

ENVIRONMENTAL ASSESSMENT

Expansion of the Existing Orogrande Quarry on McGregor Range, Fort Bliss, Texas and New Mexico

Reviewed:



7 Jul 09

Dave Hall
Chief, ITAM Program
Directorate of Plans, Training, Mobilization, and Security
Fort Bliss, Texas

Date

Concur:

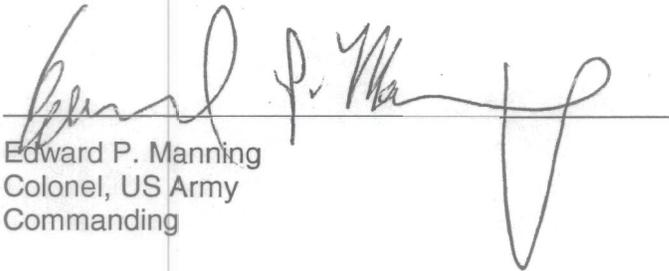


2 July 2009

Keith Landreth
Chief, Environmental Division
Directorate of Public Works, Fort Bliss

Date

Approved by:



Edward P. Manning
Colonel, US Army
Commanding

16 July 2009

Date

July 2009

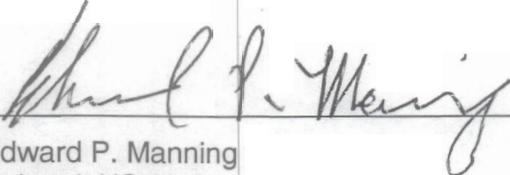
FINDING OF NO SIGNIFICANT IMPACT

1. **INTRODUCTION:** The findings and conclusions reached in this document are based on a thorough review of the impacts and analyses considered and disclosed in the Environmental Assessment (EA) attached to this Finding of No Significant Impact (FNSI) and incorporated herein by reference. The EA was conducted to identify the potential impacts to the human and natural environment resulting from the proposed Expansion of the Existing Orogrande Quarry on McGregor Range presently operated by the U.S. Army Directorate of Plans, Training, Mobilization and Security, through its' Integrated Training Area Management (ITAM) program and the Directorate of Public Works (DPW) through the U.S. Army Combined Arms Battalion (USACAS) at Fort Bliss, Texas. The purpose of expanding the quarry is to provide much needed rock material for gravel to be used in constructing and maintaining roads, ranges, and tank trails.

2. **PROPOSED ACTION AND ALTERNATIVES TO THE PROPOSED ACTION:** In the EA, the Army considered the proposed action – an expansion from the current less than 5 acres to about 35 acres, as well as the No Action Alternative. Expanding or creating a new quarry at other potential sites failed to meet siting criteria or were not feasible and were not considered further.

3. **ENVIRONMENTAL CONSEQUENCES:** Analyses of valued environmental components (VECs) within the region of influence for the proposed action identified no significant impacts on the human or natural environment. Additionally, no cumulative or indirect impacts were identified that would be of concern. A potential for a visual impact would be mitigated by leaving a ridge intact that would screen the quarry from view of the Town of Orogrande and the comparatively heavily traveled U.S. Highway 54. The ridge would also screen Orogrande from dust and noise impacts. Some standard construction practices, including crafting a Storm Water Pollution Prevention Plan (SWPPP), would be required as would the use of water trucks for dust suppression during incidences of heavy dust lofting affecting Orogrande.

4. **CONCLUSION:** I have reviewed this EA and have determined the proposed action, with any indicated mitigation measures, will not have a significant impact on the natural or human environment. It is my decision to implement the project with those indicated mitigation measures. The EA is now available for review by the interested public at the reference desks of the Fort Bliss Mickelson Library located at Building 2 South Wing; at 3 branches of El Paso (TX) Public Libraries at 501 N. Oregon, 1865 Dean Martin Drive, and 125 Belvidere Street; at the Alamogordo Public Library, 920 Oregon Ave., Alamogordo, NM 88310; and at the Directorate of Public Works – Environmental Division offices. Please submit any comments within 30-days of the publication date of this notice.



Edward P. Manning
Colonel, US Army
Commanding

16/07/09

Date

ENVIRONMENTAL ASSESSMENT

Expansion of the Existing Orogrande Quarry on McGregor Range, Fort Bliss, Texas and New Mexico

1. Introduction

This document assesses the environmental impacts associated with the proposed expansion of an existing gravel quarry on McGregor Range, Fort Bliss, Texas. The quarry is operated by the Directorate of Plans, Training, Mobilization and Security (DPTMS) through the Integrated Training Area Maintenance program (ITAM) and the Directorate of Public Works (DPW) through the U.S. Army Combined Arms Battalion (USACAS).

The Army uses an Environmental Assessment (EA) thru Valued Environmental Component (VEC) analysis (Appendix A) to determine whether a project will have a significant impact on the human or natural environment. Such assessment will result in either a Finding of No Significant Impact (FONSI) or a determination that an Environmental Impact Statement (EIS) is required. The EA is subject to public review, generally for a period of 30 days, prior to either determination being made.

This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] 4321-4347, as amended); Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508); 32 CFR Part 651, *Environmental Effects of Army Actions*; and the U.S. Army Environmental Command NEPA Analysis Guidance Manual. In addition, much previous analysis, especially for BRAC-mandated training and construction at the ranges, has been performed in the *Fort Bliss, Texas and New Mexico, Mission and Master Plan Supplemental Programmatic Environmental Impact Statement (SEIS)* (Record of Decision signed 30 August 2007), incorporated herein by reference.

2. Purpose and Need

DPW's program is responsible for tank trail and range access development and maintenance while DPTMS' ITAM program is responsible for combat trail development and maintenance. As such, a need arises for a gravel source that has sufficient quantity of source material and is within relative proximity to the various projects for which they are responsible. The ITAM program has identified that a minimum of 30 million cubic feet of gravel would be needed to provide for range access, tank trail and combat trail construction and maintenance requirements.

The purpose of the proposed action is to:

- provide an adequate source of gravel for range access, tank and combat trail surfacing, maintenance, and construction
- continue operations preferably at an existing gravel quarry for mining and crushing rocks as a source for gravel; and
- Increase the level and rate of rock crushing into finer gravel by installing a crusher at the quarry.

If an adequate source of material for gravel is not found, then BRAC and GTA mandated construction of tank trails, combat trails and ranges may not occur to specifications. Tracked

vehicles would destroy existing dirt roads and adversely affect the military training capabilities of Fort Bliss.

3. Proposed Action, Alternatives, and Criteria for Evaluation

Proposed Action

The proposed action is to expand an existing quarry for adequate rock source material to crush for gravel and base course material for road construction, maintenance, repair and other needs such as range construction.

Criteria for Evaluation

The following criteria were used in evaluating the potential for an expanded source of rock material for gravel:

Operating Cost

- minimal development requirements;
- existing roads available to provide access;
- source material quality and quantity for economic justification;
- already existing crusher activities if possible; and
- proximity to proposed road and range construction projects.

Operational Efficiency

- ideally an existing quarry
- accessibility for heavy equipment;
- minimal environmental limitations; and
- minimal interference with existing or planned training activities.

Alternatives

Because only one site, the existing Orogrande Quarry on McGregor Range, adequately satisfied all the site selection criteria, only two alternatives - the No Action and an Action Alternative are analyzed herein.

No Action Alternative

The No Action Alternative would continue use of the Orogrande Quarry as a small scale operation that would not exceed five acres and would not be expanded to provide the required amount of source material. Not expanding the quarry would mean that gravel may not be available economically for maintenance and construction needs, thereby adversely affecting the Fort Bliss training mission. Access roads, tank and combat trails would continue having unimproved surfaces, be sources of dust, and deteriorate thru wind and water soil erosion. Rutting of accesses and trails would lead to ponding during rain events and expansion of road widths as vehicles drive around the ruts, washouts, and ponded areas. Tracked vehicles would destroy roads through gouging of the soft soil surface. Maintenance of roads would consist solely of grading with no surface material improvement. Continuous grading tends to lower the road topography which leads to channelization of rain run-off, erosion, and increased ponding.

Alternative 1 (Action Alternative)

Fort Bliss DPTMS conducted a survey of all available gravel and borrow pits within the area encompassed by training areas (TA) 29, 30, 32, 8 and 9 and determined that only one existing quarry satisfied the criteria outlined above. This existing gravel quarry, hereon referred to as

the Orogrande Quarry, is located about 2 km east of the village of Orogrande, New Mexico, on Red Eye Road within the McGregor Range complex TA 9 (Figure 1). It is located at coordinates CR 995830 bounded by undeveloped military training land. Records and aerial photographs



Figure 1. General Location of the Orogrande Quarry

indicate that the Orogrande Quarry has been in use for at least 27 years as a gravel source (Payne 2009). The quarry is in an area of United States Government Bureau of Land Management (BLM) land that has been withdrawn for military use. In accord with Public Law 106-65 (October 5, 1999), a Memorandum of Agreement dated 10 December 2007 between the Army and BLM, states “extraction of saleable minerals by the Army for construction needs will be allowed”. Since rock and resultant gravel are considered saleable minerals and the quarry is an existing operation, no further process or license from the BLM to expand the quarry is required. However, coordination with the BLM on the expansion would be conducted through informal channels and the NEPA process. It is estimated that the site may have as much as 40

million cubic feet of rock resource convertible to gravel (Appendix B – Orogrande Quarry Elevation Analysis).

The Orogrande Quarry presently has a rock crusher located on-site (refer to Appendix C – Site Photographs). However, due to obsolescence and non-availability of parts, the crusher has not been operational for some time and is now essentially unusable. As part of this action, the Army would fund the purchase of a new crusher which would be operated by a private contractor. The air permit for the existing crusher would be transferred over to the new crusher and DPW-E would continue to fund the annual permit fee. If the contractor furnishes its own crusher, then it would be responsible for any permits required by the NMED.

An existing gravel road provides access to the quarry from the north. No structures are located at the site and utilities include only electrical formerly used to power systems and lights on the existing crusher. No other utilities would be required at the site as part of this action. With the exception of the already disturbed, existing gravel pit, most of the site is predominately undisturbed land covered with shrub land vegetation community.

The quarry site expansion would occur in three phases. In the first phase, quarry site access road and area of operation would be improved and further developed to accept the new and larger crusher. The second phase would consist of locating and set-up of the new crusher and the removal and scrapping of the old crusher. The third would be the commencement of rock removal for subsequent crushing. These phases would occur within the second half of FY09 and early FY10. One dozer/excavator/loader would usually be in operation at any given time loading the crusher with rock. The crusher would generally load the dump trucks via a gravel chute as the rock is crushed. A water truck would be used for dust control if wind-blown dust becomes a problem and especially if dust affects the town of Orogrande.

About 35 acres would be disturbed at the new quarry and removal of all usable material would occur. This essentially would remove all material available within the hill or about 20 meters (~64 feet) of vertical relief. A ridge located to the west of the quarry hill would be left intact. *This ridge would act as a screen, dust barrier, and noise buffer from quarry operations and protect the visual nature of the range from Orogrande and the heavily traveled Highway 54.* The rock crusher would be placed to the east or behind the ridge and be screened from view of the town of Orogrande to the greatest extent possible. A survey marker located at the top of the hill would be removed, saved, and relocated at the same surface position as determined by GPS readings after exhaustion of the quarry has occurred.

No hazardous materials would be generated at the new quarry. However, normal maintenance of the crusher and heavy equipment would generate used petroleum products such as grease and oils as well as antifreeze liquids. These materials would be properly stored, handled, and disposed of per regulations to include use of an approved Waste Accumulation Point and standard spill notification procedures, in accordance with the Fort Bliss Hazardous Waste Management Plan. Military training would take precedence over the operation of the quarry and quarry activities would not interfere with the military mission of Fort Bliss. Blasting and storing of explosives at the site is not proposed as part of this action.

Alternatives Considered But Not Carried Forward for Evaluation

Use of smaller, existing borrow pits located though out McGregor Range. These sites were determined to be inadequate for the following reasons:

- all other borrow pits except one are too sandy or consist predominantly of caliche and do not contain enough rock source for gravel

- Only other rock pit suitable for gravel on McGregor is too small (insufficient source material for planned requirements) and is located on FAW 10 where quarry operations would interfere with military live fire convoy training.

Other prominent hills within the area were determined to be inadequate for the following reason:

- non-historic use of the sites as a quarry and thus would require creating a new quarry operation; and
- military activities are presently located at these sites.

Non-Fort Bliss Location

Using a commercial rock quarry outside of Army controlled land other than Fort Bliss was considered and determined not to satisfy the purpose and need for the following reasons:

- no existing commercial quarry identified within private or BLM controlled land near the Orogrande/McGregor Range area; and
- nearest commercial quarry located in Chaparral, on Texas/New Mexico line more than 30 miles distant would make hauling of gravel too costly and this alternative non-feasible.

4. Valued Environmental Component (VEC) Analysis

The Region of Influence (ROI) analyzed for impacts to the natural and human environments from this proposed action includes the subject property and surrounding area out to the town of Orogrande, New Mexico.

Analysis ratings (see Appendix A) were determined through initial evaluation of each VEC, allowing the scope of analysis of this EA to focus on the relevant environmental components. A rating of Very Low (VL) indicates lack of any significant impact is self-evident, and that no additional discussion of the VEC is required. Low (L) indicates no significant impact is expected, but such expectation may require some explanation. Medium (M) indicates the significance of an impact is uncertain, or the impact analysis otherwise requires additional information and/or substantial discussion. High (H) indicates a significant impact is expected, and would likely lead directly to an EIS.

Very Low and Low analysis ratings are supported and explained in Appendix A. Only VECs with an analysis rating of Medium or High are described further in this EA. Both direct and indirect impacts are analyzed. Since the no action alternative would continue the operation of the Orogrande Quarry as a relatively small activity, there would be no change to current conditions resulting from this alternative and no additional impacts. Therefore, only the action alternative impacts are discussed further in this document.

Noise

Noise as a nuisance factor is affected by the distance of the source of sound to a receptor, the surrounding terrain, ambient sound level, time of day, wind direction, temperature gradient, and relative humidity. Noise generation from the proposed quarry would increase due to increased use of heavy equipment to remove rock, crusher operations to convert the large rock to gravel, and dump trucks transporting gravel to job sites. All these noise sources would be intermittent, during business hours, and only during construction and maintenance project needs. The Town of Orogrande would be the only non-military receptor for nuisance noise as a result of the proposed action. Other important noise generators near the town include traffic on U.S. Highway 54 which runs through the center of the town, and trains on the Union Pacific Railroad line that runs to the east between the town and the quarry. The nearest residential receptor in Orogrande is located about 2 km or about 6,500 feet from the quarry. At this distance and when

the other generators are taken into account, the noise due to quarry operations would be at or below background or below 65 dBA, which per Army policy allows all land use to include residential.

Visual Resources

The view of the Tularosa Basin from the Town of Orogrande is considered by some as scenic. As such, the Army weighs any visual degradation of the basin when proposing an action. The action alternative would remove the entire hill; and thereby would create a gash or scar on the landscape and a visual impact to the scenery of the Tularosa Basin as viewed by the public from Orogrande and/or U.S. Highway 54. To protect the scenic nature of this view, a ridge that lies in a generally north-south direction and located to the west of the quarry would be left intact (Figure 2). This ridge would obscure the quarry scar after all material is removed.

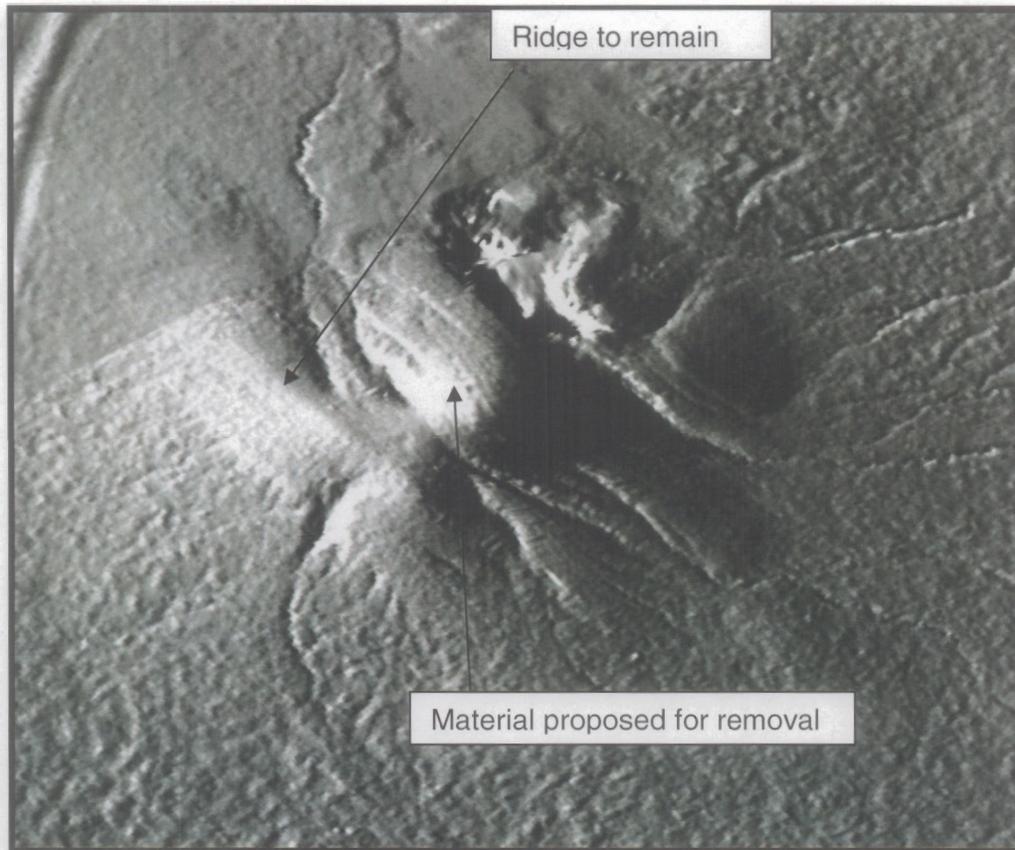


Figure 2. In this three dimensional relief, the ridge can be seen that would obscure visual impacts from the Town of Orogrande and the heavily traveled Highway 54.

As a consequence the expansion of the quarry, although removing a strong vertical feature, would have minimal impacts on the visual nature of the valley as viewed from the populated areas of Orogrande and the relatively well-traveled Highway 54. Over time, much of the

excavated area would be expected to re-grow natural vegetation. The area of the Orogrande Quarry is not within any BLM designated important scenic area.

Habitat

Vegetation in the project area is characterized by native shrubland communities where creosote bush (*Larrea tridentata*) and mariola (*Parthenium incanum*) are the dominant species. This type vegetation is indicative of the Creosote Piedmont Shrub-lands land cover that makes up about 15.48% or about 170,000 acres of the installation's vegetation communities. Since the project would remove about 35 acres of the Creosote Piedmont Shrub-land cover or less than 1% found within the installation, there would be minimal effects on this type vegetation community. Other less common shrubs found within this community are mesquite (*Prosopis glandulosa* var. *torreyana*), ocotillo (*Fouquieria splendens*), feather dalea (*Dalea formosa*), four-winged saltbush (*Atriplex canescens*), and soap-tree yucca (*Yucca elata*), among others. This vegetation community type is common throughout much of the northern Chihuahuan Desert. Cacti observed include devil-head (*Echinocactus horizonthalonius*), claret-cup (*Echinocereus triglochidiatus*), and nipple beehive cactus (*Coryphantha macromeris*). Grasses are sparse represented by bush muhly (*Muhlenbergia porteri*), nine-awn pappus grass (*Enneapogon desvauxii*), fluff grass (*Dasyochloa pulchella*), and three-awn (*Aristida purpurea*). These plant species are common within the Chihuahuan Desert and their overall population numbers would not be adversely affected by the proposed action. No invasive weed species were noted.

Several packrat (*Neotoma* sp.) sites were observed within the project site. No bird nests were observed during site visits. Only mourning doves (*Zenaida macroura*) and chipping sparrows (*Spizella passerina*) species (a non-resident migrant in the area) were observed.

No endangered or species of concern were observed or are expected within the project area.

Air Quality

Expansion of the quarry would create an increase in dust generation from excavation, crushing, and loading of rock and gravel at the Orogrande Quarry. Predominant winds in the area are from the west or southwest. Since the quarry is located east of Orogrande, this receptor during most operational days would not experience a change in dust concentrations. When winds are from the east or northeast, they tend not to be as strong as westerlies. Dust transport would not occur as perceptibly during these wind conditions. Although some temporary and intermittent increase in airborne dust may be noticed from Orogrande; because of the distance and the relatively small area being worked at a given time (only the face of the quarry and by one loader), dust concentrations at the receptor location would not be above threshold levels of the NAAQS. Nevertheless, watering to control dust lofting would be required per regulations and the existing permit. This water would be brought by truck, would be brackish whenever possible from nearby brackish wells, and would be relatively small in quantity. No impacts to the areas water resources would occur as a result of the project's dust suppression.

The rock crusher and crushing activities would require re-permitting by the NMED if the contractor is to own the crusher. The Army may weigh purchasing and owning the crusher and thus keep within the existing air permit obtained at the request of the ITAM Program in anticipation of activating quarry operations.

A benefit from the proposed action would be the lessening of dust generation and soil erosion by making possible the covering of roads and developed range areas with a hardened-surface, i.e., gravel. Military vehicles would "kick up" less soil and dust when using these gravel-covered roads.

Surface Water Quality

The action alternative has the potential to directly affect stormwater runoff patterns in the area of excavation. Water erosion and run-off would increase initially as the hill is excavated and steeper features are created at the face of the quarry. As rock material is removed, site run-off would decrease due to a decrease in angle of water velocities during storm events.

Additionally, the net area of permeable surface would not increase substantially. A Stormwater Pollution Prevention Plan (SWPPP) would be crafted detailing standard practices to be followed during the operation of the quarry to minimize off-site transport of sediment.

After the quarry is exhausted, most stormwater would remain and either evaporate or percolate in place. Off-site runoff at a lesser extent than current conditions would flow into existing drainages and collect at existing low points. Some sedimentation increase would be seen as the quarry removes vegetation and exposes more surfaces to the elements. However, no long-term substantial degradation of surface water quality is expected to occur as a result of the proposed action.

5.0 Indirect and Cumulative Effects

Indirect impacts are those removed in time or distance but still reasonably foreseeable as a result of implementing this alternative. Indirect effects of the action alternative are for the most part addressed above, and are not expected to be major. The proposed action is limited in both scope (the area of the gravel pit) and area of effect (area in and around Orogrande and middle McGregor Range). For the most part, these areas would indirectly experience a benefit from covering range roads and exposed surfaces with gravel.

Cumulative effects are those that result from the incremental impacts of the proposed project when added to past, present, and reasonably foreseeable future actions of the agency or other entities or persons that have activities in the area. Other actions in the ROI could contribute to cumulative impacts in combination with this alternative. In particular, these activities include ground disturbance resulting from construction of ranges and other mission support facilities. However, construction of mission support facilities in this area was anticipated and analyzed in the SEIS. The SEIS included the construction of roads and ranges and the implied use of gravel to improve exposed surfaces. The gravel from the quarry would be used to mitigate wind and water erosion impacts of the construction activities and increases in the Fort Bliss training mission analyzed in the SEIS. Irretrievable use of resources (rock material) would occur as a result of the action alternative; however, the amount removed is miniscule when compared to what is available within the nearby Jarilla Mountains and overall Tularosa Basin area.

SOURCES

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U.S. Army Garrison, Fort Bliss. (2007, April). *Fort Bliss, Texas and New Mexico, Mission and Master Plan Supplemental Programmatic Environmental Impact Statement*.

Offutt, Shane. 2009. Personal communication with John Barrera. April.

PREPARERS

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APPENDIX A

VALUED ENVIRONMENTAL COMPONENT ANALYSIS RATINGS

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VEC / Analysis Rating	VL	L	M	H	Comments
Land Use					
Land Use	X				Land use is already as a quarry/military use
Noise			X		Crusher and truck noise is previous use, however, noise may appear to be new due to recent non-use of the quarry.
Visual Resources			X		Removal of material would leave scar that could be seen from Highway 54 and Town of Orogrande. Mitigated by leaving western ridge intact.
Earth Resources					
Geology & Soils		X			Removal of quarry rocks for gravel is an irreversible use of material
Mineral Resources		X			Ditto
Natural Resources					
Threatened & Endangered Species	X				None present
Federal Wetlands	X				None present
Locally Important Resources	X				None identified
Habitat			X		About 35 acres of Chihuahuan desert habitat would be lost.
Cultural Resources					
Archaeological	X				Two ineligible sites located in area. No other surface archaeological sites affected.
Historical Structures	X				None present
Native American Consultation	X				Not a culturally important site.
Air Quality					
Air Quality			X		Quarry activities would generate dust; however, Orogrande is upwind of site during prevailing westerly winds.
Green-house gases (GHG)	X				Crusher and trucks would generate de minimis GHG, but having a local quarry would create less GHG emissions when compared to using an off-installation quarry.
Water Resources					
Water Demand & Infrastructure	X				Some water may be used for dust control if prevailing winds change to the east.
Wastewater Demand & Infrastructure	X				None needed
Surface Water Quantity / Quality			X		None located within or near the site, mostly beneficial affect due to reduced erosion of roads.

VEC / Analysis Rating	VL	L	M	H	Comments
Groundwater Quantity / Quality	X				Groundwater over 300 feet BGL
Transportation					
Traffic & Infrastructure		X			No effect to urban traffic due to remote location; however low beneficial effect on range road infrastructure.
Air Space	X				No effect
Radio Frequency / Spectrum Use	X				No effect
Solid Waste / Hazardous Materials					
Solid Waste	X				None would be generated
Hazardous Materials / Waste	X				None would be generated. Used POL from crusher would be disposed per regulatory requirements.
Socioeconomics					
Population & Housing	X				Action small w/no effect on local economy
Business, Employment, & Income	X				None
Public Services	X				None
Environmental Justice	X				None
Facilities					
Land / Easement Acquisition	X				None
Construction					None
Operations					
Safety	X				Safety regulations would be observed at all times.
Internal Encroachment	X				No encroachment issues
External Encroachment	X				No encroachment issues

APPENDIX B

ELEVATION ANALYSIS OF OROGRANDE QUARRY PROJECT

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ORO GRANDE QUARRY ANALYSIS

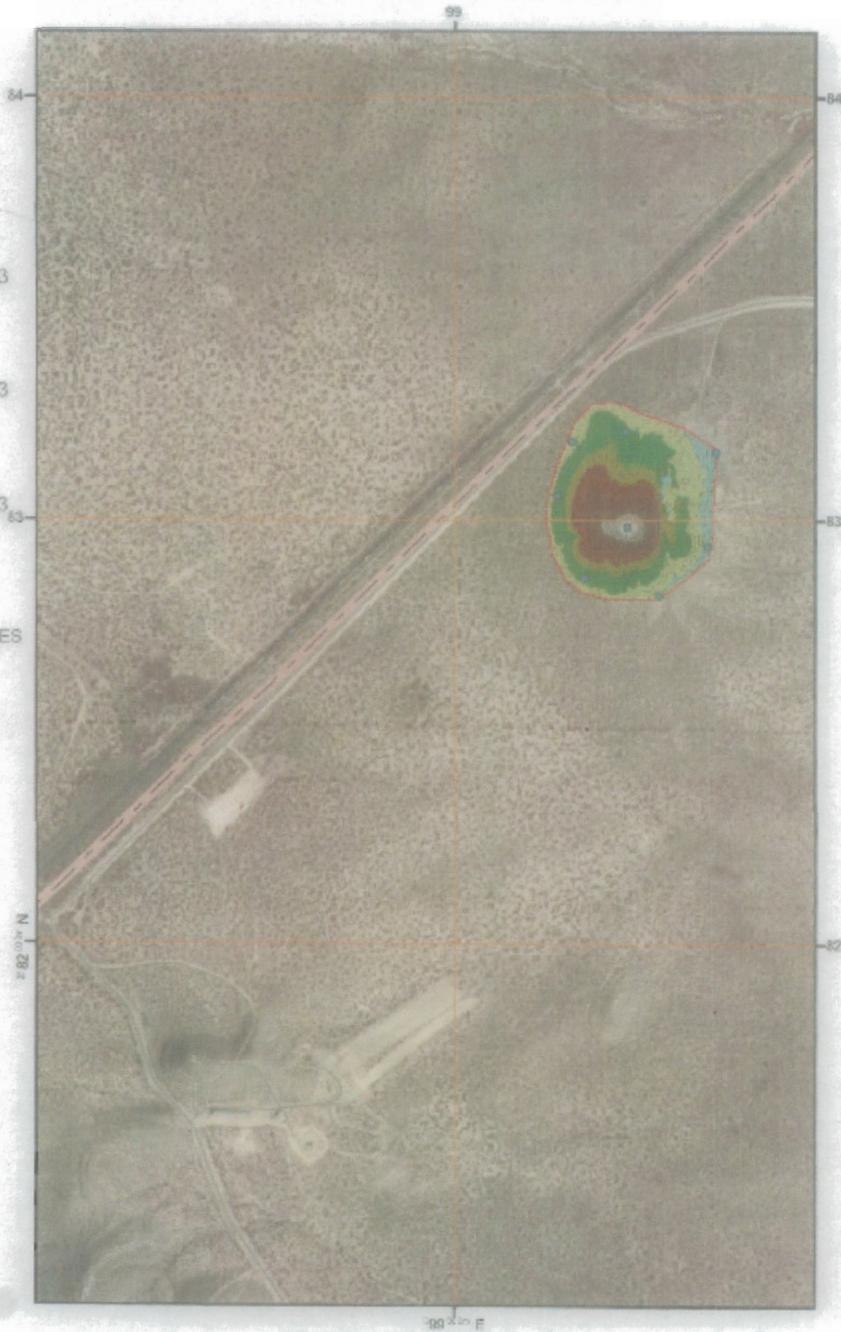
Legend

- GPS pts
 - PERIMETER
- ### Elevation (meters)
- | |
|---------------------|
| 1299.333 - 1302 |
| 1296.667 - 1299.333 |
| 1294 - 1296.667 |
| 1291.333 - 1294 |
| 1288.667 - 1291.333 |
| 1286 - 1288.667 |
| 1283.333 - 1286 |
| 1280.667 - 1283.333 |
| 1278 - 1280.667 |

2D AREA = 36.46 ACRES
SURFACE AREA = 38.96 ACRES
VOLUME:
41,810,870 CUBIC FEET
1,183,952 CUBIC METERS



map scale
1:12,500



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APPENDIX C

SITE PHOTOS OF OROGRANDE QUARRY PROJECT

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Site Photo 1: Orogrande Quarry hill as viewed from Highway 54. Photo is foreshortened by use of a telephoto lens and appears closer than actual. Black line that traverses the hill from left to right delineates the ridge that would be left behind to sustain visual qualities of the view.



Site Photo 2: Existing quarry operations including defunct crusher to the right are shown here.