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Environmental Assessment

Barrick Cortez Inc. - Cortez Refractory Ore Amendment to the Plan of Operations (NVN-067575 [18-1A]) and Reclamation Permit Application

File Number: NVN-067575

Battle Mountain District
Mount Lewis Field Office
50 Bastian Road
Battle Mountain, NV 89820

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1.0 Introduction

The Barrick Cortez, Inc. (BCI) (NVN-067575 [18-1A]) Amendment to Plan of Operations and Reclamation Permit Application for Temporary Refractory Ore Haulage (minor amendment) (SRK 2018) was submitted to the Bureau of Land Management (BLM), Battle Mountain District, Mount Lewis Field Office, on January 15, 2018. The proposed minor amendment to the current Cortez Plan of Operations (NVN-067575 [14-1A]) (Cortez Plan) (SRK 2015) would allow the shipment (transport or haul) of an additional 1.2 million tons of refractory ore from the Cortez Mine Cortez Hills Open Pit to the Goldstrike Mine (Goldstrike) in an 18-month period for processing, which would begin immediately upon BLM approval (Proposed Action). The minor amendment would not change mining, stockpiling, sampling, or the ore transportation route; and would not require new ground disturbance. The Proposed Action would modify the transportation plan to allow for additional trucks necessary to haul the additional 1.2 million tons of refractory ore for an 18-month period.

1.1 Background

BCI, as manager of the Cortez Joint Venture, currently operates gold mining and processing operations at the Cortez Mine (Cortez), which is located in north-central Nevada approximately 24 miles south of Beowawe in Lander and Eureka counties, Nevada (**Figure 1**). Cortez operations are located on public lands administered by the United States Department of the Interior (DOI), BLM and private lands owned by BCI. Under the current Cortez Plan, BCI is authorized to haul up to 1.2 million tons of ore each year from stockpiles at Cortez to processing facilities at Goldstrike, and is allowed to back haul 600,000 tons of ore each year from the Arturo Mine (Arturo) to Cortez. The ore transportation route is located between Cortez and Goldstrike, in portions of Lander, Eureka, and Elko counties (**Figure 1**).

This EA incorporates by reference the Cortez Hills Expansion Project Final Environmental Impact Statement (FEIS) and Supplemental Environmental Impact Statement (SEIS) and Record of Decision (BLM 2008a, BLM 2008b, BLM 2011); and the Amendment 3 to Plan of Operations and Reclamation Permit Application (APO3) EA and Decision Record (BLM 2015a). The EA was prepared in compliance with the National Environmental Policy Act (NEPA) and with applicable regulations and laws passed subsequently, including the President's Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations (CFR) 1500-1508), DOI requirements, and guidelines listed in the BLM NEPA Handbook H-1790-1 (BLM 2008c) and Secretarial Order 3355 (BLM 2017).

This EA describes the proposed minor amendment to the Cortez Plan, which is to transport an additional 1.2 million tons of refractory ore from the Cortez Hills Open Pit to Goldstrike for processing in an 18-month period (Proposed Action), and the No Action Alternative. The EA also summarizes the affected environment and discloses the environmental consequences of implementing the Proposed Action or the No Action Alternative. Additional supporting information is contained in a set of resource reports, which were prepared to inform the NEPA analysis and are available in the project record.

1.2 Purpose of and Need for Action

The BLM's purpose is to respond to BCI's proposed minor amendment to the Cortez Plan. The BLM's need for the action is established by the agency's responsibility under Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA) and the BLM Surface Management Regulations at 43

CFR 3809, to respond to an exploration or a mining plan of operations and to take any action necessary to prevent unnecessary or undue degradation of public lands as a result of actions taken to prospect, explore, assess, develop, and process locatable mineral resources on public lands.

BCI's purpose and need is to transport additional Cortez ore to Goldstrike for processing for a limited period of time.

1.3 Decisions to be Made

The BLM's decision will consider the following:

- Approve the minor amendment to the Cortez Plan with no modifications or additional mitigation measures;
- Approve the minor amendment to the Cortez Plan with additional mitigation measures that the BLM deems necessary to prevent unnecessary or undue degradation of public lands; or
- Do not approve the minor amendment to the Cortez Plan if the BLM determines that the proposal does not comply with the 43 CFR 3809 regulations.

1.4 Relationship to BLM and Non-BLM Policies, Plans, and Programs and Land Use Plan Conformance

This EA was prepared in conformance with the policy guidance provided in the updated BLM NEPA Handbook H-1790-1 (BLM 2008c), the CEQ regulations (40 CFR 1500-1508), and agency guidance on the analysis of cumulative impacts.

The Proposed Action would be in conformance with the Shoshone-Eureka Resource Management Plan (RMP) (BLM 1986), the Elko RMP (BLM 1987), the Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment (ARMPA) (BLM 2015b), the Lander County Policy Plan for Federally Administered Lands (Lander County 2005), and the Eureka County Master Plan (Eureka County 2010).

1.5 Scoping

Internal scoping included one interdisciplinary team meeting held at the BLM, Battle Mountain District, Mount Lewis Field Office in December, 2017. During this meeting, resource specialists discussed the minor amendment to the Cortez Plan, and identified baseline needs and the issues that would be addressed in this EA. The BLM interdisciplinary team (IDT) checklist is available in the project record.

1.5.1 Issues

Individual resource reports, available in the project record, were prepared for the following resources:

- Traffic and Human Safety
- Noise
- Wildlife and Special Status Animal Species
- Air Quality
- Social and Economic Values, and Environmental Justice
- Native American Religious Concerns
- Wastes, Hazardous or Solid

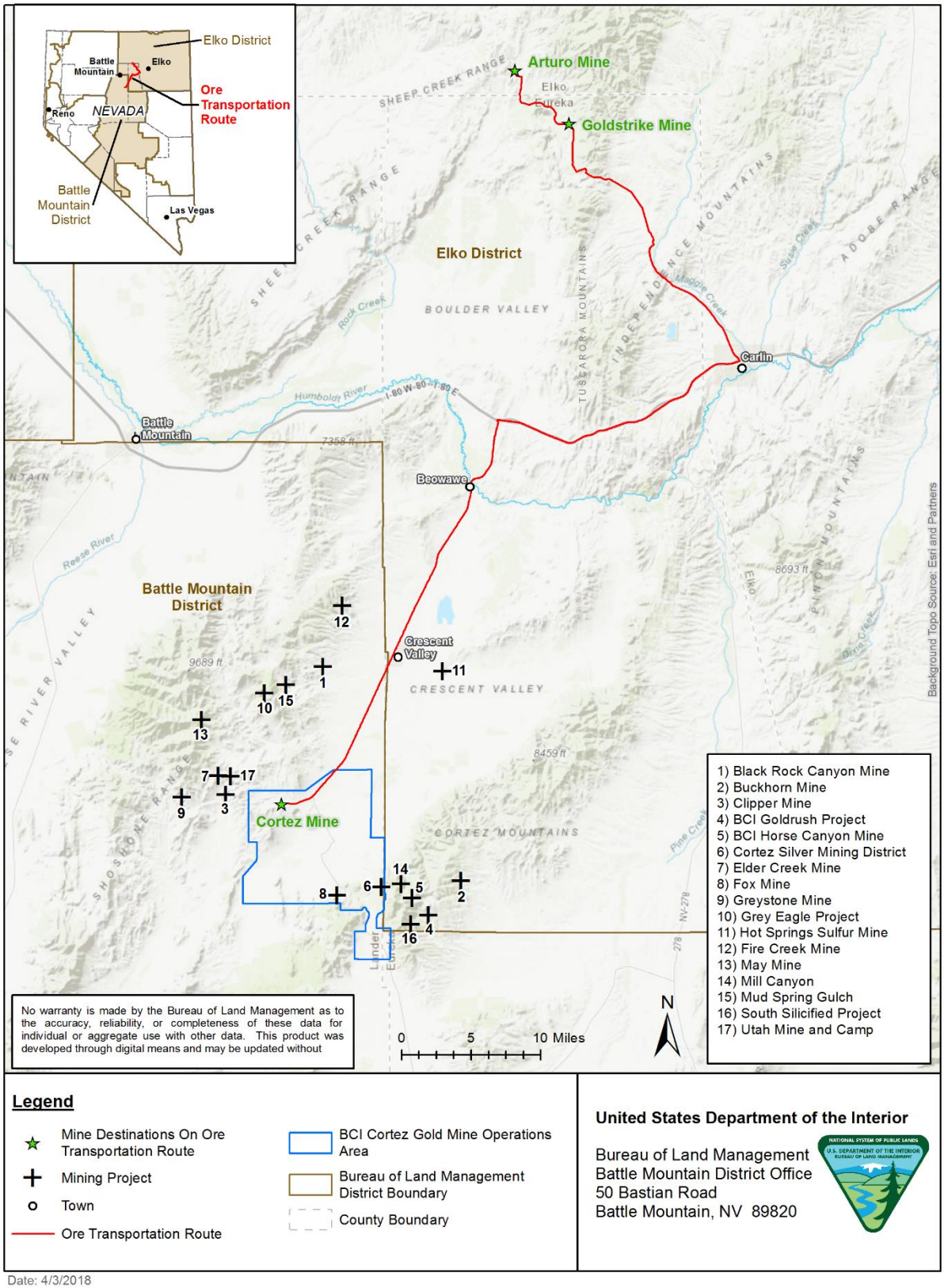

Figure 1. Project Location and Past, Present, and Reasonably Foreseeable Future Actions

2.0 Alternatives Including the Proposed Action

This chapter describes the proposed minor amendment to the Cortez Plan, which is to transport an additional 1.2 million tons of refractory ore from the Cortez Hills Open Pit to Goldstrike for processing over an 18-month period (Proposed Action) (Section 2.1). The description of the No Action Alternative is presented in Section 2.2. No other alternatives were considered as they would not meet BCI's purpose and need. Past, present, and reasonably foreseeable future actions (RFFAs) considered in the cumulative impact assessment are shown in **Figure 1** and included in Section 2.3.

2.1 Proposed Action – Cortez Refractory Ore Amendment to the Plan of Operations

The Proposed Action, as described in the *BCI (NVN-067575 [18-1A]) Amendment to Plan of Operations and Reclamation Permit Application for Temporary Refractory Ore Haulage* (SRK 2018), is a minor amendment to the current Cortez Plan of Operations (NVN-067575 [14-1A]) (Cortez Plan) (SRK 2015) to allow the shipment of an additional 1.2 million tons of refractory ore from the Cortez Hills Open Pit to Goldstrike for processing in an 18-month period, which would begin immediately upon BLM approval. The Proposed Action would not change mining, stockpiling, sampling, or the ore transportation route; and would not require new ground disturbance. The Proposed Action would modify the transportation plan to allow for additional trucks necessary to haul the additional 1.2 million tons of refractory ore for an 18-month period.

Under the current Cortez Plan, BCI is authorized to haul up to 1.2 million tons of ore each year from stockpiles at Cortez to processing facilities at Goldstrike, and is allowed to back haul 600,000 tons of oxide ore each year from Arturo to Cortez. Currently, the ore is transported via a fleet of over-the-road truck and trailer units, which consist of a Kenworth drive unit pulling a 28-ton primary trailer and a 10-ton auxiliary trailer. Ore may be transported at any time of day. Authorization of the minor amendment would increase the amount of ore authorized for transportation to Goldstrike for an 18-month period. The back-haul of ore from Arturo would not change.

The minor amendment would increase the expected number of trucks per hour in each direction to 14, which equates to an additional 113 truck trips per day, resulting in a total of 280 truck trips per day (Matrix Design Group, Inc. 2017).

The current ore transportation route would not change (**Figure 1**). The ore transportation route is located between Cortez and Goldstrike, in portions of Lander, Eureka, and Elko counties. BCI's trucks are loaded with ore at Cortez and travel north on State Route (SR) 306 through Crescent Valley and Beowawe to Interstate 80 (I-80), then continue east on I-80, over Emigrant Pass, to the East Carlin exit (Exit 282). The trucks then cross over I-80 and re-enter I-80 going westbound from Exit 282 to Exit 280, then proceed north along SR 766 to Goldstrike. After delivery of the ore from Cortez, some of the trucks continue to Arturo to pick up oxide ore for delivery back to Cortez on the return trip. The back-haul follows this route in reverse, entering I-80 westbound at Exit 280.

The current ore stockpiling would not change. The sampling and inventory of ores would not change. The transportation plan would be modified to include the additional 11 trucks needed

to haul the additional ore. All other operations within Cortez would continue under the terms of current permits and approvals as authorized by the BLM and the State of Nevada.

The Proposed Action would not change the life of operations at Cortez. BCI's work force would not change. The haul truck contractor would handle any adjustment in work force needed for the increased haulage.

2.1.1 Applicant-Committed Environmental Protection Measures

BCI's applicant-committed environmental protection measures (EPMs) for operations at Cortez are identified in the Cortez Hills Expansion Project FEIS and SEIS (BLM 2008a, BLM 2011) and FEIS Record of Decision (BLM 2008b). In addition, the APO3 EA and Decision Record (BLM 2015a) and the Cortez Plan (SRK 2015) identified EPMs that applied specifically to APO3. These EPMs currently are, and would continue to be, implemented as standard operating procedures to mitigate potential impacts to the environment and human resources in order to prevent unnecessary or undue degradation of public lands.

2.2 No Action Alternative

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. The current 1.2 million tons per year of refractory ore that is mined at Cortez and transported to Goldstrike for processing, and the back haul of 600,000 tons per year of ore from Arturo to Cortez, would continue as currently authorized.

2.3 Cumulative Effects: Past, Present, Reasonably Foreseeable Future Actions

Projects and actions considered in the cumulative effects analysis are defined for this EA as those past, present, and RFFAs that could interact with the Proposed Action in a manner that would result in cumulative effects (40 CFR 1508.7). The past and present actions and RFFAs were described in detail in the Cortez Hills Expansion Project FEIS (BLM 2008a) and have been updated for this EA analysis. These projects and actions are shown on **Figure 1**.

The analysis area for cumulative effects may vary by resource. At a minimum, the cumulative effects analysis area for all resources includes the ore transportation route. Additional details for resource specific cumulative effects analysis areas are described in the resource sections in Chapter 3.0, as applicable. The period of potential cumulative impact is defined as 18 months, the period of time over which the Proposed Action would occur. The cumulative effects analysis in this EA incorporates by reference the analysis in the Cortez Hills FEIS and SEIS (BLM 2008a, BLM 2011) and APO3 EA (BLM 2015a).

3.0 Affected Environment and Environmental Consequences

This chapter describes the environment affected by the Proposed Action and No Action Alternative, the anticipated direct and indirect effects of the Proposed Action and No Action Alternative, as well as potential cumulative effects. The analysis of potential effects of the Proposed Action incorporates implementation of the applicant-committed EPMs identified in Section 2.1.1. For resources where direct and indirect effects are identified, the Proposed Action is considered with other past and present actions and RFFAs to assess the potential for cumulative effects.

3.1 General Setting

The ore transportation route passes through a primarily rural, undeveloped area with very little future development anticipated in the next 20 years. Where land has been modified, the primary land use is agricultural and mining (Matrix Design Group, Inc. 2017). Elevation ranges from 4,675 to 6,916 feet along the ore transportation route (**Figure 1**).

3.2 Supplemental Authorities/Resources Considered for Analysis

The BLM's NEPA Handbook H-1790-1 (BLM 2008c) and Nevada Instruction Memorandum (IM) 2009-030, Change 1, require that NEPA documents address specific elements of the environment that are subject to requirements specified in statute, regulation, or Executive Order (EO) (i.e., supplemental authorities). **Table 3-1** lists the supplemental authorities that must be addressed in all environmental analyses. **Table 3-2** includes other resources deemed appropriate for evaluation by the BLM. These tables indicate whether an element or resource was analyzed in this EA, and the location in this chapter where the element or resource is addressed. In addition to the supplemental authorities and other resources considered, internal scoping identified traffic and human safety, which is discussed in Section 3.3 below.

The elements and resources that do not occur adjacent to or within the vicinity of the ore transportation route or would not be affected based on BLM internal scoping are not discussed further in this EA. The elimination of non-relevant elements complies with the CEQ policy.

Table 3-1. Supplemental Authorites to be Considered

Resource	Supplemental Authority	Not Present	Present/ Not Affected	Present/ May Be Affected	EA Section Number or Rationale for Elimination
Air Quality	Clean Air Act (CAA), as amended (42 United States Code (USC) 7401 et seq.); Section 176(c) CAA – General Conformity			x	3.7
ACECs	FLPMA (43 USC 1701 et seq.)	x			Would not be affected. No ACECs occur in the Proposed Action area.
Cultural Resources	National Historic Preservation Act, as		x		Would not be affected. No surface disturbance would occur and no changes are

Resource	Supplemental Authority	Not Present	Present/ Not Affected	Present/ May Be Affected	EA Section Number or Rationale for Elimination
	amended (16 USC 470)				proposed to the currently authorized ore transportation route.
Environmental Justice	EO 12898 "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations" (2/11/1994)			x	3.9
Farm Lands (prime or unique)	SMCRA (30 USC 1201 et. seq.); Farmland Protection Policy Act (7 USC 4202 et. seq.)		x		Would not be affected. No farm lands are present.
Floodplains	EO 11988, as amended "Floodplain Management" 5/24/77		x		Would not be affected. Proposed activities would not alter natural floodplains.
Forests and Rangelands	HFRA of 2003 (P.L. 108-14B)	x			Would not be affected. The Proposed Action is not a HFRA project.
Human Health and Safety (Herbicide Projects)	EO 13045 "Protection of Children from Environmental Health Risks and Safety Risks"	x			Would not be affected. Herbicides would not be used.
Migratory Birds	EO 13186 "Migratory Birds," Migratory Bird Treaty Act (16 USC 703-711)			x	3.5, 3.6
Native American Religious Concerns	American Indian Religious Freedom Act of 1978 (42 USC 1996)			x	3.10
Noxious Weeds, Invasive, and Non-native Species	EO 13112, Invasive Species, 2/3/99		x		Would not be affected. No surface disturbance would occur.
Threatened and	ESA of 1973, as amended (16 USC 1531)		x		3.6

Resource	Supplemental Authority	Not Present	Present/ Not Affected	Present/ May Be Affected	EA Section Number or Rationale for Elimination
Endangered Species					
Wastes, Hazardous or Solid	SMCRA; CERCLA, as amended (42 USC 9615)			x	3.11
Water Quality, Surface/ Groundwater	Safe Drinking Water Act, as amended (42 USC 300f et. seq.); Clean Water Act of 1977 (33 USC 1251 et seq.)		x		Would not be affected. No surface disturbance would occur; no changes are proposed to the currently authorized ore transportation route.
Wetlands/ Riparian Zones	EO 11990 “Protection of Wetlands” 5/24/77		x		Would not be affected. No surface disturbance would occur and no changes are proposed to the currently authorized ore transportation route.
Wild and Scenic Rivers	Wild and Scenic Rivers Act, as amended (16 USC 1271)	x			Would not be affected. No wild and scenic rivers occur within the Proposed Action area.
Wilderness	FLPMA (43 USC 1701 et seq.); Wilderness Act of 1964 (16 USC 1131 et. seq.)	x			Would not be affected. Wilderness or Wilderness Study Areas are not present within the Proposed Action area.

Table 3-2. Other Resources of the Human Environment

Other Resources	Not Present	Present/Not Affected	Present/May Be Affected	EA Section Number or Rationale for Elimination
Wildlife			x	3.5
Grazing Management		x		Would not be affected. No changes to grazing management are proposed.
Land Use Authorization		x		Would not be affected. No new right-of-way is proposed.
Geology		x		Would not be affected. No surface disturbance would occur and no changes are proposed to the currently authorized ore transportation route.
Noise			x	3.4
Paleontological Resources		x		Would not be affected. No surface disturbance would occur and no

Other Resources	Not Present	Present/Not Affected	Present/May Be Affected	EA Section Number or Rationale for Elimination
				changes are proposed to the currently authorized ore transportation route.
Recreation		x		Would not be affected. No changes are proposed to the currently authorized ore transportation route.
Social and Economic Values			x	3.8
Soils		x		Would not be affected. No surface disturbance would occur and no changes are proposed to the currently authorized ore transportation route.
Special Status Plant Species		x		Would not be affected. No surface disturbance would occur.
Special Status Animal Species			x	3.6
Vegetation		x		Would not be affected. No surface disturbance would occur.
Visual Resources		x		Would not be affected. No surface disturbance would occur and no changes are proposed to the currently authorized ore transportation route.
Wild Horses and Burros	x			Would not be affected. The Proposed Action is outside the boundaries of designated herd management areas.

3.3 Traffic and Human Safety

This section summarizes the affected environment and consideration of direct, indirect, and cumulative effects to traffic and human safety that was documented in the traffic and human safety resource report. The analysis area for direct, indirect, and cumulative effects on traffic and human safety includes the ore transportation route. The resource report, which is available in the project record, includes the traffic impact study conducted for the Proposed Action. The traffic impact study documents traffic counts, traffic accidents, and truck loading (Matrix Design Group, Inc. 2017); it is incorporated by reference.

3.3.1 Affected Environment – Traffic and Human Safety

The existing ore transportation route is described in Section 2.1 and shown on **Figure 1**. Existing traffic conditions and traffic accident data are provided in the resource report.

3.3.2 Environmental Consequences -Traffic and Human Safety

3.3.2.1 Proposed Action

The additional transport of 1.2 million tons of refractory ore for 18 months would occur within the existing ore transportation route. Five additional trucks per hour would transport the additional refractory ore. Accounting for return trips, the total traffic generated would average approximately 113 additional truck trips per day in the short term (18 months). Although additional ore transportation truck traffic may result in some delays for other traffic on the state highway segments where passing is prohibited, existing traffic is light enough that any adverse effects on traffic flows would be localized, negligible, and short term. The proposed increase in ore transportation truck traffic would not be sufficient to degrade traffic levels of service below the acceptable LOS (LOS A-LOS D) that currently exists for all roadways and intersections along the ore transportation route. The proposed increase in hauling does not require any improvements to mitigate level of service.

Highway safety is partially a function of traffic levels. It could be assumed that adding a small amount of additional traffic would increase the risk of accidents on the ore transportation route, although the increased risk would likely be localized, negligible, and short term.

3.3.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to traffic and human safety beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.3.2.3 Cumulative Effects

Proposed Action - The increase in ore transportation truck traffic would be negligible. Direct effects to traffic and human safety under the Proposed Action are not anticipated. Therefore, cumulative effects would not occur.

No Action - There would be no direct or indirect effects to traffic and human safety under the No Action Alternative. Therefore, cumulative effects would not occur.

3.4 Noise

This section summarizes the affected environment and consideration of direct, indirect, and cumulative effects to sensitive receptors from noise that was documented in the noise resource report. The noise resource report, which is available in the project record, includes the baseline noise technical memorandum. The technical memorandum identifies the ambient sound levels and sensitive receptors within the ore transportation route analysis area, and includes the descriptive measures of sound and typical levels of sound in different environments (Tetra Tech, Inc. 2018a); it is incorporated by reference.

3.4.1 Affected Environment - Noise

The ore transportation route occurs within a relatively remote area where there is minimal existing development. Existing ambient noise levels along the ore transportation route are provided in the resource report. Ranching, dispersed recreation, and mining activities contribute to existing vehicular noise. The trucks currently used for hauling ore between Cortez to Goldstrike and from Arturo to Cortez are part of ambient conditions.

3.4.2 Environmental Consequences - Noise

3.4.2.1 Proposed Action

The Proposed Action would increase the frequency of noise generated by ore transportation truck traffic for an 18-month period, but overall ambient noise levels would not increase. The ore would be hauled using the same types of trucks that are currently used to transport refractory ore from Cortez to Goldstrike, which generate maximum noise levels of approximately 80 dBA at the 50-foot reference distance (USEPA 1971). At 200 feet, where the nearest residence is located in relation to the ore transportation route, maximum haul truck noise would be approximately 68 dBA (USEPA 1971, BLM 2008a). Truck noise is part of ambient conditions. As currently experienced, an increase in noise would be experienced for a brief period as a truck passes; the Proposed Action would increase the frequency of noise experienced, but not the noise level.

The noise generated by haul truck traffic noise is not continuous sound and is already experienced at residential areas along the ore transportation route at the current frequency of truck trips. It is anticipated that only those residences directly adjacent to the ore transportation route would detect an increase in noise frequency. However, the Proposed Action would not increase average ambient sound levels.

The 35-mph speed limit through Crescent Valley and the 25-mph speed limit through Beowawe would continue, which limits the level of noise in this residential area; haul trucks would not be operating at maximum noise levels near the residences. It is anticipated that the increased frequency of ore transportation truck trips would result in an incremental increase in the frequency of noise at residences along the ore transportation route, but the effect is expected to be localized, minor, and short-term.

3.4.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to the environment from noise beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.4.2.3 Cumulative Effects

Proposed Action - The increase in ore transportation truck traffic is not anticipated to combine with other past, present, or reasonably foreseeable future projects to result in cumulative noise. Therefore, cumulative effects would not occur.

No Action - There would be no direct or indirect effects to noise under the No Action Alternative. Therefore, cumulative effects would not occur.

3.5 General Wildlife

This section summarizes the affected environment and consideration of direct, indirect, and cumulative effects on wildlife, including migratory birds, that is documented in the wildlife and special status species resource report. The resource report, which is available in the project record, includes a baseline wildlife technical memorandum (Tetra Tech, Inc. 2018b); it is incorporated by reference.

3.5.1 Affected Environment – General Wildlife

Wildlife species and habitat in the analysis area, and information on big game vehicle collisions are described in the resource report.

3.5.2 Environmental Consequences – General Wildlife

3.5.2.1 Proposed Action

No loss or fragmentation of general wildlife habitat would result from implementing the Proposed Action because no surface disturbance would occur.

Wildlife may be directly or indirectly affected by an increase in the frequency of truck traffic and noise. Direct effects include wildlife vehicle collisions. A substantial increase in vehicle collisions with big game, individual birds, mammals (including bats), reptiles, and amphibians along the ore transportation route is not expected. A small number of individuals may be affected by collisions, but there would be no population-level effect. Potential indirect effects include wildlife displacement or avoidance of localized areas of habitat along the ore transportation route. An increase in noise and traffic is expected to have a minor displacement effect on these general wildlife species given the current levels of traffic along the ore transportation route and the fact that the roads have been in existence for decades. Fish that occur in the analysis area would not be directly or indirectly affected by increases in noise and traffic, and there is no surface disturbance proposed. There would be minor, short-term, localized effects to general wildlife as a result of the Proposed Action.

3.5.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no increase in haul truck traffic on the existing ore transportation route, thus eliminating the potential for impacts associated with increased truck traffic in this localized area. There would be no additional direct or indirect impacts to general wildlife species beyond those analyzed in previous NEPA documents for existing operations at Cortez. The applicant-committed EPMs for general wildlife species would continue to be implemented.

3.5.2.3 Cumulative Effects

Proposed Action - The projects considered for cumulative effects are primarily surface disturbance projects associated with mining in a localized area. The primary effects of the Proposed Action on general wildlife and big game are from noise and increased traffic volumes. Therefore, it is expected that only roads projects identified on **Figure 1** would be considered as potentially interacting with the Proposed Action to result in cumulative effects. There are approximately 2,783 acres of existing roads in the cumulative effects analysis area. An additional 78 acres of disturbance from 30-foot wide dirt roads are projected in the Crescent Valley and Carico Lake areas and 161 acres of disturbance from other roads or mining rights-of-way. Rural, dirt roads are not likely to experience high big game-vehicle collision rates due to the low traffic volume and speeds, and they are not likely to impede mule deer seasonal or daily movements, or result in displacement. Furthermore, very little future development is expected along the ore transportation route in the next 20 years, therefore, traffic volumes are not expected to increase dramatically. Given that direct and indirect effects are expected to be negligible, and effects from other projects in the cumulative effects analysis area are expected

to be negligible, the Proposed Action together with past actions and RFFAs would not result in cumulative effects to big game populations.

No Action - Under the No Action Alternative, transport of refractory ore would continue under current terms and conditions of permits and approvals. Cumulative effects to general wildlife and big game would not occur.

3.6 Special Status Animal Species

This section summarizes the affected environment and consideration of direct, indirect, and cumulative impacts to special status animal species that was documented in the wildlife and special status species resource report. The resource report includes a baseline wildlife technical memorandum (Tetra Tech, Inc. 2018b); it is incorporated by reference. The resource report is available in the project record.

3.6.1 Affected Environment – Special Status Animal Species

Threatened and Endangered Species

An official ESA species list for the analysis area was obtained through the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPAC) website. One species, the Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*), was listed for the analysis area (USFWS 2017). No stream habitat would be disturbed by the Proposed Action and increases in ore transportation traffic and associated noise would not affect fish occupying streams near or crossed by the ore transportation route.

BLM Sensitive Species

The resource report provides documentation of the data review that was completed to determine the special status animal species that may occur in the analysis area, which include the following:

Birds: bald eagle (*Haliaeetus leucocephalus*), black rosy-finch (*Leucosticte atrata*), brewer's sparrow (*Spizella breweri*), ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), greater sage-grouse (*Centrocercus urophasianus*), loggerhead shrike (*Lanius ludovicianus*), long-billed curlew (*Numenius americanus*), sage thrasher (*Oreoscoptes montanus*), short-eared owl (*Asio flammeus*), swainson's hawk (*Buteo swainsoni*), western burrowing owl (*Athene cunicularia hypugaea*).

Bats: big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), fringed myotis (*Myotis thysanodes*), hoary bat (*Lasiurus cinereus*), little brown myotis (*Myotis lucifugus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), canyon bat (aka Western pipistrelle) (*Pipistrellus hesperus*), Western small-footed myotis (*Myotis ciliolabrum*), Yuma myotis (*Myotis yumanensis*).

Small Mammals: pygmy rabbit (*Brachylagus idahoensis*), dark kangaroo mouse (*Microdipodops megacephalus*), pale kangaroo mouse (*Microdipodops pallidus*).

Greater Sage-Grouse

The 4-mile-wide analysis area along the ore transportation route encompasses Priority Habitat Management Area (PHMA) (20 percent of the analysis area), General Habitat Management Area (GHMA) (39 percent), Other Habitat Management Area (OHMA) (21 percent), and non-habitat (20 percent).

Based on the NDOW data, there are 13 identified greater sage-grouse lek sites within 4 miles of the ore transportation route (NDOW 2017a). As of 2017, there were three active leks located within 4 miles of the ore transportation route.

3.6.2 Environmental Consequences – Special Status Animal Species

3.6.2.1 Proposed Action

The Proposed Action would be undertaken only on existing surface disturbance, including state and federal highways. No additional surface disturbance is proposed; therefore, there would be no direct impacts on special status species' habitat including habitat for greater sage-grouse mapped as PHMA or GHMA.

Potential direct effects on special status species of small mammals, birds, and bats may include mortality due to vehicular collisions. Indirect effects considered include changes in habitat values due to increases in noise frequency and traffic frequency. Vehicular collisions with these types of wildlife are expected to be rare, and would have negligible effects on populations. Current noise levels from traffic likely cause wildlife, including special status species, to avoid using habitat along the immediate vicinity of the ore transportation route. Increases in the frequency of noise and trucks may have a minor, yet detectible change from current conditions; disturbance effects to these taxa due to the Proposed Action are considered localized, minor, and short-term.

Greater Sage-Grouse

The distance of leks from the ore transportation route was used to evaluate potential noise effects from the proposed increase in ore transportation truck traffic. One pending active lek is on the edge of this distance range, at 2.1 miles, but all other active or pending active leks are beyond a distance where traffic noise is expected to propagate to detectable levels. The actual level of noise experienced at a lek will also vary due to different topographic conditions between the ore transportation route and each lek. A review of topographic maps and aerial photography along the ore transportation route supports that traffic sound would further attenuate with distance due to the presence of vegetated drainages and ridges.

ARMPA MD SSS-2F provides that "Authorizations and permits will limit noise from discretionary activities (during construction, operation and maintenance) to not exceed 10 decibels above ambient sound levels at least 0.25 mile from active and pending leks, from 2 hours after sunrise and sunset during the breeding season." (BLM 2015b). Mining activities conducted under 43 CFR Subpart 3809 are not discretionary activities; therefore, MD SSS-2F is not applicable. However, BLM may impose mitigation measures to prevent unnecessary and undue degradation of public lands, including measures to mitigate noise impacts on greater sage-grouse leks. Based on established noise data currently generated by haul trucks and industry reported equipment levels, studies of sound attenuation at distance, consideration of how surface topography along the ore transportation route provides noise-shielding, and the

fact that current levels of ambient sound include truck traffic, a greater than 10 dB increase over ambient sound levels at active and pending leks considered in the analysis area would not occur with an increased frequency of truck trips per day. It is expected that the additional ore transportation truck traffic from the Proposed Action would have a negligible effect on noise levels at leks and on greater sage-grouse habitat. No additional mitigation measures are necessary.

There may be a minor effect on greater sage-grouse and greater sage-grouse habitat as a result of the Proposed Action due to increased traffic and noise frequency. However, no long-term population-level impacts or lek abandonment are expected as a result of the Proposed Action.

3.6.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. The proposed increase in ore transportation truck traffic on the existing ore transportation route would not occur, thus eliminating the potential for impacts associated with increased traffic in this localized area. There would be no additional direct or indirect impacts to special status species, including greater sage-grouse, beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.6.2.3 Cumulative Effects

Proposed Action – Direct and indirect effects on special status species are expected to be negligible. The Proposed Action together with past and present actions, and RFFAs would not result in cumulative effects to special status small mammal, bird, or bat species.

There would be no direct or indirect effects on greater sage-grouse as a result of the Proposed Action. Therefore, cumulative effects to greater sage-grouse would not occur.

No Action – Under the No Action Alternative, the Proposed Action would not be approved. Transport of refractory ore would continue as currently authorized under the terms and conditions of current permits and approvals. Cumulative effects to special status small mammal, bird, or bat species, including greater sage-grouse, would not occur.

3.7 Air Quality

This section summarizes the affected environment and considers direct, indirect, and cumulative effects to air quality. Additional detail is documented in the air quality resource report, which is available in the project record. A baseline air quality technical memorandum, which was prepared to document air emissions as currently authorized for the transport and processing of ore, and to evaluate future air emissions as a result of the Proposed Action (Air Sciences, Inc. 2017) is attached to the air quality resource report; it is incorporated by reference.

3.7.1 Affected Environment – Air Quality

A description of the existing ambient air quality, including climate, meteorology, greenhouse gases, and climate change is provided in the air quality resource report.

3.7.2 Environmental Consequences – Air Quality

As described in the air quality resource report, the baseline air quality technical memorandum assessed the air quality impacts associated with transporting 2.0 million tons per year of Cortez refractory ore to Goldstrike, as well as processing the additional ore at Goldstrike. The assessment included the currently authorized transport of 600,000 tons per year of oxide ore from Arturo back to Cortez for processing (Air Sciences, Inc. 2017)

3.7.2.1 Proposed Action

Off-site Ore Transport Emissions

The estimated annual emissions from the transportation of 2.0 million tons per year of Cortez ore to Goldstrike and 600,000 tons per year back to Cortez is provided in the air quality resource report (Air Sciences, Inc. 2017).

Due to the travel distance involved, these emissions would be spread over many miles. It would be unlikely that the transport-related emissions from fugitive dust from paved and unpaved roads and transport truck tailpipe emissions would result in a violation of the National or State of Nevada AAQS (BLM 2011, BLM 2015a). Effects on air quality would be localized, minor to negligible, and short term.

Processing of Cortez Ore at Goldstrike

The air quality resource report compares the Goldstrike emissions, modeled impacts, and the emissions and impacts from processing the 2.0 million tons per year of Cortez ore at Goldstrike to the applicable National AAQS (Air Sciences, Inc. 2017) and State of Nevada AAQS.

The maximum impacts from processing the Cortez ore at Goldstrike are well below the National and State of Nevada AAQS. (Since Cortez ore will actually displace Goldstrike ore in the processes, the Cortez impacts are not necessarily additive to the Goldstrike impacts.)

Effects on air quality of additional ore processing would be localized, negligible, and short term.

HAP Emissions and Impacts

The processing of 2.0 million tons per year of Cortez ore at Goldstrike results in 1.28 tons per year of HAP emissions (Air Sciences, Inc. 2017).

Adding the Cortez HAP emissions to the Goldstrike HAP emissions as a worst-case assumption does not result in total HAP emissions in excess of the major HAP emission threshold of 25 tons per year (Air Sciences, Inc. 2017).

Greenhouse Gas and Mercury Emissions and Impacts

Processing 2.0 million tons per year of Cortez ore is estimated to result in GHG emissions of 85,717 tons per year (Air Sciences, Inc. 2017). Due to the short-term duration, localized nature, and magnitude of effects on air quality, effects of GHG emissions would be minor.

Processing of the 2.0 million tons per year of Cortez ore is estimated to result in 41.5 pounds per year of mercury emissions (Air Sciences, Inc. 2017).

It is estimated that the mercury deposition from processing Cortez ore at Goldstrike would account for approximately 7 percent of the total deposition impact attributed to the mercury emissions modeled for Goldstrike (Air Sciences, Inc. 2017). Effects of additional mercury

deposition would be negligible due to the relatively small contribution to the total deposition and short-term in duration.

3.7.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to air quality beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.7.2.3 Cumulative Effects

Proposed Action – Emissions from the transportation of ore are not expected to result in a violation of National or State of Nevada AAQS, therefore, cumulative effects would not occur.

Cumulative effects to air quality from processing Cortez ore were evaluated in the baseline air quality technical memorandum. The maximum levels are shown to be well below the National or State of Nevada AAQS and because the Cortez ore will displace Goldstrike ore in the processes, the Cortez impacts are not additive. Cumulative effects of processing additional ore are not anticipated.

However, even adding the Cortez impacts to the Goldstrike impacts as a worst-case assumption would not result in a total impact that exceeded the National and State of Nevada AAQS.

Effects of past, present, and reasonably foreseeable future projects identified on **Figure 1** are primarily due to surface disturbance. Current sources of air pollutants in the region also include several precious metal mines that are sources of PM_{10} and $PM_{2.5}$ (BLM 2015a). Emissions and fugitive dust generated by the Proposed Action would be localized, and would not be expected to additively combine with these other projects to result in cumulative effects on air quality.

No Action – There would be no additional direct or indirect effects to air quality under the No Action Alternative. Therefore, cumulative effects would not occur.

3.8 Social and Economic Values

This section summarizes the affected environment and consideration of direct, indirect, and cumulative effects to social and economic values that was documented in the social and economic values, and environmental justice resource report.

3.8.1 Affected Environment – Social and Economic Values

3.8.1.1 Population

Population levels, growth rates, and employment for Elko, Eureka, and Lander counties and major communities from 1980 through 2016 are documented in the social and economic values resource report.

Based on the predicted additional employment of approximately 30 truck drivers, which would be employed by BCI's contractor for an 18-month period, it is unlikely that the Proposed Acton would result in measurable changes to housing demand, public facilities and services, emergency and health care services, or public education. Therefore, these social and economic values have been eliminated from further analysis in this EA.

3.8.2 Environmental Consequences – Social and Economic Values

3.8.2.1 Proposed Action

Under the Proposed Action, the transport of 2.0 million tons per year of Cortez refractory ore to Goldstrike would be conducted using BCI's hauling contractor. The hauling contractor may hire approximately 30 additional truck drivers to transport the ore. These additional truck drivers would likely come from the local work force in the analysis area. The required workers would represent 2 percent of the 1,462 workers that are currently unemployed in the three-county analysis area. Therefore, there would be a localized, short-term, and negligible effect on employment in the analysis area. If the new truck drivers currently are residents in the analysis area, they would not measurably affect the population.

For the processing of the 2.0 million tons per year of Cortez refractory ore at Goldstrike for an 18-month period, BCI and Goldstrike would utilize their existing workforce. Therefore, there would not be a measurable effect on employment or populations in the analysis area due to the processing of the additional ore.

Processing the 2.0 million tons per year of refractory ore would marginally increase the public revenue from net proceeds of mine taxes in the short term. This would be a localized and beneficial effect.

3.8.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to social and economic values beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.8.2.3 Cumulative Effects

Proposed Action - The Proposed Action would result in negligible effects on social and economic values. Cumulative effects to social and economic values are not anticipated.

No Action - There would be no increase in the demand for workers or an economic benefit to the local economy. Cumulative effects on social and economic values would not occur.

3.9 Environmental Justice

This section describes the affected environment and consideration of direct, indirect, and cumulative effects to minority and low-income populations that was documented in the social and economic values, and environmental justice resource report.

3.9.1 Affected Environment – Environmental Justice

Information on minority and low-income populations are provided in the resource report.

3.9.2 Environmental Consequences – Environmental Justice

3.9.2.1 Proposed Action

The Proposed Action is not expected to affect any particular population. The area in the immediate vicinity of the ore transportation route is very sparsely populated and does not have an unusually high minority population. Additionally, environmental effects that would occur, such as air quality impacts, would be minor and would affect the population equally, without

regard to race or ethnicity. Since there are no identified environmental justice impacts, no monitoring or mitigation is recommended, and no residual adverse impacts would occur.

3.9.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to minority and low-income populations beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.9.2.3 Cumulative Effects

Proposed Action - The Proposed Action would have no measurable effect on minority and low-income populations; therefore, there would be no cumulative effects.

No Action - There would be no effects on minority and low-income populations under the No Action Alternative; therefore, cumulative effects would not occur.

3.10 Native American Religious Concerns

This section summarizes the affected environment and consideration of direct, indirect, and cumulative effects to Native American religious concerns that was documented in the Native American religious concerns resource report. The resource report is available in the project record.

3.10.1 Affected Environment – Native American Religious Concerns

3.10.1.1 Regulatory Framework

The regulatory framework considered in this analysis is documented in the Native American religious concerns resource report, which is available in the project record.

3.10.1.2 Government-to-Government Consultation

The BLM, Mount Lewis Field Office, will initiate government-to-government consultation for the Proposed Action by sending letters to the following tribes and bands:

- Battle Mountain Band of Western Shoshone
- Duckwater Shoshone Tribe
- Te-Moak Tribe of Western Shoshone
- Elko Band of Western Shoshone
- South Fork Band of Western Shoshone

3.10.2 Environmental Consequences – Native American Religious Concerns

The Cortez Hills Expansion Project FEIS (BLM 2008a) and the APO3 EA (BLM 2015a) analyzed effects on Native American religious concerns within Cortez; these documents are incorporated by reference. The Native American religious concerns analysis in this EA reviewed the results of previously conducted and ongoing tribal consultation to assess whether effects may occur. Adverse effects would result if the Proposed Action would diminish the characteristics used to define a site or object(s) of cultural importance, access to the site or object(s) is limited or eliminated, or traditional uses of the site or object(s) are affected.

3.10.2.1 Proposed Action

The Proposed Action would not result in new surface disturbance, therefore, no cultural resources or places of religious, traditional, or cultural importance would be directly impacted. However, as discussed in Section 3.9 of the Cortez Hills Expansion Project FEIS (BLM 2008a), the spiritual and religious experience of certain tribal individuals who visit the top of Mount Tenabo for ceremonial or personal use may be diminished as a result of the increased truck traffic and frequency of noise associated with the Proposed Action. As noted in the FEIS, the level of impact cannot be quantified because the number of people who visit the mountain for spiritual or religious use and the frequency and specific locations of their visits to the area has not been disclosed. The Proposed Action would not result in restrictions on access to the top of Mount Tenabo or any other site.

3.10.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to Native American religious concerns beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.10.2.3 Cumulative Effects

Proposed Action - The Proposed Action would have no measurable effect on Native American religious concerns; therefore, there would be no cumulative effects.

No Action - There would be no direct or indirect effects to Native American religious concerns under the No Action Alternative. Therefore, cumulative effects would not occur.

3.11 Wastes, Hazardous or Solid

This section summarizes the affected environment and considers direct, indirect, and cumulative effects due to wastes, hazardous or solid, generated during the transport and processing of the additional ore, which was documented in the wastes, hazardous or solid, resource report. The resource report is included in the project record.

3.11.1 Affected Environment – Wastes, Hazardous or Solid

The affected environment for wastes, hazardous or solid, includes air, water, soil, and biological resources that potentially could be affected by an accidental release of these wastes during transport of the additional ore.

3.11.2 Environmental Consequences – Wastes, Hazardous or Solid

The analysis in this EA considered types of waste produced from the Proposed Action and whether the types produced have potential to harm people or natural resources.

3.11.2.1 Proposed Action

Under the Proposed Action, there would be no change in the current reagent consumption rate and no new storage facilities would be needed. The majority of the hazardous materials used at Cortez are spent or consumed during operations. Materials that are not spent or consumed (e.g., petroleum oils, antifreeze, etc.) are recycled, to the extent possible, or disposed of off-site in an approved depository in accordance with Cortez's Solid and Hazardous Waste Management Plan and all applicable federal and state regulations (BLM 2008a).

Under the current regulatory framework, including continued implementation of the current Emergency Response Plan, effects of the Proposed Action would be minimized, and would be localized, negligible, and short term.

3.11.2.2 No Action

Under the No Action Alternative, the BLM would not grant approval of the proposed minor amendment to the Cortez Plan. There would be no additional direct or indirect impacts to the environment from wastes, hazardous or solid, beyond those analyzed in previous NEPA documents for existing operations at Cortez.

3.11.2.3 Cumulative Effects

Proposed Action - The potential for a release or spill is low and the increase in ore transported would be short term; the Proposed Action would not incrementally combine with other past, present, or RFFAs to result in cumulative effects associated with wastes.

No Action - Ore transport activities would continue as currently authorized under the No Action Alternative. With continued implementation of the Cortez Emergency Response Plan, cumulative effects are not anticipated.

3.12 Consultation and Coordination

This EA was prepared at the direction of the BLM, Battle Mountain District, Mount Lewis Field Office, by Tetra Tech, Inc. under a contract with BCI. Persons, groups, organizations, and agencies consulted included NDOW, and the following Native American Tribes:

- Battle Mountain Band of Western Shoshone
- Duckwater Shoshone Tribe
- Te-Moak Tribe of Western Shoshone
- Elko Band of Western Shoshone
- South Fork Band of Western Shoshone

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