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Environmental Assessment

Twenty-Year Plan of Operation North Star Mineral, Inc. Acton Clay Quarries

**Santa Clara/Mojave Rivers Ranger District, Angeles National Forest
Los Angeles County, California**

Sections 24 and 25 of Township 4 North, Range 13 West, SBBM; and
Sections 19 and 30 of Township 4 North, Range 12 West, SBBM

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SUMMARY

The Santa Clara/Mojave Rivers Ranger District of the Angeles National Forest is considering a proposal from North Star Minerals, Inc. (NSM) to expand its clay mining operations in the Acton Clay Quarries, located about four miles south of the town of Acton, California (see Figure 1.) The site is accessed from Aliso Canyon via Forest Service Road 4N32.

Acton Clay Quarries is a surface mine that NSM has operated since 1991 under permit from the U.S. Forest Service. Various mining operations have taken place in the vicinity since the 1800's. The current Plan of Operations, approved in 1995 and renewed yearly, provides for actively mining a total of 5 acres within two quarries (the "Gray Quarry" and the "White Quarry"). NSM has proposed a 20-year Plan of Operations that would expand the operation to 10 acres being actively mined at any one time (5 acres each in two quarries) within 24 acres. Over the 20-year period, approximately 10 acres would be mined in the White Quarry and 14 acres would be mined in the Gray Quarry (see Figure 2, Map of Proposed Action).

Under the proposed Plan of Operations, activities at the operation would continue to consist of crushing and screening ore, and transporting the ore by truck from Forest Service Road 4N32 onto Aliso Canyon Road. The proposal provides for maintenance of 4N32, dust control on the road and at the quarries, restrictions on hours of operations depending on conditions, and concurrent reclamation of areas as they are mined, together with planned and bonded final reclamation.

This action is needed in order to make locatable mineral material available to NSM, as provided by federal mining laws. The action also contributes to the national goal of supporting environmentally sound minerals development and reclamation.

This Environmental Assessment (EA) addresses the potential environmental effects of implementing the Plan of Operation as submitted by North Star Minerals. Two alternatives are analyzed in detail in this EA: the No-Action Alternative (Alternative 1) and the proposed action (Alternative 2), which is based on North Star's proposed Plan of Operations and Forest-Service-initiated mitigations to reduce impacts to forest resources.

During public scoping for this proposal, no significant issues were identified. Concerns identified by Forest Service resource specialists during analysis of NSM's proposal included impacts to visual resources. Mitigation measures and design features that lessened visual impacts were added to the proposal in developing the final Proposed Action analyzed and documented in this EA.

Based upon consideration of the effects of the alternatives, the Responsible Official will decide whether or not to approve the Proposed Action, and if so, under what conditions.

1. INTRODUCTION

1.1 Document Structure

The Forest Service has prepared this environmental assessment (EA) in compliance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, the National Forest Management Act (NFMA), and other relevant Federal and State laws and regulations. This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. It also provides the supporting information for a determination to prepare either an Environmental Impact Statement or a Finding of No Significant Impact. The document is organized into the following sections:

- *Introduction (Chapter 1)*: This section presents information on the history of the project proposal, the purpose and need for the project, and the agency's proposal for achieving that purpose and need. It also details how the Forest Service informed and involved the public, and how the public responded.
- *Alternatives, including the Proposed Action (Chapter 2)*: This section provides a more detailed description of the Proposed Action, including mitigation measures that were developed in response to visual and other resource concerns identified by the agency during analysis. The section also provides a discussion of alternatives considered but eliminated, and a brief comparison of the environmental consequences associated with each alternative.
- *Affected Environment and Environmental Consequences (Chapters 3 and 4)*: These sections describe the environmental effects of implementing the No Action Alternative (Alternative 1) and the Proposed Action (Alternative 2) on various surface resources. Chapter 3 describes the affected environment for each resource, and Chapter 4 describes the effects on these resources.
- *References and Consultation (Chapters 5 and 6)*: These sections provide a list of preparers and agencies consulted during the development of the environmental assessment, as well as a list of references used in the analysis.
- *Appendices*: The appendices provide detailed information to further describe or support the analysis. These include a summary of the Reclamation Plan, and mitigation measures incorporated into the Proposed Action by reference.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project file located at the Santa Clara Mojave Rivers Ranger District Office, at 28245 Avenue Crocker, Suite 220, Valencia, California 91355.

1.2 Background

North Star Minerals, Inc. (NSM) owns and operates the Acton Clay Quarries (the “Gray Quarry” and the “White Quarry”), located about four miles south of the town of Acton, California within the Angeles National Forest. The quarries are situated in portions of Township 4 North, Range 13 West, Sections 24 and 25, and Range 12 West, Sections 19 and 30, SBBM (see Figure 1). The site is accessed from Aliso Canyon Road via Forest Service Road 4N32. The Gray Quarry is about 0.7 miles south of FS Road 4N32, in the southeast corner of Section 24. The White Quarry is immediately north and downslope from FS Road 4N32, about 0.4 miles east of Moody Canyon. Both quarries are accessed via unpaved roads, gated at their junctions with FS Road 4N32.

NSM has mined the quarries since 1991, and has operated under various revisions of and amendments to a 5-year Plan of Operations (POO) approved by the Forest Service on December 12, 1995. A 5-year extension to the original POO was granted in 2000, and expired in December 2005. Since then, NSM has operated under 1-year extensions to the POO.

When the owners of NSM originally sought a permit to mine the quarries, the Forest Service was not certain that the mining of the gray and white clay would result in an economically viable product. Accordingly, the area upon which mining was initially permitted was kept to a minimum. Since that time the operator has developed an active market for the product, and seeks a long-term permit to ensure an ongoing source to meet market demand.

NSM is now seeking approval of a 20-year POO, to continue its mining operations in the two quarries. The Proposed Action, analyzed as Alternative 2 in this EA, describes the 20-year POO and related reclamation plan.

Los Angeles County has already granted a 20-year Surface Mining Permit (June 19, 2002) for the operation and approved NSM’s Reclamation Plan, as required by the California Surface Mining and Reclamation Act (SMARA). Under the California Environmental Quality Act (CEQA) requirements, the County adopted a Mitigated Negative Declaration and a Mitigation Monitoring Program for the proposed project, as part of the SMARA permitting process.

The County’s permit for NSM’s mining operation and reclamation plan included certain conditions and mitigations, to avoid or mitigate potentially significant effects of the project on water quality, air quality, biota, and cultural resources identified during an Initial Study under CEQA (see Appendix D in this EA). NSM made or agreed to revisions in the project which would avoid the effects or mitigate the effects to a point where no significant effects would occur. According to County records, the Initial Study and project revisions showed that there is no substantial evidence that the project as revised may have a significant effect on the environment.

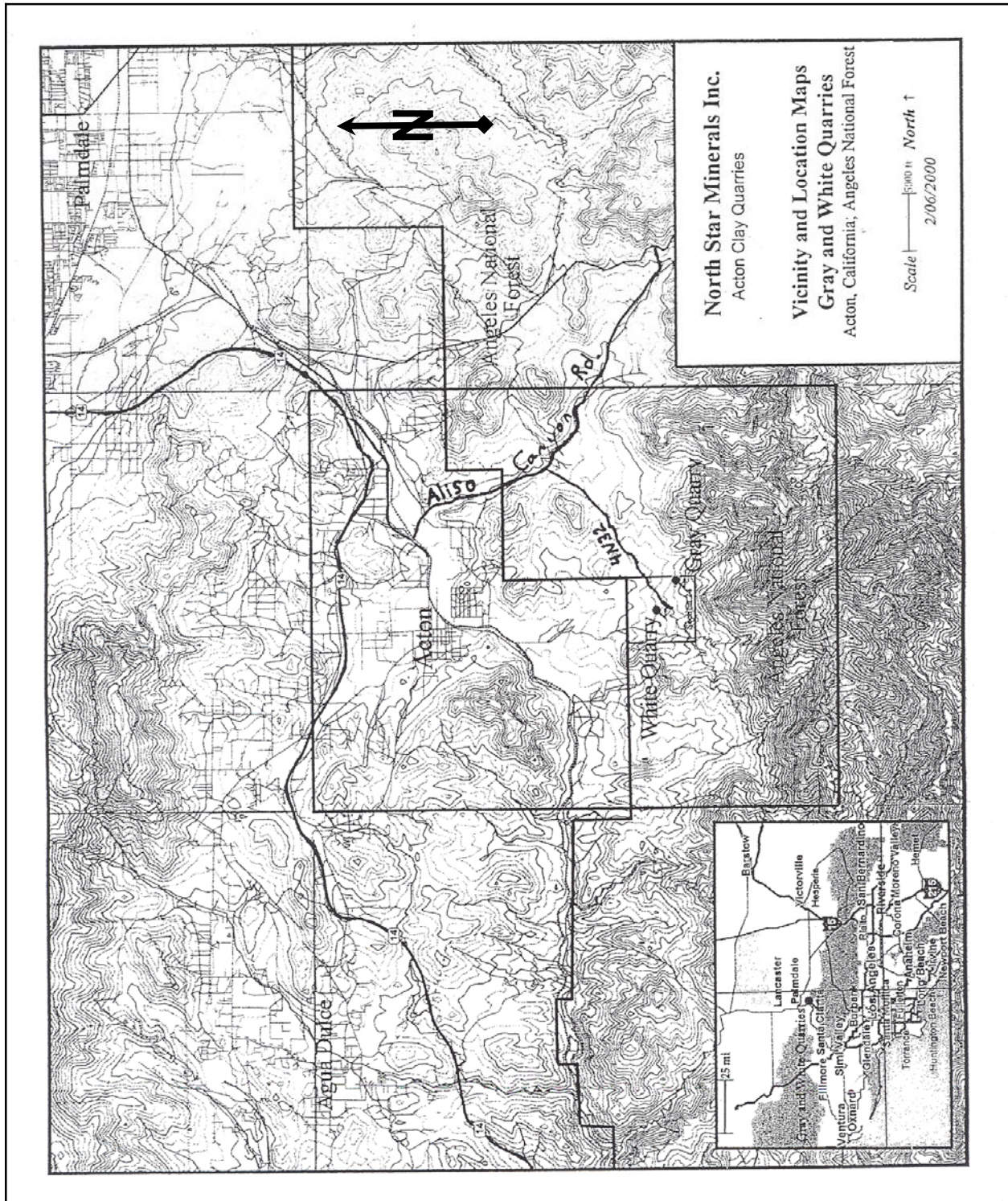
The conditions and mitigations identified by the County and agreed to by NSM are incorporated into the Proposed Action analyzed in this EA, in compliance with NEPA and in accordance with the Memorandum of Understanding for surface mining and reclamation coordination between the State of California, the Forest Service and the Bureau of Land Management (October 1992).

History

The town of Acton was established in the late 1800's as a mining town, and the area has a long history of mining activity. Early mining operations in the late 1800's and early 1900's focused on extraction of precious metals such as gold, silver, and copper. In the late 1950's, valuable clay deposits were found in the area. A number of claims were subsequently filed, including the claims in which the Acton Clay Quarries are located.

The Acton Clay Quarries have been in existence prior to ownership by NSM. Red clay was removed in earlier mining operations during the 1970's in and adjacent to the quarries. The areas disturbed by these earlier operations have been reclaimed, other than the area located within NSM's active mining operations. The current and proposed operations to extract gray and white clay are considered reentries into a previously disturbed site.

Figure 1. Vicinity and Location Map: Acton Clay Quarries



1.3 Purpose & Need for Action

The purpose for this action is to make locatable mineral material available, as provided by statute. The statutes authorizing this use of National Forest System lands and resources include the 1872 Mining Law, as amended (30 U.S.C. 21-54), and its implementing regulations at 36 CFR part 228; the Mining and Minerals Policy Act of 1970; the Federal Land Policy and Management Act of 1976, and Forest Service policy as described in Forest Service Manual 2800.

This action responds to the proposed Plan of Operations submitted by NSM to expand their operations at the Acton Quarry, while protecting surface resources. Under U.S. mining laws, NSM has a statutory right to extract locatable minerals (clay) as proposed in accordance with the General Mining Law of 1872, as amended. The Forest Service has the responsibility to protect surface resources of National Forest System lands to the extent practicable. Forest Service mining regulations state that “operations shall be conducted so as, where feasible, to minimize adverse impacts on National Forest System surface resources (36 CFR 228.8).”

The action also contributes to meeting the goal of supporting environmentally sound minerals development and reclamation. The Mining and Minerals Policy Act of 1970 states that it is the policy of the Federal Government to foster and encourage the development of economically sound and stable domestic mining, minerals, metal, and mineral reclamation industries; and the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security, and environmental needs.

The current Plan of Operation (POO) for Acton Clay Quarries, as amended and extended several times since 1991, allows for the active mining of only 5 acres of NSM’s 2,260 acres of claims at one time. Operations over the years have seen development reach the limit of the area available. Under the proposed 20-year POO, mining would be allowed on 24 acres of North Star's claims, although not all allowed acreage would be mined at any given time (see Section 1.5, Proposed Action).

1.4 Forest Plan Consistency

This action responds to the goals and objectives outlined in the revised Angeles National Forest Land Management Plan (LMP 2005), and helps move the project area towards desired conditions described in that plan. Specifically, by allowing NSM to extract and provide clay ore to industry markets, this proposal meets Forest Plan Goal 4.1a for energy and mineral production:

Administer Minerals and Energy Resources Development while protecting ecosystem health.... The national forests have an essential role in contributing to an adequate and stable supply of minerals and energy resources while continuing to sustain the land’s productivity for other uses and its capability to support biodiversity goals. The desired condition is that approved minerals and energy developments are managed to facilitate production of mineral and energy resources while minimizing adverse impacts to surface and groundwater resources and protecting or enhancing ecosystem health and scenic values (Angeles NF Land Management Plan, Part 1, p. 37).

The proposed project is located within the Soledad Front Country Place of the Angeles National Forest, which functions as a scenic backdrop and transitional landscape for people who live in or travel through the rapidly urbanizing area between the Mojave Desert and the Los Angeles Basin. The Forest Plan categorizes the Soledad Front Country as a “Key Place” for providing

scenic views of the San Gabriel Mountains. The Forest Plan's Desired Condition includes the preservation of these landscape attributes over time (see Forest Plan, Part 2, p. 73).

Mitigations and project design features are necessary and have been incorporated into the Proposed Action to allow the proposed mining activity to occur without negatively impacting Forest Plan goals related to public enjoyment of natural, scenic views of the Forest (Goal 3.1, Forest Plan, Part 1, p. 33), as well as other resource protection goals.

The Acton Clay Quarries are located within two land use zones, as described in the Forest Plan (Part 2, pp. 3-9). The Gray Quarry is in the Back Country Non-motorized Land Use Zone, and the White Quarry is in the Back Country Motorized Use Restricted Zone. Mineral extraction (mining) is considered suitable "by exception" in both of these land use zones. The exception, in this case, is the federal law that authorizes NSM to mine for locatable mineral material on its mining claims within these land use zones.

1.5 Proposed Action

The Forest Service proposes to approve a 20-year Plan of Operation (POO) submitted by North Star Minerals, Inc. (NSM) to expand its current clay mining operations in the Acton Clay Quarries (the Gray Quarry and the White Quarry) and to reclaim the disturbed land as directed in Forest Service Surface Use Regulations, 36 CFR 228, SubPart A and in the California Surface Mining and Reclamation Act (SMARA). The Proposed Action includes mitigation measures for land and resource protection, which are disclosed in the Appendices of this EA.

The current and proposed mining operations are a re-entry into land mined by previous owners, to remove remaining high-alumina clay ore. The proposal would result in a total disturbance of approximately 24 acres of National Forest System (NFS) land over a period of 20 years. Approximately 14 acres would be disturbed in the Gray Quarry, and 10 acres in the White Quarry. The Plan of Operations (POO) proposed to be approved would allow no more than 5 acres of actively mined area at any one time in each quarry (10 acres total).

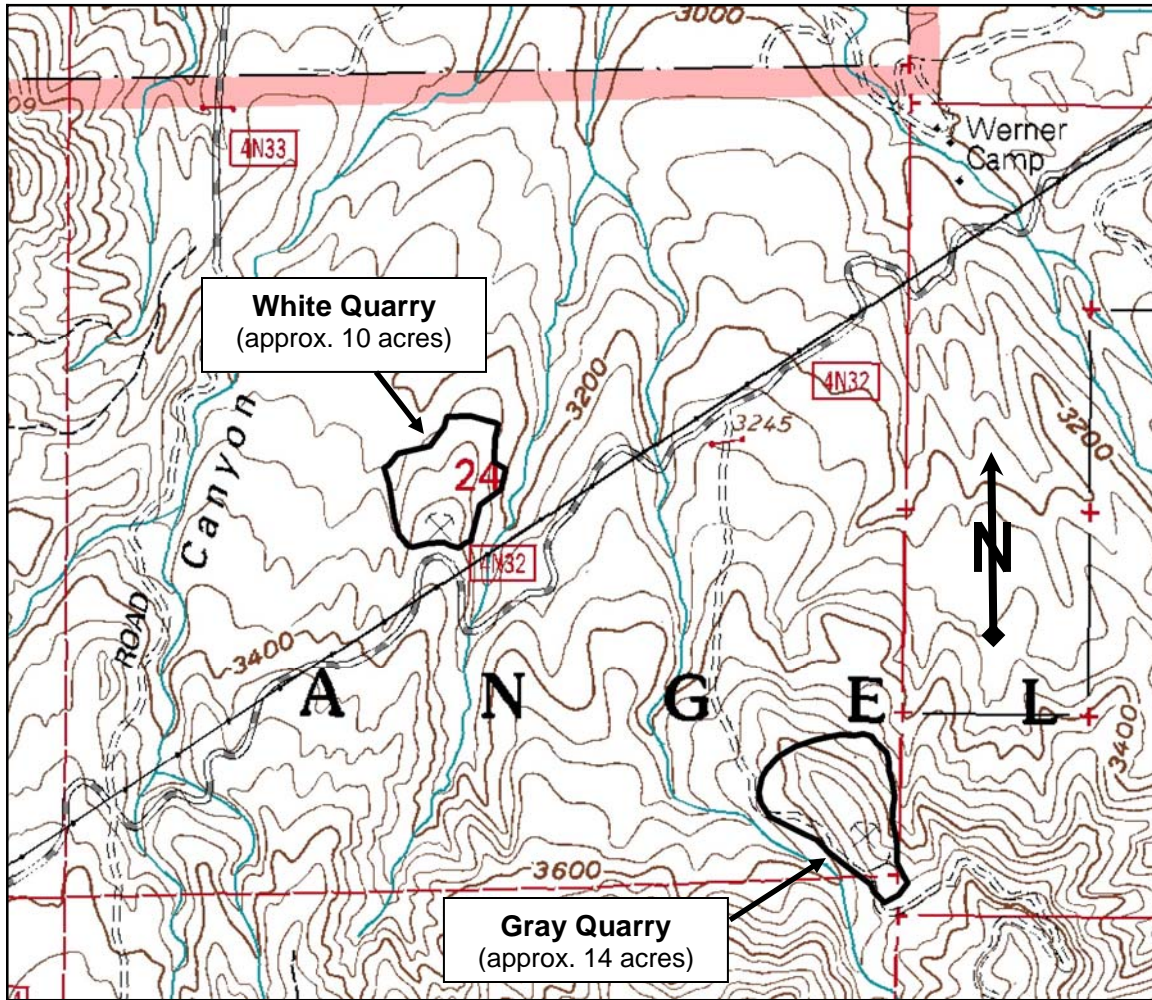
Activities at the operation would continue to consist of crushing and screening ore, and hauling ore out Forest Service Road 4N32 onto Aliso Canyon Road. The proposed POO provides for maintenance of Road 4N32, dust control on the road and at the quarries, restrictions on hours of operations depending on conditions, and concurrent reclamation of areas as they are mined, together with planned and bonded final reclamation.

The proposed POO incorporates detailed reclamation activities that would prevent or control damage to the environment and forest surface resources during and at the conclusion of the mining operation. These activities include control of erosion and water runoff, reshaping and revegetation of disturbed areas, and various measures to reduce impacts to scenery resources throughout the life of the POO (see Reclamation Plan Summary in Appendix A of this EA).

The Proposed Action includes no new construction of haul or access roads nor would it change the prescribed management for the area as described in the Angeles National Forest Land and Resource Management Plan (LRMP) (USDA 2005).

A more detailed description of this proposal can be found in Section 2.2.2 Alternative 2, Proposed Action, in this EA. The proposal is detailed in NSM's proposed Plan of Operations, which is filed in the project record.

Figure 2. Acton Clay Quarries Expansion (Alternative 2, Proposed Action)



T4N, R13W, Sections 24 and 25;
T4N, R12W, Section 19 and 30, SBBM

 = Angeles National Forest Boundary

 = Area of Disturbance *

* No more than 5 acres would be actively mined at any one time in each quarry (10 acres total). All mined areas within the quarries would be concurrently reclaimed (see Reclamation Plan Summary in the Appendix).

1.6 Decision Framework

The District Ranger of the Santa Clara/Mojave Rivers Ranger District is the Responsible Official for this project. Based on the purpose and need for this action as well as the results of the environmental analysis, the District Ranger will decide whether to approve the proposed Plan of Operations (i.e., the Proposed Action), or to select the No Action Alternative (in which case NSM would continue to operate under their existing POO, with annual extensions).

His decision will include approval of a Reclamation Plan for ongoing operations and final reclamation at the closeout of mining operations. He will also decide which recommended mitigation measures and monitoring requirements will be applied for protection of surface resources.

Finally, he will decide if a Forest Plan Amendment is required for implementation of his decision. His decision will be consistent with the Angeles National Forest Land Management Plan (2005).

1.7 Public Involvement

Scoping and public notification were conducted to inform the public of NSM's proposed 20-year Plan of Operation, and to provide them an opportunity to raise any issues associated with this action. A scoping letter describing the details of the Proposed Action was mailed to 358 agencies, groups, and individuals on April 23, 2007. A legal notice informing the public of this project proposal (with a 30-day comment period) was published April 23, 2007 in the *Los Angeles Daily News*. On April 25, 2007 a news release was published in *The Los Angeles Daily News*, *Acton-Agua Dulce News* and the *Antelope Valley Press, Daily News*. The scoping letter was also posted on the Forest website.

The project has been listed in the Angeles National Forest web-posted quarterly Schedule of Proposed Actions (SOPA), beginning in January 2008.

1.8 Issues

The Council for Environmental Quality (CEQ) NEPA regulations require that environmental issues associated with the Proposed Action be identified at an early stage of the environmental analysis, and evaluated for possible significance (see 40 CFR 1501.1(d)). The regulations also require that these issues be classified as either significant or non-significant in terms of their effect on the human environment (40 CFR 1501.7). Issues that would have a significant effect on the human environment are to be addressed in the environmental analysis. For this analysis, "significance" was determined in terms of length of time the effect would last, the geographic extent of the effect, and/or the intensity of the effect (see 40 CFR 1508.27).

Non-significant issues are identified as those: 1) outside the scope of the Proposed Action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; 4) conjectural and not supported by scientific or factual evidence; or, 5) could be resolved through mitigation. The NEPA regulations require the environmental analysis to "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..."

The Forest Service received and analyzed letters from 4 individuals/groups during the 30-day scoping period for NSM's proposed 20-year Plan of Operations. One letter from a Santa Clarita resident expressed concern that trucks hauling clay from the quarries would result in increased traffic on the Interstate 14 freeway in the vicinity of Santa Clarita. This issue was determined by the Forest Service interdisciplinary team to be non-significant ("irrelevant to the decision to be made"), since trucks leaving the quarries would not travel toward Santa Clarita on Interstate 14, but rather along Soledad Canyon Road toward markets in the Mojave Desert area.

No significant issues were identified by the public as a result of scoping.

Angeles National Forest resource specialists who reviewed and analyzed NSM's proposed Plan of Operations identified a potentially significant issue related to visual impacts. Mitigation measures and design features were subsequently developed to resolve this issue, and have been incorporated into the Proposed Action as analyzed in this EA (see Appendix C).

Los Angeles County Department of Regional Planning, in its Initial Study under CEQA (December 31, 2001), identified no significant issues for the proposal with project mitigations included. As stated in the Background section of this EA, the County adopted a Mitigated Negative Declaration and a Mitigation Monitoring Program for the proposed project in 2002 (see Appendix D in this EA).

2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered to achieve the Purpose and Need discussed in Section 1.3 of this EA. Alternative 1 is the No Action Alternative. Alternative 2 is the Proposed Action. A brief discussion of alternatives that were considered but eliminated from detailed analysis is also included.

Mitigation measures to avoid or minimize impacts to surface resources, and reclamation activities for ongoing operations and final close-out of the mine, are incorporated into the Proposed Action. These measures are included in this section by reference and are located in the Appendix of this EA. These measures include conditions required by the State of California as part of the SMARA approval process for this proposed mining operation.

2.1. Alternatives Considered but Eliminated

The following alternatives were considered by an interdisciplinary team of resource specialists, but eliminated from detailed evaluation in this EA because of their infeasibility to attain aspects of the Purpose and Need, or failure to attain benefits greater than the Proposed Action.

2.1.1 Visually Enhanced Alternative

The original design/reclamation concept in NSM's proposed Plan of Operations did not adequately meet the Purpose and Need or Forest Plan goals and objectives related to protection or attainment of scenic integrity objectives. One option the ID team considered to reduce the potentially significant visual impact of the proposed mining activity was to develop an alternative to NSM's proposal that would consist of visual enhancement measures to protect and improve the scenic resource.

Following further analysis and a field review of the quarries, the ID team instead identified opportunities to incorporate mitigations and design/reclamation features into NSM's original proposal that would lessen impacts to visual resources while meeting NSM's mining objectives. The team modified the original concept, and incorporated visual enhancement measures into the Proposed Action that would protect the visual resource and provide an opportunity to improve the scenic integrity of the area.

2.1.2 Reduced Operating Period Alternative

This alternative considered authorizing a 5- or 10-year Plan of Operations, rather than the 20-year term presented in NSM's proposal, with an opportunity at the end of this period to extend the POO for an additional period following further environmental analysis. The purpose of this alternative would be to reduce the potential for unforeseen environmental impacts that might occur over a longer, 20-year period, and to provide a means for correcting such impacts. The alternative would thus provide a safeguard to ensure that visual impacts would not exceed those analyzed in this EA and approved in the POO.

Following further analysis, the ID team determined that the protections sought by this alternative are adequately provided for by State and federal mining laws and regulations, by means other than shorter approval timeframes. These laws, along with Forest Plan monitoring requirements, provide for periodic State and Forest Service inspections of mining operations and concurrent reclamation activities. Changes and modifications to a 20-year POO could be implemented at

any time as deemed necessary. The ID team concluded that the shorter time frames considered in this alternative would unnecessarily interfere with and reduce the opportunity for long-term, orderly extraction from a mining claim authorized by statute, and subsequently dropped the alternative from further analysis.

2.2. Alternatives

2.2.1 Alternative 1, No Action

In situations involving an ongoing operation authorized by law or statute, CEQ regulations and interpretations of NEPA allow the No Action alternative to be considered as “no change” from current management direction or level of management intensity (see “Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations,” Question 3, available on the internet at <http://ceq.eh.doe.gov/nepa/regs/40/40p3.htm>). This is the case with the Acton Clay Quarries operation, in which NSM has a statutory right to extract minerals from its claims at the Acton Clay Quarries. The Forest Service does not have the discretion to deny statutory rights to mine locatable minerals subject to the 1872 Mining Law.

Therefore, the No Action Alternative analyzed in this EA is defined as “no change” from the current Plan of Operations (POO) in effect. The current POO allows for active mining in the Gray and White Quarries to occur on a total of 5 acres at one time. Under the No Action Alternative, the proposed 20-year Plan of Operations would not be authorized.

For the purposes of environmental analysis in this EA, it is assumed that the current POO would be renewed by annual extensions, with active mining continuing as presently authorized. In reality, however, operating the quarries indefinitely under year-to-year approvals is not desirable and likely not possible, in that it would hamper long-term planning and market development considered essential to a viable mining operation as provided for under federal mining laws governing locatable mineral development.

2.2.2 Alternative 2, Proposed Action

Under this alternative, the Forest Service would approve a modification of the proposed Plan of Operations initially submitted by North Star Minerals, Inc. to expand the company’s current clay mining operations in their Acton Quarries at two sites (the “Gray Quarry” and the “White Quarry”) over a period of 20 years. The proposed Plan of Operations, as modified, is included in the project record, on file in the Santa Clara/Mojave Rivers Ranger District Office.

Modifications incorporated by the Forest Service include reclamation activities, design features, and mitigation measures to reduce or eliminate undesirable impacts, including impacts to the scenic integrity of the area (see Appendices A, C, and D in this EA).

The Plan of Operations, as proposed by North Star Minerals and modified by the Forest Service is summarized as follows:

- It is estimated that the operation would process approximately 5 million tons of clay over the life of the plan (20 years). Peak production may reach 1,500 tons per day, and annual production may reach approximately 200,000 tons.
- Total surface area to be mined over the 20-year period would be 24 acres, with 14 acres in the Gray Quarry and 10 acres in the White Quarry. Much of this area has been mined by

previous owners (see discussion in Background section); the current and proposed operation is a re-entry, to remove remaining clay ore. The Plan of Operations to be approved would allow no more than 5 acres of actively mined area at any one time in each quarry (10 acres total). All mined acres within the quarries not being actively mined would be concurrently reclaimed, as described in the Reclamation Plan Summary (see Appendix A in this EA) and briefly summarized below under the heading “Proposed Action – Reclamation Activities”).

- While quarry operations would include some blasting of hard rock formations, most material would be mined by ripping with a track-mounted dozer. Mined material would then go through a crushing and screening process.
- Mining operations would occur year-round, except during periods of heavy rain. Both quarries would operate about five days per week.
- Commercial material would be hauled off-site by 18-wheel highway trucks (GVW 80,000 lbs.) to various markets, traveling on FS Road 4N32 to Aliso Canyon Road, then on to Soledad Canyon Road toward markets in the Mojave Desert. On average, approximately 39 truckloads of material would be shipped per 12-hour day.
- All access roads, including interior roads, would be maintained to Forest Service standards (see Mitigation Measures in Appendix C of this EA, and the proposed Plan of Operations in the project record for measures specific to road maintenance). Roads would be watered or treated with a dust-control agent.
- Non-commercial material excavated during mining operation would be deposited in overburden sites within the two quarries.
- The overall mining strategy would be to develop the quarries by excavating in a downward and northward direction, into the existing quarry floor and face. However, as changes in commercial demand for various types of clay occur, previously mined and reclaimed areas within the quarries may be re-excavated to remove clay ore previously left behind.
- Back slopes of the mined area during and following active mining operations would range from 1:1 to 2:1 (one to two feet of horizontal run for every one foot of vertical rise) overall, with up to twenty-foot high and forty-foot wide benches, in accordance with State and federal mining regulations.
- All topsoil that are removed during mining would be stockpiled and used for reclamation (see reclamation discussion immediately below, and Reclamation Plan Summary in Appendix A of this EA).
- A processing plant for screening and crushing would be located within each quarry, typically on a low, flat area of the quarry floor.

Proposed Action - Reclamation Activities

The proposed Plan of Operations includes a Reclamation Plan that describes in detail measures that would be taken to reclaim the quarries during ongoing operations and at the end of the 20-year operating period when mining activity ceases (see the Reclamation Plan Summary in Appendix A). The Reclamation Plan is incorporated into the Proposed Action by reference.

The purpose of the Reclamation Plan is to ensure that surface resources are protected during mining operations, and that lands mined for clay are adequately reclaimed after mining is completed. The plan includes a description of the strategy to be used to achieve acceptable reclamation, including revegetation with native species on quarry benches and areas disturbed by mining operations.

Reclamation would be ongoing, with progressive, “segmental” reclamation occurring concurrently with mining operations over the 20-year period of the proposed Plan of Operations. The mined areas would be contoured and reclaimed as the product is extracted. The final land surface would have natural contours and benches that blend with the surrounding topography. Final reclamation would be completed one year after mining has been completed.

The Reclamation Plan Summary, in Appendix A of this EA, describes the concurrent and final reclamation processes in detail.

2.3. Mitigation Measures Common to All Action Alternatives

Mitigation measures have been developed to avoid or lessen adverse environmental impacts of the proposed mining activities as proposed in Alternative 2 (Proposed Action). These measures are located in Appendices C and D of this EA, and include conditions and mitigations which are part of Surface Mining Permit 00-21-(5) issued to North Star Minerals, Inc. by the County of Los Angeles.

2.4. Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 1. Comparison of Alternatives

Resource/Issue	No Action Alternative (Alternative 1)	Proposed Action (Alternative 2)
Scenic Integrity	<p>Does not meet Forest Plan scenic standards.</p> <ul style="list-style-type: none"> • Would not meet High Scenic Integrity Objective (SIO). Landscape views would continue to be below desired characteristics. • Foreground views: White Quarry: Low SIO Gray Quarry: Moderate SIO 	<p>With mitigations, would meet Forest Plan scenic standards.</p> <ul style="list-style-type: none"> • Implementation & strict enforcement of mitigations would reduce visual impacts and could potentially meet High SIO from background and middleground views. • Foreground views for both quarries: Moderate SIO
Air Quality	Emissions of all criteria pollutants for both alternatives would be well below the <i>de minimus</i> & regional significance thresholds established by the General Conformity Rule.	
Wildlife and Botanical Resources	<p>Type of effects similar to Proposed Action. Intensity/magnitude of effects would be somewhat less, due to slower rate of mining activity over a longer period of time.</p> <p>No impacts to management indicator species (MIS).</p>	<p>Would not affect any threatened, endangered, proposed, or candidate plant species or any designated or proposed critical habitat for listed plants.</p> <p>Could have limited adverse impacts to some Forest Service sensitive plant and animal species, but is not likely to result in a trend toward federal listing of any plant recognized as sensitive by the Angeles National Forest.</p> <p>24 acres of habitat unavailable for 20 years. Would regain some components of native habitat suitability following reclamation.</p> <p>Impacts from noise & light disturbance, and some fugitive dust.</p> <p>Potential improvement of MIS habitat, with re-establishment of native vegetation in reclamation.</p>
Water Quality and Soils	<p>Because of small area affected, and mitigations currently required by State and federal mining laws, effects to soil and surface water resources would not be significant.</p> <p>No significant measurable effect to ground water quality or quantity.</p>	<p>Because of small area affected, and increased mitigations incorporated into the Proposed Action, impacts to soil and surface water resources would potentially be lower than would occur under the No Action Alternative.</p> <p>No significant measurable effect to ground water quality or quantity.</p>

3. AFFECTED ENVIRONMENT

This chapter summarizes the physical, biological, social and economic environments of the affected project area. Within each subsection of this chapter, the affected environment is briefly described by resource. Detailed descriptions of the affected environment for each resource are located in the specialist reports, on file in the project record, which can be found at the Santa Clara/Mojave Rivers District Ranger Office.

3.1. General Description of the Project Area

The Acton Clay Quarries operation is located in the Angeles National Forest, on the north slopes of the San Gabriel Mountains, about 4 miles south of the town of Acton (south of the Interstate 14 freeway), Los Angeles County, California (see Figure 1). The site is accessed from Aliso Canyon via Forest Service Road 4N32.

The project area is located within the Soledad Front Country "Place" of the Angeles National Forest (see the Angeles National Forest Land Management Plan (LMP), Part 2, p 71-74). The Soledad Front Country runs northeast to southwest along both sides of the Interstate 14 freeway along the Santa Clara and Soledad Rivers.

The Aliso-Arrastre Special Interest Area (SIA) is located within the Soledad Front Country, and highlights the heritage resource values of the area (see LMP Part 2, p.71; also the LMP Final Environmental Impact Statement, Vol. 2, pp. 265-269). The SIA is located northeast of the project area.

Average precipitation in this area is about 11 inches per year. During the hottest months of the year (June, July and August), temperatures may reach 104 degrees. During the coldest months of the year (December, January and February), temperature lows are about 49 degrees (NSM, Air Quality Determination Report, 2001).

The broad floodplain of the Soledad River dominates this landscape. In this area, all but the large streams are dry through the summer. The mostly hot to sometimes temperate climate affects vegetation types and water availability. The predominant plant community at the lower elevations is mixed chaparral. Elevation within the quarry area ranges from about 3,200 feet to 3,600 feet above sea level.

3.2. Scenic Management

The predominant vegetation surrounding the project area is chamise chaparral. As shown in the Scenic Integrity Objectives (SIO) map in the LMP, Part 2, the proposed 24-acre mining operation is located in an area of the Forest that falls under the classification of "High" Scenic Integrity. Under this classification, the landscape would appear unaltered (see scenic management definitions in Appendix B of this EA).

The Soledad Front Country Place, in which the quarries are located, is identified as a "Key Place" for its natural appearing area that functions as a scenic backdrop and transitional landscape. The valued landscape attributes to be preserved over time, according to the LMP, are the dramatic canyon and rugged mountain views, the presence of pine and juniper stands, and a well-defined age class mosaic with patches in chaparral (LMP 2005). The White Quarry is at the

margin of a 20-acre site that was mined before 1990 and has since been reclaimed. Another mined and reclaimed area of about 45 acres is located directly down slope from the Gray Quarry.

When viewed as a background from the community of Acton, the Forest mountain vegetation immediately surrounding the two quarries appears, for the most part, intact. Currently a large section of the Gray Quarry is screened from the community of Acton and the Interstate 14 freeway by natural land forms. The mining effects of the White Quarry, however, are visible from parts of Acton and spans of Interstate 14. Despite the fact that it is the smaller of the two quarries, the White Quarry is the most noticeable disturbance on Forest land in the area, even when viewed from a distance.

Currently the quarries do not meet the desired SIO of High as designated by the LMP. Wherever the topsoil is disturbed within either quarry, a very light colored material is exposed. This exposed material is more reflective than and contrasts with the much darker vegetative cover that encompasses the rugged mountain backdrop. The mining operations at the quarries currently expose this material in several acres of land. The mining disturbances visible from Acton and the Interstate 14 freeway are too large to appear natural (especially on the White Quarry), and disrupt the continuity of the natural patterns seen on the immediate Forest landscape. The visual disturbance caused by the quarries, even as viewed from a distance, is increased by mined areas to the rear (south) of each quarry that have not yet been revegetated or reclaimed.

If the two quarry sites were to be given an SIO classification as they currently appear from the background view, the White Quarry would meet a Low SIO (landscape appears moderately altered) and the Gray Quarry a Moderate SIO (landscape appears slightly altered).

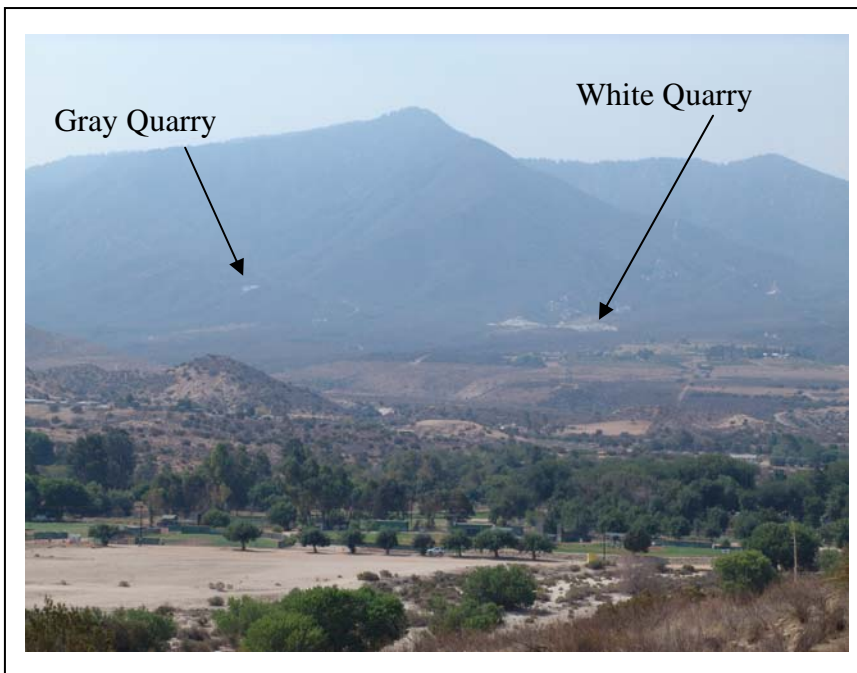


Figure 3. Middleground view looking Southeast towards North Star Minerals, Inc. Acton Clay Quarry mining operations, from Crown Valley Road (8/16/07). **Note** Forest boundary is delineated by vegetative clearing on private lands.

When viewed from a middle-ground setting (the area located from a 1/2 mile to 4 miles from the observer), the same issues arise as when viewing the site from a background setting, except that the quarries are much more prevalent (see Figure 3).

When viewing the quarries from a foreground setting, many more factors detract from the scenic integrity of the natural landscape. Slope face cuts, soil erosion, vehicles and equipment, storage facilities, modular buildings, etc., all are visible from the project sites. Currently, both quarries would only meet a Very Low (Heavily Altered) SIO when viewed from a foreground setting.

In addition to the quarries, there are adjacent disturbances in the landscape such as Forest roads and utility maintenance routes, which can be seen sporadically from middle-ground and foreground view sheds that detract from the natural-appearing scenic landscape of the Forest. Private and agricultural lands line the base of the Forest boundary, and create a contrast between vegetated and non-vegetated areas (see photo in Figure 3 above).

3.3. Cultural Resources

Cultural resources consist of archaeological resources, architectural resources (buildings and structures), and properties of importance to Native Americans and other ethnic groups. The project area contains a variety of non-renewable historic and prehistoric archaeological sites that reflect past land uses. Archival and field reconnaissance cultural resource surveys have resulted in the identification of a total of 13 sites within the Area of Potential Effect (APE).

Of these sites, 6 sites are prehistoric (Native American), and 5 are historic. There are additionally several likely historic mining-related features in the project area of undetermined age that have no associated artifact or temporal materials. Most of the sites within the project area have not been formally evaluated, and therefore must be treated as if they are eligible for inclusion in the National Register of Historic Places.

None of the identified sites are within the Gray Quarry or the White Quarry proper. However, one site is located under the access road leading to the quarries. Under the direction and supervision of the Forest Service, the mine operator covered the site with two feet of material to protect it.

3.4. Air Quality

The Acton Clay Quarries study area is located in the South Coast Air Basin, and is under the jurisdiction of the South Coast Quality Management District (SCAQMD). Overall, the District is currently in attainment for the National Ambient Air Quality Standards (NAAQS) for nitrogen dioxide (NO₂), carbon monoxide (CO), and sulfur dioxide (SO₂). The District is designated as in extreme nonattainment for the 8-hour ozone (O₃) standard, serious nonattainment for particulate matter less than ten microns in diameter (PM₁₀), and nonattainment for particulate matter less than 2.5 microns in diameter (PM_{2.5}) (SCAQMD, 2007).

The SCAQMD is the agency mandated by law to adopt and enforce rules designed to achieve and maintain ambient air quality standards. SCAQMD rules directly applicable to this project are Rules 402 (Nuisance), 403 (Fugitive Dust), 1157 (PM₁₀ Emission Reductions from Aggregate and Related Operations) and 1186 (PM₁₀ Emissions from Paved and Unpaved Roads).

Portable generators and screening/crushing plants at the study site are also subject to registration under the California Air Resources Board Portable Equipment Statewide Registration Program. In 1996, the SCAQMD issued permits for NSM's operation at the Acton Clay Quarries (see the NSM SMARA environmental analysis); these permits were subsequently put under the statewide portable equipment under CARB. Once registered with the program, portable engines and their associated equipment units can operate without the need for additional permits from the local Air District. All applicable equipment located at the quarry is currently registered with the CARB.

3.5. Wildlife and Botanical Resources

The Acton Clay Quarries are located about 7 miles east of the Soledad Canyon Critical Biological Land Use Zone (LMP Part 2, p. 85). The two actively mined areas of the Gray Quarry and the White Quarry are less than 3 acres each in size. The White Quarry is at the margin of a 20-acre site that was mined before 1990 and has since been reclaimed. Another mined and reclaimed area of about 45 acres is located directly down slope from the Gray Quarry.

The surrounding vegetation is predominantly chaparral, generally dominated by chamise (*Adenostoma fasciculatum*), birchleaf mountain mahogany (*Cercocarpus betuloides*), thick-leaf yerba santa (*Eriodictyon crassifolius*), and California buckwheat (*Eriogonum fasciculatum*). Other characteristic or conspicuous species include California bush poppy (*Dendromecon rigida*), chaparral yucca (*Yucca whipplei*), Great Basin sagebrush (*Artemisia tridentata*), bigberry manzanita (*Arctostaphylos glauca*), narrowleaf goldenbush (*Ericameria linearifolia*), and deerweed (*Lotus scoparius*). California juniper (*Juniperus californicus*) occurs occasionally in the chaparral, though not at high enough density to classify the vegetation as juniper woodland.

A solitary Coulter pine (*Pinus coulteri*) occurs in an ephemeral stream channel along the western margin of the White Quarry area. Sheltered slopes above the channel support small stands of oak woodland dominated by canyon live oak (*Quercus chrysolepis*) and interior live oak (*Q. wislizenii*). The channel held running surface water in some reaches above about 3400 ft. elevation during May 2000.

Vegetation associated with the channel is generally chaparral (in the open wash), but a narrow belt of riparian vegetation occurs along the channel above about 3400 ft. elevation. This vegetation is generally dominated by arroyo willow (*Salix lasiolepis*), with scattered patches of mulefat (*Baccharis salicifolia*) and a few Fremont cottonwood trees (*Populus fremontii*). The small volume of running and standing water seen in May 2000 (following a relatively dry winter, but with high rainfall in March and April) suggests that surface water is not present in the channel during late summer of an average year. Riparian vegetation immediately along the stream suggests that water may be available in the root zone immediately adjacent to the channels year-around even during dry years. (See Section 3.6, Water and Soils, for more information regarding channels near the quarries.)

Based on elevation range, geographic range, and habitat requirements, no listed threatened or endangered plants occur on the site. One listed bird (southwestern willow flycatcher) could occur in the riparian habitat, though the probability is low. The project avoids this habitat, and no impacts to southwestern willow flycatchers are anticipated.

Several Forest Service sensitive species, particularly short-jointed beavertail cactus, San Diego horned lizard, and a few other plants and reptiles, could occur on the site. Forest Service Management Indicator Species may also occur on the site.

A summary of threatened, endangered, or sensitive (TES) species occurrence, federally listed, proposed, and candidate species and the Angeles National Forest sensitive species list can be found in the North Star Minerals BE/BA (2007), which is on file in the project record.

3.6. Water Quality and Soils

This subsection discusses existing soil, surface water and groundwater conditions at the proposed project area. Environmental consequences to each of these resources for each of the alternatives is discussed in Chapter 4.

Soil

The soil type in the region surrounding the Acton Clay Quarries is identified in the *Soil Survey of the Angeles National Forest Area, California* as Map Unit 86—Pismo family-Rock outcrop complex, 50 to 80 percent slopes (USDA, USFS, and the University Of California 1980). The map unit is designated as a Typic Xeropsamment, consisting of very shallow/shallow, somewhat excessively drained soils with a relatively low water-holding capacity that formed in material weathered from granitic and anorthosite rocks. This map unit is characterized by sandy soils that have little or no evidence of the development of soil horizons. These soils are usually found in Mediterranean climates, such as occurs in southern California. Annual precipitation in the project area ranges from 10 to 20 inches, with most precipitation occurring in the winter and very little in the summer. This soil unit has a very shallow, gravely loamy sand (4 to 20 inches to paralithic bedrock), which has a very high erosion hazard and a moderately high runoff potential.

Field research has shown that the project area itself is located within a belt of crystalline Precambrian rocks referred to as the San Gabriel Anorthosite-syenite complex, which has intruded into previously metamorphosed, granulite-grade Mendenhall gneiss. The rocks forming the layered complex underlying the claims are comprised of early anorthositic and leucogabbroic phases, then mixed gabbroic suites overlain by a syenitic suite with 10 to 40 percent ferromagnesian minerals. Next is a jotunitic phase with gabbroic and pegmatitic members, with some rocks rich in iron and titanium oxides and apatite with generally more than 65% ferromagnesian minerals. The uppermost layer is a hornblende-bytownite gabbro with occasional layers or inclusions of bytownite anorthosite (Carter, 1980).

The diverse layers and rich calcium and alumina mineralogy within the complex have produced natural segregations of a variety of marketable mineral materials, including several types of red, gray, and white clay. NSM's current mining operations involve extracting the gray and white clay material. Red clay was mined from the quarries for sale to the cement industry prior to NSM's ownership of the claim.

Water Quality

Surface Water

The Acton Clay Quarries are within the Arrastre Creek Watershed (Hydrologic Unit Code (HUC) 1807010201), which is part of the larger Santa Clara River Watershed (HUC 18070102).

The quarries are located approximately one mile south of Arrastre Creek. Flow measurements were taken on Arrastre Creek in December 2000 and January 2001 (Barto, 1999). Reports indicate that it is a perennial stream with non-storm/base flow ranging from 30 to 400 gallons per minute. Arrastre Creek is not listed as an impaired water for any water quality parameters (alterations in water quality factors typically associated with temperature, sediment, and

chemicals), as defined by the federal Clean Water Act, Section 303(d) (California Water Resources Control Board, 2006 List).

The Gray Quarry is bordered on the west boundary by an intermittent drainage and on the east by an ephemeral drainage. The White Quarry is bordered on the east by an intermittent drainage and on the west by a ephemeral drainage. Intermittent streams are defined as streams that flow only at certain times of the year, when they receive water from springs or from melting snow. Ephemeral streams are streams that flow only in direct response to precipitation, and whose channel is at all times above the water table (Angeles National Forest supplement to FSH 2509.22, Soil and Water Conservation Practices Handbook).

According to GIS analysis completed as part of the Soils and Watershed Report, all four drainages are tributary to Arrastre Creek, and are further than 98 feet (30 meters) from the boundaries of the quarry areas to be disturbed under the Proposed Action. By definition, the areas to be disturbed are not within a Riparian Conservation Area (see the Soil and Water Conservation Practices Handbook and the Forest Plan Part 3, Standard S47 and Appendix E, Five Step Project Screening Process for Riparian Conservation Areas).

Ground Water

The Acton Clay Quarries are located near but outside the boundary of the Antelope Valley Groundwater Basin, (see map 3) (SCE PEA, Section 4.9.6.6.1, 2007). The basin is the principal groundwater basin for southeastern Kern County and the portion of Los Angeles County surrounding the City of Lancaster. It is recharged by runoff which percolates through the head of alluvial fan systems at the foot of surrounding mountains, including the San Gabriel Mountains on the Angeles National Forest. Big Rock and Little Rock Creeks, on the Angeles, contribute about 80 percent of runoff into the basin (California's Groundwater Bulletin 118, 2006).

The water table is estimate to be several hundred feet below the ground surface of both quarries (Barto, 1999). Well log data indicates the ground water elevation is at 2,960 feet approximately 4,500 feet north of the Gray Quarry and 4,000 feet northeast of the White Quarry. The ground surface elevations taken from topographical maps at White and Gray Quarries are 3320 and 3680 feet respectively.

4. ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

An environmental assessment (EA) is a concise public document that serves to briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI) (40 CFR 1508.9). This chapter provides the basis for making this determination, through analysis of direct, indirect, and cumulative effects (both beneficial and adverse) of implementing the alternatives.

The impacts noted in this section are a summary of information taken from resource specialists' reports produced for this project. For additional information, the individual reports can be reviewed in the project planning record located at the Santa Clara/Mojave Rivers Ranger District Office.

Cumulative Effects

A cumulative impact is defined under federal regulations as "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The cumulative effects analysis in this EA evaluates the significance of the No Action's and Proposed Action's contributions to cumulative impacts on environmental resources within specified cumulative effects analysis areas. The boundaries of these areas will vary with each resource, based on the geographic or biologic limits of that resource being considered in the analysis. In addition, the length of time considered in the cumulative effects analysis will vary according to the duration of impacts from the Action on a particular resource.

4.2. Scenic Management

Following is a summary of effects of the alternatives on the visual quality of the project area. These effects are discussed in detail in the visual assessment specialists' report (May 1, 2008), which is on file in the project record.

Alternative 1 (No Action)

Direct and Indirect Effects

The Angeles National Forest LMP has designated a scenic integrity objective (SIO) of High for much of the Soledad Front Country Place, including all of the area surrounding the Acton Clay Quarries. As stated in the Affected Environment section of this EA, the quarries do not currently meet this objective. This is due to the exposure of light-colored material and the delay time required for revegetation and reclamation to occur, particularly toward the southern edges of both quarries. These segments of the quarries are not screened by the natural landforms to the north of the quarries and thus are visible from Acton and sections of the Interstate 14 freeway.

Under the No Action Alternative, the condition of the scenic resource would continue to be below the desired High SIO. Active mining would continue to occur as presently authorized under the current, annually renewed Plan of Operations (POO). The maximum area authorized to be mined

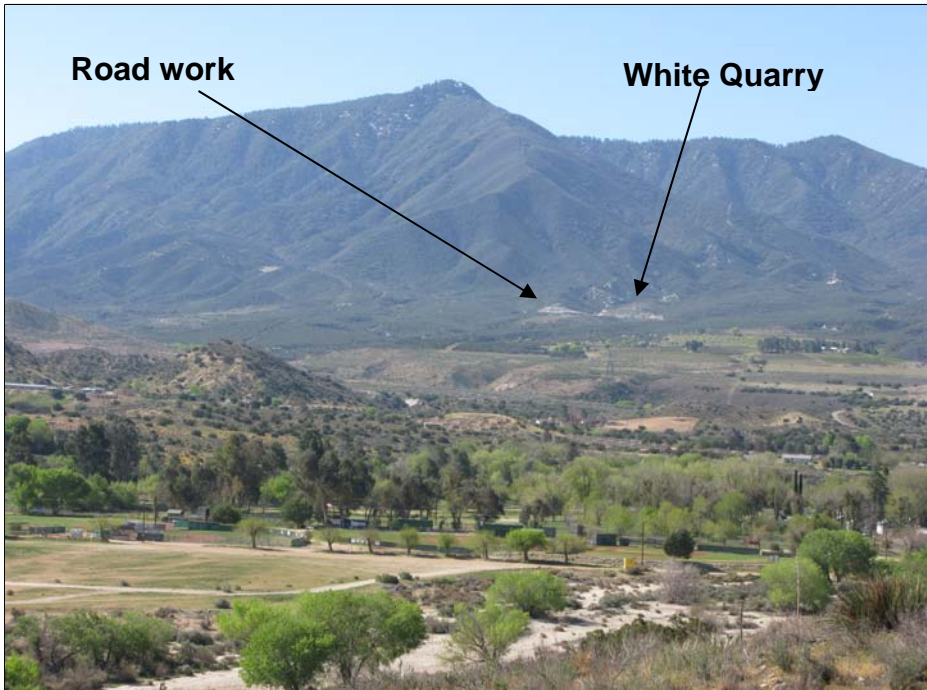
at one time is 2.9 acres at the Gray Quarry and 1.8 acres at the White Quarry. Most mining activity in both quarries would take place below the top of the exposed face of the ore, with the result that the majority of the continuing mining activity would not be immediately visible from Acton, though clearly visible from relatively inaccessible portions of Mt. Gleason to the south.

Over time, however, even under the No Action Alternative, the northern land forms that screen both quarries would be gradually lowered and reduced as excavation proceeds in a northerly direction. This, along with any delays in reclamation activity and revegetation of mined areas, would expose more of the project to the community of Acton and travelers on Interstate 14 (background view).

Regarding impacts to foreground views, the main roads near or adjacent to the quarry sites are Forest OHV routes or transmission-line access roads, neither of which are likely to receive heavy traffic on a regular basis by Forest visitors whose main concern is scenery. This allows for a slight variance in regards to the scenic value as seen in the foreground by recreationalists around the quarry sites, but does not negate the desired SIO designated for that area in the Forest Plan.

Cumulative Effects

The cumulative effects analysis area for the visual resource includes the middle-ground and foreground views of the quarry, and the background views of the national forest as seen from the community of Acton and the Interstate 14 freeway. Several projects that cumulatively do or may impact the scenic integrity of these views are described below.



Currently, repair work is being done by NSM on Forest Road 4N32 to reduce the slope of a potentially hazardous vertical road cut near the White Quarry. The road repair has exposed lighter material that is visible from a distance. When viewed from a background and middle-ground distance, the road work and the White Quarry disturbed areas appear to combine and create a much larger visual disturbance (see Figure 4).

Urban sprawl also contributes to cumulative effects on scenic integrity in the area. Like the entire

Figure 4. Middleground view of road repair work on Forest Road 4N32, and the White Quarry (3/27/08).

L.A. County Sub-region, the community and population of Acton are steadily growing. As this growth continues, housing developments will begin to be established closer and closer to the Forest

boundary, thus making the current and proposed mining operations at the Acton Clay Quarries increasingly visible from the Acton community.

The population increase would likely also increase recreation use of this area of the national forest (e.g., OHV use, horseback riding, mountain biking, hiking, etc.), making the quarries visible to more people in the middle-ground and foreground distances.

An existing transmission line traverses the national forest near the project area. Currently, in response to Federal and State policies, power companies are upgrading several of their transmission lines throughout the state of California, including several segments that run through the Forest. Recent events and future trends point to the very likely possibility that this existing line that traverses near the Acton Clay Quarries may also be upgraded sometime in the reasonably foreseeable future. This would contribute to visual impacts, and to further digressions from the desired High SIO for the area

Alternative 2 (Proposed Action)

Direct and Indirect Effects

Under the Proposed Action, quarry development would be designed to minimize the visibility of the actual operations from the community of Acton and the Interstate 14 freeway. Most of the mining activities would take place below the top of the exposed quarry faces, and each face would be located behind and below the level of the vegetated, un-mined area facing Acton.

As discussed in the No-Action Alternative effects section, the majority of the Gray Quarry is screened from the community of Acton and the Interstate 14 freeway by natural land forms. However, the mining effects of the White Quarry are visible from parts of Acton and spans of Interstate 14. As also previously stated, the quarries currently do not meet the desired SIO of High for this site, as designated in the Forest LMP.

The Proposed Action would more than double the disturbed and mined areas, over a period of 20 years. As the mining would continue to proceed vertically into the northern land form, the slope would gradually be lowered and potentially removed more quickly than under currently approved operations.

However, the Proposed Action includes mitigations to be applied to NSM's proposed Plan of Operations that would reduce visual impacts (see visual mitigations in Appendix C of this EA). Unless these mitigations are in place and strictly enforced, NSM's proposed mining operation expansion would not only continue to not meet the desired SIO, but with the proposed expansion it would be even more visible from the community of Acton, and become more detrimental to the current scenic character of this "Key Place" (LMP 2005).

With implementation of the mitigation measures throughout the 20-year life of the project, the Proposed Action could potentially meet the established SIO of High from a background and middle-ground view.

From the closer distances in the foreground view, however, the ground disturbances caused by the mining operation and the equipment would become much more evident under the Proposed Action, as compared to the No Action Alternative. The highest SIO the project would achieve for the foreground would be Moderate (landscape character appears slightly altered). This is one SIO level lower than what is desired for the site. The Forest Plan's Aesthetic Management

Standards (LMP, Part 3, p. 6) include an exception that allows for projects to drop one SIO level short of the desired objective with the Forest Supervisor's approval.

Therefore, with the implementation of the mitigation measures included in this EA, and the Forest Supervisor's approval, the Proposed Action could meet the Forest Plan's scenic standards.

Cumulative Effects

The same projects contributing to cumulative effects described for the No Action Alternative (see discussion above) would cumulatively impact the visual resource under the Proposed Action. The impacts in the foreground could be slightly greater, however, due to the larger mining operation at the Acton Clay Quarries proposed under this alternative.

4.3 Cultural Resources

Alternative 1 (No Action)

Direct and Indirect Effects

Under the No Action Alternative, mining in the Gray Quarry and White Quarry would continue under the current Plan of Operations (POO), with annual renewals. The current POO contains provisions to protect cultural resources, and to ensure that negative impacts do not occur. This includes a provision to maintain the 2-foot layer of protection over the cultural resource located under the road accessing the quarries (see the Affected Environment section of this EA). Another provision directs NSM to stop operations immediately and notify the District Ranger if any historical, archaeological, or paleontological artifacts are found during mining operations.

State mining mitigations and protection measures are also in effect in NSM's Surface Mining Permit from the County of Los Angeles (see Appendix D). These complement the Forest Service measures, and include the requirement for notification in the event that a cultural resource is encountered during operations.

With ongoing implementation of these protection measures, it is anticipated that no adverse impacts to cultural resources would occur under this alternative.

Cumulative Effects

Cumulative effects under the No Action alternative would be the same as for the Proposed Action (see below).

Alternative 2 (Proposed Action)

Direct and Indirect Effects

While ground-disturbing activities associated with the Proposed Action have the potential to disturb or destroy cultural resources, implementation under carefully controlled conditions is not expected to have any direct effects on known cultural resource sites located within the project area. The Archaeological Clearance Memo for this project (07SCM16PISP, dated January 10, 2007) contains site-specific standard resource protection measures for implementation and monitoring requirements as stipulated in the Programmatic Agreement between the Forest Service and the State Historic Preservation Officer. These measures and monitoring will be followed throughout the duration of permit. Required standard resource protection measures include a combination of:

- Notify Project Planner, Manager, or Implementer (Stipulation I(B)(2));
- Protect Through Project Modification;
- Redesign or Elimination (Stipulation I (D));
- Monitoring (Stipulation I (E)); and
- Specified work within the boundaries of historic properties as dictated in Attachment B (Stipulation II) of the Programmatic Agreement.

State mining mitigations and protection measures noted in the No Action Alternative discussion above would remain in effect under the Proposed Action as well (see Appendix D).

The Archaeological Clearance Memo documents the archaeological inventory, consultation with the Forest's Heritage Resource Program Manager, and the determination of no adverse effect in compliance with the National Historic Preservation Act of 1966, as amended.

Cumulative Effects

The cumulative effects area for cultural resources consists of the quarry project area, and vehicle travel routes between the project area and Aliso Canyon Road. The proposed project would not contribute to adverse cumulative effects on cultural resources when analyzed with recent past, present and proposed projects within the project area, provided it is undertaken with the protection measures in place.

4.4 Air Quality

Under the current Plan of Operations, the White and Gray quarries contain a combined disturbance area (actively mined area) of 5 acres, with historical peak production of 215,576 tons per year. Under the proposed operating plan, the disturbance area would increase to 5 acres per site (for a total of 10 acres) and annual production may increase to 255,000 tons if justified by market conditions.

The following analysis of impacts to air quality is based on the General Conformity Analysis PM Supplement for the Acton Clay Quarries, and the SMARA/CEQA environmental analysis prepared by NSM (NSM SMARA). Both documents are on file in the project record.

Alternative 1 (No Action)

Direct and Indirect Effects

The *type* of direct and indirect air quality impacts caused by the current mining activity under the No Action Alternative would be the same as for the Proposed Action. One difference between the two alternatives is the rate at which clay would be extracted from the quarries. Less clay per year over a smaller area would be extracted under the No Action Alternative, which would indicate that the *intensity* or *magnitude* of the impacts would be less than those associated with implementing the Proposed Action (see Alternative 2 – Proposed Action below).

Similar air quality mitigation measures as described for the Proposed Action (see Appendices C and D) are currently being applied under the No Action Alternative. These actions reduce or lessen the impacts of emissions generated during the mining process.

Cumulative Effects

The same factors contributing to the cumulative effects described for the Proposed Action (see Alternative 2 – Proposed Action below) would cumulatively impact air quality under the No Action Alternative. The total cumulative effect would be slightly less, because of the slower rate of mining activity over a longer period of time that would occur under the No Action Alternative as compared with the Proposed Action.

Alternative 2 (Proposed Action)

Direct and Indirect Effects

Direct and indirect air quality impacts caused by the current mining activity under the No Action Alternative or under the Proposed Action would result from emissions generated during mining, screening, crushing, handling, and hauling the clay. These emissions fall into four source categories: off-road equipment, on-road vehicles, on-site stationary sources, and fugitive dust. Major off-road equipment used in the mining operation includes dozers, loaders, graders, as well as water and service trucks. On-road mobile sources include heavy duty haul trucks and employee vehicles. Stationary sources include generators and crushing/screening equipment. Fugitive dust is emitted by blasting, dozer operations, as well as product handling and transport.

The quarry expansion under the Proposed Action would directly affect air quality through the increased emission of criteria pollutants. Volatile organic compounds (VOCs), nitrogen dioxide/nitrogen oxides (NO₂/NO_x), sulfur dioxide (SO₂), and carbon monoxide (CO) are emitted by the heavy equipment used in mining operations, water trucks, haul trucks, employee vehicles, and on-site generators. Fugitive dust (PM₁₀ and PM_{2.5}) is emitted from stockpiles, blasting, unvegetated operational areas, travel on dirt industrial roads, as well as product crushing, screening and transport. The primary air quality issue for the project are emissions of ozone precursors (VOCs and NO_x), as well as directly emitted particulate matter (PM₁₀ and PM_{2.5}) and secondary airborne particulate precursors (NO_x and SO₂).

Project emissions for this analysis were calculated using emissions inventory techniques developed by the Mojave Desert AQMD for the mineral handling and processing industry.

Planning thresholds for projects occurring on federal lands are determined by the General Conformity Rule. The federal Clean Air Act (CAA) as amended in 1990, specifies in Section 176(a) that no department, agency, or instrumentality of the Federal Government shall engage in, support in any way, or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved by the EPA. Conformity is defined in Section 176(c) of the CAA as conformity to the applicable State Implementation Plan (SIP). The SIP is a plan prepared by each state describing how the national ambient air quality standards will be attained and maintained. When the total direct and indirect emissions from a proposed federal action are below the General Conformity rule *de minimis* thresholds and regional significance levels, then the proposed action would be presumed to conform to the SIP and no significant adverse impacts to air quality would be expected.

Emissions of all criteria pollutants for both the Proposed Action and the No Action Alternatives are well below the established *de minimis* and regional significance thresholds, thus the project should be presumed to conform to the applicable State Implementation Plan.

The project does exceed South Coast Air Quality Management District daily emissions thresholds for PM₁₀, PM_{2.5}, and NO_x under both alternatives. Mitigation measures to reduce potential air quality impacts include those mandated by the County of Los Angeles under SMARA as well as applicable SCAQMD rules, and are listed in Appendices C and D of this EA.

The Proposed Action is not anticipated to have significant air quality indirect effects, since it will not cause changes to traffic and land use patterns beyond those already considered in the emissions analysis for this project.

Cumulative Effects

Other Forest Service projects in the vicinity that are either proposed, formally filed, or approved but not yet built or completed were considered for the proposed project's cumulative impacts assessment.

Minerals extraction operations are currently occurring at two sites on the Angeles National Forest in the Soledad Canyon area. The North Star/Acton Clay Quarries operation began operations in 1991. The Triangle Rock sand and gravel quarry has been operating in the Soledad Canyon area for some forty years.

No other mining projects are currently proposed for National Forest lands in or near Soledad Canyon, and all current operations are included in the SIP.

Particulate emissions would be most affected by the change in mining operations. However, the increase is unlikely to make a significant contribution to existing air quality issues in the SCAQMD. Under maximum production conditions, the increase in daily emissions of PM₁₀ and PM_{2.5} above the current baseline under the Proposed Action will account for only .0117% and .0119 % of the regional emissions budget. Additionally, the prevailing westerly winds combined with the project's location near the SCAQMD boundary would tend to carry emissions away from the Basin. Air quality pollutant transport between air quality management districts is mitigated to the extent that the SCAQMD has the most stringent emission control requirements of all the surrounding AQMDs.

4.5 Wildlife and Botanical Resources

The discussion of potential effects to wildlife and plants in this sub-section is based on the Biological Evaluation/Biological Assessment (BE/BA) prepared by the Forest Service for this project. The BE/BA is on file in the project record.

Alternative 1 (No Action)

Direct and Indirect Effects

The No Action Alternative is defined in this EA as "no change" from the current Plan of Operations (see Section 2.2.1). Under the current plan, mining activities that are presently occurring are similar to those that would occur in the Proposed Action, except that the area disturbed at one time is approximately 5 acres total versus 10 acres total under the Proposed Action. Gradually, over a longer period of time, it is conceivable that the same amount of total area (24 acres) would eventually be disturbed.

The *type* of direct and indirect effects to wildlife and plants under the No Action Alternative are thus similar to those described for the Proposed Action (see discussion of Alternative 2 – Proposed

Action below). The *intensity* of effects would be somewhat less, due to the slower rate of mining activity over a longer period of time that would occur under the No Action Alternative.

Cumulative Effects

The same projects contributing to the cumulative effects described for the Proposed Action (see discussion of Alternative 2 – Proposed Action below) would cumulatively impact the wildlife and plant resources under the No Action Alternative. The total cumulative effect would be slightly less, because of the slower rate of mining activity over a longer period of time that would occur under the No Action Alternative as compared with the Proposed Action.

Alternative 2 (Proposed Action)

The BE/BA determined that implementation of the Proposed Action would not affect any threatened, endangered, proposed, or candidate plant species or any designated or proposed critical habitat for listed plants. Endangered Species Act Section 7 consultation for wildlife is not required for this project. The BE/BA further determined that the Proposed Action could have limited adverse impacts to some Forest Service sensitive plant and animal species, but is not likely to result in a trend toward federal listing of any plant recognized as sensitive by the Angeles National Forest. The project would not interfere with maintaining viable populations well distributed across the forest (36 CFR 219.19).

Direct and Indirect Effects

The quarry expansion that would occur under the Proposed Action would remove vegetation and substrate from a 24-acre area of chaparral over the proposed 20-year life of the project, making these acres unavailable as habitat for most special status plants or animals until reclamation activities are done. This would directly and adversely affect any plants or wildlife that may occur on the site. Because the proposed project includes reclamation and re-vegetation of the site after mining, habitat on-site would eventually regain at least some components of native habitat suitability.

The project also would cause continued vehicle traffic on access roads, noise and perhaps lighting disturbance to surrounding areas, and continued fugitive dust around roads and work areas during the operation period. The proposed project would maintain activity and traffic levels on the project site and access roads at levels comparable to current conditions for the proposed 20-year life of the project. Mining-related traffic and disturbance is unlikely to change from present conditions.

The BE/BA prepared for this project states that no direct impacts to federally threatened or endangered wildlife or plant species would result from the proposed project. Based on habitat, elevation and geographic range, there are no listed wildlife species that could occur within the NSM site; no plant species listed, proposed for listing, or a candidate for listing would occur on or near the NSM site. The project area is not within designated or proposed critical habitat for any threatened or endangered wildlife species, nor within designated or proposed critical habitat for any listed threatened or endangered plant.

The BE/BA states that several Forest Service sensitive species, particularly short-jointed beavertail cactus, San Diego horned lizard, and a few other plants and reptiles, could occur on the project site. Pallid bat and Townsend's big-eared bat could occur in the area or on the project site occasionally. Forest Service Management Indicator Species may also occur on the site.

San Diego Horned Lizard

Direct impacts to the San Diego horned lizard would include mortality or injury resulting from crushing by movement of equipment, blasting or work crews. Harassment could also occur due to increased noise, vibration, and human presence. Lizards using the roads could be crushed by traffic that comes into and out of the quarry site. The project area does not constitute a substantial portion of this species geographic range. Similar undisturbed habitat is abundant throughout the region. The loss of habitat or individual animals on-site as a result of the proposed mining activities would unlikely affect regional populations. It is also unlikely the viability of local populations would be affected or result in a trend toward listing these species as threatened or endangered.

Pallid Bat and Townsend's Big-eared Bat

The site is within geographic and elevation ranges of pallid bat, and Townsend's big-eared bat. Both of these bats could occur in the area or on the site, at least occasionally. The proposed quarry expansion would eliminate a 24-acre area of chaparral vegetation over the life of the project, presumably eliminating insect habitat suitability and reducing the local prey-base for foraging bats. The relative importance of chaparral for prey production, and the behavior of insect prey and bat predators in the presence of open quarried land is unknown. Presumably, noise and disturbance would cause some tendency for bats to avoid the work areas, but this cannot be quantified. Following reclamation, the site should ultimately provide at least marginally productive insect habitat.

There is no suitable roosting habitat on the site, though special-status bat species could roost in riparian trees near the site. Issuance of the proposed 20-year mining permit would extend present levels of noise and disturbance on-site over the proposed life of the project. The riparian area is approximately one mile from the existing quarry operation and is within a steep-sided canyon so that it is largely screened from noise, lighting, and visual disturbances, avoiding any direct project-related effects from the quarry.

The project area does not constitute a substantial portion of either of these species geographic ranges. Similar undisturbed habitat is abundant throughout the region. Loss of habitat quality on-site would unlikely affect regional populations and project approval would not affect the long term viability of local populations or create a trend toward listing either species as threatened or endangered.

Sensitive Plant Species

Vegetation removed as part of the proposed quarry expansion could destroy individual sensitive plants, depending on occurrence. One sensitive plant, the short-jointed beavertail cactus, has been documented within the project area. In accordance with the mitigation measures included as part of the Proposed Action, NSM would salvage and transplant short-jointed beavertail from the project area (see Mitigation Measures in Appendix C).

Other sensitive plants that could occur on or near the site (though with only low probabilities) are: Kusche's sandwort, Plummer's mariposa lily and pygmy poppy. Any of them would be susceptible to direct or indirect impacts of dust, soil compaction, or direct loss of plants and seed-banks due to expansion of the mining area. Even with dust control (watering), the project would continue present levels of dust deposition within several meters of the worksite and access roads, and perhaps within 20-50 meters of processing sites. No literature exists that addresses

the effect of dust on the sensitive plants considered in this analysis; however, the mechanisms of known physiological and reproductive effects to common species suggest that any plants, including sensitive species, would be similarly affected. NSM is required by State mining law and air quality law to control dust. As part of the current and proposed Plan of Operations, roads are to be watered as a dust abatement measure to mitigate for the dust. Given this measure, dust levels are expected to adversely affect plants and habitat around the site and roads, but this adverse impact would be less than significant.

Continued vehicle and equipment operations on the project site may cause further soil compaction in the work area and parking areas. No other direct or indirect effects to sensitive plants would result from ongoing mining within the proposed quarry boundary. The operator would reclaim these areas to the extent practicable. Reclamation will include measures as needed to relieve soil compaction.

The project area does not constitute a substantial portion of any of these species geographic ranges. Similar undisturbed habitat is abundant throughout the region. Loss of habitat or individual plants or animals on-site would be unlikely to affect regional populations. Project approval and implementation would not meaningfully affect viability of local populations or create a trend toward listing these species as threatened or endangered.

Noxious Weeds Assessment

Under the Proposed Action, ground disturbance and soil compaction at the expanded quarry site would eliminate native vegetation during the proposed 20-year life of the project. Mining and other soil-disturbing activities tend to favor invasive weedy plants. At similar sites in southern California, similar types of disturbances have tended to favor invasive weedy plants including Russian thistle (*Salsola tragus*) and cheatgrass (*Bromus tectorum*). These and other invasive alien species are already widespread throughout the region and on or near the project site.

Once introduced, these weeds have spread widely and have displaced native shrub lands, altered natural fire regimes, and eliminated natural wildlife habitats throughout much of southern California. In riparian areas, human-related disturbance and plant introductions have led to degradation of native habitat where non-native plants including giant reed (*Arundo donax*), tamarisk (*Tamarix ramossisima*), and tree-tobacco (*Nicotiana glauca*) have become dominant.

No invasive plants or noxious weeds have been identified as likely to be introduced onto the site as a result of this project, however. In general, effective post-mining reclamation efforts can (and has) reintroduced native early-successional shrubland vegetation and reduced cover and abundance of alien weeds during the first few years of well-planned reclamation. The Reclamation Plan for this project, and mitigation measures incorporated into the Proposed Project include measures to minimize noxious weeds on the site (see Appendices A and C). The intention of the Reclamation Plan is to minimize invasive weed cover and replace native shrubland vegetation to the extent practicable.

Indirect or Off-site Effects

Several federally listed threatened or endangered species and Angeles National Forest (ANF) sensitive species occur or could occur in the Santa Clara River watershed, in the Acton area or downstream. These include unarmored three-spine stickleback, arroyo toad, least Bell's vireo, southwestern willow flycatcher, southwestern pond turtle, and two-striped garter snake. Most of these species are aquatic during all or part of their life cycles. The two birds nest in riparian

vegetation along the Santa Clara River and migrate south during winter.

Upstream watershed impacts from the Proposed Action that could affect water quality or quantity in the Santa Clara River could indirectly affect these species by degrading habitat quality or availability (see Section 4.6, Water Quality and Soils in this EA for a discussion of watershed impacts). For example, silt or pollutants generated higher in the watershed could degrade water quality for aquatic species or alter substrates for riparian trees and shrubs, thus altering nesting habitat quality for least Bell's vireo or southwestern willow flycatcher. If the project were to cause substantial erosion or water quality degradation, then it could have detrimental effects to threatened, endangered, and sensitive species habitat in the Santa Clara River lower in the watershed. Correct implementation of BMP's and guidelines from the Soil and Water Conservation Practices Handbook (FSH 2509.22) would ensure protection of water resources from sediment and run-off generated by on-site project activities.

Other sources of sediment or pollution could include erosion or fugitive dust associated with use of access roads or accidental toxic material spills or discharges (e.g., fuels, lubricants, or solvents) that might eventually disperse as runoff or migrate through the soil or groundwater into the Santa Clara River. Road dust abatement requirements, which are incorporated into the Proposed Action, are designed to protect habitats, including water sources, adjacent to roadways.

Accidents and poorly maintained vehicles could result in accidental spills and impacts to adjacent water courses. To prevent the risk associated with this, all vehicles should be properly maintained to ensure that they do not leak fluids. Additionally, a response plan must be in place that outlines the appropriate steps taken to minimize impacts in the event of a vehicle accident or other incident where fluids from the vehicle are discharged. As long as appropriate measures are taken, routine road use should not impact water resources or threatened/endangered species. Based on this, no indirect impacts to listed, threatened or endangered wildlife species would result from the proposed project.

Cumulative Effects

The BE/BA analyzed cumulative effects for the Proposed Action in compliance with the federal Endangered Species Act and National Environmental Policy Act. The analysis addresses two legal definitions of cumulative effects and impacts. Under NEPA, "cumulative impacts" are those impacts caused by past, present, and future federal, state, and private activities within or onto special status plants and their habitats. Under the Endangered Species Act (ESA), "cumulative effects" only consider non-federal activities, because any future federal activities or federally permitted activities would be subject to Section 7 consultation with the US Fish and Wildlife Service.

Following are several past, present and reasonably foreseeable future non-federal activities in the project areas:

Non Federal Activities:

- Private Residences: Private homes with agricultural use on Aliso Canyon Rd.
- LA County, Public Works, road maintenance such as clearing, scraping and vegetation removal on Angeles Forest Highway.
- Utility corridors lines: Existing Edison power transmission lines, upgraded lines such as the Antelope-Pardee Transmission Project.

- Private Residential Developments: More than 100 in the Santa Clarita and Antelope Valleys. They range from an individual home to a single home to a 800,000 development.

Federal Activities:

- Special use permit holders: A wide variety of activities, such as recreation residences, apiary sites, movie location shoots, etc.
- Recreation activities: Off-highway vehicle (OHV) used, hiking, mountain biking, camping, hunting.
- Fuel reduction projects: This consist of activities from complete clearing around existing Forest Service building to fuel breaks many miles long with all vegetation removed.
- Road maintenance: Road clearing, scraping and vegetation removal.

In addition, several new housing developments are proposed for development in the Santa Clarita and Antelope Valleys. Between 2000 and 2030, the Southern California Association of Governments (SCAG) forecasts the North Los Angeles County Sub-region will grow at a rate of 4.2% but employment in that same area will only grow 2% (SCAG 2004). This area covers Santa Clarita, Palmdale and Lancaster and many more people will be commuting over Little Tujunga Canyon road for employment in the greater Los Angeles area. Population increase will result in recreation increase over all of the Angeles National Forest. As development is the shared threat by most TESP species in this area, this is most likely the greatest cumulative effect spatially.

Increase recreation, such as OHV use both on and off of designated trails and roads, may cause increased trail disturbance, erosion, or the introduction of non-native weeds. Illegal OHV activity away from designated trails could result in plants or bulbs being crushed. Other activities such as illegal dumping, hiking, parking, picnicking, mountain biking, etc. can all result in plants and bulbs being crushed. In addition, increased recreation increases the chances of horticultural collecting.

The watershed in which the quarries are located is largely covered by dense chaparral, nearly impenetrable to vehicles and hikers. Forest Service Road 4N32 the primary access throughout the area. NSM access roads have not increased the amount of OHV access in the area. Other Forest Service management activities in the general area are minimal. There are no developed recreation sites in the area, and dispersed recreational uses are minimal. There is also no grazing allotment or timber production in the area. Wildfires and subsequent suppression may damage vegetation and soils on relatively infrequent intervals and would affect sensitive plants and habitats during the post-fire recovery period. There is a power line located along Road 4N32 is managed by Southern California Edison. Maintenance activities do occur as needed and the mine is down slope of the line.

Chaparral plant communities are fire adapted to certain fire intervals. Increased fire frequency will type convert a chaparral community to an annual grassland with isolated shrubs. Air pollution associated with urban development is known to decrease the photosynthetic ability of plants and increase soil nitrogen. This increase in soil nitrogen will encourage type conversion from shrub communities to grasslands. These processes have altered the ecology to a point that the natural, native state will probably never be fully restored. Of all these impacts, increased fire frequency and the introduction of invasive species is the most damaging and is likely to have the longest impacts.

The impacts of the Proposed Action would contribute to the cumulative effects discussed above.

Management Indicator Species

Project-level effects on management indicator species (MIS) are analyzed and disclosed as part of environmental analysis under the NEPA. This involves examining the impacts of the proposed project alternatives on MIS habitat by discussing how direct, indirect and cumulative effects would change the quantity and /or quality of habitat in the analysis area.

A management indicator species (MIS) analysis was completed for the proposed quarry expansion. This analysis considered the twelve MIS for the Angeles National Forest, and identified the following as having suitable habitat present in the project area: mule deer and mountain lion.

The MIS analysis states that mule deer and mountain lions are found within the project area. The amount of habitat for these species affected by the proposed action would be approximately 24 acres. The analysis concludes that implementation of the Proposed Action would not result in any negative impacts to suitable mule deer or mountain lion habitat. As nonnative plants are removed, habitat quality could be improved with the reestablishment of native vegetation.

A detailed discussion of effects to MIS can be found in the Management Indicator Species Analysis for the Acton Clay Quarries Expansion (Sue 2007), which is on file in the project record.

4.6 Water Quality and Soils

The following analysis of impacts to existing soil, surface water and groundwater resources that would result from the Proposed Action and the No Action alternatives is based on the Soil and Water Resources Report prepared by the Angeles National Forest Hydrologist (May 2008), which is on file in the project record. The 2005 Angeles National Forest Land Management Plan (Forest Plan), various soil and water resource inventories and technical reports for the project area, Best Management Practices for USDA Forest Service Region 5, relevant Forest Service manuals and handbooks, and numerous GIS data layers were studied as part of this analysis of effects. An extensive, site-specific hydrogeologic evaluation prepared for North Star Minerals, Inc. (NSM) was also studied and considered (Barto, 1999). A complete list of references is included in the appendix of this report. A field visit to the project area by the Angeles NF Hydrologist occurred in March 2008.

Alternative 1 (No Action)

Direct and Indirect Effects

As a result of current and ongoing mining operations, as would occur under the No Action Alternative, the soil within the quarries would continue to be in various stages of disturbance and reclamation. NSM would continue to remove and stockpile the topsoil in areas to be disturbed by mining, to be used later for reclamation and revegetation. Although revegetation would stabilize the area and minimize loss of soil productivity, restoration of full soil productivity would take many years.

Excavation and contouring of the White Quarry currently proceeds in such a way that runoff from precipitation or dust control watering is prevented from passing across fill slopes. Runoff instead collects in a desilting debris basin located toward the eastern edge of the quarry. An overflow pipe near the top of the western embankment is in place so that in the event water were to overflow the basin, it would be largely free of sediment and would be routed across natural

outcrops. Under the No Action Alternative, this method of handling runoff would continue, and would prevent runoff from carrying sediment to adjacent lands or stream channels. There is no desilting debris basin in the Gray Quarry, as excavation and contouring prevent the transport of sediment into the drainages.

Concurrent reclamation activities for both quarries, which include grading, recontouring, topsoil replacement and revegetation, would continue to stabilize the area and provide erosion control.

Because of the very small area impacted plus the mitigations and reclamation measures required under federal and State mining laws that govern NSM's current operations, the effects to the soil and surface water resources from continuing the current level of operations is not expected to be significant. The analysis of ground water resources concluded that there would be no significant measurable effect to ground water quantity or quality.

Cumulative Effects

Past, present, and reasonably foreseeable future actions to which this action would contribute an incremental impact on soil and water quality resources include road use and maintenance of Forest Service Road 4N32. As road maintenance is performed in compliance with Best Management Practices and other environmental protection measures, cumulative impacts are not expected to be significant.

Alternative 2 (Proposed Action)

Direct and Indirect Effects

Under the Proposed Action, the area disturbed by mining operations would double over a period of 20 years, which could potentially double impacts to soil and water quality. Within the boundaries of the quarries, the proposed expansion could result in temporary increased runoff and erosion of the larger disturbed areas.

However, the soil and water quality mitigation measures incorporated into the Proposed Action (see Appendix C.5), in addition to federal and State mining environmental protection requirements, would reduce these impacts possibly even below those that would occur under the No Action Alternative. Certain design features and mitigations intended to reduce visual impacts under the Proposed Action (see Section Appendix C.1) would also reduce impacts to soil and water quality from erosion.

Under this alternative, both quarries would be benched and contoured to prevent runoff from leaving the site. In the White Quarry, a desilting basin and overflow pipe would prevent even the increased amounts of sediment from being transported to adjacent land and stream channels.

As in the No Action Alternative, concurrent reclamation activities for both quarries under the Proposed Action would include grading, recontouring, topsoil replacement and revegetation. These activities would stabilize the area and provide erosion control.

While it is possible that a small amount of sediment might be moved off the project site during operations to the ephemeral and intermittent stream channels as a result of the proposed expansion of mining activities, it is highly unlikely that this sediment would reach Arrastre Creek. This is related to the distance from Arrastre Creek and to the lack of flow in these intermittent streams.

Final reclamation activities, and ongoing monitoring by County and Forest Service mining program managers would further ensure that mitigation measures and other environmental protections are being implemented.

As with the No Action Alternative, the analysis of ground water resources for the Proposed Action concluded that there would be no significant measurable effect to ground water quantity or quality.

Considering the relatively small area of the watershed impacted plus the mitigations and reclamation measures required under federal and State mining laws, analysis indicates that the effects to the soil and water resources would not be significant under the Proposed Action.

Cumulative Effects

Past, present, and reasonably foreseeable future actions to which this action would contribute an incremental impact on soil and water quality resources include road use and maintenance of Forest Service Road 4N32. Cumulative impacts would be similar to those described for the No Action Alternative, and are not expected to be significant.

4.7 Other Factors of Significance

4.7.1 The Degree of Effects to Public Health and Safety

Implementing the Proposed Action would not cause significant adverse effects on the health and safety of the public. Mining and removal of clay ore from the Acton Clay Quarries would require the use of industrial mining equipment and trucks. While operations are active, Forest users in the vicinity of the quarries and local residents may experience some noise, traffic, and dust. These effects would last for the duration of the operation period (20 years), and would not be significant (see analysis of air quality effects, in Section 4.4 of this EA).

4.7.2 Unique Characteristics of the Geographic Area

The project area is located in the San Gabriel Mountains, on the north slope of Mount Gleason at a point where the mountains drop off into Soledad Canyon. The vegetation surrounding the project area is predominantly chaparral. The scenic characteristics of the area are natural-appearing views of the forest landscape, in contrast to the developed areas and communities along the Interstate 14 freeway in the Soledad Front Country. Seasonal drainages run north to south through the area. Arrastre Creek, the nearest perennial stream, runs southeast to northwest and is located north of the project area. Geologic features at or near the project area include lighter colored clays, interspersed with granitic and metavolcanic rock.

The project area does not constitute a substantial portion of the geographic area having these characteristics. There would be no significant adverse effects on characteristics considered to be unique.

There would be no significant adverse effects on ecologically critical areas such as historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or the like (see Sections 4.2 through 4.6 in this EA for discussion of effects on various resources).

4.7.3 Controversy Over Effect

Over 350 letters were mailed to the public and local agencies during scoping, a notice was posted to the Angeles National Forest web page, and a legal notice was published in the newspaper of record describing the Proposed Action (see Section 1.7, Public Involvement, in this EA).

Comments were received from four individuals/groups. The only concern expressed was from an individual expressing concern that trucks hauling clay from the quarries would result in increased traffic on the Interstate 14 freeway in the vicinity of Santa Clarita. Because trucks hauling clay would not travel toward Santa Clarita on Interstate 14, but rather along Soledad Canyon Road toward markets in the Mojave Desert area, this issue was determined by the Forest Service interdisciplinary team to be non-significant. No significant issues were identified by the public as a result of scoping.

Angeles National Forest resource specialists identified a potentially significant issue related to visual impacts, and modified the Proposed Action to include mitigation measures and design features to resolve this issue (see Appendix C).

Los Angeles County Department of Regional Planning, in its Initial Study under CEQA (December 31, 2001), identified no significant issues for the proposal with project mitigations included.

Based on input from the public, the Forest Service, and other agencies, the potential effects on the quality of the human environment are not highly controversial.

4.7.4 Unique or unknown Risks

No unique risks were found during the analysis for this project (see Sections 4.2 through 4.6 in this EA for discussion of effects on various resources). The proposal involves surface extraction of clay ore in a small geographic area (24 acres), in which unique or unknown risks are unlikely to occur.

4.7.5 Precedence

This project would not set a precedent for future actions that would have significant effects. One of the objectives for this project is to approve and facilitate production of mineral and energy resources while minimizing adverse impacts to surface and groundwater resources and protecting or enhancing ecosystem health and scenic values. No significant effects are expected from this proposed action.

Extraction of locatable minerals on 24 acres within the Acton Clay Quarries, as authorized by federal mining laws, is not a precedent-setting action.

4.7.6 Potential Effect to private Land, Districts, Sites, other resources

The decision will have no significant adverse effect on districts, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor will it cause loss or destruction of significant scientific, cultural, or historical resources.

4.7.7 Other Applicable Laws and Regulations, Land Use Plans, Policies and Controls

The Proposed Action analyzed in this EA would be consistent with the objectives of federal, regional, State, and local land use plans, policies, and controls for the project area. Many laws,

regulations, policies, and the Angeles National Forest Land Use Plan have been addressed throughout this analysis. In addition, under Environmental Justice, Executive Order 12898, none of the alternatives would have a discernible effect on minorities, American Indians, or women, or the civil rights of any United States citizen. The Proposed Action would not have a disproportionate adverse impact on minorities or low-income individuals.

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6. LIST OF AGENCIES AND PERSONS CONSULTED

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

INTERDISCIPLINARY TEAM MEMBERS:

Jonathan Schwartz – Project Team Leader and Natural Resource Officer, Santa Clara/Mojave Rivers Ranger District

Steve Bear – Natural Resource Officer, Los Angeles River Ranger District

Paul Gregory – Forest Hydrologist, Angeles National Forest

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Teresa Sue – District Biologist, Santa Clara/Mojave Rivers Ranger District

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FEDERAL, STATE, AND LOCAL AGENCIES:

Los Angeles County, Department of Regional Planning

Air Resources Board

State of California, Department of Conservation

State of California, Regional Water Quality Control Board

APPENDICES

Appendix A: Reclamation Plan Summary

Introduction

Reclamation is the process that minimizes adverse environmental effects of surface mining, so that, at the end of mining operations, the land can be returned to other suitable uses as specified in the Forest Plan.

As stated in Section 1.4 of this EA (Forest Plan Consistency), the quarries are located within the Soledad Front Country Place, in either Back Country Non-motorized or Back Country Motorized Use Restricted land use zones. The Forest Plan, in Part 2, specifies a variety of suitable uses within these zones that may occur following completion of the mining operations. The Scenic Integrity Objective designated for this area is High (landscape appears unaltered). The desired condition as stated in the Forest Plan is that the area would function as a scenic backdrop and transitional landscape, with dramatic canyon and rugged mountain views preserved. Successful reclamation would ensure that these goals and objectives are attainable following completion of mining activity at the Acton Clay Quarries as described in the Proposed Action.

Following is a summary of the reclamation plan to be used by North Star Minerals, Inc. (NSM) for reclamation of the Acton Quarries over the life of the proposed 20-year Plan of Operations. The plan includes reclamation processes that are concurrent with ongoing mining operations and final reclamation processes at the end of mining the site. A final Reclamation Plan will be prepared by NSM and approved by the District Ranger following the Responsible Official's issuance of a decision regarding the Proposed Action. The plan will be on file in the project record.

Revegetation planning, implementation, and monitoring as described in the Reclamation Plan are designed to meet the requirements of the California Surface Mining and Reclamation Act (SMARA) as well as federal laws and standards (see Appendix X for relevant excerpts of State Mining and Geology Board regulations: Article 9, California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1).

Concurrent Reclamation

Concurrent reclamation will occur as the mineral is extracted from the quarries, and includes those ongoing processes or activities that would occur as mining operations proceed during the operating period, so that adverse effects from mining are minimized. The primary goal of concurrent reclamation in the Acton Clay Quarries is to provide erosion control and mitigation of visual impacts during the 20-year life of the mining operation.

Concurrent reclamation activities may include grading, recontouring, topsoil replacement and revegetation (using native plant species) of land that is disturbed by mining activities. Reclamation would also include additional processes listed as mitigation measures in the EA, such as measures to minimize erosion, protect water quality, and reduce visual impacts (see Appendix x).

All areas within the quarries that have been mined will be concurrently reclaimed, so that at any one time only 5 acres in each quarry will be actively mined. Whenever possible, such as in areas of the quarry that are mined out, long-term reclamation will occur as described below under *Final Reclamation*.

As mining excavation proceeds northward, slopes toward the southern end of the quarries will be reclaimed. All quarry surfaces visible from Acton will be reclaimed as soon as practicable, using methods to reduce visual contrasts with surrounding landscapes. These methods may include placement of darker soils, mulch, revegetation of benches, vegetative barriers, camouflage netting, or other visual mitigation measures described in Appendix c.

As mineral extraction proceeds, mined slopes which have been left devoid of vegetation will be revegetated as soon as practicable. Revegetation of these slopes must occur at the time of year when planted material has the greatest chance of germinating or becoming established. In order to take maximum advantage of winter precipitation, all seeding will take place between October to December, depending on the weather patterns for specific years.

Concurrent revegetation will be considered successful when seeded areas do not require significant maintenance measures. Significant maintenance measures include planting seeds, irrigation if necessary, erosion control, or weed control.

See *Revegetation Specifications* in this Appendix for further details.

Final Reclamation

The Gray Quarry and the White Quarry will be finally reclaimed at the conclusion of the proposed 20-year Plan of Operations (POO), unless an extension of the POO is subsequently approved. In the event of an extension, the reclamation plan would be modified.

When the ore body is “mined out” (all marketable clay removed) or at the end of the 20-year operating period, NSM will take long-term measures to reclaim the mining area, as required by federal and State law (see Appendix D, State Reclamation Standards, Article 9).

At the commencement of final reclamation, NSM will remove its plant facilities and all equipment from the site and will reclaim these areas by removing any foundations and roads. These areas will be ripped, if necessary, and regraded to conform with the local topography, and then revegetated. NSM will also initiate its long-term protection of all mined slopes and disturbed areas that are not already revegetated.

Steep quarry faces in the mine area will be benched and stabilized; roads not needed for other resource use will be closed and reclaimed; disturbed areas will be recontoured and revegetated, and permanent erosion control and water quality protection measures will be implemented.

Primary activities as a part of final reclamation will include the general grading of quarry surfaces, roads, and processing area within the quarry. The area will be shaped to conform to surrounding topography, to facilitate revegetation, and to prevent erosion that would be caused by the flow of runoff across disturbed surfaces. Stockpiled neutral-colored or darker material will be placed to cover any sites within the quarry of high-brightness waste material, to reduce visual contrast with the surrounding landscape.

The slope ratio of final quarry faces (cut slopes) will range from 1:1 to 2:1 (one to two feet of horizontal run for every one foot of vertical rise) overall, with up to twenty-foot high and forty-foot wide benches, in accordance with State and federal mining regulations. Mine waste (excavated non-commercial material) will be used as fill, as necessary, to achieve the desired slope ratios. The pit floors will be graded with a very slight slope to prevent ponding of water.

Similar methods will be used for the final revegetation as those used for concurrent revegetation, including the timing of revegetation applications. Final revegetation will be considered successful when seeded areas do not require significant maintenance measures (including planting seeds, irrigation if necessary, erosion control, or weed control). The goal of final revegetation is to provide erosion control and approach the patterns of cover and dominant species distribution across the existing, surrounding landscape. See *Revegetation Specifications* below for further details.

Revegetation Specifications

Revegetation is defined as establishing vegetation on disturbed land. The goals of revegetation include erosion control, restoration of scenic integrity, return of ecological functions to a site, and mitigation as required by State and federal mining laws.

Approximately 24 acres will be disturbed by the proposed mining operation at the Acton Clay Quarries during the 20-year operating period, all of which will be reclaimed and revegetated. Revegetation will occur concurrently over a period of 20 years, as areas of the quarries are “mined out.”

When mining is complete, and nothing further is planned for the disturbed areas within the quarry, these areas will be revegetated consistent with the preexisting density of vegetation in the area. This planting will occur in the first wet season after the mining is completed.

Site Preparation

Topsoil will be salvaged as practicable, as mining operations proceed. Revegetation activities will include replacing stockpiled topsoil, preparing soil for seeding, placing mulch if necessary, and revegetating slopes and general mining areas with approved natural vegetation species.

Stockpiled topsoil will be applied where applicable. The ground surface will be scarified, if necessary, and the stockpiled topsoil will be distributed with an average depth of 3 inches on slopes and 1 ½ inches on flat areas. Prior to revegetation, the disturbed areas will be free of invasive, noxious weeds. The areas covered with topsoil will then be seeded.

Revegetation plans and species lists have been developed by the Angeles National Forest Botanist. The composition of the seed mix to be used is presented in the tables below:

Table A-1: Seed mix composition

Common Name	Scientific Name	Application Rate (Lbs. per Acre)
Desert Needlegrass	Achantherum speciosum	2
Melic	Melica imperfecta	5
Chimese	Adenostoma fasciculatum	3
Mountain Mahagony	Cercocarpus betuloides	4
California Buckwheat	Erigonum fasciculatum	12
Golden Yarrow	Eriophyllum certiflorum	3
Our Lord's Candle	Yucca whipplei	2

[check with Janet.] Seedling trees and shrubs will be planted on the flat areas. One tree island will be planted on each acre of disturbed land, and each tree island will include no less than 4 trees and 4 shrubs

Maintenance

All plantings and seeding will be maintained for a period of 5 years, or until State revegetation standards have been met (see State Reclamation Standards, Article 9, § 3705, in Appendix D).

Protection of Fish, Wildlife, and Habitat

Mitigation measures included as part of the Proposed Action to protect existing wildlife and habitat values are incorporated into the Reclamation Plan by reference (see Appendix C.) These include Angeles National Forest Land Management Plan standards, and additional minimization and avoidance measures.

Final Assurance Performance Bond

Final assurances to assure reclamation of mining sites are required by the federal government, the State of California, and the County of Los Angeles. Pursuant to a formally adopted Memorandum of Understanding (MOU) entered into by the State of California, the USDA Forest Service, and the Bureau of Land Management (October 19, 1992), it is agreed that “any federally required financial assurance may be used to satisfy local and State surety requirements” (MOU, item 19, p. 7).

A reclamation bond will be required from NSM to cover the full costs of reclamation. This bond would be held until all reclamation is performed according to the Reclamation Plan attached to the final approved Plan of Operations. (See State Reclamation Standards, Article 9, § 3702. Financial Assurances, in Appendix D).

Monitoring

On an annual basis monitoring of the site will take place to insure successful protection of ecosystem health while providing mineral resource development (refer to Angeles National Forest 2005 Land Management Plan, Part 3, Appendix C, Monitoring Requirements).

Appendix B: Scenic Management Definitions, Standards, and Program Strategies

“The Scenery Management System (SMS) is a tool for integrating the benefits, values, desires, and preferences regarding aesthetics and scenery for all levels of land and resource management planning. People are concerned about the quality of their environment and the aesthetic values of landscapes, particularly the scenery and spiritual values. Scenic integrity objectives have been designated for all areas of the national forest. At the project level, all national forest activities are subject to review of the scenic integrity objectives” (LMP 2005).

Definitions: Scenery Management System

- **Background** – The distant part of a landscape. The landscape area located from 4 miles to infinity from the viewer (Landscape Aesthetics).
- **Middleground** – The zone between the foreground and the background in a landscape. The area located from a 1/2 mile to 4 miles from the observer (Landscape Aesthetics).
- **Foreground** – Detailed landscape generally found between the point of an observer and up to a 1/2 mile away (Landscape Aesthetics).
- **Scenic Integrity** - State of naturalness or, conversely, the state of disturbance created by human activities or alteration. Integrity is stated in degrees of deviation from the existing landscape character (LMP Part 3 2005).
- **Scenic Integrity Objectives** - The objectives that define the minimum level to which landscapes are to be managed from an aesthetics standpoint. There are five objectives that describe the landscape in varying degrees from naturalness: Very High (Unaltered), High (Appears Unaltered), Moderate (Slightly Altered), Low (Moderately Altered), Very Low (Heavily Altered) (LMP Part 3 2005).
- **High Scenic Integrity** - This classification provides for conditions where human activities are not visually evident. This refers to landscapes where the valued (desired) landscape character “appears” intact. Deviations may be present but must repeat the form, line, color, texture, pattern and scale common to the landscape character. The landscape appears unaltered. This is synonymous with the Retention Visual Quality Objective under the original Visual Management System (LMP Part 3 2005).
- **Moderate Scenic Integrity** - This classification refers to landscapes where the valued (desired) landscape characters “appears slightly altered.” Noticeable deviations must remain subordinate to the landscape character being viewed. The landscape appears slightly altered. This is synonymous with the Partial Retention Visual Quality Objective under the original Visual Management System (LMP Part 3 2005).
- **Low Scenic Integrity** - This classification refers to landscapes where the valued (desired) landscape characters “appears moderately altered.” Deviations begin to dominate the valued landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative-type changes or architectural styles outside the landscape being viewed. Deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings and structures do not dominate the composition. The landscape appears moderately altered. This is synonymous with the Modification Visual Quality Objective under the original Visual Management System (LMP Part 3 2005).

- **Very Low Scenic Integrity** - This classification refers to landscapes where the valued (desired) landscape character, “appears heavily altered.” Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes, such as size, shape, edge effect and pattern of natural openings, vegetative-type changes or architectural styles within or outside the landscape being viewed. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings and structures do not dominate the composition. The natural landscape character should appear as natural occurrences when viewed at background distances. The landscape appears heavily altered. This is synonymous with the Maximum Modification Visual Quality Objective under the original Visual Management System.

Forest Plan Aesthetic Management Standards

(Southern California National Forests Land Management Plan (LMP), Part 3, p. 6).

Management activities must be managed to meet the Scenic Integrity Objectives (SIOs) shown on the Scenic Integrity Objectives Map, 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.

Forest Plan Program Strategies and Tactics Relevant to Aesthetics

(Angeles National Forest Land Management Plan (LMP), Part 2, p. 113). The Forest Plan includes program strategies the Forest may choose to emphasize to progress toward achieving the desired conditions and goals described in the Forest Plan. The Forest prioritizes which strategies they choose to bring forward in any given year using the program emphasis objectives, national and regional direction, and available funding. The strategies listed below are those related to aesthetics.

LM 1 - Landscape Aesthetics

Manage landscapes and built elements to achieve scenic integrity objectives:

- Use best environmental design practices (BEIG) to harmonize changes in the landscape and advance environmentally sustainable design solutions.
- Mitigate ground disturbance to maintain scenic integrity objectives.

LM 2 - Landscape Restoration

Restore landscapes to reduce visual effects of nonconforming features:

- Prioritize landscape restoration activities in key places. Integrate restoration activities with other resource restoration.

LM 3 - Landscape Character

Maintain the character of key places to preserve their intact nature and valued attributes:

- Maintain the integrity of the expansive, unencumbered landscapes and traditional cultural features that provide the distinctive character of the place.
- Promote the planning and improvement of infrastructure along federal and state scenic travel routes.
- Promote the consideration of key landscape character in other landscape analyses such as Fished.

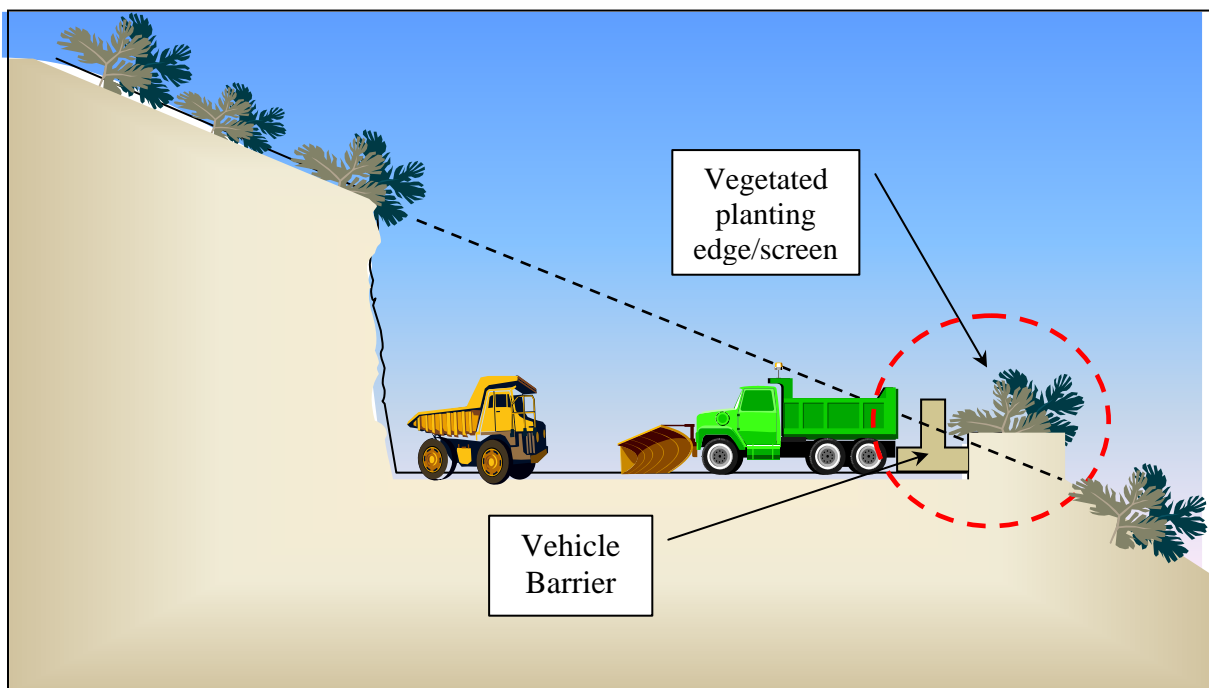
Appendix C: Mitigation Measures

C.1 Scenic Management Mitigation Measures

To mitigate for visual impacts, the following measures are included in the Proposed Action:
(Note: All mitigation activities must be approved by the Angeles National Forest and must be in compliance with local, state and federal safety laws or regulations)

- Adhere to the final Plan of Operations and Reclamation Plan for the Acton Clay Quarries, to be approved following the Responsible Official's decision authorizing implementation of the Proposed Action.
- All structures, walls, and fences open to public view shall remain free of extraneous markings, drawings, and signs. These shall include any of the above that do not directly relate to the business being operated on the premises or that do not provide pertinent information about said premises.
- Vehicles, buildings, barriers, signs, equipment, etc. that will remain or will be used on any of the proposed or current mining sites for more than 3 consecutive 24 hour periods, should be colored, designed, painted or covered with patterns or colors that complement, blend in with, or emulate the surrounding native vegetation. This includes fencing and containers.
- All activities of mining and processing minerals shall be conducted in a manner such that dust, vibrations, smoke, dirt, odors and bright lights do not exceed levels compatible with uses of adjacent lands. If night lighting is used, it shall be directed downward in order that the sources of the lighting will not be visible from the Town of Acton.
- Over the 20 year period of this proposed Plan, the operator will reclaim and re-vegetate mined areas at the earliest practicable opportunity, and will continually reclaim inactive areas. Also, where not immediately used in ongoing reclamation, topsoil and brush will be set aside as new areas are mined and segregated into separate piles to be used as needed for future reclamation.
- Cover sites of high-brightness waste with neutral colored or darker material from the site, to reduce the visual contrast between the disturbed areas and the natural background.
- Previously mined/disturbed areas that fall outside of the 5 designated acres currently being mined in each quarry, as described in the proposed action, must be concurrently reclaimed as stated in the Reclamation Plan for this proposal. Emphasis should be taken on north facing slopes, which are more prone to be seen from the community of Acton and travelers on the Interstate 14 freeway.
- If a north facing slope that is not being actively mined can not feasibly be reclaimed concurrently, efforts must be made to mask the exposed light colored material in a manner by which it blends in with the native top soil or the surrounding native vegetation until the reclamation process can be implemented. Potential temporary "quick fix" solutions include continuous surface applications of topsoil, camouflage netting, jute mesh, etc. All materials used must first be approved by the Angeles National Forest, and once applied, must be maintained in good working order until no longer needed. Any synthetic material that is no longer needed to preserve the scenic integrity of the site must be disposed of properly off the Forest.

- The operator will control the amount of sediment and material from the operation that is being pushed towards the site boundaries and eventually over the sides, to avoid causing erosion and loss of vegetation.
- The Restoration Plan shall include the revegetation and stabilization of eroded site boundary and road edges. Restoration of these areas and the implementation of proper erosion control methods are vital to improving and meeting the SIO's for this site. Potential sediment control methods include mulching, silt fences and rock checks in drainage lines along the road alignment to arrest sediment. A concurrent solution would be to include a minimum 5' wide vegetative edge along the project boundaries to provide natural screening and some erosion protection. In areas of constant vehicle traffic, provide vehicle barriers (i.e. "K" rails) to protect raised vegetative edges from accidental vehicle contact. See illustration below.



C.2 Cultural Resources Mitigation Measures

The proposed project area requires management measures that are necessary for the protection of cultural resources. Prior to any new implementation, project managers must coordinate with the Angeles National Forest Heritage Program Manager (HPM) to identify site-specific locations that require Standard Resource Protection Measures for compliance with the Regional Programmatic Agreement with the State Historic Preservation Officer (SHPO). Consultation with the HPM will identify specific areas that require no further consultation, areas that require further consultation, and areas of deferred inventory that require post-treatment survey.

The Forest HPM has provided written approval (07SCM16PISP) for the work specified within the boundaries of historic properties, under carefully controlled conditions. Activities performed under the proposed project require specific standard resource protection measures, which have been documented in Archaeological Reconnaissance Reports (e.g., Brock 2000) pursuant to the Regional Programmatic Agreement; none may be performed under exemptions.

- The use of standard resource protection measures, as defined in the Regional Programmatic Agreement (PA) and Interim Protocol, would be applied to all sites within the area of potential effect (APE).
- In the course of project implementation, should any additional (and presently unknown) archaeological artifacts or features be detected, all work will cease at that location until appropriate consultation with the Forest Heritage Resource Program Manager occurs. Unanticipated discoveries would be mitigated using the terms of the Interim Protocol.

C.3 Air Quality Mitigation Measures

The following mitigation measures are derived from a variety of regulatory sources and are proposed to reduce air quality impacts from the project. If the proposed activities are modified at some future date, the mitigation measures may need to be revised in order to address effects that are not covered under the current assessment.

- The equipment and vehicles used during operations shall conform to the manufacturer's specifications and South Coast Air Quality Management District (SCAQMD) requirements and be maintained to provide efficient operation and a minimum of air contaminants (California Surface Mining and Reclamation Act; SMARA).
- Trucking shall be performed on a 12-hour-per-day basis. This will reduce emissions by allowing trucks to operate during non-peak hours, increasing truck speeds, and eliminating prolonged idling in traffic, thereby decreasing truck emissions. Similarly, when operating on-site, trucks shall not be left idling for long periods (SMARA).
- Electric and gasoline equipment shall be substituted for diesel where feasible (SMARA).
- Catalytic converters will be used on gasoline equipment (SMARA).
- Where applicable, high-pressure fuel injector nozzles will be used (SMARA).
- Diesel engine timing will be retarded by four degrees (SMARA).
- Reformulated, low-emission diesel fuel will be used (SMARA).
- All mining, screening, and production transportation shall not be commenced during any second stage smog alert (SMARA).
- All activities of mining and processing minerals shall be conducted in a manner such that dust, smoke, and dirt do not exceed levels compatible with uses of adjacent lands (SMARA).
- All private roads shall be watered while being used, or shall be treated with a dust control agent in order to prevent the emanation of dust. A chemical stabilizer will be applied to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface. Dust suppression measures shall be undertaken on all unpaved roads providing access to the site (SMARA, SCAQMD Rules 403, 1157, & 1186).
- Watering shall be conducted as necessary to prevent visible emissions from extending more than 100 feet beyond the mine site, except for areas that are inaccessible to watering vehicles (SCAQMD Rule 403).
- Water or dust suppressants shall be applied to inactive disturbed surface areas when there is evidence of wind blown fugitive dust, or vegetative ground cover shall be established within 21 days after active operations have ceased (SCAQMD Rule 403).
- Material shall be watered prior to crushing /screening operations, as well as during loading and transport (SCAQMD Rules 403 & 1157).
- Six inches of freeboard shall be maintained on haul vehicles (SCAQMD Rule 403).
- Water will be applied to open storage piles on a daily basis when there is evidence of wind driven fugitive dust (SCAQMD Rule 403 & 1157).
- When instantaneous wind speeds exceed 25 miles per hour, the dust suppression contingency measures listed in SCAQMD Rule 403 Table 3 shall be applied, or active mining operations shall be temporarily suspended (SCAQMD Rule 403).

C.4 Avoidance and Mitigation Measures for Wildlife and Plants

Forest Plan Direction, Strategies and Tactics for Protection of Wildlife Species/Habitats

All applicable Angeles National Forest Land Management Plan (Forest Plan) standards and guidelines will be followed (refer to plan standards in Forest Plan, Part 3).

The project site is located within the Soledad Front Country region of the Angeles National Forest. The Forest Plan desired condition for this area, relevant to wildlife and plants, emphasizes wildlife linkages to mountain ranges farther north and west, improving conditions for threatened, endangered, and sensitive (TES) species, and reduction and control of invasive species, (LMP Part 2: p. 70).

The Gray Quarry is in the Back Country Non-motorized Land Use Zone, and the White Quarry is in the Back Country Motorized Use Restricted Zone(see Forest Plan, Part 2: pp 3-9). Mineral extraction (mining) is considered suitable “by exception” in both these land use zones (i.e., “not generally compatible with the land use zone but may be appropriate under certain circumstances”).

Angeles National Forest Program Strategies, Tactics, and Standards relevant to mining and biological resource management in these land use zones within the Soledad Canyon Front Country are summarized in Table 1, below:

Table A-2: Relevant Forest Plan Strategies, Tactics, and Standards

Plan Strategy/Tactic/Standards	Project relationship to strategy/tactic	Project consistent w/ strategy/tactic?
WL 1 - TES species management (LMP Part 2: pp 93-96)		
Priority Conservation Strategies (LMP Part 2: Table 528, pp. 94-96)		
Habitat restoration/improvement: Control of invasive non-natives	Soil disturbance tends to favor invasive plants, to be addressed through reclamation	Yes (pending reclamation)
Habitat protection: project planning	Project subject to review under NEPA and SMARA	Yes
Habitat protection: coordination w/ other agencies	Mining & Reclamation Plans reviewed & approved by Los Angeles Co. per SMARA	Yes
Habitat protection: prevent spread of invasive non-natives	To be addressed through reclamation	Yes (pending reclamation)
Habitat protection: fire prevention and suppression	Fire safety requirements for personnel and equipment	Yes
IS 1 - Invasive Species Prevention & Control (LMP Part 2: p 98)		
Implement Noxious Weed Strategy		
Limit ground disturbance to minimum necessary	Project design minimizes disturbance area for overburden, processing, stockpiling, etc.; project subject to reclamation	Yes

FH 1 - Vegetation Restoration (LMP Part 2: p 99)		
Implement reforestation as needed	Project subject to reclamation	Yes
Air 1 - Minimize smoke & dust (LMP Part 2: p 101)		
Emission reduction techniques	Project subject to air quality regulations per SMARA and other legislation	Yes
WAT 1 - Watershed function (LMP Part 2: p 102)		
Maintain or restore soil properties	Project subject to reclamation	Yes
Dispose of displaced soil & rock in approved sites	Mining plan (incl. overburden areas) subject to review by Forest minerals staff & other regulatory agencies	Yes
WAT 3 - Hazardous Materials (LMP Part 2: p 104)		
Maintain written Hazardous Materials Response Plan	Mining operation subject to state and federal hazardous materials regulation	Yes
Link 1 - Habitat linkage planning (LMP Part 2: p 105)		
Manage use & activities for compatibility w/ habitat linkages	Project site outside any critical linkage areas, surrounded by extensive public land areas	Yes
LM 1& LM 2 - Landscape aesthetics & restoration (LMP Part 2: p 113)		
Mitigate ground disturbance, prioritize restoration	Project subject to reclamation	Yes
Lands 2 - Non-recreational special use authorizations (LMP Part 2: p 119)		
Special uses comply w/ law, regulation & policy; restore area upon termination	Mining operation subject to Forest Service minerals policy, various other state and federal policy, subject to reclamation	Yes
ME 1 - Minerals management (LMP Part 2: p 121)		
Use operating plan terms & conditions to offset mining effects	Mining plan subject to ANF Minerals staff review & approval	Yes
Facilitate environmentally sensitive production of mineral resources	Mining plan subject to ANF Minerals staff review & approval	Yes
Monitor mining operations as needed	Mining operation subject to Forest Service minerals policy	Yes
Fire 1 - Fire prevention (LMP Part 2: p 124)		
Implement forest fire restriction & closure plan as appropriate	Mining operation subject to fire closure	Yes
Vegetation Management Standards (LMP Part 3: pp 3-5)		
S6: Seed to be certified free of noxious weeds	See reclamation plan	Yes
S11: Species guidance documents	None applicable	Yes

Additional Minimization and Avoidance Measures

This section lists minimization and avoidance measures developed in the Biological Evaluation/Biological Assessment (Be/BA) for this project. The BE/BA should be updated and reviewed as new information becomes available and as needed to incorporate species status changes or new information regarding species occurrences or life history. Should the proposed activities be modified in the future, this evaluation may need to be revised to address potential effects not presently covered.

All components of the proposed project relating to habitat conservation and environmental protection in this EA will be explicitly stated as project requirements in the Decision Notice. The following list includes only the Forest Service's requirements to minimize or avoid impacts to biological resources. Other measures may be required for compliance with other National Forest management policies or guidelines (e.g., visual impacts, recreation impacts) as well as other local, state, or federal statutes or policies addressing land uses, vehicles, mining, and any other aspects of the proposed project.

Measures to reduce potential impacts include the following:

1. The USFS staff will provide photographs and descriptions for work crews of the following TESP species potentially occurring at the site.
2. All cacti will be transplanted. Depending on the number found, they will be transplanted to another location or taken to Rancho Santa Ana Botanic Garden.

North Star Minerals, Inc. (NSM) will comply with re-vegetation and reclamation requirements as outlined in the Mining and Reclamation Plan reviewed and approved under SMARA by Los Angeles County. All re-vegetation plans will be approved by a ANF botanist prior to implementation. Before removing soils or vegetation within 100 meters of the known short-jointed beavertail cactus occurrence near the existing quarry, NSM will contract with a qualified horticulturist (e.g., Rancho Santa Ana Botanic Garden) to salvage and transplant short-tailed beavertail cactus to a previously mined and reclaimed land east of the operating quarries, or another site as directed by ANF staff.

3. To prevent the spread of noxious weeds, an invasive species avoidance plan will be developed and agreed to by the Forest Service and NSM. The action items will range from washing vehicles and equipment when they have been taken to an infested area to periodic vegetation checks when on the trucks regular routes.
4. NSM and the Forest Botanist will conduct yearly meetings to review noxious weed issues. This includes discussing new infestations in nearby areas (both on and off project areas), reviewing the past year successes and failures and altering the plans as needed for monitoring noxious weeds.
5. The Forest Service will provide NSM with laminated photos of weeds of concern. These are weeds not yet found in the area. It will be the responsibility of NSM to look for these weeds or any other unusual looking vegetation. If anything unusual is found then the Forest Botanist will come and identify these plants.
6. The Forest Botanist will identify areas currently infested with weeds. When infested areas are being cleared, efforts must be made not to spread the seeds of invasive species such as ripgut brome (*Bromus diandrus*) outside of an already infested area. In addition

cleaning of equipment as mentioned above, workers should take care to inspect, remove, and properly dispose of weed seed and plant parts found on their clothing between work sites. Proper disposal means bagging the seeds and plant parts and incinerating them or removing them from site.

7. To prevent the spread of noxious weeds:
 - a) Follow up noxious weed surveys will be conducted.
 - b) The timing and duration of the invasive weed surveys will be up to the discretion of the Forest Service Botanist and NSM. Ideally, weed surveys will be conducted bi-monthly between March and July. These surveys will be quick in nature and intended to detect new infestation.
 - c) Any new or expanding infestation of invasive species will be removed.
8. A restoration plan will be developed and approved by the Forest Service Botanist and NSM.
9. For excavations outside of active workings, measures must be taken to avoid the entrapment of small mammals, reptiles or amphibians. If excavations are to remain open for more than 12 hours, they must include some means for small mammals, reptiles and amphibians to escape. This can be accomplished by placement of any material (log, branch, long piece of wood etc.) that will effectively function as a ramp that will reasonably allow trapped individuals to crawl or walk out. Before an excavation is backfilled, it must be checked to ensure that there are no live individuals inside. Backfilling cannot occur until the excavation is clear of all live individuals.
10. All appropriate BMP's will be followed to minimize sediment into water courses.
11. If any work is done in riparian areas, the 5 step screening process outlined in the Forest Plan for Riparian Conservation Areas (RCA) will be followed.
12. Soil and Water Conservation Practices Handbook, FSH 2509.22 will be followed to minimize impacts to soil and riparian areas.
13. Except for materials hauling and access to the site along Forest Service Road 4N32, neither NSM nor its employees or contractors shall use mechanized equipment of any kind to disturb soils or vegetation outside the bounds of the project area.

C.5 Soil and Water Quality Mitigation Measures

Forest Plan Direction, Strategies and Tactics for Protection of Soil and Water Quality Resources

All applicable Angeles National Forest Land Management Plan (Forest Plan) standards and guidelines will be followed (refer to plan standards in Forest Plan, Part 3).

See also Table A-2 in Appendix Sub-section C.4, Avoidance and Mitigation Measures for Wildlife and Plants, for Angeles National Forest program strategies and tactics relevant to mining and soil/water resource management. These include WAT 1 - Watershed function, WAT 3 - Hazardous Materials, and ME 1 - Minerals management.

Best Management Practices

All applicable Best Management Practices (BMPs) should be identified and followed in all ground-disturbing activities within the quarries. These include, but are not limited to, Practice 3-1 (Water Resources Protection on Locatable Mineral Operations), as described in Section 12.32, *Water Quality Management for Forest System Lands in California*, September 2000.

Additional Minimization and Avoidance Measures

To mitigate for impacts to soil and water quality, the following measures are included in the Proposed Action. These are in addition to or complementary to mitigation measures and reclamation activities listed for other resources and required by other agencies in Appendices A, C, and D of this EA. For example, certain mitigations to reduce impacts to scenery resources such as mulching and silt fences will also reduce soil erosion.

- In accordance with the Spill Prevention, Control, and Countermeasures Plan on file for this operation and incorporated into the Plan of Operations (April 2007), storage facilities for materials capable of causing water pollution if accidentally discharged will be located to prevent any spillage into waters or channels leading into water that would result in harm to fish or wildlife or to human water supplies. The only potentially hazardous material used in this mining operation is diesel fuel and petroleum-based lubricants. Waste lubricant will be disposed of to a licensed recycler. Trucks dispensing fuel will be placed on a containment facility designed to hold the entire amount of fuel in case of a spill.
- Operator will take precautions to control runoff and erosion and to prevent entry into surface water for all disturbed areas, including waste dumps. Waste dumps will be located within the quarry boundaries, and runoff will be routed away from waste dumps.
- Operator will perform road maintenance to protect surface resources and prevent erosion. Maintenance of access roads will be done in accordance with Forest Service “Minimum Standards for Road Construction” (included in the Plan of Operations), which provides for the following actions to protect water quality:
 - No material will be sidecast unless included as a part of the road fill.
 - Fill material will be appropriately compacted where road remains open during winter months.
 - Appropriate road surface drainage techniques will be employed, including waterbars diverting flow to undisturbed surface in order to reduce runoff erosion.
- Benches will be provided wherever necessary to control drainage on slopes.

- Operator will shape quarries and locate stockpiled topsoil and excavated non-commercial material to minimize the passage of runoff across disturbed surfaces. Stockpiles will be stabilized by compaction if necessary to prevent erosion. Stockpiled topsoil will be seeded as necessary to stabilize the soil.
- Disturbed areas will be reclaimed and revegetated at the earliest opportunity (and in no event less than once a year in the fall growing season).
- Treat berms at edges of mining quarries and along access road fill slopes (for example, using mulching, seeding, etc.), to prevent erosion and sedimentation travel onto adjacent areas.
- Settling ponds, where sediment is collected within the quarries, should be cleaned out and sediment deposited and stabilized in areas of the quarry that will prevent sediment from being transported away from the quarry site to adjacent lands. Designate debris/sediment disposal sites within the quarries, and follow soil stabilization procedures outlined by the Reclamation Plan and State/federal reclamation standards.
- Where needed, install silt fencing or other sediment trapping materials to minimize the transport of sediment off site.
- Operator will maintain and operate the quarries in full compliance with all State conditions of the Surface Mining Permit issued under SMARA, including State requirements for stormwater runoff and other water pollution plans and all mitigation measures in the Mitigation Monitoring Program (see Appendix D).
- Quarries and Plan of Operations will be inspected annually to ensure that protection of soil and water quality resources is provided.

Appendix D: State and Local Mitigations and Conditions

D.1 State Mining & Geology Board Regulations: Article 9, Reclamation Standards

(Excerpts, as Applicable to Acton Clay Quarries)

Pursuant to a formally adopted Memorandum of Understanding (MOU) entered into by the State of California, the USDA Forest Service, and the Bureau of Land Management (October 19, 1992), it is agreed that “Lead agencies and the Forest Service and/or BLM will work cooperatively to insure that conditions required of operators (as defined by Federal law, and by SMARA and any other relevant regulations and ordinances) in minimizing adverse environmental impacts conform to all applicable local, State, and Federal regulations” (MOU, Item (1) at page 4).

The Surface Mining and Reclamation Act (SMARA) requires the State Mining and Geology Board to adopt State policy for the reclamation of mined lands and the conservation of mineral resources. **Following are excerpts of reclamation standards** required by SMARA that are applicable to the Reclamation Plan for the Acton Clay Quarries. These policies are found in California Code of Regulations, Title 14, Division 2, Chapter 8, Subchapter 1.

NSM’s mining operations and reclamation activities will be conducted in compliance with these standards, as well as all other applicable State, federal, and local laws, and mitigation measures included as part of the Proposed Action.

§ 3700. Applicability. Reclamation of mined lands shall be implemented in conformance with the standards in this Article.

(a) The standards shall apply to each surface mining operation to the extent that:

(1) they are consistent with required mitigation identified in conformance with the California Environmental Quality Act, provided that such mitigation is at least as stringent as the standards; and

(2) they are consistent with the planned or actual subsequent use or uses of the mining site.

(b) Where an applicant demonstrates to the satisfaction of the lead agency that an exception to the standards specified in this article is necessary based upon the approved end use, the lead agency may approve a different standard for inclusion in the approved reclamation plan. Where the lead agency allows such an exception, the approved reclamation plan shall specify verifiable, site-specific standards for reclamation. The lead agency may set standards which are more stringent than the standards set forth in this Article; however, in no case may the lead agency approve a reclamation plan which sets any standard which is less stringent than the comparable standard specified in this Article.

§ 3702. Financial Assurances

Lead agencies shall require financial assurances for reclamation in accordance with Public Resources Code section 2773.1 to ensure that reclamation is performed in accordance with the approved reclamation plan and with this article.

§ 3703. Performance Standards for Wildlife Habitat.

Wildlife and wildlife habitat shall be protected in accordance with the following standards:

(a) Rare, threatened or endangered species as listed by the California Department of Fish and Game, (California Code of Regulations, Title 14, sections 670.2 - 670.5) or the U. S. Fish and Wildlife Service, (50 CFR 17.11 and 17.12) or species of special concern as listed by the California Department of Fish and Game in the Special Animals List, Natural Diversity Data Base, and their respective habitat, shall be conserved as prescribed by the federal Endangered Species Act of 1973, 16 U.S.C. section 1531 et. seq., and the California Endangered Species Act, Fish and Game Code section 2050 et seq. If avoidance cannot be achieved through the available alternatives, mitigation shall be proposed in accordance with the provisions of the California Endangered Species Act, Fish and Game Code section 2050 et seq., and the federal Endangered Species Act of 1973, 16 U.S.C. section 1531 et seq.

(b) Wildlife habitat shall be established on disturbed land in a condition at least as good as that which existed before the lands were disturbed by surface mining operations, unless the proposed end use precludes its use as wildlife habitat or the approved reclamation plan establishes a different habitat type than that which existed prior to mining.

§ 3704. Performance Standards for Backfilling, Regrading, Slope Stability, and Recontouring.

Backfilling, regrading, slope stabilization, and recontouring shall conform with the following standards:

(b) Where backfilling is required for resource conservation purposes (e.g., agriculture, fish and wildlife habitat, and wildland conservation), fill material shall be backfilled to the standards required for the resource conservation use involved.

(c) Piles or dumps of mining waste shall be stockpiled in such a manner as to facilitate phased reclamation. They shall be segregated from topsoil and topsoil substitutes or growth media salvaged for use in reclamation.

(d) Final reclaimed fill slopes, including permanent piles or dumps of mine waste rock and overburden, shall not exceed 2:1 (horizontal:vertical), except when site specific geologic and engineering analysis demonstrate that the proposed final slope will have a minimum slope stability factor of safety that is suitable for the proposed end use, and when the proposed final slope can be successfully revegetated.

(e) At closure, all fill slopes, including permanent piles or dumps of mine waste and overburden, shall conform with the surrounding topography and/or approved end use.

(f) Cut slopes, including final highwalls and quarry faces, shall have a minimum slope stability factor of safety that is suitable for the proposed end use and conform with the surrounding topography and/or approved end use.

§ 3705. Performance Standards for Revegetation.

Revegetation shall be part of the approved plan, unless it is not consistent with the approved end use.

(a) A vegetative cover suitable for the proposed end use and capable of self-regeneration without continued dependence on irrigation, soil amendments or fertilizer shall be established on disturbed land unless an artificially maintained landscape is consistent with the approved reclamation plan. Vegetative cover or density, and species-richness shall be, where appropriate, sufficient to stabilize the surface against effects of long-term erosion and shall be similar to naturally occurring habitats in the surrounding area. The vegetative density, cover and species richness of naturally occurring habitats shall be documented in baseline studies carried out prior to the initiation of mining activities. However, for areas that will not be reclaimed to prior conditions, the use of data from reference areas in lieu of baseline site data is permissible.

(c) Where surface mining activities result in compaction of the soil, ripping, disking, or other means shall be used in areas to be revegetated to eliminate compaction and to establish a suitable root zone in preparation for planting.

(d) Prior to closure, all access roads, haul roads, and other traffic routes to be reclaimed shall be stripped of any remaining roadbase materials, prepared in accordance with subsection 3705(g), covered with suitable growth media or topsoil, and revegetated. When it is not necessary to remove roadbase materials for revegetative purposes, lead agencies may set a different standard as specified in section 3700(b) of this Article.

(g) Native plant species shall be used for revegetation, except when introduced species are necessary to meet the end uses specified in the approved reclamation plan. Areas to be developed for industrial, commercial, or residential use shall be revegetated for the interim period, as necessary, to control erosion. In this circumstance, non-native plant species may be used if they are not noxious weeds and if they are species known not to displace native species in the area.

(h) Planting shall be conducted during the most favorable period of the year for plant establishment.

(i) Soil stabilizing practices shall be used where necessary to control erosion and for successful plant establishment.

(k) Noxious weeds shall be managed: (1) when they threaten the success of the proposed revegetation; (2) to prevent spreading to nearby areas; and (3) to eliminate fire hazard.

(m) Success of revegetation shall be judged based upon the effectiveness of the vegetation for the approved end use, and by comparing the quantified measures of vegetative cover, density, and species-richness of the reclaimed mined-lands to similar parameters of naturally occurring vegetation in the area.

§ 3706. Performance Standards for Drainage, Diversion Structures, Waterways, and Erosion Control.

(a) Surface mining and reclamation activities shall be conducted to protect on-site and downstream beneficial uses of water in accordance with the Porter-Cologne Water Quality Control Act, Water Code section 13000, seq., and the Federal Clean Water Act, 33 U.S.C. section 1251, et seq.

(b) The quality of water, recharge potential, and storage capacity of ground water aquifers which are the source of water for domestic, agricultural, or other uses dependent on the water, shall not be diminished, except as allowed in the approved reclamation plan.

(c) Erosion and sedimentation shall be controlled during all phases of construction, operation, reclamation, and closure of a surface mining operation to minimize siltation of lakes and watercourses, as required by the Regional Water Quality Control Board or the State Water Resources Control Board.

(d) Surface runoff and drainage from surface mining activities shall be controlled by berms, silt fences, sediment ponds, revegetation, hay bales, or other erosion control measures, to ensure that surrounding land and water resources are protected from erosion, gullyng, sedimentation and contamination. Erosion control methods shall be designed to handle runoff from not less than the 20 year/1 hour intensity storm event.

§ 3709. Performance Standards for Building, Structure, and Equipment Removal.

(a) All equipment, supplies and other materials shall be stored in designated areas (as shown in the approved reclamation plan). All waste shall be disposed of in accordance with state and local health and safety ordinances.

(b) All buildings, structures, and equipment shall be dismantled and removed prior to final mine closure except those buildings, structures, and equipment approved in the reclamation plan as necessary for the end use.

§ 3710. Performance Standards for Stream Protection, Including Surface and Groundwater.

(a) Surface and groundwater shall be protected from siltation and pollutants which may diminish water quality as required by the Federal Clean Water Act, sections 301 et seq. (33 U.S.C. section 1311), 404 et

seq. (33 U.S.C. section 1344), the Porter-Cologne Act, section 13000 et seq., County anti-siltation ordinances, the Regional Water Quality Control Board or the State Water Resources Control Board.

§ 3711. Performance Standards for Topsoil Salvage, Maintenance, and Redistribution.

When the approved reclamation plan calls for revegetation or cultivation of disturbed lands, the following performance standards shall apply to topsoil salvage, maintenance, and redistribution activities:

(a) All salvageable topsoil suitable for revegetation shall be removed as a separate layer from areas to be disturbed by mining operations. Topsoil and vegetation removal shall not precede surface mining activities by more than one year, unless a longer time period is approved by the lead agency.

(b) Topsoil resources shall be mapped prior to stripping and the location of topsoil stockpiles shall be shown on a map in the reclamation plan. If the amount of topsoil needed to cover all surfaces to be revegetated is not available on site, other suitable material capable of sustaining vegetation (such as subsoil) shall be removed as a separate layer for use as a suitable growth media. Topsoil and suitable growth media shall be maintained in separate stockpiles. Test plots may be required to determine the suitability of growth media for revegetation purposes.

(c) Soil salvage operations and phases of reclamation shall be carried out in accordance with a schedule that: (1) is set forth in the approved reclamation plan; (2) minimizes the area disturbed; and (3) is designed to achieve maximum revegetation success allowable under the mining plan.

(d) Topsoil and suitable growth media shall be used to phase reclamation as soon as can be accommodated by the mining schedule presented in the approved reclamation plan following the mining of an area. Topsoil and suitable growth media that cannot be utilized immediately for reclamation shall be stockpiled in an area where it will not be disturbed until needed for reclamation. Topsoil and suitable growth media stockpiles shall be clearly identified to distinguish them from mine waste dumps. Topsoil and suitable growth media stockpiles shall be planted with a vegetative cover or shall be protected by other equally effective measures to prevent water and wind erosion and to discourage weeds. Relocation of topsoil or suitable growth media stockpiles for purposes other than reclamation shall require prior written approval from the lead agency.

(e) Topsoil and suitable growth media shall be redistributed in a manner that results in a stable, uniform thickness consistent with the approved end use, site configuration, and drainage patterns.

§ 3712. Performance Standards for Tailing and Mine Waste Management.

State Water Resources Control Board mine waste disposal regulations in Article 1, Subchapter 1, Chapter 7 of Title 27, California Code of Regulations, shall govern mine waste and tailings, and mine waste disposal units shall be reclaimed in conformance with this article.

D.2 County of Los Angeles Mitigations and Conditions

The following conditions and stipulations to mitigate adverse environmental impacts were proposed by the County of Los Angeles and made part of the conditions under which the County issued a 20-year permit (Surface Mining Permit 00-21-(5)) to North Star Minerals, Inc. authorizing mining operations in the Acton Clay Quarries. (See the project record for the complete listing of all conditions and stipulations in the SMARA permit.)

These measures are incorporated into the proposed Plan of Operations to be considered for approval by the Forest Service, in accordance with the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), the California Surface Mining and Reclamation Act (SMARA) and all other applicable federal, State, and local laws and regulations. (See also the Memorandum of Understanding (MOU) for surface mining and reclamation coordination between the State of California, the Forest Service, and the Bureau of Land Management, signed on October 19, 1992. The MOU is filed in the project record.)

NSM is required to comply with these and all other conditions listed and made part of the SMARA permit issued by the County.

1. All structures, walls, and fences open to public view shall remain free of extraneous markings, drawings and signage. These shall include any of the above that do not directly relate to the business being operated on the premises or that do not pertinent information about said premises [Condition #12].
2. The permittee [NSM] shall comply with all of the mitigation measures included in the attached Mitigation Monitoring Program and Project Changes/Conditions due to Environmental Evaluation. (See Appendix Subsection D.3 of this EA.)
3. Temporary slopes shall not be created that will interfere with the construction of the finished slopes conforming to the requirements of the reclamation plan [Condition #16].
4. The permittee shall implement measures as approved by the Los Angeles County Director of Public Works to prevent erosion of adjacent lands by waters discharged from the site of mining operations and the off-site discharge of sediment [Condition #18].
5. Stockpiles of overburden and minerals shall be managed to minimize water and wind erosion [Condition #19].
6. The removal of vegetation and overburden in advance of surface mining shall be kept to a minimum [Condition #20].
7. The permittee shall implement all reasonable and practicable measures to protect the habitats of fish and wildlife during surface mining operations [Condition #22].
8. No surface mining operation or structure shall be located within 50 feet of any stream bed without approval of the Los Angeles County Flood Control District or the county engineer, whichever agency has jurisdiction. Where approval is requested, a comprehensive flood-hazard analysis evaluating the effect surface-mining operations will have on drainage and erosion on adjacent property shall also be submitted. [Condition #24, excerpt].
9. All activities of mining and processing minerals shall be conducted in a manner such that dust, vibrations, smoke, dirt, odors and bright lights do not exceed levels compatible with uses of adjacent lands [Condition #26].

10. Dust suppression measures shall be undertaken on all unpaved roads providing access to the site pursuant to the approved Reclamation Plan [Condition # 27].
11. All topsoil removed in surface mining operations shall be stored at the site of mining operations and shall be used in future reclamation of the site [Condition #30].
12. Benches shall be provided wherever necessary to control drainage on slopes, or to provide for access, or for public safety [Condition #31].
13. Prior to the commencement of any surface mining operation, the area to be used for such operations shall be enclosed with a fence as required by Chapter 11.48 of the County Code. Such fencing may be limited to the area currently being used for such operations; provided, however, that the operation shall be continuously enclosed as excavation progresses. [Condition #32].
14. Permittee shall be responsible for assuring that exiting trucks are legally loaded. [Condition #34].
15. Unless otherwise specified in the approved reclamation plan, the permittee shall complete reclamation of land affected by surface mining operations within one year of completion of mining operations on such lands [Condition #35].
16. Blasting operations are prohibited between the hours of 7:00 p.m. and 7:00 a.m. in conformance with the provisions of the County Noise Ordinance [Condition #37].
17. If night lighting is used, all lighting must be directed downward and not visible from the town of Acton [Condition #38].
18. Operations shall be conducted in such a manner as to prevent or minimize flooding or alteration of the natural drainage system [Condition #39].
19. Mining, screening, and product transportation shall not be commenced during a second state smog alert [Condition #53].

**D.3 Los Angeles County: Mitigation Monitoring Program
and Project Changes/Conditions due to Environmental Evaluation**

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