

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

**Record of Decision
for the
Imperial Project
Gold Mine Proposal

Imperial County, California**

Prepared by:

United States Department of the Interior
Bureau of Land Management
California State Office
California Desert District
El Centro Field Office

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Approved by:


Secretary of the Interior


Date

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EXECUTIVE SUMMARY

This document constitutes the Record of Decision (ROD) for the Imperial Project, an open-pit gold mine proposed by the Glamis Imperial Corporation on public lands administered by the Department of the Interior's Bureau of Land Management (BLM) in eastern Imperial County, California. This ROD is prepared in accordance with the National Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA), and other applicable Federal laws and regulations.

After extensive analysis, public review and comment, and application of pertinent Federal laws and policies, it is the decision of the Department of the Interior, based upon the recommendation of the BLM, not to approve the plan of operations for the Imperial Project. This represents the No Action alternative as described in the Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) published jointly by BLM and Imperial County on November 17, 2000. The FEIS/EIR is available online at http://www.ca.blm.gov/elcentro/imperial_project.html.

This decision is based upon the following key factors determined to be unique to this particular proposal:

- the proposed project is located in an area determined to have nationally significant Native American values and historic properties and would cause unavoidable adverse impacts to these resources.
- the proposed project will result in unavoidable adverse impacts to visual quality in this substantially undisturbed landscape.
- the impacts of the proposed project cannot be mitigated to the point of meeting the statutory requirement in FLPMA that BLM must prevent "undue impairment" of the public lands in the CDCA.
- the proposed project is inconsistent with the CDCA plan.
- the identified unavoidable and adverse environmental impacts resulting from the project override the possible economic benefits that might be derived from the project.
- the proposed project fails to meet the overall statutory requirement in FLPMA that BLM must prevent "unnecessary or undue degradation" of the public land resources.

The proposed project area, about 45 miles northeast of El Centro, California, and 20 miles northwest of Yuma, Arizona, lies within the boundaries of the California Desert Conservation Area (CDCA), designated by Congress in Section 601 of FLPMA as a region requiring special management due to its nationally significant resources. The proposed project, to be located on 1,571 acres of unpatented mining claims held by Glamis Imperial Corporation, would encompass a mine and processing area, including open pits, waste rock and topsoil stockpiles, heap leach pads, administrative and maintenance facilities, a precious metal recovery plant, haul roads, an electrical substation, distribution lines, and associated facilities. Up to 150 million tons of ore would be mined and leached, and an additional 300 million tons of waste rock would be deposited on the site under the proposal.

In making the determination that the proposed project area contains nationally significant Native American values and historic properties, this ROD relies heavily upon the advice of the Advisory Council on Historic Preservation, an official Presidential advisory organization. The Council advised the Secretary of the Interior on October 19, 1999, that the Indian Pass-Running Man Area of Traditional Cultural Concern in which the project would be located is archeologically significant and retains critical religious, historic, and educational importance to the Native American tribes in the area. The Council further advised that even if all feasible mitigation measures identified were required as a condition of approval, the project would still result in serious and irreparable degradation of the sacred and historic values in the area. The Council concluded that the project would effectively destroy the identified historic resources and recommended denial of the project. A copy of the Council's letter is included as Appendix A of this ROD.

In interpreting the legal authorities pertaining to this particular project, this ROD relies upon the Department of the Interior Solicitor's Opinion of December 27, 1999, which describes the nature of BLM's discretionary authority under the statutory standards of "undue impairment" and "unnecessary or undue degradation" to proposed actions on the public lands in the CDCA. A copy of the Opinion is included as Appendix B of this ROD.

In addition to Glamis Imperial Corporation's proposed action and the No Action alternative (not to approve the plan of operations), the Department also considered West Pit, East Pit, and Complete Pit Backfill alternatives. Several other alternatives were considered initially but were eliminated from detailed analysis in the FEIS/EIR, including alternative mine locations, alternatives to relocate facilities, and alternative mining and processing methods. The No Action alternative is both the agency's preferred alternative and the environmentally preferable alternative as identified in the FEIS/EIR.

During the extensive environmental review process, the combined public comment periods provided for approximately 11 months of public review. A draft EIS/EIR on the project was published in November 1996 for public review and comment through March 1997. Based upon public comments received, the November 1996 draft EIS/EIR was withdrawn and a new draft EIS/EIR was prepared and published November 1997 for public comment through April 1998. Four public hearings were held to receive comments on the two drafts. A public hearing on the project was also conducted by the Advisory Council on Historic Preservation in March 1999. Public comments on the FEIS/EIR were also accepted for 30 days. Approximately 1,000 individual comments were received by BLM on the project during these comment periods. These comments were carefully considered and are addressed in the FEIS or in this ROD.

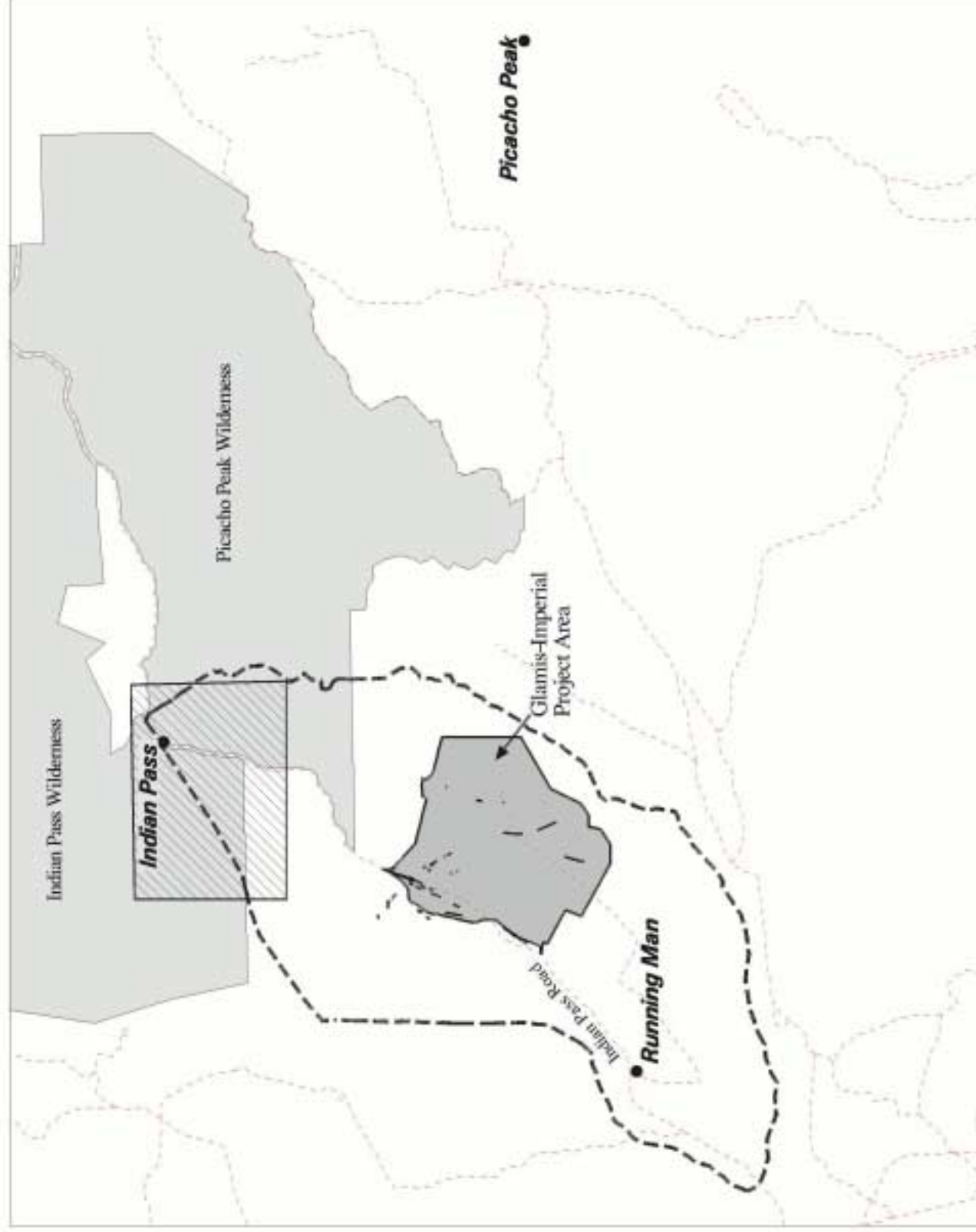
Since this was a joint environmental review process, BLM worked closely with Imperial County in the EIS/EIR preparation. As part of the environmental review process, BLM and Imperial County consulted and coordinated with the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the U.S. Geological Survey, the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation (Lower Colorado Division), the Advisory Council on

Historic Preservation, the Governor's Office of Planning and Research, the California Department of Conservation, the California Department of Fish and Game, the California State Office of Historic Preservation, the California Native American Heritage Commission, the California Regional Water Quality Control Board, the Metropolitan Water District of Southern California, and the Southern California Association of Governments. In accordance with Section 106 of the National Historic Preservation Act, BLM also officially consulted with the Quechan Tribal Council, Fort Yuma Indian Reservation. In addition to correspondence from the Quechan Tribe and verbal discussions and tours with Tribal members, BLM held three formal government-to-government consultations with the Tribe: December 16, 1997; February 4, 2000; and November 27, 2000.








This ROD constitutes the final administrative decision of the Department of the Interior.

Additional information on this decision can be obtained from BLM's El Centro Field Office, 1661 S. 4th Street, El Centro, California, 92243, telephone (760) 337-4400.

Proposed Imperial Project Area



Legend

-  Mining Project Area
-  Wilderness Areas
-  Area of Critical Environmental Concern
-  Area of Traditional Cultural Concern
-  Ancient trails
-  Roads
-  Points of Interest



December 2000

Locator Map

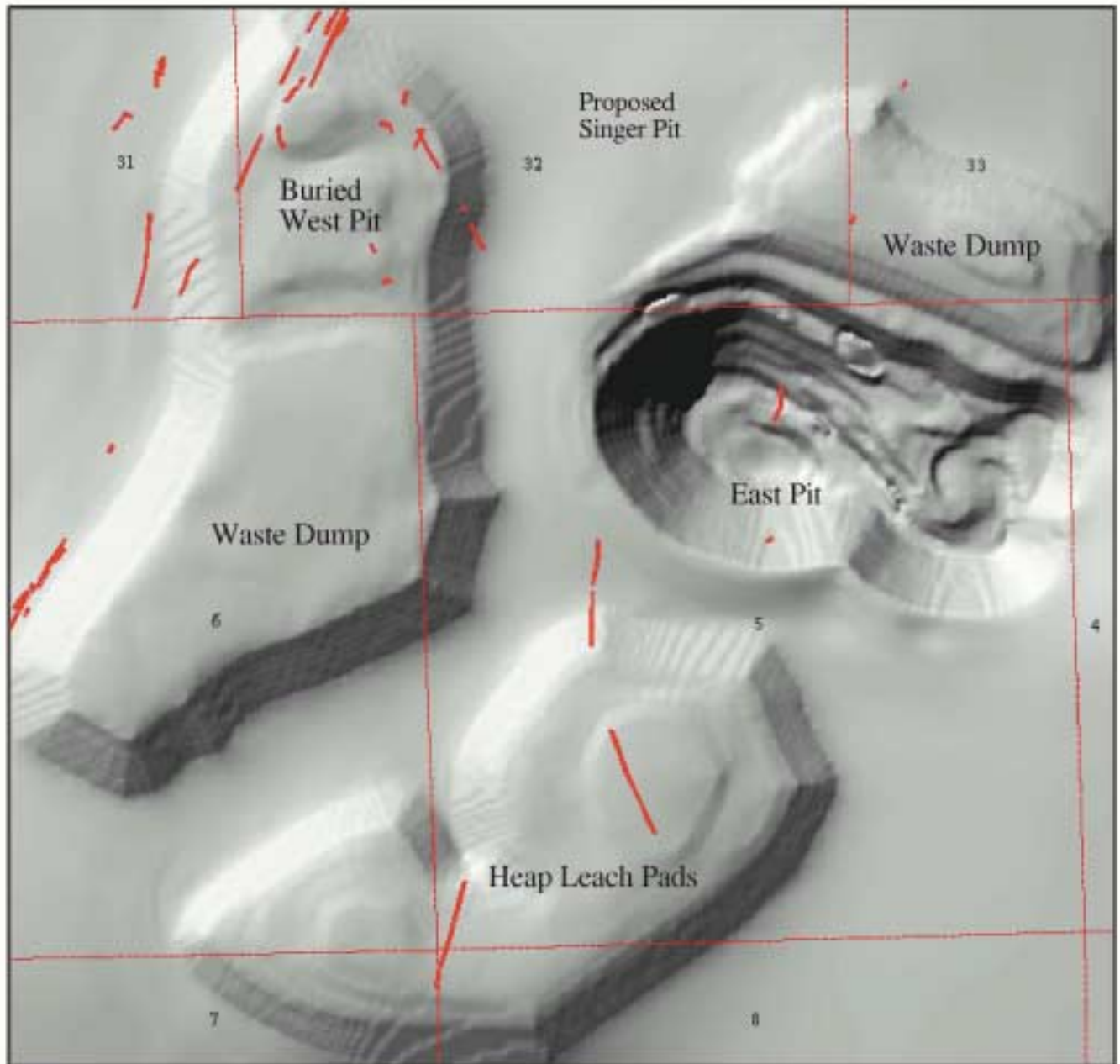



Map Area
Imperial County
Mapscale 1:85000

Figure 1

Proposed Imperial Project Area

Modeled Pit and Waste Dumps



 Section Lines


 Ancient Trails



Figure 2

Proposed Imperial Project Area Before/After Simulation View

December 2000

Northeast View from Running Man Trail Before Operations



Northeast View from Running Man Trail After Operations



Figure 3

DECISION

After extensive analysis, public review and comment, and application of pertinent Federal laws and policies, it is the decision of the Department of the Interior, based upon the recommendation of the BLM, not to approve the plan of operations for the Imperial Project. This represents the No Action alternative as specified in the FEIS/EIR published jointly by BLM and Imperial County on November 17, 2000.

This decision is based upon the following key factors determined to be unique to this particular proposal:

- the proposed project is located in an area determined to have nationally significant Native American values and historic properties and would cause unavoidable adverse impacts to these resources.
- the proposed project will result in unavoidable adverse impacts to visual quality in this substantially undisturbed landscape.
- the impacts of the proposed project cannot be mitigated to the point of meeting the statutory requirement in FLPMA that BLM must prevent “undue impairment” of the public lands in the CDCA.
- the proposed project is inconsistent with the CDCA plan.
- the identified unavoidable and adverse environmental impacts resulting from the project override the possible economic benefits that might be derived from the project.
- the proposed project fails to meet the overall statutory requirement in FLPMA that BLM must prevent “unnecessary or undue degradation” of the public land resources.

RATIONALE

The proposed project would cause significant and unavoidable adverse impacts to values of critical importance to Native American Tribes.

The proposed project would significantly damage the network of Native American trail segments and related cultural resources associated with the nationally significant Indian Pass-Running Man Area of Traditional Cultural Concern (ATCC) (see Figure 1 and Appendix D). The Indian Pass-Running Man ATCC is recognized by the Department as having values of critical religious, cultural, and educational importance to the Colorado River Indian Tribes, Ft. Mojave Indian Tribe, and particularly the Quechan Tribe. Development and operation of the proposed gold mine would significantly diminish the integrity and spiritual qualities of the ATCC as a place of solitude, knowledge, and power to the tribes.

The proposed project would destroy portions of the Trail of Dreams, other trails, and related ceremonial areas providing a spiritual pathway between Pilot Knob, 25 miles from the site, and Newberry Mountain, 115 miles away. The Quechan and the other tribes believe the project would impair the ability to travel, both physically and spiritually, along the Trail of Dreams; to make ceremonial use of the prayer circles, rock alignments, and other cultural features in the project area; to gain protection from metaphysical dangers; and to continue to use the project area for vision quests and teaching tribal youths about their culture.

In consideration of the scope and magnitude of the project's potential impacts to critical Native American values, BLM requested the advice of the Advisory Council on Historic Preservation. The Council's findings and recommendations were formally submitted to the Secretary on October 19, 1999 (see Appendix A). The Department has considered these recommendations and concurs with the following Council findings: 1) the values of the ATCC are of premier importance to the Quechan Tribe for sustaining their traditional religion and culture; 2) the ATCC has retained sufficient integrity of setting, feeling, and association to remain a critically important area for traditional uses; 3) the proposed mining operation would unduly degrade the ATCC; 4) concerned individuals and the Quechan Tribe have consistently voiced their overwhelming opposition to the project; and 5) mitigation measures proposed by Glamis Imperial Corporation are not adequate to compensate for the loss of Native American values and historic properties if the mining project were approved.

Approval of the proposed project would not be in conformance with Executive Order 13007 on Indian Sacred Sites. The proposed project would not conform to Executive Order 13007 because the project would destroy access to and the ceremonial use of sacred sites by the Quechan and would significantly harm the integrity of sacred sites. While direct physical damage could be reduced on some sites through mitigation proposed by Glamis Imperial Corporation, according to the Quechan, the overall loss of the integrity of the ATCC and its spiritual value to the Quechan could not be offset. Further, the Quechan have stated financial or off-site mitigation measures

would not compensate for these adverse impacts. This conclusion is supported by the Council, the California State Historic Preservation Office, and the California Native American Heritage Commission.

Approval of the proposed project would result in disproportionate adverse impacts to Native Americans, and thus would also not conform with Executive Order 12898 on Environmental Justice. The Quechan have consistently expressed concern over the cumulative impacts of the proposed project. When combined with the impacts from existing mines, interstate highway development, and other land development in their traditional territory, the impacts of the proposed project would result in an increase in the already significant loss of values to the Quechan. Archaeological surveys and historic records over the past 20 years have documented Native American values and historic properties lost to the Quechan as a result of various Federal and State projects. The Quechan have stated that other substantial unrecorded losses have also occurred.

The proposed project would cause significant and unavoidable adverse impacts to historic properties determined eligible for the National Register of Historic Places.

The proposed project would have an adverse effect on 55 historic properties determined eligible for listing in the National Register of Historic Places, including the Indian Pass-Running Man Area of Traditional Cultural Concern. The eligible properties also include significant Native American trail segments and other historic properties such as geoglyphs, rock rings, ceremonial quartz and ceramic scatters, and cleared circles, both inside and outside the footprint of the proposed project. The eligible properties would be disturbed or destroyed through excavation of the open pits and construction and operation of the leach pad, waste rock and soil stockpiles, diversion channels, haul and access roads, and associated processing and support facilities. In addition to the direct physical effects, mining related noise and visual impacts of the project would further diminish the quality of the eligible properties. In its letter of July 21, 1998, the State Historic Preservation Office has concurred with BLM's determination of adverse effects (Appendix D).

Mitigation measures would reduce but not eliminate adverse effects to 23 of the 55 historic properties determined eligible for the National Register of Historic Places. In the November 1997 draft EIS/EIR, the project proponent modified the initial proposal to provide for mitigation of adverse effects to these resources. The company redesigned the mining plan to reduce impacts including reduction in the heights of the waste rock and stockpiles as well as other design modifications. The company also agreed to undertake an archaeological data recovery program to preserve archeological materials and compensate the Quechan through enhancement of the existing Quechan heritage preservation program, including the acquisition and preservation of off-site archaeological resources.

However, the mitigation measures proposed by Glamis Imperial Corporation would not be effective in reducing adverse effects on 32 of the 55 historic properties. Even after implementing the mitigation measures, characteristics relating to integrity of setting, feeling, and association,

which qualify the properties for listing to the National Register of Historic Places, would be irreversibly disturbed by mining activities: integrity of the Trail of Dreams, other prehistoric trails, and related ceremonial areas would be impaired; the existing natural landscape would be permanently altered; opportunities for solitude would be diminished; and the overall spiritual value of the ATCC would be irreversibly damaged. The Council, after reviewing the company's proposed mitigation measures and carefully evaluating the potential impacts, stated in its October 19, 1999 letter to the Secretary of the Interior (see Appendix A) that the mitigation measures would "do little to reduce the devastating impacts on the historic properties and their environment and fall short of compensating for the loss of traditional, religious, and cultural values of the ATCC." The Department agrees with the Advisory Council's conclusion.

The proposed project would cause significant and unavoidable adverse impacts to visual quality.

The project would result in significant long-term change to the area's sensitive visual quality. It would, therefore, not conform to the CDCA plan's applicable visual resources management rating, which provides for the existing landscape character to be maintained (see Appendix C).

An open 880-foot deep East Pit, and 280-foot high waste rock stockpiles and heap would remain as permanent substantial changes to the existing undisturbed natural landscape (see Figures 2 and 3). The level of contrast would gradually diminish after backfilling of the Singer and West Pits, regrading and replanting native vegetation, and overall reclamation of the site following completion of mining. However, the substantial visual contrast would remain after final reclamation is completed.

The project would result in significant visual impacts, specifically: (1) disruption of the existing landscape with new man-made land forms, including waste rock and leach piles which would be 100-150 feet higher than any existing natural features in the vicinity; (2) alteration of surface color, texture, and vegetation cover on approximately 1,300 acres; and (3) adverse effects to a landscape which includes Picacho Peak, Indian Pass, and other unique natural landmarks that are also historically important to Native American culture and the general public. These visual impacts would be clearly visible from the Indian Pass Road and other routes of travel in the immediate vicinity of the project area.

The proposed project would permanently alter the character of a visually sensitive area. The factors that cause the project site to be sensitive to changes in visual quality include: (1) the existing visual quality of the proposed project area and surrounding landscape is substantially undisturbed; (2) the existing topography of gently sloping ground and low rolling ridges provides little opportunity to screen or blend the project within the surrounding landscape; and (3) the 5-10 mile distance between the mine site and the surrounding mountains creates broad depth of field in which the proposed project site is visible from various public vantage points.

The overall effect of significant and unavoidable adverse impacts would cause undue impairment to the CDCA.

The overall effect of significant and unavoidable adverse impacts on Native American values, historic properties, and visual quality would significantly diminish the “scenic, scientific, and environmental values” of the CDCA, values BLM is required by Section 601 of FLPMA to protect. Specifically, the Quechan Tribe’s ability to practice sacred traditions as an integral part of the Quechan culture would be irreparably damaged; 55 traditional historic properties which are eligible for listing in the National Register of Historic Places, including the Running Man/Indian Pass ATCC, would effectively be destroyed; and the scenic quality of a substantially undisturbed area would be irreversibly altered. Despite efforts by Glamis Imperial Corporation to reduce adverse impacts through mitigation, no effective means were found to prevent the significant level of destruction to important CDCA values. Finally, as stated earlier, approval of the project would not conform with Indian Sacred Sites and Environmental Justice Executive Orders. The severity of these combined impacts would be so great, and of such scope and magnitude, that undue impairment would result.

The proposed project would not be in conformance with the CDCA plan.

The proposed project would not conform with the CDCA plan because the significant and unavoidable adverse environmental impacts discussed in this ROD would exceed the maximum level of impact allowed under the plan; thus, the project would result in undue impairment. Further, the scope and magnitude of these effects would be so great as to preclude consideration of a plan amendment to permit the project.

The CDCA plan’s multiple use guidelines and the minerals management provisions of the plan would allow mineral development to be considered in this area. However, no effective means of mitigation were found to avoid significant and unavoidable adverse impacts. Such impacts would irreversibly and irretrievably harm important resources of an area designated in the CDCA plan in 1980 as Multiple Use Class L (Limited Use). Multiple Use Class L is specifically intended for the protection of “sensitive, natural, scenic, ecological, and cultural resource values” and provides for “generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” The proposed project would not achieve this required level of protection.

The Multiple Use Class L designation appropriately fits this area based on the sensitive and significant environmental resources in and around the proposed project site. Because of the identified significant resource values in this area, a plan amendment designating this area as Multiple Use Class M (Moderate Use) or Multiple Use Class I (Intensive Use) would not provide adequate protection and, thus, would not be warranted. On October 27, 2000, the Department of the Interior withdrew the project area and surrounding public lands, totaling 9,360 acres, from further mining to protect recognized historic properties, Native American values, and the visual quality of the ATCC; portions of the Indian Pass Area of Critical Environmental Concern; and portions of the Indian Pass and Picacho Peak Wilderness Areas.

The Department reviewed the records of permitted mines in the CDCA in comparison to the FEIS/EIR analysis of the proposed project. Although BLM has previously approved other large-scale gold mining operations in Multiple Use Class L areas, the unique combination of important environmental factors discussed in this ROD set this proposed project apart from those other projects. Six of the 12 existing CDCA mining operations were approved in Multiple Use Class L areas: America, Colosseum, Picacho, Morning Star, Castle Mountain, and Briggs mines (see Appendix E). Unlike the proposed project, no Native American values or historic property issues (other than preservation of the historic mining activities at some of these sites) were identified during project review for the American, Picacho, Morning Star, Colosseum, and Castle Mountain mines. Native American values or historic properties were identified at the Briggs mine; however, the two identified historic properties were avoided and fenced by the mine operator as a condition of approval of the plan of operations. All of the permitted mines, unlike the proposed project, were located on sites previously disturbed by mining activity. Even in the Briggs mine site, where the evidence of previous mining activity was considered minor, the surrounding mountains were close to the project site and reduced visual contrast to an acceptable level.

The identified unavoidable and adverse environmental impacts resulting from the project override the possible economic benefits that might be derived from the project.

It is the conclusion of the Department that the possible economic benefits that might be derived from the project, as described in the FEIS/EIR and summarized below, do not overcome the legal requirements to prevent undue impairment to public lands in the CDCA.

The Department recognizes the importance of developing public land resources and the economic and social benefits that mining has on the local, regional, and national economies of the United States. Glamis Imperial Corporation estimates that the proposed project would generate up to 120 local job opportunities through the life of the project and would incur approximately \$48 million in initial capital expenditures. In addition, Glamis Imperial Corporation estimates that there would be continuing capital expenditures of \$1.7 million per year and \$26 million per year in non-capital expenditures, including payroll. The proposed project would be required to pay sales tax on all expenditures and pay local property taxes on mine assets. All these effects are possible economic benefits of the proposed project.

However, the mineral deposit involved in this proposed project by its nature requires considerable surface disturbance to support operations. The mineral deposit supporting the proposed project is one of the lowest gold grades for open-pit, dump heap leach operations in the United States (see Appendix F). From Glamis Imperial Corporation's estimates of an average reserve grade of 0.016 ounces of gold per ton, approximately 280 tons of rock would be mined, moved, processed, and stored for each ounce of gold produced. In addition, gold prices have fallen approximately 27 percent since the project was initially proposed in 1995. A decrease from approximately \$384 per ounce in 1995 to an estimated \$278 per ounce in 2000 has significantly reduced the potential of this project to be economically sustainable.

While it is the policy of the Department to consider the possible economic benefits of development of public land resources, that consideration must be made in the context of all other public land resource values, including environmental, historic, and other values. In this case, the overall adverse environmental impacts caused by the project would outweigh the possible economic benefits to be derived from mining a mineral deposit with an average reserve grade of 0.016 ounces of gold per ton.

The proposed project would cause unnecessary or undue degradation to public lands.

As discussed, the significant and unavoidable adverse environmental impacts of the project would result in “undue impairment” because approval of the project would not be in conformance with the CDCA plan and a plan amendment is not warranted. Further, it is determined that loss of the identified scenic, scientific and environmental values to the people of the United States would override the possible economic benefits that might be derived from the project.

By causing undue impairment to CDCA values, it is the conclusion of the Department that the project would result in unnecessary or undue degradation to the public lands.

ALTERNATIVES CONSIDERED

A. ALTERNATIVES TO THE PLAN CONSIDERED IN DETAIL

- Proposed Project (Glamis Imperial Corporation's proposed plan of operations)
- West Pit Alternative
- East Pit Alternative
- Complete Pit Backfill Alternative

Each alternative assumes use of the same environmental protection and reclamation measures as the proposed action.

1. Proposed Action

The proposed action, i.e., Glamis Imperial Corporation's plan of operations as presented to BLM, was to be located on 1,571 acres of unpatented mining claims and would encompass the mine and processing area, including open pits, waste rock and topsoil stockpiles, heap leach pads, administrative and maintenance facilities, a precious metal recovery plant, haul roads, an electrical substation, distribution lines, and associated facilities. Up to 150 million tons of ore would be mined and leached, and 300 million tons of waste rock would be mined and deposited on the site. Specifically, the plan proposed to backfill and reclaim the Singer and West Pits and leave the 880-foot East Pit open (see Figure 3). It also would create two waste dumps and a 280-foot heap leach pad.

The agency's preferred alternative as identified in both the 1996 and 1997 EIS/EIR drafts was the proposed action as presented by Glamis Imperial Corporation. However, the agency preferred alternative was changed to No Action in the November 2000 Final EIS/EIR, to reflect new information concerning historic properties and Native American values. In particular, information concerning historic and archaeological resources identified during expanded field survey and analysis in 1997, a report provided by the Advisory Council on Historic Preservation (see Appendix A), and consultation with the Quechan Tribe substantially increased agency awareness and understanding of the importance of the site to Native Americans. That new information was a significant factor in the agency's decision to change its initial preferred alternative to the No Action alternative, and ultimately in the Department's decision not to approve the Imperial Project.

2. West Pit Alternative

This alternative would create the least amount of total surface disturbance by mining only the West Pit and Singer Pit. Approximately one-third of the disturbance would be produced, compared to the proposed action, or about 40 percent of the ore and 30 percent of the waste rock. Total surface disturbance would be reduced to approximately 853 acres, or about 63 percent of the total 1,362 acres disturbed under the proposed action. Only a small part of the West Pit would be backfilled. The Singer Pit would not be backfilled, since the East Pit would not

be mined. The south waste rock stockpile and the heap leach pile would be about the same height as under the proposed action. Total project life for the West Pit Alternative would be about 10 years, compared to 20 years for the proposed action.

This alternative would slightly reduce the total area of disturbance but would not eliminate significant adverse impacts to Native American values, historic and archaeological resources, and visual quality. The density of historic or archaeological properties determined eligible for the National Register of Historic Places is higher on the west side of the project area, and includes the main trail segments and associated sites. This area would be disturbed under the West Pit Alternative. The remaining waste rock stockpile and heap would be substantially the same height and form as in the proposed action and would cause significant adverse impacts to visual quality, even after mitigation.

3. East Pit Alternative

Under this alternative, the East Pit and Singer Pit would be mined, producing a total of about 67 percent of the mined rock produced under the proposed action, or about 60 percent of the ore and 70 percent of the waste rock. Total surface disturbance under the East Pit Alternative would be reduced to approximately 1,126 acres, or about 83 percent of the total 1,362 acres disturbed under the proposed action. The Singer Pit would be completely backfilled with waste rock from mining the East Pit, and the East Pit would not be backfilled. The south waste rock stockpile and the east waste rock stockpile would still be about the same 300-foot height as the proposed action, but the heap leach pile would be a height of 250 feet. Total project life would be approximately 14 years, versus 20 years. Final reclamation might continue beyond the end of the 14 years. Indian Pass Road would not be relocated around the project mine and process area under the East Pit Alternative.

The East Pit Alternative would disturb 40 percent less surface area than the proposed action. It would not fully develop the identified mineral reserves. It would still require almost the same projected capital and annual operating costs of the East Pit Alternative. Glamis Imperial Corporation stated that this East Pit Alternative would not be an economically viable project, and would not be profitable.

The elimination of the West Pit and reduction in size of the south waste rock stockpile under this alternative would reduce the scope and magnitude of adverse impacts by avoiding the area of highest historic or archaeological site density. However, significant Native American values and historic properties would be destroyed under this alternative, including the overall integrity of the Indian Pass-Running Man ATCC. Impacts to visual quality would be slightly reduced but would also remain significant.

4. Complete Pit Backfill Alternative

The purpose of this alternative was to evaluate the feasibility of complete backfill of all three proposed pits. All available waste rock would be used to completely backfill to at least the

original grade. The East Pit would then be backfilled. Because mined rock occupies more volume than unbroken rock, all the rock from the pit would not fit back into the same pit. Surface disturbance would not be reduced by the Complete Pit Backfill Alternative. Refilling the East Pit could take more than four years, and cost \$80 million to \$100 million. This alternative would reduce the significance of adverse effects to visual resources by eliminating the waste rock stockpiles and the open pit. The heap leach pad would still remain. This alternative would also reduce the significant adverse visual effects to the Indian Pass-Running Man ATCC. The alternative would allow the full amount of discovered ore to be mined. Glamis Imperial Corporation states that the Complete Pit Backfill Alternative would not be an economically viable project, and would not be profitable.

B. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Several other alternatives identified in the FEIS were not analyzed in detail. These are summarized below.

1. Alternative Mine Locations

One alternative was to construct and operate a mine at an entirely different location than the proposed project area. However, such an alternative would fail to meet the objectives of the proposed action, to profitably recover the precious metals within the project site. Another alternative included potential off-site locations for the mine facilities, pits, heap leach pad, and waste rock stockpiles. However, there was no environmental advantage to this alternative as the disturbance would be greater in scope and equal in impact.

2. Alternatives to Relocate Road, Water Wells, and Utility Corridors

Since these alternatives did not substantially decrease any of the significant adverse effects of the proposed action, and because the cost would reduce conformance with the basic project objectives, these were eliminated from any further consideration.

3. Alternative Mining and Processing Methods

Although there are several variations on mining techniques, including underground mining or in-situ mining, none are feasible in this type of ore body because the deposits necessary to support such methods are not present.

Like mining, there are several potential alternative methods for processing ore other than cyanide heap leach. Considered were vat leaching, carbon in pulp, flotation, or a combination of these processes. None were technically feasible for the type of ore involved in the proposed project, and were eliminated from consideration.

PUBLIC INVOLVEMENT

Opportunities for Public Involvement

The BLM, as the lead Federal agency, and Imperial County, as the lead State agency, diligently involved the public throughout the joint Federal/State environmental review process. In response to Glamis Imperial Corporation submission of a mining plan of operations, BLM published a news release and a Notice of Intent in the Federal Register on March 24, 1995, announcing the company's mining proposal and the initiation of the NEPA process to prepare an EIS on the project. On April 5, 1995, Imperial County distributed its Notice of Preparation of an EIR initiating the California Environmental Quality Act process.

A Draft EIS/EIR was published on November 1, 1996 for public comment and review. Public hearings were held in La Mesa and Holtville, California. After the initial 60-day public review, BLM extended the public comment period twice, through March 24, 1997. More than 425 written comment letters were received, and 49 people testified at the two public hearings. After a review of the comments received, the BLM and Imperial County jointly announced on June 11, 1997 that a new Draft EIS/EIR for the Imperial Project would be prepared and recirculated.

On August 1, 1997, BLM formally withdrew the November 1996 Draft EIS and announced its intent to prepare another EIS for the Imperial Project. All comments on the 1996 draft were treated as scoping comments for the revised Draft EIS/EIR. Imperial County concurred in this decision.

A revised Draft EIS/EIR was published on November 28, 1997, and made available for public review through January 27, 1998. Public hearings were again held in La Mesa and Holtville, California. After the initial 60-day review, BLM extended the public comment period twice, through April 13, 1998. More than 541 comments were received, including public testimony at the two public hearings.

An additional public hearing by the Advisory Council on Historic Preservation, a Presidential advisory organization, was held in Holtville, California in March 1999. That hearing focused on the potential impacts of the project on cultural, historic, and archeological resources associated with the Quechan and other tribes.

BLM and Imperial County included in the FEIS/EIR, published on November 17, 2000, a summary of all general comments received and details on all substantive public comments received during two the public comment periods which cumulatively totaled approximately 10 months. The agencies' responses to all substantive comments received are included in that document.

In addition, BLM also accepted public comments on the FEIS/EIR for 30 days, through December 18, 2000. A total of 24 comments were received. Although many of the comments

were general, i.e., supporting or opposing the project, and none of the comments contained substantially new information, many raised issues seeking clarification or interpretation of data in the FEIS or its supporting documents. These issues were carefully considered in development of this ROD and are summarized, along with BLM's responses, in Appendix G.

Interagency/Intergovernmental Coordination

As part of the environmental review process, BLM and Imperial County consulted and coordinated with the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency, the U.S. Geological Survey, the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation (Lower Colorado Division), the Advisory Council on Historic Preservation, the Governor's Office of Planning and Research, the California Department of Conservation, the California Department of Fish and Game, the California State Office of Historic Preservation, the California Native American Heritage Commission, the California Regional Water Quality Control Board, the Metropolitan Water District of Southern California, and the Southern California Association of Governments. In accordance with Section 106 of the National Historic Preservation Act, BLM also officially consulted with the Quechan Tribal Council, Fort Yuma Indian Reservation. In addition to correspondence from the Tribe and verbal discussions and tours, BLM held three formal government-to-government consultations with the Tribe: December 16, 1997; February 4, 2000; and November 27, 2000.

Coordination with the County of Imperial

BLM and the County of Imperial jointly prepared all the environmental review documents under the provisions of the National Environmental Policy Act and the California Environmental Quality Act. The County's draft EIR and BLM's draft EIS were released concurrently for public review. The County's role under the Surface Mining and Reclamation Act of 1975 is to determine the adequacy of the surface mining reclamation plan submitted by Glamis Imperial Corporation as part of the mining proposal. The Imperial County Planning and Building Department has taken no action on the proposed reclamation plan, pending issuance of BLM's decision regarding the plan of operations.

APPENDICES

Appendix A

Advisory Council on Historic Preservation, 10/19/99 letter
and BLM letter to ACHP, 8/25/98

**Advisory
Council On
Historic
Preservation**

The Old Post Office Building
1100 Pennsylvania Avenue, NW #809
Washington, D.C. 20004

October 19, 1999

Honorable Bruce Babbitt
Secretary of the Interior
1849 C Street, NW
Washington D.C. 20240

Dear Secretary Babbitt:

In accordance with Section 106 of the National Historic Preservation Act and Stipulation 4 of the "Programmatic Agreement Regarding The Manner In Which The BLM Will Meet Its Responsibilities Under The National Historic Preservation Act," the Bureau of Land Management requested the comments of the Council on proposed plans by the Glamis Imperial Corporation to develop a 1600-acre precious metal mine on lands administered by the BLM in Imperial County, California. The proposed project will impact the Indian Pass-Running Man Area of Traditional Cultural Concern, which is archaeologically significant and retains critical religious, cultural and educational importance to the Colorado River Indian Tribes, Ft. Mojave Indian Tribe, and especially the Quechan Tribe. In response to that request, I am pleased to offer the following findings and recommendation by the Council.

Findings

The religious, cultural and educational values of the Indian Pass-Running Man Area of Traditional Cultural Concern (ATCC) are of premier importance to the Quechan Tribe for sustaining their traditional religion and culture. The ATCC encompasses an area of approximately 8.2 miles in length and up to 5.2 miles in width. It represents a concentration of archaeological remains indicative of ceremonial religious practices, including geoglyphs, petroglyphs, cleared circles, and trails linking this area to other areas of traditional cultural value. For the Quechan, this area represents a place of solitude, power, and a source of knowledge where scenic qualities, such as an unmarked landscape and unobstructed viewshed, contribute to the integrity of the historic resources and of the area's religious and cultural value. The ATCC figures prominently in their religious beliefs and functions as a "teaching area" where Quechan

practitioners are instructed in their religious and cultural traditions. Sixteen trails and trail segments have been recorded within the ATCC, including the Trail of Dreams which extends through the ATCC to Avikwaame, a mountain north of Needles, California, where, according to tradition, all Yuman-speaking people were created. Avikwaame is perhaps the single most important place in traditional Quechan culture and religion,

Supported by ethnographic studies and tribal testimony, BLM, in consultation with the California State Historic Preservation Officer, determined that properties within the ATCC are eligible for listing in the National Register under criterion A (those properties associated with Quechan traditional religious and cultural practices), criterion C (those properties that embody distinctive characteristics of Native American built objects such as geoglyphs, petroglyphs and trails), and criterion D (those properties important for the information they can provide). The integrity of setting, feeling and association is of particular importance for those properties that qualify under criteria A and C.

Although the region has sustained several large mining operations and other extensive development projects, the ATCC has retained sufficient integrity of setting, feeling, and association to remain a critically important area for traditional uses. Some historic property types can be altered and still retain sufficient integrity to remain of value and use to those communities who hold them in high regard. However, the ATCC is comprised of historic properties whose traditional value is dependent on qualities of continuity and association which are extremely fragile. Trails connect places of religious and cultural significance and are also places where ceremonies are conducted along the route to ensure safe journeys. The scenic landscape along trails provides landmarks that enable the travelers to find their way as does the physical integrity of the trails. Ceremonies are conducted during the construction of certain trail features to protect travelers from metaphysical dangers, to prepare for the spiritual rigors of the journey, and to help ensure that they arrive at their destination in the proper mind set. At this time the Trail of Dreams and the ATCC retain sufficient integrity for continued traditional uses. The only significant intrusion into the area is the unpaved Indian Pass Road. Existing highways, power lines, mining operations and other types of development that may compromise setting are not readily visible from the project area. It remains a place of quiet solitude and substantial environmental integrity.

The proposed mine and its operation would unduly degrade the ATCC, introducing activities and intrusions incompatible with the historic area and its unique qualities. The Quechan have argued that the ATCC and vicinity are so central to the religious and cultural practices of the tribe that impacts from the proposed mine would essentially destroy the tribe's ability to practice and transmit to future generations the ceremonies and values that sustain their cultural existence. Within the project footprint all contributing elements to the ATCC would be destroyed. A 300' high stockpile would obscure Indian Pass viewsheds and the nearly 200 acre and 900' deep East Pit would remain a defacement on the landscape, irrevocably altering the historic environment. Other visual intrusions would result from proposed power lines, utility corridors and associated facilities. The integrity of the ATCC, particularly those values associated with the setting, feeling and

association of the historic properties, would be severely compromised and the characteristics qualifying the area for the National Register jeopardized.

The public and tribe have consistently voiced their overwhelming opposition to the proposed mine. The Council solicited comments and views of the public and the tribe regarding the impacts of the mine. The vast majority of respondents voiced their strong opposition to the mine. Overwhelming opposition to the project was also voiced by the public and tribes in the public comment record of the draft Environmental Impact Statement prepared by BLM. Many non-tribal commenters specifically identified the area's religious and cultural importance to the Quechan and defended the Quechan's fight to practice their traditional religion in this area as the basis for their opposition to the project. The Quechan have remained steadfast and unswerving in their opposition to the project because of the importance of the area to sustaining their traditional culture and religion. On November 8, 1998, the Quechan Tribal Council passed unanimously a resolution of opposition to the project. In our view, this consistent and overwhelming opposition to the project provides compelling evidence of the importance of this area to the public and the Tribe as a place for spiritual and cultural renewal.

Although the BLM and Glamis have attempted to devise mitigation measures responsive to the values of affected historic resources, they are not adequate to compensate for the loss. In an effort to minimize impacts, Glamis Imperial Corporation has redesigned certain aspects of the mine plan. Specifically, the proposed overburden stockpiles were moved and reduced in height, one stockpile was eliminated, haulage routes were altered, and the footprint of the leach pad was altered to reduce physical impacts on some cultural features. Further, Glamis has expressed willingness to carry out a mitigation package. Such mitigation efforts might include archaeological data recovery of threatened sites and cultural features, backfilling two of the three open pits and reestablishing a trail corridor, establishing a "cultural land bank" away from the project to convey selected riparian lands to the tribe for cultural resource enhancement purposes, and relinquishing about 800 acres of nearby mining claims in the Indian Pass and Picacho Peaks Wilderness Areas. These mitigation efforts represent a laudable proposal by the company. However, in the Council's view, they do little to reduce the devastating impacts on the historic properties and their environment and fall short of compensating for the loss of the traditional religious and cultural values of the ATCC.

Conclusions and Recommendation

If implemented, the project would be so damaging to historic resources that the Quechan Tribe's ability to practice their sacred traditions as a living part of their community life and development would be lost. Overall, the Council is convinced that the cumulative impacts of the proposed mine on the ATCC, even with the mitigation measures proposed by the company, would result in a serious and irreparable degradation of the sacred and historic values of the ATCC that sustain the tribe. Therefore, the Council concludes that the Glamis Imperial Project would effectively destroy the historic resources in the project area, and recommends that Interior take whatever legal means available to deny approval for the project.

In accordance with Section 106, the Council provides these comments for your consideration as you take into account the impact that the Glamis Imperial Project will have upon these important historic properties. Since the final decision will be made and documented by you, as required by Section 110(l) of the National Historic Preservation Act, I request the opportunity to meet with you to discuss our concerns before final action is taken on the project. The Council's Executive Director will contact your office to arrange this.

Sincerely,

/s/ Cathryn Slater

Cathryn Buford Slater
Chairman



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California State Office
2135 Butano Drive
Sacramento, California 95825-0451
AUG 25 1998

In Reply Refer To:

8130(P)
CA-930.5

Mr. John Fowler, Executive Director
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW
Washington, DC 20004

Dear Mr. Fowler:

The Bureau of Land Management (BLM) is considering a plan of operations submitted by Glamis Imperial Corporation pursuant to the Mining Act of 1872 (43 CFR 3809) for an open-pit, heap-leach, precious metal mine in eastern Imperial County, California. Referred to as the "Imperial Project," this undertaking would entail the development of three major components: (1) a 1,571-acre Project mine and process area which would disturb approximately 1,302 acres; (2) an ancillary area (water wells and utility corridors) which would disturb approximately 38 acres, and (3) an approximately 16-mile upgraded ("overbuilt") transmission line, which would disturb approximately 22 acres. More complete descriptions of the proposed Imperial Project ("Project") are provided in the "Summary" (pages S-2 through S-8) and Section 2.1 (pages 2-1 through 2-50) of the attached Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) prepared by the BLM and Imperial County to analyze the effects of the Project and alternatives on the environment.

A Class III inventory and evaluation of the Area of Potential Effects (APE) was conducted by KEA Environmental, Inc. (see enclosed report entitled *Where Trails Cross: Cultural Resources Inventory and Evaluation for the Imperial Project, Imperial County, California*). Additionally, a Native American consultation program was conducted by Tierra Environmental Services and is included as Appendix C of the KEA report. The Quechan Tribe has expressed strong cultural concerns for properties in the APE; accordingly, BLM has met repeatedly with the Quechan cultural committee regarding the Project and has been conducting an ongoing government-to-government consultation.

BLM has consulted with the California State Historic Preservation Officer (SHPO) (see enclosed letter dated February 25, 1998) regarding potential effects to historic properties. The

SHPO letter provides a summary of historic properties that would be affected by the Project. BLM and the SHPO have concurred that the Imperial Project would have an adverse effect on historic properties. All Project alternatives considered in the EIS/EIR other than the No Project alternative would also have an adverse effect on historic properties. BLM believes that Council review of this project would be appropriate under Paragraph 4.b.(3) of the Nationwide Programmatic Agreement.

The following paragraphs describe potential effects to historic properties. The Project mine and process area, where adverse effects would be most severe, is addressed first, followed by the Project ancillary area and overbuilt transmission line.

Project Mine and Process Area

Indian Pass-Running Man Area of Traditional Cultural Concern- KEA identified a historic district, measuring approximately eight miles long northeast to southwest and reaching up to five miles in width northwest to southeast. This district contains a concentration of sites and features of cultural concern to the Quechan Tribe. Material culture in the district includes Native American trails, geoglyphs, scratched petroglyphs, ceramics scatters, lithic scatters, rock circles, and a variety of other types of features. The Quechan have also expressed concern for landscape features within the district. According to knowledgeable representatives of the Quechan Tribe, the district was important in religious activities and in the training of traditional cultural leaders. Because the district is tied to several other areas of traditional cultural concern by a trail network and because the Quechan view this complex as inter-related, BLM and SHPO discussed whether there should be an evaluation of a single very large traditional cultural property (over 150 miles in length) encompassing this entire complex or a series of linked traditional cultural properties. The result of this discussion was the sense that the available information is not sufficient to decide this issue. As a consequence BLM is requesting that the ultimate boundaries of a traditional cultural property be left open, and asked KEA to describe and evaluate an "area of traditional cultural concern" (ATCC). KEA applied the evaluation methods described in *National Register Bulletin 38* in evaluating the ATCC and recommended that it is eligible for the National Register as a district under Criteria A, C, and D. BLM and SHPO have concurred with this evaluation.

The BLM and SHPO have concurred that there would be an adverse effect to the district. The Project mine and process area is proposed to be located in the central portion of the district and would physically destroy between 15% and 20% of the area encompassed by it, including numerous contributing elements spanning the full range of feature types mentioned above. The Project would also introduce visual and aural components that are out of character with the remaining portions of the district. The Quechan have stated the belief that the operation of the mine and the presence of waste rock stockpiles, ore heap, and open mine pit after reclamation would destroy their ability to practice their traditional religion in the district and would have a devastating effect on the continuity of their traditional culture. The location of the ore body makes total avoidance of the district impossible if the Project goes forward. The mining company has redesigned certain Project components to reduce direct

physical disturbance of several features of traditional cultural concern, but numerous others would be destroyed. While two of the proposed open pits would be refilled, the mining company has stated that refilling the other major pit (which would partially reduce the ultimate visual impact of the Project) would be uneconomic and would make the Project infeasible.

Trail of Dreams - The Quechan Tribe has identified a major Native American trail connecting two highly sacred places, *Avikwial* (Pilot Knob) and *Avikwaame* (Newberry Mountain). The straight-line distance between these places is approximately 170 miles. According to the Quechan, religious leaders and those seeking spiritual power would make pilgrimages along this trail. Additionally, dream travel is said to have occurred along the trail. Knowledgeable Quechan representatives have identified segments of this trail in the Project mine and process area. Recent archaeological reconnaissance by KEA confirms that extant trail segments identified as the Trail of Dreams are associated with distinct concentrations of features of potential symbolic significance as well as ceramics of the Patayan cultural tradition and retain good integrity. Alternative routes represented by other roughly parallel trail segments do not replicate segments identified as being part of the Trail of Dreams in these characteristics. Extant trail segments identified as being part of the Trail of Dreams have been incorporated into the Indian Pass-Running Man ATCC (district). Additionally, KEA evaluated these segments as individually eligible for the National Register under Criteria A, C and D. BLM and SHPO have concurred with these evaluations.

Portions of the Trail of Dreams outside of the ATCC have not been evaluated. The western mine pit would destroy an extant trail segment identified by the Quechan as being part of the Trail of Dreams. The Quechan have stated that this will cut-off their ability to make religious pilgrimages along the Trail of Dreams and to undertake dream travel along this route. The BLM and SHPO have concurred that there would be an adverse effect to this site. The western mine pit will be refilled during the operation of the Project. It might be possible to restore the destroyed segment of the Trail of Dreams as part of the reclamation effort.

Multicomponent Sites - Seven large multicomponent sites were identified within the Project mine and process area. These contain concentrations of cultural features connected by a low density scatter of individual artifacts. Features include a large number of lithic scatters and flaking stations, ceramics scatters, geoglyphs, rock features, and a few scratched petroglyphs. These sites have been included within the district and also evaluated as individually eligible for the National Register under Criteria D and A and/or C. Some of the multicomponent sites include historic period features associated with 20th century mining or World War II training. KEA recommended that these historic period features do not contribute to the eligibility of the district or the sites. BLM and SHPO have concurred with this evaluation. Each of the multicomponent sites would be physically disturbed in part or in whole by Project earthmoving activities. BLM and SHPO have agreed that there would be an adverse effect to these sites.

Trails - Sixteen prehistoric trail segments have been identified within the APE of the Project

mine and process area. In accordance with SHPO guidelines, prehistoric trail segments were recorded as separate archaeological sites. KEA evaluated these as contributing elements to the district. They have value under Criteria D and A and/or C. BLM and SHPO have agreed with these evaluations. Most, if not all, of these trail segments would be disturbed or destroyed by development of the Project mine and process area.

Project Ancillary Area and Transmission Line

The Project ancillary area is immediately south of the Project mine and process area and would contain water wells, a buried water pipeline, an new 92 kV electric transmission line, and utility access roads. Some of the same sites contained here are also contained within the area of the ATCC. In addition, approximately 16 miles of an existing utility wood-pole transmission line outside of the Project ancillary area would be upgraded from a voltage of 34.5 kV to 92 kV. Avoidance of ground-disturbing effects is more feasible in these areas than in the Project mine and process area.

The Running Man Site (CA-IMP-2727) - This large multicomponent site lies adjacent to the Project ancillary area. Two major Native American trails cross within this site, including the Trail of Dreams. Near the intersection lies the Running Man geoglyph, which appears to be a post-1930 Native American construction. Project facilities in the Project ancillary area have been located to avoid direct impacts to features of possible traditional cultural significance. However, the new 92 kV transmission line, located approximately 200 meters west of the Running Man geoglyph, will introduce an out-of-character visual element.

Aboriginal Trails - Ten prehistoric trails were identified in the Project ancillary area and along the route of the overbuilt transmission line. All have been determined eligible for the National Register under Criterion D, and those associated with the Trail of Dreams or with features of possible symbolic significance have been determined eligible under Criteria A and/or C as well. It appears that Project facilities, including the overbuilt transmission line, can be sited to avoid direct disturbance of these sites. However, construction of the new electric transmission line in the Project ancillary area will introduce out-of-character visual elements to trails evaluated as eligible under Criteria A and C, including a segment of the Trail of Dreams.

Geoglyph Sites - Twelve geoglyph sites and one possible geoglyph site have been recorded in the Project ancillary area and along the overbuilt utility transmission line route. These are mostly small circular designs tamped into desert pavement. Most lack associated artifacts. The geoglyph sites have been determined eligible for the National Register under Criteria C and D. It appears that direct impacts to these sites can be avoided; however, geoglyphs in the Project ancillary area would be subject to visual intrusion from out-of-character elements.

Ceramic Scatters - Seven ceramic scatters were recorded in the Project ancillary area and along the overbuilt utility transmission line route. It is noteworthy regarding ceramic scatters, including those within the Project mine and process area, that early archaeological work by

Malcolm Rogers in the vicinity of Indian Pass reported much higher frequencies of Native American pottery than is evident today. What is left is the last vestige of a once more abundant set of resources. The KEA report suggests that remaining ceramics can be compared to Rogers' extensive collections from the area and provide important new information regarding Native American prehistory. Accordingly, the ceramics scatters have been determined eligible for the National Register under Criterion D. It appears that impacts to these sites in the Project ancillary area and along the transmission line can be avoided through facility siting.

Flaked Stone Quarry - A small quartz quarry was found along the overbuilt utility transmission line route. This site has been determined eligible for the National Register under Criterion D. It appears that the site can be avoided during construction.

Camp Pilot Knob - This large site, several miles in length, is one of ten divisional camps established for the World War II era Desert Training Center. It has been determined eligible for the National Register under Criteria A, B and D. The existing transmission line passes across this site and existing wood poles would be replaced with taller poles to support the overbuilt utility electric transmission line for the Project. However, most existing poles are immediately adjacent to an existing county road. With proper monitoring, KEA recommended that construction of the overbuilt transmission line should not effect qualities that make this site significant. However, BLM and SHPO have concurred that the effect of the Project would be adverse.

Mitigation

BLM would like to begin consultation regarding measures to avoid or reduce adverse effects. Pages 309 through 320 of the KEA report address potential mitigation measures. Many of KEA's suggestions are included in the Draft EIS/EIR as recommended mitigation measures. Glamis Imperial Corporation has also suggested certain mitigation measures in a letter to the Quechan Tribe. The Tribe has stated that only complete avoidance will adequately reduce the adverse effect and that they will remain opposed to the Project regardless of what mitigation measures, short of full avoidance, are proposed. From strictly a scientific point of view most of the sites can be satisfactorily mitigated. From the cultural viewpoint of the Quechan there are no identified measures that can eliminate the effect to the Quechan's cultural heritage. The paragraphs below summarize mitigation measures as discussed in the EIS/EIR. Following this, mitigation measures suggested by Glamis Imperial are summarized.

The following mitigation measures were proposed in the Draft EIS/EIR (they are numbered as they appear in that document) independent of the KEA report:

Measures Incorporated by Project Design Which Avoid or Reduce Potentially Significant Impacts

- ▶ 4.1.6-1: To reduce Project impacts on identified cultural resources, Project facilities

associated with the Project mine and process area shall be located consistent with those presented in the Plan of Operations (Revised September 1997). This shall include all of the Project revisions included since the previous Plan of Operation (Revised October 1996), including the revised boundary of the Project mine and process area, the reduction in the height of the waste rock stockpiles, the elimination of one (1) waste rock stockpile and two (2) soil stockpiles, and the reconfiguration of the remaining waste rock stockpiles, soil stockpiles, haul roads, and the heap leach pad.

Mitigation Measures Proposed to Avoid or Reduce Potentially Significant Impacts

- ▶ 4.1.6-2: Applicant shall designate a project contact representative (PCR) who would be responsible for overseeing Project compliance with the conditions and stipulations for cultural resources. The PCR shall have authority to halt all activities that are in violation of the stipulations. The PCR may be a project manager, company environmental coordinator, or other person identified as responsible by the Applicant. Applicant shall provide the name and contact information of the PCR to the BLM prior to construction.
- ▶ 4.1.6-3: Should previously unidentified cultural resources be discovered during project construction or operations, Applicant shall immediately cease all activities in the immediate vicinity of the discovery and notify the BLM. Activities shall not be reinitiated in the vicinity of the discovery until authorized by the BLM.

Suggested Mitigation Measures that Would Reduce Potentially Significant Impacts

The following are some of the proposed mitigation measures, some of which were identified in the Draft EIS/EIR. They have not been incorporated in the Project by the Applicant, but may be incorporated, in whole or in part, into BLM's Record of Decision for the Proposed Action following completion of on-going Section 106 consultation and on-going Government-to-Government consultation with the Quechan Tribe:

The following measures could partially mitigate the physical disturbance within the Project mine and process area which will occur to the features of religious-symbolic significance within the Indian Pass-Running Man ATCC:

- ▶ 4.1.6-4: Extant cultural features in the Indian Pass-Running Man ATCC should be avoided to the extent possible. KEA's GPS data base should be provided to Glamis Imperial to determine whether additional features can be avoided. The Running Man geoglyph is already listed on the National Register of Historic Places but needs to be rephotographed and the nomination for the Colorado Desert Geoglyphs will be "refreshed" with new data as a result of the project.
- ▶ 4.1.6-5: A professional archaeologist shall flag or fence avoided features near construction areas prior to initial site preparation. Environmental inspectors shall monitor avoidance. Flags outside of the perimeter fence should be removed immediately after construction of

that fence.

- ▶ 4.1.6-6: An archaeological data recovery program conforming to that recommended in Chapter 9 of the KEA report may be implemented and can include a description and analysis of the features and artifacts that would be destroyed by the project and a technical archaeological report.
- ▶ A treatment plan and agreement document between BLM and the ACHP will describe explicitly how much archaeological work will be undertaken.
- ▶ The treatment plan will make the determination which lands will be acquired for the archaeological bank which will be created as a result of the project. The exact acreage will be determined by using a formula which credits the amount of money that Glamis will
- ▶ spend for the physical mitigation of the archaeology against the amount spent to acquire lands with archaeological resources that will be preserved and replace the resources which will be adversely affected by the project.
- ▶ A determination will be made in the treatment plan as to who will hold the land and how the sites will be administered.
- ▶ All lands in the Indian Pass area will be segregated from mineral entry.
- ▶ Glamis Imperial will relinquish their mining claims in the Indian Pass Area of Critical Environmental Concern after BLM completes the withdrawal action.
- ▶ BLM will withdraw from mining all of the lands in the Indian Pass Area of Critical Environmental Concern.

The following measures could partially mitigate the physical disturbance within the Project mine and process area which will occur to significant Native American trails and will cut-off the ability of the Quechan to travel physically and spiritually along the Trail of Dreams:

- ▶ 4.1.6-7: In consultation with the Quechan, extant trails in the Indian Pass-Running Man ATCC should be field mapped and their significance to Native Americans ascertained. Low-level aerial photography and video photography should be used to document trails that will be destroyed. It appears from present information that certain trail corridors through the Indian Pass-Running Man ATCC west of the mine and process area can be preserved. Preserved segments with high Native American sensitivity should be nominated to the NRHP and a preservation plan prepared by a consultant and adopted by the BLM. The National Register documentation will be prepared by a consultant and reviewed and submitted to SHPO by the BLM.

The following measures could partially mitigate the physical disturbance and visual and aural

intrusions in and from the Project mine and process area into the Indian Pass-Running Man ATCC which will conflict with the Quechan traditional practices and inhibit the Quechan's ability to conduct traditional religious activities at the Indian Pass-Running Man ATCC:

- ▶ 4.1.6-8: In accordance with the current Plan of Operations, the height of the waste rock stockpiles and heap should be restricted to 300 feet.
- ▶ 4.1.6-9: The BLM will continue consultation with the Quechan to ensure continued access to the Indian Pass-Running Man ATCC during Project implementation and after Project closure.

The following measures could partially mitigate the disturbance created within the Project mine and process area which will inhibit or destroy the Quechan's ability to use the Indian Pass-Running Man ATCC for traditional cultural education programs:

- ▶ 4.1.6-10: Provide for a cultural educational program which would include a professional-quality video documentary of the Indian Pass-Running Man ATCC prior to disturbance; a full or part-time teaching/curatorial position for a Quechan tribal member for a period of three (3) to five (5) years; preconstruction cultural educational classes in the Indian Pass-Running Man ATCC; and a comprehensive report documenting Quechan history and prehistory written in part or in its entirety by the Quechan.
- ▶ 4.1.6-11: Delay or phase construction activities to allow the Quechan the opportunity to conduct traditional cultural education in the Indian Pass-Running Man ATCC prior to their loss of this resource.
- ▶ 4.1.6-12: A non-technical report should be written based on the archaeological and ethnographic studies written for the Quechan tribe, addressing the part of Quechan history that would be destroyed by the mine and distributed to the local media, school districts, communities, etc by Glamis Imperial on behalf of the Bureau of Land Management.
- ▶ 4.1.6-13: Provide for the expansion plan for the Quechan Museum and curation of artifacts from the Project in this facility.

The following measures could partially mitigate the cumulative adverse effects that the disturbance created by the Project mine and process area will have on traditional cultural sites in Quechan territory:

- ▶ 4.1.6-14: The Indian Pass-Running Man ATCC, the Trail of Dreams, Pilot Knob, Muggins Peak, and the Picacho Basin should be nominated to the NRHP as traditional cultural properties by Glamis for the BLM through their chosen consultant.
- ▶ 4.1.6-15: A recording and protection program for the concentration of scratched petroglyphs at Indian Pass should be implemented.

- ▶ 4.1.6-16: Consultation should be initiated with the Quechan to identify lands of traditional concern that could be acquired and protected. The purchase price of these lands will be discounted from the overall price of project mitigation.

In addition to the measures listed above to mitigate the adverse effects on the Indian Pass-Running Man ATCC, the following measures are proposed to mitigate the physical disturbance created by the Project mine and process area to all or parts of seven (7) multicomponent and twelve (12) trail sites, which will result in data loss and the destruction of historic context:

- ▶ 4.1.6-17: An archaeological data recovery program (in accordance with the recommendations provided in Chapter 9 of KEA's cultural resource report) may be implemented at sites that cannot be avoided.

The following measures are proposed to mitigate the physical disturbance to significant archaeological sites created by construction within the Project ancillary area.

- ▶ 4.1.6-18: No ground disturbance should be allowed within features that contribute to the significance of the Indian Pass-Running Man ATCC. In site CA-IMP-2727, the water pipeline should be rerouted to the area already disturbed by Indian Pass Road. Alternatively, boring could be utilized to avoid impacts to contributing features. All NRHP-eligible archaeological sites outside of the Indian Pass-Running Man ATCC should be avoided. Flagging and monitoring should be done in accordance with mitigation measure 4.1.6-5.

The following measures are proposed to mitigate the disturbance which could occur to features that contribute to the NRHP-eligibility of Camp Pilot Knob.

- ▶ 4.1.6-19: Prior to construction, a professional historical archaeologist should flag all features in the vicinity of existing poles that contribute to the NRHP eligibility of Camp Pilot Knob. Periodic archaeological monitoring should be conducted to ensure avoidance. In case of accidental damage, BLM will follow the stipulations in the 1998 Protocol with the SHPO. Oral history and archival research should be considered along with archaeological data recovery in case of such an eventuality.
- ▶ 4.1.6-20: If adverse effects cannot be avoided, an interpretive display should be developed to supplement the *E Clampus Vitus* sign that already exists on-site. This display should address the relationship of Camp Pilot Knob to the overall Desert Training Center operations and include historical photos of the camp during its period of significance.

The following measure is proposed to mitigate the disturbance which could occur to significant archaeological sites during the construction of the overbuilt 92 kV/34.5 kV transmission lines.

- ▶ 4.1.6-21: All NRHP-eligible sites should be flagged for avoidance of direct impacts prior to construction of the transmission line. Avoidance of flagged archaeological sites should be part of the overall environmental monitoring program for the Project. In addition, periodic monitoring by a professional archaeologist and Quechan representative should be conducted to ensure avoidance. In case of accidental damage, BLM will consult with SHPO. Oral history archival research, and ethnographic research should be considered as appropriate along with archaeological data recovery in case of such an eventuality.

Additional Mitigation Proposed by Glamis Imperial Corporation

In a letter to the Chairperson of the Quechan Cultural Committee dated September 5, 1997, Glamis Imperial proposed the following measures to help mitigate the Project's impacts to the ATCC and Trail of Dreams:

- ▶ Funding for an endowment to the Quechan Tribe for three years for the services of a tribal member to study cultural features in and around Indian Pass and to continue cultural education within the tribe. Provision of a new pickup truck for use in this cultural program.
- ▶ Up to \$50,000 in funding to conduct a baseline study of the Native American rock art, geoglyphs and other cultural features at Indian Pass within the BLM-designated Indian Pass Area of Critical Environmental Concern (ACEC).

Additional Native American Concerns about Mitigation

While certain mitigation measures mentioned above might suggest the study and dissemination of information about traditional Quechan religion, BLM is sensitive to Native American concerns to protect the dignity and integrity of traditional culture. Quechan spiritual knowledge was gained traditionally through long-term commitment to a spiritual path and arduous training. The Quechan have long been reticent to reveal much about their traditional belief systems. Such knowledge is protected by its keepers and consequently is not shared readily. The following written statement provided by a knowledgeable Quechan representative exemplifies Quechan concerns:

This area is a sacred landmark to living Quechan people, not a potential display or campfire talk subject. Sensationalizing its mysteries or exposing its secrets to an otherwise unprepared audience would entail, in effect, a showcasing of the religious beliefs of others rather than an understanding of them.

Any mitigation program involving the preservation of cultural knowledge should be planned under the direction of the Quechan themselves.

All mitigation undertaken will be through an open bid process. The BLM will assist Glamis Imperial in making the final selection of the consultants which will be hired for the various phases of the project.

This project has produced over 500 comments from interested publics including archaeologists, environmental groups, historic resources community members, and local Indian tribes. Staff of California SHPO visited the project site and attended a meeting with the BLM and Quechan Indian Tribe. The SHPO concurred that we had provided adequate information to them since the project will create an adverse effect to the resources even with all of the above proposed mitigation measures. Several public hearings have been held dealing with the overall project. Pursuant to 36 CFR 800.5 (3) we request that you expeditiously schedule at least one public informational meeting with to discuss the project, mitigation measures proposed, and the design of a treatment plan with full public/tribal involvement. The location of the meeting place should be determined after discussion with my Deputy Preservation Officer.

We look forward to future discussions with you regarding the Glamis Imperial Project's effects and measures that might reduce those effects. Please feel free to call Russell L. Kaldenberg, Deputy Preservation Officer (916-978-4635) to discuss this project.

Sincerely,



Ed Hastey
State Director

cc: (all without enclosures)

Director, WO-240, 204-LS

District Manager, CDD (Attn: Joan Oxendine)

Field Manager, El Centro

Advisory Council on Historic Preservation, Attn: Alan Stanfill, 12136 West Bayalud Ave., Suite 300, Denver, CO 80226

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Southeast Information Center, Attn: Coordinator, P.O. Box 430, Ocotillo, CA 92259

State Office of Historic Preservation, P.O. Box 942896, Sacramento, CA 94296-0001

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Larry Myers, Executive Director, Native American Heritage Commission, 915 Capitol Mall, Room 364, Sacramento, CA 95814

Enclosures:

- (1) EIS/EIR
- (2) Letter to SHPO, dated 2/25/98
- (3) SHPO Reply Letter, dated 4/23/98
- (4) Letter to SHPO, dated 7/09/98
- (5) SHPO Reply Letter, dated 7/21/98
- (6) KEA Survey Report (*Where Trails Cross...*)
- (7) KEA Trails Reconnaissance Reports

Appendix B

Solicitor's Opinion, Regulation of Hardrock Mining, 12/27/99



United States Department of the Interior

OFFICE OF THE SOLICITOR
Washington, D.C. 20240



IN REPLY REFER TO:

DEC 27 1999

Memorandum

To: Secretary
Acting Director, BLM

From: Solicitor *John Lesly*

Subject: Regulation Of Hardrock Mining

I. Factual Background

The Glamis Imperial Gold Mine is proposed to be developed on mining claims in Imperial County, California, in the southeastern part of the California Desert Conservation Area designated by Congress. The mining company, Glamis Gold, has submitted a plan of operations for a cyanide heap-leach gold mine using three open pits on 1,650 acres. The Bureau of Land Management is in the process of preparing an environmental impact statement under the National Environmental Policy Act, 42 U.S.C. §4321 et seq., on the company's proposed plan of operations.

The Glamis proposal is typical of modern, fine-particle, heap-leach gold mining and recovery operations. It involves the disturbance of a large quantity of waste rock and low-grade ore in order to extract a comparatively tiny amount of gold. It would retrieve, on average, approximately one ounce of gold for every 422 tons of earth core and waste material disturbed – a ratio by weight of one to 13.5 million. See Memorandum from R. Waiwood, BLM, to the Office of the Solicitor (Dec. 1, 1999). Because the ore body is of a somewhat lower grade than that found at most operating mines, the ratio of metal recovered to material disturbed is lower than found in many other operations, particularly for a start-up operation.¹ The low grade of the ore may so affect the profit margin that the imposition of reasonable environmentally protective restrictions or mitigation measures may make the venture unprofitable.

¹It may be cost-effective for an established mine, with the necessary infrastructure and other capital investment already in place, to move to lower grade ore, when it may not be cost-effective for an initial investment to mine such a low grade.

The proposed mine has raised several regulatory questions; the most prominent arises from the fact that the proposed mine footprint is located in the Indian Pass-Running Man Area of Traditional Cultural Concern² on ancestral lands of the Quechan Tribe of Indians. Recently, at BLM's request, the Advisory Council on Historic Preservation³ completed a review of the project, and advised BLM of its findings by letter dated October 19, 1999.

In summary, the Advisory Council advised that: (a) the "religious, cultural and educational values" in the area are "of premier importance to the Quechan Tribe for sustaining their traditional religion and culture"; (b) the proposed mine would "unduly degrade" the area, "introducing activities and intrusions incompatible with the historic area and its unique qualities"; and (c) no available mitigation measures are adequate to compensate for the loss. The Advisory Council concluded:

If implemented, the project would be so damaging to historic resources that the Quechan Tribe's ability to practice their sacred traditions as a living part of their community life

²An "Area of Traditional Cultural Concern" or ATCC is a term used here to describe the area potentially affected by the Glamis mining project. BLM first used this term when proposing a land withdrawal surrounding the Glamis project from operation of the Mining Law, subject to valid existing rights. See 63 Fed. Reg. 58752 (November 2, 1998).

³The National Historic Preservation Act (NHPA), 16 U.S.C. §470 et seq., created the Advisory Council on Historic Preservation. See 16 U.S.C. § 470i. The Council is an independent agency that, among other things, may comment with respect to the effect of any federal undertaking on any "site" or "object" included in or eligible for inclusion in the National Register of Historic Places. See 16 U.S.C. §§ 470f, 470j. If an undertaking does not have the potential to cause effects on historic or cultural properties, an agency has no further obligations under the NHPA. 36 C.F.R. §800.3(a)(1). If there is an effect on an historic property, the agency will further determine if the impact is adverse. Id. §800.5(a)(1). The Advisory Council has the option of entering the consultation on its own initiative, or it may be invited to do so by either the SHPO or the agency. Id. §800.5(c). BLM, the Advisory Council, and the National Conference of State Historic Preservation Officers entered into a nationwide Programmatic Agreement on March 26, 1997, outlining the manner in which BLM will meet its responsibilities under the NHPA.

The Glamis project is an undertaking falling under the NHPA. By letter dated August 25, 1998, BLM formally requested the Advisory Council's involvement, noting that BLM and the SHPO had concurred that the Glamis Project would have an adverse effect on historic properties, and also that the Advisory Council's review of the project was appropriate under Paragraph 4.b.(3) of the nationwide Programmatic Agreement since the Glamis project is a "highly controversial undertaking." The Advisory Council and BLM visited the proposed area for the Glamis project site on March 11, 1999. In a letter to Secretary Babbitt dated October 19, 1999, the Advisory Council made its formal recommendations regarding the Glamis project.

and development would be lost. Overall, the Council is convinced that the cumulative impacts of the proposed mine on the ATCC, even with the mitigation measures proposed by the company, would result in a serious and irreparable degradation of the sacred and historic values of the ATCC that sustain the tribe. Therefore, the Council concludes that the Glamis Imperial Project would effectively destroy the historic resources in the project area, and recommends that Interior take whatever legal means available to deny approval for the project.

Officials of Glamis Gold responded to the Advisory Council letter by a fourteen-page letter to the Secretary dated November 10, 1999, exploring the legal issues addressed here. We also have a December 14, 1999 letter from the Western Mining Action Project commenting on the legal arguments in Glamis Gold's November 10, 1999 letter.

This opinion responds to the Advisory Council's recommendations and Glamis Gold's letter, and addresses two questions:

What limits or obligations does the First Amendment to the U.S. Constitution place on the BLM in this context?

To what extent does the Federal Land Policy and Management Act authorize or oblige the BLM to protect the cultural and historic resources⁴ of the ATCC in connection with the Glamis proposed plan of operations?

II. Statutory Background

A. The Mining Law

The Mining Law of 1872 allows miners to secure exclusive rights to mine public lands through the location of valid mining claims. Valid mining claims require, among other things, a "discovery" of a "valuable mineral deposit." See 30 U.S.C. §23. A "discovery" is not defined in the statute, but the Supreme Court has described it as having occurred "[w]here minerals have been found, and the evidence is of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine. . . ." Chrisman v. Miller, 197 U.S. 313, 322 (1905). More recently, the Supreme Court has supplemented this "prudent person" test with a "marketability test," which holds that profitability is a critical factor in determining if a mineral deposit is

⁴In its letter dated October 19, 1999, the Advisory Council refers to the need for protection of "historic" properties. BLM's regulations and guidelines mainly refer to "cultural" resources and values. The resources that would be affected by the Glamis proposal are both cultural and historic, so we use the terms interchangeably in this memorandum.

marketable. United States v. Coleman, 390 U.S. 599, 602 (1968). Factors considered in determining whether a discovery exists under either test include the costs of extraction, processing, and transporting the minerals, including labor and equipment costs, and the cost of satisfying environmental requirements of applicable federal, state, and local laws and regulations. Great Basin Mine Watch et al., 146 IBLA 248, 256 (1998); U.S. v. Garner, 30 IBLA 42, 67 (1977); United States v. Pittsburgh Pac. Co., 84 I.D. 282, 285 (1977), affirmed, 462 F. Supp. 905 (D.S.D. 1978), 614 F.2d 1190 (8th Cir. 1980); United States v. Kosanke Sand Corp. (On Reconsideration), 80 I.D. 538, 551 (1973). This means that Glamis Gold's ability to comply with environmental protection requirements may affect whether it has discovered a valuable deposit of gold in accordance with the Mining Law and whether its mining claims are valid.

B. The Federal Land Policy and Management Act

In 1976, Congress enacted the Federal Land Policy and Management Act (FLPMA), 43 U.S.C. §§ 1701 et seq., providing the Secretary of the Interior with organic authority to manage the federal public lands, including those lands containing mining claims located under the Mining Law. FLPMA explicitly acknowledged the continued vitality of the Mining Law of 1872, but amended it in four respects. The last portion of 302(b) provides:

Except as provided in section 1744, section 1782, and *subsection (f) of section 1781 of this title* and in the *last sentence of this paragraph*, no provision of this section or any other section of this Act shall in any way amend the Mining Law of 1872 or impair the rights of any locators or claims under that Act, including, but not limited to, rights of ingress and egress.

43 U.S.C. §1732(b) (emphasis added). The two italicized references are relevant to consideration of the Glamis operation. Taking them in reverse order, the last sentence of the paragraph states: "In managing the public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. §1732(b). This made clear Congress's intent that all public lands activities, including those conducted under the Mining Law of 1872, are subject to the unnecessary or undue degradation standard.

The reference to section 1781(f) relates to added protection Congress bestowed on public lands found within the California Desert Conservation Area (CDCA). Section 601 of FLPMA created the CDCA, 43 U.S.C. §1781(c), based on Congress's finding that its lands contain "historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources" in need of special attention. 43 U.S.C. §1781(a)(1). This section continued, in pertinent part:

Subject to valid existing rights, nothing in this Act shall affect the applicability of the United States mining laws on the public lands within the California Desert Conservation Area, except that all mining claims located on public lands within

the California Desert Conservation Area shall be subject to reasonable regulations as the Secretary may prescribe to effectuate the purposes of this section. Any patent issued on any such mining claim shall recite this limitation and continue to be subject to such regulations. *Such regulations shall provide for such measures as may be reasonable to protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area against undue impairment, and to assure against pollution of the streams and waters within the California Desert Conservation Area.*

43 U.S.C. §1781(f) (emphasis added). As noted above, this section is explicitly referenced in FLPMA's § 302(b), reconfirming that it applies to mining claims located under the Mining Law.⁵

III. The Quechan Tribal Religion and the First Amendment

Because the Advisory Council has found that the proposed mining operations would have a very damaging effect on the tribe's "ability to practice their sacred traditions," questions have been raised as to BLM's responsibilities with respect to the First Amendment in this context. In Lyng v. Northwest Indian Cemetery Protective Ass'n, 485 U.S. 439 (1988), the Supreme Court held that the First Amendment's Free Exercise Clause did not prevent the Forest Service from permitting road construction or timber harvesting in a portion of a national forest traditionally used by members of California Indian tribes for religious purposes. Even though the majority noted that the logging and road-building could have "devastating effects on traditional Indian religious practices," the government was not in these circumstances required to "bring forward a compelling justification for its otherwise lawful actions." Id. at 450. The Supreme Court went on in Lyng to caution that:

Nothing in [this] opinion should be read to encourage governmental insensitivity to the religious needs of any citizen. The Government's rights to the use of its own land, for example, need not and should not discourage it from accommodating religious practices like those engaged in by the Indian respondents.

⁵The other two references in § 302(b) are not relevant here. One requires recordation of mining claims with the federal government, 43 U.S.C. § 1744, and the other incorporates protections for lands eligible for wilderness protection, 43 U.S.C. § 1782. This Office has issued several opinions on the latter. Interpretation of Section 603 of the Federal Land Policy Management Act of 1976 -- Bureau of Land Management (BLM) Wilderness Study, 86 I.D. 89 (1979); The Bureau of Land Management Wilderness Review and Valid Existing Rights, 88 I.D. 909 (October 5, 1981); Patenting of Mining Claims and Mill Sites in Wilderness Areas, M-36994 (May 22, 1998). The Glamis proposal does not involve wilderness study areas or issues.

Id. at 453-54. The Court noted with approval the Forest Service's effort to reroute the road to avoid impacting the most sacred areas, and to leave specific sites undisturbed. Id. at 454.

The teachings of Lyng control application of the First Amendment to the Glamis proposal. The Constitution does not compel rejection of the proposed mining plan on the basis of its potential impact on tribal religious practices. But, like the Forest Service in Lyng, the BLM here could make efforts to accommodate tribal interests through exercise of its regulatory authority.

Since Lyng was decided, the President has issued an Executive Order on Sacred Sites, E.O. 13007 (May 24, 1996), which mandates that federal land managers

shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.

The Advisory Council makes clear that the Glamis proposal would affect the physical integrity of sacred sites as they are defined in the Order (see Order, § 1(b)(iii)). The Executive Order therefore guides BLM's administration of its responsibility to regulate hardrock mining on federal lands here in the CDCA, and directs BLM to a policy choice in favor of preserving the physical integrity of the sites unless such a choice is impracticable, forbidden by law, or clearly inconsistent with essential agency functions.

Finally, the Office of Legal Counsel in the Department of Justice has recently advised that the federal government "has broad latitude to accommodate the use of sacred sites by federally recognized Indian tribes" without violating the Establishment Clause of the First Amendment. See OLC Opinion, Memorandum for Bruce Babbitt Secretary of the Interior – Permissible Accommodation of Sacred Sites, September 18, 1996, p. 1; see also Morton v. Mancari, 417 U.S. 535 (1974); Rupert v. Director, U.S. Fish and Wildlife Serv., 957 F.2d 32 (1st Cir. 1992); Peyote Way Church of God, Inc. v. Thornburgh, 922 F.2d 1210 (5th Cir. 1991).

IV. Unnecessary or Undue Degradation

Section 302(b) of FLPMA directs that the Secretary "*shall by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.*" 43 U.S.C. §1732(b) (emphasis added). Cultural and historic resources are plainly within the ambit of the unnecessary or undue degradation standard. FLPMA itself recognizes protection of cultural resources as an important component of public land management.⁶ The National Historic Preservation Act

⁶See, e.g., 43 U.S.C. §1702(a) (defining "areas of critical environmental concern" to include public land areas "where special management attention is required . . . to protect and prevent

(NHPA), 16 U.S.C. §470 et seq., covers cultural and historic resources on public lands;⁷ indeed, the Advisory Council's involvement in consideration of the Glamis proposal stems from that coverage. BLM's subpart 3809 regulations, implementing the "unnecessary or undue degradation" standard for hardrock mining, require BLM to "tak[e] into consideration the effects of operations on *other resources* and land uses, including those resource and land uses outside the area of operations." 43 C.F.R. §3809.0-5(k) (emphasis added). Other provisions of the regulations incorporate environmental laws, which include the NHPA. See, e.g., 43 C.F.R. §3809.2-2 (each operation "shall comply with all pertinent Federal and State laws"); 43 C.F.R. §3809.0-5(k) ("[f]ailure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation").

The conjunction "or" between "unnecessary" and "undue" speaks of a Secretarial authority to address *separate types of degradation* -- that which is "unnecessary" and that which is "undue." That the statutory conjunction is "or" instead of "and" strongly suggests Congress was empowering the Secretary to prohibit activities or practices that the Secretary finds are unduly degrading, even though "necessary" to mining. Commentators agree that the "undue degradation" standard gives BLM the authority to impose restrictive standards in particularly sensitive areas, "even if such standards were not achievable through the use of existing technology." Graf, Application of Takings Law to the Regulation of Unpatented Mining Claims, 24 Ecology L.Q. 57, 108 (1997); see also Mansfield, On the Cusp of Property Rights: Lessons from Public Land Law, 18 Ecology L.Q. 43, 83 (1991). Further support for that interpretation is found in the fact that, in the 105th Congress, a mining industry-supported bill introduced in the Senate would have, among other things, changed the "or" to "and." S. 2237, 105th Cong. (1998); see 144 Cong. Rec. S10335-02, S10340 (September 15, 1998). See also Utah v. Andrus, 486 F.

irreparable damage to important historic, cultural, or scenic values . . ."); 43 U.S.C. §1781(a) (California desert, considered further below).

⁷In 1966, Congress recognized that "the historic and cultural foundations of the Nation should be preserved . . ." and through the NHPA, the Secretary of the Interior was "authorized to expand and maintain a National Register of Historic Places composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and *culture*." Pub. L. No. 89-665, 80 Stat. 915 (emphasis added). In 1992, Congress amended the NHPA and clarified that "[p]roperties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined to be eligible for inclusion on the National Register." 16 U.S.C. §470a(d)(6)(A).

Originally the NHPA focused attention only on those properties officially listed on the National Register of Historic Places. In 1976, however, the statute was amended to include buildings and sites eligible for inclusion on the National Register. Pub. L. No. 94-422, 90 Stat. 1320. The NHPA was further amended in 1992 to require partnerships with States, Indian tribes, Native Hawaiians, and local governments. Pub. L. No. 102-575, 106 Stat. 4753.

Supp. 995, 1005 n.13 (D. Utah 1979) (quoting brief of the American Mining Congress).

This key sentence in § 302(b) gives the Secretary authority, by regulation “or otherwise,” to spell out the requirements necessary to prevent such types of degradation. Finally, the sentence gives the Secretary a mandatory duty to take any action necessary to prevent such degradation.

The generally applicable portion of the definition of “unnecessary or undue degradation” in BLM’s current regulations essentially codifies a “prudent operator” standard. That standard effectively focuses only on the directive to prevent “unnecessary” degradation, as opposed to “undue” degradation. The entire definition provides as follows:

Unnecessary or undue degradation means surface disturbances greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation. Where specific statutory authority requires the attainment of a stated level of protection or reclamation, such as in the California Desert Conservation Area, Wild and Scenic Rivers, areas designated as part of the National Wilderness System administered by the Bureau of Land Management and other such areas, that level of protection shall be met.

43 C.F.R. §3809.0-5(k). The “objectives” of subpart 3809 are stated as follows in §3809.0-2:

(a) Provide for mineral entry, exploration, location, operations, and purchase pursuant to the mining laws in a manner that will not unduly hinder such activities but will assure that these activities are conducted in a manner that will prevent unnecessary or undue degradation and provide protection of nonmineral resources of the federal lands;

(b) Provide for reclamation of disturbed areas. . . .

Putting the objectives together with the “unnecessary or undue degradation” standard, the Department’s current regulations seek to “provide for mineral [activities] in a manner that will not unduly hinder” them, while at the same time to prevent disturbance “greater than what would normally result” from a prudent operation. The Interior Board of Land Appeals (IBLA) has read the regulations this way. See Bruce W. Crawford, 86 IBLA 350, 397 (1985) (the regulatory definition “clearly presumes the validity of the activity but asserts that [unnecessary or undue

degradation] results in greater impacts than would be necessary if it were prudently accomplished"); see also United States v. Peterson, 125 IBLA 72 (1993); Kendall's Concerned Area Residents, 129 IBLA 130, 140 (1994).

While BLM could have adopted (and indeed might be obliged to adopt) more stringent rules in order to ensure prevention of "undue degradation," it has so far chosen to circumscribe only harm outside the range of degradation caused by the customary and proficient operator utilizing reasonable mitigation measures.

The preamble to BLM's regulations states:

There may exist several alternative ways to achieve a particular result which are reasonable and prudent from a business standpoint. However, an environmental assessment or environmental impact statement may show the authorized officer that the first alternative would have significant detrimental impacts not associated with the second alternative. Since both alternatives are reasonable and practical, it would either be necessary to adopt the second, or the authorized officer would attach conditions to his approval of the plan of operations on implementation of the first alternative so that the detrimental impacts would not occur. Similar reasoning applies with respect to determining whether a proposal will cause unnecessary or undue degradation.

45 Fed. Reg. 78905 (November 26, 1980).

Therefore, while BLM must ensure that the proposed operation is in conformance with the prudent operator standard, including consideration of "other resources" which may be particular to a site, it must also ensure that "reasonable and practical" mitigation is chosen that will best protect such resources. See also 45 Fed. Reg. 78906 (speaking of an obligation to prevent degradation of visual resources "only to the extent practicable"). Under this portion of the regulations, then, while BLM may mitigate harm to "other resources," it may not simply prohibit mining altogether in order to protect them.

The "unnecessary or undue degradation" standard does not by itself give BLM authority to prohibit mining altogether on all public lands, because Congress clearly contemplated that some mining could take place on some public lands. See, e.g., 43 U.S.C. § 1701(12) (policy statement that the public lands "be managed in a manner which recognizes the Nation's need for domestic sources of minerals . . . including implementation of the Mining and Minerals Policy Act of 1970 . . . as it pertains to the public lands"⁸); 43 U.S.C. § 1702(c) (the multiple uses for which the

⁸The Mining and Mineral Policy Act, 84 Stat. 1876, 30 U.S.C. § 23a, expresses United States policy as encouraging the development of domestic minerals in an efficient, wise, and environmentally sound way.

public lands should be managed include “minerals”). Therefore, “undue degradation” under section 302(b) must encompass something greater than a modicum of harmful impact from a use of public lands that Congress intended to allow. See Sierra Club v. Clark, 774 F.2d 1406, 1410 (9th Cir. 1985) (rejecting an argument that an off-road vehicle race should not be allowed on federal lands because it would cause irreversible and therefore “undue” degradation, on the ground that accepting the argument “would result in a prohibition of ORV use because it is doubtful that any area could withstand such use without degradation . . . [yet] Congress has determined that ORV use is to be provided” on public lands, citing 43 U.S.C. §1781(a)(4)⁹). The question is not whether the proposed gold mine causes any degradation or harmful impacts, but rather, how much and of what character in this specific location.

Understanding the extent of BLM’s authority with regard to the Glamis proposal requires that we also consider BLM’s authority with respect particularly to the CDCA.

V. California Desert Conservation Area

The proposed Glamis mine is located on lands within the CDCA. As noted earlier, Congress explicitly amended the Mining Law in FLPMA to protect, among other things, enumerated values of importance in the CDCA. Also as noted earlier, Congress found that “the California desert contains historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population. . . .” 43 U.S.C. §1781(a)(1). The statute gives BLM an additional directive to “protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area against undue impairment, and to assure against pollution of the streams and waters within the California Desert Conservation Area.” 43 U.S.C. §1781(f).

The three values named in subsection (f) -- scenic, scientific, and environmental -- are fairly read to include “archeological,” “cultural” or “educational” resources of the type threatened by the Glamis proposal. These resources are of substantial interest to science, and may in many cases have scenic and environmental value as well. The fact that subsection (f) does not separately list these resources, while they are named in subsection (a)(1), cannot fairly be interpreted to limit BLM’s authority under subsection (f) to prevent their undue impairment, when such resources are encompassed by the values enumerated in subsection (f). Indeed, it would defy common sense to construe “scientific” values as excluding “cultural,” “historical” and “archaeological” resources. Any implication to the contrary in the IBLA’s dicta in California Portland Cement

⁹In a section of FLPMA dealing with the California Desert, Congress found “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 recreational vehicles.” 43 U.S.C. §1781(a)(4) (emphasis added).

Corp., 83 IBLA 11 (1984) is expressly disapproved.¹⁰

The issues raised by the Glamis proposal are (1) the extent to which the "undue impairment" standard gives BLM authority to protect the CDCA and the cultural and historic resources involved; and (2) whether BLM's authority is affected by the classification of the lands on which the proposed Glamis mine is found as Class L (Limited Use) in BLM's CDCA Management Plan.

A. Undue Impairment Standard

BLM's 1980 subpart 3809 regulations do not elucidate the undue impairment standard applicable in the CDCA, nor do they define the values contained in 43 U.S.C. §1781. Rather, they reiterate the statutory requirement:

Where specific statutory authority requires the attainment of a stated level of protection or reclamation, such as in the California Desert Conservation Area, Wild and Scenic Rivers, areas designated as part of the National Wilderness System administered by the Bureau of Land Management and other such areas, that level of protection shall be met.

43 C.F.R. §3809.0-5(k).

The preamble to the 1980 rulemaking indicates that "[s]everal comments were received that suggest the promulgation of a separate rulemaking for the California Desert Conservation Area." 45 Fed. Reg. 78902, 78909 (Nov. 26, 1980). BLM rejected that suggestion on the ground that the regulation

requires the filing of a plan of operations for any activity in the California Desert Conservation Area beyond that covered by casual use. The plan would be evaluated to ensure protection against "undue impairment" and against pollution of the streams and waters within the Area.

Id. This leaves implementation of the section 1781 standard to the stage of reviewing the plan of operations on a site-specific basis, which is where the Glamis proposal is now.

Subsection 601(f) says that mining claims in the CDCA "shall be subject to reasonable

¹⁰In California Portland Cement, the IBLA suggested, without elaboration or discussion, that BLM had properly narrowed a stipulation in a mining patent in the California desert to assert authority only to protect "the scenic, scientific, and environmental values of the public lands" rather than explicitly referencing cultural and archeological resources, among others. The Board did not suggest that such resources lacked scientific, scenic or environmental interest.

regulations as the Secretary may prescribe to effectuate the purposes of this section,” and that “[s]uch regulations shall provide for such measures as may be reasonable to protect the scenic, scientific, and environmental values of the public lands of the [CDCA] against undue impairment” It might be argued that the Department’s decision not to promulgate separate, detailed regulations to implement the “undue impairment” standard, but rather to adopt regulations that implement the directive on a case-by-case basis through the mining plan of operations approval process, is inconsistent with FLPMA’s section 601(f). BLM’s regulations require the filing of a plan of operations for any activity in the CDCA to be evaluated to ensure protection against “undue impairment.” We believe the approach taken in BLM’s regulations providing site-specific analysis and protection is an adequate implementation of the statute.¹¹

The regulations allow BLM to prevent activities that cause undue impairment to the CDCA separate and apart from BLM’s authority to prevent unnecessary or undue degradation. The IBLA has agreed that BLM’s obligation to protect the three enumerated CDCA values from “undue impairment” supplements the unnecessary or undue degradation standard for CDCA lands. In Eric L. Price, James C. Thomas, 116 IBLA 210 (1990), the Board held:

Under 43 C.F.R. §3809.0-5(k), a plan of operations must take “into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations” (emphasis added).

Furthermore, a plan of operations affecting lands in the CDCA must take into consideration the specific objectives of section 601(f) of FLPMA, *i.e.*, protecting the scenic, scientific, and environmental values of the affected lands against undue impairment, and to assure against pollution of affected streams and waters. As promulgated by BLM, the general standard contained in the definition of “unnecessary or undue degradation” is to be applied to CDCA lands in accordance with the imperatives of section 601(f) of FLPMA.

Id. at 218-19.¹² It follows that BLM’s decision with respect to the Glamis proposal is governed by both the “undue impairment” standard of subsection 601(f)¹³ and the “unnecessary or undue

¹¹This site-specific approach to providing protection has recently been endorsed by the National Research Council in a report entitled Hardrock Mining on Federal Lands (National Academy Press, 1999) (see discussion on pp. 120-121 regarding the protection of other resources).

¹²In Price, the IBLA upheld a BLM decision to deny a proposed mining plan of operations, primarily because the proposal caused “undue impairment” in connection with its visual impacts to the CDCA.

¹³The CDCA requirement that the Secretary “assure against pollution of the streams and waters with the California Desert Conservation Area,” 43 U.S.C. §1781(f), also must be given

degradation” standard of section 302(b), as implemented by the subpart 3809 regulations.

Utah v. Andrus, 486 F. Supp. 995, 1004 n.14 (D. Utah 1979) is generally consistent with this approach, although it is not directly on point. The court there determined that the word “impairment” as used in FLPMA’s wilderness review section (section 603(c), 43 U.S.C. §1782(c)), means something different from the “unnecessary or undue degradation” standard in 43 U.S.C. §1732(b):

If the standard of undue degradation were not separate and distinct from the impairment standard contained in section 603(c), there would have been no need to include both the last sentence and reference to section 603(c) in section 302(b). By making distinct reference to both standards in 302(b), Congress indicated its intent to formulate two different approaches to management of the public lands.

Section 603(c) requires BLM to prevent “impairment of the suitability” of certain identified areas “for preservation as wilderness,” subject to certain exceptions not pertinent here. It does not use the qualifiers “undue” or “unnecessary,” except with regard to the exception for the preservation of existing mining and grazing uses. Thus the court was not confronted with the issue of whether “impairment” under section 601 equals “degradation.” We do not need to decide that issue here either. We do note, however, that in carrying out its duty to prevent “undue impairment,” BLM is not confined to restrictions that may be imposed on a “prudent operator in usual, customary and proficient operations of similar character.” 43 C.F.R. §3809.0-5(k). Instead, BLM’s mandate to protect the “scenic, scientific, and environmental values” of the land from undue impairment is distinct from and stronger than the prudent operator standard applied by the subpart 3809 regulations on non-CDCA lands.

Section 601(f) twice employs the adjective “reasonable” in the context of regulating hardrock mining operations in the CDCA. Specifically, mining claims are made “subject to reasonable regulations” prescribed by the Secretary, which shall “provide for such measures as may be reasonable to protect” environmental and other values in the CDCA. There is no indication that Congress meant anything by “reasonable” other than that the Secretary must not act arbitrarily in effectuating such regulations, and that they ought to be designed to accomplish their intended task of protecting the other values on the CDCA. BLM’s regulations in subpart 3809 that address the CDCA are reasonable and reasonably related to the purposes of FLPMA. Therefore, BLM should examine each proposed plan of operation on a case by case basis and provide for such measures as may be reasonable to protect environmental and other values in the CDCA from undue impairment.

independent meaning. The extent to which this standard may compel additional regulation of the proposed Glamis mine is beyond the scope of this memorandum. We have not been presented with any facts or questions regarding any “streams and waters” that might be affected by the proposed Glamis mine.

B. CDCA Management Plan

In 1980, the BLM adopted a Management Plan for the CDCA that, with a few minor amendments, is still in force today.¹⁴ This Plan was prepared in response to the mandate of section 601(d), 43 U.S.C. §1781(d):

The Secretary, in accordance with section 1712 of this title, shall prepare and implement a comprehensive, long-range plan for the management, use, development and protection of the public lands within the [CDCA]. Such plan shall take into account the principles of multiple use and sustained yield in providing for resource use and development, including, but not limited to, maintenance of environmental quality, rights-of-way, and mineral development.

The 1980 Plan placed most of the CDCA lands in four multiple-use categories.¹⁵ The Plan describes itself as providing a “management framework” for, among other things, responding to “future specific land use requests.” CDCA Plan, Chapter 3, at p. 21.

The lands where the projected Glamis mine would be located are designated by the CDCA Plan as Multiple Use Class L (Limited Use) land.¹⁶ According to the Plan, Class L “protects sensitive, natural, scenic, ecological, and cultural resource values.” CDCA Plan, Chapter 2, at p. 13.¹⁷ This is the second most restrictive of the four categories. About half of the CDCA acreage

¹⁴Generally, IBLA has rejected challenges to BLM’s implementation of the CDCA Plan. Max Wilson, 131 IBLA 306, 310 (1994); David R. Hinkson, 131 IBLA 251, 254-55 (1994).

¹⁵Approximately 300,000 acres within the 12.1 million acre CDCA are unclassified. CDCA Plan, Chapter 2, at p. 13.

¹⁶The Plan designates other lands as: Class C (Controlled Use), which is the most restrictive category, consisting of those areas preliminarily recommended for wilderness designation; Class M (Moderate Use), which reflects “a controlled balance between higher intensity use and protection of public lands”; and Class I (Intensive Use), that provides for concentrated land and resource use to meet human needs. See CDCA Plan Chapter 2, at 13.

¹⁷There is no indication that the BLM, in crafting the CDCA Plan, understood or took account of the significance of the Indian interests in the lands subject to the Glamis proposal in designating the area as Class L. The Plan noted, at page 24, that only about 5% of the CDCA had, at the time the Plan was proposed, been inventoried for cultural resources. Last year BLM published a Notice of Proposed Withdrawal for the lands on which the proposed Glamis mine would be located. 63 Fed. Reg. 58752 (November 2, 1998). This has the effect of segregating the lands for a period of two years and preventing the location of new mining claims for that period, while not affecting valid existing mining claims.

is designated Class L. Id. According to the Plan, Class L lands are managed to “provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” Id.

The CDCA Plan establishes “multiple-use class guidelines” which “describe land-use and resource-management guidelines for 19 land uses and resources” within each class. Id.¹⁸ The four classes of land are managed by taking into account these various resources. The Plan acknowledges that:

Within each multiple-use class designation residual conflicts will occur naturally, although they are most limited in Class C – the “Controlled Use” class – with its dedication to wilderness characteristics and values. The conflicts increase, however, in a Class L – “Limited Use” – designation, where judgment is called for in allowing consumptive uses *only up to the point that sensitive natural and cultural values might be degraded*. Class M – the “Moderate Use class – calls for subsequent tradeoffs between a number of acceptable uses. Even Class I – “Intensive Use” – designed to permit intensive and single uses, is still open to negotiation between those uses.

CDCA Plan, Chapter 3, at p. 21 (emphasis added). As this shows, the CDCA Plan contemplates that, in Class L lands, protection of resources can sometimes outweigh the proposed use of the land.¹⁹

Another part of the CDCA Plan is the “plan element,” which is described as a “more specific application of the multiple use guidelines for a specific resource or activity about which the public has expressed significant concern.” Id. at p. 21. The Plan notes that “[m]any uses in a given area will be mutually exclusive and require selective decisions to be made for that area,” and that the task of the plan element is to “identify existing or possible conflicts and to assist the manager in resolution.” Id.

¹⁸A miner on public lands in the CDCA, regardless of the classification of the lands or the size of the proposed operation, must obtain approval of a plan of operations prior to commencement of mining. That is, the streamlined, so-called “notice” provisions of BLM’s regulations that allow proposed smaller-scale mining activities on most other public lands to escape BLM’s advance environmental approval do not apply in the CDCA. See 43 C.F.R. §3809.1-4(b)(1).

¹⁹The Plan calls for protection of cultural and Native American resources and values on all classes of CDCA lands. The Cultural and Paleontological Resources guidelines broadly state that “[a]rchaeological and paleontological values will be preserved and protected.” Id. at p. 15.

The cultural resource element of the CDCA Plan begins:

Prehistoric and historic remains within the California Desert are being depleted at a rate which approaches 1 percent per year. . . . These remains represent a national treasure with importance to the public, scientists, Native Americans, and others. Preservation and protection or proper data recovery is essential.

Id. at p. 22. The goals of the Plan's cultural resource element, as amended in 1985, are to "[p]rotect and preserve a representative sample of the full array of the CDCA's cultural resources" and to "[e]nsure that cultural resources are given full consideration in . . . management decisions." CDCA Plan, 1985 Amendment, at p. 14.²⁰ The Native American element of the Plan, also as amended in 1985, includes as a goal to "[g]ive full consideration to Native American values in all land-use and management decisions, consistent with statute, regulation and policy," and to "[m]anage and protect Native American values wherever prudent and feasible." Id.

Therefore, with respect to the proposed Glamis site, the CDCA Plan contemplates that multiple-use management decisions will be made with the goal of preserving archaeological and paleontological values. In working within the plan to meet that goal, BLM must also give full consideration to the Quechan's religious, cultural and educational values in the area, and must consider how important and unique the resources are that might be destroyed by the Glamis proposal.

The CDCA Plan contains references to the development of mitigation measures where resources cannot be protected. The Plan's guidelines for mineral exploration and development within Class L lands provide, in pertinent part: "Operations on mining claims are subject to the 43 C.F.R. § 3809 Regulations and applicable State and local law. . . . BLM will review plans of operations for potential impacts on sensitive resources identified on lands in this class. *Mitigation, subject to technical and economic feasibility, will be required.*" CDCA Plan Chapter 2, at 18 ("Mineral Exploration and Development") (emphasis added). Additionally, the CDCA Plan states "[w]hen protection and/or preservation of cultural and paleontological resources cannot be achieved, mitigation through proper recovery or other means will be undertaken as developed through mitigation plans. . . . Mitigation will be employed primarily in Classes M and I where resource protection measures cannot override the multiple-use class guidelines." CDCA Plan, Chapter 3, at p. 24.

Glamis has argued that the emphasized language on Mineral Exploration and Development

²⁰The 1985 amendment made minor word changes to the original 1980 Plan in response to a recommendation by a BLM team to rewrite the goals to make them less vague without changing the intent or purpose of the resource element. Record of Decision on 1985 Amendment, at p. 13.

subjects BLM's authority to prevent "undue impairment" of the CDCA's resources to an "economic feasibility" test. See Letter from Glamis Gold, Inc. to Secretary Babbitt (Nov. 10, 1999) at 4. The reference to feasibility in the Plan, however, occurs only in the context of mitigation measures where plans of operation are approved. It does not preclude BLM from deciding to deny approval of a plan of operations. In addition, section 601(f) of FLPMA is broader and has no such limitation. It refers to "measures" to protect the values of the CDCA against undue impairment, which can include things other than mitigation.

Glamis argues further that the mitigation language means that under section 601, as implemented by the CDCA Plan, conflicts between proposed mineral development activity and cultural and historic resources were not intended to be a basis to prevent mineral development from proceeding. Id. This argument ignores the further language suggesting that mitigation is only necessary in Classes M and I, because those are the areas where protection will not override other uses, thus implying that Class L areas will allow protection over other uses. Therefore, in Class L areas protection may at times be paramount and a proposed project can be rejected because it unduly impairs resources.

This conclusion is further supported by the language in the Plan regarding areas of critical environmental concern (ACEC). Glamis notes that such areas are not areas in which no development can occur. Id. (citing CDCA Plan, Chapter 3, at p. 124). However, that argument again fails to acknowledge the remainder of the paragraph, which states:

Quite often development, when wisely planned and properly managed, will take place in these areas *if the basic intent of protection of historic, cultural, scenic, or natural values is assured.*

CDCA Plan, Chapter 3, at p. 124 (emphasis added). The emphasized language shows further that the CDCA Plan preserves BLM's authority to protect such values. There is no indication in the California Desert Plan itself, or in its formulation, that the Plan's framers intended to modify or relax the standards of existing law or regulations. General statements in the Plan should not be interpreted to place a fundamental limit on the authority of the Department to take all steps necessary to prevent undue impairment of CDCA resources.

"Undue impairment," as explained above, must mean something more than the prudent operator standard currently in the BLM definition of "unnecessary or undue degradation," but it cannot mean so much as vesting the Secretary with authority to prohibit all hardrock mining in the CDCA. Plainly the "undue impairment" standard would permit BLM to impose reasonable mitigation measures on a proposed plan of operations that threatens "undue" harm to cultural, historic or other important resources in the CDCA. Moreover, the reasonableness of those mitigation measures ought not to be judged by whether they make the particular operation uneconomic at current market prices for the mineral commodity proposed to be mined. Beyond that, the "undue impairment" standard might also permit denial of a plan of operations if the

impairment of other resources is particularly "undue," and no reasonable measures are available to mitigate that harm. As stated above, the CDCA Plan clearly appears to contemplate such a result.

VI. Conclusion

Whether the BLM may deny the Glamis plan approval under section 601(f) depends upon the particular facts, including the significance of the resources to be protected. The Advisory Council on Historic Preservation has found that the mitigation measures proposed by the company do not prevent destruction of the area's important cultural, historic and scientific values.²¹ Thus, the ultimate question is what "undue impairment" may mean in the context of a mining proposal that would have this effect.

BLM is now in the process of compliance with the National Environmental Policy Act (NEPA) on Glamis's proposed plan of operations; a draft environmental impact statement was issued in November of 1997. That process is well-suited to ventilate the issues necessary to reach a decision on whether to approve the plan of operations. See Kendall's Concerned Area Residents, 129 IBLA 130 (1994) (reversing BLM's approval of a mine plan on the ground, inter alia, that the NEPA documents did not contain a discussion adequate to support a finding of no "unnecessary or undue degradation"). The Advisory Council has weighed in with its view that mitigation measures are unavailable to avoid great harm to the cultural resources of the area.²²

The ultimate responsibility for making the decision on "undue impairment" is the BLM's. It must consider the Executive Order, the FLPMA standard, and the advice of the Advisory Council in deciding how to protect the CDCA values and resources from "undue" impairment. This is a difficult task, made more difficult by the impossibility of assigning monetary value to something as abstract as a cultural or historic resource. In the end, what is determined to be "undue" is

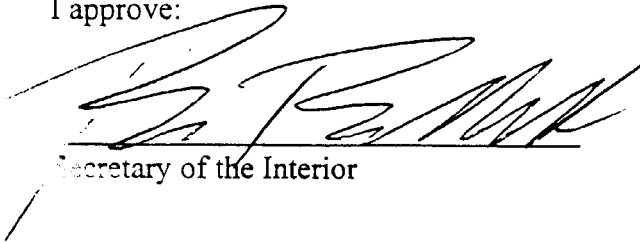
²¹The Advisory Council noted that Glamis had engaged in "laudable" efforts to minimize the impacts of its operation, including some redesign and reconfiguration. The company had indicated a willingness to go further, and to consider backfilling two of the three large open pits, establishing a cultural land bank, and taking other measures. The Advisory Council concluded that these efforts, while praiseworthy, "do little to reduce the devastating impacts on the historic properties and their environment and fall short of compensating for the loss of the traditional religious and cultural values of the ATCC."

²²As Glamis points out in its letter, the Section 106 process is not intended to impose substantive obligations on BLM. We agree. BLM can, however, consider the recommendations of the Advisory Council in making its own decisions regarding whether to approve or disapprove the proposed mining operation, and whether or not it could cause "undue impairment" of CDCA resources.

founded on the nature of the particular resources at stake and the individual project proposal. If the BLM agrees with the Advisory Council, it has, in our view, the authority to deny approval of the plan of operations.

This Opinion was prepared with the substantial assistance of Elizabeth Rodke of the Division of General Law, Lisa Hemmer (formerly with the Division of Mineral Resources), Karen Hawbecker, and Joel Yudson of the Division of Mineral Resources, Mary Anne Kenworthy of the Division of Indian Affairs, John Payne, Office of the Regional Solicitor, Sacramento, California, Kay Henry, Associate Solicitor for Mineral Resources, Peter Schaumberg, Deputy Associate Solicitor for Mineral Resources and Liz Birnbaum, Special Assistant to the Solicitor.

I approve:



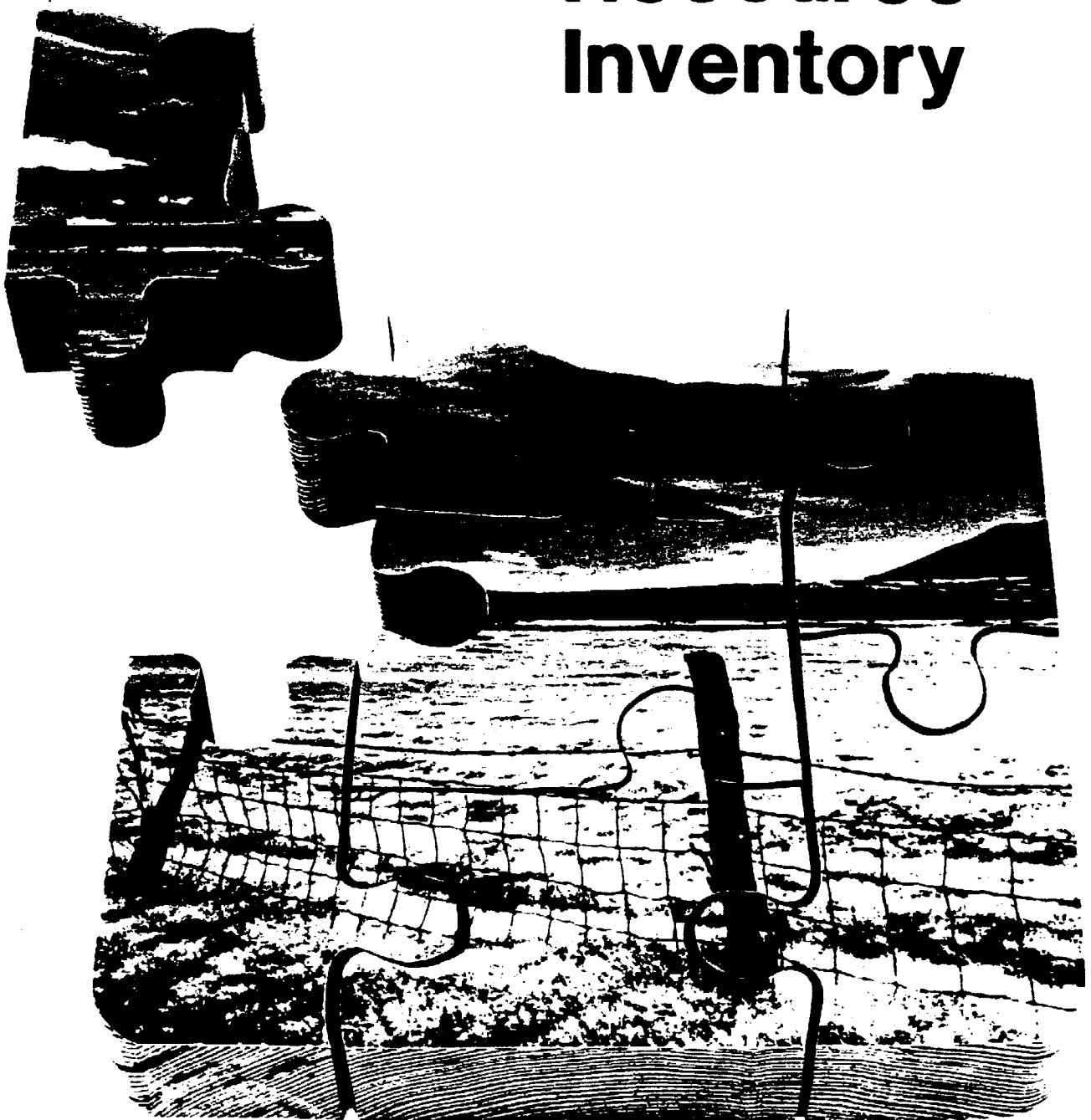
Secretary of the Interior

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Appendix C

Visual Resources Supporting Documents

Visual Resource Inventory



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I. General Guidance.

A. Overview. The visual resource inventory process provides BLM managers with a means for determining visual values. The inventory consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes. These inventory classes represent the relative value of the visual resources. Classes I and II being the most valued, Class III representing a moderate value, and Class IV being of least value. The inventory classes provide the basis for considering visual values in the resource management planning (RMP) process. Visual resource management classes are established through the RMP process for all BLM-administered lands (see also Manual 1625.3). During the RMP process, the class boundaries are adjusted as necessary to reflect the resource allocation decisions made in RMP's. Visual management objectives are established for each class. (See Section VB.)

B. Implementation Options. The detail of the inventory will vary with the visual character of the landscapes being inventoried. For example, the flat, colorless, and barren mancos shale area in southeastern Utah should not be given the same treatment as the rugged and colorful formations of the Colorado River area. Sensitive areas such as those near major highways or communities or adjacent to national parks should be given special treatment. It may be necessary to modify or make adaptations to the inventory system in such places as Alaska where the resource characteristics and the land-use patterns are significantly different from those in the Western States. These adaptations must (1) provide a more cost-effective way to complete a quality inventory, and (2) keep the conceptual framework of the Visual Resource Management (VRM) system intact.

C. Material Storage. All visual resource inventory rating forms, overlays, slides, and written material should be filed in the Resource Area Office.

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II. Scenic Quality Evaluation. Scenic quality is a measure of the visual appeal of a tract of land. In the visual resource inventory process, public lands are given an A, B, or C rating based on the apparent scenic quality which is determined using seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications (see Illustrations 1, 2, 3, and 4). During the rating process, each of these factors are ranked on a comparative basis with similar features within the physiographic province. Use the physiographic provinces as delineated by Fenneman (see Illustrations 5 and 6) to the extent possible. The boundaries of these provinces may be refined to fit local situations. The "Ecoregions of the United States" by R. C. Bailey may be helpful in making these refinements. An important premise of the evaluation is that all public lands have scenic value, but areas with the most variety and most harmonious composition have the greatest scenic value. Another important concept is that the evaluation of scenic quality is done in relationship to the natural landscape. This does not mean that man-made features within a landscape necessarily detract from the scenic value. Man-made features that compliment the natural landscape may enhance the scenic value. Evaluations should avoid any bias against man-made modification to natural landscape.

A. Delineating Scenic Quality Rating Units (SQRU's). The planning area is subdivided into scenic quality rating units for rating purposes. Rating areas are delineated on a basis of: like physiographic characteristics; similar visual patterns, texture, color, variety, etc.; and areas which have similar impacts from man-made modifications. The size of SQRU's may vary from several thousand acres to 100 or less acres, depending on the homogeneity of the landscape features and the detail desired in the inventory. Normally, more detailed attention will be given to highly scenic areas or areas of known high sensitivity. Map and number each SQRU on an overlay as shown in illustration 7.

B. Evaluating Scenic Quality. It is recommended that an interdisciplinary team do the evaluations. Ideally, one team member should have an environmental design arts background. All participants should have an understanding of the visual resource inventory system and be familiar with the areas to be evaluated. Evaluate each SQRU by observing the area from several important viewpoints. Scores should reflect the evaluator's overall impression of the area. After evaluating all the SQRU's, show the scenic ratings on the scenic quality overlay (see Illustration 7). Record the ratings on the Scenic Quality Rating Summary - Bureau Form 8400-5 (see Illustration 4). Bureau Form 8400-1 (see Illustration 3) may be used as a worksheet for completing each scenic quality evaluation. A photographic record should be maintained for the area. Photographs and completed evaluation forms should be filed for future reference.

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III. Sensitivity Level Analysis. Sensitivity levels are a measure of public concern for scenic quality. Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern.

A. Factors to Consider.

1. Type of Users. Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.
 2. Amount of Use. Areas seen and used by large numbers of people are potentially more sensitive. Protection of visual values usually becomes more important as the number of viewers increase.
 3. Public Interest. The visual quality of an area may be of concern to local, State, or National groups. Indicators of this concern are usually expressed in public meetings, letters, newspaper or magazine articles, newsletters, land-use plans, etc. Public controversy created in response to proposed activities that would change the landscape character should also be considered.
 4. Adjacent Land Uses. The interrelationship with land uses in adjacent lands can effect the visual sensitivity of an area. For example, an area within the viewshed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be visually sensitive.
 5. Special Areas. Management objectives for special areas such as Natural Areas, Wilderness Areas or Wilderness Study Areas, Wild and Scenic Rivers, Scenic Areas, Scenic Roads or Trails, and Areas of Critical Environmental Concern (ACEC), frequently require special consideration for the protection of the visual values. This does not necessarily mean that these areas are scenic, but rather that one of the management objectives may be to preserve the natural landscape setting. The management objectives for these areas may be used as a basis for assigning sensitivity levels.
 6. Other Factors. Consider any other information such as research or studies that includes indicators of visual sensitivity.
- B. Delineation of Sensitivity Level Rating Units (SLRU's). There is no standard procedure for delineating SLRU's. The boundaries will depend on the factor that is driving the sensitivity consideration. Consequently, a thorough review of the factors referred to in IIIA should be completed before any attempt is made to delineate SLRU's. Distance zone may also play an important role in identifying the SLRU boundaries.

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C. Documentation Requirements.

1. Narrative. Prepare a summary statement with the essential facts and rationale to support the conclusions reached on sensitivity levels. The format for presenting this information is optional. As a minimum, the summary data must be entered on Form 8400-6 (see Illustration 8). Backup information used to evaluate each of the factors should be maintained with the inventory record.

2. Map Overlay. Prepare an overlay (see Illustration 9) showing the sensitivity rating units and ratings.

D. Completion of Sensitivity Rating. The instructions for completing the sensitivity ratings are shown in Illustration 8. Ideally, the rating should be done as a team effort involving the Area or District VRM Coordinator, Area Manager, and at least one other staff person. If timing or funding will not allow this approach, the rating may be done by the VRM coordinator and reviewed by the Area Manager. Management should be in agreement on the summary rating for each SLRU.

IV. Distance Zones. Landscapes are subdivided into 3 distance zones based on relative visibility from travel routes or observation points. The 3 zones are: foreground-middleground, background, seldom seen. The foreground-middleground (fm) zone includes areas seen from highways, rivers, or other viewing locations which are less than 3 to 5 miles away. Seen areas beyond the foreground-middleground zone but usually less than 15 miles away are in the background (bg) zone. Areas not seen as foreground-middleground or background (i.e., hidden from view) are in the seldom-seen (ss) zone.

A. Mapping Distance Zones. Prepare a distance zone overlay (see Illustration 10) using a base map common to the scenic quality base map. Distance zones are determined in the field by actually traveling along each route and observing the area that can be viewed. If the route is a highway or trail, it should be traveled in both directions, unless it is a one-way route. River use usually is one way; however, if there is up-river travel, it too should be evaluated from both directions. If a vehicle or boat is used for this field survey, it is best to have both a driver and an observer. Distance zones should be mapped for all areas. While they are not necessary to determine classes in Class A scenic areas or for areas with low sensitivity levels, distance zones can provide valuable data during the RMP process when adjustments to VRM classes are made to resolve resource allocation conflicts.

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1. Foreground-Middleground Zone. This is the area that can be seen from each travel route for a distance of 3 to 5 miles where management activities might be viewed in detail. The outer boundary of this distance zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape. In some areas, atmospheric conditions can reduce visibility and shorten the distances normally covered by each zone. Also, where the foreground-middleground zone from one travel route overlaps the background from another route, use only the foreground-middleground designation.

2. Background Zone. This is the remaining area which can be seen from each travel route to approximately 15 miles. Do not include areas in the background which are so far distant that the only thing discernible is the form or outline. In order to be included within this distance zone, vegetation should be visible at least as patterns of light and dark.

3. Seldom-Seen Zone. These are areas that are not visible within the foreground-middleground and background zones and areas beyond the background zones.

B. Coordinating Distance Zones Delineation and Sensitivity Level Analyses. It is recommended that distance zones be delineated before the sensitivity analysis is done. The distance zone delineations provide valuable information that can be very useful in the sensitivity analysis. For example, the foreground-middleground zones are more visible to the public and changes are more noticeable and are more likely to trigger public concern. Also, the boundaries of the distance zones are very useful in helping to establish sensitivity rating units.

V. Visual Resource Classes and Objectives.

A. Purposes of Visual Resource Classes. Visual resource classes are categories assigned to public lands which serves two purposes: (1) an inventory tool that portrays the relative value of the visual resources, and (2) a management tool that portrays the visual management objectives. There are four classes (I, II, III, and IV).

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1. Visual Resource Inventory Classes. Visual resource inventory classes are assigned through the inventory process. Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. This includes areas such as national wilderness areas, the wild section of national wild and scenic rivers, and other congressionally and administratively designated areas where decisions have been made to preserve a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones. This is accomplished by combining the 3 overlays for scenic quality, sensitivity levels, and distance zones and using the guidelines shown in Illustration 11 to assign the proper class. The end product is a visual resource inventory class overlay as shown in Illustration 12. Inventory classes are informational in nature and provide the basis for considering visual values in the RMP process. They do not establish management direction and should not be used as a basis for constraining or limiting surface disturbing activities.

2. Visual Resource Management Classes. Visual resource management classes are assigned through RMP's. The assignment of visual management classes is ultimately based on the management decisions made in RMP's. However, visual values must be considered throughout the RMP process. All actions proposed during the RMP process that would result in surface disturbances must consider the importance of the visual values and the impacts the project may have on these values. Management decisions in the RMP must reflect the value of visual resources. In fact, the value of the visual resource may be the driving force for some management decisions. For example, highly scenic areas which need special management attention may be designated as scenic Areas of Critical Environmental Concern and classified as VRM Class I based on the importance of the visual values. A map is developed in each RMP showing the approved visual resource management classes.

B. Objectives for Visual Resource Classes.

1. Class I Objective. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

2. Class II Objective. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

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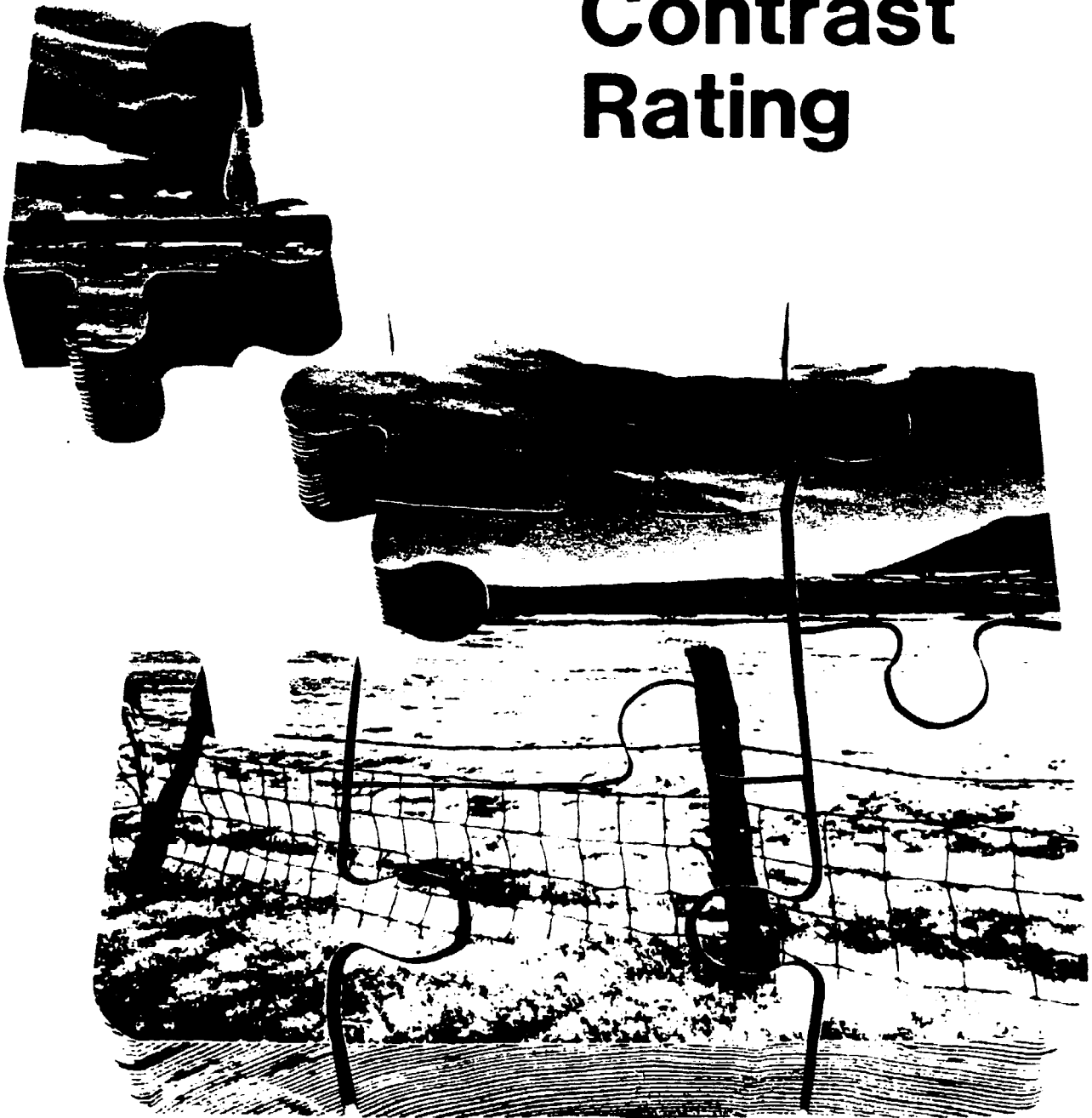
3. Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

4. Class IV Objective. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

C. Rehabilitation Areas. Areas in need of rehabilitation from a visual standpoint should be flagged during the inventory process. The level of rehabilitation will be determined through the RMP process by assigning the VRM class approved for that particular area.

D. Interim VRM Classes and Objectives. Interim visual management classes are established where a project is proposed and there are no RMP approved VRM objectives. These classes are developed using the guidelines in Section I to V and must conform with the land-use allocations set forth in the RMP which covers the project area. The establishment of interim VRM classes will not require a RMP amendment, unless the project that is driving the evaluation requires one.

Visual Resource Contrast Rating



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- 2. VRM Class Objectives
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H-8431-1 - VISUAL RESOURCE CONTRAST RATING

I. Introduction.

A. Overview. The contrast rating system is a systematic process used by the Bureau of Land Management (BLM) to analyze potential visual impacts of proposed projects and activities. It is primarily intended to assist Bureau personnel who are not formally trained in the design arts to apply the basic principles of design in the resolution of visual impacts. It is not intended to be the only means of resolving these impacts. It should be used as a guide, tempered by common sense, to ensure that every attempt is made to minimize potential visual impacts. The basic philosophy underlying the system is: The degree to which a management activity affects the visual quality of a landscape depends on the visual contrast created between a project and the existing landscape. The contrast can be measured by comparing the project features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the project. This assessment process provides a means for determining visual impacts and for identifying measures to mitigate these impacts.

II. Steps in the Contrast Rating Process.

A. Obtain Project Description. To effectively evaluate the visual impacts of a proposed project, a detailed project description is needed. Appendix 1 provides guidance on the type of information needed. The level of detail required in the description should be commensurate with the type of project proposed. This information is usually supplied by the project sponsor for BLM-initiated projects or by the applicant for non-Bureau of Land Management initiated projects.

B. Identify VRM Objectives. Use the RMP generated objectives when available. Where there are no RMP approved objectives, interim Visual Resource Management (VRM) classes will be developed using the guidelines in Handbook H-8410-1 except: (1) The inventory will be limited to the area affected by the project; and (2) the VRM classes will reflect the management decision made in existing RMP's. An RMP amendment is not required unless the project that is driving the evaluation requires an amendment.

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C. Select Key Observation Points (KOP's). The contrast rating is done from the most critical viewpoints. This is usually along commonly traveled routes or at other likely observation points. Factors that should be considered in selecting KOP's are; angle of observation, number of viewers, length of time the project is in view, relative project size, season of use, and light conditions (see Section IIID2b for a more detailed description of these factors). Linear projects such as powerlines should be rated from several viewpoints representing:

- Most critical viewpoints, e.g., views from communities, road crossings.
- Typical views encountered in representative landscapes, if not covered by critical viewpoints.
- Any special project or landscape features such as skyline crossings, river crossings, substations, etc.

D. Prepare Visual Simulations. Visual simulations are an invaluable tool in effectively evaluating the impacts of a proposed project (see Illustration 1). Simulations are strongly recommended for potentially high impact projects. The level of sophistication should be commensurate with the quality of the visual resource and the severity of the anticipated impact. Simulations are extremely important to portray the relative scale and extent of a project. They also help public groups visualize and respond to development proposals, making public participation in the planning process more effective. The BLM publication Visual Simulation Techniques should be consulted for the appropriate simulation methods.

E. Complete the Contrast Rating. Complete contrast rating from key observation point(s) using Bureau Form 8400-4 - Visual Contrast Rating Worksheet (see Illustration 2).

III. Requirements for Completing the Contrast Rating Worksheet.

A. Project Information (Section A). Complete the background information requested. It is important to precisely record the location of the KOP. A sketch of the KOP/project location should be shown in the "location" block. If several different key observation points are used for the project evaluation, give each viewpoint a separate number for reference purposes.

B. Descriptions (Sections B and C). To properly assess the contrasts between the proposed and existing situation, it is necessary to break each down into the basic features (i.e., landform/water, vegetation, and structures) and basic elements (i.e., form, line, color, and texture) so that the specific features and elements that cause contrast can be accurately identified. When describing the project, be sure to include approved mitigating measures. Refer to Illustrations 3, 4, 5, and 6 for the suggested vocabulary for describing characteristic landscapes and the proposed projects.

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C. Categorizing Projects Under Features (Sections B and C). It is sometimes difficult to determine which type feature a project fits under. Use the following as a guide to categorize projects:

<u>Landform/Water Features</u>	<u>Vegetative Features</u>	<u>Structural Features</u>
Roads	Timber Harvests	Transmission Lines
Mining	Grazing Systems	Generation Plants
Gravel Pits	Vegetative Manipulations	Oil and Gas Developments
Landfills		Recreation Facilities
Water Impoundments		Water Tanks
		Microwave Stations
		Buildings

D. Contrast Rating (Section D). The actual rating should be completed in the field from the KOP(s). It can be done as a team effort or individually, depending on the sensitivity and impacts of the project and the availability of personnel (see Manual Section 8431.12). If done as a team, it is best to do the ratings individually and then compare ratings. A simulation should be available to show scale, relative placement of disturbing features, and other important information necessary to complete an objective rating.

1. Selecting the Timeframe. Projects may be rated on either a short-term or long-term basis. Short-term is through the first 5 years and long-term is through the life of the project. If the project has significantly different short-term and long-term effects, two contrast ratings should be completed using two separate forms. Check the appropriate block under section D on the rating form to indicate the term of the rating.

2. Rating the Degree of Contrast (Section D1). Using the matrix provided in section D of the form, rate the degree of contrast. Be sure to include the proposed mitigating measures and standard stipulations in the rating. The rating is completed by determining the degree of contrast (i.e., strong, moderate, weak, or none) for each element. Use the following general criteria and factors when rating the degree of contrast:

a. Degree of Contrast Criteria.

<u>Degree of Contrast</u>	<u>Criteria</u>
NoneThe element contrast is not visible or perceived.
WeakThe element contrast can be seen but does not attract attention.
ModerateThe element contrast begins to attract attention and begins to dominate the characteristic landscape.
StrongThe element contrast demands attention, will not be overlooked, and is dominant in the landscape.

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b. Factors to be considered. Consider the following factors when applying the criteria (see also Illustrations 3, 4, 5, and 6):

(1) Distance. The contrast created by a project usually is less as viewing distance increases.

(2) Angle of Observation. The apparent size of a project is directly related to the angle between the viewer's line-of-sight and the slope upon which the project is to take place. As this angle nears 90 degrees (vertical and horizontal), the maximum area is viewable.

(3) Length of Time the Project Is in View. If the viewer has only a brief glimpse of the project, the contrast may not be of great concern. If, however, the project is subject to view for a long period, as from an overlook, the contrast may be very significant.

(4) Relative Size or Scale. The contrast created by the project is directly related to its size and scale as compared to the surroundings in which it is placed (see Illustration 7).

(5) Season of Use. Contrast ratings should consider the physical conditions that exist during the heaviest or most critical visitor use season, such as snow cover and tree defoliation during the winter, leaf color in the fall, and lush vegetation and flowering in the spring.

(6) Light Conditions. The amount of contrast can be substantially affected by the light conditions. The direction and angle of lighting can affect color intensity, reflection, shadow, form, texture, and many other visual aspects of the landscape. Light conditions during heavy use periods must be a consideration in contrast ratings.

(7) Recovery Time. The amount of time required for successful revegetation should be considered. Few projects meet the VRM management objectives during construction activities. Recovery usually takes several years and goes through several phases (e.g., bare ground to grasses, to shrubs, to trees, etc.). It may be necessary to conduct contrast ratings for each of the phases that extend over long time periods. Those conducting contrast rating should verify the probability and timing of vegetative recovery.

(8) Spatial Relationships. The spacial relationship within a landscape is a major factor in determining the degree of contrast (see Illustration 8).

(9) Atmospheric Conditions. The visibility of projects due to atmospheric conditions such as air pollution or natural haze should be considered.

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(10) Motion. Movement such as waterfalls, vehicles, or plumes draw attention to a project.

c. General Guidance for Accessing Contrast.

(1) Form. Contrast in form results from changes in the shape and mass of landforms or structures. The degree of change depends on how dissimilar the introduced forms are to those continuing to exist in the landscape.

(2) Line. Contrasts in line results from changes in edge types and interruption or introduction of edges, bands, and silhouette lines. New lines may differ in their subelements (boldness, complexity, and orientation) from existing lines.

(3) Color. Changes in value and hue tend to create the greatest contrast. Other factors such as chroma, reflectivity, color temperature, may also increase the contrast.

(4) Texture. Noticeable contrast in texture usually stems from differences in the grain, density, and internal contrast. Other factors such as irregularity and directional patterns of texture may affect the rating.

3. Determining Whether VRM Objectives are Met (Section D2).

Compare the contrast ratings with the objectives for the approved VRM Class (see Appendix 2 for definitions of VRM classes). For comparative purposes, the four levels of contrast (i.e., none, weak, moderate, and strong) roughly correspond with classes I, II, III, and IV, respectively. This means that a "strong" contrast rating may be acceptable in a class IV area but probably would not meet the VRM objectives for a class III area. In making these comparisons, one must also look at the cumulative effect of all the contrast ratings. Certain combinations of ratings may indicate there is a stronger overall contrast than the individual ratings show. For example, several "moderate" ratings when viewed in combination may warrant an overall "strong" rating. This is a judgmental call that must be documented on the back side of the form. If the rater checks the "no" block on the form, indicating the VRM objectives are not met, the reasons for not meeting the objectives must also be documented on the back of the form.

H-8431-1 - VISUAL RESOURCE CONTRAST RATING

4. Developing Additional Mitigating Measures (Section D3).

Since the overall VRM goal is to minimize visual impacts, mitigating measures should be prepared for all adverse contrasts that can be reduced. This includes reduction of contrast in projects which have met the VRM objectives. Mitigating measures should be written so they can easily be extracted and used as stipulations in leases, permits, contracts, etc. When preparing mitigating measures, keep in mind the concepts of strategic location (in less visible and less sensitive areas), minimizing disturbance, and repetition of the basic elements (form, line, color, and texture). Also make sure that mitigating measures are realistic (i.e., do not propose revegetation where the probability of success is very low). Other suggestions for reducing contrast are shown in Appendix 3. The publications listed in the bibliography of Manual Section 8400 also provide additional guidance on mitigating measures.

Appendix D

National Historic Preservation Act Section 106 Documents

National Historic Preservation Act Description of Section 106 Review Process

An intensive, pedestrian inventory for and evaluation of cultural/archaeological resources was completed for the proposed mine and process area, ancillary area, overbuilt 92 kV/34.5 transmission line corridor, and buffer areas. During the inventory, which was conducted by KEA Environmental with assistance by members of the Quechan Tribe, 88 sites associated with Native American and/or EuroAmerican activities were identified. Results of the inventory and evaluation may be found in the report by KEA Environmental for the Bureau of Land Management (BLM), which is titled, "Where Trails Cross: Cultural Resources Inventory and Evaluation for the Imperial Project, Imperial County, California," October 1997, and in the EIS/EIR.

The resource sites were evaluated according to criteria of eligibility to the National Register of Historic Places. The criteria for eligibility are significance in American history, architecture, archeology, engineering and culture; as well as integrity of location, design, setting, materials, workmanship, feeling, and association; and (A) association with events that have made a significant contribution to the broad patterns of our history, or (B) association with the lives of persons significant in our past, or (C) embodiment of the distinctive characteristics of a type, period, or method of construction, or representation of the work of a master, or possession of high artistic values, or representation of a significant and distinguishable entity whose components may lack individual distinction, or (D) yield or potential to yield information important in prehistory or history.

Properties evaluated for eligibility to the National Register of Historic Places may reflect significance in architecture, history, archeology, engineering, and culture. One kind of cultural significance refers to the beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice, and that are important in maintaining the continuing cultural identity of the community. Like any other property, a traditional cultural property is evaluated against the standards for integrity and four basic National Register Criteria.

Quechan tribal members identified the project vicinity as a traditional cultural property. They emphasized that the project vicinity is extremely important to their cultural values and integrity, and any destruction of the area would result in destruction of their present and future heritage. An area defined by the distribution of Native American trail segments and other cultural features including geoglyphs, broken quartz, broken ceramic pots, and cleared circles, and which included the project area, was identified as the Indian Pass-Running Man Area of Traditional Cultural Concern (ATCC).

The California State Historic Preservation Officer concurred with BLM that the ATCC met criteria for eligibility to the National Register. The ATCC was designed to focus on the undertaking and the Area of Potential Effect (APE), as identified in the KEA report, which was defined as the power line access rights-of-way and one-quarter of a mile on all sides of the footprint of the project.

OFFICE OF HISTORIC PRESERVATION

DEPARTMENT OF PARKS AND RECREATION

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July 21, 1998

Reply to: BLM980227A

Carl Rountree, Deputy State Director
Bureau of Land Management
California State Office
2135 Butano Drive
SACRAMENTO CA 95825-0451

Subject: Glamis Imperial Corporations Open-Pit Heap Leach Precious Metal Mine,
Imperial County

Dear Mr. Rountree:

Thank you for the additional information submitted in response to my letter date April 23, 1998.

The Bureau of Land Management (BLM) has clarified my concern over whether the agency had fully taken into account the effects of this undertaking on historic properties. It is evident that the full spectrum of historic properties have been considered in terms of the project effects.

Thank you for the diligent effort to comply with the National Historic Preservation Act during the planning project for this undertaking.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Cheryl E. Widell'.

Ms. Cheryl E. Widell

State Historic Preservation Officer

Appendix E

Comparison of Permitted Mines within Multiple Use Class L (Limited Use) Areas of the California Desert Conservation Area

Mine	Operator	County/ Area	Date of Approval / Closure	Evidence of Previous Mining Activity	Mine Facility Physiography	Native American/NRHP Issues
America Mine	America Mine Joint Venture	San Bernardino Bullion Mountains BLM POO-Yes	1984 1988	Yes	mine-mountains waste dumps- mountains leach pads- slope	No
Colosseum Mine	Bond Gold	San Bernardino Clark Mountains BLM POO-Yes	1986 1992	Yes	mine-mountains waste dumps- mountains tailings- mountains	No
Picacho Mine	Glamis Gold	Imperial County Picacho Mountains BLM POO-Yes	1986 1998	Yes	mine-mountains waste dumps- mountains leach pads- slope	No
Morning Star Mine	Vanderbuilt Gold Corp.	San Bernardino Southern Ivanpah Range BLM POO-Yes	1986 1990	Yes	mine-mountain waste dumps-foothills leach pads-foothills	No
Castle Mountain	Viceroy Gold	San Bernardino Castle Mountains BLM POO-Yes	1990 --	Yes	mine-mountains waste dumps- mountains leach pads-slope	No
Briggs Mine	Canyon Resources	Inyo County Panamint Mountains BLM POO-Yes	1996 –	Yes (minor)	mine-mountains waste dumps- mountains leach pads-slope	Yes, but plan of operations modified to avoid substantial impacts

Appendix F

Deposit Grade and Reserve Comparisons, U.S.

**Deposit Grade and Reserves Comparison
for various gold deposits in the United States***

DEPOSIT	PROCESSING MODEL	TONNAGE (1,000 tons)	AVERAGE RESERVE GRADE (Ounce/Ton)	RECOVERY RATE	OUNCES RECOVERED
North Star-NV	Dump Leach	1,000	0.015	65%	9,750
Pinson-NV	Dump Leach	1,300	0.029	93%	35,061
Getchell-NV	Dump Leach	1,900	0.026	75%	37,050
Yankee-NV	Dump Leach	2,000	0.045	70%	63,000
Picacho-CA	Dump Leach	2,900	0.038	75%	82,650
Kinsley-NV	Dump Leach	3,400	0.032	75%	81,600
Gold Quarry-NV	Dump Leach	3,500	0.016	65%	36,400
Mac-NV	Dump Leach	5,400	0.014	65%	49,140
Pete-NV	Dump Leach	6,400	0.026	65%	108,160
Dee-NV	Dump Leach	8,300	0.025	72%	149,400
Tusc-NV	Dump Leach	8,700	0.019	65%	107,445
Bald Mountain- NV	Dump Leach	11,400	0.076	75%	649,800
Bear Track-NV	Dump Leach	22,800	0.034	75%	581,400
Golden Sun-NV	Dump Leach	32,400	0.026	75%	631,800
Post/Betze-NV	Dump Leach	33,900	0.020	90%	610,200
Twin Creeks-NV	Dump Leach	40,900	0.024	65%	638,040
Mesquite-CA	Dump Leach	52,800	0.021	70%	776,160
Rand-CA	Dump Leach	55,200	0.023	75%	952,200
Imperial Project-CA	Dump Leach	95,200	0.016	80%	1,216,000
Round Mtn-NV	Dump Leach	254,400	0.020	55%	2,798,400

*Table modified from Roger Haskins, Senior Mining Law Specialist, Bureau of Land Management,
Washington, DC (1998)

Appendix G

Responses to Comments on FEIS

Public Comments to Final EIS/EIR (Significant Issues Raised and Department/BLM Response)

Of the 24 comments received by BLM on the FEIS, most voiced general opposition to the proposed project and supported the No Action alternative. A few voiced general or specific support of the project. Of those addressing specific issues, either positive or negative to this decision, the following were identified as significant and warranting description and response by the Department of the Interior and BLM.

Issue: The California State Native American Heritage Commission, an official State agency, endorsed the No Action alternative, citing adverse effects to sensitive Native American archeological and cultural resources. **Response:** The resources specified in the Commission's letter were recognized in the FEIS and are noted in the ROD as rationale for the decision not to approve the project.

Issue: A number of comments cited the newly published BLM mining regulations (43 Code of Federal Regulations, Part 3809) as supporting authority for denying the project. **Response:** While the final regulations were published on November 21, 2000, they do not become effective until January 20, 2001 and, therefore, cannot be used as a basis for this decision.

Issue: Two comments addressed the issue of the strategic importance of gold as a decision factor. Comments stated that gold is currently not listed as strategic mineral and should have no impact on BLM's decision. **Response:** Gold's strategic mineral status was not specifically addressed in the FEIS/EIR. However, the ROD discusses the conclusion of the Department that significant and unavoidable adverse environmental impacts outweigh the possible economic benefits of gold mining under the proposed project. As the comments indicate, gold is not currently listed as a strategic mineral by the Defense National Stockpile Center of the Department of Defense.

Issue: Two letters from the Quechan Tribe provide substantial information about the history of the Tribe and an official, government-to-government statement that the mine would "damage sacred sites and trails" **Response:** This information is considered to be consistent with the Tribe's earlier cultural data provided to BLM, already contained in the FEIS, and is reflected in the ROD.

Issue: The Quechan Tribe also presented further information that the proposed project interferes with the Tribe's First Amendment rights regarding their ability to practice their traditional religion. The Tribe disagrees with the Solicitor's Opinion of December 27, 1999, and its interpretation of this issue in context of the Lyng case, and requests this issue be used in the ROD to deny the mine. **Response:** The Department and BLM have reviewed the legal information and citations provided the Tribe, and conclude that the interpretation in the December 27, 1999 Opinion is still accurate and represents the Department's legal position in this matter.

Issue: Comments indicated that the Imperial Project would not be consistent with the current management direction provided in the Northern and Eastern Colorado Desert Plan (NECO). **Response:** Because NECO will not likely be completed before the second half of 2001, any

application of NECO to the proposed project would be premature, and NECO is not used in this decision.

Issue: Several comments requested that the decision be signed by the “highest level” possible so any challenges can be addressed quickly in Federal Court. **Response:** Given the nature and importance of this decision, and considering the Department of the Interior’s trust responsibility to Native American tribes, the Secretary has decided to sign the ROD.

Issue: Several comments noted the withdrawal of 9,360 acres (which includes the proposed project) by Secretarial Order on October 27, 2000 and stated it should be a factor in the decision. **Response:** The withdrawal is a separate agency decision and does not substantially affect existing claims in this area on which the Glamis Imperial proposed mining project is based. Therefore, the withdrawal cannot be a rationale for this decision.

Issue: Comments requested that BLM’s visual resources policy documents be included in the ROD. **Response:** Supporting documentation on visual resources is included in the appendices of the ROD.

Issue: Several comments requested that the entirety of the FEIS/EIR be attached to the ROD; other comments requested specific sections be attached, including section 6.2 regarding impairment of CDCA values. **Response:** The attachment of the FEIS/EIR to the ROD is not necessary as the ROD is the decision document issued as a result of the analysis in the FEIS/EIR. The FEIS/EIR was prepared as a tool to assist in the decision making process. Copies of the FEIS/EIR may be obtained from BLM, subject to availability, or may be accessed on the Web at http://www.ca.blm.gov/elcentro/imperial_project.html.

Issue: Several comments challenged the conclusion of the FEIS/EIR that no significant cumulative impacts would result from the proposed project. One comment specifically identified the need to consider potential cumulative impacts such as the future development of the new Town of Felicity. **Response:** With regard to the first statement, BLM agrees, and this ROD reflects consideration of the combined adverse impacts to Native American values, historic properties, and visual quality. As for the proposed Town of Felicity, the development is too speculative at the present time to consider in this ROD.

Issue: One comment indicates that the Section 106 process was not completed in a manner consistent with the regulations in Part 800 of Title 36 of the Code of Federal Regulations. **Response:** BLM followed the requirements of the 1991 Programmatic Agreement with the California SHPO and the Advisory Council on Historic Preservation; adhered to its responsibilities to consult with tribes on a government-to-government basis; followed the MOU with the California Native American Heritage Commission; and applied the requirements of the Sacred Sites Executive Order. The SHPO concurs with BLM’s consideration of Section 106 and its determination of adverse effects (see Appendix D).

Issue: A comment indicated that BLM had not consulted with the necessary tribes because the Quechan Tribe is only one of several Yuman speaking tribes that use the area. **Response:** During the collection of the ethnographic data for the EIS/EIR and according to applicable Federal government records, the Quechan Tribe is explicitly identified as the federally recognized tribal government in this particular area. However, other affected tribes were notified by BLM of the project, testified at the Advisory Council's public hearing in Holtville in support of the Quechan, and deferred to the Quechan as the tribal contact with BLM regarding the project.

Issue: One comment stated that the BLM's designation of the Indian Pass-Running Man Area of Traditional Cultural Concern (ATCC) was an administrative determination of BLM and did not represent the entire spectrum of Native American concerns. **Response:** The ATCC was a collaborative determination of the Quechan and BLM. It was identified to provide a basis for analysis in the EIS/EIR of potential effects of the proposed project on sacred sites. The Quechan and BLM understood that the ATCC did not include the entire spectrum of Native American concerns but was of sufficient scope to provide a reasonable basis of analysis. The SHPO concurred with the ATCC as a reasonable approach.

Issue: One comment questioned whether, given a 60-year hiatus in use of the Trail of Dreams, if a mine with the life of 20 years would constitute an unresolvable adverse effect, particularly considering that Interstate 10 crosses the trail. **Response:** The Tribe did not say that its members have not used the area for 60 years, only that they have not used the area regularly during that period. Further, the Quechan have consistently expressed concern over the cumulative impacts of development, such as Interstate 10, on their traditional cultural values.

Issue: Comments raised the issue of environmental justice if the project were approved. **Response:** The FEIS/EIR discussed applicability of Executive Order 12898 on Environmental Justice. Although the FEIS/EIR suggests the proposed project is consistent with Executive Order 12898, the Department's decision not to approve the project is based in part on the finding of disproportionate adverse impacts to the Quechan as further discussed in this ROD.

Issue: A comment stated that the cultural and religious factors to the Quechan should stand alone as a rationale for denial. **Response:** The decision of the Department not to approve the project is based on consideration of the combined environmental impacts of the project compared to the possible economic benefits of mining under the project in light of applicable statutory standards. The environmental effects to the Native American values, historic and archaeological resources and visual quality are closely interrelated.

Issue: Comments stated that the proposed Imperial Project is different from other gold mines previously approved by BLM in the CDCA. **Response:** The Department reviewed the records of permitted mines in the CDCA in comparison to the FEIS/EIR analysis of the proposed project. The comparison demonstrates that the proposed project involves a unique combination of environmental conditions not present in other mines (see Appendix E).

Issue: One comment cited outdated information in the FEIS/EIR, mostly pertaining to dates and other supporting data (including formal government to government consultations conducted with the Quechan Tribe) referenced in the document and requests correction of those dates in the ROD.

Response: The Quechan consultation dates have been updated and included in the ROD, as well as dates pertaining to the Indian Pass withdrawal.

Issue: One comment stated that BLM has underestimated the significance of the Native American values and historic properties at the project site. **Response:** The ROD directly quotes the Council's views on this matter. The ROD also relies on the Council's determination that this area contains nationally significant historic properties and Native American values as one of the basic rationales for the decision not to approve the project.

Issue: A few comments, both for and against the proposed project, asserted that the Solicitor's Opinion of December 27, 1999, provides a basis for denial of other mining operations, both in the California Desert and throughout the West. **Response:** The Solicitor's Opinion was specifically requested by BLM to address the proposed Glamis Imperial project and its location in a Multiple Use Class L area of the California Desert Plan and an Area of Traditional Cultural Concern with the significant historic properties and Native American values documented as present at the site. However, determining whether the legal analysis of the Opinion may be applicable to other sites is beyond the scope of this ROD.

Issue: One comment takes issue with the conclusion of the Solicitor's Opinion that the Section 106 process under the National Historic Preservation Act (NHPA) is not intended to impose substantive obligations on BLM (see p. 18, footnote 22 of the Opinion) and asserts that a recent court decision (*Muckleshoot v. US Forest Service*, 1999) interprets this authority more accurately.

Response: The Department has reviewed the referenced court decision and has determined the Solicitor's Opinion represents the legal position of the Department in this matter. The Federal Land Policy and Management Act, not the NHPA, was the primary legal authority on which the Solicitor based his conclusion that BLM has authority to deny approval of a plan of operations within the CDCA if the plan would impair other resources unduly and no reasonable measures are available to mitigate that harm.

Issue: One comment asserted that the Solicitor's Opinion represents a "new rule" directing a BLM decision and exceeds the statutory authority and intent of the Federal Land Policy and Management Act and the California Desert Protection Act. It further asserts that any decision to deny the mine would be inconsistent with the agency's longstanding practice involving mine development projects in the CDCA. **Response:** The Department has reviewed the information provided and disagrees with the commenter's interpretation. The United States District Court for the District of Southern California has already rejected the argument that the Solicitor's Opinion directs BLM to make a particular decision.

Issue: Some comments stated that the lack of economic benefits of mining must be a rationale for denial. **Response:** It is not the policy of the BLM or the Department to determine whether a business is to be judged by its value to the economy. Rather it is the policy to consider the

possible economic benefits of development of public land resources in the context of all other public land resource values, including environmental, historic, and other values. In this case, the overall adverse environmental impacts of mining a mineral deposit with an average reserve grade of 0.016 ounces of gold per ton were found to outweigh the possible economic benefits to be derived from the proposed project.

Issue: Several comments raised hazardous materials related issues about the project.

Response: The FEIS/EIR addressed these issues adequately and the proponent, if authorized, would be required to comply with all applicable State and Federal laws pertaining to hazardous materials.

Issue: One comment raised the issue of a pending lawsuit regarding the Endangered Species Act filed against BLM by the Center for Biological Diversity and others, and questions whether that suit affects the Indian Pass area. **Response:** While the complaint filed by the Center addresses the entire CDCA, it does not specifically cite the Indian Pass area (including the proposed mining project). The settlement agreements filed with the court as of the date of this ROD do not involve the Indian Pass area.

Issue: Some comments challenged the adequacy of the FEIS/EIR, stating that the FEIS/EIR does not support project approval or approval of alternatives other than No Action. **Response:** The decision of the Department is not to approve the project. The FEIS/EIR supports this decision.