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Environmental Assessment

Tip Top Mine Development Proposal

Inyo National Forest

Esmeralda County, Nevada

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Responsible Official

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1. Chapter 1 - Purpose of and Need for Action

1.1 Introduction

In April 1995, Dos Amigos, Inc. (Dos Amigos) submitted a Plan of Operations (POO) to the U.S. Department of Agriculture, Forest Service, Inyo National Forest (Forest Service), which described their proposal to develop a gold mine (Tip Top Mine) in the vicinity of Montgomery Pass, Nevada (Figure 2, Project Vicinity and Access Route Map). The proposed development would be located on Federally owned land managed by the Forest Service. As the Federal Land Manager, the Inyo National Forest is responsible for completing an environmental analysis of the proposed project. The Assistant Forest Supervisor is the Forest Official responsible for conducting the analysis, preparing a document which records the analysis and complies with the provisions of the National Environmental Policy Act of 1969 (NEPA) and makes and implements a decision on the proposed action. The analysis and decision will consider:

Dos Amigos' right under the 1872 Mining Law, as amended, other applicable federal laws and applicable Forest Service regulations.

Forest Service responsibility under the National Environmental Policy Act of 1969 and other applicable laws.

Resource management direction provided by the Inyo National Forest Land and Resource Management Plan (LRMP) 1988.

The legal authority to regulate locatable mineral operations on National Forest System land is based on the 1897 Organic Act and is described in regulation found in the Code of Federal Regulations (CFR) at 36 CFR part 228(a). The mining regulations establish "rules and procedures through which use of the surface of National Forest System lands in connection with operations authorized by the United States mining law (30 U.S.C 21-54), which confer a statutory right to enter upon the public lands to search for minerals, shall be conducted so as to minimize adverse environmental impacts on National Forest System surface resources." (36 CFR 228.1, July 1995) These regulations include the authority of the Forest Service to require that an individual who proposes to mine on National Forest System land submit a plan which describes their proposed operation to the Forest Service for review.

Changes in the overall design of the operation have occurred over time as information about the proposed mine site has been collected. In the following analysis, Alternative 2 describes the current version of the POO as it has evolved. Alternative 3 includes the current version of the POO as well as measures, developed during the analysis, which are designed to meet Forest Service responsibility to lessen the effects of the proposed operation and to respond to the major issues listed in section 1.5. Alternative 4 responds to the major issues of hydrology and water quality listed in section 1.5 and describes activities which would occur if ore mined at the Tip Top site were processed at an off Forest location.

In addition to receiving approval of its POO from the Forest Service, Dos Amigos must obtain other State and Federal permits and approvals before it may implement the proposed mining action.

1.2 Proposed Action

The Forest Service proposes to approve a modified POO to complete the proposed operation, including mining and reclamation, at the Tip Top Mine. The modified POO details how Dos Amigos would develop, operate, and reclaim the Tip Top Mine over a five year period and incorporates operational and reclamation measures identified during the analysis of the current Dos Amigos proposal. Documents which have been submitted to the Forest Service and are considered part of the POO include:

1. a plan of operations, dated April, 1995 (Dos Amigos, April 1995);

2. an amendment to the plan of operations, dated June, 1995; (Dos Amigos, June 1995);

3. an erosion control plan dated October, 1995; (Summit Envirosolutions, October 1995, p. 3);

4. an Engineering Design Report (which included the results of an acid mine characterization study, technical specifications, and answers to technical questions asked by the Nevada Department of Environmental Protection (NDEP) dated March, 1996; (Lyntek, March, 1996);

5. a reclamation plan dated October 1996, (Dos Amigos, October 1995);

6. a Jurisdictional Evaluation, Tip Top Gold Prospect prepared for the U.S. Army Corps of Engineers, Dated December 5, 1996 (JBR, December, 1996); and

7. an engineering design of the open pit mine (including plan view and cross sections) provided by Mr. James Bright dated November 1998.

A complete description of the current Dos Amigos proposal, is provided in Alternative 2. Alternative 3 provides a description of the modified POO.

1.3 Vicinity Description

The Tip Top Mine site is located in the north end of the White Mountains in Esmeralda County, Nevada, near the Nevada/California state boarder (Figure 1, General Site Location). The site is located in Sections 21 and 22, Township I North, Range 33 East, Mount Diablo Meridian, approximately 30 air miles northeast of the town of Bishop, California. Elevations range from 8300 to 8800 feet. The project can be reached by traveling north from Bishop, California, on US Highway 6 for approximately 49 miles to the junction of US 395 and USFS road 1N19 at Montgomery Pass. Then right, onto USFS 1N19 for approximately 6 miles to the site.

The climate is arid, with average annual precipitation of approximately 8 inches, mostly occurring as snow in the winter months. (Data from Bishop, CA and Mina, NV, the nearest weather reporting points.) The average annual temperature range calculated for the site ranges between 6 degrees Fahrenheit minimum in January and 81 degrees Fahrenheit maximum in July. The first minimum temperature below freezing generally occurs in November, and May is the first month in the spring without a minimum temperature below freezing. The mean diurnal temperature is above freezing from March through October. (Data from "Local Climatological Data for Bishop, CA", published by the National Oceanic and Atmospheric Administration, for 1993.). (Dos Amigos, June 1995, pp. 2-3)

Slopes in the project area range from gently sloping (5-10%) in the area of the leach pad, to irregular cliffs in areas of rock outcrop. Typical slopes are 45 to 100% and are underlain with unstable, gravel to cobble sized talus. There are numerous altered andesitic rock outcrops located on the northern portion of the project, as well as down Sugarloaf Canyon. The southern portion of the project area is equally steep, but contains fewer outcrops. Soil development ranges from less than 24 to greater than 60 inches. Soils are generally rocky and exhibit high to very high erosion potential when disturbed.

Mineralization is hosted by volcanic rocks of early to late Miocene age (5 - 10 million years ago). The rocks were erupted from a volcanic center which developed at the intersection of the North Death Valley fault zone, a north west trending structure, and the Warm Springs lineament, an east west trending structure which approximates a former edge of the North American Continental crust. The volcanic center is approximately 10 miles in diameter and consists of andesite and rhylite flows and tuffs which total between 600 and 1000 feet thick. The sequence overlies a basement of Mesozoic granitic rock. Stocks and subvolcanic intrusions of rhyolite and rhyodacite intrude the volcanic section. Individual formations include: the Ash Flow Tuff of Brownie Creek; Rhyolite flow rock; Rhyolite talus breccia; Rhyolite tuff; Andesite flow rock; intrusive rhyolite, and Rhyodacite porphyry. (Summary report, S.C. Moore, July 20, 1990)

The project site has limited surface water resources. The site is located near the top of a drainage divide at the head of Sugarloaf Creek. Sugarloaf Creek drainage extends eastward through the mine site and connects with Pinchot Creek, approximately one mile downstream from the site. Sugarloaf Creek is an ephemeral stream. Pinchot Creek is an ephemeral stream below the confluence with Sugarloaf Creek and supports only scattered riparian vegetation.

Ground water resources in the area are limited. Approximately 4800 feet of exploration drilling , varying in depth from 85 to 100 feet, was completed in the area of the proposed open pit and no ground water was encountered (April/June 1990 and July/August 1998). In addition, approximately 2000 feet of drifts, crosscuts and other underground openings have been inspected. No groundwater or evidence of groundwater was encountered during the inspection. No groundwater was encountered in several drill holes, up to 30 feet in depth, completed in the processing area. Ground water is managed by the State of Nevada. Water rights in the Pinchot Creek drainage are privately owned.

The project is located predominately in pinyon woodland and sagebrush scrub communities with small areas of riparian vegetation located in and on the south side of Sugarloaf Canyon. The dominant shrub components include mountain sagebrush, low sagebrush, mountain mahogany, and snowberry. Pinyon pine and scattered utah juniper comprise the overstory. Yellow willow and wild rose are the dominant riparian plants. Various forbs and grasses are also found on the site.

Private land in the immediate vicinity of the site consists of two patented mining claims located on the western edge of the project boundary. The two patented mining claims are not part of the proposed operation. Within a 1.5 mile radius of the project there are seven other small parcels of private land, including one in the bottom of Pinchot Canyon near the proposed well site. The access road between Montgomery Pass and the project site crosses private land adjacent to Montgomery Pass. All other land involved in the operation is National Forest System land administered by the Inyo National Forest.

The following millsite claims were located and staked by Dos Amigos, in 1994 (Dos Amigos, June 1995, p. 2), except for Millsite Numbers 7 through 11, which were staked in November 1996.

Table 1 - Millsite Claims

NMC#	Name	Section	Township	Range
706653	Dos Amigos No. 1	22	1 N	33 E
706654	Dos Amigos No. 2	22	1 N	33 E
706655	Dos Amigos No. 3	22	1 N	33 E
706656	Dos Amigos No. 4	22	1 N	33 E
706657	Dos Amigos No. 5	22	1 N	33 E
706658	Dos Amigos No. 6	22	1 N	33 E
752883	Dos Amigos No. 7	22	1 N	33 E
752884	Dos Amigos No. 8	22	1 N	33 E
752884	Dos Amigos No. 9	22	1 N	33 E
752884	Dos Amigos No. 10	22	1 N	33 E
752884	Dos Amigos No. 11	22	1 N	33 E

The following lode claims are leased to Dos Amigos by Parker Mining Co.:

Table 2 - Load Claims

NMC#	Name	Section	Township	Range
507367	Bueno Rico No. 1	21	1 N	33 E
507368	Bueno Rico No. 2	21	1 N	33 E
507369	Bueno Rico No. 3	21	1 N	33 E
507370	Bueno Rico No. 4	21	1 N	33 E
723742	Bueno Rico No. 5	21	1 N	33 E
427078	Bueno Rico No. 12	21,22	1 N	33 E
723743	Bueno Rico No. 14	21	1 N	33 E
788797	Bueno Rico No. 15	21	1 N	33 E
477798	Bueno Rico No. 16	20, 21, 28, 29	1 N	33 E
723744	Bueno Rico No. 20	21	1 N	33 E
555786	Bueno Rico No. 21	21, 28	1 N	33 E
555787	Bueno Rico No. 22	21, 28, 29	1 N	33 E
	Ridge #1	22	1 N	33 E
	Ridge #2	21	1 N	33 E

Dos Amigos, October 1996 (except for Ridge #1 and 2 which were identified through personnel communications with Bob Toporowski, February, 1997)

The project area is shown on Figure 3, Alternative 2 - Propose Action Site Map. Because the area is a historic mining district, roads, both abandoned and functional, small exploration pads, and trails are abundant within the majority of the project area.

The project area does not contain or affect any unique characteristics of the geographic area such as wetlands, wild or scenic rivers, designated or recommended wilderness areas, ecologically sensitive areas, or roadless areas..

1.4 Purpose and Need

The purpose of the proposed action is to access, extract, and process the locatable minerals found within the project area. The need from the perspective of the proponent is to obtain a commodity that they can sell on the open market. The filing of a Plan of Operations by Dos Amigos indicates that they have evaluated the nature and extent of the mineral discovery, market conditions for the end-product, and the costs of mineral development, to determine that the Tip Top Mine is economic for development The need from the prospective of the Forest Service is to respond to the proponents assertion of their mineral rights by filing a proposed plan of operation as required under the Federal Regulations at 36 CFR 228 (a) and assure that the mining activities minimize adverse environmental effects on National Forest and to comply with all applicable environmental laws.

1.5 Scoping and Issue Identification

To identify significant issues related to the proposed action, a public scoping letter was sent out on July 15, 1995 to 28 individuals, organizations, and agencies thought to potentially have an interest in the proposed action. In addition, a news release was issued in the Inyo Register newspaper on July 16, 1995. The news release was carried by local radio and television stations and the Mammoth Times newspaper. Written comments were received from 17 individuals.

This project has also been listed in the Inyo National Forest's Schedule of Proposed Actions, starting with the May 1995 editions. This list is mailed to approximately 230 persons, organizations, agencies, and tribal governments interested in activities on the Inyo National Forest four times per year.

Forest Service specialists, including Vernon McLean (Geologist), Kathleen Nelsonn (Botanist), Gary Milano (Wildlife Biologist), Luci McKee (Hydrologist), Lisa Bryant (Soil Scientist), Del Hubbs (Range Conservationist), Bob Hawkins (Recreation Specialist), Linda Reynolds (Manager, Heritage Resources Program), Jim Voss (Minerals Examiner), and Rich Teixeira (Minerals Examiner), reviewed the proposal and identified issues and concerns.

Significant Issues

The following resource issues, identified by the Forest Service through public and agency scoping, were considered significant issues and were used to guide the formulation of alternatives.

Hydrology and Water Quality
Soil
Vegetation
Wildlife

It was determined that, for these resources, a range of effects could be displayed through the development of different operation alternatives. It was also determined that the effects of the proposed operation on these resources could lead to the identification of "significant impacts" which would then need to be documented in an Environmental Impact Statement.
Non-significant Issues:

The following resource and socio-economic issues, identified by the Forest Service through the public and agency scoping, were considered non-significant issues and were not considered during the formulation of alternatives.

Air Quality
Geology
Heritage
Lands
Range
Socio Economic
Visual

It was determined that, due to the nature of the proposed operation and the type of resource, the range of possible effects on these resources was less dependent on alternative methods of completing the operation. It was also determined that effects of the proposed operation on these resources were less likely lead to the identification of "significant impacts" which would then need to be documented in an Environmental Impact Statement.

Issue Statements

The following are issue statement which are used to guide the evaluation of the effects of each alternative on the significant and non-significant issues. The issues are listed in alphabetical order through out the remainder of the analysis for ease of reference.

1.5.1. Air Quality: There is the potential to degrade air quality from project construction dust, ore processing dust, road use dust, and from emissions generated by equipment operation.

1.5.2. Geology: There is the potential to cause mass slope failure and or dry ravel in the south slope of Sugarloaf Canyon by debuttressing the slope through excavation of the open pit mine at the base of the slope. There is the potential to initiate headcutting of the Sugarloaf Creek by excavating the open pit mine across the stream channel.

1.5.3. Heritage Resources: There is the potential to lose significant heritage resources, both historic and prehistoric, by constructing the leach pads in areas of known Native American use and by excavating the open pit and constructing access roads in an area of turn-of-the-century mining activity.

1.5.4. Hydrology and Water Quality: There is the potential to decrease local stream flow and/or lower local ground water levels by pumping ground water. Lowered ground water levels and surface flows could have secondary effects by decreasing stream or spring dependent riparian vegetation and reducing the size of habitat used by riparian associated wildlife species.

There is the potential to contaminate the local surface and ground water with cyanide and heavy metals from the leach solution, from spills of other chemical products used in ore processing, gold refining, and equipment operation, and from acid mine drainge from the waste rock dump and rock surfaces in the open pit mine. Acid mine drainage could collect in the bottom of the open pit.

1.5.5. Lands: There is the potential to affect adjacent private land values or uses by increasing heavy truck traffic, by spilling hazardous materials on roads which cross or

access private land, and by decreasing land values, due to the presence of an open pit mine and cleared land.

1.5.6. Range: There is the potential to disrupt the pattern and use of the wild horse territory by the Montgomery Pass wild horse herd through impacts on watering sources and forage distribution.

1.5.7. Social: There is the opportunity to increase the availability of local jobs, increase tax revenues, and sales of materials and supplies from local suppliers. There is the potential to change access roads and recreation use patterns during the life of the project.

1.5.8. Soil: There is the potential to decrease soil productivity through long term coverage of the processing area, abandoned ponds, and waste stockpiles, unreclaimed excavations in bedrock, and improperly stockpiled topsoil. There is the potential for soil loss due to erosion.

1.5.9. Threatened, Endangered and Sensitive Species: It is possible that site clearing, mine excavation, road construction and site use will reduce habitat or populations of two sensitive plant species Phacelia monoensis (Mono phacelia) and Stepthanthus oliganthus (Masonic Mountain jewelflower), which preliminary investigations indicate are present at the site. Mine development would destroy a known hibenaculum of the Corynorhinus townsendii (Townsend's Big-eared bats), a Forest Service Region 5 Sensitive wildlife species. No threatened and endangered wildlife or plants were identified during preliminary investigations performed by the Forest Service and Summit Envirosolutions, Inc.

1.5.10. Vegetation: There is the potential to lose riparian and upland vegetation as the result of 1) lowered stream and/or spring flows, 2) burial beneath waste rock dumps, and 3) removal during mining operations, including excavation of the open pit.

There is the potential for the introduction of new, and/or the spread of existing noxious weeds or other undesirable non-native plant species.

There is the potential for vegetation loss through contamination of ground and surface water.

1.5.11. Visual Resources: There is the potential that the proposed development may not meet the visual quality objectives for the project area.

1.5.12. Wildlife: Habitat for wildlife species, inculding birds, mammals and reptiles, will be adversely affected or eliminated through mine development and operation, including associated road construction and use, during the life of the mining operation . Direct harrassment of wildlife will also occur, adversely affecting use of the habitat by wildlife species.

There is the potential for wildlife to become ill or die from drinking cyanide leach that could be exposed in the heap leach, cyanide recovery and storage pond components of the mining operation. There is the potential for wildlife to become ill or die from drinking acidic water which could accumulate in the bottom of the open pit. This includes mortality of migratory birds protected under the Migratory Bird Treaty Act (16USC701-718h).

Water contamination could have secondary effects by poisoning vegetation as well as wildlife.

1.6 Decision to be Made

The decision that must be made is to either approve the proposed action or modify and approve the proposed action as described through other reasonable alternatives. The no action alternative is available for comparison purposes, but because of direction in the mining laws, is not a viable selection for the responsible official.

1.7 Other Permits and Approvals

Dos Amigos must apply for, and receive, several federal and state permits in order to operate the Tip Top Mine. The following permits or approvals must be received before construction can begin. In addition, some agencies must review and approve other agency documents.

Federal

United States Forest Service - Approval of the Plan of Operation (includes reclamation plan)
Environmental Protection Agency - Spill Prevention, Control and Counter Measures
United States Army Corps of Engineers - Section 404 Dredge and Fill Permit

State

Nevada Division of Environmental Protection - Water Pollution Control Permit
Nevada Division of Environmental Protection - Mining Reclamation Permit
Nevada Division of Environmental Protection - Air Quality Permit
Nevada Division of Environmental Protection - Stormwater Permit
Nevada Division of Wildlife - Industrial Artificial Pond Permit
Nevada Deptment of Water Resources - Groundwater Appropriation Permit