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Bureau of Land Management**

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**Environmental Assessment
NEPA CA065-EA-2007-76
for
Mineral Exploration Drilling by Timberline Resources Corporation
CACA-48889**



CHAPTER 1

INTRODUCTION AND NEED FOR THE PROPOSED ACTION

1.0 PURPOSE AND NEED

1.1 Introduction

Timberline Resources Corp. has submitted a proposal to drill seven drillholes on a set of unpatented lode mining claims on unreserved lands managed by the Bureau of Land Management, Ridgecrest Field Office. The present Environmental Assessment is intended to analyze the potential impacts of that operation. This EA is intended to assist the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in determining whether the impact of this proposal is significant enough to merit preparation of an Environmental Impact Statement. 'Significant' within the meaning of the NEPA is an impact sufficient to require an Environmental Impact Statement (40 CFR 1508.27). This Environmental Assessment is limited to these purposes, and no other.

1.2 Background

This area of the public lands was drilled by Compass Minerals in the late 1980's, when the lands involved were part of the Cerro Gordo Wilderness Study Area. That Wilderness Study Area was revoked by action of the Desert Protection Act of 1994, and these lands were then managed as Moderate Use status lands under the provisions of the California Desert Conservation Area Management Plan. In 1997 the BLM approved a plan of operations from BHP Minerals, Inc. to conduct more exploration on these lands. Several miles of drilling access routes were built by BHP on the present mining claims in 1997. The drilling project was completed. The access routes were reclaimed in 2000 and allowed to revegetate. BHP Minerals has transferred or discontinued their commercial interest in these claims.

In 2002 the BLM finalized a major amendment to the California Desert Conservation Area management plan. This amendment is the Northern and Eastern Mojave Management Plan (NEMO). The NEMO Record of Decision was signed December 20, 2002. Among other things, this land use plan revised the classification status of Conglomerate Mesa from Moderate Use to Limited Use lands. The lands covered by the present action are thus now being managed under the Limited Use provisions of the California Desert Conservation Area plan, rather than the Moderate Use provisions.

Timberline Resources Corp. has since leased the right to explore and work these unpatented lode mining claims from their owner, Mr. Steven Van Ert of Chatsworth, California. Timberline Resources has a need to quantify and evaluate the presence of valuable minerals underground on the lands claimed by Mr. Van Ert. It is their purpose to do so by drilling 7 exploration holes to sample the subsurface rock formation(s) on these mining claims. This can be done by re-entering

a portion of the access route previously reclaimed/abandoned by BHP Minerals and disturbing approximately 4.9 acres. In Moderate Use lands this can be achieved by filing a Notice to the BLM under the federal Surface Management regulations. Such Notices are not a federal undertaking, do not require formal approval and are not subject to the National Environmental Policy Act. However, in Limited Use lands this level of action is required to obtain formal BLM approval prior to commencement of operations. The requirement to obtain formal approval makes this action subject to the National Environmental Policy Act (NEPA).

1.3 Purpose and Need for the Proposed Action

The purpose of this action is to provide Timberline Minerals with legal ingress and egress to unpatented mining claims located on Conglomerate Mesa under the Mining Law of 1872. The need for this action is established by the BLM's responsibility under Federal Land Policy Management Act (FLPMA) to respond to a drilling proposal submitted per Surface Management regulations described in Title 43, Subpart 3809 of the Code of Federal Regulations.

Decision to be made: The BLM will decide whether to approve or not approve the drilling operation proposed by Timberline Resources, and if so, under what mitigating terms and conditions.

1.4 Issue(s)

The Bureau of Land Management (BLM) is mandated to manage the public lands in a way that recognizes the nation's need for a sound mining industry under the Mining and Mineral Policy Act of 1970 (30 USC 21a). The BLM is explicitly required to honor the rights of ingress and egress associated with the Mining Law of 1872 (43 USC 1732b), while at the same time taking any regulatory action necessary to prevent unnecessary or undue degradation of the public lands (43 USC 1732b). The BLM achieves these purposes by means of the Surface Management regulations promulgated in the Code of Federal Regulations as 43 CFR 3809, and also by Land Use Plans such as the California Desert Conservation Area Management Plan.

The lands included by this action were previously described and approved for an almost identical surface-disturbing project by environmental assessment CA065-NEPA97-25. However, in 1997 these lands were being managed as Moderate Use lands under the Multiple Use Classification criteria of the California Desert Conservation Area Management Plan. Since that time the BLM has amended the land management plan that includes and governs this portion of public lands. The Record of Decision for the Northern and Eastern Mojave Management Plan was approved December 20, 2002. This plan amendment redefined the Multiple Use Classification status of these lands on Conglomerate Mesa as Limited Use Lands rather than Moderate Use lands. This multiple use classification can be seen on the map entitled "NEMO Released Land" of the BLM Preferred Alternative for the Environmental Impact Statement describing the Northern and Eastern Mojave Desert Management Plan.

1.5 Conformance with BLM Land Use Plans

The proposed action and alternative are in conformance with the Northern and Eastern Mojave Management Plan, Record of Decision approved December 20, 2002. This Record of Decision confirmed the proposal to manage certain lands released from the former Cerro Gordo Wilderness Study Area under the “Limited Use” provisions of the California Desert Conservation Area Plan of 1980. The California Desert Conservation Area Management Plan specifies (Table 1) that mineral-related operations are allowed on Limited Use lands subject to the Surface Management regulations of 43 CFR 3809, and applicable State and local laws.

1.6 Relationship to Statutes, Regulations or other Plans

The proposed action is consistent and complies with the following Federal laws and regulations:

- The Mining Law of 1872, 30 USC 22
- The Federal Land Policy and Management Act of 1976, 43 USC 1701
- The Mining and Minerals Policy Act of 1970, 30 USC 21a
- Surface Management regulations 43 CFR 3809
- The National Historic Preservation Act
- The Endangered Species Act

The operator has obtained and is required to comply with the reclamation requirements and county use permits issued by the County of Inyo under authority of the California Surface Mining And Reclamation Act. A financial guarantee for the reclamation of lands disturbed by the proposed action has been accepted from the operator.

The proposed action is within the area described by the Northern and Eastern Mojave Other Environmental Assessments that influence the scope of this document include CA065-NEPA97-25: “BHP CONGLOMERATE MESA EXPLORATION DRILLING” (record of decision 6/30/1997), and “ENVIRONMENTAL ASSESSMENT FOR NEWMONT EXPLORATION, CONGLOMERATE MESA PROJECT” signed 9/6/1980.

CHAPTER 2 DESCRIPTION OF ALTERNATIVES

This environmental assessment focuses on the Proposed and No Action alternatives. Other alternatives considered, but eliminated from further analysis includes the accessing of the proposed drill locations by means other than the proposed route(s).

2.1 Proposed Action

Timberline Resources Corporation of Coeur d'Alene, Idaho has provided BLM with their plans to construct up to 18,000 feet (3.4 miles) of road in order to create access for drilling several unpatented mining claims on Conglomerate Mesa. This work will consist of re-opening an access route that was previously disturbed and bladed in 1997 by BHP Minerals International Exploration, Inc., then recontoured and reclaimed late in the year 2000. Timberline Resources Corp. states their road will be approximately 10 to 12 feet wide with a total project disturbance of 4.9 acres (note: an area 18,000 feet long by 12 feet wide = 4.96 acres).

A total of 7 diamond drill holes will be drilled at 7 locations. See **Figures 1, 2 and 3** for the area involved and the proposed drilling locations. All holes will be drilled in the bed of the re-opened access route. All drilling and earth-moving operations will occur entirely on previously disturbed lands, with no additional construction outside the previous route. A cuttings containment sump approximately 5 X 5 feet by 4 feet deep may be constructed at each site if necessary. Any sumps will be back-filled after drilling.

All holes will be plugged in accordance with California and Federal regulations for mineral exploration drilling prior to the drill rig leaving the site. None of the bore holes will be left open.

All roadways, drill sites and areas of disturbance will be recontoured upon completion of the Project and re-contoured to their original slope prior to reseeding.

All roads that are constructed or re-constructed during exploration activities on the Conglomerate Mesa Project will be re-contoured using an excavator. Little to no topsoil exists in the proposed disturbance area. Where applicable, topsoil will be stored on the uphill side of the disturbed area and re-distributed over the site after re-contouring has been completed. The re-contouring work will serve to prepare the seed bed in the disturbed areas. The seed mixture and application rate proposed for broadcast seeding will be per BLM requirements. For the small area of disturbance a hand-held broadcast seeder will be used to distribute the required seed. Reclamation will be completed as soon as possible but no later than one year following the completion of all exploration activities. All trash generated by the exploration program will be promptly hauled off site for appropriate disposal. The operator will supply a \$40, 604 financial bond for the reclamation of this project prior to commencing operations.

All mineral-related operations above the level of casual use on the public lands, including this present proposed action, are subject to the Surface Management regulations and standards found in Title 43, Subpart 3809 of the Code of Federal Regulations. The pertinent performance standards from Title 43, Subpart 3809.420 of these regulations are attached as Appendix 1 to this environmental assessment.

Summary:

Work Activity	Description	Affected Area or Amount
Drill Pads & Road	Area road re-construction and drilling activities	4.9 acres
Sumps	Wet cuttings containment	<30 cubic yards
Drilling	2.5 inch diamond drill bore holes	7000 Feet (cumulative)

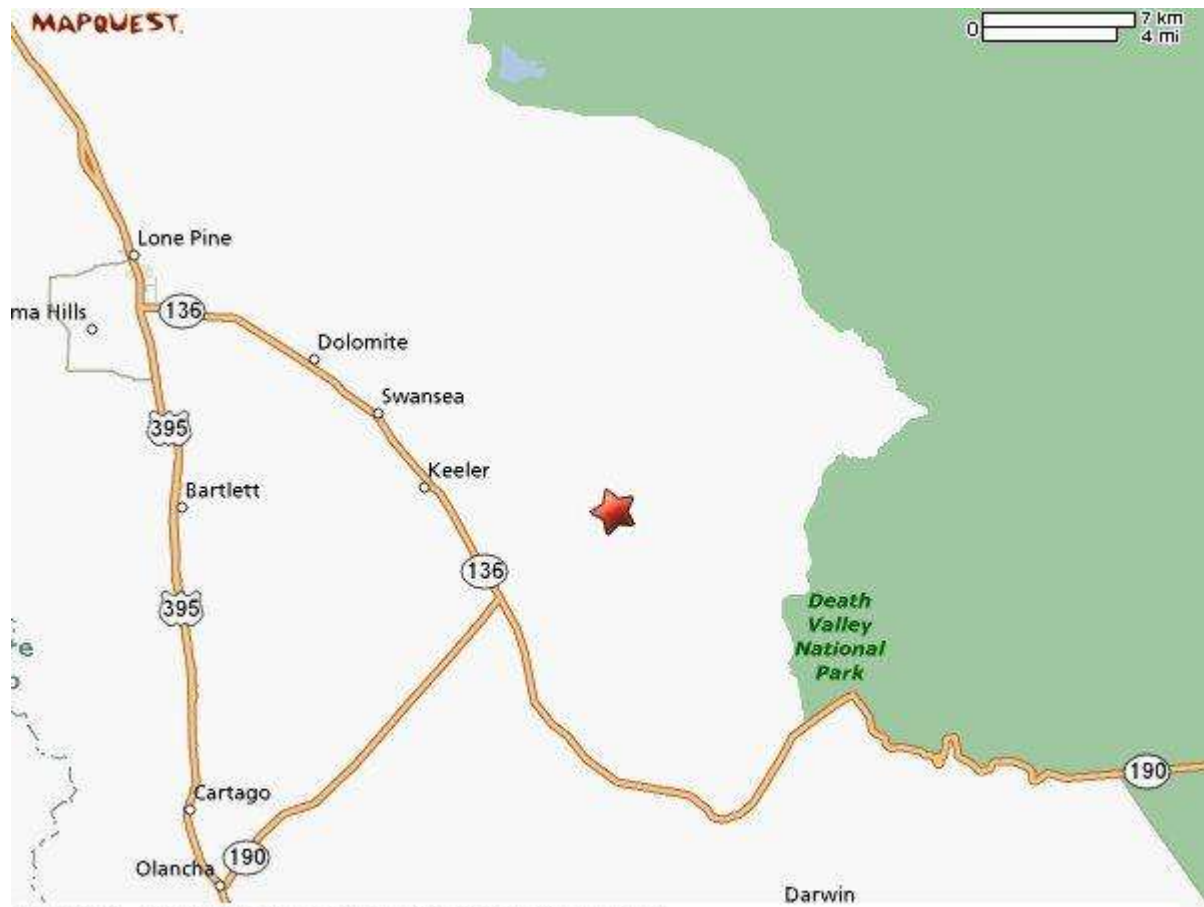


Figure 1. Generalized location of the proposed action.

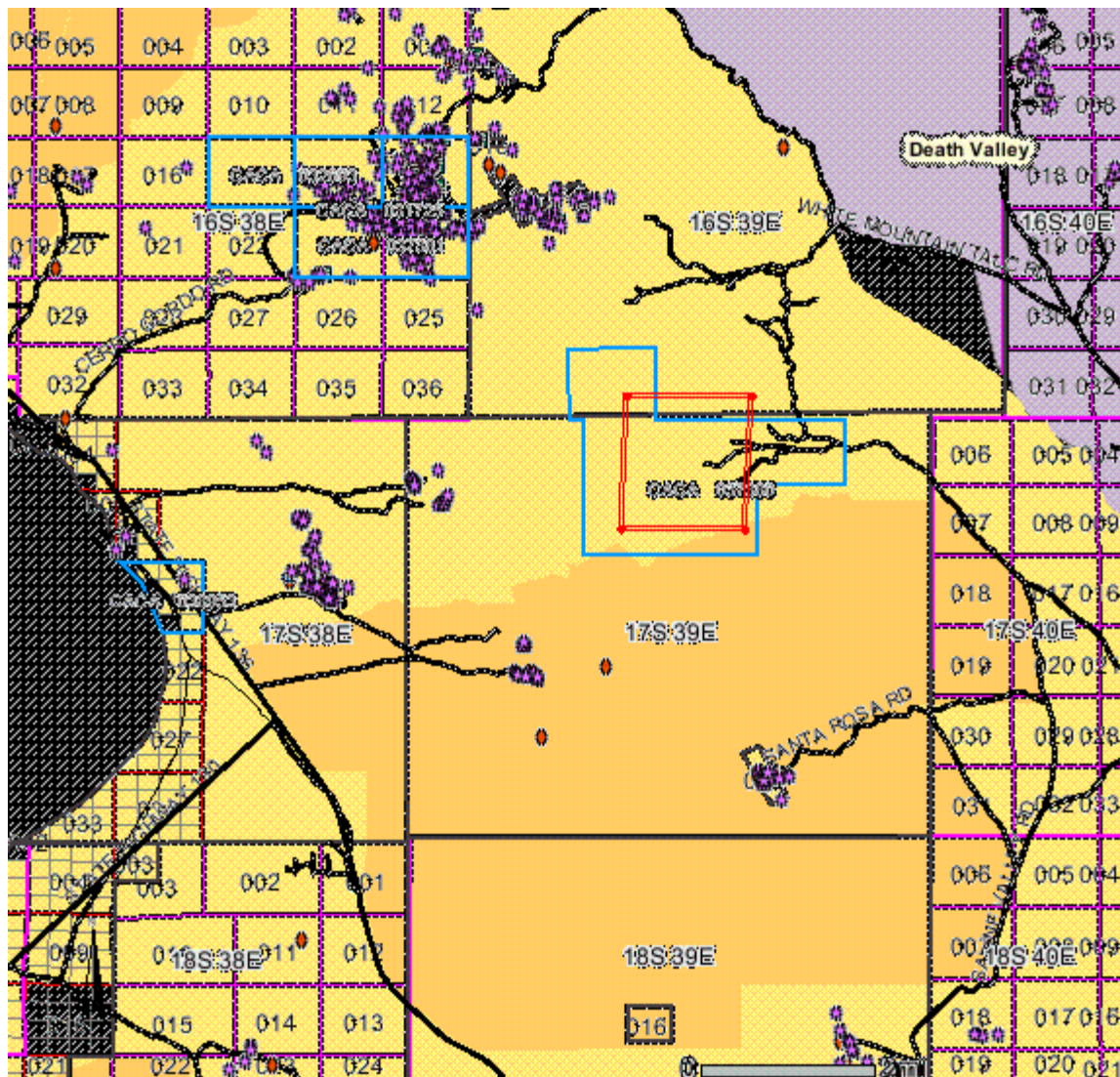


Figure 2. Lands in and surrounding area of the proposed action. The sites proposed for drilling (shown in red) lie entirely outside the Malpais Mesa Wilderness. Former plan of operations of BHP Minerals outlined in blue. Locations of old or abandoned minesites taken from www.geocommunicator.gov.

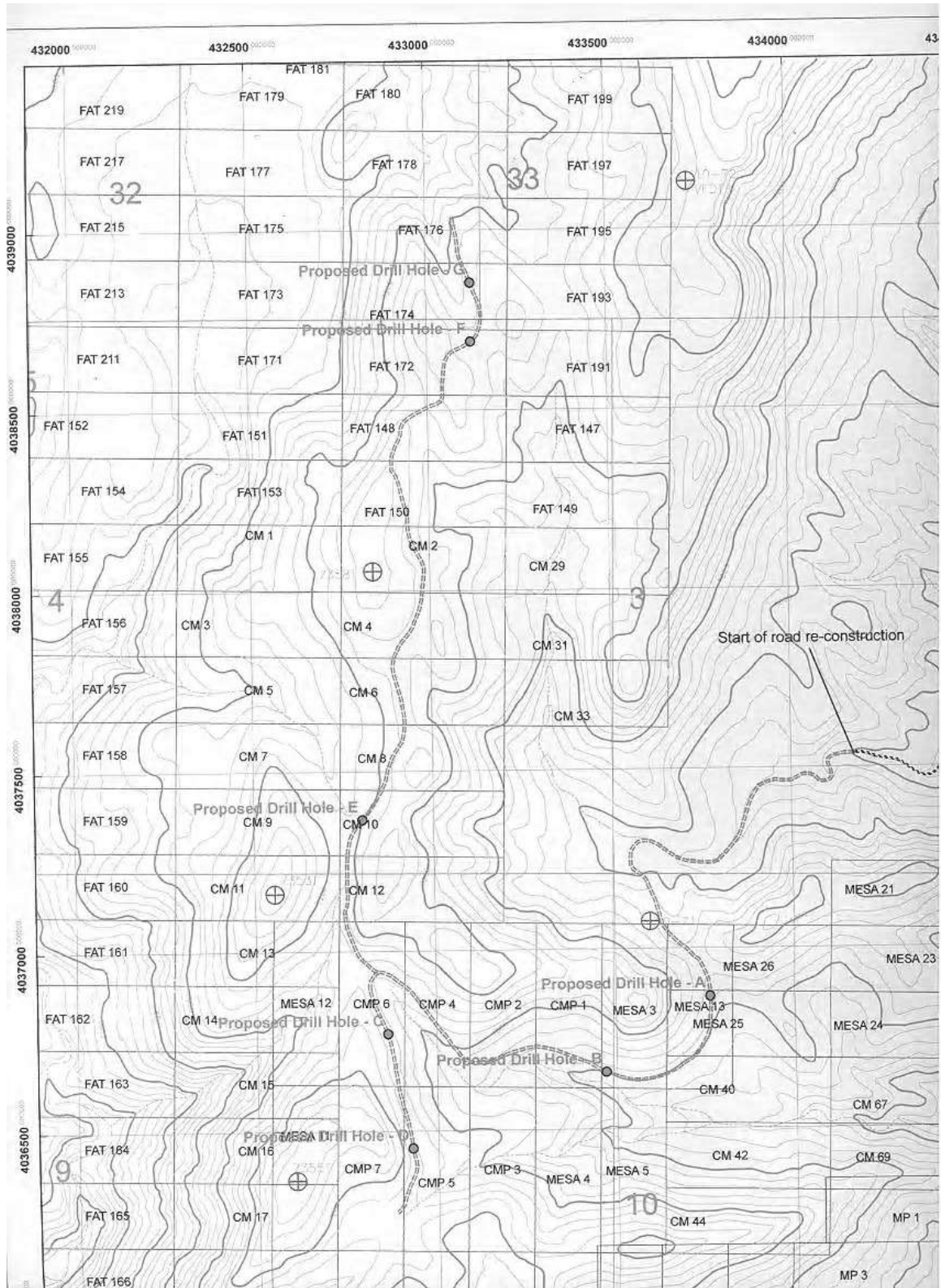


Figure 3. Map of the proposed action and drill locations supplied by Timberline Resources.

Timberline Resources has submitted and gained approval of Reclamation Plan 2007-04 to the County of Inyo in conformance with the California Surface Mining Reclamation Act. Timberline Resources has committed to a \$40,604.00 financial bond to guarantee reclamation of this proposed project.

2.2 No Action Alternative

The no action alternative means disapproving or withholding approval of the proposed action, thereby barring Timberline Resources Corporation from drilling or conducting any operations on these lands greater than casual use. Title 43, Subpart 3809.411 of the Code of Federal Regulations allows the BLM to disapprove or withhold approval of a plan of operations if it:

- Does not meet the applicable content requirements of §3809.401;
- Proposes operations that are in an area segregated or withdrawn from the operation of the mining laws, unless the requirements of §3809.100 are met; or
- Proposes operations that would result in unnecessary or undue degradation of public lands.

2.3 Alternatives Considered But Eliminated From Further Analysis

Alternatives considered but eliminated from further analysis include

- mandating forms of acquiring geologic information by some means other than drilling,
- transporting a drill rig to these lode claims by some means other than the proposed route, and/or;
- leaving the access route intact as a permanent road.

The alternative of acquiring information without a drill rig is not analyzed because it would be counter to the purpose and need of the proposed action. The purpose is to obtain direct and quantifiable information on any mineral deposits that may be present below the surface of these unpatented mining claims. That can only be done by acquiring and analyzing actual samples of whatever mineralization may be present. Drilling is the only feasible way to obtain direct and observable samples of mineralization at depth below the surface.

It is reasonable that any drill rig large enough to acquire an adequate sample volume from several hundred feet deep will need to be carried by truck along some road or access route. The alternative of accessing the claims by some means other than the proposed route is not being considered because such an alternative would mean disturbing a greater amount of land than the present proposal. The Federal Land Policy Management Act, and the federal Surface Management regulations of 43 CFR 3809 both require that operations avoid unnecessary or undue degradation of public lands and resources. It seems unnecessary and undue to add to the acreage of disturbance in this area when an already-disturbed route is available.

A permanent road would be useful to further mineral development in the event that commercial, economic reserves of mineralization are proven to exist on these claims. It might also promote recreational usage of the local region by providing easier motorized access. The alternative of leaving a permanent road was not analyzed because

- the BLM does not presently have enough information to predict whether any further development will, or will not take place on these claims. While it is possible that the proposed drilling may confirm a deposit of minerals sufficient to justify a mine, it is also possible it may not. It is reasonable and customary to do the exploration before making any decisions regarding development or abandonment. At this point any conclusions regarding the likelihood, size or nature of a mineral development project would be based on conjecture. The NEPA does not call for analyzing alternatives that are based on conjecture.
- the BLM has not, as of this time, received specific expressions of interest from the public to increase visitation of the Malpais Mesa Wilderness (south of the drilling) or the Cerro Gordo Area of Critical Environmental Concern (north of the drilling). Absent such expressions of interest, an analysis of the amount of public interest in these areas would be based on speculation.

CHAPTER 3 AFFECTED ENVIRONMENT

INTRODUCTION AND GENERAL SETTING

3.1 Introduction

This chapter presents a description of the existing environment of the area potentially to be affected by the proposed action. Discussion includes those physical, biological, social, and other values which are necessary to understand the effects or potential effects of the alternatives so as to summarize what is needed for assessment or analysis.

3.2 General Setting and Location

The proposed project takes place on Conglomerate Mesa, a portion of the southern Inyo Mountains within Inyo County, California. To reach this area, take California State Highway 190 for an estimated 26 miles east from Olancho, California and turn north on the Saline Valley Road. Proceed north on the Saline Valley Road for approximately 6 miles (past the Santa Rosa Road), then continue for roughly another 8 miles north and west along the dirt roads that form the outside perimeter boundary of Malpais Mesa Wilderness. See Figures 1 and 2.

3.3 Physiography, Climate and General Appearance

The report area is within the southern part of the Inyo Mountains, a north-south trending mountain range near the western edge of the Great Basin. The Great Basin is defined as that part of the western United States that has no rivers or streams connecting to the ocean. The Inyo Mountains lie east of the Sierra Nevada Range, which dominate the central part of California and act as the western physiographic boundary of the Great Basin.

This area is dry. While only a few hundred miles from the sea, the Sierra Nevada act as a barrier to any moisture-bearing clouds that may arise and be blown east from the Pacific Ocean. The elevation of the project area ranges roughly from 6800 to 7200 feet above sea level. It has a temperate climate having hot summers, cold winters and a roughly estimated annual precipitation at this elevation of about 6 inches (EA #97-25).

3.4 Geology/Minerals

The area of this assessment is in the westernmost portion of the Basin And Range Geologic Province. This geologic province is that part of the North American continent stretching from Utah to eastern California which is characterized by upraised, roughly parallel north-south trending mountain ranges separated by wide basins or valleys, all formed and bounded by large-scale block faulting. The Inyo Mountains are the westernmost mountain range of the Basin And Range Province. Owens Valley constitutes the westernmost block-faulted basin of this Province.

The Inyo Mountains contain thick massive Paleozoic carbonate rock formations that have occasionally been invaded by younger, massive emplacements of granitic igneous rocks. The Inyo Mountains are known both for metallic and industrial mineral deposits. The talc deposits of the southern Inyo Mountains have apparently formed as Paleozoic carbonate sediments were invaded and altered by hydrothermal (hot-water) solutions associated with this activity. Before World War II nearly all the talc used for electrical insulators in the United States came from the Talc City Hills district in the southern Inyo Mountains. The Talc City Hills currently have no producing mines.

The region of Conglomerate Mesa is known for and portrayed in the North East Mojave Management Plan EIS as having potential for the occurrence of metallic minerals (Figure 3a of that Plan). The present proposal is in the south of the Cerro Gordo mining district, which was historically known for production of silver, lead and zinc. The Cerro Gordo mine was discovered in 1865. It is significant in that it was the largest silver mine of its time in California. The silver-lead deposits were likely formed as hydrothermal solutions reacted with and replaced preexisting, fractured marble deposits in the area. Since the nearest link from Cerro Gordo to the outside world was via the seaport of Los Angeles, all production and supplies to-and-from Cerro Gordo also passed through the small town of Los Angeles. This traffic contributed to the economic growth of Los Angeles. See Figures 3, 4 and 5. Most of the lead and silver from the Cerro Gordo Mine was produced prior to 1877, and most of the zinc prior to U.S. entry into World War I. No mines are currently producing in this area.

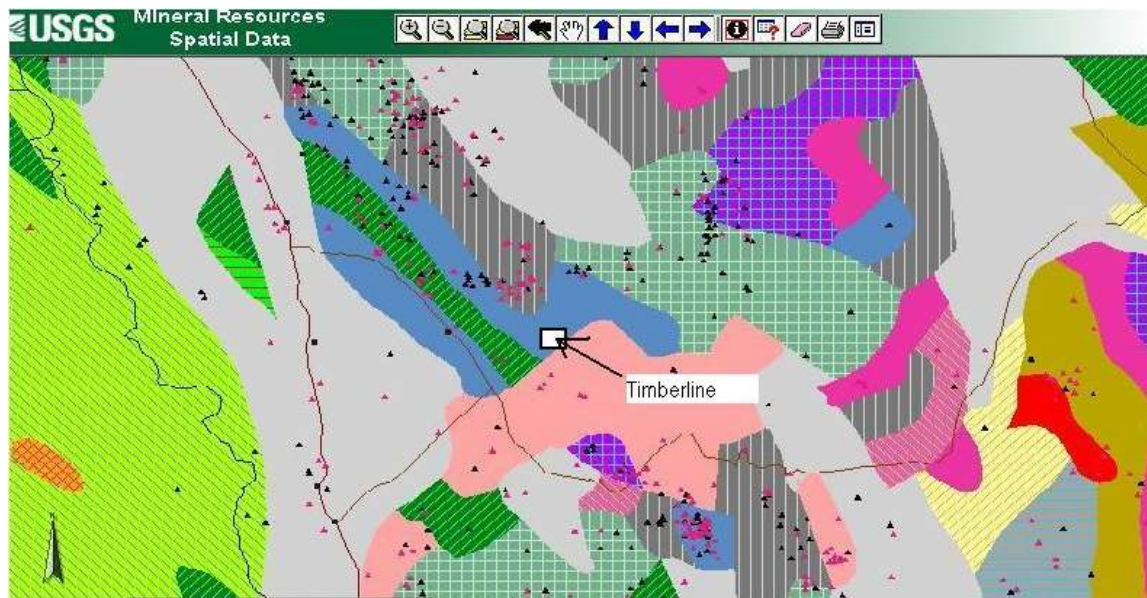
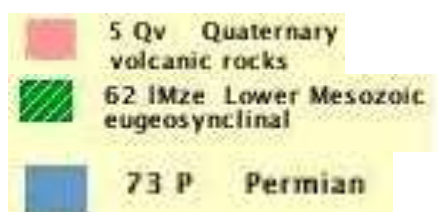


Figure 4. Generalized regional geology of the assessment area, adapted from www.mrdata.usgs.gov



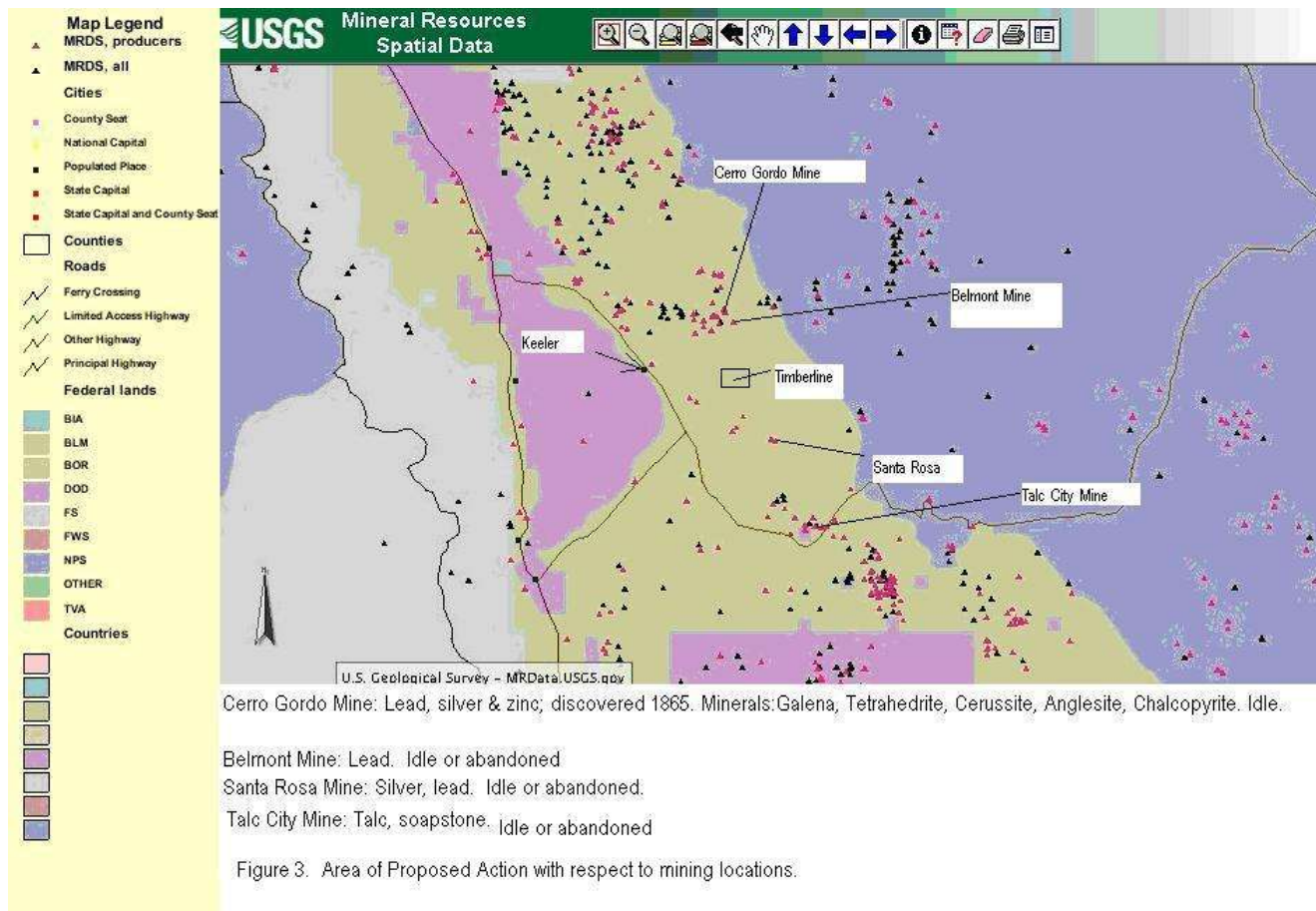


Figure 5. Nearby mines and mine district(s) around the area of the proposed action.

3.5 Land Use Planning Decisions

The Federal Land Policy Management Act of 1976 (FLPMA) created the California Desert Conservation Area (CDCA). The original land use plan for the CDCA divided the region into Multiple Use Classes for purposes of management. These classifications are Intensive Use, Moderate Use, Limited Use and Controlled Use. Most of the area south of Cerro Gordo Peak was classified as Moderate Use by the CDCA Plan of 1981. A part of Conglomerate Mesa was classified as Limited Use at that time. Both these classifications allow for mineral location, use and development under the Mining Law, subject to regulation under 43 CFR 3809.

A large part of the region south of Cerro Gordo Peak was nominated as the Cerro Gordo Wilderness Study Area at some time in the late 1980's, and was classified as Controlled Use. Wilderness Study Areas are not withdrawn from location under the Mining Law, but any mineral operation in a WSA is subject to regulation under 43 CFR 3802. Conglomerate Mesa and Malpais Mesa were both included within the Cerro Gordo Wilderness Study Area.

The California Desert Protection Act of 1994 granted wilderness status to Malpais Mesa, but not to Conglomerate Mesa. Conglomerate Mesa ceased to be part of any Wilderness Study Area and reverted to its previous status. The BHP mineral exploration project occurred during this time period. The 1997 environmental assessment for this project states:

"Land Classifications in the area are defined in the California Desert

Conservation Area Plan (1980) as amended and redefined by the California Desert Protection Act (1994). The project area is located in Class M lands. The Class M (moderate use) area was set aside for mining and exploration in the Cerro Gordo-Conglomerate Mesa region. A Class L (limited use) island surrounds the Conglomerate Mesa. The project borders this Class L island. The Malpais Mesa Wilderness Area (Class C) was established by the Desert Protection Act in 1994 and is immediately south of the project area.” (taken from EA# 97-25)

Figure 6 shows how the lands involved had a Multiple Use Classification of ‘Moderate’ at the time environmental assessment #97-25 was analyzed.

The BLM completed a major amendment to the California Desert Conservation Area Management Plan in 2002. This amendment is called the North East Mojave Management Plan (NEMO). The purpose was to update the BLM land use plan so as to incorporate the California Desert Protection Act of 1994. The NEMO planning decisions converted any Moderate Use lands remaining on Conglomerate Mesa to a Limited Use classification. This classification means that any mineral operation greater than casual use on Conglomerate Mesa must receive prior approval from the BLM per regulations 43 CFR 3809. Operations in an area classified as Moderate Use are not required to have an approved Plan of Operations unless they are at least 5 acres in size. The record of decision for the NEMO management plan, the document and maps are freely available online at: <http://www.blm.gov/ca/st/en/fo/cdd/nemo.html>.

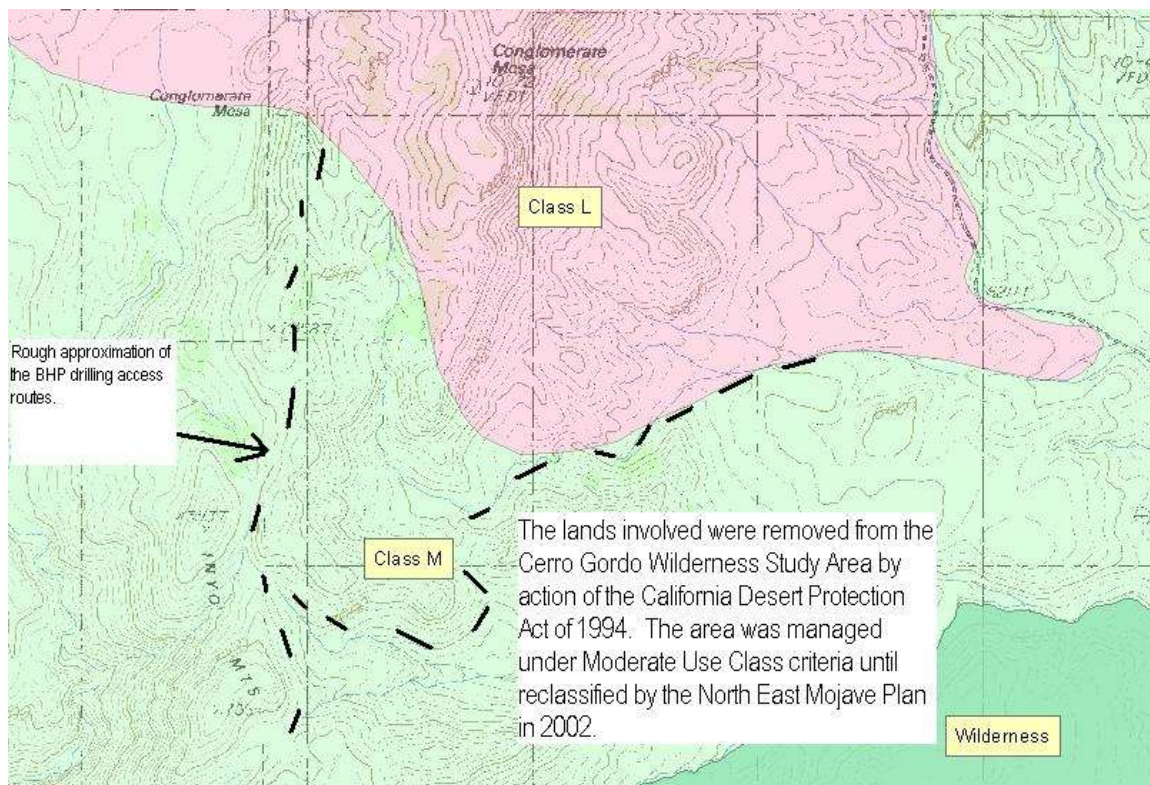


Figure 6. Land status of the area involved at the time EA 97-25 was written (1997). The lands involved were managed as Moderate Use classification lands at the time EA 97-25 was written.

3.6 Present Condition of the Affected Area

The appearance of the project area after the 1997 route construction was finished can be seen Photo 1 and 2. The present condition of this area can be seen in Figure 7. The access route bladed and reclaimed by BHP Minerals is plainly visible in this imagery. The approximate drilling locations presently proposed by Timberline Resources are each shown on this existing disturbed route. Compare with the map of proposal submitted by Timberline Resources shown in Figure 3. These two figures show that the access route proposed by Timberline Resources is identical with the already-disturbed route created by BHP Minerals. Reclamation for that disturbance was accomplished in or about December 1999. The disturbance along that route is still plainly visible in the recent imagery.

3.7 Cultural Resources

The cultural resources of the area are described in Environmental Assessment #97-25 (see Appendix 2). A Class III cultural resources inventory was conducted in this area during 1997 as part of the process for analyzing the past drilling proposal of BHP Minerals. Two historic cultural sites were detected at that time, but no prehistoric sites. Neither site was deemed eligible for inclusion on the National Register for Historic Places. The 1997 access route was adjusted so as to avoid both sites.

3.8 Soils

Soils in this area are shallow and rocky.

3.9 Vegetation

The description of vegetation from EA #97-25 is here incorporation by reference (see Appendix 2). In summary, the vegetation in this area is transitional between a sagebrush scrub community and a shadscale scrub community. A plant survey done for EA # 97-25 found no federal or state listed, proposed or candidate threatened or endangered plant species. Eight populations of the Inyo rock daisy (*Perityle inyoensis*), a BLM Special Status Species, were found to occur along the proposed access routes and drill areas. The Inyo rock daisy occurs in crevices in limestone cliffs and outcrops. In addition, the Mojave fish-hook cactus (*Sclerocactus polyancisterus*) a California Native Plant Society List 4 plant was found to occur in the project area. The locations of these two plant populations were flagged in the field and mapped at the time, and the 1997 drilling operation avoided the sites.



Photos 1 and 2. Photographs by Tom Budlong, documenting the access route as it existed prior to reclamation in 1998. Compare with Figure 7 showing the access route in 2008.



Figure 7. The route disturbed in 1997 as shown in 2008 aerial imagery.

3.10 Threatened or Endangered Species

The wildlife description from EA #97-25 is here incorporated by reference (see Appendix 2). In summary, the wildlife inventory done for EA #97-25 found that although twelve sensitive species exist in the general region of the Inyo Mountains, no State or Federal threatened or endangered species were found on the project site. The lack of water in this area may restrict the number and density of wildlife species to be found.

3.11 Critical Elements

Other natural resource elements considered in environmental assessment #97-25 and here incorporated by reference include:

<i>Element</i>	<i>No Affect / May Affect</i>
Air Quality	No Affect
Floodplains	No Affect
Native American Religious Concerns	No Affect
Wastes, Hazardous or Solid	No Affect
Water Quality	No Affect
Healthy Forests Restoration Act	No Affect
Wetlands/Riparian Zones	No Affect
Wilderness	No Affect
Essential Fish Habitat	No Affect
Environmental Justice	No Affect

CHAPTER 4

ENVIRONMENTAL EFFECT ANALYSIS

PROPOSED ACTION

4.0 PROPOSED ACTION

4.1.1 Mineral Resources

Direct/Indirect Effects

The purpose of this proposed action is limited to testing and gathering data on the mineralization of certain unpatented mining claims. The volume of samples to be removed from these claims is expected to have no measurable effect on the tonnage of total mineral resources on these public lands.

Cumulative Effects

The present mining claims have been drilled in the past with trivial or no observable effect to the mineral resources involved. There is no evidence that this present proposal will have any greater effect.

Mitigation and Residual Effects

N/A

4.1.2 Cultural Resources

Direct/Indirect Effects

The proposed access road and drill sites appear to have been adequately checked by professional archeologists in 1997 for the original exploration plan by BHP Minerals. That report, CA-065-1997-01, was certified adequate in July 1998. No impact to heritage resources are anticipated provided that: 1) The existing reclaimed road bed is used for all access and transit of vehicles; 2) Any drill site remains within 50 feet of the centerline of the present route; 3) Drilling does not proceed any further north than the proposed drill location known as 'G'.

Cumulative Effects

N/A

Mitigation and Residual Effects

Standard stipulations for the protection of heritage resources are sufficient for this action (43 CFR 3809.420(b)(8)). No residual effects are expected.

4.1.3 Soils

Direct/Indirect Effects

The analysis of EA 97-25 is incorporated by reference. In summary, the soils within the proposed access route will be directly impacted by blading and route construction. No impact to previously undisturbed soil is anticipated. The soil within the access route will be impacted by increased exposure to erosion.

Cumulative Effects

The proposed action may add to soil erosion rates along the affected route pending time of reclamation. The required financial assurance acts as a guarantee that reclamation will take place. The proposal to implement reclamation within one year of the end of drilling is expected to minimize cumulative effects. The proposed action will result in no cumulative increase in the acreage of disturbed lands.

Mitigation and Residual Effects

Limit blading and dirtwork activities to previously disturbed areas (i.e., the proposed action). Require reclamation and revegetation of the same manner and type as that accomplished for NEPA action 97-25 (see Appendix 2) and the reclamation requirements of 43 CFR 3809.420 (Appendix 1).

No residual effects are expected beyond that of the no action alternative.

4.1.4 Vegetation

Direct/Indirect Effects

Some common vegetation will be destroyed by blading and route construction during the proposed action. The analysis of EA #97-25 is here incorporated by reference. Populations of Inyo rock daisy (*Perityle inyoensis*) (A BLM Special Status Specie) were found to occur near the proposed access routes and drill areas. The Inyo rock daisy occurs in crevices in limestone cliffs and outcrops. In addition, Mojave fish-hook cactus (*Sclerocactus polyancisterus*) a California Native Plant Society List 4 plant was found to occur in the project area. The locations of these plant populations were flagged in the field, mapped and avoided by the 1997 route construction. No effect is expected on these species so long as those populations are avoided.

Cumulative Effects

No additional cumulative effect to long-term plant populations is expected from the proposed action.

Mitigation and Residual Effects

Due care should be taken to avoid the populations of Inyo Rock Daisy (*Perityle inyoensis*) and Mojave fish-hook cactus (*Sclerocactus polyancisterus*) mapped and identified during the 1997 plant survey(s). Such avoidance should result in no residual effect to BLM special status plant species in the area.

4.1.5 Threatened or Endangered Species

Direct/Indirect Effects

Previous surveys have failed to reveal any threatened or endangered species in this project area (EA # 97-25). No direct/indirect effects on threatened or endangered species are expected from the proposed action.

Cumulative Effects

No cumulative effects to threatened or endangered species are expected from this action.

Mitigation and Residual Effects

Require that the operator take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat which may be affected by operations (i.e., performance standard 43 CFR 3809.420(b)(7)). No residual effects on any threatened or endangered species are expected.

CHAPTER 5

PERSONS, GROUPS, AND AGENCIES

5.1 Preparation

This environmental assessment was prepared by Randall Porter, Geologist, with internal scoping & consultation by

Don Storm	Ridgecrest Field Office Archaeologist
Shelley Ellis	Ridgecrest Field Office Biologist
Craig Beck	Ridgecrest Field Office Recreation/Wilderness Supervisor
Glenn Harris	Ridgecrest Field Office Natural Resources Specialist

5.2 Selected References

“BHP Conglomerate Mesa Exploration Environmental Assessment 97-25.” Ridgecrest Field Office NEPA Compliance No. CA-065-NEPA97-25 (June 30, 1997). Ridgecrest Field Office, Ridgecrest California.

Norman, L. & Stewart, R., “Mines and Mineral Resources of Inyo County.” California Journal of Mines and Geology, Vol. 47, No.1, January 1951.

APPENDIX 1

Title 43, Subpart 3809.420 of the Code of Federal Regulations

Sec. 3809.420 What performance standards apply to my notice or plan of operations?

The following performance standards apply to your notice or plan of operations:

(a) General performance standards--(1) Technology and practices. You must use equipment, devices, and practices that will meet the performance standards of this subpart.

(2) Sequence of operations. You must avoid unnecessary impacts and facilitate reclamation by following a reasonable and customary mineral exploration, development, mining and reclamation sequence.

(3) Land-use plans. Consistent with the mining laws, your operations and post-mining land use must comply with the applicable BLM land-use plans and activity plans, and with coastal zone management plans under 16 U.S.C. 1451, as appropriate.

(4) Mitigation. You must take mitigation measures specified by BLM to protect public lands.

(5) Concurrent reclamation. You must initiate and complete reclamation at the earliest economically and technically feasible time on those portions of the disturbed area that you will not disturb further.

(6) Compliance with other laws. You must conduct all operations in a manner that complies with all pertinent Federal and state laws.

(b) Specific standards--(1) Access routes. Access routes shall be planned for only the minimum width needed for operations and shall follow natural contours, where practicable to minimize cut and fill. When the construction of access routes involves slopes that require cuts on the inside edge in excess of 3 feet, the operator may be required to consult with the authorized officer concerning the most appropriate location of the access route prior to commencing operations. An operator is entitled to access to his operations consistent with provisions of the mining laws. Where a notice or a plan of operations is required, it shall specify the location of access routes for operations and other conditions necessary to prevent unnecessary or undue degradation. The authorized officer may require the operator to use existing roads to minimize the number of access routes, and, if practicable, to construct access roads within a designated transportation or utility corridor. When commercial hauling is involved and the use of an existing road is required, the authorized officer may require the operator to make appropriate arrangements for use and maintenance.

(2) Mining wastes. All tailings, dumps, deleterious materials or substances, and other waste produced by the operations shall be disposed of so as to prevent unnecessary or undue degradation and in accordance with applicable Federal and state Laws.

(3) Reclamation. (i) At the earliest feasible time, the operator shall reclaim the area disturbed, except to the extent necessary to preserve evidence of mineralization, by taking reasonable measures to prevent or control on-site and off-site damage of the Federal lands.

(ii) Reclamation shall include, but shall not be limited to:

(A) Saving of topsoil for final application after reshaping of disturbed areas have been completed;

(B) Measures to control erosion, landslides, and water runoff;

(C) Measures to isolate, remove, or control toxic materials;

(D) Reshaping the area disturbed, application of the topsoil, and revegetation of disturbed areas, where reasonably practicable; and

(E) Rehabilitation of fisheries and wildlife habitat.

(iii) When reclamation of the disturbed area has been completed, except to the extent necessary to preserve evidence of mineralization, the authorized officer shall be notified so that an inspection of the area can be made.

(4) Air quality. All operators shall comply with applicable Federal and state air quality standards, including the Clean Air Act (42 U.S.C. 1857 et seq.).

(5) Water quality. All operators shall comply with applicable Federal and state water quality standards, including the Federal Water Pollution Control Act, as amended (30 U.S.C. 1151 et seq.).

(6) Solid wastes. All operators shall comply with applicable Federal and state standards for the disposal and treatment of solid wastes, including regulations issued pursuant to the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.). All garbage, refuse or waste shall either be removed from the affected lands or disposed of or treated to minimize, so far as is practicable, its impact on the lands.

(7) Fisheries, wildlife and plant habitat. The operator shall take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat which may be affected by operations.

(8) Cultural and paleontological resources. (i) Operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical or archaeological site, structure, building or object on Federal lands.

(ii) Operators shall immediately bring to the attention of the authorized officer any cultural and/or paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until told to proceed by the authorized officer. The authorized officer shall evaluate the discoveries brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery.

(iii) The Federal Government shall have the responsibility and bear

the cost of investigations and salvage of cultural and paleontology values discovered after a plan of operations has been approved, or where a plan is not involved.

(9) Protection of survey monuments. To the extent practicable, all operators shall protect all survey monuments, witness corners, reference monuments, bearing trees and line trees against unnecessary or undue destruction, obliteration or damage. If, in the course of operations, any monuments, corners, or accessories are destroyed, obliterated, or damaged by such operations, the operator shall immediately report the matter to the authorized officer. The authorized officer shall prescribe, in writing, the requirements for the restoration or reestablishment of monuments, corners, bearing and line trees.

(10) Fire. The operator shall comply with all applicable Federal and state fire laws and regulations, and shall take all reasonable measures to prevent and suppress fires in the area of operations.

(11) Acid-forming, toxic, or other deleterious materials. You must incorporate identification, handling, and placement of potentially acid-forming, toxic or other deleterious materials into your operations, facility design, reclamation, and environmental monitoring programs to minimize the formation and impacts of acidic, alkaline, metal-bearing, or other deleterious leachate, including the following:

(i) You must handle, place, or treat potentially acid-forming, toxic, or other deleterious materials in a manner that minimizes the likelihood of acid formation and toxic and other deleterious leachate generation (source control);

(ii) If you cannot prevent the formation of acid, toxic, or other deleterious drainage, you must minimize uncontrolled migration of leachate; and

(iii) You must capture and treat acid drainage, or other undesirable effluent, to the applicable standard if source controls and migration controls do not prove effective. You are responsible for any costs associated with water treatment or facility maintenance after project closure. Long-term, or post-mining, effluent capture and treatment are not acceptable substitutes for source and migration control, and you may rely on them only after all reasonable source and migration control methods have been employed.

(12) Leaching operations and impoundments. (i) You must design, construct, and operate all leach pads, tailings impoundments, ponds, and solution-holding facilities according to standard engineering practices to achieve and maintain stability and facilitate reclamation.

(ii) You must construct a low-permeability liner or containment system that will minimize the release of leaching solutions to the environment. You must monitor to detect potential releases of contaminants from heaps, process ponds, tailings impoundments, and other structures and remediate environmental impacts if leakage occurs.

(iii) You must design, construct, and operate cyanide or other leaching facilities and impoundments to contain precipitation from the local 100-year, 24-hour storm event in addition to the maximum process solution inventory. Your design must also include allowances for snowmelt events and draindown from heaps during power outages in the design.

(iv) You must construct a secondary containment system around vats, tanks, or recovery circuits adequate to prevent the release of toxic solutions to the environment in the event of primary containment failure.

(v) You must exclude access by the public, wildlife, or livestock to solution containment and transfer structures that contain lethal levels of cyanide or other solutions.

(vi) During closure and at final reclamation, you must detoxify leaching solutions and heaps and manage tailings or other process waste to minimize impacts to the environment from contact with toxic materials or leachate. Acceptable practices to detoxify solutions and materials include natural degradation, rinsing, chemical treatment, or equally successful alternative methods. Upon completion of reclamation, all materials and discharges must meet applicable standards.

(vii) In cases of temporary or seasonal closure, you must provide adequate maintenance, monitoring, security, and financial guarantee, and BLM may require you to detoxify process solutions.

(13) Maintenance and public safety. During all operations, the operator shall maintain his or her structures, equipment, and other facilities in a safe and orderly manner. Hazardous sites or conditions resulting from operations shall be marked by signs, fenced, or otherwise identified to alert the public in accordance with applicable Federal and state laws and regulations.

APPENDIX 2



United States Department of the Interior
Bureau of Land Management
California Desert District
Ridgecrest Resource Area

**Finding of No Significant Impact
Environmental Assessment For BHP Minerals Exploration Drilling
NEPA Compliance Document Number CA065-NEPA97-25**

Introduction

The Ridgecrest Resource Area (RRA) of the Bureau of Land Management (BLM) has prepared an environmental assessment of the impacts of an exploration drilling project in the Conglomerate Mesa area of the southern Inyo Mountains of California (see location maps of the EA). The project proponent is BHP Minerals International Exploration, Inc. The BLM is required by the National Environmental Policy Act of 1969 (NEPA) to review the environmental impacts of this proposed action through the preparation of an environmental analysis; in this case the document is an Environmental Assessment (EA).

The EA is available for public review at the RRA, BLM office at 300 S. Richmond Rd. Ridgecrest, CA 93555.

Finding of No Significant Impact

I have reviewed the above mentioned EA. I have determined that the proposed action and any alternatives analyzed (except the "No Action" Alternative) are in conformance with the California Desert Conservation Area Plan (CDCA Plan) dated Sept. 1980.

I have determined, based on EA Number CA065-NEPA97-25 (BHP Minerals Exploration Drilling), that this is not an action that would significantly affect the quality of the human environment; therefore, an Environmental Impact Statement is not required. This determination is based on the rationale that significance criteria, as defined by the Council on Environmental Quality (40 CFR 1508.27) are not being met, or if met will be mitigated to a level that will be less than significant. The following rationale was used to determine that significant impacts were not present for each criteria mentioned in 40 CFR 1508.27:

Rationale for Decision

* The short and long term impacts as disclosed in the EA are not considered to be significant to the human environment. The short term impacts from

implementation of the proposed action are local; they are not national or regional in nature. The long term impacts resulting from the proposed action will be mitigated upon completion of the final reclamation.

- * Implementation of the proposed action will not adversely affect the goals of land management for the area as defined in the CDCA Plan.
- * Specific management direction, constraints, and mitigation measures will limit the physical and biological effects to the area.
- * Public health and safety are not affected by the proposed action.
- * There will be no significant irreversible resource commitments or irretrievable loss to areas of critical environmental concern, cultural resources, threatened and endangered species, wetlands or riparian zones.
- * The proposed project has been analyzed under Section 176(c) of the Clean Air Act (CAA), as amended and it conforms to the applicable State Implementation Plan (SIP) for the attainment of ambient air quality standards (NAAQS).
- * There are no known effects on the human environment that are highly uncertain or involve unique or unknown risks.
- * The proposed action does not set a precedent for other projects that may be implemented to meet the goals and objective of the CDCA PLAN.
- * This action does not violate Federal, State or local law or requirements imposed for the protection of the environment.

Mitigation Measures Attached to the Proposed Action

Cultural Resources

1. The access route to drill location 19 shall be shifted 35 feet to the north or south of its current position thereby avoiding site CA-lny-5079H.
2. Drill locations 34 and 35, along with their associated access routes shall be dropped from the project proposal. No surface disturbance shall occur within these areas.
3. Surface disturbance shall occur only within those areas previously subject to cultural resources inventory. Specifically, the access roads, over land travel routes, and drill locations depicted within the revised Conglomerate Mesa Proposed Drill Sites and Roadbuilding map of October 1996.

Soils

Drainage control shall be constructed on the main drill roads. This can be accomplished through the use of crowning 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:

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

Every drainage dip shall drain water into an adjacent turnout ditches.

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 a 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:

Additional stipulations for soil conservation:

Strip and stockpile topsoil during construction of the main drill roads.
Reapply topsoil during final reclamation of the site.

Loosen subsoil on drill pads and drill roads to relieve compaction and aid revegetation.

Vegetation

Travel to and from the drill sites accessed by the all-terrain drilling equipment shall be minimized to limit compaction of soils and destruction to vegetation.

Save top soil with its seeds and soil biota to reapply as part of rehabilitation

Conduct concurrent rehabilitation on disturbed sites which are no longer

needed for the operation.

Keep blading to the minimum necessary. Run over vegetation instead of blading where possible.

At the discretion of the authorized officer, reseedling of the site may be stipulated. Native species, indigenous to the area, would be specified in the seed mix.

Sensitive plants are present on the site. The plants of concern are all flagged and mapped and shall be avoided during road construction and drilling.

Additional Mitigation Measures

An Environmental Compliance Representative, appointed by the operator, will be responsible for ensuring that mitigation measures are followed and for coordinating with the BLM and Inyo County. This individual can be an employee of BHP or an outside hire.

A copy of the mitigation measures for this plan of Operations shall be on site during drilling and reclamation activities for reference by the operator and the Compliance Representative.

Drill holes shall be abandoned and plugged in accordance with State law or the BLM Solid Minerals Reclamation Handbook.

Drill holes, not plugged immediately, shall be covered or capped to prevent injury or death to wildlife.

All sanitary or other waste disposal shall comply with state and county codes. Personnel shall use a portable toilet.

No motor or hydraulic oil or other petroleum products shall be disposed of on the site.

Do not collect or otherwise disturb any historic or prehistoric artifacts which may be encountered in the area of operations. If historic or prehistoric artifacts are encountered during development or reclamation activities, operations in the vicinity of the discovered resources shall cease immediately and the operator shall notify the BLM. The BLM will, as appropriate, evaluate the significance of the find and determine the need for mitigation. The operator shall not proceed with potentially disturbing activities until authorized by the BLM.

Wild horses and burros, when encountered during operations or during road transport, shall be avoided, so as not to frighten or injure the animals.

Air Quality-Conformity With State Implementation Plan

Emissions from the proposed action will be minimal. No significant offsite impacts are anticipated. As a result of the proposed action, there could be fugitive dust/PM₁₀ emissions from drill roads during periods of high winds. Additional dust and exhaust emissions would be emitted from the drilling equipment and vehicles working the project. Vehicles accessing the site on unpaved roads would also generate fugitive dust/PM₁₀ emissions. The project, as proposed, does not exceed the de minimus emission levels and does conform to the SIP. No further conformity determination is necessary.

Native American Consultation

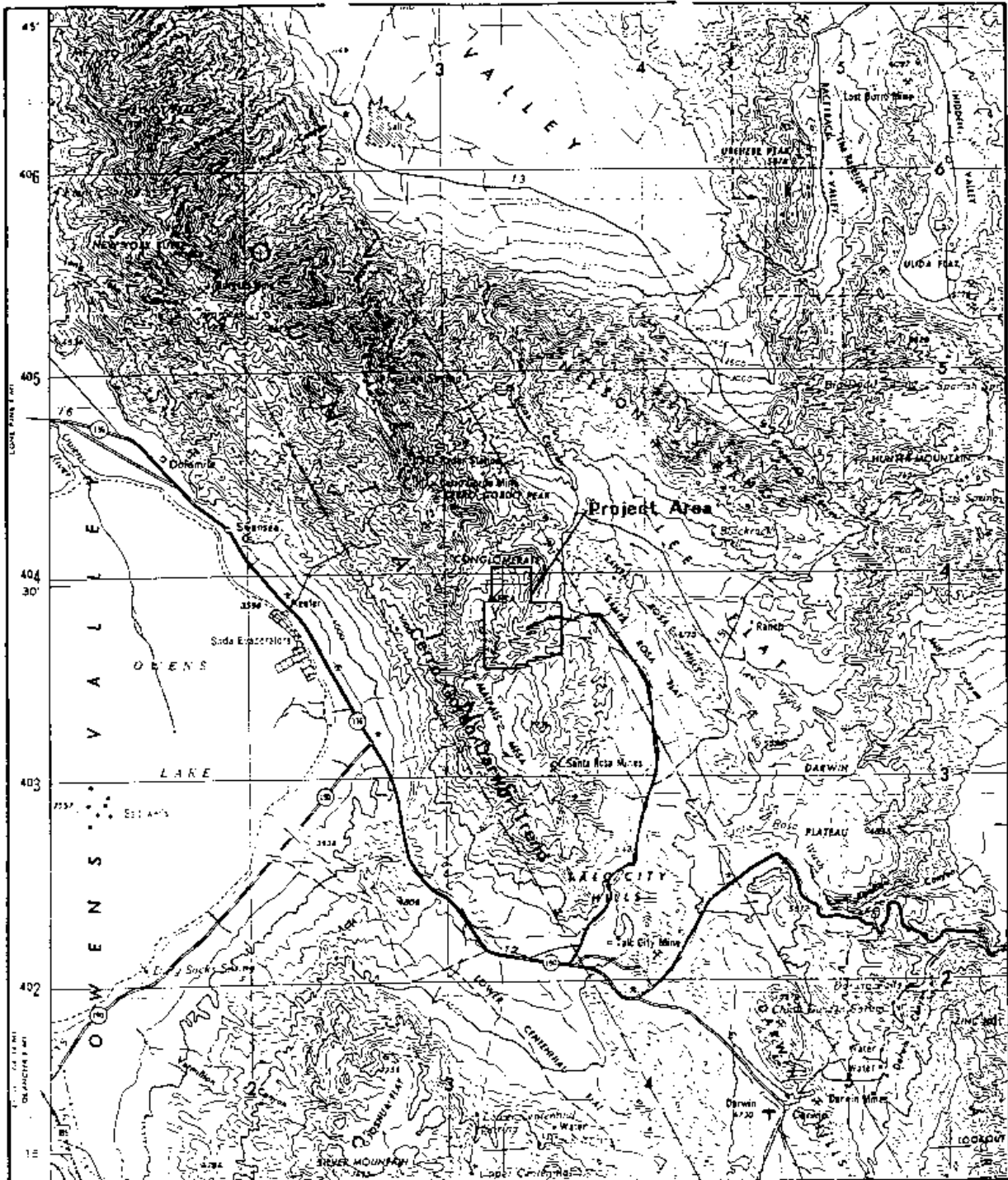
The project area lies within the ancestral homelands of the Timbisha Shoshone Tribe of Death Valley. A summary of the proposed project, maps of the project area and a summary of the findings of the cultural survey were sent to the Tribe for consultation on May 12, 1997. The Tribe requested more information on June 10, 1997. A complete copy of the proposed Plan of Operations and Cultural Survey were sent to the tribe on June 11, 1997.

Monitoring (40 CFR 1505.3)

Monitoring of the analysis and conclusions made in CA065NEPA97-25 will be conducted by BLM resource specialists to assure consistency. If impacts exceed the anticipated amounts, new stand-alone NEPA-compliance documents will be prepared.

Richard S. Smith 6/30/97

Delaney
Lee Delaney
Area Manager
Ridgecrest Resource Area



BHP Minerals

Figure 1
Conglomerate Mesa Project Area
Location Map

Scale 1:250,000





U.S. DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 RIDGECREST RESOURCE AREA OFFICE
 300 S. Richmond Road
 Ridgecrest, CA 93555



NEPA COMPLIANCE
 REVIEW SHEET

BHP CONGLOMERATE MESA EXPLORATION DRILLING

NEPA COMPLIANCE NUMBER: CA-065-NEPA97-25

Affected Resource	Staff Specialist
Cultural	<u>Tandi J. Frank</u>
Soils	<u>Shirley W. Harris</u>
Vegetation	<u>Shirley W. Harris</u>
Air Quality	<u>Shirley W. Harris</u>
Wildlife	<u>Jane Schlichter</u>

PROJECT LEAD: George Divers

Date: 6-30-97

BRANCH CHIEF: Joseph R. [unclear]

Date: 6/30/97

NEPA COMPLIANCE: Alfredo V. [unclear]

Date: 6/30/97

The proposed project and alternatives has been scoped by BLM resource specialists to identify issues to be addressed, consultation /coordination requirements and to determine an appropriate level of analysis in accordance with 40 CFR 1501.7



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SUMMARY 40 CFR 1502.12)

This document analyzes the environmental impacts and mitigation of impacts associated with mineral exploration conducted by BHP Minerals International Exploration Inc. on lands and resources administered by the Bureau of Land Management, Ridgecrest Resource Area, California. Exploration activities will be located in the Conglomerate Mesa area of the Inyo Mountains east of Lone Pine, California.

This document anticipates the environmental impacts of mineral exploration activities including road and drill pad construction and overland travel of low ground pressure drilling rigs. The document develops mitigation measures applicable during drilling operations and reclamation that would reduce or eliminate adverse impacts to resource values and unnecessary or undue degradation of the public lands. If exploration operations are approved, field compliance, monitoring and reclamation would follow.

INTRODUCTION

On November 13, 1995, the BLM/Ridgecrest Resource Area received an application for a Plan of Operation from BHP Minerals. The company proposed a drilling exploration for gold mineralization in the Conglomerate Mesa area of the southern Inyo Mountains. The company had completed a drilling project in the same area under a notice (43 CFR 3809). The new proposal exceeded the 5 acre limit for a notice on Class "M" lands in the BLM California Desert District and a Plan of Operation is required.

BHP Minerals will construct 12.4 miles of drill road as defined on maps submitted with their application for a Plan of Operations. Five additional acres of overland two-track road will be disturbed by the all-terrain drill rig used on the project. A total of eighty five drill pads will be leveled either on the constructed roads or on sites accessed by the all-terrain drill rig.

Land Classifications in the area are defined in the California Desert Conservation Area Plan (1980) as amended and redefined by the California Desert Protection Act (1994). The project area is located in Class M lands. The Class M (moderate use) area was set aside for mining and exploration in the Cerro Gordo-Conglomerate Mesa region. A Class L (limited use) island surrounds the Conglomerate Mesa. The project borders this Class L island. The Malpais Mesa Wilderness Area (Class C) was established by the Desert Protection Act in 1994 and is immediately south of the project area.

PURPOSE AND NEED FOR THE PROPOSED ACTION 40 CFR 1502.13

Purpose: The purpose of the exploration program is to define the potential for precious metal ore deposits in the project areas with regard to their exact location, geochemistry and subsurface depth.

Need: The need for the proposed action is to potentially meet the worldwide demand for gold.

CONFORMANCE WITH LAND USE PLAN

This proposed action is subject to the California Desert Conservation Area Plan (CDCA Plan), approved in 1980 and last amended in 1993. The proposed action has been reviewed to determine, if it conforms with the terms and conditions of the land use plan as required by 43 CFR 1610.5-3. The proposed mining activity is consistent with the CDCA Plan, which recognizes, "access to and availability of as much public land as possible for mineral



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exploration and development". "The widespread availability of land and access is a crucial factor in maintaining the outstanding productive potential of Geology-Energy-Mineral resources." (CDCA Plan , 1980, pg 95).

"All mineral exploration and mining operations on public land under BLM surface administration in Multiple-Use Classes C, L, M and I will be subject to the Bureau's surface mining regulations under 43 CFR 3802 and 43 CFR 3809.

Under the 43 CFR 3809 regulations, surface-disturbing mining operations will be regulated to prevent "undue degradation" of the Public Lands and to provide adequate environmental safeguards..." (CDCA, 1980, pg 101).

RELATIONSHIP TO OTHER STATUTES, REGULATIONS AND PLANS

1976 Federal Land Policy & Management Act

Title VI 43 USC 1781 Sec.601 (a) The Congress Finds that-

- (1) the California desert contains historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population;
- (2) the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed;
- (3) the California desert environment and its resources, including certain rare and endangered species of wildlife, plants, and fishes, and numerous archeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use, which are certain to intensify because of the rapidly growing population of southern California;
- (4) the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road vehicles;
- (5) the Secretary has initiated a comprehensive planning process and established an interim management program for the public lands in the California desert; and
- (6) to insure further study of the relationship of man and the California desert environment, preserve the unique and irreplaceable resources, including archeological values, and conserve the use of the economic resources of the California desert, the public must be provided an opportunity to participate in such planning and management, and additional management authority must be provided to the Secretary to facilitate effective implementation of such planning and management.

1969 National Environmental Policy Act

The National Environmental Policy Act of 1969 (**NEPA**), as amended (Pub. L. 91-190, 42 USC 4321 et seq.)

Regulations. 40 CFR Part 1500 (NEPA), 43 CFR Part 1600 (Planning)

Manuals. BLM MS 1790 (NEPA), 516 DM (Departmental Manual)

Handbook. H-1790-1 (NEPA)



40 CFR 1500 Environmental Protection

1500.2 Policy

(b) Implement procedures to make the NEPA process more useful to decisionmakers and the public; to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and alternatives. Environmental "documents" shall be concise, clear, and to the point, and shall be supported by evidence that agencies have made the necessary environmental analyses.

1500.4 Reducing Paperwork

(g) Using a finding of no significant impact when an action not otherwise excluded will not have a significant effect on the human environment and is therefore exempt from requirements to prepare an environmental impact statement (1508.13).

1508.9 Environmental assessment.

"Environmental Assessment":

(a) Means a concise public document for which a Federal agency is responsible that serves to:

- (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
- (2) Aid an agency's compliance with the Act when no environmental impact statement is necessary.
- (3) Facilitate preparation of a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by sec. 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

43 CFR 3809 Regulations (Surface Management of Mining)

The 43 CFR 3809 regulations were promulgated to implement provisions of the Federal Land Policy and Management Act of 1976 for the surface management of mining. The purpose of the 3809 regulations is to prevent undue or unnecessary degradation of the Federal lands due to mining activities. Some of the pertinent environmental standards which would apply to mining and exploration are listed below:

- * Access routes shall be planned for only the minimum width needed for operations and shall follow natural contours, where practicable, to minimize cut and fill. When the construction of access routes involves slopes which require cuts on the inside edge in excess of three feet, the operator may be required to consult with the authorized officer concerning the most appropriate location of the access route prior to commencing operations.

Reclamation shall include but shall not be limited to:

- * Saving of topsoil for final application after reshaping of disturbed areas has been completed;



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- * Measures to control erosion, landslides and water runoff;
- * Reshaping the area disturbed, application of the topsoil and revegetation of disturbed areas, where reasonably practicable...
- * Operations ...are subject to monitoring by the authorized officer to ensure that operators are conducting operations in a manner which will not cause undue or unnecessary degradation.
- * Failure of the operator to prevent undue or unnecessary degradation or to complete reclamation to the standards described in this subpart (43 CFR 3809.1-3) may cause the operator to be subject to a notice of noncompliance as described in 43 CFR 3809.3-2 of this title.

Under the 43 CFR 3809 regulations, Plans of Operation must conform to all applicable Federal, and State laws such as laws to protect air and water quality, wildlife including threatened and endangered species, cultural resources, etc.

SMARA

The Surface Mining and Reclamation Act of 1975 (SMARA) is a California law which addresses mining reclamation. The SMARA statutes also apply to mineral exploration. Mineral operations that disturb more than one acre of surface land or that excavate more than 1000 cubic yards at a single location must obtain a SMARA reclamation plan. The local County Planning Department is the lead agency for SMARA

Water Quality

Clean Water Act (CWA) Section 401 water quality certification program) CWA Section 401 gives the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) 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 waterbodies 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 a 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. The entire area under analysis in this EA is within the Lahontan Region and under the jurisdiction of the Lahontan Regional Water Quality Control Board.

Air Quality

The management/enforcement of the air quality standards in the project area falls within the Great Basin Unified Air Pollution Control District. Operations are subject to rules designed to implement the State Implementation Plans (SIP's) for the attainment of Federal and State of California air quality standards in specific areas of nonattainment and additional rules for permitting stationary sources of air pollution, such as engines, screening plants, etc. as well as fugitive dust emissions.

"GBUAPCD Rule 401 Fugitive Dust

A person shall take reasonable precautions to prevent visible particulate matter from



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being airborne, under normal wind conditions, beyond the property from which the emission originates. Reasonable precautions include, but are not limited to:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can give rise to airborne dusts;
3. Installation and use of hoods, fans, and fabric filters, to enclose and vent the handling of dusty materials. Adequate contaminant methods shall be employed during such handling operations;
4. Use of water, chemicals, chuting, venting or other precautions to prevent particulate matter from becoming airborne in handling dusty materials to open stockpiles and mobile equipment;
5. Maintenance of roadways in a clean condition."

The Great Basin Valleys Air Basin includes all of Inyo and Mono Counties. These air basins are further broken down into planning areas by the EPA based upon various emission problems or watershed boundaries. Current Federal Non-Attainment areas in the project area include the Owens Valley which is in serious nonattainment for PM₁₀.

State implementation plans has been prepared for each non-attainment area. The SIP's identify sources of the nonattaining air pollutants and control measures to reduce emissions. Section 176(c) of the Clean Air Act (CAA), as amended (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 apply to projects within non-attainment areas. 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 176(c) and 40 CFR part 51 subpart W, a Federal agency must make a determination that a Federal action conforms to the applicable SIP before the action is taken. Appendix II lists State of California and National Ambient Air Quality Standards for major air pollutant species.

Wildlife

A number of public laws, acts and executive orders provide direction to the BLM in managing wildlife resources. Some of these are: National Environmental Policy Act of 1969; Endangered Species Act of 1973 (as amended); Sikes Act; Executive Order No. 11514, Protection and Enhancement of Environmental Quality; Federal Land Policy And Management Act of 1976. The BLM has translated applicable parts of these 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 and Manual 6740 provides direction for Wetland-Riparian Area Protection and Management.

Special Status Plant Species

BLM will carry out management, consistent with the principals of multiple use, for the



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conservation of Special Status Plant Species and their habitats and will ensure that actions authorized, funded, or carried out do not contribute to the need to federally list any of the species as threatened or endangered.

PROPOSED ACTION

Applicant/ John Zimmerman, Senior Project Geologist
Operator BHP Minerals International Exploration Inc.
5330 South 900 East, Suite 200
Salt Lake City, UT 84117

Representative: Mark Reischman, Project Geologist
11570 Heartpine St.
Reno, NV 89506-9436

Location: T. 16 S., R. 39 E., Sec. 32, 33 southern Inyo Mts. east of
T. T. 17 S., R. 39 E., Sec. 3, 4, 9, 10 Lone Pine, California

Drilling Plan

The applicant proposes to drill approximately 85 drill holes on 12.4 acres (36,500 feet) of new drill roads and 5 acres (22,000 feet) of overland track routes. A D-8 dozer will build the drill roads. No drilling or blasting will be done for road construction. The track routes will result as the all-terrain drill rig drives overland to additional drilling sites. The constructed roads will provide general access to the project area and the all-terrain rig will then access off-road target areas. Drilling will be done from the drill roads and in adjacent off-road areas. Each drill site will need some leveling (a drill pad) to accommodate the drill rig. Total surface disturbance will be 18.9 acres (17.4 acres of road and overland track and 1.5 acres of drill pads). The impact by the all-terrain drill rig on the overland routes will largely depend on the slope of the land. Level areas will suffer some soil compaction and vegetative crushing. Slopes may lose both soil and vegetation during ascent and descent of the drill rig. The drilling project will begin as soon as approval is obtained from pertinent regulatory agencies. The project will take approximately 6 to 9 months.

Diesel fuel will be transported to the site daily by the drilling contractor. Water will be obtained in Lone Pine from private sources. Water will be stored at the site in a 10,000 gallon water tank located on the main access road. An all-terrain water truck will ferry water for daily use in drilling. Approximately 2,000 gallons will be used daily in drilling. The drill rig generally uses air to return ground rock to the surface but water is used for circulation in friable or slumping ground to bind the loose material and to return drill cuttings. Water is also needed in damp ground to return cuttings to the surface. There will be no discharge of water to surface drainage.

Access

Access to the site is on State Highway 190; north on the Santa Rosa Mine road 5.5 miles; bear right on the Santa Rosa Flat road for another 5 miles and then turn west on a rough jeep road to the east side of the site. The Santa Rosa Flat road and jeep trail will be graded by the applicant in order to move in the water tank to a location as proximal to the site as possible. The jeep trail will be widened and this would add marginally to the area of new surface disturbance. See attached maps at the end of this document.



Equipment and Personnel

- one rubber-tired or tracked all-terrain, reverse circulation air rotary drilling rig
- one rubber-tired all-terrain drilling service vehicle
- one rubber-tired all-terrain water truck (2000 gal.)
- one conventional water truck (4000 gal.)
- one tracked dozer (for road building)
- one backhoe or small tractor with tines for raking or tilling
- 3 man drill crew, one or two geologists. Pickup for transport

Prior disturbance

A drilling project was done in parts of the project area by Newmont Exploration Inc. in the early 1990's. All-terrain drill rigs were used. Newmont used an access route which is now in the Malpais Mesa Wilderness Area and therefore not currently available for vehicular travel. There are no existing structures or other mining-related disturbance in the proposed project area.

Reclamation Measures Proposed by the Applicant

Drill roads have been chosen to minimize cut and fill and slope cuts. Grades will not exceed 15°. Use of the all-terrain drill rig will limit the off-road route width to approximately 10 feet. Roadwork will be routed around trees if possible. The use of the all-terrain drill rig will limit road construction to the minimum needed for general access to the target drill areas. All drill pads will be recontoured by the drilling rig immediately after the hole is completed (the drill rig has a front-mounted blade). Overland drill routes and all drill pads will be raked by hand or by a tractor or backhoe. The drill roads will be recontoured and reseeded if needed. Reclamation of disturbed areas will be completed to the standards of federal regulations at 43 CFR 3809.1-3(d). Drill holes will be abandoned (plugged) according to BLM and other regulations.

If the Company retains the property, the drill roads may be subsumed into a new Plan of Operations for additional exploration or mining. Sale of the property to another mining company may result in a transfer of reclamation liability for the drill roads.

ALTERNATIVES TO THE PROPOSED ACTION

ALTERNATIVES REJECTED FROM FURTHER ANALYSIS

Under the the United States (1872) Mining Law, claimants have the right to explore for, extract and process minerals on their mining claims. Applications for exploration or mining are submitted to the BLM under the 43 CFR 3809 (Surface Management of Mining) regulations. The BLM is limited in fully evaluating the range of alternatives (i.e. locations, access, equipment and type of processing activities) which can be considered in a mineral exploration operation. Within these constraints, only the **Proposed Action**, with additional mitigation measures (not incorporated into the proposed Action) and the **No Action Alternative** will be fully analyzed in this document.



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NO ACTION ALTERNATIVE

The No Action Alternative forms the basis from which the Proposed Action is evaluated. The project area is relatively pristine and the primary land use is wildlife habitat. The Inyo County General plan classifies the area as "Open Space Natural Resources." With No Action at the site the project would not take place. It is against this background that the Environmental Consequences and Mitigation Measures should be weighed.

AFFECTED ENVIRONMENT

The Conglomerate Mesa area ranges in elevation from 6400 feet to 7500 feet and has moderate relief. Annual precipitation is from 4 inches to 6 inches. There is no surface water in the project area. Depth to groundwater is unknown.

BLM resource specialists have identified the following critical elements of the environment as those potentially or likely to be impacted by the applications considered under the Proposed Action:

<u>Critical Element</u>	<u>Affected</u>		<u>Critical Element</u>	<u>Affected</u>	
	<u>Yes</u>	<u>No</u>		<u>Yes</u>	<u>No</u>
Air Quality		X	Range		X
Cultural Resources	X		Soils	X	
Farmlands, Prime/Unique		X	Visual		X
Floodplains		X	T & E Animals		X
Forestry		X	Wastes, Hazardous/Solids		X
Fire Mgmt. Objectives		X	Water Quality		X
Lands (existing rights)		X	Wetlands and Riparian		X
Minerals			Wild and Scenic Rivers		X
Nat. Amer. Rel. Concerns		X	Wildlife	X	
Paleontology		X	Wild Horse and Burro		X
Socioeconomic		X	T & E Plants		X
Vegetation	X		Wilderness		X

Cultural Resources, Soils, Vegetation and Wildlife

Cultural Resources

The generalized geographic zone in which the project area is situated is conducive to the discovery of both prehistoric and historic period cultural resources. This may in part be attributable to the terrain, elevation, vegetation community, and geologic character of area. Despite this presumed parity in site type distribution, the current project area survey located only historic period, euro-american sites.

Soils

Soils in the area are shallow and rocky and susceptible to accelerated erosion from wind and water especially when the surface has been disturbed. Any soils that exist are important as a growth medium and repository for seeds.

Vegetation

The vegetation in the project area is influenced by the terrain. Thin rocky soils with numerous



small rock outcrops cover much of the slope and ridge area where most of the proposed roads and drill sites occur. The vegetation on these sites is somewhat transitional between a sagebrush (*Artemisia tridentata* or *A. Nova*) scrub and a shadscale (*Atriplex confertifolia*) shrub community as defined by Holland (1986). Widely scattered Joshua trees (*Yucca brevifolia*) also occur on this area. Small patches of Great Basin pinyon-juniper woodland (*Pinus monophylla* and *Juniperus osteosperma*) form a mosaic with sagebrush scrub on some of the north exposures and high ridges. A lack of botanical survey information and known special status plants in the area led to a botanical survey of the proposed access routes and drill pad areas and a report entitled, "Late Winter Botanical Survey of the Proposed BPH Minerals Conglomerate Mesa Exploration Project, Inyo County, California" (Bagely 1997).

No federal or state listed, proposed or candidate threatened or endangered plant species were found during botanical surveys of the area. Eight populations of Inyo rock daisy (*Ferityle inyoensis*) (A BLM Special Status Specie) were found to occur along the proposed access routes and drill areas. The Inyo rock daisy occurs in crevices in limestone cliffs and outcrops. In addition, Mojave fish-hook cactus (*Sclerocactus polyancisterus*) a California Native Plant Society List 4 plant was found to occur in the project area. The locations of the these two plant populations were flagged in the field and mapped.

Wildlife

The following information is based on biological surveys conducted by Peter Woodman, Kiva Biological Consulting, for BHP Minerals, Inc. for the Conglomerate Mesa Project, between February 12 and February 14, 1997.

A complete list of potential species of concern which may occur on the proposed project site and animal species observed during the survey can be found in Appendix 1 and 2 of the Woodman biological report.

Twelve species of sensitive animals were identified as having potential of being resident or visitants to the project site. These sensitive species and their legal status are listed in Table 1 of the Woodman biological report. A discussion of each of these species is included in the report as well.

No state or federal listed threatened or endangered species were found on the project site.

Overall, a small number of species were observed on the site and it does not appear to be densely populated by wildlife. The lack of water on the project site probably restricts the number of species that may be found.



**ENVIRONMENTAL CONSEQUENCES AND RECOMMENDED MITIGATION
MEASURES 40 CFR 1502.16**

Introduction

This chapter discusses anticipated direct and indirect impacts of the Proposed Action on the affected resources and recommends mitigation measures, for each resource if necessary, to offset these impacts. In addition, irreversible and irretrievable commitment of resources, residual and cumulative impacts are also addressed.

Cultural resources

In February of 1997, an independent cultural resources consulting firm conducted a Class III cultural resources inventory of all access roads, over land travel routes, and drill locations proposed within the project area. This inventory resulted in the documentation of two historic period archaeological properties and four isolated artifacts. The two historic period properties have been given the numerical designators CA-Iny-5079H and CA-Iny-5080H. CA-Iny-5079H is characterized as a small tin can scatter possible associated with mining activities while CA-Iny-5080H is a larger site thought to represent a late nineteenth century charcoal production camp also associated with mining. At the current time, both of these cultural resource properties are considered to be eligible for inclusion in the National Register of Historic Places.

Direct Impacts of the Proposed Action

As proposed, aspects of the project would result in an impact to archaeological properties CA-Iny-5079H and CA-Iny-5080H both of which are presently considered to be eligible for inclusion in the National Register of Historic Places. Specifically, site CA-Iny-5079H is currently bisected by the proposed access route to drill location 19. Likewise, drill locations 34 and 35, along with their associated access routes, are situated within site CA-Iny-5080.

Recommended Mitigation

The following modifications shall be made to the project plan in order to avoid impacts to cultural resources:

1. The access route to drill location 19 shall be shifted 35 feet to the north or south of its current position thereby avoiding site CA-Iny-5079H.
2. Drill locations 34 and 35, along with their associated access routes shall be dropped from the project proposal. No surface disturbance shall occur within these areas.
3. Surface disturbance shall occur only within those areas previously subject to cultural resources inventory. Specifically, the access roads, over land travel routes, and drill



locations depicted within the revised Conglomerate Mesa Proposed Drill Sites and Roadbuilding map of October 1996.

Irreversible and Irretrievable Commitment of Resources.

None.

Residual Impacts

None.

Cumulative Impacts.

None.

Soils

Direct Impacts of the Proposed Action

Exposure of soil surfaces during project activities is likely to result in wind erosion and soil losses or movement. Surface compaction is likely to result in increased water runoff and an increase in soil erosion.

Irreversible and Irretrievable Commitment of Resources.

Soil losses due to the proposed action are irreversible and irretrievable.

Residual Impacts

The proposed action would result in a partial loss of soils from the site. Regeneration of soils to predisturbance levels may take thousands of years.

Cumulative Impacts.

Soils are shallow and rocky and the project would have no significant impact on the regional soils.

Recommended Mitigation

Drainage control shall be constructed on the main drill roads. This can be accomplished through the use of crowning 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:

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



Every drainage dip shall drain water into an adjacent turnout ditches.

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 a 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:

Additional stipulations for soil conservation:

- * Strip and stockpile topsoil during construction of the main drill roads. Reapply topsoil during final reclamation of the site.
- * Loosen subsoil on drill pads and drill roads to relieve compaction and aid revegetation.
- * Prohibit the discharge of petroleum or hazardous wastes on site.

Vegetation

Direct and Indirect Impacts of the Proposed Action

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

Irreversible and Irretrievable Commitment of Resources.

None

Residual Impacts

Natural revegetation of the site would be very slow. The site would not likely return to its predisturbance species mix and biomass within 100 years. Implementation of a reclamation plan would speed up site recovery.

Cumulative Impacts.

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



duration of the site use.

Recommended Mitigation

- * Travel to and from the drill sites accessed by the all-terrain drilling equipment shall be minimized to limit compaction of soils and destruction to vegetation.
- * Save top soil with its seeds and soil biota to reapply as part of rehabilitation
- * Conduct concurrent rehabilitation on disturbed sites which are no longer needed for the operation.
- * Keep blading to the minimum necessary. Run over vegetation instead of blading where possible.

Special Status Plants

Direct & Indirect Impacts

Eight populations of BLM Special Status Plant (Inyo rock daisy) and a number of species of concern (Mojave fish-hook cactus) or their habitat could be impacted by the proposed action.

Irreversible and Irretrievable Commitment of Resources

Habitat is limited for the Inyo rock daisy and its loss would be irreplaceable.

Residual Impacts

Plants lost would likely grow back. For Habitat, which consists of crevices in limestone cliffs, losses would be permanent.

Cumulative Impacts

Unknown

Recommended Mitigation

The plants of concern are all flagged and mapped and should (and could) be avoided in the field.

Wildlife

Direct and Indirect Impacts of the Proposed Action



Based on the results of the biological surveys conducted by Woodman (1997), it has been determined that potential impacts on wildlife, due to the proposed mineral exploration, would be temporary and not significant.

If mineral exploration leads to future mining activities, potential impacts to wildlife in the area may be analysed in an Environmental Impact Statement.

Irreversible and Irretrievable Commitment of Resources: NONE

Mitigating Measures

The following recommendations are suggested to minimize or eliminate any adverse impacts to wildlife which could occur:

1. An Environmental Compliance Officer would be appointed by the operator to ensure that mitigation measures are followed.
2. A biologist/botanist/geologist or other qualified BLM personnel would visit the site early during road construction to ensure road widths (especially areas on slopes where cuts and fill are necessary) are as stipulated on the permit. In addition, a designated biologist would visit the site 1 or 2 times during the drilling program to ensure that all mitigation measures are being followed.
3. Access to the sites by the general public would be denied after completion of the project. Thus, recontouring and revegetation would be conducted under the supervision of a person acceptable to the regulatory agencies.

Residual Impacts NONE

Cumulative Impacts NONE

CUMULATIVE IMPACTS

Cumulative impacts are those effects on the resources of an area or region caused by the combination of existing, proposed and reasonably foreseeable future activities, including mining and other projects. The effects of each project may be individually minor, but together may be significant. The area of assessment for cumulative impacts is the Conglomerate Mesa area in the southern Inyo Mountains. Some low impact exploration drilling with the use of off-road drilling rigs was done in the early 1990's. Historic mining disturbance from underground mining is present at Cerro Gordo 4 miles northeast of the project area. The inactive Santa Rosa Mine is located 4 miles south of the site. The Conglomerate Mesa area is used by occasional hikers. Existing dirt roads



split from the Santa Rosa Flat Road and provide access to the east edge of the project area. However, there are no current roads in the project area.

The potential for cumulative impacts to all resource categories is considered low for reasons that the direct and indirect impacts of the exploration project are not significant. In addition, the distance between this drilling project area and nearby areas of surface disturbance is large and will not cumulatively impact any resource category. Air impacts are minimal and the project, as proposed, does not exceed the de minimus emission levels and does conform to the State Implementation Plan for the region.

ADDITIONAL MITIGATION MEASURES

Drill holes shall be abandoned and plugged in accordance with State law or the BLM Solid Minerals Reclamation Handbook.

Drill holes, not plugged immediately, shall be covered or capped to prevent injury or death to wildlife.

All sanitary or other waste disposal shall comply with state and county codes. Personnel shall use a portable sanitary waste facility.

No motor or hydraulic oil or other petroleum products shall be disposed of on the site.

Do not collect or otherwise disturb any historic or prehistoric artifacts which may be encountered in the area of operations. If historic or prehistoric artifacts are encountered during development or reclamation activities, operations in the vicinity of the discovered resources shall cease immediately and the operator shall notify the BLM. The BLM will, as appropriate, evaluate the significance of the find and determine the need for mitigation. The operator shall not proceed with potentially disturbing activities until authorized by the BLM.

Wild horses and burros, when encountered during operations or during road transport, shall be avoided, so as not to frighten or injure the animals.

List of Preparers

The following Ridgecrest Resource Area staff were consulted during the preparation of this document and some have drafted portions of it:

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Consultation

Inyo County Planning Department, Great Basin APCD.
The Timbisha-Shoshone Tribe of Death Valley were sent a summary of the BHP drilling project on May 12, 1997 and the complete Plan of Operations and cultural resources report for the project area on June 11, 1997.

Literature Cited

Woodman, Peter. 1997, Vertebrate Survey for a Proposed Drilling Program in Inyo County, California. Kiva Biological Consulting, Inyokern, California.

Appendixes

Maps of the region and project area with proposed roads.

Report: Vertebrate Survey for a Proposed Drilling Program in Inyo County, California.