would include water spraying of haul roads, active mining areas, and waste rock stockpiles. Implementation of the Mojave Desert Air Quality Management District (MDAQMD) rules and regulations would minimize the creation of visible dust. The middle and background distances of the Key Viewpoints would further reduce the likelihood of scenic impacts from dust. In addition, 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 (requirements for controlling fugitive dust) would be implemented as applicable. Therefore the Proposed Action would have minor to neutral effects to scenic resources from dust.

Cumulative Effects

The cumulative effects analysis for scenery includes a land area encompassing the north slope of the San Bernardino Mountains as seen from Lucerne Valley. The area of cumulative effects analysis was bounded in this manner to correspond with the 'sense of place' and valued landscape character descriptions found in the LMP. The mountains are a dominant landscape feature, forming a dramatic scenic backdrop along the southern boundary of the community of Lucerne Valley. The existing viewshed, as seen from Lucerne Valley High School (refer to Figure 10A-1), includes the northern slopes and quarry areas that comprise the cumulative effects analysis. There are approximately 16,000 acres of viewshed within the area of cumulative effects analysis. The project will impact approximately 154 acres (less than 1%) 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 impact approximately 1600 additional acres, bringing the total cumulative visual impacts to 1754 acres. It is difficult to determine future actions, as much of the scenic disturbances occur on private land or land not administered by the SBNF.



1. View looking south from 1.4 miles north of the Project Site while traveling on State Route 247



2. End of Phase 4 at approximately 120 years with revegetation at full Reclamation.

Note: Due to air turbidity and distance to Project Site, only end of Phase 4 with reclamation is shown.

VIEWPOINT 6 State Route 247

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

Note: The cement grade limestone quarries at Mitsubishi Cement Corporation are more grey (darker) than the brighter higher grade limestone quarries to the west.

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 design features, 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. Past, present and reasonably foreseeable future actions and the effects to scenery of those actions are listed in Table 5.

**Table 5
Existing and Foreseeable Actions and Effects on Cumulative Scenic Integrity**

Project	Location	Description	Status	Cumulative Effects on Scenic Integrity
Specialty Minerals, Inc.	West of Marble Canyon, east of Furnace Creek. Quarries and haul roads on north-facing slopes.	Several limestone quarries, stockpiles, haul roads, and processing plant	Active	Increase
OMYA California, Inc.	Southern terminus of Crystal Creek Rd, approx. 7 miles west of project. Quarry and haul roads on north-facing slopes.	Two limestone quarries, stockpiles, haul roads, and processing plant	Active	Increase
Cushenbury Sand and Gravel Quarry	1.5 miles north of the project site, west of the junction of SR18 and Camp Rock Rd at lower elevation on alluvial fan	Sand and gravel mine and processing plant	Active	Unchanged
Crystal Hills Sand and Gravel, Inc.	South of Meridian Rd adjacent to rail line, approx. 5 miles northwest of the project site at lower elevation on alluvial fan.	Sand and Gravel Mine	Inactive	Unchanged
Hi-Grade Materials	7 miles northwest of the project, along Meridian Rd at Azurite Rd at lower elevation on alluvial fan.	Sand and gravel mine and processing plant	Active	Unchanged
Mitsubishi Cement Corporation	North and at lower elevation than the Proposed Action. Quarries and access roads on north-facing slopes.	Existing East Pit, developing West Pit, proposed South Quarry, cement plant and haul roads	Active	Increase

Note that Omya’s Sentinel Quarry and Butterfield Quarry are within the SBNF and these quarries are not visible from Lucerne Valley. The remaining limestone quarries are on private land or BLM unpatented claims on the north-facing slopes visible from Lucerne Valley. The sand and gravel mines are located on the alluvial fans north of the visible north-facing slopes and are generally much less visible due to their lower elevations.

Potential changes to the valued landscape character from implementation of the Proposed Action are demonstrated together with other existing mining activities in Figure 10A–3 in approximately

25 years. The existing limestone mines are the source of adverse scenery impacts due to their dominant contrast to the valued landscape character in color, form, line, and texture. The impacts are increased by their position on the mountain slopes (centrally located between the valley floor and the ridge line). The large scale and long term disturbances in the landscape caused by existing mines, stockpiles, process plants, and hauls roads dominate the viewshed, in some cases regardless of viewing distance. Based on the cumulative effects analysis, 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, unfortunately, 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 Action would have an adverse effect on the valued landscape character by incrementally adding to the cumulative existing scenic impacts. However, the project area comprises a very small area relative to the large scale of the landscape being viewed. If the Proposed Action design features are implemented, the scenic integrity levels are expected to remain unchanged by cumulative effects, as the additional South Quarry site would comprise less than 1% of the area of analysis, and disturbances caused by the Proposed Action would be much less dominant than existing landscape disturbances. 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.

Conclusion

As included under Section 2.2.1 above, the LMP, Part 2 (2005) outlines the desired landscape character for the Proposed Action as follows:

Desert Rim Place – is maintained as a modified to natural appearing landscape that functions as a sanctuary for a large number of federally listed native plants and a highly valued area for limestone production.

The LMP defines Aesthetic Management Standards as follows:

- S9: Design management activities to meet the Scenic Integrity Objectives (SIO) shown on the Scenic Integrity Objectives Map (see Figure 9).
- S10: Scenic Integrity Objectives would be met with the following exceptions:
Minor adjustments, not to exceed a drop of one SIO level, are allowable with the Forest Supervisor's approval. Temporary drops of more than one SIO level may be made during and immediately following project implementation providing they do not exceed three years in duration.

The project area has an existing scenic integrity level ranging from High to Very High, and a SIO of High. Direct effects of the Proposed Action would decrease the scenic integrity to Low during the 1st 10 years of implementation (Phase 1A) for all views other than the farthest key viewpoint (Viewpoint 6) located at a distance of 14 miles. From this key viewpoint, the scenic integrity level would only drop to Moderate. Between year 10 and year 40 (Phases 1B & 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 continue to 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 back 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 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 up 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 site's SIO of High. Overall direct effects of implementing the proposed action would be major and adverse to the site's level of scenic integrity.

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.

The Proposed Action would incrementally increase cumulative impacts from views in Lucerne Valley. When considered with other existing mining activities along the north face of the San Bernardino Mountains, the existing cumulative scenic integrity would not substantially change, remaining at a level of Very Low and trending away from the SIO of High towards No Integrity. 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.

6.3 ALTERNATIVE 2- PARTIAL IMPLEMENTATION

Direct and Indirect Effects

The details of Alternative 2 - Partial Implementation have been described in Section 2.3 above. Similar to Alternative 1- Proposed Action, the South Quarry site would be seen from all Key Viewpoints except for Viewpoint 5, from which the proposed South Quarry would not be visible. Alternative 2 was developed in response to public comments requesting an alternative with a shorter duration and/or smaller footprint. This alternative would only implement Phases 1A, 1B, and 2 (refer to Figure 4). Mining of the north slope, which is proposed in Phases 3 and 4 of the Proposed Action, would not occur. Mining in the quarry would last 40 years rather than 120 years. As a result, reclamation and revegetation at the South Quarry site would be initiated nearly 80 years sooner, and localized indirect effects related to mining, such as fugitive dust and noise, would also end earlier under this alternative.

The project area has an existing scenic integrity level ranging from High to Very High, and a SIO of High. Direct and indirect effects would be the same as those in Alternative 1 as seen from

each key viewpoint from implementation through year 40 (Phases 1A, 1B and 2). The scenic integrity would initially decrease to Low during the 1st 10 years of implementation (Phase 1A) for all views other than the farthest key viewpoint (Viewpoint 6) located at a distance of 14 miles. From this key viewpoint, the scenic integrity level would only drop to Moderate. Between year 10 and year 40 (through Phase 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 continue to drop to a level of Very Low.

After the completion of Phase 2 (year 40), the scenic integrity of the area viewed from within the SBNF along Forest Road 3N02 would revert back to Very High, as the active quarry would be screened from view by an intervening ridge. Views from the Lucerne Valley would gradually increase up to a level of Low as reclamation takes hold. 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 Key Viewpoints would incrementally decrease during Phases 1 and 2, then trend higher as reclamation begins to take hold. Scenic integrity would decrease from an existing level of High to Very Low. Full reclamation would begin 80 years earlier than Alternative 1- Proposed Action. Impacts would be localized, but long term (over 20 years). This would not be consistent with the site's SIO of High.

Overall direct effects of implementing this alternative would be major and adverse to the site's scenic integrity, but the duration of the disturbances would last a substantially shorter time than in Alternative 1- Proposed Action. The worst of the scenic disturbances (mining of the north slope, Phases 3-4), would be avoided, and reclamation would restore the scenic integrity of the project area to a level of Low 80 years and several generations sooner than in the Proposed Action.

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.

Cumulative Effects

The cumulative effects analysis for Alternative 2- Partial Implementation is similar to that done for Alternative 1- Proposed Action. The cumulative effects analysis for Alternative 2 includes a land area encompassing the north slope of the San Bernardino Mountains as seen from Lucerne Valley. The area of cumulative effects analysis was bounded in this manner to correspond with the 'sense of place' and valued landscape character descriptions found in the LMP. The existing viewshed, as seen from Lucerne Valley High School (refer to Figure 10A-1), includes the northern slopes and quarry areas that comprise the cumulative effects analysis. There are approximately 16,000 acres of viewshed within the area of cumulative effects analysis. The project will impact approximately 134 acres (.8%) 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 impact approximately 1600 additional acres, bringing the total cumulative visual impacts to 1734 acres. It is difficult to determine future

actions, as much of the scenic disturbances occur on private land or land not administered by the SBNF.

Based on the cumulative effects analysis, 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, unfortunately, highlight disturbances in the landscape. Therefore, the cumulative existing scenic integrity is congruent with a level of Very Low, trending away from the SIO of High and towards No Integrity.

The Partial Implementation Alternative would have an adverse effect on the valued landscape character by incrementally adding to the cumulative scenic impacts. However, similar to the Proposed Action, the project area comprises a very small area relative to the large scale of the landscape being viewed. If the proposed design features are implemented, the scenic integrity levels are expected to remain unchanged by cumulative effects, as the additional South Quarry site would make up only 0.8% of the area of analysis, and disturbances caused by Partial Implementation would be much less dominant than existing landscape disturbances. 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.

Conclusion

Alternative 2 was developed in response to public comments requesting an alternative with a shorter duration and/or smaller footprint. This alternative would only implement Phases 1A, 1B, and 2. Mining would last 40 years rather than 120 years. As a result, reclamation and revegetation at the South Quarry site would be initiated nearly 80 years sooner, and localized indirect effects related to mining, such as fugitive dust and noise, would also end earlier under this alternative.

Overall direct effects of implementing this alternative would be major and adverse to the site's scenic integrity, but the duration of the disturbances would last a substantially shorter time than in Alternative 1- Proposed Action. The worst of the scenic disturbances would be avoided (mining of the north slope, Phases 3- 4), and reclamation would restore the scenic integrity of the project area to a level of Low 80 years and several generations sooner than the Proposed Action.

The Partial Implementation Alternative would have an adverse effect on the valued landscape character by incrementally adding to the existing scenic impacts. However, similar to the Proposed Action, the project area comprises a very small area relative to the large scale of the landscape being viewed. The existing limestone mines are the source of adverse scenery impacts due to their dominant contrast to the valued landscape character in color, form, line, and texture.

Based on the cumulative effects analysis, 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, unfortunately, highlight disturbances in the landscape. Therefore, the existing cumulative scenic integrity is congruent with a level of Very Low, trending away from the SIO of High and towards No Integrity. Direct effects of Alternative 2-

Partial Implementation 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.

6.4 ALTERNATIVE 3 – NO ACTION/NO PROJECT

Direct and Indirect Effects

If the No Action/ No Project Alternative 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 project area. The existing scenic integrity level would continue to range from High to Very High. Under 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 proposed 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 per its 2004 County approved mine and reclamation plan. 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” (San Bernardino County & LSA 2004) determined that scenery impacts from the expansion of the West Pit would be potentially significant.

Cumulative Effects

The cumulative effects analysis for the No Action/ No Project Alternative includes a land area encompassing the north slope of the San Bernardino Mountains as seen from Lucerne Valley. The area of cumulative effects analysis was bounded in this manner to correspond with the ‘sense of place’ and valued landscape character descriptions found in the LMP. The existing viewshed, as seen from Lucerne Valley High School (see Figure 16), includes the northern slopes and quarry areas that comprise the cumulative effects analysis. Cumulative effects include the past, existing, and reasonably foreseeable future actions. There are approximately 16,000 acres of viewshed within the area of cumulative effects analysis. Past and present actions impact approximately 1600 acres. It is difficult to determine future actions, as much of the scenic disturbances occur on private land or land not administered by the SBNF.

Existing and permitted mining on the north face of the San Bernardino Mountains has resulted in surface disturbances that are visible from Lucerne Valley. Table 5 lists the existing mining operations located in the region. Disturbances are evident on the mountain slopes due to the light color of the limestone quarries, stockpiles, and haul roads in contrast to undisturbed slopes and vegetation. The top photograph of existing conditions in Figure 16 – 1A as seen from Lucerne Valley High School, shows the existing viewshed of the northern slopes and quarry areas. The exposed mine features and the contrast between the natural landforms creates disturbances in line, form, color and texture to the landscape character. The limestone mines contribute to the adverse effects on scenery because of their position on the mountain slopes (centrally located between the valley floor and the ridge line) and the color contrasts they create between mined and natural-appearing areas.



1A. Existing conditions from 9 miles away looking south from Lucerne Valley High School toward the Project Site.



1B. At 40 years with concurrent revegetation of existing Quarries and Alternative A, No Action.

Note: No Project Alternative would not change existing and future scenic resources.

**VIEWPOINT 1
ALTERNATIVE 3 - NO ACTION
Lucerne Valley High School**

Mitsubishi Cement Corporation - South Quarry Scenic Report
San Bernardino National Forest

Most of the mining operations along the north face of the San Bernardino Mountains are active and permitted for many decades into the future. Concurrent reclamation upon completion of benches or phases of mining in the form of revegetation, covering of exposed areas with darker material, erosion control, and rock staining is required of most mining operations. Final reclamation would not commence until a specific operation or phase is completed.

There would be no cumulative effects to the future landscape character of the viewshed from SBNF lands nor from Lucerne Valley for the No Action/ No Project Alternative. The existing and approved future mining by MCC and other mine companies along the north slopes would generally be outside or north of SBNF lands below the northern ridgeline and would not be visible from SBNF lands. If the No Action/ No Project Alternative is selected, cumulative effects are expected to increase over time with the approved mining activities, and then gradually decrease with implementation of reclamation; the additional South Quarry areas would not be disturbed and would not add to cumulative impacts (see Figure 16 -1B).

Conclusion

If the No Action/ No Project Alternative is selected and the proposed South Quarry project does not take place, there would be no direct or indirect effects to scenic resources. The existing scenic integrity of the project area would continue to range from High to Very High as seen from Lucerne Valley, and would continue to be Very High when viewed from SBNF lands.

Cumulative impacts to scenic integrity would also remain unchanged with implementation of the No Action/No Project Alternative. The valued scenery from Lucerne Valley 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, unfortunately, highlight disturbances in the landscape. The cumulative existing scenic integrity as viewed from Lucerne Valley would continue to be congruent with a level of Very Low, trending towards No Integrity.

6.5 SUMMARY OF CONCLUSIONS

As included under Section 2.2.1 below, the LMP, Part 2 (2005) outlines the desired landscape character for the Proposed Action as follows:

Desert Rim Place – is maintained as a modified to natural appearing landscape that functions as a sanctuary for a large number of federally listed native plants and a highly valued area for limestone production.

The LMP defines Aesthetic Management Standards as follows:

- S9: Design management activities to meet the Scenic Integrity Objectives (SIO) shown on the Scenic Integrity Objectives Map.
- S10: Scenic Integrity Objectives would be met with the following exceptions:
Minor adjustments, not to exceed a drop of one SIO level, are allowable with the Forest Supervisor's approval. Temporary drops of more than one SIO level may

be made during and immediately following project implementation providing they do not exceed three years in duration.

The project area has an existing scenic integrity level ranging from High to Very High, and a SIO of High, (refer to Table 4 re-printed below). Direct effects of all alternatives would reduce the scenic integrity to a level of Low during the first 10 years of implementation (Phase 1A) as seen from all Key Viewpoints other than Viewpoints 5 and 6. Viewpoint 5 was not brought forward for analysis beyond the Proposed Action because views of the project area are completely screened by intervening topography. Viewpoint 6 is the farthest Key Viewpoint, located at a distance of 14 miles. Distant views tend to soften landscape details due to the natural prevalence of atmospheric haze from dust and moisture. From Viewpoint 6, the scenic integrity level would drop from Very High to a level of Moderate, and would remain Moderate through all phases of all alternatives analyzed, until reclamation, where it would trend upward to a level of High.

A summary of the differences between the alternatives' direct effects during Phases 1B through Reclamation is listed in Table 4 and described below:

Alternative 1- Proposed Action

Between year 10 and year 25 (Phases 1B and 2), views from the Lucerne Valley would continue to drop from a level of Low to Very Low. After year 40 (Phase 3), the scenic integrity of the area viewed from within the SBNF along Road 3N02 would revert back to Very High, as the active quarry is screened from view by an intervening ridge. However, views from Lucerne Valley would show mining along the north slope in Phase 3 and 4. This would expose an increased area of disturbance, counteracting concurrent reclamation efforts, and keeping the scenic integrity at Very 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 proposed action would be major and adverse to the site's level of scenic integrity.

Alternative 2- Partial Implementation

This alternative would only implement Phases 1A, 1B, and 2. Mining would last 40 years rather than 120 years. Direct effects of implementing this alternative would be major and adverse to the site's scenic integrity, but the duration of the disturbances would last a substantially shorter time than in Alternative 1- Proposed Action. As a result, reclamation and revegetation at the South Quarry site would be initiated nearly 80 years sooner, and localized indirect effects related to mining, such as fugitive dust and noise, would also end earlier under this alternative. The worst of the scenic disturbances would be avoided (mining of the north slope, Phases 3 and 4), and reclamation would restore the scenic integrity of the project area to a level of Low 80 years and several generations sooner than the Proposed Action.

Table 4
Potential Change in Scenic Integrity Level from Direct Effects

Key Viewpoint		Visibility ³	Scenic Integrity Objective (SIO)	Scenic Integrity Level ⁴								
				Alt: 1 Proposed Action					Alt: 2 Partial Implementation			Alt: 3 No Action (Existing Conditions)
				10 yrs.	25 yrs.	40 yrs. (End of Phase 2)	80 yrs. (End of Phase 3)	120 yrs. - Reclamation (End of Phase 4)	10 yrs.	25 yrs.	40 yrs. - Reclamation (End of Phase 2)	
1	Lucerne Valley High School	Bg	High	Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Low	High
2	Crystal Creek Road	Bg	High	Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Low	High
3	Camp Rock Road	Mg	High	Low	Very Low	Very Low	Very Low	Low	Low	Very Low	Low	Very High
4	FS Road (3N02)	Mg	High	Low	Low	Low	Very High	Very High	Low	Low	Very High	Very High
5	SR 18	Mg	High	(Not Visible)					(Not Visible)			(Not Visible)
6	SH 247	Bg	High	Moderate	Moderate	Moderate	Moderate	High	Moderate	Moderate	High	Very High

3 Visibility: Bg – Background; Mg – Middleground

4 Scenic Integrity Level of Project Area as seen from Key Viewpoints

Very High = unaltered

High = natural landscape appears unaltered; disturbances are not evident to casual observers

Moderate = landscape appears slightly altered; disturbances are evident but not dominant

Low = landscape appears moderately altered; disturbances are co-dominant with natural landscape character

Very Low = landscape appears heavily altered; disturbances are dominant over natural landscape character

Alternative 3- No Action/ No Project

If the No Action/ No Project Alternative 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 project area. The existing scenic integrity of the project area would continue to range from High to Very High as seen from Lucerne Valley, and would continue to be Very High when viewed from SBNF lands.

For all alternatives analyzed, indirect effects would be minor to neutral to the future landscape character with implementation of the Mojave Desert Air Quality Management District (MDAQMD) rules and regulations to minimize the creation of visible dust from mining activity.

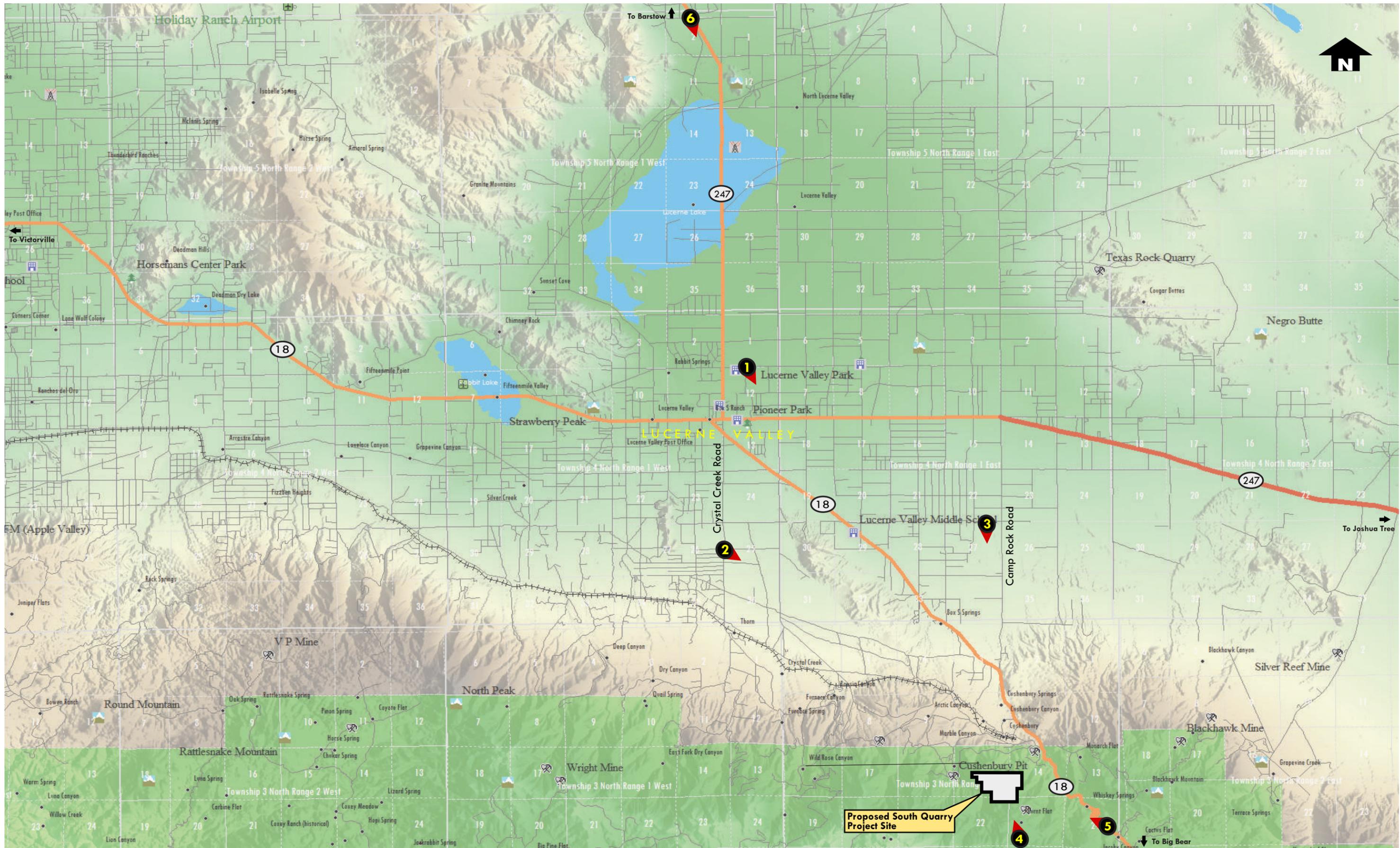
The existing scenic integrity of the project site would continue to range from High to Very High as seen from Lucerne Valley, and would continue to be Very High when viewed from SBNF lands.

The valued scenery from Lucerne Valley 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, unfortunately, highlight disturbances in the landscape. Alternatives 1 and 2 would incrementally increase cumulative impacts from views in Lucerne Valley. However, when considered with other existing mining activities along the north face of the San Bernardino Mountains, the existing cumulative scenic integrity would not substantially change, remaining at a level of Low to Very Low and trending towards No Integrity. Direct effects of these alternatives may lower the scenic integrity of the project site, but they would have a minor to neutral effect on the cumulative scenic integrity of the area. Cumulative impacts to scenic integrity would also remain unchanged with implementation of the No Action/No Project Alternative.

7.0 REFERENCES

- Mitsubishi Cement Corporation. 2011. Plan of Operations and Reclamation Plan for Mitsubishi Cement Corporation's South Quarry.
- U.S. Census Bureau: State and County QuickFacts, <http://quickfacts.census.gov/qfd/states/06/0644420.html> accessed on January 2, 2013.
- USDA Forest Service. 2007. Landscape Aesthetics; A Handbook for Scenery Management. Appendix J. Washington D.C.
- USDA Forest Service. 2005. San Bernardino National Forest Land Management Plan (LMP).
- USDA Forest Service. 2005. Land Management Plan, Part 2 San Bernardino National Forest Strategy.
- USDA Forest Service. 1995. Landscape Aesthetics; A Handbook for Scenery Management. Washington D.C.

APPENDIX A
VIEWPOINT INVENTORY AND ANALYSIS
SUMMARY



1 Viewpoint Simulation and Direction of View

Proposed South Quarry Project Site

Viewpoint Locations

Mitsubishi Cement Corporation - South Quarry
San Bernardino National Forest

Figure 8

Mitsubishi Cement Corporation
Viewpoint 1 – Lucerne Valley High School
August 2010

Scenic Assessment Ratings:

Landscape Visibility	
Type of Travel Way or Use Area	Use Area / School & Rural Residential
Concern Levels 1, 2 or 3	2
Distance Zone (Proposed Project Site approx.. 9 miles southeast)	Background (Bg)
Landscape Visibility	Bg2

Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Scenic Attractiveness	
Variety, Unity, Vividness, Mystery, Intactness, Coherence, Harmony, Uniqueness, Patterns, and Balance	
Scenic Attractiveness Class	B

Landscape Character Description	
Foreground (300 feet- 1/2 mile)	School parking lot, structures, light poles and scattered trees
Middleground (1/2 mile-4 miles)	Desert landscape with hills and scattered vegetation and buildings
Background (4 miles to horizon)	Ridgeline view, scenic backdrop, mines visible but not dominant

IMPACT ANALYSIS FROM VIEWPOINT

Proposed Action Alternative	
Potential Magnitude of Change (after 3 years)	
Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Comments:

The Project Site is located approx. 9 miles southeast and just below the ridgeline of the scenic backdrop as viewed from the Lucerne Valley High School east of SR 247 and north of SR 18 on Rabbit Springs Road. The viewshed is not obscured by any vegetation, trees or structures. The existing scenic integrity for the area (Low) would remain Low upon approval of the South Quarry since previous mining operations adjacent to the Project Site have created an altered landscape character for the area.

	HIERARCHY OF CONCERN LEVELS		
	High	Moderate	Low
Primary Travelway/Use Area High Use	1	2	2
Primary Travelway/Use Area Moderate Use	1	2	2
Primary Travelway/Use Area Low Use	1	2	3
Secondary Travelway/Use Area High Use	1	2	2
Secondary Travelway/Use Area Moderate Use	1	2	3
Secondary Travelway/Use Area Low Use	1	2	3

Scenic Integrity Summary

Criteria for Scenic Integrity of the L.C. Image/Sense of Place	(VH) Very High	(H) High	(M) Moderate	(L) Low	(VL) Very Low	(UL) Unacceptably Low
Dominance Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
Degree of Deviation From the Landscape Character	None	Not Evident	Evident but not dominant	Dominant	Very Dominant	Extremely Dominant
Intactness of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

**Mitsubishi Cement Corporation
Viewpoint 2 – Crystal Creek Road
August 2010**

Scenic Assessment Ratings:

Landscape Visibility	
Type of Travel way or Use Area	Secondary Roadway & Rural Residential
Concern Levels 1, 2 or 3	2
Distance Zone (Project Site approx. 6 miles southeast)	Background (Bg)
Landscape Visibility	Bg2

Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Scenic Attractiveness Variety, Unity, Vividness, Mystery, Intactness, Coherence, Harmony, Uniqueness, Patterns, and Balance	
Scenic Attractiveness Class	B

Landscape Character Description	
Foreground (300 feet to ½ mile) Road way and desert vegetation	
Middleground (1/2 mile to 4 miles) Desert vegetation and existing mines and stockpiles to west or right of view.	
Background (4 miles to horizon) Distant ridgeline view, existing mines evident and considered dominant from this location and viewpoint direction. Proposed Project Site would be in background distance.	

IMPACT ANALYSIS FROM VIEWPOINT

Proposed Action Alternative Potential Magnitude of Change (after 3 years)	
Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Comments:

The Project Site is located approx. 6 miles southeast and near the ridgeline as viewed from near the intersection of Crystal Creek and Azurite roads. The Project Site is visible and is not screened by foreground vegetation. The existing scenic integrity is considered Low due to the dominant deviation and altered landscape of the existing mines, stockpiles, and haul roads viewed towards the south and southeast. Given the presence of these existing mine activities below and to the west of the Proposed Project operations within the Middle and Background viewpoint, the scenic integrity for the area would not change and would remain Low under the Proposed Action Alternative.

HIERARCHY OF CONCERN LEVELS

	High	Moderate	Low
Primary Travelway/Use Area High Use	1	2	2
Primary Travelway/Use Area Moderate Use	1	2	2
Primary Travelway/Use Area Low Use	1	2	3
Secondary Travelway/Use Area High Use	1	2	2
Secondary Travelway/Use Area Moderate Use	1	2	3
Secondary Travelway/Use Area Low Use	1	2	3

Scenic Integrity Summary

Criteria for Scenic Integrity of the L.C. Image/Sense of Place	(VH) Very High	(H) High	(M) Moderate	(L) Low	(VL) Very Low	(UL) Unacceptably Low
Dominance Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
Degree of Deviation From the Landscape Character	None	Not Evident	Evident but not dominant	Dominant	Very Dominant	Extremely Dominant
Intactness of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

**Mitsubishi Cement Corporation
Viewpoint 3 – Camp Rock Road
August 2010**

Scenic Assessment Ratings:

Landscape Visibility	
Type of Travel Way or Use Area	Secondary Roadway & Rural Residential
Concern Levels 1, 2 or 3	2
Distance Zone (Project Site approx. 4 to 5 miles south)	Middleground (Mg) to Background (Bg)
Landscape Visibility	Mg2

Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Scenic Attractiveness (existing landscape character) Variety, Unity, Vividness, Mystery, Intactness, Coherence, Harmony, Uniqueness, Patterns, and Balance	
Scenic Attractiveness Class	B

Landscape Character Description	
Foreground (300 feet to 1/2 mile) Shrubs, residential structure, utility poles	
Middleground (1/2 mile to 4 miles) Desert vegetation and existing mines and stockpiles generally to west or right of view.	
Background (4 miles to horizon) Ridgeline view, existing mines evident from this location and viewpoint direction. Proposed Project Site would be in background distance in center.	

IMPACT ANALYSIS FROM VIEWPOINT

Proposed Action Alternative Potential Magnitude of Change (after 3 years)	
Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Comments:

The project area is located below the ridgeline of the scenic backdrop as viewed just west of Camp Rock Road and two miles north of SR 18 looking south toward the mountains. The viewshed is not obscured by any vegetation, trees or structures. The existing scenic integrity for the area (Low) would remain Low under the Proposed Action Alternative since previous mining operations adjacent to the project site are dominant when looking south and created an altered or Low scenic integrity for the area.

HIERARCHY OF CONCERN LEVELS

	High	Interest in Scenery Moderate	Low
Primary Travelway/Use Area High Use	1	2	2
Primary Travelway/Use Area Moderate Use	1	2	2
Primary Travelway/Use Area Low Use	1	2	3
Secondary Travelway/Use Area High Use	1	2	2
Secondary Travelway/Use Area Moderate Use	1	2	3
Secondary Travelway/Use Area Low Use	1	2	3

Scenic Integrity Summary

Criteria for Scenic Integrity of the L.C. Image/Sense of Place	(VH) Very High	(H) High	(M) Moderate	(L) Low	(VL) Very Low	(UL) Unacceptably Low
Dominance Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
Degree of Deviation From the Landscape Character	None	Not Evident	Evident but not dominant	Dominant	Very Dominant	Extremely Dominant
Intactness of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

Mitsubishi Cement Corporation
Viewpoint 4 – Forest Service Road 3N02
August 2010

Scenic Assessment Ratings:

Landscape Visibility	
Type of Travel Way or Use Area	Low use FS dirt roadway & area
Concern Levels 1, 2 or 3	3
Distance Zone (Project Site approx. 1.5 miles north)	Middleground (Mg)
Landscape Visibility	Mg2

Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	High
Degree of Deviation from the Landscape Character	High
Intactness of Landscape Character	High
Total Scenic Integrity	High

Scenic Attractiveness	
Variety, Unity, Vividness, Mystery, Intactness, Coherence, Harmony, Uniqueness, Patterns, and Balance	
Scenic Attractiveness Class	B

Landscape Character Description
Foreground (300 feet - 1/2 mile) Pine trees at different stages of development and shrubs looking down slope to north.
Middleground (1/2 mile to 4 miles) Pine/shrub covered ridges before view extends into Lucerne Valley floor with roads and scattered development. Project site located behind second ridgeline. Last ridgeline of more scattered vegetation would be removed by the Proposed Action Alternative.
Background (4 miles to horizon) Lucerne Valley floor with roads and scattered development and distant ridgeline along horizon

IMPACT ANALYSIS FROM VIEWPOINT

Proposed Action Alternative Potential Magnitude of Change (after 20 years)	
Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	High Low (after 20 years)
Degree of Deviation from the Landscape Character	High Low (after 20 years)
Intactness of Landscape Character	High Low (after 20 years)
Total Scenic Integrity	High Low (after 20 years)

Comments:

The project area is located beyond the second ridgeline as viewed north towards Lucerne Valley. The viewshed along 3N02 is often obscured by trees. The viewpoint selected is in an opening along the road. The existing scenic integrity for the area is considered high for the forest lands to moderate as views of Lucerne Valley become dominant in background. The Proposed Action Alternative would remove the third or last ridgeline of more scattered vegetation during Phase 2 in the 20 to 40 year timeframe from project start. During this time, active mining would be visible and the scenic integrity would be considered low. Thereafter, the ridge would be removed and mining no longer visible as the quarry and mining become blocked by the intervening ridgeline. Though the mining and quarry would not be visible from this particular viewpoint, the scenic integrity would be considered Low as the quarry would not be consistent with the SIO of High.

HIERARCHY OF CONCERN LEVELS

	Interest in Scenery		
	High	Moderate	Low
Primary Travelway/Use Area High Use	1	2	2
Primary Travelway/Use Area Moderate Use	1	2	2
Primary Travelway/Use Area Low Use	1	2	3
Secondary Travelway/Use Area High Use	1	2	2
Secondary Travelway/Use Area Moderate Use	1	2	3
Secondary Travelway/Use Area Low Use	1	2	3

Scenic Integrity Summary

Criteria for Scenic Integrity of the L.C. Image/Sense of Place	(VH) Very High	(H) High	(M) Moderate	(L) Low	(VL) Very Low	(UL) Unacceptably Low
Dominance Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
Degree of Deviation From the Landscape Character	None	Not Evident	Evident but not dominant	Dominant	Very Dominant	Extremely Dominant
Intactness of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

Mitsubishi Cement Corporation
Viewpoint 5 – SR 18 from Forest Service
Lands
August 2010

Scenic Assessment Ratings:

Landscape Visibility	
Type of Travel Way or Use Area	State highway & recreation
Concern Levels 1, 2 or 3	2
Distance Zone (Project Site approx. 1 mile northwest)	Middleground (Mg)
Landscape Visibility	Mg2

Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Moderate
Degree of Deviation from the Landscape Character	Moderate
Intactness of Landscape Character	Moderate
Total Scenic Integrity	Moderate

Scenic Attractiveness	
Variety, Unity, Vividness, Mystery, Intactness, Coherence, Harmony, Uniqueness, Patterns, and Balance	
Scenic Attractiveness Class	B

Landscape Character Description	
Foreground (300 feet - 1/2 mile)	Desert/mountain shrub-covered hills and ridges
Middleground (1/2 mile to 4 miles)	Desert/mountain shrub-covered hills and ridges
Background (4 miles to horizon)	Horizon not visible

IMPACT ANALYSIS FROM VIEWPOINT

Proposed Action Alternative	
Potential Magnitude of Change (after 3 years)	
Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Moderate
Degree of Deviation from the Landscape Character	Moderate
Intactness of Landscape Character	Moderate
Total Scenic Integrity	Moderate

Comments:

The project area is blocked from the view of travelers on SR 18 in the Cactus Flats area. This viewpoint shows the ridgeline just above the eastern portion of the Proposed Project in the vicinity of the Old Mohawk Mine. The existing scenic integrity for the area (moderate) would remain unchanged by the Proposed Action Alternative.

	HIERARCHY OF CONCERN LEVELS		
	High	Interest in Scenery Moderate	Low
Primary Travelway/Use Area High Use	1	2	2
Primary Travelway/Use Area Moderate Use	1	2	2
Primary Travelway/Use Area Low Use	1	2	3
Secondary Travelway/Use Area High Use	1	2	2
Secondary Travelway/Use Area Moderate Use	1	2	3
Secondary Travelway/Use Area Low Use	1	2	3

Scenic Integrity Summary

Criteria for Scenic Integrity of the L.C. Image/Sense of Place	(VH) Very High	(H) High	(M) Moderate	(L) Low	(VL) Very Low	(UL) Unacceptably Low
<u>Dominance</u> Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
<u>Degree of Deviation</u> From the Landscape Character	None	Not Evident	Evident but not dominant	Dominant	Very Dominant	Extremely Dominant
<u>Intactness</u> of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

Scenic Assessment Ratings:

Landscape Visibility	
Type of Travel Way or Use Area	State highway
Concern Levels 1, 2 or 3	2
Distance Zone (Project Site approx. 14 miles south)	Background (Bg)
Landscape Visibility	Bg2

Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Scenic Attractiveness	
Variety, Unity, Vividness, Mystery, Intactness, Coherence, Harmony, Uniqueness, Patterns, and Balance	
Scenic Attractiveness Class	B

Landscape Character Description	
Foreground (300 feet to 1/2 mile)	Shrub covered desert landscape
Middleground (1/2 mile to 4 miles)	Shrub covered to barren desert valley
Background (4 miles to horizon)	Desert valley and mountain panorama with mountain ridgeline along horizon with evidence of mining areas

IMPACT ANALYSIS FROM VIEWPOINT

Proposed Action Alternative Potential Magnitude of Change (after 3 years)	
Scenic Integrity (see table below)	
Dominance: Landscape Character vs. Deviation	Low
Degree of Deviation from the Landscape Character	Low
Intactness of Landscape Character	Low
Total Scenic Integrity	Low

Comments:

The Project Site is located approx. 14 miles south just below the ridgeline of the scenic backdrop as viewed from SR 247 from the northern edge of Lucerne Valley. The viewshed is of a desert valley with a background of the San Bernardino Mountains. The existing scenic integrity for the area is considered Low with the road and existing mining areas along the mountain slopes. The Proposed Action slightly increases the mining areas at this distance. The scenic integrity from this distance would remain unchanged (Low) since previous mining operations adjacent to and west of the Proposed Project Site have created an altered scenic integrity for the area.

HIERARCHY OF CONCERN LEVELS
Interest in Scenery

	High	Moderate	Low
Primary Travelway/Use Area High Use	1	2	2
Primary Travelway/Use Area Moderate Use	1	2	2
Primary Travelway/Use Area Low Use	1	2	3
Secondary Travelway/Use Area High Use	1	2	2
Secondary Travelway/Use Area Moderate Use	1	2	3
Secondary Travelway/Use Area Low Use	1	2	3

Scenic Integrity Summary

Criteria for Scenic Integrity of the L.C. Image/Sense of Place	(VH) Very High	(H) High	(M) Moderate	(L) Low	(VL) Very Low	(UL) Unacceptably Low
Dominance Landscape Character vs. Deviation	Landscape Character	Landscape Character	Landscape Character	Deviation	Deviation	Deviation
Degree of Deviation From the Landscape Character	None	Not Evident	Evident but not dominant	Dominant	Very Dominant	Extremely Dominant
Intactness of the Landscape Character	Landscape Character Fully Expressed	Landscape Character Largely Expressed	Slightly Altered and Character Expression Moderate	Altered and Low Expression of Character	Heavily Altered and Very Low Expression of Character	Extremely Altered

APPENDIX B
METHODOLOGY

Visual Inventory Study Methods

Scenery Management System

The purpose of the visual resources inventory was to identify and document landscape scenery and views of the proposed project area. The South Quarry and haul road would be located almost entirely (143.4 acres) on 380 acres of unpatented claims leased from the Cushenbury Mine Trust (CMT) on public federal land under the jurisdiction of the San Bernardino National Forest (SBNF) with approximately 3.8 acres of the haul road located on MCC owned land where it enters the existing East Pit. The visual resources inventory consisted of a detailed evaluation of the proposed project area. The inventory is consistent with the principles of the Scenery Management System established by the U.S. Forest Service (1995).

The Scenery Management System measures the degree of scenic integrity, or human-caused deviation in the landscape. Research has shown that high-quality scenery related to natural appearing forests improves the viewer's physiological well-being.

The inventory was conducted in June 2010. Studies included field observations and meeting with MCC Personnel to review key issues, management strategies and inventory requirements. Data was collected through agency contacts, existing mapped data, and aerial photography interpretation. In addition, extensive ground reconnaissance was conducted in support of these efforts.

Scenery Impact Assessment Methods

Impacts on visual resources were assessed by determining the potential for change to the views of landscape scenery. This section describes criteria, methods, and models used to assess visual impacts of the proposed project. Key components of the assessment include Landscape Character goals, Scenic Integrity Objectives and predictions of potential effects on scenery for each alternative evaluated. The existing Landscape Character serves as a baseline from which to judge deviation in a landscape.

Existing and Desired Landscape Character

An existing landscape character description was determined for the project area. This was developed by describing distinct elements in the landscape that create a unique visual and cultural image. It consists of a combination of physical, biological, climatic and cultural attributes that make the area identifiable. It serves as a baseline for determining existing scenic integrity.

The desired landscape character for the project area was identified from the "Place" descriptions within the 2005 San Bernardino National Forest Land Management Plan (LMP). It expresses the most optimal

combination of socially-valued scenery attributes that can be sustained in the specified Place. This inventory's primary focus was on the effect of the project proposal on the desired Landscape Character and Scenic Integrity Objectives as established in the LMP.

Scenic Integrity

Dominance indicates which element has the strongest visual weight within the Landscape Character and assesses the amount of divergence from it. Scenic Integrity is a measure of the degree of deviation or visual contrast in the landscape. It refers to the amount of perceptible change that would occur (with reference to form, line, color, and/or texture) as a result of the Proposed Action. Two major components that contribute to the degree of deviation include the addition of structural elements in the landscape and removal of vegetation. Intactness of the landscape also helps evaluate the impacts to scenery.

Visual contrast includes potential vegetation contrast that would result from the clearing of vegetation for road, structures and utilities. Vegetation contrast was determined through an evaluation of the proposed fuel treatment area. Existing scenic integrity is determined by evaluating the landscape based upon deviation or alterations of the existing Landscape Character.

Scenic Integrity Objectives

Scenic Integrity Objectives are prescribed by forest land management plans. They determine the overall importance of scenic resources and set minimum acceptable levels of natural landscape character. Levels of scenic integrity are described below:

- *Very High*—unaltered
- *High*—appears unaltered
- *Moderate*—slightly altered
- *Low*—moderately altered
- *Very Low*—heavily altered

Scenic Classes

Scenic Classes are used to compare the value of scenery to the value of other resources, and are derived from combining the visibility mapping and the scenic attractiveness mapping. A suitability map is created that is used by land managers in forest planning. Scenic Classes 1 through 7 identify a public value that can be tied to the landscape. The higher the Scenic Class, the more important it is to maintain the highest scenic value. GIS data layers were referenced in mapping the Scenic Classes.

Scenic Attractiveness

Scenic attractiveness measures the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, water, vegetation patterns and cultural features. Higher scenic attractiveness occurs in landscapes with a greater degree of naturalness, diversity of features and uniqueness. The relative scenic value of lands within a particular Landscape Character are classified as; class A- distinctive, class B- typical, and class C- indistinctive.

Landscape Visibility

Landscape visibility is a function of many interconnected considerations such as the context of viewers, the duration of view, the number of viewers and the degree of discernable detail. Landscape visibility is determined using three elements:

- Travelways and Use Areas
- Concern Levels
- Distance Zones

As part of this inventory, travelways and use areas were identified within the proximity of the project area, and their concern levels and distance zones documented.

Most landscape viewing occurs from travelways and use areas. Travelways are defined as linear concentrations of public-viewing, including freeways, highways, roads, railroads, trails, commercial flight paths, rivers, canals, and other waterways. Use Areas are locations that receive concentrated public-viewing use. They include vista points, trailheads, campgrounds, swim beaches, parks, ski resorts, and other recreation sites.

Concern levels are a measure of the degree of relative importance the public places on a landscape being viewed from a particular travelway or use area. Concern level is a function of both the number of visitors as well as their intent. Three (3) concern levels are used:

Level 1 is the most important. Users have a high level of concern for scenery. It is associated with major highways, areas of concentration such as recreation facilities, special designations such as scenic byways or national recreation/historic trails and cultural sites. These can be roads, trails or waterways.

Level 2 areas are areas of lesser importance such as state highways, county roads, secondary trails, scenic overlooks, summer home tracts etc.

Level 3 refers to low use areas and low volume roads, trails, waterways or recreation facilities.

Distance zones are measured from key viewpoints. As distance between the viewer and the landscape increases, the level of visible landscape detail decreases. The zones are divided into three general categories:

Foreground - 300 feet to ½ mile

Middleground - ½ to 4 miles

Background - 4 miles to horizon

Foreground distance zones have a high level of detail, yet commonly allow more opportunities for screening. Middleground designations usually reveal deviations in the landscape related to form, line, color and/or texture, but have less discernable detail overall. Background designations usually increase scenic value as the terrain allows people to have longer views.

Viewsheds

Visibility to and from developed areas and travel routes was determined by the edge conditions bordering individual areas. Edge conditions are described as screened, partially screened or open conditions. For example, a screened edge condition refers to a situation where views of the project area are blocked by topography, vegetation, and/or development. Partial screening occurs where there are dispersed patterns of vegetation and development. Open edge conditions do not have anything blocking views of the project area, hence they lack screening.

Impact Assessment

In general, significant visual impacts in High Scenic Integrity landscape settings are the result of high to moderate visibility (foreground and middleground views) from sensitive viewing areas. Significant visual impacts can be any, or a combination of the following:

- Dominance of deviation over landscape character

- Deviations from landscape character are evident but not dominant

- The intactness of the landscape character becomes altered, resulting in a change scenic integrity

Potentially significant impacts in High Scenic Integrity areas occur when the project would be noticeable in moderate visibility location. A moderate visibility location is characterized by partially screened or intermittent foreground views toward the project area or as noticeable from open views, but at a greater distance (1.0 mile, middleground view) from the project area.

Where views are located in conditions that do not attract attention or are seldom seen, impacts are visually non-significant. These include areas where the views are generally beyond 1.0 mile or screened by vegetation in a middleground setting.

Mitigation

Initial impact levels were determined based on the description of the Proposed Action. Selective mitigation was considered to reduce visual impacts. The effectiveness of mitigation techniques in

conjunction with the Landscape Character and visibility can be best determined at the project design stage. Selective mitigation that would reduce visual impacts includes measures presented in section 4.0 *Mitigation*.

APPENDIX C
MONITORING

Project Level Monitoring

Project Level Monitoring should be done to identify key scenery conservation issues most pertinent to the Forest situation. Projects monitored should be representative of forest management activities that have most influence on scenic quality, and should be documented to include information as listed on the sample project monitoring form below. A summary of this information should be integrated into annual Forest LMP Monitoring Reports.

SMS PROJECT MONITORING FORM

Project Level Scenery Monitoring Report

San Bernardino National Forest

Project Name: South Quarry

Place:

Report by:

Ranger District:

Date:

Photo Record: (Y/N)

Forest Plan Management Area(s):

Landscape Character

Existing Landscape Character (include at least the valued scenery attributes, per constituent analysis, that are pertinent and potentially affected by the project):

Desired Landscape Character (pertinent valued attributes and achievement schedule):

Achieved Landscape Character (pertinent valued attributes, achievement dates, degree of attainment & effectiveness of project methods to achieve Desired Scenic Character):

What opportunities remain to further achieve Desired Landscape Character ? (changes in scenic pattern, structure, distribution, composition and diversity, project methods, scheduling, mitigations, etc):

Scenic Integrity

Existing Scenic Integrity (Current Scenic Integrity Level as viewed from specified viewpoints/viewsheds/distance zones):

Desired Scenic Integrity (Forest Plan's SIO direction, constituent analysis preferences, and project SIO per decision maker, SIO achievement schedule):

Achieved Scenic Integrity (SIOs as viewed from specified viewpoints/distance zones, achievement dates)

What opportunities remain to achieve higher Scenic Integrity ? (changes in form, line, color, texture, pattern, distribution, magnitude, project methods, scheduling, mitigations, etc):

----- End of Project Level Scenery Monitoring Report -----