Appendix B
Aesthetics

VISUAL RESOURCES ASSESSMENT

FOR THE

OMYA CALIFORNIA
WHITE KNOB-WHITE RIDGE
LIMESTONE QUARRIES
AMENDED MINE
AND
RECLAMATION PLAN

Prepared For:

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July 2013

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VISUAL RESOURCES ASSESSMENT
FOR THE
OMYA CALIFORNIA
WHITE KNOB-WHITE RIDGE LIMESTONE QUARRIES
AMENDED MINE AND RECLAMATION PLAN

1.0 INTRODUCTION

The Visual Resources Assessment Report is divided into five sections including this Introduction (Section 1). Section 2 reviews the Amended White Knob-White Ridge Limestone Quarries Mine and Reclamation Plan (Amended Plan) and describes how quarrying and reclamation will occur. Section 3 introduces the concept of the Visual Resources Assessment (VRM) Contrast Rating System and describes the existing landscape using the VRM System. The VRM System was established by the Bureau of Land Management (BLM, 1984) for rating the quality of visual resources and evaluating changes in scenic quality attributed to a proposed action. Section 4 contains an evaluation of potential impacts associated with amended operations, using the BLM's VRM System. This system is used to measure the degree of contrast between the existing landscape and proposed quarrying/reclamation activities. Section 5 contains the conclusions of the visual resources assessment.

This assessment evaluates the potential impacts to the scenic quality associated with implementation of the Amended Plan. The assessment focuses on the project site and the area surrounding the site when viewed from three different public viewpoints within Lucerne Valley.

1.1 PROJECT BACKGROUND

Omya Inc.'s ("Omya") (formerly known as Pluess-Staufer (California) Inc.) existing permitted White Knob - White Ridge Limestone Quarries are located in the Lucerne Valley area on the north slope of the San Bernardino Mountains in San Bernardino County, California (see Figure 1). The approved quarry site consists of approximately 145 acres of mining facilities within 353 acres of patented fee land, portions of which are leased or owned by Omya. The San Bernardino County Planning Commission certified an Environmental Impact Report (EIR) and approved the White Knob-White Ridge Limestone Mine Site Approval and Reclamation Plan in 1986 (86M-04) with an expiration date of December 31, 2031. The CA mine ID# is 91-36-0067.

During the original permitting of the White Knob Quarry in 1986, it was recognized that there would be significant, un-mitigable visual impacts from the quarry development. It was determined that the impacts, although visible, are consistent with the general visual character of the Lucerne Valley limestone mining area which includes numerous quarries, overburden sites, haul roads and limestone processing plants. A Statement of Overriding Consideration regarding environmental effects of the White Knob Quarry was prepared and accepted by the San Bernardino County Planning Commission, in which the visual impacts of the quarry development that could not be mitigated to a level below significance were recognized. The Planning Commission found that the economic, social and other benefits to the region as a result of the project outweighed the significance of the project impacts upon visual resources.

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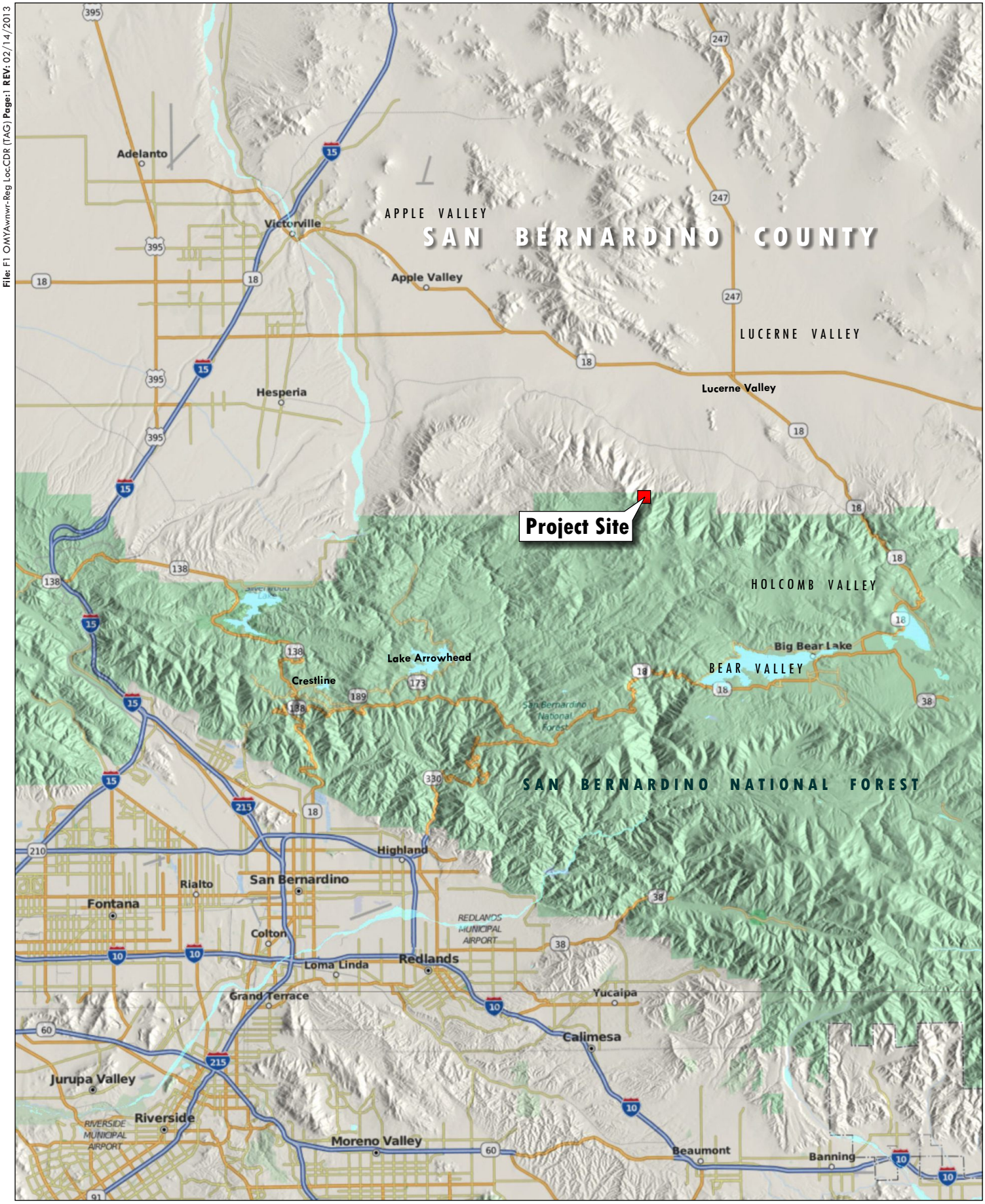

0 5.25
Mile
Source: World Topo Map, 2013

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LEGEND

- **Project Site Location** (Geographic Location)
  California Zone 5 (FIPS 405): 6859727.90 1956210.48
  Lat/Lon: 34° 21' 49.3863" N, 117° 00' 44.3577" W

REGIONAL LOCATION

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES
Amended Mine and Reclamation Plan
Omya California, County of San Bernardino, California

FIGURE 1

1.2 PROPOSED PROJECT SUMMARY

The Amended Plan has been prepared to incorporate modifications to mining and reclamation plans since the original plan was approved in 1986. The planned quarry activities propose to disturb approximately an additional 190 acres on a total area of 423.1 acres. (Note that approximately 70 acres of an unpatented mining claim on BLM managed federal lands are in the process of being transferred to Omya ownership through a direct land sale.) The total existing and proposed quarry areas will be approximately 335 acres on private land (see Figures 2 and 3). This Amended Plan is prepared to satisfy the requirements of the San Bernardino County mining ordinance and the State Mining and Reclamation Act (SMARA) as overseen by the Office of Mine Reclamation (OMR).

The White Knob - White Ridge Quarries discussed in the Amended Plan include the active mining area consisting of the White Knob and Annex Quarries and the approved White Ridge Quarry, existing and planned overburden sites, crusher plant site, internal haul roads, erosion control facilities, and the existing access haul road to Omya's Lucerne Valley processing plant. These changes allow for substantial optimization of the site's future operational activities. The Amended Plan includes:

- Increased excavations, ore and overburden production;
- Addition of 24 years from the existing permit expiration date of 2031 through the year 2055;
- Continued crushing and hauling of ore;
- Hauling of overburden or non-spec rock and fines to the Lucerne Valley processing plant for off-site sales. This would incrementally reduce overburden stockpiles;
- Expansion of the existing overburden site (OB-1);
- Construction of one previously approved overburden site (OB-2) and one additional overburden site (OB-3);
- Backfilling part of the White Knob Quarry to reduce additional overburden areas;
- Construction of new haul roads within the mining area to access the White Ridge deposit;
- Changes in mining plans for the White Ridge Quarry that will increase its size but will leave a ridge to the north to reduce visual impacts;
- Changes to the final ultimate outer disturbance limits on an additional 190 acres on a total project area of 335 acres; and
- Reclamation of half width of access road within the BLM ROW on approximately 40 acres.

Quarry and overburden stockpile development and expansion will be phased per the existing phasing plan. Included in the phased expansion is concurrent reclamation of equipment-accessible mined out portions of the quarries and completed overburden stockpiles. Once the final outer limit and bottom of the ore is reached, the White Knob Quarry will be partially backfilled up to the approximately 5,575-foot elevation. The Amended Plan allows for substantial overburden to be placed in the mined out portions of the quarry, and also allows an

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Township 4 North
Township 3 North

Haul Road ROW to Processing Plant

Turnout 64

Turnout 50

OMYA Processing Plant

Crystal Creek Road

Project Site

Annex Quarry

White Knob Quarry

White Ridge Quarry

OB 1

OB 2

OB 3

Proposed OB 2

Basin

Culvert

SILVER CREEK

DEEP CANYON

CRYSTAL CREEK

SAN BERNARDINO NATIONAL FOREST

N

0 1,800

Feet

Sources: Lilburn Corp., 2013

LILBURN CORPORATION

LEGEND

- Project Boundary Private Lands
- Limits of Planned Disturbance
- Major Facilities
- Haul Road Right-of-way on BLM Land CACA 16644
- OB Overburden Stockpile
- SB Sediment Basin
- Proposed / Improved SB
- Existing Major Contour
- Existing Minor Contour
- Existing Drainages
- San Bernardino National Forest Boundary

PROJECT VICINITY

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES
Amended Mine and Reclamation Plan
Omya California, County of San Bernardino, California

FIGURE 2

File: F1 OMYAvnvr-Ex Q and Plan Ops.CDR (TAG) Page:1 REV: 07/20/2013

Project Site

Sensitive Habitat to be Avoided

Sensitive Habitat to be Avoided

1,970' +/-

2,605' +/-

655' +/-

670' +/-

660' +/-

660' +/-

170' +/-

697' +/-

160' +/-

1930' +/-

2,590' +/-

2,655' +/-

2,650' +/-

Existing Haul Road to Processing Plant

Right-of-way

Right-of-way

Existing Haul Road

SECTION 6 SECTION 5

SECTION 7 SECTION 8

Boulder Rolldown Area Revegetated in 2006

Northwest Slope

ANNEX QUARRY

WHITE KNOB QUARRY

WHITE RIDGE QUARRY

OB 1

OB 3

OB-3
SB-1

OB 2

Existing Crusher

Existing Haul Road

Existing Haul Roads

Ancillary Haul Road Area

Ancillary Haul Road Area

S.B.N.F.

S.B.N.F.

SAN BERNARDINO NATIONAL FOREST

N

0 500

Feet

Sources: Lilburn Corp., 2013

LILBURN CORPORATION

LEGEND

- Project Boundary Private Lands
- Existing Approved Operations (Estimated)
- Limits of Planned Disturbance
- Major Facilities
- Haul Road Right-of-way on BLM Land CACA 16644
- Amended Operating Area
- OB Overburden Stockpile
- Existing Drainages

EXISTING APPROVED QUARRIES and AMENDED OPERATIONS

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES

Amended Mine and Reclamation Plan

Omya California, County of San Bernardino, California

FIGURE 3

efficient mining plan, minimum disturbance of new ground, phased incremental disturbance of new ground, and concurrent reclamation of the quarries, overburden stockpiles, and roads. At the conclusion of excavations, ten years of reclamation and revegetation activities will be implemented, followed by monitoring and remediation until revegetation goals are achieved.

1.3 ENVIRONMENTAL SETTING

The White Knob-White Ridge Quarries are located in the Lucerne Valley area on the north slope of the San Bernardino Mountains in San Bernardino County, California. The complex geologic history of the San Bernardino Mountains has allowed the formation of several large, high purity limestone deposits which are currently being mined by several mining companies along the north slopes. The White Knob and Annex Quarries are a multi-bench open pit and side-slope mine, with two or three working levels operated at any one time to supply the quota of ore needed to meet production demands. Access to the various levels is via a series of switchback roads cut into the adjacent granite rock mountain side.

The existing natural landscape character of the project area consists of steep mountain slopes, rock outcrops, ridges, vertical cliffs over 100 feet in height, and canyons. Vegetation is characterized as Mojave or open desert shrubland and semi-desert chaparral at lower elevations transitioning to pinyon-juniper-mountain mahogany woodland at higher elevations. Vegetation tends to be denser on north slopes and gullies, and more open on south slopes and along ridges. Most of the project site and areas south and west of the site were burned in wildfires in 2007 and appear sparsely vegetated to barren from a distance. Mining features have been part of the landscape for over 50 years and are an integral part of the north slope of the mountains visible from Lucerne Valley.

Figure 1 shows the project site and vicinity. Public views of the area are primarily limited to State Highways (SH) 18 and 247 located approximately five to six miles northwest and east of the site and from other local roads and residences in the Lucerne Valley. Due to topography and the orientation of the quarry sites, views are and will be limited to those from the northwest to east within Lucerne Valley. The project is not and will not be visible from any developed/populated areas to the south within the San Bernardino National Forest (SBNF) including the City of Big Bear Lake (and from the lake itself), Fawnskin, and Big Bear City due to the intervening ridges located north of the lake and the relatively lower elevations of the lake itself.

The existing views toward the project area are dominated by the mountain ridgeline that extends to the east and west, forming a dominant landscape on the entire southern horizon. The project site is currently altered by mining activities that have occurred over the past 25 years. The White Knob Quarry, overburden stockpile, haul roads, and boulder roll down on the north and west facing slopes have created un-natural forms, lines and color contrasts.

1.4 PROJECT SITE AND VICINITY

The White Knob –White Ridge Quarries operation occurs at the base of the north range front of the San Bernardino Mountains - Lucerne Valley area. The project site is within the larger San Bernardino Mountains - Lucerne Valley mining district, in which several large scale limestone

mines are present along the north slope over a west to east distance of about 10 miles. Land use in the immediate project area is dominated by the existing mining activities. The terrain in the vicinity of the site is very rugged and mountainous. Other than mining, which has historically been active in the area since the 19th century, land use in the rugged mountainous area in the vicinity of the quarry, has been limited to occasional use by hikers and hunters. During the past years, Off-Highway Vehicle (OHV) use in the general area has increased.

The only permitted road access to the site is via the existing haul road approved for use by the BLM in 1986. The site is designated as Resource Conservation (RC) on the San Bernardino County General Plan/Lucerne Valley Community Plan Land Use Map. The White Knob limestone deposit is defined as a Mineral Resource Zone 2 (MRZ-2) rating, which indicates it is recognized by the state as a valuable proven mineral resource with substantial reserves. MRZ-2 status is significant as it recognizes the significance and importance of mineral resources and mining in land use planning.

Land to the south of the quarry is within the SBNF managed by the United States Forest Service (USFS). To the south and west of the quarry, no residences are located for at least five miles. Fawnskin is located approximately seven miles to the southeast. To the north, west and east, public land is managed by the BLM. To the north of BLM land is private property within or adjacent to the town limits of Lucerne Valley. The junction of SHs 18 and 247 is located approximately six miles to the northeast of the project site. The nearest occupied residences are located to the north and northeast of the quarry at a distance of approximately 3 miles.

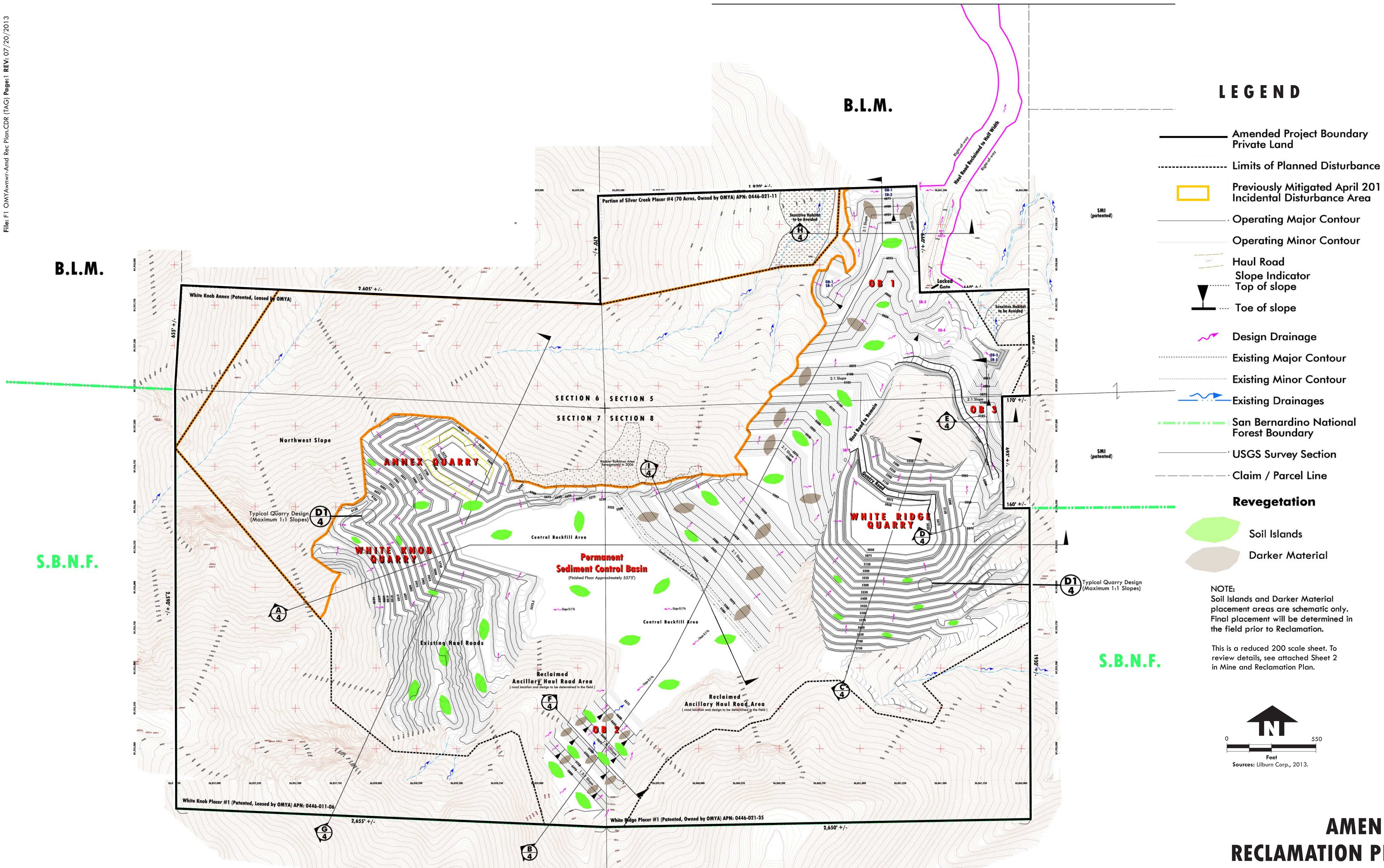
2.0 PROPOSED PROJECT

The detailed project description is provided in the "Omya California Amended Mine and Reclamation Plan White Knob - White Ridge Limestone Quarries" submitted to the County of San Bernardino by Omya in September 2013. A summary of the Proposed Project's operations and reclamation plans is provided below.

2.1 DESCRIPTION OF QUARRY OPERATIONS

The White Knob - White Ridge Quarries discussed in the Amended Plan consist of the approved active White Knob and Annex Quarries and the approved undeveloped White Ridge Quarry, existing and planned overburden sites, crusher plant, internal haul roads, erosion control facilities, and the haul road to the Lucerne Valley processing plant. The planned development of the quarries would disturb approximately an additional 190 acres on a total fee area of 423.1 acres (see Table 1 and refer to Figure 3). The approved 1986 Plan included operations on approximately 145 acres.

The principal changes in the Amended Plan with respect to visual resources are the increase in size of the overburden stockpiles, the increase in size of the approved undeveloped White Ridge Quarry, and the increase in the number of ancillary haul roads west and east of OB-2. The redesign of the north half of the White Ridge Quarry and the list of project design features in Section 2.3 would reduce visual impacts. These changes are shown on Figures 3 and 4 and would be the incremental changes to visual impacts of the Proposed Amendment as compared to the existing and 1986 approved operations.


B.L.M.
B.L.M.
S.B.N.F.
S.B.N.F.
SAN BERNARDINO NATIONAL FOREST
SECTION 6 SECTION 5
SECTION 7 SECTION 8
Northwest Slope
ANNEX QUARRY
WHITE KNOB QUARRY
WHITE RIDGE QUARRY
OB 1
OB 2
OB 3
Permanent Sediment Control Basin
(Finished Floor Approximately 5575')
Central Backfill Area
Existing Haul Roads
Reclaimed Ancillary Haul Road Area
Typical Quarry Design (Maximum 1:1 Slopes)
White Knob Annex (Patented, Leased by OMYA)
Portion of Silver Creek Placer #4 (70 Acres, Owned by OMYA) APN: 0446-021-11
White Knob Placer #1 (Patented, Leased by OMYA) APN: 0446-011-06
White Ridge Placer #1 (Patented, Owned by OMYA) APN: 0446-021-35
Haul Road to Remain
Locked Gate
SMI (patented)
LEGEND
Amended Project Boundary Private Land
Limits of Planned Disturbance
Previously Mitigated April 201 Incidental Disturbance Area
Operating Major Contour
Operating Minor Contour
Haul Road
Slope Indicator Top of slope
Toe of slope
Design Drainage
Existing Major Contour
Existing Minor Contour
Existing Drainages
San Bernardino National Forest Boundary
USGS Survey Section
Claim / Parcel Line
Revegetation
Soil Islands
Darker Material
NOTE:
Soil Islands and Darker Material placement areas are schematic only. Final placement will be determined in the field prior to Reclamation.
This is a reduced 200 scale sheet. To review details, see attached Sheet 2 in Mine and Reclamation Plan.
0 550
Feet
Sources: Lilburn Corp., 2013.

File: F1 OMYAwmr-Amd Rec Plan.CDR (TAG) Page:1 REV: 07/20/2013

AMENDED RECLAMATION PLAN

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES

Amended Mine and Reclamation Plan

Omya California, County of San Bernardino, California

FIGURE 4

LILBURN CORPORATION

Table 1
Existing and Planned Operational Areas
White Knob – White Ridge Quarries

Quarry or Area	Existing 1986 Plan Approved Areas (approx. acres)	Proposed New Areas (acres)	Total Amended Project Areas (acres)
White Knob Quarry	35	6.1	41.1
Annex Quarry	7	5.5	12.5
White Ridge Quarry	18	15.1	33.1
Overburden Site #1	15[1]	16.9	31.9
Overburden Site #2	---[1]	13.0	13.0
Overburden Site #3	---[1]	3.0	3.0
Ancillary Disturbance Limits[2] (outside of above)	70	130.5	200.5
Totals	**145**	**190.1**	**335.1**

Note: Areas in 1986 Plan estimated to whole acres; proposed areas rounded to nearest tenth of an acre. Totals may be slightly different due to rounding.
[1] – Combined waste areas; not individually estimated in 1986 Plan.
[2] – Ancillary disturbance limits include haul/access roads to quarries and overburden sites, sediment basins and other erosion control features, storage pads, crusher location, west slope impacts, and incidental impacts from boulder roll down.

The ultimate development of the quarry is phased. Four phases were previously identified and development of the middle benches during Phases 1 and 2 has been completed. Phase 3 is in progress and includes full development of the existing White Knob and Annex Quarries with mining expected to be completed around 2045. Phase 4 includes development of the approved White Ridge Quarry deposit to the east and is scheduled to begin around 2015 and last until 2055. Phase 5 is reclamation of the mine site generally after completion of mining. The backfilling of portions of the White Knob Quarry and the Central Area will be initiated during the last 20 years of operations (approximately after year 2035).

White Knob Quarry

The White Knob Quarry is an existing side hill quarry that will be developed into a narrow V-shaped quarry day lighting to the east once the footwall of the deposit is reached. Two or three working levels are operated at any one time to supply the quality of ore needed to meet production demands. The multi working level concept allows for greater selectivity and blending of rock qualities to meet stringent quality standards of customers, and allow maximum utilization of the resource.

The haul road to the top of White Knob Quarry has been established and mining will continue from the top down to the footwall of the deposit. Benches established previously will be pushed back to the south, west and north as far as economic limits will allow. The elongated quarry will be approximately 2,500 feet west to east and 600 feet wide and will reach a maximum elevation of 6,200 feet amsl on the west to a floor elevation of 5,300 feet day lighting on the east.

The ore is drilled and blasted, loaded with a front end loader into haul trucks and hauled to the crusher at the 5,500-foot level. Overburden is deposited in the OB-1 stockpile. At the crusher, the rock is reduced in size, screened and separated into the various quality grades. Fines are screened out and fines that are not sold are placed in the overburden stockpiles. Crushed ore is loaded into haul trucks and transported on the White Knob haul road to the existing Lucerne Valley processing plant.

Annex Quarry

The Annex Quarry area is a 12.5-acre area contiguous to the northwest of the White Knob Quarry. The Annex Quarry will be mined concurrently with the White Knob Quarry from the top down based on mining logistics and specific ore grades in demand. The oval shaped quarry will be approximately 900 feet west to east and 550 feet wide and will reach a maximum elevation of 6,075 feet on the southwest to a floor elevation of 5,575 feet.

White Ridge Quarry

The White Ridge Quarry area consists of about 33 acres on the east side of the site. This area was previously approved for mining in the 1986 Plan but has not been developed. The White Ridge deposit is the eastward continuation of the White Knob ore body. The box-shaped quarry will be approximately 1,200 feet north to south and 900 feet west to east and will reach a maximum elevation of 5,750 feet on the south to a floor elevation of 5,050 feet. The Amended Plan will increase its size but will leave a ridge to the north to reduce visual impacts.

Access to the White Ridge deposit is to be constructed from the west directly to the upper level of approximately 5,750 feet. The ore will be hauled to the crusher and overburden and waste rock will be deposited in the proposed overburden Site 2 (OB-2) in the canyon to the west and at the existing OB-1. The new access roads will access the top of the deposit, and the site will be mined from the top down. A small 3-acre overburden site (OB-3) and an associated access road are planned on the southeast side of the White Ridge Quarry to handle overburden for the northern portion of the quarry.

OB-1 (Overburden Stockpile-1)

The existing approved OB-1 stockpile of approximately 15 acres will be progressively extended to the south into the White Knob Quarry and north by about 1,300 feet onto an additional 17 acres into former BLM land west of the haul road. As overburden removal progresses, the pad will be incrementally built southward to a planned elevation of 5,325 feet. OB-1 will be developed as a series of benches of varied widths reclaimed to a slope of 2 horizontal:1 vertical (2H:1V). Backfilling of the eastern portion of the White Knob Quarry during about the last 20 years of operations will occur to minimize OB-1 expansion and to minimize disturbance of new ground.

Reclamation and revegetation will occur concurrently where operationally feasible and the final reclamation will occur in Phase 5.

OB-2 (Overburden Stockpile-2)

OB-2 will be developed on approximately 13 acres in a canyon area south of the crusher and west of the White Ridge Quarry in Phase 4. Overburden from the White Ridge Quarry will be transported on haul roads along level alignments along the contour. Overburden and waste rock will be placed at OB-2 between the elevations of 5,800 feet and 5,425 feet. OB-2 will be approximately 1,150 feet southwest to northeast and approximately 550 feet wide at its widest and will be developed as a series of approximately six 50-foot wide benches. The overall slope of OB-2 will be no greater than approximately 2H:1V.

Backfilling of the Central Area during about the last 20 years of operations will backfill the lower 150 vertical feet of OB-2 decreasing the remaining slope height to 225 feet. Reclamation and revegetation of this area will occur concurrently where operationally feasible and be completed during Phase 5 when backfilling is completed.

OB-3 (Overburden Stockpile-3)

OB-3 will be developed on approximately three acres to the northeast of the White Ridge Quarry in Phase 4. Overburden from the White Ridge Quarry will be placed at OB-3 between approximate elevations of 5,200 and 5,025 feet. OB-3 will be approximately 750 feet north to south and approximately 200 feet wide at its widest and developed as a series of benches with reclaimed slopes no greater than 2H:1V. Reclamation and revegetation of this area will occur concurrently where operationally feasible and completed during Phase 5.

White Knob Quarry and Central Area Backfill

After completion of mining in the White Knob Quarry likely during the last 20 years of operations, the eastern portion of the quarry will be partially backfilled with overburden to create a floor elevation at approximately the 5,575-foot level. The backfilling would reduce the overall 900-foot quarry slope to 625 feet. The final backfill will be designed to act as a permanent sediment basin for future sediment control by sloping the drainage towards the west into the quarry walls.

This area is lower than the remaining ridges to the north and will be minimally visible from Lucerne Valley. Backfilling greatly reduces the size of potential new overburden sites limiting additional impacts to undisturbed lands and to biological and visual resources.

Approximately 11 acres in the Central Area of the site including the crusher area, haul roads to the White Ridge Quarry, and the lower half of OB-2 will also be utilized for deposition of overburden. This area will be backfilled up to approximate elevation of 5,575 feet as feasible and merge into the White Knob Quarry backfill.

2.2 SUMMARY OF RECLAMATION ACTIVITIES

The County approved the White Knob Quarry Reclamation Plan in 1986. The approved Plan includes a revegetation plan that was updated in 2008 and updated design measures as listed in

Section 2.3 below. The mine site will be reclaimed to meet current SMARA and County standards. Concurrent and final reclamation will include final slope stabilization, ripping of compacted areas, placement of growth media, revegetation, colorization where needed and feasible, haul road removal and revegetation, monitoring of revegetation progress, and remediation as necessary until success criteria is achieved.

The lighter colored slopes of the quarries and overburden stockpiles will be darkened by the placement of darker material as available, revegetation, and colorization where feasible on slopes where raveling is not expected, by the use of a permanent rock colorization method which colors the rocks brown to blend in with the natural colors of the mountainsides. Concurrent and final reclamation will colorize and revegetate the rolldown slopes to blend with the natural colored slopes and will reduce impacts to less than now exist in some areas (refer to Figure 4).

Permanent rock colorization was applied in January 2006 to approximately five acres where mining related visual impacts had occurred on the north facing slope. The visual contrast has been substantially reduced as the brown colored stain on the boulders blends with the natural hill side color. Revegetation of the upper slopes was also undertaken, utilizing native species, slow release fertilizer, and commercial mycoriza inoculations. Irrigation occurred for two years to allow a higher proportion of germination. Although less visible from a distance, the revegetation helps stabilize the upper slopes and to reduce erosion and sediment transport.

2.3 PROJECT DESIGN FEATURES TO MINIMIZE VISUAL IMPACTS

The Amended Reclamation Plan will meet State and local mining and reclamation requirements. The regulatory standards, monitoring and enforcement, ensure that reclamation will be successful, and meet the standards. The Amended Plan includes designs and reclamation to reduce existing and future visual impacts from the quarries, overburden sites, and roll down areas. These measures have been incorporated into the visual impact assessment and include the following:

- Implement measures to minimize boulder roll down;
- Maintain the existing crusher site at the White Knob Quarry or use a portable plant within an active quarry to reduce its visibility from Lucerne Valley;
- Deposit overburden and waste rock within the White Knob Quarry footprint, as described in the Amended Plan, to reduce the area of disturbance for overburden stockpiles and reduce visual impact outside the quarry;
- Design and phase mining of the White Ridge Quarry, which allows for concurrent reclamation and leaves an approximately 300-foot high ridge of undisturbed hillside facing Lucerne Valley to minimize visual impacts;
- Implement reclamation and revegetation on completed equipment accessible quarry benches and on overburden stockpiles concurrent with mining where feasible;
- Utilize approved color-staining product to darken the visible quarry and roll down slopes where not subject to raveling to reduce visual impacts;

- Deposit darker overburden and waste rock on final overburden slopes where available to reduce color contrast;
- Design adequate erosion control features along the haul and access roads and quarry to control and limit erosion and sediment transport;
- Construct catchment berms at foot of stockpiles to reduce rock roll down and sediment flow;
- Limit surface disturbances to areas identified in the Amended Plan; and
- Implement appropriate dust controls to reduce visible dust.

3.0 VISUAL RESOURCE MANAGEMENT (VRM) ASSESSMENT

The following assessment of visual impacts was conducted in accordance with the BLM's Visual Resource Management Program guidelines. This program has established a system for evaluating and estimating the visual resources to determine appropriate protection or enhancement of the visual environment (BLM 1986). The VRM is an accepted methodology by many government agencies for assessing impacts to visual resources.

Visual Resources Management System

The VRM system was developed by the BLM and has two purposes: to manage the quality of the visual environment and to reduce the visual impact of development activities. Even though this is a private project on private land, the use of the BLM's VRM system is particularly appropriate for evaluating the proposed project as the areas to the north, east, and west and the haul road are within BLM managed public land and the area to the south is USFS managed public land. The VRM system is an appropriate analytical tool to identify existing and project-impacted scenic values and visual quality and to determine measures to reduce potential visual impacts.

The perception of visual quality in a landscape is based on several common principals.

1. Landscape character, which is primarily determined by the four basic visual elements of form, line, color and texture. Although all four elements are present in every landscape, the amount of influence on visual quality that each may exert will vary with the scene.
2. The stronger the influence each of the visual elements exerts, the more interesting the landscape will be.
3. The more visual variety there is in a landscape, the more visually interesting the landscape will be.

The VRM process consists of two steps: 1) an inventory of the existing landscape to evaluate visual resources. Resources are analyzed and assigned a relative visual rating or management classification; and 2) assigning a contrast rating. The degree of contrast between the proposed activity and the existing landscape is measured and the determination of the significance of the contrast or impact is determined.

Visual Resources Assessment Methodology

Data Collection

In order to determine areas from which the proposed amended operations could be seen, a potential viewshed of the Proposed Amendment area was prepared based on United States Geological Survey (USGS) topographic mapping. Figure 5 shows that the Proposed Amendments would be visible from the northwest through east (refer to shaded areas on Figure 5). The area was surveyed for representative viewpoints and photographs were taken of the site from various vantage points. SHs 18 and 247 are identified as Eligible State Scenic Highways but are not designated as such. These highways are designated as scenic routes under the Lucerne Valley Community Plan by the County of San Bernardino.

Field surveys and the photographs were used to evaluate existing visual conditions and three viewpoint locations were selected to provide the basis for computer-generated simulations showing the Proposed Amendment in relation to the surrounding environment. A land use survey was also conducted to identify existing land uses and their relevance to the Proposed Amendment. Figure 5 also shows the locations of the three viewpoint locations:

- Viewpoint 1 - SH 18 and Custer Avenue looking south from a distance of approximately 5.7 miles; residential and some business.
- Viewpoint 2 – Lucerne Valley Market at Barstow Road and SH 18 looking southwest from a distance of approximately 6.7 miles; business.
- Viewpoint 3 – Onyx and Carnelian Roads looking southwest from a distance of approximately 4.2 miles; residential.

Model Methodology

The simulations are created using three dimensional terrain models developed from the design plans and merged with the existing topography. The final terrain model is meshed, consisting of triangles or squares, and becomes a close representation of the physical environment. The model is registered to a 3-dimensional coordinate system by using USGS topo quads or aerial imagery. The computer rendered model is overlayed or matched to the existing site photography. The projection is colored to simulate color, textures and shading consistent with the surface and subsurface conditions. A photograph is then rendered that simulates future visual conditions. Proposed design elements are isolated and textured to more closely represent real world coloring.

Preparation of Computer Simulations

Viewpoints 1 and 2 were chosen as representative views available to travelers along SHs 18 and 247 respectively and local businesses and residents in the Lucerne Valley. The market area near the junction of SHs 18 and 247 is considered the “center” of town. Highway views were chosen because they represent the most common views of the area (i.e. the largest number of viewers either travel along the highway or live nearby).

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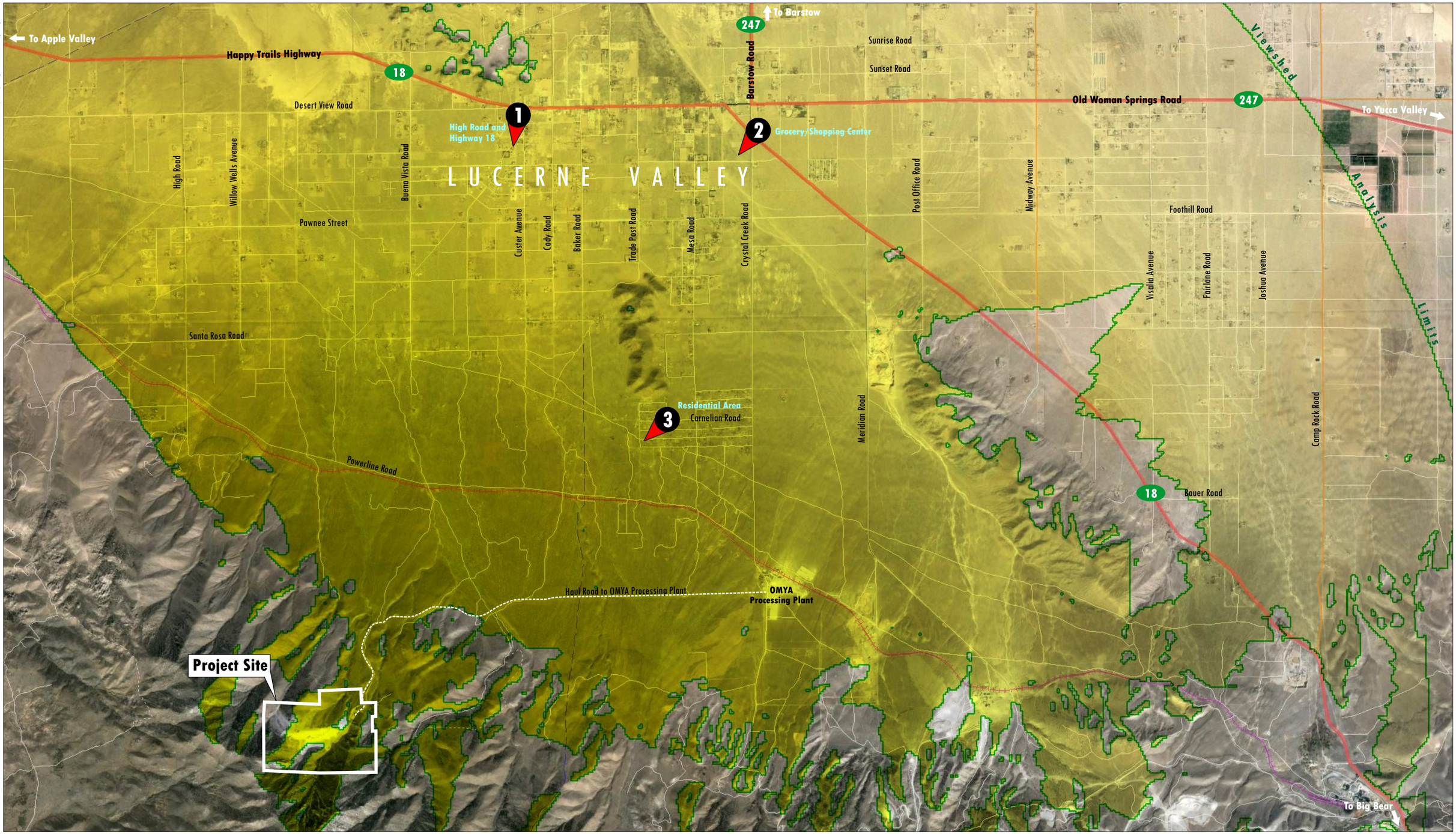

N

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Mile

Source: Lilburn Corporation and USGS
Data: US Forest Service Web Site - Pacific Southwest Region
San Bernardino National Forest Last modified: Tuesday, 26 August 2008.
(http://www.fs.fed.us/r5/forestvisitormaps/sanbernardino/)

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Areas of Potential Visibility
Note: The Viewshed Analysis data comprised of only USGS Digital Elevation Models. The data set did not account for trees, houses and other obstructions above ground elevation. Analysis covered a 10 mile radius.

2 Viewpoint Location and Direction of View (3 Total)

OVERALL VIEWSHED ANALYSIS and SIMULATION VIEWPOINT LOCATIONS

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES
Amended Mine and Reclamation Plan
Omya California, County of San Bernardino, California

FIGURE 5

Viewpoint 3 was chosen to represent residential views in an area that is the closest residential area to the site not blocked by intervening hills. From this viewpoint, the site is highly visible. Rock staining conducted in the past years is evident in the center of the slope area.

Photographs taken from these viewpoints were used as a base to simulate the Proposed Amendments to the quarries and overburden stockpiles within the existing visual conditions and setting.

Preparation of a Visual Resources Assessment

The project site is located in an area that could be considered as visually sensitive. According to the County of San Bernardino General Plan, the desert landscape and natural resources define the rural character of the area. However, mining has been part of the landscape for over 70 years and is an integral part of the north slope of the mountains visible from Lucerne Valley. Development may have the potential to increase a substantially adverse visual impact when viewed from a common public viewing area in terms of normal, unaided vision for any length of time.

Scenic Quality

Scenic Quality is described as the overall impression retained after walking or driving through the area or from living and working in the area.

In assessing the visual effects of a Proposed Amendment, rating scenic quality requires a description of the existing scenic values in the landscape both on the project site and surrounding the site. The following factors were considered in the assessment of scenic quality of the proposed project site and vicinity:

- Landform
- Vegetation
- Water
- Color
- Influence of adjacent scenery
- Cultural modification
- Scarcity (one of a kind, rare or unusually memorable)

The VRM system uses a points system to evaluate scenic quality. Each of the factors listed above is assigned points based on whether scenic quality will be of great importance, some importance or little importance. Examples of the range of point values are shown in Table 2. The lower the number of points, the less that factor influences the overall scenic quality of the site. The values are totaled for the area and a Scenic Quality Class is determined and assigned. These classes are:

- Class A - areas that combine the most outstanding characteristics of each rating factor (19 to 33 points)
- Class B – areas in which there is a combination of some outstanding features and some that are fairly common to the physiographic region (12 to 18 points)

- Class C – areas in which the features are fairly common to the physiographic region (0 to 11 points)

Table 2
Scenic Quality Inventory/Evaluation Rating Criteria and Score

Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modifications
High vertical relief such as prominent cliffs, spires or massive rock outcrops; or severe surface variation or highly eroded formations including major badlands or dune systems; or detail features dominant and exceptionally striking and intriguing, such as glaciers. **5**	A variety of vegetative types in interesting form, texture, and patterns. **5**	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. **5**	Rich color combinations, variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water or snow fields. **5**	Adjacent scenery greatly enhances visual quality. **5**	One of a kind; or unusually memorable; or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing. **6**	Free from aesthetically undesirable or discordant sights and influences; or modifications add favorably to visual variety. **2**
Steep canyons, mesas, buttes, cinder cones and drumlins; or interesting erosional patterns or variety in size and shape of landforms; or detail features present and interesting though not dominant or exceptional. **3**	Some variety of vegetation, but only one or two types. **3**	Flowing or still, but not dominant in the landscape. **3**	Some intensity or variety in colors and contrast of the soil. Rock, and vegetation, but not a dominant scenic element. **3**	Adjacent scenery moderately enhances overall visual quality. **3**	Distinctive, though somewhat similar to others within the region. **3**	Scenic quality is somewhat depreciated by inharmonious intrusions, but not so extensively that they are entirely negated; or modification add little or no visual variety to the area. **0**
Low rolling hills, foothills or flat valley bottoms. Interesting detailed landscape features few or lacking. **1**	Little or no variety or contrast in vegetation. **1**	Absent, or not noticeable. **0**	Subtle color variations, contrast or interest; generally muted tones. **1**	Adjacent scenery has little or no influence on overall visual quality. **0**	Interesting within its setting, but fairly common within the region. **1**	Modifications are so extensive that scenic qualities are mostly nullified or substantially reduced. **-4**

Source: Bureau of Land Management, Visual Resource Management Guidelines, 1980.

The evaluation of the effects of the Proposed Amendments on scenic quality presented in Section 4 is based on the criteria contained in Table 2. The following is a description of existing conditions and an evaluation of scenic quality at and in the vicinity of the site. The description of existing conditions is then used as a baseline for which to evaluate changes in scenic quality that may result from the Proposed Amendment.

Landform

Topography in the area of the quarry is mountainous with some extremely steep and rugged slopes. The site is part of the north slope of the San Bernardino Mountains that form a substantial ridge line visible throughout the Valley. The project site includes steep cliffs draining toward the

larger unnamed canyon to the west. The site has interesting features however; it is similar in size and topography to other portions of the north slope in the area, so that it is not considered unique or dominant. **Therefore the landform portion of the scenic quality inventory is rated 3.**

Vegetation

Two principal biogeographic realms are present; alluvial desert scrub at lower elevations and desert montane pinyon-Juniper woodland plant community at higher elevations. Typical plant species are shrubby in stature and adapted to xeric conditions. Geologically the area is characterized by abundant rock outcrops composed of limestone carbonate rock which possess little or no topsoil, and granitic rocks in which soil is generally better developed.

The lower elevations at the edge of the Valley are rolling hills with scattered desert scrub vegetation that appear barren with distance. The upper elevations are steep, with numerous rock outcrops and appear darker with increasing vegetation. The White Knob Quarry is currently being mined and appears as white areas with no vegetation. **Therefore the vegetation portion of the scenic quality inventory is rated 3.**

Water

No visible springs or perennial streams occur within the White Knob Quarry area. Several watersheds drain surface water away from or through the White Knob Quarry area. Drainage at higher elevations occurs mainly in steep, deeply incised drainages that have been eroded into the bedrock and gentler, relatively shallow drainages that have been eroded into the alluvium at lower elevations. However, visually, water is absent from the project site or is not noticeable to viewers. **Therefore the water portion of the scenic quality inventory is rated 0.**

Color

The project area contains generally subtle or muted natural colors ranging from shades of white to light brown to golden. Muted green tones appear in the upper reaches as vegetation increase with elevation. The existing quarry is distinguishable with its white tones of exposed limestone.

Colors of vegetation range from brown to golden and from light green to dark green. Where soil and rock outcroppings are exposed, colors are various shades of brown to black. There is some intensity and variety of color within these two color types however, there are no rich color combinations or variety present on-site. **The color portion of the scenic quality inventory is rated 1.**

Adjacent Scenery

The mountain range and slopes stretching east and west along the southern horizon moderately enhances the overall visual quality. **Therefore the Adjacent Scenery portion of the scenic quality inventory is rated 3.**

Scarcity

The scenic setting of the project site and vicinity is distinctive though somewhat similar to the rest of the mountain range. **The Scarcity portion of the scenic quality inventory is rated 3.**

Cultural Modifications

The project site is already disturbed by ongoing quarry activities. Areas of the Valley floor adjacent to the site have also been modified by scattered rural residences. There are no man-made structures visible from the Valley floor. **The Cultural Modification portion of the scenic quality inventory is rated 0.**

The overall rating for Scenic Quality is 13 which places the proposed project site in Scenic Quality Class B. Class B sites contain areas in which there is a combination of some outstanding features and some that are fairly common to the physiographic region.

Sensitivity Levels

As shown in the previous exercise, landscapes have common elements that can be measured, but there is a subjective dimension to landscape aesthetics. This is because each viewer brings perceptions formed by individual influences (e.g., culture, familiarity with local geography, personal values). Sensitivity levels measure regional and individual public concern for scenic quality and are rated high, medium, or low by evaluating various indicators listed and assessed in Table 3 below:

- Type of Users – travelers on roads and residents (medium)
- Amount of Use (or number of viewers) - travelers on roads and residents (medium)
- Public Interest or concern – local residents high to medium interest based on location in Lucerne Valley and when considering the other views of existing mine activities along the north slope.
- Adjacent Land Uses (low)
- Special Areas such as national parks, wilderness areas (low).

The Lucerne Valley has a long history of mining activities. Most of the mining operations along the north face of the San Bernardino Mountains to the east of the site 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 highly visible from Lucerne Valley. The project site has been actively mined for over 25 years and is currently permitted through 2031. The planned modifications will not create any new uses to the already altered site; but will add incrementally to the overall impact area by increasing the size and intensity of the White Ridge Quarry, OB-1 and OB-2 in the central area of the site. Figure 6A was prepared to schematically illustrate the existing and 1986 approved mine areas as compared to the proposed Amended Plan (see Figure 6B).The combined results of the sensitivity levels result in an overall sensitivity level of Medium, according to the Sensitivity Level Matrix in Table 3.

Table 3
Sensitivity Level Matrix

Sensitivity Level Rating Unit and Dis	Type of Use	Amount of Use	Public Interest	Adjacent Land Uses	Special Areas	Overall Rating	Distance Zone	Explanation
VP 1(north of site; SH 18)	M	M	M	L	L	M	bg	Visible from SH 18 & residences
VP 2 (Northeast of site; SH 247)	M	M	M	L	L	M	bg	Visible from businesses & residences
VP 3 (northeast of site; local residential)	M	M	H	L	L	M	f/m	Visible from nearby residences

Source: BLM, Visual Resource Management Guidelines, 1984.
Key: H = High, M = Medium, L = Low
Distance Zones: (f/m) foreground/middleground - less than 3 to 5 miles away; (bg) background 5 to 15 miles away; and seldom seen (ss), hidden from view by intervening topography or distance.

Distance Zones

Using the VRM system, the visual quality of a landscape is determined by the visibility of a site from major viewing routes or key observation points (BLM 1986). The setting can be divided into three distance zones: foreground/middleground (f/m), less than 3 to 5 miles away; background (bg), 5 to 15 miles away; and seldom seen (ss), hidden from view by intervening topography or distance.

Figure 5 shows the locations of the three selected viewpoints that provide representative views of the existing site conditions and vicinity at different distances. The view from Viewpoint 1 at SH 18 is approximately 5.7 miles north of the project site. Viewpoint 2 is near the junction of SH 18 and 247, the most heavily traveled roads in the area. This view of the site is at a distance of approximately 6.7 miles to the northeast. Because of the distance and scenic quality, views of the site from these two viewpoints would be considered as background views. Viewpoint 3 is from the residential area located approximately 4.2 miles to the northeast. Views of the site are considered foreground.

The area has a Scenic Quality Class B rating which means a combination of outstanding features (dominant mountain ridge landscape) and some that are fairly common to the physiographic region. Because most of the Lucerne Valley scattered residential uses and businesses are generally five miles or greater from the project site, the project would rate a distance zone classification of background.

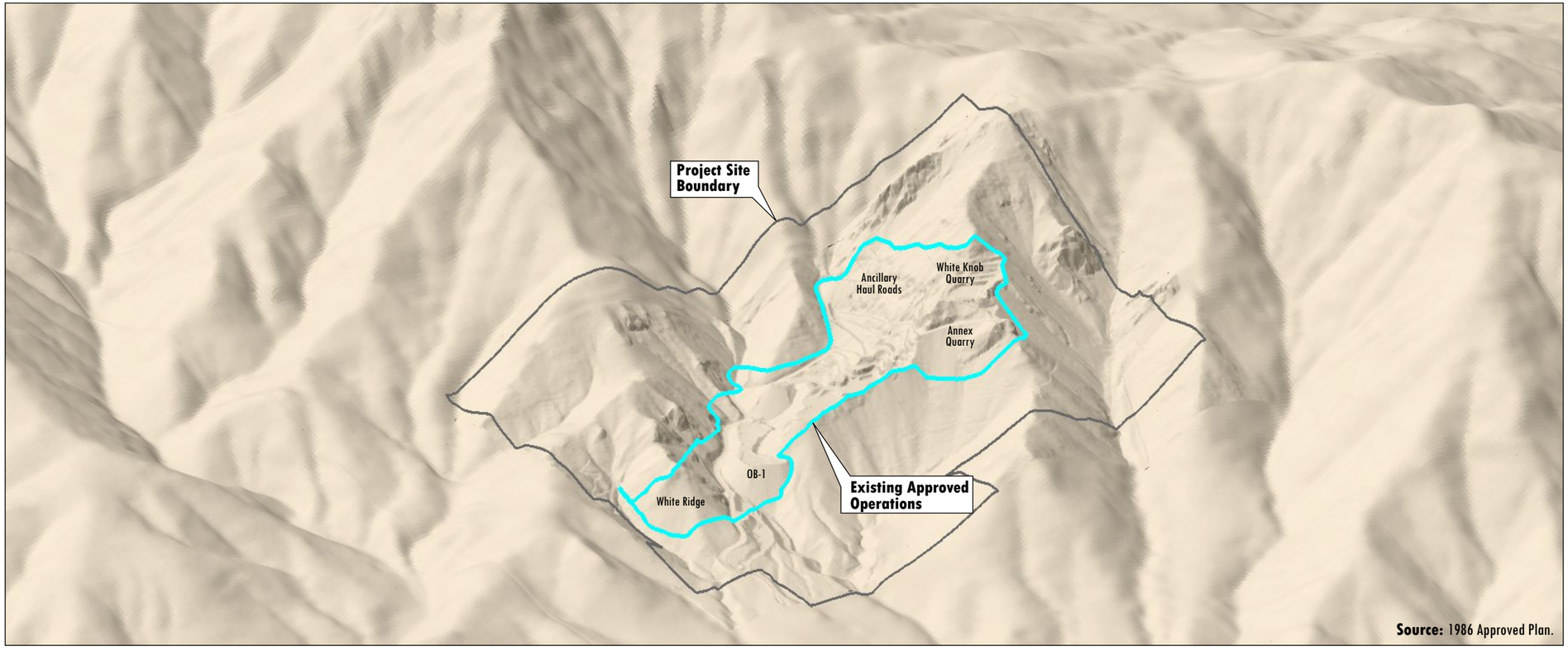

Figure 6A:

Existing Approved Operations

Estimated Limits of 1986 Approved Operations

Existing Project Site Boundary

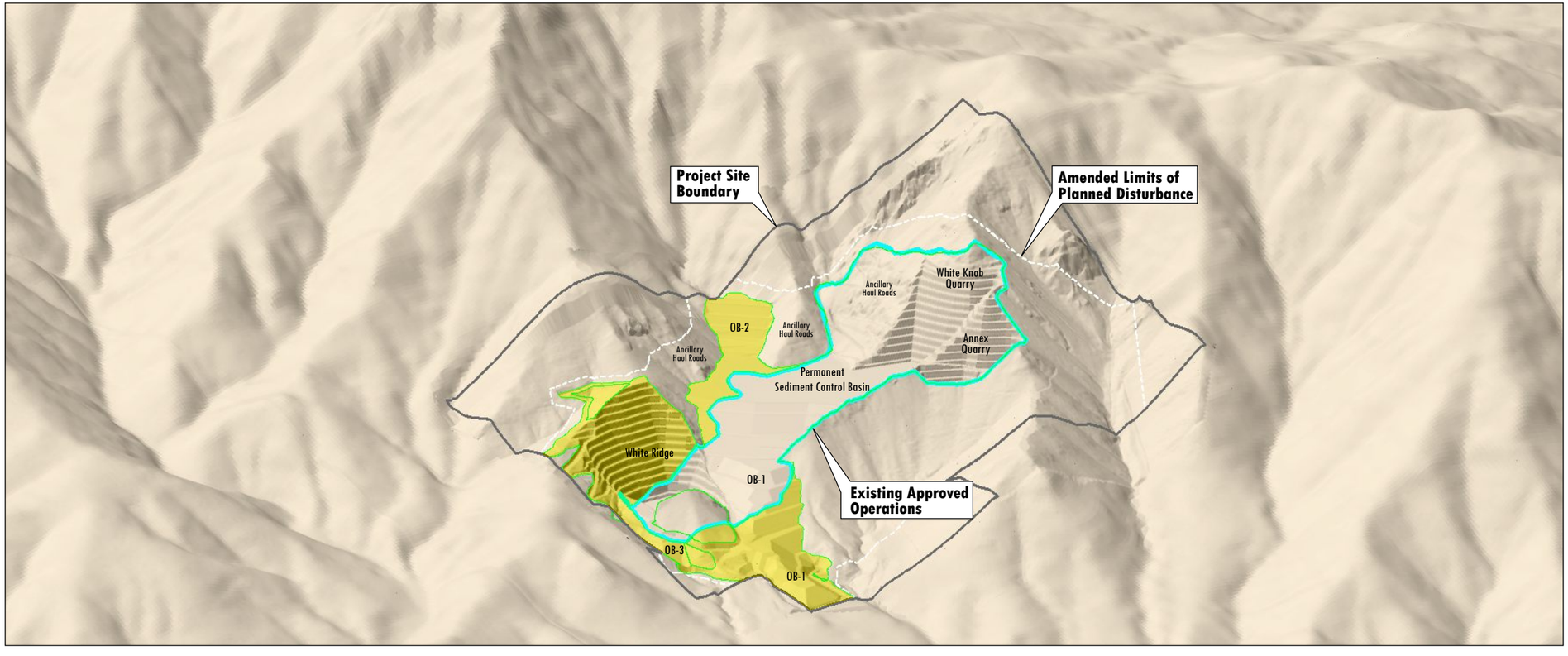

Figure 6B:

Amended Operations

Estimated Limits of 1986 Approved Operations

Existing Project Site Boundary

Major Facilities

Amended Operating Area

SCHEMATIC of EXISTING APPROVED and AMENDED OPERATIONS

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES
Amended Mine and Reclamation Plan
Omya California, County of San Bernardino, California

FIGURE 6

Visual Resource Classes and Objectives

Management classes of the VRM system are used to determine varying degrees of modification to basic elements of the landscape. The class rating is derived from an overlay technique that combines scenic quality, sensitivity levels and distance zones that are used to identify areas with similar combinations of factors. These areas are assigned to one of five management classes according to the predetermined criteria. Table 4 combines the scenic quality, sensitivity level, and distance zones previously described. The class rating is then used to assess the impact of the Proposed Amendment. The class categories are defined as follows:

- Class I Objective – preserve the existing character of the landscape and generally applies to wilderness areas, wild and scenic rivers, and other similar situations.

- Class II Objective – retain the existing character and the level of change should be low and should not attract the view of a casual observer.

- Class III Objective - partially retain the existing character and the level of change should be moderate and should not dominate the view of a casual observer.

- Class IV Objective – provide for activities which require major modification and the level of change can be high; however, impacts should be minimized as feasible.

Table 4
Visual Resource Inventory Classes

Visual Sensitivity		High			Medium			Low
Special Areas		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III	III* IV*	III	**IV**	IV	IV
	C	III	IV	IV	IV	IV	IV	IV
Distance Zones		f/m	bg	ss	f/m	bg	ss	ss

*If adjacent areas is Class III or lower assign Class III, if higher assign Class IV.
Source: BLM, Visual Resource Inventory, 1986

A medium use Sensitivity Level with a Class B Scenic Quality rating in the background Distance Zone would fall into Class IV objectives.

4.0 IMPACTS OF THE PROPOSED PROJECT

4.1 CONTRAST RATING ANALYSIS

The previous exercises were designed to evaluate and characterize the existing landscape by preparing an inventory and evaluation, and designating a visual resource class in order to more objectively assess the visual impacts of Proposed Amendment. The Contrast Rating System is

used to measure the degree of contrast between the Proposed Amendment and the existing conditions and approved activities.

Figure 6 shows the three locations where views of the Amended Plan were simulated within the context of the existing conditions. Due to topography and the orientation of the quarry site, views are limited to those from the northwest to east. Figures 7, 8, and 9 show existing and future views with reclamation of the project site. The proposed project is the Amended Plan's changes to the existing and 1986 approved mine and reclamation plan. The principal changes with respect to visual resources are the increase in size of the overburden stockpiles, the increase in size of the approved White Ridge Quarry, and the increase in the number of ancillary haul roads west and east of OB-2. These changes are shown on Figures 3 and 6 and would be the incremental changes to visual impacts of the Proposed Amendment as compared to the existing and 1986 approved operations.

The analysis segregates a landscape into its major features (land/water surface, vegetation, and structures) and each feature in turn, into its basic elements (form, line, color and texture). For the proposed project, landform is the key feature. Each element is assigned a degree of contrast as follows:

- **None** The element contrast is not visible or perceived.
- **Weak** The element contrast can be seen but does not attract attention.
- **Moderate** The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- **Strong** The element contrast demands attention, will not be overlooked, and is dominate in the landscape.

4.2 POTENTIAL IMPACT ASSESSMENT

During the original permitting of the White Knob Quarry in 1986, it was recognized that there would be significant, un-mitigable visual impacts from the quarry development. It was determined that the impacts, although visible, are consistent with the general visual character of the Lucerne Valley limestone mining area which includes numerous quarries, overburden sites, haul roads and limestone processing plants. A Statement of Overriding Consideration regarding environmental effects of the White Knob Quarry was prepared and accepted by the San Bernardino County Planning Commission, in which the visual impacts of the quarry development that could not be mitigated to a level below significance was recognized. The Planning Commission found that the economic, social and other benefits to the region as a result of the project outweighed the significance of the project impacts upon visual resources.

Figures 7, 8, and 9 show the existing and future conditions with reclamation from three viewpoints in Lucerne Valley. The top photographs in these figures show existing conditions while the bottom photographs show the site after the end of mining with concurrent and approximately 10 years of final reclamation that will implement the reclamation design features listed in Section 2.3 above. Revegetation, coloring of feasible areas, placement of darker material, and natural weathering will reduce the exposed white areas to darker shades of white and tans over time. Omya tested colorization and revegetation methods on the north facing slopes on approximately five acres. The visual contrast has been substantially reduced as the

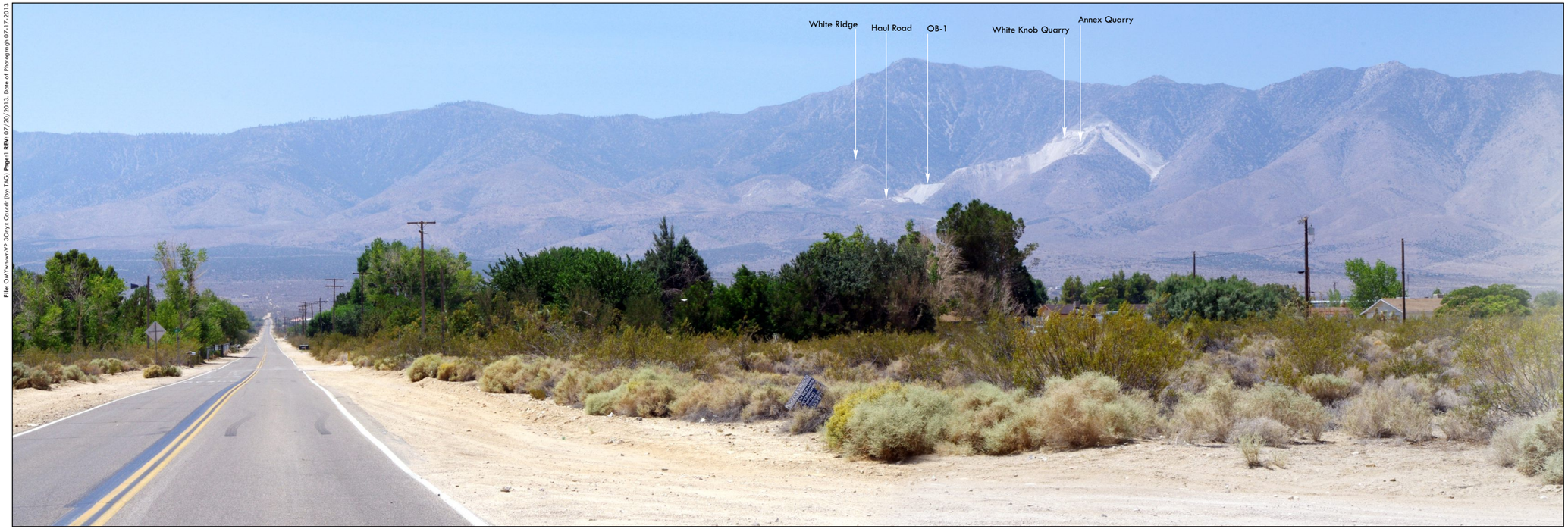

Figure 7A:

Existing Conditions

View from 5.7 miles looking south from the intersection of Custer Avenue and Highway 18.

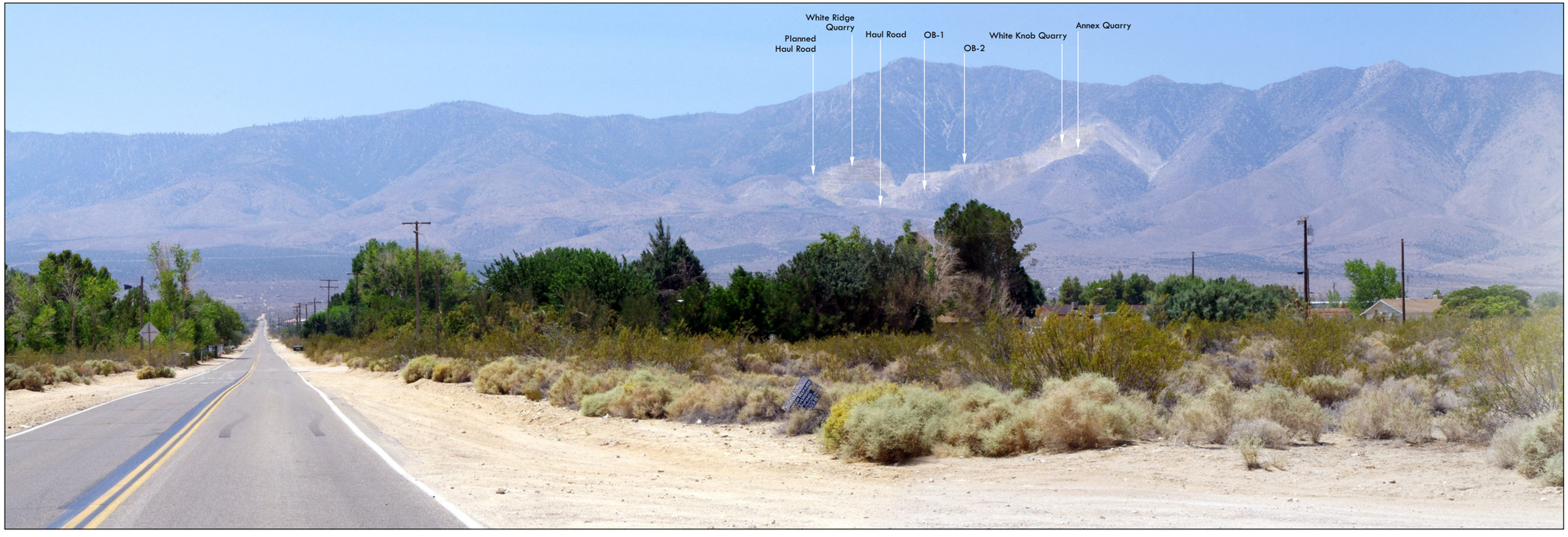

Figure 7B:

Amended Project Buildout with Reclamation

View looking south from from the intersection of Custer Avenue and Highway 18 at the Amended Project buildout with concurrent reclamation and approximately10 years of final reclamation in place.

VIEWPOINT 1

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Amended Mine and Reclamation Plan
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FIGURE 7

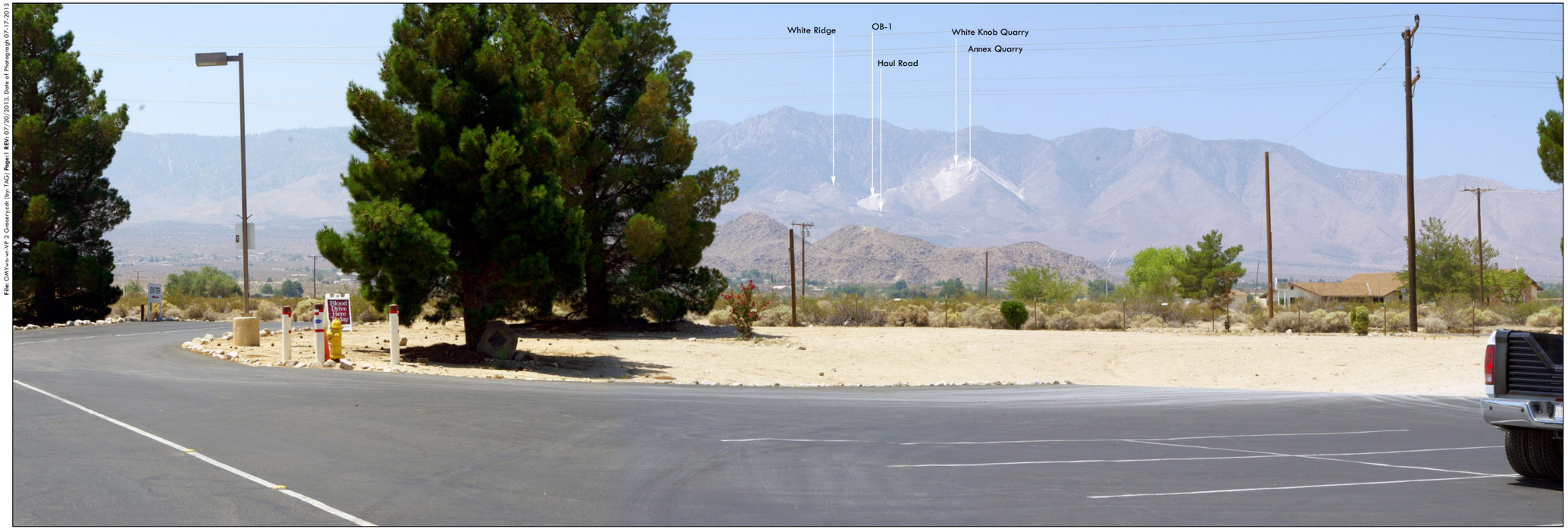

Figure 8A:

Existing Conditions

View from 6.7 miles looking southwest from the main grocery store/shopping center adjacent to highway 18.

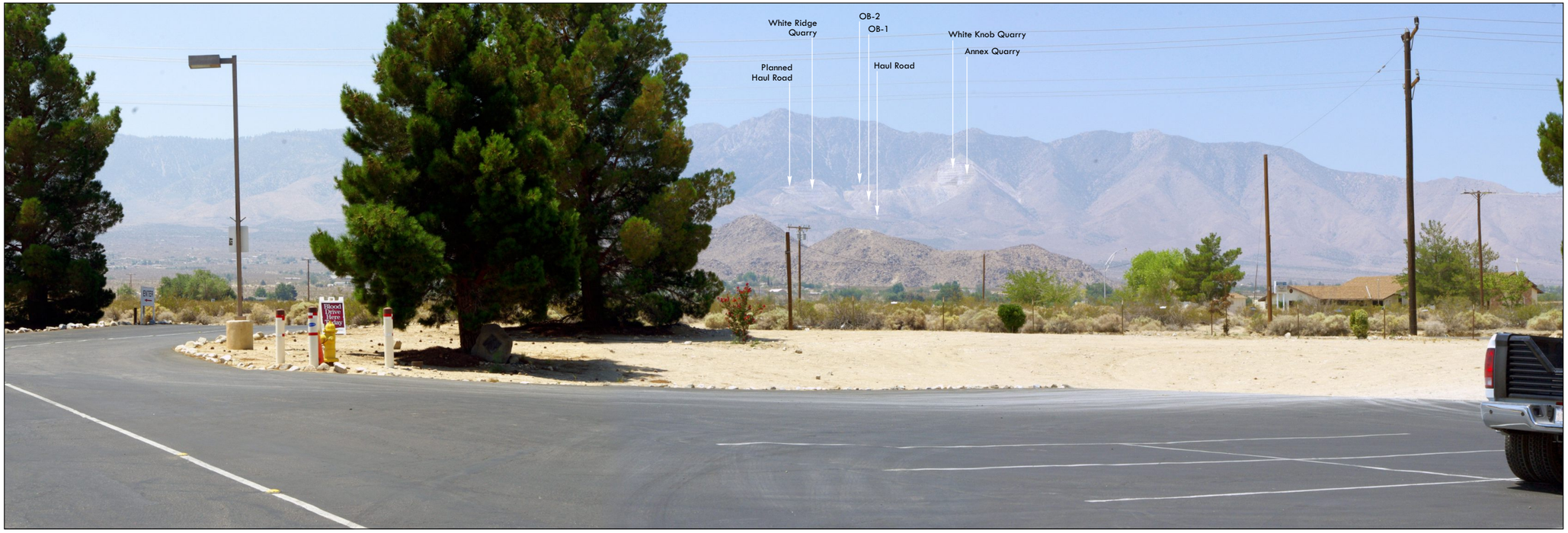

Figure 8B:

Amended Project Buildout with Reclamation

View looking southwest from the main grocery store/shopping center, adjacent to Highway 18, at the Amended Project buildout with concurrent reclamation and approximately10 years of final reclamation in place.

VIEWPOINT 2

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES
Amended Mine and Reclamation Plan
Omya California, County of San Bernardino, California

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FIGURE 8

File: OMYviewsVP 3Onyx Canada (by: TAG) Page: 1 REV: 07/20/2013, Date of Photograph: 07-17-2013

Figure 9A:

Existing Conditions

View from 4.2 miles looking southwest, within a residential neighborhood, from the intersection of Carnelian Road and Onyx Road.

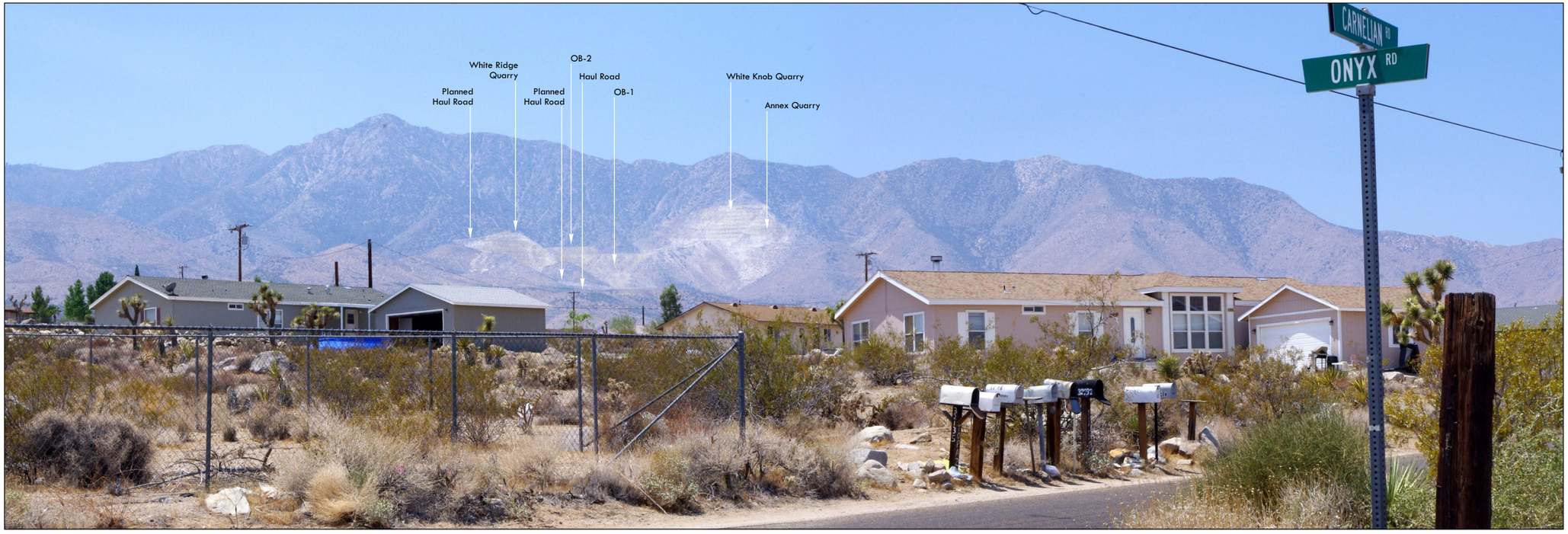

Figure 9B:

Amended Project Buildout with Reclamation

View looking southwest from Carnelian Road and Onyx Road at the Amended Project buildout with concurrent reclamation and approximately10 years of final reclamation in place.

VIEWPOINT 3

VISUAL ASSESSMENT - WHITE KNOB and WHITE RIDGE QUARRIES
Amended Mine and Reclamation Plan
Omya California, County of San Bernardino, California

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FIGURE 9

brown colored stain on the boulders blends with the natural hill side color. Revegetation of the upper slopes was also undertaken, utilizing native species. These positive effects are illustrated in the center of the disturbed project on all three existing figures.

A comparison of the existing and permitted mine activities to the Proposed Amendment simulations were used to evaluate potential visual impacts. The principal changes in the Amended Plan are the increase in size of the overburden stockpiles, the increase in size of the approved White Ridge Quarry, and the increase in the number of ancillary haul roads west and east of OB-2. The redesign of the north half of the White Ridge Quarry will leave a ridge to the north to reduce visual impacts. These changes are shown on Figures 3 and 6 and would be the incremental changes to visual impacts of the Proposed Amendment as compared to the existing and 1986 approved Plan.

Viewpoint 1 - SH 18 and Custer Avenue

(Please refer to Figure 7.) The project site is located approximately 5.7 miles to the south as viewed near the intersection of SH 18 and Custer Avenue, west of the town center. This area includes travelers on SH 18, scattered rural residential, and businesses along the highway. The existing quarry is visible halfway up the north slope of the range (see Figure 7A). The main visible features are the white rock slopes to the west and north of the quarry and OB-1 on the lower east. These features have altered the color, form, and line of the natural slopes.

The simulation after project build-out with ten years of final reclamation and time for reclamation to take effect shows the permitted expansion of the White Knob and Annex Quarries on the upper west as a series of benches that may be visible depending on shadowing and color (see Figure 7B). The White Ridge Quarry to the east is also shown as a series of benches that may be visible depending on shadowing and color. Note the gray hill in the foreground of the White Ridge which blocks views of the lower half of this quarry. The expansion of OB-1 and OB-2 are seen as plateaus of white rock. OB-3 is seen to the lower left of the White Ridge Quarry. The quarries and overburden stockpiles will darken with reclamation and weathering over time.

The proposed Amended Plan will incrementally add mine development primarily in the center and eastern portions of the project site but will not increase the overall width of the mine along the background of the mountain ridge. The changes will cause physical alterations to form, line, and in particular color as compared to the existing and permitted project. The overall scenic integrity of the site will not substantially decrease from that of the existing and permitted project as no new uses are being added to the overall viewshed. However, the overall visual impacts are still considered unavoidable significant impacts consistent with the 1986 EIR.

Viewpoint 2 – Lucerne Valley Market

(Please refer to Figure 8.) The project site is located approximately 6.7 miles to the southwest as viewed from the Lucerne Valley Market near the intersection of SH 18 and Barstow Road in the town center. This area includes travelers on SH 18, scattered rural residential, and businesses along the highways. The existing quarry is visible halfway up the north slope of the range (see

Figure 8A). The main visible features are the white rock slopes to the west and north of the quarry and OB-1 on the lower east. These features have altered the color, form, and line of the natural slopes.

The simulation after quarry build-out with ten years of final reclamation and time for reclamation to take effect shows the permitted expansion of the White Knob and Annex Quarries on the upper west as a series of benches that may be visible depending on shadowing and color (see Figure 8B). The White Ridge Quarry to the east is also depicted as a series of benches that may be visible depending on shadowing and color. Note the gray hill in the foreground of the White Ridge Quarry which blocks views of the lower half of this quarry. OB-1 is more visible from this angle of view looking up the canyon with the "face" and benches of the stockpile seen as plateaus of white rock. OB-2 is seen at the top of OB-1 as another plateau. The overburden stockpiles will darken with reclamation and weathering. OB-3 is barely visible at the bottom of the White Ridge Quarry. The quarries and overburden stockpiles will darken with reclamation and weathering over time.

The proposed Amended Plan will incrementally add physical alterations to form, line, and in particular color as compared to the existing and permitted project. The overall scenic integrity of the site will not substantially decrease from that of the existing and permitted project as no new uses are being added to the overall viewshed. However, the overall visual impacts are still considered unavoidable significant impacts consistent with the 1986 EIR.

Viewpoint 3 – Onyx and Carnelian Roads

(Please refer to Figure 9.) The project site is located approximately 4.2 miles to the southwest as viewed from the intersection of Onyx and Carnelian Roads in a rural residential area. The existing quarry is visible along the north slope of the range (see Figure 9A). Due to its closer location, views from this area may be able to discern quarry benches and haul roads. The main visible features are the white rock slopes to the north of the quarry and OB-1 on the lower east. These features have altered the color, form, and line of the natural slopes.

The simulation after quarry build-out with ten years of final reclamation and time for reclamation to take effect shows the permitted expansion of the White Knob and Annex Quarries on the upper west as a series of benches (see Figure 9B). The White Ridge Quarry to the east is also shown as a series of benches that may be visible depending on shadowing and color. Note the gray hill in the foreground of the White Ridge Quarry which blocks views of the lower half of this quarry. OB-1 is more visible from this angle of view looking up the canyon with the "face" and benches of the stockpile seen as plateaus of white rock. OB-2 is seen at the top of OB-1 as another plateau. OB-3 is located to the bottom of the White Ridge Quarry below the gray hill. The quarries and overburden stockpiles will darken with reclamation and weathering over time.

The proposed Amended Plan will add to the physical alterations to form, line, and in particular color as compared to the existing and permitted project. The overall scenic integrity of the site will not substantially decrease from that of the existing and permitted project as no new uses are

being added to the overall viewshed. However, the overall visual impacts are still considered unavoidable significant impacts consistent with the 1986 EIR.

5.0 CONCLUSION

This visual resource assessment analyzed the potential impacts to visual resources from the proposed Amended Plan for the White Knob – White Ridge Quarries. The BLM Visual Resource Management Guidelines were utilized to objectively categorize the surrounding existing visual resources and to compare the existing and 1986 approved plan with the Amended Plan. During the original permitting of the White Knob Quarry in 1986, it was recognized that there would be significant, un-mitigable visual impacts from the quarry development and a Statement of Overriding Consideration was accepted by the County Planning Commission. The Planning Commission found that the economic, social and other benefits to the region as a result of the project outweighed the significance of the project impacts upon visual resources.

The principal changes in the Amended Plan are the increase in size of the overburden stockpiles, the increase in size of the approved White Ridge Quarry, and the increase in the number of ancillary haul roads west and east of OB-2. The redesign of the north half of the White Ridge Quarry will increase its size but will leave a ridge to the north to reduce visual impacts.

Photographs from three locations to the north and northeast of the site and simulations with representative public views were used to assess the existing and future visual quality. The quarry site is not visible from the south, west or distinctly visible from the east due to its location and topography in relation to general public views from Lucerne Valley. Simulations from each of the three viewpoints found that the proposed Amended Plan will add to the existing and permitted physical alterations to form, line, and in particular color. The overall scenic integrity of the site will not substantially decrease from that of the existing and permitted project as no new uses are being added to the overall viewshed. However, the visual impacts from the overall development are still considered unavoidable significant impacts consistent with the 1986 EIR.

5.1 MITIGATION

The Amended Plan includes designs and reclamation to reduce existing and future visual impacts from the quarries, overburden sites, and roll down areas. Monitoring and enforcement by the County and reclamation bonding will ensure that reclamation will be successful and meet the regulatory standards. These measures have been incorporated into the visual impact assessment and include the following:

- Implement measures to minimize boulder roll down;
- Maintain the existing crusher site at the White Knob Quarry or use a portable plant within an active quarry to reduce its visibility from Lucerne Valley;
- Deposit overburden and waste rock within the White Knob Quarry footprint, as described in the Amended Plan, to reduce the area of disturbance for overburden stockpiles and reduce visual impact outside the quarry;

- Design and phase mining of the White Ridge Quarry, which allows for concurrent reclamation and leaves an approximately 300-foot high ridge of undisturbed hillside facing Lucerne Valley to minimize visual impacts;
- Implement reclamation and revegetation on completed equipment accessible quarry benches and on overburden stockpiles concurrent with mining where feasible;
- Utilize approved color-staining product to darken the visible quarry and roll down slopes where not subject to raveling to reduce visual impacts;
- Deposit darker overburden and waste rock on final overburden slopes where available to reduce color contrast;
- Design adequate erosion control features along the haul and access roads and quarry to control and limit erosion and sediment transport;
- Construct catchment berms at foot of stockpiles to reduce rock roll down and sediment flow;
- Limit surface disturbances to areas identified in the Amended Plan; and
- Implement appropriate dust controls to reduce visible dust.

6.0 REFERENCES

Bureau of Land Management, 1984 & 1986. "Visual Resources Management," BLM Manuals 8400 (1984); Manual H-8410-1 (1986); and Manual 8431 (1986).

County of San Bernardino, 1986. "White Knob-White Ridge Limestone Mine Site Approval and Reclamation Plan (86M-04) and EIR." November 1986.

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