
4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

As described in Chapter 2.0, the Proposed Action consists of Barrick's application to amend an existing right-of-way (N-52388) by expanding the right-of-way width from 40 feet to 80 feet to accommodate installation of a second buried pipeline. A 200-foot-wide temporary construction easement would be required. The pipeline is located on private land except for 3,936 feet within Sections 32 and 4 that would be located on public land. The segment that would cross public land is the focus of this analysis. The existing pipeline located within the right-of-way was among the components analyzed in an Environmental Assessment (EA) prepared in 1990, Final Environmental Assessment for the TS Ranch Reservoir, Pipeline, and Access Road (TS Ranch Joint Venture 1990). A Finding of No Significant Impact for that proposed project was signed by the BLM on July 9, 1991. The buried pipeline proposed by Barrick would parallel the route previously analyzed in the EA.

During the operation phase, a 10-foot-wide, 2-track access road would parallel the buried pipeline. Other than ripping and revegetating the access road, abandonment would have no impact on the environment. Therefore, the discussion of environmental consequences is limited to impacts that could occur during the construction phase of the proposed pipeline.

Critical Elements of the Human Environment, as defined by BLM, are presented below along with the location in this chapter where the element is discussed. If the element does not occur within the project area or would not be affected, this is indicated below. This elimination of nonrelevant issues follows the Council on Environmental Quality guidelines as stated in 40 Code of Federal Regulations 1500.4.

- Air Quality – refer to Section 4.1.
- Areas of Critical Environmental Concern - would not be affected.
- Cultural Resources –refer to Section 4.9.
- Drinking Water/Ground Water Quality –would not be affected.
- Environmental Justice - would not be affected.
- Floodplains – would not be affected.
- Hazardous or Solid Wastes - would not be affected.
- Invasive Non-native and Noxious Plant Species – would not be affected.
- Native American Religious Concerns - refer to Section 4.9.
- Paleontological Resources - would not be affected.
- Prime or Unique Farmlands - would not be affected.
- Threatened, Endangered, Candidate, or Sensitive Species - refer to Sections 4.4 and 4.6.
- Wetlands and Riparian Zones – would not be affected.
- Wild and Scenic Rivers – would not be affected.
- Wilderness - would not be affected.

4.1 Air Quality

4.1.1 Affected Environment

The Betze Project Draft EIS (BLM 1991a) and the Meikle Mine Development EA (BLM 1993a) provide detailed information on the climatology and air quality of the area. The Goldstrike

meteorological and air monitoring station measures PM₁₀ (particulate matter 10 microns or less) concentrations, which are representative of baseline air quality in the vicinity. Drilling, blasting, and waste rock removal, hauling, dumping, and crushing are the major sources of particulate matter. Particulate data collected from the Goldstrike meteorological station for the 1998 and 1999 monitoring periods showed no exceedences of the EPA standard for PM₁₀ (Barrick 2000).

In addition to particulate emissions, the existing mining and processing operations also emit other gases and “non-criteria” pollutants. Carbon monoxide (CO) and nitrogen dioxide (NO₂) are emitted from propane-fired kilns and boilers used in processing operations and from heavy mining equipment and other vehicles that burn diesel fuel and gasoline. Sulfur dioxide (SO₂), hydrogen sulfide (H₂S), sulfuric acid mist, and particulate sulfur are emitted during ore processing in the autoclave. SO₂ also is emitted by mining equipment and other vehicles that burn diesel fuel and gasoline. Barrick is not required to monitor for air quality parameters other than particulates.

Non-criteria pollutants are air contaminants that do not have standards defined within the National Ambient Air Quality Standards (NAAQS). Analysis of non-criteria pollutants concentrations was conducted as part of the Betze Project EIS (BLM 1991d). The measured concentrations of total arsenic, barium, cyanide, and selenium on the highest particulate impact days were minimal and were substantially below applicable Nevada air quality standards.

4.1.2 Environmental Consequences

4.1.2.1 Proposed Action

Surface disturbance and the operation of heavy machinery would generate fugitive dust during construction; however, this activity would have minimal impacts on local air quality because of the small disturbance area and 2-week timeframe for construction. Soil stabilization measures following backfilling of the trench would reduce the potential for fugitive dust generation by wind blowing across disturbed area.

4.1.2.2 No Action

The No Action Alternative would eliminate potential short-term impacts of the Proposed Action on air quality.

4.2 Topography and Soils

4.2.1 Affected Environment

The study area is located in the north-central portion of the Great Basin in the Basin and Range physiographic province. Boulder Valley has a low relief topography and a gentle south to southwest slope. Elevations in the area near the right-of-way range from 5,000 to 5,100 feet. Soils in the area have formed on alluvial sediments deposited by Boulder Creek and its tributaries. The soils tend to be relatively deep and well-drained.

4.2.2 Environmental Consequences

4.2.2.1 Proposed Action

Local topography would not be affected by installation of the pipeline since the right-of-way would be graded and restored to natural contours. Based on the entire 200-foot construction right-of-way width being disturbed (which is an extremely conservative estimate), a total of 18 acres of soils could be temporarily disturbed. Appropriate construction and revegetation measures have been incorporated into the proposed plan to minimize effects to soils.

4.2.2.2 No Action

The No Action Alternative would eliminate potential impacts of the Proposed Action on topography and soils.

4.3 Water Resources

4.3.1 Affected Environment

The Boulder Valley hydrographic basin is part of the Humboldt River system located in the Great Basin Physiographic Region (WESTEC 1996a). Surface flows result from snow melt, with contributions from winter and summer storm

events. Surface flow within Boulder Creek and nearby ephemeral drainages typically infiltrate into alluvial aquifers and rarely reach the Humboldt River except during high run-off events or extreme precipitation.

The proposed pipeline would not cross any perennial drainages. Approximately 0.25 mile southeast of the right-of-way, Boulder Creek flows in a southwesterly direction and runs parallel to the proposed pipeline (see Figure 4-1). In 1996, a field investigation performed in the area identified one ephemeral drainage within the right-of-way as jurisdictional waters of the United States (WESTEC 1996b). Barrick applied for, and the U.S. Army Corps of Engineers has approved, a permit for the crossing of the drainage. The location of the drainage is shown in Figure 4-1.

4.3.2 Environmental Consequences

4.3.2.1 Proposed Action

No impacts to water resources would result from construction of the pipeline, since natural topography and drainage features would be restored following construction.

4.3.2.2 No Action

The No Action Alternative would have no impacts on water resources.

4.4 Vegetation, Including Threatened, Endangered, Candidate, or Sensitive Species

4.4.1 Affected Environment

The vegetation along the right-of-way consists of the big sagebrush/grassland type. Native species in the area include tall sagebrush, low sagebrush, Great Basin wildrye, buckwheat, rabbitbrush, greasewood, bluebunch wheatgrass, wild onion, phlox, and sunflower (P-III Associates, Inc. 1996). Many of the species present in the area were introduced and are non-native, such as cheatgrass, crested wheatgrass, and peppergrass.

No threatened, endangered, candidate, or sensitive plant species are known to occur in the project area. Lewis buckwheat (*Eriogonum lewisii*) is a BLM-sensitive species that has been observed in the Marys Mountain area southeast of the project area. No populations of Lewis buckwheat are known to occur in the project area.

4.4.2 Environmental Consequences

4.4.2.1 Proposed Action

A maximum of 18 acres of the big sagebrush/grassland vegetation type would be removed by construction of the proposed pipeline; realistically, less disturbance would occur. The disturbed area would be reclaimed using an approved seed mixture (see Table 2-1). Herbaceous species (grasses, forbs) would re-establish rapidly, while shrub species (big sagebrush) would re-establish within 5 to 10 years. There is a potential for continued invasive non-native weed establishment along the pipeline right-of-way due to the existence of cheatgrass and halogeton populations in the vicinity (i.e., an existing seed source).

No impacts to threatened, endangered, candidate, or sensitive plant species are anticipated from implementation of the Proposed Action.

4.4.2.2 No Action

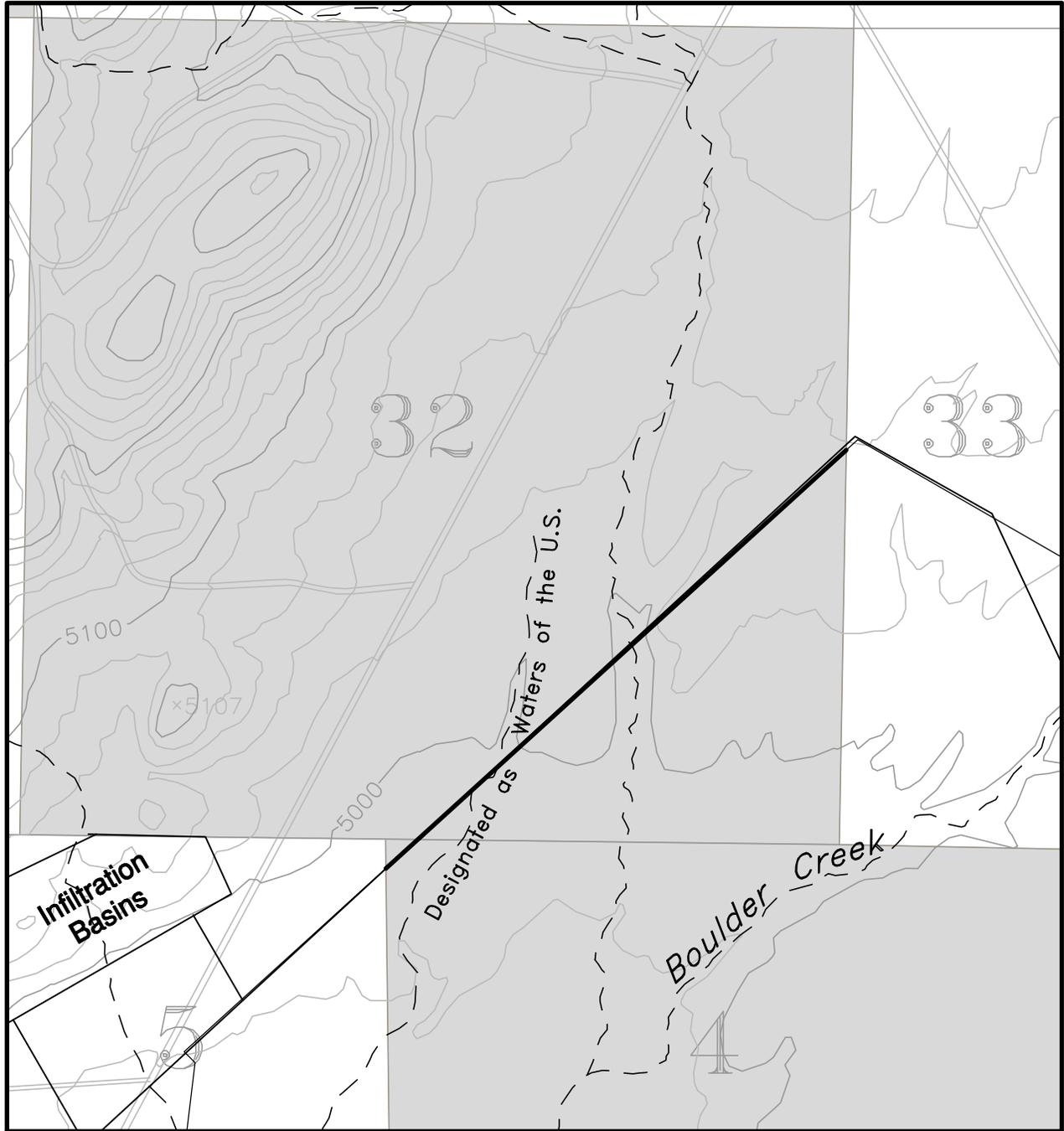
The No Action Alternative would eliminate the effects of the Proposed Action on vegetation and would have no impacts on threatened, endangered, candidate, or sensitive species.

4.5 Wildlife and Aquatic Resources

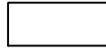
Since no perennial streams would be affected by the Proposed Action, there would be no impacts to aquatic resources.

4.5.1 Affected Environment

The wildlife resources associated with the Proposed Action parallel those discussed for the overall project area described in Section 3.4 for Barrick's water management operations and in



Legend

- | | | | |
|---|--|---|--------------------------|
|  | Public Lands
Administrated by BLM |  | Proposed Pipeline |
|  | Private Lands |  | Pipeline |
|  | Section |  | |
|  | Road | | |
|  | Drainage | | |

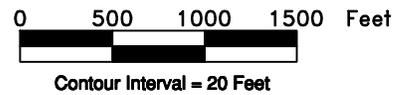


Figure 4-1
**Proposed Action -
Right-of-Way Location**

the Betze Project EIS (BLM 1991a). However, for the Proposed Action area wildlife would be limited to those species commonly occupying the sagebrush and grassland communities.

Deer use has changed in Boulder Valley since the issuance of the Betze Project EIS. The proposed pipeline would be located between areas designated as mule deer intermediate (transitional) range and would be adjacent to designated summer range. Both of these ranges are considered important for the resident population (see Figure 3.4-1). Designated seasonal ranges for pronghorn in the vicinity of the Proposed Action include summer range to the north and east and transitional range to the west of the right-of-way alignment (see Figure 3.4-2).

Based on associated habitats, other game species that may potentially occur near the proposed right-of-way could include sage grouse, Hungarian (gray) partridge, and mourning dove. Although a number of waterfowl and shorebirds species have been documented using Boulder Valley, no suitable habitat for water birds occurs along the right-of-way.

Raptors use the sagebrush and grassland habitats for foraging. Only one raptor, the burrowing owl, has been documented nesting along the proposed right-of-way (see Section 4.6). Several other bird species, such as smaller songbirds, commonly nest in the sagebrush and grassland communities. Representative breeding species include the horned lark, mountain bluebird, sage thrasher, green-tailed towhee, and sage sparrow (BLM 1993b).

Bats would be restricted to species that commonly forage over the upland habitats that would be crossed by the right-of-way. No potential roosting habitat has been identified along the pipeline right-of-way. Reptile occurrence would be similar to that discussed for in Section 3.4, Terrestrial Wildlife. No amphibians likely occur in this area, based on the lack of moist soils, wetland areas, or perennial drainages.

4.5.2 Environmental Consequences

4.5.2.1 Proposed Action

Impacts to area wildlife would be limited to increased disturbance, short-term habitat loss, and displacement or loss of less mobile species from pipeline construction. Potential disturbance factors would include increased noise and human presence during the 2-week construction and subsequent reclamation periods. If these activities were to occur during important seasonal periods (e.g., spring or fall migration), mule deer and pronghorn would avoid the pipeline right-of-way until initial reclamation has been completed.

The anticipated displacement of individuals, interference with breeding activities, and possible mortality of the less mobile species (e.g., small mammals, ground-nesting birds) would not be expected to result in population-level effects. This assessment is based on three assumptions, including: (1) the amount of existing habitat in adjacent habitats is sufficient to support the basic functional requirements (e.g., foraging, cover) of wildlife species typically associated with the sagebrush and grassland communities in the short term, (2) the majority of these species would likely return to the right-of-way area upon the successful completion of the reclamation program, and (3) no species that would be displaced or lost are considered sensitive or rare. Threatened, endangered, candidate, or sensitive species are addressed in Section 4.6.

Although the loss of active nest sites from ground-nesting birds would not be expected to result in effects to the overall population, loss of an active nest site, incubating adults, eggs, or young would be in violation of the Migratory Bird Treaty Act. If construction activities were to occur during the breeding season (March through August), pipeline construction could impact individual nest sites, if these occurred within the areas proposed for disturbance. As discussed for potential impacts to songbirds from Barrick's dewatering and water management operations in

Section 3.4.2.2 of this SEIS, the Migratory Bird Treaty Act does not protect the loss of potential nesting habitat, but it does protect an active nest site and its occupants.

4.5.2.2 No Action

The No Action Alternative would have no impacts on wildlife beyond those already occurring in the project vicinity.

4.6 Threatened, Endangered, Candidate, or Sensitive Wildlife Species

4.6.1 Affected Environment

Table 3.6-1 (see Section 3.6) summarizes the threatened, endangered, candidate, or sensitive species that may be present within the regional study area. The assumption of species' presence or absence is based on the likelihood of occurrence within the area encompassing Barrick's water management operations, relative to the sagebrush/grassland habitat type present along the proposed construction corridor.

No Federally listed, Federal candidate, or sensitive aquatic species would occur in the area of the Proposed Action, based on the lack of perennial streams. The only Federally listed terrestrial species that could potentially occur along the proposed route would be the bald eagle. However, no suitable eagle nesting or roosting habitat occurs within or adjacent to the proposed right-of-way. Consequently, potential bald eagle occurrences along the proposed route would be limited to intermittent use by migrating or foraging individuals. No site-specific information on the Preble's shrew is available (see Table 3.6-1), however, suitable upland habitats do occur in the area. Six sensitive bat species listed in Table 3.6-1 could occur sporadically in the area. However, as stated in JBR (1995a), the open valley habitats do not provide optimal roosting or foraging habitat for many of the resident and migratory bat species. Bat use associated with the area of the proposed right-of-way would be limited to foraging along the existing open-water conveyance system currently

in place and within the desert shrub community. The golden eagle, Swainson's hawk, and ferruginous hawk would likely be restricted to sporadic foraging activities along the proposed right-of-way. No sage grouse activity has been documented in this area, although the habitat is suitable within the sagebrush habitat type along portions of the route.

An intensive ground survey was conducted in Boulder Valley, including the proposed right-of-way area (JBR 1996a). Based on suitable habitat recorded during these surveys, the potential occurrence of one BLM species of concern, the burrowing owl, was considered high; the burrowing owl has been documented in Boulder Valley. Three active burrow or den sites (including a colony of owls) were recorded along the northern portion of Boulder Valley in the vicinity of the proposed right-of-way during the 1996 survey (JBR 1996a). One of the burrows was located in the fill placed over the existing pipeline within the right-of-way.

Suitable habitat is not expected to be present for the other six special status species identified for the project. The osprey, American white pelican, white-faced ibis, and black tern may be attracted to the open water of the conveyance system to the south, but no habitats crossed by the proposed right-of-way would support these sensitive bird species. In addition, no suitable habitat for the northern goshawk or Nevada viceroy occurs along the right-of-way.

4.6.2 Environmental Consequences

4.6.2.1 Proposed Action

Construction of the Proposed Action would result in the short-term loss of a maximum of 18 acres of the sagebrush/grassland habitat along the pipeline route. No impacts to the long-eared myotis, small-footed myotis, spotted bat, northern goshawk, osprey, American white pelican, white-faced ibis, black tern, or Nevada viceroy, would be anticipated from implementation of the Proposed Action. This determination is based on the lack of or limited suitable habitat along the proposed pipeline corridor for these special status species.

Although the potential occurrence of the Preble's shrew in the proposed project area would be considered low, potential impacts could result in the loss of individuals as result of crushing from construction activities, if this small mammal species is present. Impacts to this species also would result in the incremental short-term loss of potentially suitable breeding and foraging habitat. A number of resident and migratory bat species (i.e., long-legged myotis, fringed myotis, and pale/Pacific Townsend's big eared bat) and raptor species (i.e., bald eagle, golden eagle, Swainson's hawk, and ferruginous hawk) may sporadically occur in the habitats crossed by the proposed Project ROW. Consequently, the proposed Project could result in the incremental, short-term loss of potentially suitable foraging habitat along the proposed route. Potential impacts to sage grouse would be limited to the incremental, short-term loss of potentially suitable foraging, habitat.

Burrowing owls may be both directly and indirectly impacted by the construction of the Proposed Action. The maximum of 18 acres of the sagebrush/grassland habitat temporarily lost from pipeline construction would result in a short-term reduction in potential nesting and foraging habitat for this species. Individual owls also may be directly affected by pipeline construction, if equipment were to crush an active den or nest site along the proposed right-of-way. This event could result in loss of eggs, nestlings, and adults. The general breeding season for burrowing owls may extend from March through August (Call 1978; Terres 1991), depending on nest phenology, with the young often remaining with the burrow until migration (August to September). If construction were to occur during these periods, construction activity could directly impact adults and young (both nestlings or fledglings), if the burrow were active. As discussed for ground-nesting songbirds in Section 4.5.2.1, direct impacts to nesting burrowing owls would be in violation of the Migratory Bird Treaty Act.

4.6.2.2 No Action

The No Action Alternative would have no impact on threatened, endangered, candidate, or sensitive species.

4.7 Grazing Management

4.7.1 Affected Environment

The proposed pipeline right-of-way is located on public land within the boundaries of the T Lazy S Allotment. This allotment is described in Section 3.7, Grazing Management.

4.7.2 Environmental Consequences

4.7.2.1 Proposed Action

Construction of the buried pipeline would result in the temporary loss of forage within the proposed disturbance area (up to 18 acres). This area would be revegetated after construction. The loss of forage within this area would be minimal relative to the total area available for livestock grazing.

4.7.2.2 No Action

The No Action Alternative would eliminate the potential impacts of the Proposed Action on grazing management.

4.8 Access and Land Use

4.8.1 Affected Environment

The primary land uses in the vicinity of the project in terms of acreage and economic impact are ranching and mining activities, respectively. The proposed right-of-way is located on public land (Sections 32 and 4) administered by the BLM. The surrounding sections are private lands owned by the Elko Land and Livestock Company. Dunphy Road and other unpaved intersecting access roads provide access to the area for mine employees and ranchers.

4.8.2 Environmental Consequences

4.8.2.1 Proposed Action

The proposed pipeline project would increase the quantity of water that can be delivered for irrigation by approximately 8,000 gpm during

peak irrigation periods. The in-place abandonment of the buried pipeline would encumber these lands and result in potential future conflicts with other land uses. There would be no impacts to area access.

4.8.2.2 No Action

Under the No Action Alternative, the ability to increase the delivery of water to irrigation by approximately 8,000 gpm during peak irrigation periods would not be realized. The No Action Alternative would eliminate the potential impacts on land use in the project area and have no effect on access.

4.9 Cultural Resources

4.9.1 Affected Environment

4.9.1.1 Cultural Resources Identified in the Project Area

Several cultural surveys have been conducted in the vicinity of the proposed right-of-way by P-III Associates, Inc. (P-III). These include surveys near the Ranch Reservoir by Tipps and Popek (P-III 1990), inventories of five parcels in the upper Boulder Valley by Tipps (P-III 1991), and inventories on 520 acres in Boulder Valley (P-III 1996). These surveys are on file at the BLM office in Elko, Nevada; only summaries are provided here to protect the confidentiality of the site locations.

In July and November 1989, Tipps and Popek (P-III 1990) conducted cultural resource investigations near the TS Ranch Reservoir. In April and May 1991, Tipps (P-III 1991) conducted Class III surveys of 1,717 acres of private land in the northern portion of Boulder Valley. Several lithic scatters were identified during these surveys in and near the proposed pipeline right-of-way. These sites were recommended ineligible to the NRHP by the field archeologists; BLM and SHPO agreed with this recommendation. P-III (1996) conducted a survey in the vicinity of the project area in May 1996, and no additional sites were located during this survey.

Class III cultural resources inventories were completed along the entire pipeline route. No

archaeological finds were encountered during installation of the pipeline on private land leading to and from proposed right-of-way on the public land parcel.

4.9.1.2 Native American Concerns

Recent legislation and regulations provide for Federal agencies to consult with Native Americans before certain types of land or resource management decisions are implemented. These acts and regulations, which provide a measure of protection to traditional Native American religious and other cultural beliefs and practices, include: (1) the American Indian Religious Freedom Act; (2) the Religious Freedom Restoration Act; (3) the Archaeological Resources Protection Act; (4) the National Historic Preservation Act, as amended to provide a role for Indian Tribal groups in Section 106 consultation provisions; (5) the Native American Graves Protection and Repatriation Act; and (6) the Nevada Indian Burial Protection legislation.

Notification letters and requests for comments were sent to the Te-Moak Tribe, the South Fork Band, the Wells Band, the Battle Mountain Band, and the Elko Band; the Duck Valley Tribe; the Fort Hall Tribe; the Western Shoshone Defense Fund; and the Western Shoshone Historic Preservation Society.

The Native American consultation process relative to the potential impacts of dewatering and water management operations is summarized in Section 6.4.

4.9.2 Environmental Consequences

4.9.2.1 Proposed Action

No sites within the proposed pipeline project area have been deemed to be significant or eligible for inclusion on the National Register of Historic Places (NRHP), or have Federal and/or state protection under other statutes. Section 106 consultation with the Nevada State Historic Preservation Officer regarding the project's effect on cultural resources has been completed. No sites known to be of religious or cultural

significance to Native Americans would be impacted by the proposed pipeline.

Any previously unidentified cultural resources located during construction should be examined by professional archaeologists prior to removal. If the previously unidentified resources were judged eligible for the NRHP or protected under state and Federal statutes, impacts should be mitigated through an appropriate data recovery program agreed upon by the BLM, the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

4.9.2.2 No Action

Under the No Action Alternative, impacts to cultural resources or sites known to be of religious or cultural significance to Native Americans from construction of the pipeline would not occur.

4.10 Visual Resources

4.10.1 Affected Environment

The proposed buried pipeline route is situated on lands designated as Visual Resource Management (VRM) Class IV by the BLM. The VRM system ratings range from Class I to Class IV, with Class I areas being the most scenic and protected visual resources, and Class IV, the least valuable resource and needing the least protection. Class IV VRM objectives provide for management activities that 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 (BLM 1986a).

The topography of project area is fairly uniform. Grasses and sagebrush comprise the prevalent vegetation, and there is little contrast in form, line, color, and texture along the right-of-way relative to the surrounding area.

4.10.2 Environmental Consequences

4.10.2.1 Proposed Action

The 2-week construction disturbance, followed by the period until vegetation becomes re-established (likely several years), would result in a temporary contrast in color and texture relative to the surrounding area. The rangeland that would be crossed by the right-of-way would accommodate the pipeline project because reclamation would restore the original landform, and revegetation would approximate original colors and textures. The project would be compatible with the VRM Class IV designation.

4.10.2.2 No Action

Under the No Action Alternative, no effects to visual resources associated with the buried pipeline would occur.

4.11 Mitigation Measures

As summarized in Section 1.6, applicable monitoring and mitigation measures have been developed for the project, based on the existing water management operations. The following monitoring and mitigation measures are proposed for implementation of the Proposed Action in addition to the environmental protection measures presented in Section 1.6.

Ground-Nesting Birds

To minimize potential impacts to ground-nesting birds, either pipeline construction would occur outside of the primary breeding season (construction window of September through February), or a breeding bird survey would be conducted to identify active nest sites prior to the initiation of construction. In the event that construction activities were proposed for the breeding period (March through August), Barrick would coordinate with the BLM on the survey methodology (e.g., distance from centerline) and contract with a qualified biologist to conduct a clearance survey along the project right-of-way and in other native habitats that may be disturbed by pipeline construction (e.g., laydown area). If an active nest site is documented in or near these

areas to be disturbed, Barrick would coordinate with the BLM to determine whether additional protection measures are warranted (e.g., protective buffer, construction constraint, etc.). These decisions would be based on the species potentially affected, the location of the nest site relative to the construction activities, and breeding phenology. This measure should prevent violation of the Migratory Bird Treaty Act.

Breeding Burrowing Owls

Similarly to other ground-nesting birds (see above), if construction of the proposed water pipeline were to occur during the breeding season for the burrowing owl (March through August), a clearance survey for breeding or nesting burrowing owls would be conducted within 0.25 mile of the pipeline right-of-way to determine if an occupied breeding territory or an active nest site occurs in or adjacent to the right-of-way alignment or other areas proposed for disturbance (e.g., laydown area). In the event that breeding adults or young are documented during these clearance surveys, Barrick would coordinate with the BLM to determine if additional protection measures were warranted. These measures could include establishing buffer areas surrounding a nest site; implementing a construction constraint period; restricting human access in close proximity to a nest site; and/or constructing artificial burrows, if warranted. The extent of these measures would depend on a number of factors, such as the location of the nest relative to the right-of-way, potential shielding from vegetation, breeding phenology, and the types of activities planned for the area within 0.25 mile of a nest site. This measure should protect breeding burrowing owls and adhere the regulations of the Migratory Bird Treaty Act.

4.12 Residual Effects

The in-place abandonment of the proposed water pipeline would encumber these lands, possibly resulting in future conflicts with other land uses. No other residual effects to environmental resources would result from implementation of the Proposed Action.

4.13 Irreversible and Irretrievable Commitment of Resources

Irreversible impacts apply to non-renewable resources. For example, if cultural resource sites were disturbed by construction of the Proposed Action, it would be considered an irreversible commitment of resources. Irretrievable impacts apply to the loss of production, harvest, or use of renewable natural resources. Minor irretrievable losses such as soil disturbance, vegetation loss, and a loss of wildlife habitat would occur from construction of the proposed pipeline until vegetation is re-established.

4.14 Relationship Between Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

Most of the impacts associated with the Proposed Action would be short-term and would cease to be adverse impacts following revegetation of the disturbed right-of-way. No substantial decrease in the productivity of the project area is anticipated.