United States Department of the Interior
Bureau of Land Management

Environmental Assessment
DOI-BLM-CA-D0500-2014-011
For the
KAT Bentonite
Mining Plan

CACA-48550

January 2014

Location:
Portions of
Section 30 & 31,
Township 28 South,
Range 41 East of the
Mt. Diablo Base and Meridian
San Bernardino County, California

Applicant/Address:

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MINING & RECLAMATION PLAN
PLAN OF OPERATION
For
KAT BENTONITE MINE
DOI-BLM-CA-D0500-2014-011

CHAPTER 1
INTRODUCTION AND NEED FOR THE PROPOSED ACTION

INTRODUCTION

California Bentonite, Inc. has applied for an additional mineral materials contract to mine clay at a deposit (Kat Bentonite Mine) in San Bernardino County at a location near the crest of the Summit Range approximately eight (8)± miles Northerly of Highway 395 along Trona Road and approximately one half (0.5)± mile Westerly of Trona Road along a dirt road to the existing mine. An environmental assessment for the Kat Bentonite Mine was originally approved in September of 1998 (CA065-NEPA-97-162).

Clay has been intermittently mined at this site from 1931 to the early 1970's and again from 1995 to 2012. Underground mining was conducted from near vertical shafts and horizontal drifts at 50 feet, 100 feet and 150 feet levels. Present surface disturbance within the mining area includes two of the mine shafts collapsed and associated cement pads, stockpiles and absence of vegetation over most of the area within the mine boundary. The general area is popular as an off-road vehicle route and camping area and this use has contributed to the denudation of the site. The area within the mining boundary is approximately 27.4 acres. Within this area, 925,890 cubic yards of clay will be mined in four phases with approximately 24,000 cubic yards per year.

The involved lands are within the Spangle Hills Off-Highway Vehicle Open Area and are classified for Intensive Use. The site is near, but outside the boundaries of the Habitat Conservation Areas outlined by the Western Mojave Management Plan. In 1998 this site was considered for a sale of 1,000,000 yards.[3] An environmental assessment was prepared (case CACA-40723, CA065-NEPA-97-162, FONSI signed 9/30/1998), but the proponent at that time did not commit to a contract, possibly due to insufficient market. The current proponent, California Bentonite Inc., purchased 10,000 yards^3 from this site in 2008 (CACA-48550A, categorical exclusion CA-650-2008-128). Categorical Exclusions may be used for disposals up to, but not more than 50,000 yards^3 or 5 acres. The current proposed action is thus too large to be considered for a Categorical Exclusion.

This present environmental assessment has been prepared in compliance with the National Environmental Policy Act (NEPA). Its purpose is to analyze the impacts of the proposed action and alternatives, and to aid selection of appropriate mitigation measures to eliminate or lessen environmental impacts.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The BLM's purpose is to respond to an application for a material sale for common clay located on public lands. The BLM's need to do so is established by the Federal Land Policy and Management Act of 1976 (FLPMA) and by Mineral Material regulations 43 CFR 3600. It is the BLM's purpose to respond to this application while ensuring compliance with applicable land management plans, protection of resources, and compliance with Federal and State laws related to environmental protection.

The Federal Land Policy & Management Act of 1976 states it is the policy of Congress to manage the public lands in a manner that recognizes the Nation's need for domestic sources of minerals (43 USC 1701(a)(12)). It is equally the policy of Congress to manage public lands in a manner that will protect environmental, archeological & other values, and provide for recreation and human occupation and use (43 USC 1701(a)). FLPMA provides for management of public lands under appropriate land use plans, including the California Desert Conservation Area (CDCA) plan. Mineral material disposals are discretionary actions. BLM thus has a need to render a decision on this request for disposal of materials from public land. BLM's purpose is to comply with the CDCA management plan and its amendment, the Western Mojave (WEMO) management plan when responding to this request.

CONFORMANCE WITH BLM LAND USE PLAN(S)

This action is subject to the California Desert Conservation Area Plan (CDCA), dated 1980 and subsequent amendments.

A Plan of Operation and Reclamation Plan has been prepared and submitted by the project proponent for the purpose of obtaining a mineral materials contract for clay from the BLM. The California Bentonite, Inc. mining project is consistent with the California Desert Conservation Area (CDCA) Plan, which seeks to "continue to recognize ways of access and opportunities for exploration and development on public lands which are assessed to have potential for mineral resources of local and State importance", (CDCA Plan, 1980, pg 95). The CDCA Plan states in the Multiple Use Class Guidelines (Chapter 2, Table 1) that mineral development may be authorized in Class L, M and I lands subject to the requirements of NEPA.

The CDCA Plan has been reviewed and is has been determined that the proposed action is not specifically prohibited and does not conflict with the Plan's objectives and conforms with the land use plan terms and conditions (as required by CFR 1610.5).

The project area involves lands classified as Intensive use under the CDCA Plan as amended. Its purpose is to provide for concentrat3ed use of lands and resources to meet human needs. Reasonable protection will be provided for sensitive natural and cultural values. Mitigation of impacts on resources and rehabilitation of impacted areas will occur insofar as possible" (page 13 of California Desert Conservation Area management plan.

RELATIONSHIPS TO STATUTES, REGULATIONS AND OTHER PLANS

Air Quality

The Mojave Desert Air Quality Management District (MDAQMD) has state air quality jurisdiction over the project area. The MDAQMD issued a set of rules to implement the State Implementation Plan (SIP) (Rule 403.1, 11/25/96) which apply to the proposed action. These rules include the need for permits for stationary sources such as engines, screening plants, conveyors and such, as well as fugitive dust emissions. This action requires no permits.

Because the project is within a non-attainment area, section 176(c) of the Clear Air Act (CAA), as mended (42 U.S.C. 7401) et seq.) and regulations under 40 CFR part 51 subpart W, with respect to the conformity of general Federal actions to the applicable implementation plan (SIP) apply to this project. Under those authorities, "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 applicable implementation plan".

Under CAA at 176(c) and 40 CFR part 51 subpart W, a Federal agency must make a determination that a Federal action conforms to the applicable implementation plan before the action is taken.

Water Quality

Clean Water Act (CWA) Section 401 water quality certification program. CWA Section 401 gives the State Water Resources Control Boards (SWRCB) and the Lahontan Regional Water Quality Control Board (RWQCBs) the authority to regulate through certification any proposed federally permitted activity which may impact water quality. Among such activities are discharges of dredged or fill material permitted by the U.S. Army Corps of Engineers under CWA Section 404 (e.g., fill of wetlands or other water bodies for development, flood control channelization and channel clearing, levee construction and navigational dredging). The State may issue, condition, deny or waive certification for such discharges. Certification or waiver of certification must be based on finding that the proposed discharge will comply with water quality standards. The RWQCBs take the lead role in reviewing applications. If the State conditions the certification, the conditions must be included in the federal permit or license. If the State denies certification, the federal permit or license may not be issued. This project is within the Lahontan Region and under the jurisdiction of the Lahontan Regional Water Quality Control Board.

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) is a State of California law pertaining to mining and reclamation. SMARA is administered by the respective County Planning Department where the mine is located. Upon approval by BLM of the Plan of Operation and Reclamation Plan for the Kat Bentonite Mine, the Plan of Operation and Reclamation Plan must be submitted to San Bernardino County based on the Memorandum of Understanding between the US Department of Interior and the State of California dated October 19, 1992 (Memorandum of Understanding CA920-93-01). The County of San Bernardino and the California State Office of Mine and Reclamation will review the Reclamation Plan for compliance with SMARA. The County of San Bernardino requires at letter of approval or copy of a mineral materials contract as proof that the Plan of Operation and Reclamation has been reviewed and approved by the BLM.

Wildlife

A number of public laws, acts and executive orders provide direction to the BLM in managing wildlife resources. Some of these are the: National Environmental Policy Act (NEPA). Endangered Species Act (ECS) of 1973 (as amended), Sikes Act, Executive Order No. 11514, Protection and Enhancement of Environmental Quality, Federal Land Policy and Management Act (FLPMA) of 1976. The BLM has translated applicable parts of the laws, acts and executive orders into policies and guidance, which are contained within the BLM manual system. Manual 6840 provides direction to the wildlife program for Threatened and Endangered Wildlife.

Cultural Resources

The regulatory requirements set forth in the Antiquities Act of 1906, the Archaeological Resources Protection Act of 1979, and the National Historic Preservation Act of 1966 (as amended), provide direction to the BLM in managing Cultural Resources on Public Lands. BLM has developed a National Programmatic Agreement (National PA) that governs the manner in which the BLM shall meet its responsibilities under the National Historic Preservation Act (NHPA). The State Protocol Agreement between the California BLM, the California Office of Historic Preservation, and the Nevada State Historic Preservation Office has been developed pursuant to provisions of the National Programmatic Agreement (Appendix A) to direct the specific manner in which California BLM will meet the responsibilities of NHPA.

Pertinent Federal and State Laws

Title	Reference	Subject
(Federal law) Materials Act of 1947	30 USC 601	Provides for the sale of mineral materials
Federal Land Policy Management Act of 1976. (FLPMA)	43 USC 1701	Governs the management of public lands by the Bureau of Land Management
National Environmental Policy Act of 1969 (NEPA)	42 USC 4321	Requires federal agencies to consider the environmental effects of their actions
National Historic Preservation Act of 1966 (Section 106)	16 USC 470f	Requires federal agencies to consider the effect of an undertaking or license on any site listed in or eligible for listing in the National Register of Historic Places.
Endangered Species Act	16 USC 1531	Requires that any action authorized by a federal agency not jeopardize the existence of any threatened or endangered species.
(Federal Regulation) Mineral Materials Disposal	43 CFR 3600	Federal regulations governing the disposal of mineral materials from public lands.
(State law) California Surface Mining & Reclamation Act of 1975. (SMARA)	§2710, California Public Resources Code.	State law governing the reclamation of lands affected by mining.

The proposed action is a mineral materials sales contract and would be authorized under Title 43 CFR 3602.

CHAPTER 2
DESCRIPTION OF ALTERNATIVES

INTRODUCTION

EA number CA065-NEPA97-162 was originally completed September 30, 1998 in response to an application from California Lightweight Pumice, Inc. BLM determined in 1998 that a 31-acre clay pit would have no significant impact on the environment. The company did not implement the proposal. In 2007 California Bentonite, Inc. acquired rights to the Kat Bentonite Mine placer claims from California Lighweight Pumice. California Bentonite applied to BLM for a sale of 10,000 yards³, and BLM issued a Mineral Material contract for five acres and 10,000 yards³ to California Bentonite, Inc. on September 10, 2008. The sale was completed and California Bentonite seeks to acquire a larger contract in the same area.

BLM has established a list of actions eligible for categorical exclusion from analysis under the National Environmental Policy Act. This includes "Disposal of mineral materials, such as sand, stone, gravel, pumice, pumicite, cinders, and clay, in amounts not exceeding 50,000 cubic yards or disturbing more than 5 acres, except in riparian areas (516 DM 11.9(F)(10)). The action described below exceeds the amount eligible for consideration under the categorical exclusion list. The present assessment is prepared in conformance with the National Environmental Policy Act. This present assessment concentrates on two alternatives: the Proposed Action and No Action alternatives

PROPOSED ACTION

California Bentonite, Inc. has requested an additional mineral materials contract for the Kat Bentonite Mine. This analysis is limited to a site on public lands within the Summit Range located in San Bernardino County, California. The affected area is approximately 8± miles North of Highway 395 and approximately 12± miles southwest of the City of Ridgecrest (see Figures 1 and 2, below) The proposal describes mining 925,000 cubic yards through a period over thirty years, encompassing a 27.4-acre pit and a 2.3-acre loadout facility.

Open pit mining will be done within a rectangular area 660 feet wide and 1810 feet long (27.4 acres). The operator proposes to expand the existing access route to a 20-foot width, and place a 2.3-acre loadout site immediately north of the main pit. The 27.4-acre pit will grow in 4 more-or-less equal phases. Phase 1 begins with the area immediately next to and east of center, Phase 2 is the eastern quarter of the site, Phase 3 immediately west of the center, and Phase 4 finishes with the western quarter of the site.

The maximum depth of the pit will be 30 feet. Clay is present from the surface to a depth of 150 feet at the bottom of the old mine shafts. There is very little overburden occurring only in small areas where sand and dirt has been transported by wind. Normally, the top 6" of soil would be salvaged and stockpiled to be used in reclamation. However, only an estimated 15-20% of the area has any vegetation with associated growth medium. Where available, that top 6" will be stockpiled for future use in reclamation. The general area is heavily disturbed, exposes hard clay over much of the surface and supports little vegetation. Mining will be done utilizing one bulldozer, one rubber tired loader and one water truck for dust control. No screening or processing of the material will be done onsite; the mined material will be stockpiled then loaded on trucks to be taken to California Bentonite, Inc. facilities in Bakersfield for screening and processing. At full production an average of 4 to 5 truckloads of material will removed from the mine on a daily basis. The maximum number of truck loads would be 15 daily. There will be no fuel stored on site, refueling and servicing of the equipment will be done with a service truck. There will be a 20 foot by 500 foot asphalt pad where

all maintenance and refueling will occur. This pad shall be placed near the entrance to the open pit and shall have a containment berm constructed on the downstream side. The pad and the berm shall be removed during reclamation. All trash will be removed on a daily basis by the employees working at the mine. A portable toilet will handle sanitation needs and bottled water will be furnished for workers. Due to the remote location cell phones will be used for communication.

A fence will be erected at the top of the 5-foot berm around the perimeter of the mine and processing area to prevent accidental entry into the open pit and for security of the mining and processing equipment. The access road from Trona Road to the mine will be widened to allow two-way traffic. Warning signs will be posted at 300-foot intervals around the perimeter of the mine stating "DANGER OPEN PIT MINE". The access road will be watered to control dust on an as needed basis. Speed limit (15mph) and warning signs will be installed along the access road. Truck drivers and employees will be instructed that wildlife have the right-of-way on the access road and around the mine.

Reclamation

All operations regarding reclamations will be conducted in accordance with the BLM regulations, SMARA and County of San Bernardino's mining and reclamation laws and ordinances. The open pit will be sequentially mined and reclaimed. In mined out areas, the available overburden will be backfilled into the pit bottom and slopes. Pit slopes will be graded to a maximum of 3:1 (h:v) or flatter. Any stockpiled growth media will be spread over the slopes. If natural revegetation has not occurred after 3 years, reseeding shall be provided with a seed mix of native plants. The reclamation plan proposes a success rate of at least 10% cover and 40% diversity based on adjacent undisturbed areas. At the end of mining, all overburden and any unused material stockpiles will be graded into the pit and any structures and equipment including the asphalt pad will be removed from the site. The following seed mix will be used if natural revegetation does not occur.

Atriplex polycarpa	Saltbush
Ericameria nauseosa	Rabbitbrush
Ambrosia (Hymenoclea) salsola	Cheesebush
Ambrosia dumosa	Burro Bush
Eriogonum fasciculatum	California buckwheat
Larrea tridentata	Creosote bush

NO ACTION ALTERNATIVE

Consideration of the No Action Alternative forms the basis from which other alternatives, including the Proposed Action, are evaluated. In this case selection of the No Action Alternative means not issuing a mineral material sale contract. Other than reclamation of the 2008 sale area, the historic mining disturbance would remain as it exists now. Natural revegetation would proceed slowly over a period of decades to a century or more. The area would continue to be used for off-road vehicular recreation.

The Ridgecrest BLM office reviews new mineral material applications and makes a decision to approve or deny based on known environmental impacts and a consideration of the economic and public benefits attached to the production of a mineral material resource. The BLM has discretion

to approve or deny applications under the 43 CFR 3600 regulations. The BLM previously approved mining at the Kat Bentonite Mine because it is located in an area of existing surface disturbance. Reclamation of the site at the end of mining was expected to improve vegetative cover and habitat over existing conditions. The mining operation was, and still is expected to produce a commercial material useful in industry and in consumer products. The impacts of the Kat Bentonite Mine can be reduced through environmental analysis and additional mitigation measures. In this case No Action does not mean no further usage. While the No Action Alternative means no further sale contracts would be issued at this site, the area still has a Multiple Use Classification for Intensive Use and is within the Spangler Hills Open Area. No Action means the area would continue to be used and sporadically occupied by off-road enthusiasts within the Spangler Hills Open Area.

CHAPTER 3
AFFECTED ENVIRONMENT

INTRODUCTION

A description of the affected environment can be found in the California Conservation Area Plan (1980) EIS and is incorporated by reference.

The following resources (critical elements of the human environment) have not been identified with the area of the Kat Bentonite Mine or alternatives, and if present, are deemed not affected and will not be addressed further in this document. These resources include:

Floodplain, Wetlands and Prime and Unique Farm Lands, Wild and Scenic Rivers, Area of Critical Environmental Concern, Wilderness Areas, Visual Resources, Native American issues and socioeconomic resources.

The critical elements of the human environment that were identified by BLM resource specialists that may be impacted by the Kat Bentonite Mine are analyzed as follows.

AIR QUALITY

Much of the time, air quality throughout the project area is good. There are, however, times that the area does not meet air quality standards due to locally generated and/or transported in pollutants. Currently the area has been classified as non-attainment areas for ozone and PM10 under the State and/or National Standards. The project area is within the USEPA Trona/Searles Valley PM10 Planning Area. This area is a federal non-attainment area for PM10. A State Implementation Plan (SIP) has been prepared by the MDAQMD for the Trona/Searles Valley Planning Area which identifies sources of PM10 emissions and control measures to reduce emissions. As a minimum, USEPA requires the application of reasonable available control technology (RACT) to stationary emission sources and reasonable available control measures (RACM) to mobile sources and new source review and permitting. No on-site processing is proposed by California Bentonite, Inc. for the Kat Bentonite Mine.

SOILS

The soils exist on the site are shallow and fine textured. Due to the limited amount they are important as a growth medium and repository for seeds and microflora. Soils in the area are susceptible to accelerated erosion from wind and water especially when the surface has been

disturbed. Approximately 50% of the present surface area has been disturbed by previous mining and recreational vehicle use.

WATER RESOURCES

The Kat Bentonite Mine is not expected to have adverse impacts on water resources and therefore, no 401 certification will be necessary. Ground water is not present to 150± feet (the depth of the old mine shafts) and mining will not exceed 30 feet in depth. The project area is at the low point of a closed 211–acre watershed basin. Excavation of the mine pit will leave a depression which will collect rain water and surface runoff during high precipitation storm events. The clay acts as a sealant and any water entering the pit can only exit through evaporation. The site collects water under natural conditions, and thus ponding in the open pit will not markedly alter existing circumstances. No permanent water sources or any wetlands are involved in the Kat Bentonite Mine.

VEGETATION

The vegetative community in the general project area is Mojave Creosote Bush Scrub. Major perennial plants include Creosote bush (*Larrea tridentate*). The vegetation on the project site has been influenced by the geology and past uses. Clay soils and deposits which are the basis of the subject sale have influenced plant densities and species over much of the area. In addition, OHV use on the site has reduced plant densities. As a result, there are few perennial plants within the boundaries of the existing mine. The clay areas are dominated by annual plants. All of the vegetation on the site is typical for the area and does not contain any specialized endemic plants. A total of 53 species were observed in the general project area by L&L Environmental biologist during 2011. All of the plant species that were observed by L&L Environmental on or near the project site are listed below.

PLANTS

Latin Name	**Common Name**
EPHEDRA	CEAEEPHEDRA FAMILY
Ephedra s	
Ephedra nevadensis	Desert tea
APIACEAE	PARSLEY *FAMILY*
Lomatium Mojavernse	Mojave wild parsley
ASTERACEAE	ASTER FAMILY
Acamptopappus sphaerocephalus	Desert goldenhead
Ambrosia acanthicarpa	Annual sandbur
Ambrosia dumosa	Whitebursage, burrobush
Chaenactis fremontii	Fremont pincushion
Chrysothamnus nauseosus	Common rabbitbrush
Chysothamnus viscidiflorus var. viscidiflous	Curl-leaf rabbitbrush
Coreopsis bigelovii	Bigelow's tickseed
Ericameria cooperi	Cooper goldenbush
Ambrosia (Hymenochlea) salsola	Cheesebush
Lasthenia californica	Goldfields
lessingia glandulifera	Valley lessingia

	Malacothrix coulteri	Snakehead
	Malaconthrix glabrata	Desert dandelion
	Stephanomeria parryi	Parry's Rock-Pink
	Stephanomeria pauciflora	Desert straw
	Syntrichopappus fremontii	Fremont'ssyntrichopappus
	Tetradymia spinosa	Cotton-thorn
	Tetradymia stenolepis	Mojave Cottonthorn
	Xylorhiza tortifolia	Mojave woolyaster
BORAGINACEAE		BORAGE FAMILY
	Amsinckia tessellata	Checker fiddleneck
	Cryptantha sp.	Cryptantha
	Pholisma arenarium	Scaly-stemmed sand plant
	Plagiobolthrys sp.	Unid. annual popcornflower
BRASSICACEAE		MUSTARD FAMILY
	Brassica tournefortii	Wild turnip
	Caulanthus cooperi	Cooper jewelflower
	Lepidium fremontil	Desert pepper-grass
	Lepidium lasiocarpum (?)	Sand peppergrass
BRASSICACEAE cont.		MUSTARD FAMILY
	Sisymbrium orientale	Hare's ear cabbage
	Thelypodium lasiophyllum [Guillenia lasiophylla]	California mustard
CACTACEAE		CATUS FAMILY
	Opuntia basilaris v. basilaris	Beavertail cactus
	Opuntia echinocarpa	Silver cholla
CARYOPHYLLACEAE		CARNATION FAMILY
	loeflingia squarrosa	California iceflingia
CHENOPODIACEAE		GOOSEFOOT FAMILY
	Atriplex confertifolia	Shadscale
	Atriplex polycarpa	Allscale (saltbush)
	Grayia spinosa	Spiny hop-sage
	Krascheninnikovia fanata	Winterfat
*	Salsola tragus	Russian thistle
EUPHORBIACEAE		SPURGE FAMILY
	Chamaesyce albomarginata	Rattlesnake week
	Eremocarpus setiger	Doveweed
	Stillingia pauciradiata	Mojave stillingia
FABACEAE		PEA FAMILY
	Acacia greggii	Catclaw acacia
	Lupinus sp.	Lupine sp.
	Psorothamnus arborescens	California dalea, Mojave indigo bush
	Psorothamnus fremontii	Fremont's indigo bush
	Senna armata	Desert senna
GERANIACEAE		GERANIUM FAMILY
*	*Erodium cicutartium*	Red-stemmed filaree
HYDROPHYLLACEAE		WATERLEAF FAMILY
	Phacelia crenuiata	Heliotrope phacelia
	Phacelia distrans(?)	Common heliotrope
	Phacilia fremontii	Fremont phacelia
KRAMERIACEAE		KRAMERIA FAMILY
	Krameria grayii	White rhatany
LAMIACEAE		MINT FAMILY

	Salazaria Mexicana	Bladder sage, paper bag bush
	Salvia carduacea	Thistle sage
	Salvia columbariae	Chia
LOASACEAE		STICK-LEAF FAMILY
	Mentzelia spp.	Unid. Annuals (2 or more spp.)
NYCTAGINACEAE		FOUR O'CLOCK FAMILY
	Mirabilis bigelovii(?)	Desert wishbone bush
ONAGRACEAE		EVENING PRIMROSE FAMILY
	Camissonia boothii sp.	Booth's evening primrose
	Camissonia boothii ssp. Desertorum	Desert Primrose
	Camissonia campestris	Mojave sun cup
POLEMONIACEAE		PHLOX FAMILY
	Gilia sp.	Unid. Annual
	Eriastrum densifolium Mojavense	Mojave woolly-star
	Eriastrum eremicum	Desert woolly-star
	Eriastrum sp.	Unid. Annual woolly-star
POLYGONACEAE		BUCKWHEAT FAMILY
	Centrostegia thurberi *(Chorizanther thurberi)*	Thurber spineflower
	Chorizanthe brevicornu	Brittle spineflower
**	*Chorizanthe spinosa*	Mojave spineflower
	Eniogonum sp.	
	Eriogonum sp.	
	Eriogonum angulosum	
	Eriogonum deflexum	Skeleton weed
	Eriogonum fasciculatum *Var. polifolium*	California buckwheat
	Eriogonum gracillimum	Slender stemmed buckwheat
	Eriogonum inflatum	Desert trumpet
	Eriogonum trichopes	Little trumpet
	Eriogonum viridescens	Green Buckwheat
	Loeseliastrum matthewii	Desert Calico
	Rumex hymenosepalus	Wild rhubarb
RUTACEAE		CITRUS FAMILY
	Thamnosma Montana	Turpentine boom
SALICACEAE		WILLOW FAMILY
	Salix sp.	Willow
SOLANACEAE		NIGHTSHADE FAMILY
	Lycium andersonii	Anderson thornbush
	Lycium cooperi	Peach desert thorn
TAMARICACEAE		TAMARISK FAMILY
*	*Tamarix ramosissima*	Tamarisk
ZYGOPHYLLACEAE		CALTROP FAMILY
	Larrea tridentate	*Creosote bush*
LILIACEAE		LILLY FAMILY
	Allium sp.	Unid onion
	Calochortus kennedyi	Desert mariposa lily
	Yucca brevifolia	Joshua tree
POACEAE		GRASS FAMILY
*	*Bromus madritensis v. rubens*	Red brome

	(B rubens)	
*	*Bromus tectorum*	Cheat grass
	Pennisetum setaceum	African fountaingrass
POACEAE cont.		GRASS FAMILY
	Poa secunda	Nodding bluegrass
*	*Schismus barbatus*	Mediterranean schismus
	Stipa hymenoides	Indian ricegrass
	[Achnatherum hymenoides]	
	Stipa speciosa	Desert needlegrass
	[Achnatherum speciosum]	

Special Status Plants:

The Natural Diversity Data Base (NDDB) database was checked for special status plants Twesselman's poppy (*Eschscholtzia minutiflora ssp twisselmannii)* was found approximately one mile West Southwest of the mine site. It has not been found on the mine site.

WILDLIFE

A total of 14 wildlife species were observed in or near the Kat Bentonite Mine during a series of surveys conducted in 2011 by L & L Environment for California Bentonite, Inc.. A list of all observed wildlife species are listed below.

REPTILIA	REPTILES
TEIIDAE	TEIID LIZARD FAMILY
Cnemidophorus	Whiptail
VIPERIDAE	VIPERS
Crotalus cerastes	Sidewinder
AVES	BIRDS
CATHARTIDAE	VULTURES
Cathartes aura	Turkey vulture
COLUMBIDAE	PIGONS AND DOVES
Zenaida macroura	Mourning dove
CUCULIDAE	CUCKOOS
Geococcyx californianus	Greater roadrunner
TYTONIDAE	BARN OWLS
Tyto alba	Common barn owl
STRIGIDAE	TYPICAL OWLS
Speotyto cunicularia	Burrowing owl
PHASIANIDAE	GROUSE AND QUAIL
Callipepia californica	California quail
ALAUDIDAE	LARKS
Eremophila alpestris	Horned lark
CORVIDAE	CROWS AND JAYS
Corvus coraxclarionensis	Common raven
EMBERIZIDAE	SPARROWS, WARBLERS, TANAGERS
Chondestes grammacus	Lark sparrow

LANIIDAE	SHRIKE FAMILY
Lanius ludovicianus	Loggerhead shrike
MAMMALIA	MAMMALS
CANIDAE	FOXES, WOLVES AND COYOTES
Canis latrans	Coyote
LEPORIDAE	RABBIT FAMILY
Lepus californicus	Black-tailed jackrabbit

Daytime field surveys were conducted on January 11th, February 16th and February 26th in 1998 by BLM Wildlife Biologist Joyce Schlachter, Surveys were conducted on May 8, 14, June 19, 27, 30, August 7 & 9 of 2011 by L&L Environmental. The only animal observed during the surveys by Ms Schlachter was the common raven, most likely due to the time of the year, cool temperatures and winds. Many animals are hibernating or inactive during this time of year. No threatened, endangered, or sensitive species were observed by Ms. Schlachter. L & L Environmental biologist observed 14 wildlife species during the series of surveys conducted in 2011. A list of all observed wildlife species are listed above. Since L & L Environmental biologists conducted their surveys in the spring time, they observed more wildlife than Ms. Schlachter did in February.

Threatened, Endangered and Sensitive Species

Desert Tortoise

The Kat Bentonite Mine is located within the range of the Desert Tortoise, but is not within designated Critical Habitat. Under the West Mojave Plan, the area is located outside of the Desert Wildlife Management Area (DWMA) area. The site is heavily disturbed by mining and off-road vehicle use associated with the Spangler Off Highway Vehicle Area. Camping and ORV use was on-going at the time of the survey. Habitat was considered marginally suitable for the desert tortoise.

Previous surveys by BLM biologists did not identify desert tortoise on the site, but found two collapsed burrows 0.25 miles from the site (Schlachter 1998). During the current survey no desert tortoise, desert tortoise burrows, or desert tortoise sign was observed. A single potential burrow was observed approximately 275 feet offsite, north of the northwestern corner of the project area. This burrow appeared to be an old, abandoned burrow with no desert tortoise sign (scat, track, or other evidence). An examination of the burrow was conducted with the use of a mirror to show the interior of the burrow. This revealed the interior of the hole took a relatively steep vertical drop to a plateau. No evidence of current or past use by desert tortoise was found. No additional burrows, tortoise, or sign were observed during the offsite transects surrounding the site, nor within the 150 meter buffer survey area conducted as a requirement of the burrowing owl survey (L&L Environmental 2011).

Mojave Ground Squirrel

The Mojave ground squirrel (*Spermophilus Mojavensis*) is state listed as threatened and could occur in the project vicinity. Creosote bush scrub is a suitable habitat for the MGS; however, the habitat has been extensively disturbed, significantly more so than in 2001 when previous surveys were conducted. L&L concurs with the BLM biologist that the habitat is unlikely to support sufficient

forbs to sustain a viable population of MGS. No MGS were observed or detected during the general biological survey. No other sensitive or special status species have the potential to occur in the vicinity.

Bats

Potential habitat for bat species occurs onsite in the form of two inactive mine shafts that have been fenced. It is doubtful that the mines offer suitable habitat, but if they do it is not suitable for more than a few individual bats. It is suitable for a maternity or hibernation colony. The mine shafts were examined from just inside the entrance during the daylight hours. Burned timber was present at the entrances of the mines, but no other signs of vandalism were encountered. No bats or sign of bats (i.e., guano) was observed. Sensitive bat species that have a low potential of occurrence onsite include the pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Plecotus townsendii*). The entrances to both the mine shafts are caved in, possibly due to present mining or vandalism. There are other open mine shafts near the Kat Bentonite Mine that could be occupied at this time. No night time surveys were conducted other than the survey by BLM wildlife biologist Schlachter in 1998.

Burrowing Owl

Previous surveys by BLM biologist Joyce Schlachter identified a burrowing owl burrow and pellets, but did not identify the location (Schlachter 1998). During the 2011 focused survey eight burrowing owls were observed within the eastern mine, along with multiple perching locations and significant amounts of scat. Two of the owls observed in the eastern mine shaft were observed moving from that mine to a fence near the western mine shaft where burrowing owl scat was observed within the mine. Both abandoned mineshafts are directly within the 28.8-acre area proposed for excavation (see mineshaft symbols with the Project Area, Figure 2). An individual perching location was also observed near one of the water depressions offsite to the south of the project area. Once the owls were observed, all effort was made to minimize disturbance (L &L Environmental 2011).

CULTURAL RESOURCES

A Class III Cultural Resources inventory encompassing 30.6 acres of the area of potential effect for the proposed action was conducted by L&L Environmental in September 2012 (Irish and Loren-Webb 2013, BLM-CA-065-12-61). This survey updated the Class III cultural resources inventory conducted by BLM cultural resources staff in 1998 of 30.8 acres of the project area and 0.5 miles of access road (BLM-CA-065-98-05).

Two low density surface lithic scatters, sites CA-SBR-9611 and CA-SBR-9612, were identified within the project area in 1998. These sites were evaluated for National Register of Historic Places eligibility during the initial survey, using the California Archaeological Resource Identification and Data Acquisition Program (CARIDAP) for Sparse Lithic Scatters (Jackson et al. 1988) and determined not to be eligible for inclusion on the National Register of Historic Places. Site CA-SBR-9612 was re-identified during the 2012 inventory; site CA-SBR-9611 could not be located within the area of potential effect or immediately adjacent to the project area. No additional cultural resources were identified during the 2012 survey.

At the request of BLM archaeologist, Ashley Blythe, L&L Environmental conducted a review of historic mining records to determine the origin and age of mining features adjacent to the project

area, including adits, shafts, and tailings piles. No further information was located for these resources. The features will not be impacted by the proposed action.

RECREATION

The proposed minesite is within the Spangler Hills OHV Area, located west of the Trona Road and slightly north of BLM Route RM0254 (WEMO Travel Management Area 7, Map 9). The popularity and usage of this particular site can be estimated from aerial imagery publicly available on the internet (http://binged.it/19U7jPH and http:www.geocommunicator.gov . The Spangle Hills Off-Highway Vehicle Recreation Open Area hosts off-road vehicle and major club events offering over 57,000 acres of public land to take riders anywhere their machine and skill levels allow. This area also provides a wide variety of riding opportunities including cross country play, trail riding, advanced technical routes, 4-wheel drive trails, and Enduro, Technique Trials, European Scramble and Hare Hound competitive events. This area provides an uncrowded riding opportunity in the Western Mojave Desert three hours north of Los Angeles. However, there is high recreation use between October and May. Besides all the public users off-road motorcycle and desert truck clubs have made this their home of racing and club events. The main access into Kat Bentonite Mine is a major club event site that will need to have access to the campsites and continual route access to the football field throughout the year.

GEOLOGY AND MINERALS

The area described by this assessment lies immediately south of the Garlock Fault. Published geologic maps show the area composed of Pliocene-aged arkosic sandstone, conglomerate and siltstones. The area is also immediately next to and south of the Garlock Fault, a major east-west lateral fault separating the Basin & Range Province (to the north) from the Mojave Desert Province (to the south). The Garlock Fault is a left-lateral fault having 40 miles of displacement, and roughly parallels the north edge of the Summit Range in this area. The access road to the site is very nearly on the Garlock Fault. The exact origin of this clayey material is undetermined, but might reasonably be associated with increased weathering in the zone near the Garlock Fault area. In 2012 a random grab sample from this section was forwarded to the BLM National Minerals Testing Laboratory in Worland, Wyoming. The lab tentatively identied two forms of zeolite, possibly indicating a deposit for some form of zeolitic clay.

This present is possibly the old location of the Pacific Bentonite Mine ("Mines and Mineral Deposits of San Bernardino County, California"(1953)). It is described as clay layers in a belt of deformed Tertiary sandstones, siltstones and volcanic rocks, consisting of a layer of pale greenish-yellow clay. As of 1953, the clay development workings were described as three inclined underground shafts, the deepest shaft extending 150 feet underground. At that time the material was apparently marketed as a water impedient beneath reservoirs and canals, as a constituent for cleansing preparations and occasionally as a drilling mud and foundry sand binder.

The proposed pit is within or overlaps the northeast quarter of Section 28, Township 28 South, Range 41 East, Mount Diablo Meridian. Active placer mining claims within this quarter include

NAME OF MINING CLAIM	SERIAL NO.	OWNER(S)	CLAIM STATUS
KAT BENTONITE MINE #1-2	CAMC273286-87	K. TEEL & K. TEEL	Last maintenance fees paid 8/26/2010.

			Declared Forfeit 2/2011.
CALCLAY #1	CAMC283509	R.PRAY &J. MATHEWSON	$280 PAID 8/26/2013. MAINTENACE FEES CURRENT
SPLASH	CAMC291993	S.DRIPPON, C. FREEMAN, D. GREENLAND, J. HALL, J. KAPLAN, D. RICE, F. TRUTTA, R. WILKERSON	SMALL MINER CERTIFICATION FILED 8/29/2013. EVIDENCE OF ASSESSMENT FILED 8/29/2013. CLAIM CURRENT.
KAT BENTONITE NO. 1-4	CAMC297076-77, CAMC302153-54	MICHAEL CLIFT	MAINTENANCE FEES PAID 8/23/2013. CLAIMS CURRENT

The KAT BENTONITE MINE Nos. 1-2 were declared forfeit for failure to pay maintenance fees and are pending appeal. The KAT BENTONITE NO. 1-4 placer claims are owned by the Michael Clift, the proponent, and therefore pose no conflict. The CALCLAY placer claim lies to the south and does not overlap the proposed pit. The SPLASH placer claim overlaps and includes the proposed 28-acre quarry site. Federal regulation 43 CFR 3601.14 holds that when a mineral material sale overlaps a mining claim, then

a) BLM may dispose of mineral materials from unpatented mining claims if disposal does not endanger or materially interfere with prospecting, mining, or processing operations, or uses reasonably incident thereto.
b) BLM will ask a mining claimant for a waiver before disposing of mineral materials from a claim. If the mining claimant refuses to sign a waiver, BLM will make sure that disposal of the mineral materials will not be detrimental to the public interest. This includes consulting with the Solicitor's Office, if necessary, before proceeding with the disposal.

Federal Regulation 43 CFR 3602.12 states that

a) When BLM designates tracts for competitive or noncompetitive sale of mineral materials, and notes the designation in the public land records, it creates a right to remove the materials superior to any subsequent claim, entry, or other conflicting use of the land, including subsequent mining claim locations.
b) The superior right under paragraph (a) of this section is part of all contracts and permits BLM authorizes within 2 years after the date we designate the tract. BLM may extend this 2-year period for one additional year for good cause. The right continues for the entire term of the contract or permit and any renewal term. The superior right under paragraph (a) of this section also applies to any subsequent contracts or permits that BLM authorizes within 2 years after the previous contract or permit expires or terminates.
c) This right does not prevent other uses or segregate the land from the operation of the public land laws, including the mining and mineral leasing laws. However, such subsequent uses must not interfere with the extraction of mineral materials.

CHAPTER 4
ENVIRONMENTAL IMPACTS

DIRECT AND INDIRECT IMPACTS

PROPOSED ACTION

This chapter discusses anticipated direct and indirect impacts of the continued mining at the Kat Bentonite Mine on the affected resources and recommends mitigation measures for each measure. In addition irreversible and irretrievable commitment of resources, residual and cumulative impacts are also addressed in this chapter.

Critical Element	Potentially Affected		Critical Element	Potentially Affected	
	Yes	No		Yes	No
Air Quality	X		Soils	X	
ACECs		X	Range/Livestock		X
Cultural Resources		X	Vegetation	X	
Farmlands, Prime/Unique		X	Visual		X
Floodplains		X	T & E Species	X	
Forestry		X	Wastes, Hazard/Solids		X
Fire Mgmt. Objectives		X	Water Quality		X
Lands (Existing rights)		X	Wetlands and Riparian		X
Minerals		X	Wild and Scenic Rivers		X
Nat. Amer. Rel. Concerns		X	Wildlife		X
Paleontology		X	Wild Horse and Burro		X
Recreation	X		Wilderness		X

AIR QUALITY

Direct and Indirect Impacts

Since no processing of the clay material is proposed onsite there will be no air quality permits required. The PM-10 impacts to air quality will be from mining, stockpiles, loading of the clay material on trucks and traveling along the dirt access road to and from the mine.
The mining will generate PM-10 emissions as follows:

Expected PM-10 Emissions using USEPA AP-42 8.3, 8.7 & 11.2

Source	Size	Unit	Emission Factor	PM-10 Factor	Uncontrolled Emissions (lbs)	Control Effect	Controlled Emissions (Lb s)
Stockpiles/storage Per year Per day		Ton	34 lb/ton	51%		95%	
Stripping/Mining		Acres	2400 lbs/ Acre/month	51%		50%	
Bare Ground		Acres	620lb/acre	100%		80%	
Access Road Entrainment Per Year loaded Unloaded Per Day loaded		VMT		36%		95%	

Unloaded							
Yearly totals in lbs & Tons At full production							
Maximum daily totals in lbs and tons							
Conformity deminimus emission level for PM-10 is 100 tons per year.							
Notes: (1) Vehicle miles Traveled from _____tons per year/24 tons per load times .66 miles of road. (2) (3) Emission factor (loaded) (empty) based upon the following: silt content-15%, vehicle speed=15mph, mean vehicle weight=40 (loaded) (empty) tons, number of wheels=18 & # days with measurable rain=15							

Source	Emission controls incorporated into project
Stockpiles/Storage	Water spray to form crust. May use chemicals as necessary
Stripping/Mining	Water spray
Bare Ground	Water spray to form crust. May use chemicals as necessary
Access Road Entrainment	Speed limit 15 MPH, chemical coating and cleaning, water spray

Irreversible and Irretrievable Commitment of resources

No irreversible or irretrievable commitment of air resources would result.

Cumulative Impacts

The cumulative effect area for air resources for the Kat Bentonite Mine is the Trona/Searles Valley PM-10 planning area MDAQMD portion. The expected emission levels are within he levels in the attainment demonstration in the SIP and the cumulative NAAQS 24 hour and one year PM-10 emissions standards.

Recommended Mitigation Measures

1. Continue following applicable state and federal guidelines i.e. reasonably available control measures (RACM) to control PM-10 emissions from unpaved roads, open storage piles and disturbed surface areas. These are required in the SIP and MDAQMD Rules and include the following:

Source Category	**Control Measure**
Unpaved road	Improve road surface Keep any improved road surface clean Control vehicular traffic speed Apply water or dust suppressants
Open storage piles	Use wind screens Use enclosures around piles

	Apply water or dust suppressants
Disturbed surface area	Use fences/barriers Vegetate Apply water or dust suppressants Cover with gravel Compact surface

2. Acquire Necessary MDAQMD permits and keep them current.

3. If the vehicles end up carrying material on to the paved roads, then the road would need to be swept clear to reduce entrainment dust.

4. Use water or dust suppressants as necessary to limit fugitive dust blowing off the site during the work.

5. Curtail activities when wind speeds exceed 25 MPH.

Residual Impacts

Residual impacts to air quality, after application of mitigation measures, include an increase in PM-10 emissions from mining, storage and vehicle activity and combustion emissions from internal combustion engines during the life of these operations. No long term residual adverse effects on Air resources are expected from the Kat Bentonite Mine. Once the mining and reclamation is completed the site should return to pre disturbance levels.

SOILS

Direct and Indirect Impacts

The Kat Bentonite Mine involves the complete removal of the surface and disruption of subsurface materials. The exposed soil surfaces are likely to result in wind erosion and soil losses.

Irreversible and Irretrievable Commitment of Resources

Soil losses due to the mining are irreversible and irretrievable.

Cumulative Impacts

Soil development on the site is very poor and the project would have no significant impact on the regional soils.

Recommended Mitigation

Conduct concurrent reclamation where possible.

Access Road

Drainage control shall be ensured over the entire road. This can be accomplished through the use of crowing and ditching, out-sloping and in-sloping, borrow ditches, drainage dips, low-water

crossings, culverts, natural rolling topography, or turn-out (lead-off) ditches. The following need to be considered:

1. The crown, out-slope or in-slope shall have a grade of approximately 3% (2.5-inch crown on a 14 foot wide road).

2. Every drainage dip shall drain water into an adjacent turnout ditch.

Drainage dip locations for grades over 2% shall be determined by the formula:

$$\text{Spacing interval} = \frac{400}{\text{Road slope \%}} + 100 \text{ feet.}$$

All turn out ditches shall be graded to drain water with a 1% minimum to 3% maximum ditch slope.

The spacing interval for turnout ditches shall be:

0-4%---150 to 350 feet
4-6%---125 to 250 feet
6-8%---100 to 200 feet
8-10%---75 to 150 feet

Berms will be pulled into and incorporated into the road.

Residual Impacts

The mining will result in a partial loss of soils from the site. Regeneration of soils to pre-disturbance levels may take years.

WATER RESOURCES

Direct and Indirect Impacts

The Kat Bentonite Mine involves the complete removal of the surface and disruption of subsurface materials. The exposed soil surfaces are likely to result in water erosion and soil losses. The mine will act as a detention basin during operations, but will not affect downstream flows. During mining operations, a berm will be used to direct flows around the project site and avoid sediment transport off the site. The proposed action will not have a direct or indirect impact on subsurface ground water due to the use of water trucks for dust suppression and no extraction of ground water is proposed.

Irreversible and Irretrievable Commitment of Resources

Impacts to water resources will be minimal based on the use of the berm to direct flows around the site.

Cumulative Impacts

Regional water quality will not be affected or impacts increased by the proposed action.

Residual Impacts

The mining will result in a partial loss of water from the surrounding area, but will not preclude revegetation in the area.

VEGETATION

Some common species of plants will be directly destroyed by the mining.

Irreversible and Irretrievable Commitment of Resources

None

Cumulative Impacts

A slight decrease in total vegetation biomass for the immediate area would occur.

Recommended Mitigation

Implement the reclamation plan to restore the soil biota.
Stockpile topsoil with its seeds and soil biota to reapply as part of the rehab (where possible).
Conduct concurrent reclamation on disturbed sites which are no longer needed for the operation.

Residual Impacts

The removal of vegetation, along with the total removal of the soils and soil biota, would make the natural revegetation very slow. The site may require decades to return to its pre-disturbed condition. Implementation of the reclamation plan and reseeding with native plants would speed site recovery.

WILDLIFE

Direct and Indirect Impacts

The continued mining of the Kat Bentonite Mine would have "no effect" on the desert tortoise or the Mojave ground squirrel, and no significant impacts to any other wildlife are anticipated, provided the stipulations below are followed:

Desert Tortoise

- The Kat Bentonite Mine is expected to continue mining for 38 years. It is possible that desert tortoise could eventually be found in the vicinity of the project. Should this occur, the proponent shall consult with the BLM regarding the installation of a tortoise exclusion fence around the mine site.

- The mine operator shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with the protective stipulations for the desert tortoise and for coordination or compliance with the BLM. The FCR shall have the authority to halt all mining activities that are in violation of the stipulations. The FCR shall have a copy of

all stipulations when work is being conducted on the site. The FCR may be the mine operator, the mine manager, any other mine employee, or a contracted biologist

- Only biologist authorized by the USFWS shall handle desert tortoise.

- The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, public health and safety, and other limiting factors. To the extent possible, previously disturbed areas within the mining site shall be utilized for the stockpiling of the excavated materials, storage of equipment and parking of vehicles. The FCR shall ensure compliance with this measure.

- Trenches and pits shall be sloped no greater than about 30% (3:1). Tortoises that fall in may then be able to climb out of an excavation.

- If a tortoise is seen entering the working area, the operation must shut down, until the tortoise leaves the area.

- Upon locating a dead or injured tortoise, the operator is to notify the BLM. The must then notify the appropriate field office of the USFWS by telephone within three days of the finding.

- Except on County-maintained roads, vehicle speeds shall not exceed 15 miles per hour through desert tortoise habitat.

- Workers shall inspect for tortoises under vehicles and equipment prior to moving them. If a tortoise is present, the worker shall carefully move the vehicle **only if necessary** or when the tortoise would not be injured by moving the vehicle or shall wait for the tortoise to move out from under vehicle.

- All dogs shall be restrained either by enclosure in a kennel or by chaining to a point within the tortoise exclusion fence.

- All trash and food items shall be promptly contained within closed, raven-proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other tortoise predators.

- Structures that may function as raven nesting or perching sites are not authorized except as specifically stated in the plan of operation or notice.

- The BLM has requested that the proponent limit the size of the project area to the area of existing surface disturbance. This reduction would avoid impacts to a relatively undisturbed area of creosote bushes, Joshua trees, etc. which could potentially be used as habitat for wildlife in the near future.

- At the end of the project, disturbed areas, including new access roads, shall be re-contoured and reseeded with an appropriate mixture of native plant species according to BLM specifications. After site rehabilitation, all tortoise exclusion fences, if required, shall be removed.

Burrowing Owl and Bats

The proponent must stay a radius of 25 meters (about 75 feet) away from the 2 shaft sites to prevent disturbance to burrowing owls and to bats, in case bats are using the mine habitat. In the Ridgecrest BLM area, burrowing owls tend to be permanent residents and use their burrows year-round. Suitable burrows are relatively rare, and when they are located as occupied, they should be protected.

Burrowing Owl Mitigation

Mitigation measures for the burrowing owl must be followed. These measures are recommended by California Department of Fish and Wildlife and found in these documents:

http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf

http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf

The proponent shall have a biological consultant conduct focused, protocol surveys for burrowing owls since the last survey was conducted in 2011 and burrowing owls were found using abandoned mines in the project area. Biologists must follow CDFW protocol survey described in ----- http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf

1) If the focused, protocol surveys **do not** detect any burrowing owls, the shafts must be destroyed immediately to prevent burrowing owls from returning to use the shafts.

2) If the focused, protocol surveys **do** detect burrowing owls, the proponent must consult with the California Department of Fish and Wildlife (CDFW) to determine the form of mitigation required. Potential mitigation is discussed in the document entitled BURROWING OWL SURVEY PROTOCOL AND MITIGATION GUIDELINES, Prepared by The California Burrowing Owl Consortium, April 1993. This protocol is the currently recommended protocol that can be found on the CDFW website. The proponent must submit to BLM a letter signed by CDFW that states that CDFW has been contacted. After CDFW has determined which mitigation is appropriate, the proponent must submit a letter signed by CDFW that states what the required mitigation measures are.

These are the possible choices for mitigation set forth in BURROWING OWL SURVEY PROTOCOL AND MITIGATION GUIDELINES

1. **AVOIDANCE**

No disturbance should occur within 50 m (approx. 160 ft.) of occupied burrows during the non-breeding Season of September 1 through January 31 or within 75 m (approx. 250 ft.) during the breeding Season of February 1 through August 31. Avoidance also requires that a minimum of 6.5 acres of foraging habitat be preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird.

MITIGATION FOR UNAVOIDABLE IMPACTS

2. **On-site Mitigation**

On-site passive relocation should be implemented if the above avoidance requirements cannot be met. Passive relocation is defined as encouraging owls to

move from occupied burrows to alternate natural or artificial burrows that are beyond 50 m from the impact zone and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls (Figure 3). Relocation of owls should only be implemented during the non-breeding season. On-site habitat should be preserved in a conservation easement and managed to promote burrowing owl use of the site.

Owls should be excluded from burrows in the immediate impact zone and within a 50 m (approx. 160 ft.) buffer zone by installing one-way doors in burrow entrances: One-way doors should be left in place 48 hours to insure owls have left the burrow before excavation. One alternate natural or artificial burrow should be provided for each burrow that will be excavated in the project impact zone. The project area should be monitored daily for one week to confirm owl use of alternate burrows before excavating burrows in the immediate impact zone. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe or burlap bags should be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.

3. Off-site Mitigation

If the project will reduce suitable habitat on-site below the threshold level of 6.5 acres per relocated pair or single bird, the habitat should be replaced off-site. Offsite habitat must be suitable burrowing owl habitat, as defined in the *Burrowing Owl Survey Protocol,* and the site approved by CDFG. Land should be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. Off-site mitigation should use one of the following ratios:

1. Replacement of occupied habitat with occupied habitat: 1.5 times 6.5 (9.75) acres per pair or single bird.
2. Replacement of occupied habitat with habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.
3. Replacement of occupied habitat with suitable unoccupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.

Cumulative Impact

The only potential cumulative impact would be to burrowing owls, relative to suitable nesting sites. The habitat is low quality for other wildlife species. Because of a shortage of burrows and suitable nesting sites in the Ridgecrest Field Office Area, mines that are used for nesting are very valuable. The burrowing owl population fluctuates greatly, depending on drought conditions. 2012 and 2013 were very dry years, and the burrowing owl population has dropped because of the lack of rodents and insects for food. It appears that the spring of 2014 will also be very dry, resulting in 3 consecutive drought years. However, when years of normal or above normal return, the burrowing owl population is expected to recover, and the owls will require suitable nesting sites such as these shafts. The drought has caused a decrease in tortoises and large burrowing animals, such as coyotes, kit fox, and badgers, which dig burrows that are later used by burrowing owls. The cumulative loss of burrows and suitable nesting sites affects the ability of burrowing owls to reproduce.

Residual Impacts

Residual impacts could occur from the loss of burrowing owl nesting sites. There would be no other residual since much of the project area is disturbed and is only sparsely vegetated.

CULTURAL RESOURCES

Direct and Indirect Impacts
Cultural resource properties CA-SBR-9611 and CA-SBR-9612 identified within the area of potential effect in 1998 were to determined not eligible for listing on the National Register of Historic Places. Site CA-SBR-9611 was not relocated in 2012. Site CA-SBR-9612 was relocated, but found to be outside of the project area. No further impacts to this resource are anticipated by the proposed action.

The Proposed Action will have no impact to cultural resources. No additional cultural resource inventory is required for the Proposed Action. Additional cultural resource inventory will be required if additional mining areas and access routes are proposed.

There will be no impacts to cultural resources listed or eligible for listing on the National Register of Historic Places.

Recommended Mitigation

- All ground disturbing activities must be confined to the areas surveyed as part of the project listed above. If moved from the inventoried area, work shall cease until additional cultural resource inventory and review is completed.

- In the event that any cultural resources (historic or prehistoric) are encountered during ground disturbing activities, work shall cease, discoveries should be left intact, and the BLM Authorized Officer shall be notified immediately.

- In the event of discovery of human remains, pursuant to Federal law and regulations (Archaeological Resources Protection Act (ARPA) 16 USC 470 & 43 CFR 7; Native American Graves Protection & Repatriation Act (NAGPRA) 25 USC 3001 & 43 CFR 10; and, Public Lands, Interior 43 CFR 8365.1-7), as well as California state law (California Health & Safety Code 7050.5, Dead Bodies and California Public Resources Code 5097.98, Notification of Discovery of Native American Human Remains), all work in the area will cease immediately, nothing will be disturbed, and the area will be secured. The County Coroner's Office will be notified, as well as the BLM project archaeologist. Work may resume only with written authorization from the BLM Field Office Manager.

- Cultural & paleontological performance standards of Federal Regulation 43 CFR 3809.420(b)(8)).

Residual Impacts
The No Action and Proposed Action will have no cumulative effect on cultural resources listed or eligible for listing on the National Register of Historic Places.

Recreation

Direct and Indirect Impacts

The mining operation would operate in an area used for public recreation and would block access to adjacent recreational lands. During the life of the mine public recreation would be restricted from the mine and load out area.

Recommended Mitigation

- Require the mining operator to reroute the off-road vehicles around the mining operation by use of an existing road or construction of a new road. Recontouring of the slopes of the pit to a 3:1 ratio will help to eliminate any hazard to public off-road vehicle use.
- If practical, elimination of the 2.3-acre loadout facility would facilitate re-routing recreational traffic around the proposed minesite.
- In order to minimize conflict with reacreational motor traffic, avoid all heavy truck traffic, during holidays and during weekends from Friday Noon until Monday morning.

Residual Impacts

At the close of mining, the pit area will return to public recreation use. The mine pit will preferentially attract off-road vehicle use.

Cumulative Impacts

This section will address the cumulative impacts of the Kat Bentonite Mine on the affected environment, continuing activities in and around the project area, and any foreseeable future activities. Because other activities within the potentially cumulative impact area (project area and vicinity) are generally isolated from each other and from the Kat Bentonite Mine, either by distance or by topography, the potential for a cumulative impact on most of these identified resources is minimal.

The area is largely public lands. Land management activities for the area will continue to focus on concern for wildlife, and air quality. Any future mining and associated impacts authorized under plans of operations would add to these existing disturbances. Each individual proposal will need to be carefully analyzed in context to existing impacts to determine overall effect on recovery goals for vegetation, desert tortoise, and reduced air quality.

Since the area is largely public land managed by the federal government, Endangered species Act Section 7 consultation requirements, and State Implementation Plan for air quality requirements will be followed and applied to any future actions to cover the range of impacts anticipated, the effects of other existing and reasonably foreseeable future activities including the Kat Bentonite Mine would not significantly affect an environmental resource or the continuation of the existing land use.

Based upon these considerations, and upon the recommended operating and mitigation measures that would be applied to the Kat Bentonite Mine and any potential future actions to cover the range of impacts anticipated, the effects of other existing and reasonably foreseeable future activities including the Kat Bentonite Mine would not significantly affect an environmental resource or the continuation of existing land use.

GEOLOGY AND MINERALS

Proposed Mitigation Measure:

Contact and request comment from the other mining claimants having mineral locations overlapping this proposed mining action.

The proposed action is consistent with the role and usage of mineral material resources within Intensive Use areas. No significant direct, indirect, cumulative or residual effect to the mineral resources of the Spangler Hills is expected by this action.

CHAPTER 5
PERSONS, GROUPS, AND AGENCIES CONSULTED

Consultation:

San Bernardino County Planning Department

Compliance Plan: State of California Reclamation Plan pursuant to 1975 Surface Mining and Reclamation Act (SMARA)

List of Preparers

Table 5.1. List of Preparers

BLM Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Randall Porter	**Geologist**	**Geology, Minerals,**
Ashley Blythe	**Archeologist**	**Cultural Resources**
Jeffrey Gicklhorn	**Resources Specialist**	**Air Quality, Water Resources**
Jeffery Childers	**NEPA Coordinator**	**Chapters 1, 2 & 5**
Edward Duque	**Recreation Planner**	**Recreation**
Shelley Ellis	**Biologist**	**Vegetation and Wildlife**

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APPENDIX _1
MAPS

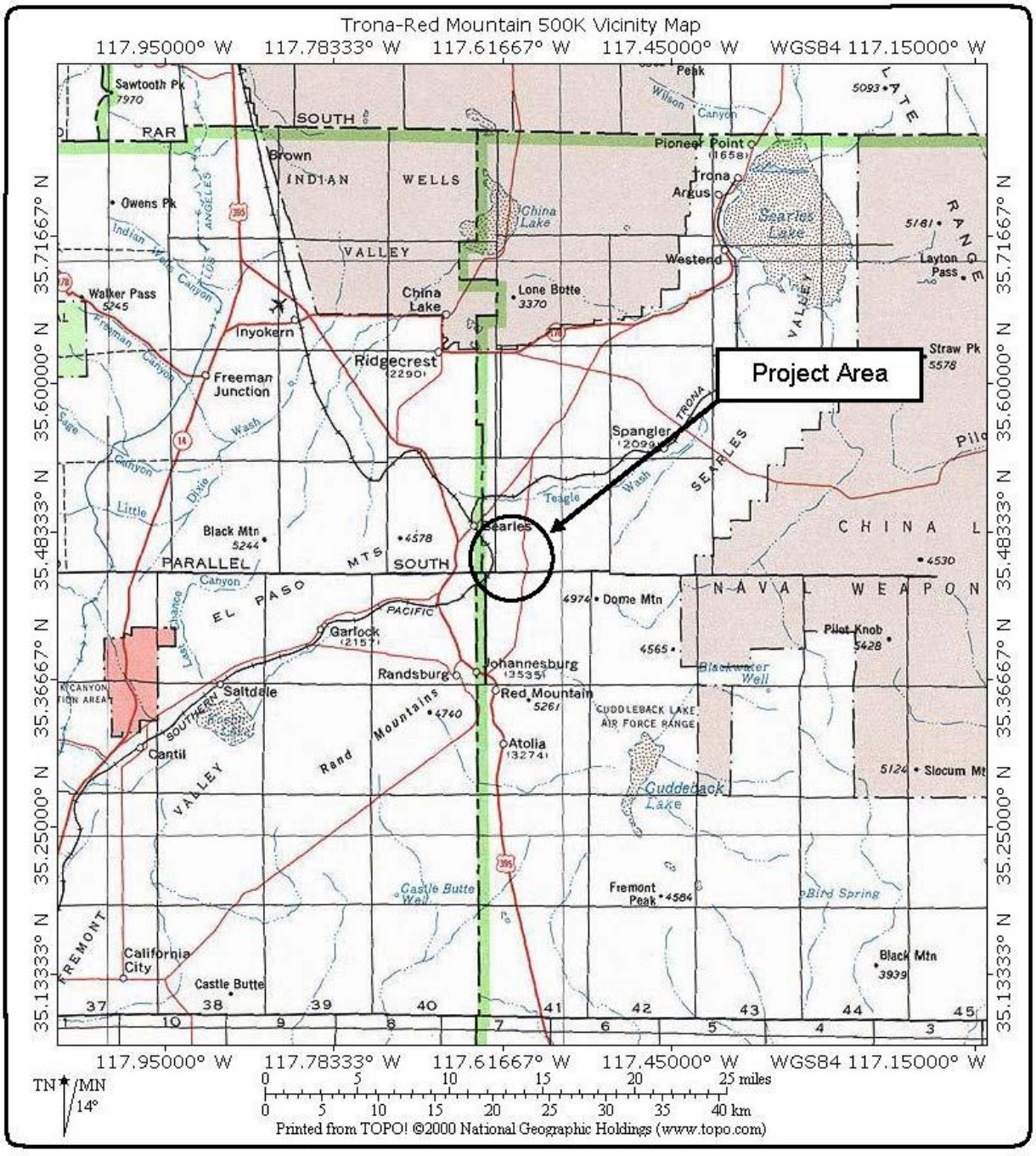


Figure 1

Project Vicinity Map

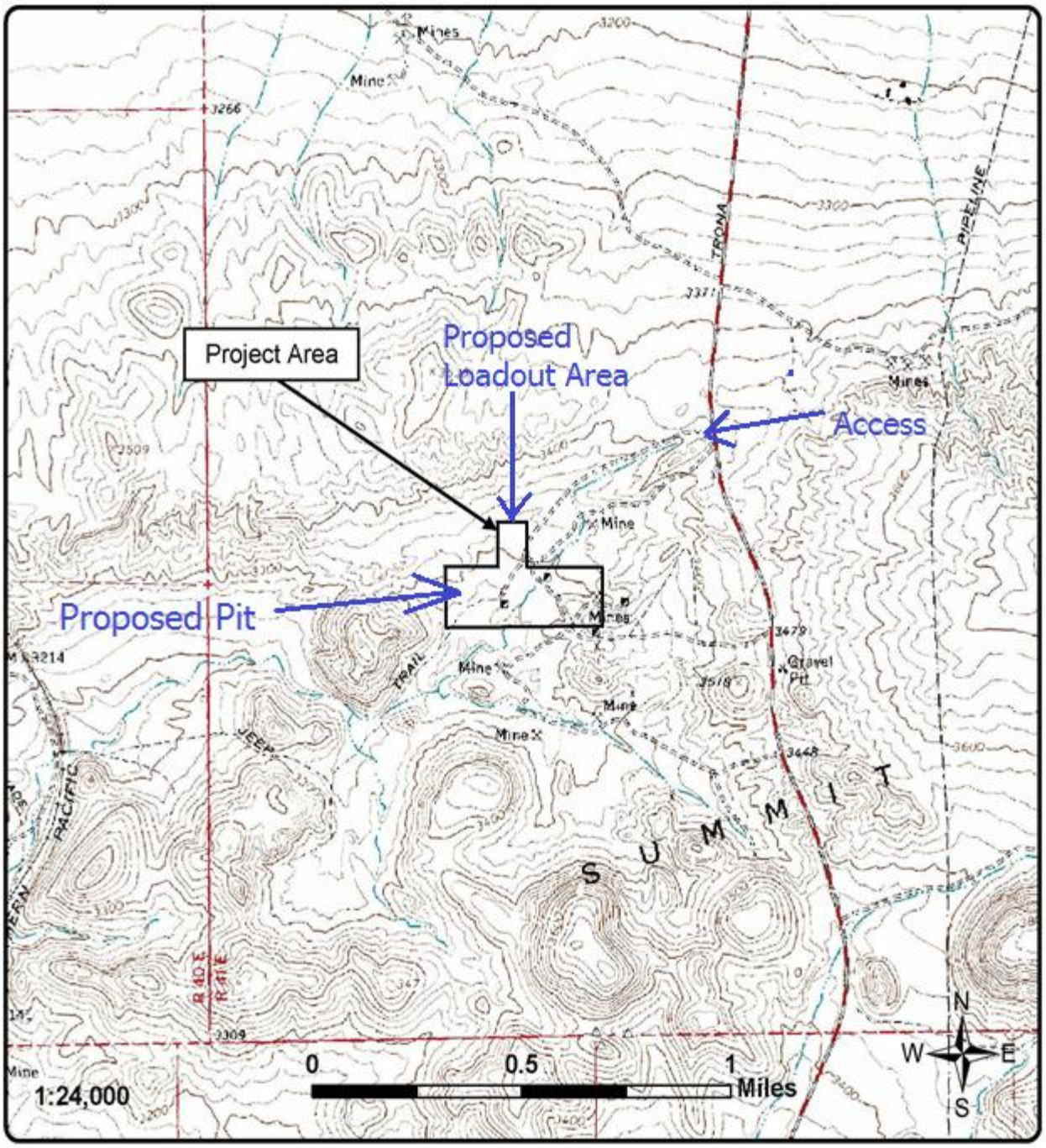
KAT2 Bentonite Mine, Klinker Mtn. Area
County of San Bernardino, California

Figure 2

Project Location Map

(USGS Klinker Mountain [1973] quadrangle)

KAT2 Bentonite Mine, Klinker Mtn. Area
County of San Bernardino, California



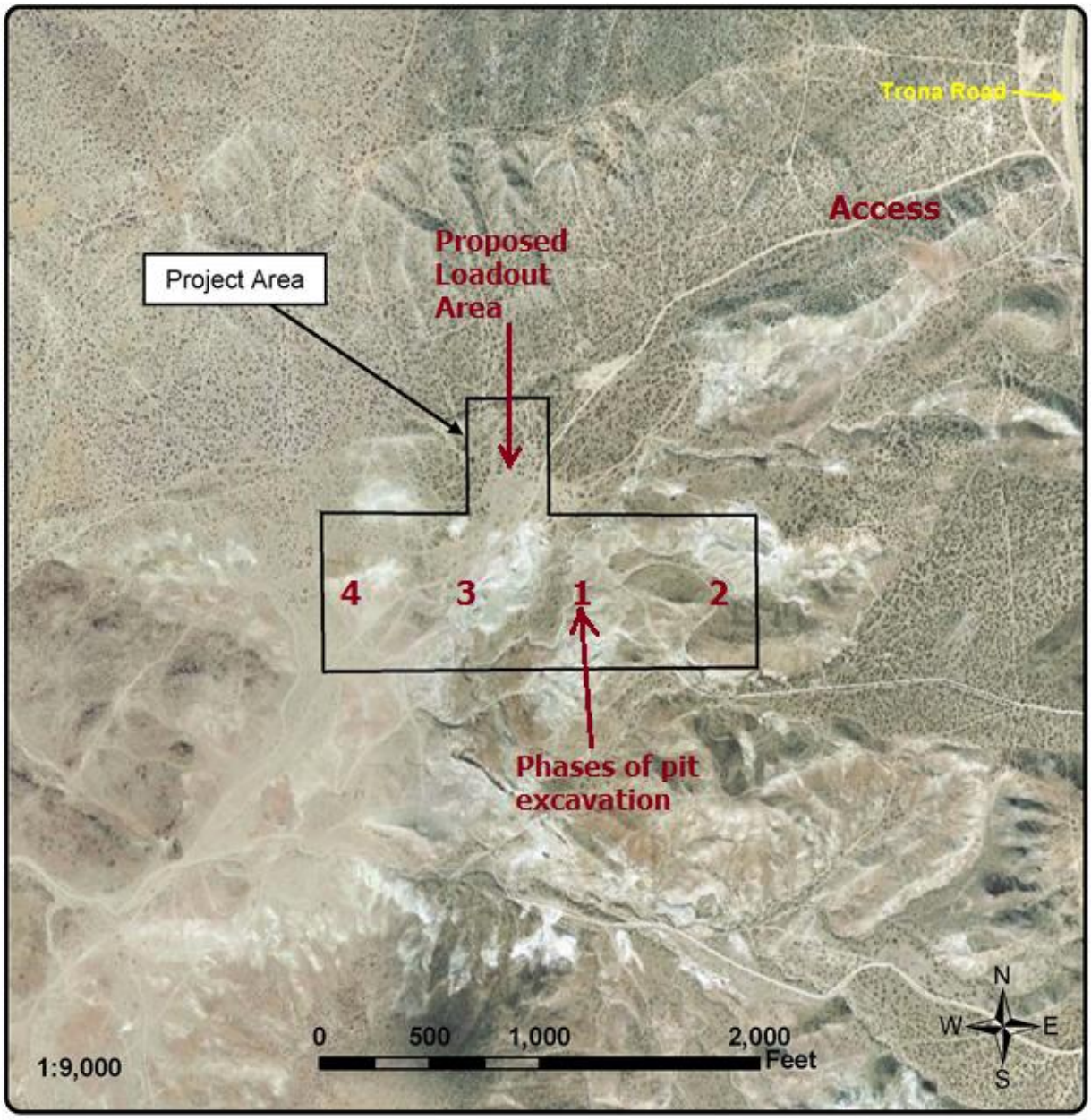


Figure 3

Aerial Photograph

(Photo obtained from Google Earth, 2008)

KAT2 Bentonite Mine, Klinker Mtn. Area
County of San Bernardino, California