

3.17 Required Disclosures

This section addresses additional disclosures that are required by CEQ regulations and/or NEPA.

3.17.1 Short-Term Uses and Long-Term Productivity

NEPA requires consideration of “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). As declared by Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

This portion of NEPA regulations recognizes that short-term uses and long-term productivity of the environment are linked and that opportunities that are acted upon have corollary opportunity costs in terms of forgone options and productivity that could have continuing effects well into the future. The following discussion examines short-term uses and long-term productivity together, according to resource categories. Specific impacts of the proposed project on resources are described in the various resource sections throughout chapter 3. “Short term” is taken to mean the full life of the project (construction, operation, and post-closure phases).

The relationships between short-term uses and long-term productivity would not be appreciably different from one action alternative to another but instead would come largely from whether the project is constructed. Resource areas not listed are not expected to have adverse environmental impacts for which maintenance of long-term productivity is a concern.

3.17.1.1 Geology, Minerals, and Subsidence

Construction of the project would convert some undeveloped lands into an industrial mining operation, and construction of mine facilities would alter the area’s topography. Impacts related to subsidence and the tailings storage facilities would permanently impact long-term productivity.

3.17.1.2 Soils and Vegetation

Productivity loss for soils would be limited to the disturbed areas affected by land clearing, grading, and construction; subsidence; and areas permanently occupied by tailings. It is not expected that the tailings would ever be removed, or that the subsidence crater would be filled. Effects on soils and some land uses would be permanent.

Reclamation efforts are anticipated to reestablish vegetation in all areas other than the subsidence crater.

Test plots at the West Plant Site have demonstrated that it is possible to successfully revegetate under certain conditions and research has demonstrated successful revegetation on Gila Conglomerate in the same geographic area; however, it is not known whether the areas would return to current conditions or the length of time that would be needed to successfully reclaim the site. However, the goal of reclamation is to create a self-sustainable ecosystem that would promote site stability and repair hydrologic function, and while pre-project habitat conditions are not likely to be achieved, it is likely that some level of wildlife habitat would eventually be reestablished in most areas, reestablishing some level of long-term productivity.

3.17.1.3 Noise and Vibration

Modeled noise and vibration levels did not rise beyond threshold of concern under most conditions, but the noise and vibration associated with the surrounding environment from mining and associated activities would be short term (during the estimated 46- to 51-year life of the mine between construction and reclamation) and are expected to end with mine reclamation.

3.17.1.4 Transportation and Access

Impacts from increased mine-related traffic would be short-term impacts that would cease when the mine is closed.

3.17.1.5 Air Quality

Impacts on air quality (increased air pollutant concentrations but below applicable air quality standards) from mining and associated activities would be short term (during the estimated 41- to 51-year life of the mine between construction and reclamation) and are expected to end with mine reclamation and return to pre-mining levels, assuming adequate revegetation success to stabilize dust emissions from disturbed areas.

3.17.1.6 Groundwater Quantity and Groundwater-Dependent Ecosystems

Groundwater pumping would last the duration of the mine life. At the mine itself, groundwater levels would slowly equilibrate over a long period (centuries). Groundwater drawdown from dewatering of the underground mine workings would constitute a permanent reduction in the productivity of groundwater resources within the long time frame expected for equilibrium. Groundwater in the vicinity of the Desert Wellfield would equilibrate more quickly, but there would still be an irrecoverable amount of drawdown and a permanent loss of productivity of groundwater resources in the area.

Seeps and springs could be permanently impacted by drawdown in groundwater levels, as could the riparian areas associated with springs, but these impacts would be mitigated. GDEs or riparian areas directly lost to surface disturbance would be a permanent impact.

3.17.1.7 Groundwater and Surface Water Quality

The use of the alternative sites for tailings storage represents a short-term use, with disposal happening over the operational life of the mine. However, the seepage from the tailings facilities would continue for

much longer, with potential management anticipated being required over 100 years in some cases. While seepage persists, the long-term productivity of the downstream aquifers and surface waters could be impaired for some alternatives.

3.17.1.8 Surface Water Quantity

Desert washes, stock tanks, and wetland areas in the footprint of the subsidence area and tailings storage facility would be permanently impacted. In the short term, over the operational life of the mine, precipitation would be lost to the watershed. In the long term, most precipitation falling at the tailings facility would return to the watershed after closure and successful reclamation. There would be a permanent reduction in the quantity of surface water entering drainages as a result of capture of runoff by the subsidence area.

3.17.1.9 Wildlife and Special Status Wildlife Species

Impacts on wildlife and wildlife habitat would primarily be short term and would include destruction of habitat for mine construction, disturbance from mining and associated activities, and direct mortality from increased mine-related vehicle traffic. Disturbance and direct mortality would cease at mine closure, and reclamation would eventually allow wildlife habitat to reestablish itself. However, this could take many decades or longer. Portions of the tailings storage facility landform may never return to pre-mining conditions, and the effects of reduced quality of habitat would be long term or permanent. Impacts on wildlife and aquatic habitat due to drawdown that affects streams and springs would represent a permanent loss in productivity.

3.17.1.10 Recreation

Recreation would be impacted in both the short and long term. Public access would be restricted within the perimeter fence until mine closure, which is considered to be a short-term impact. However, much or all

of the tailings and subsidence area may not be available for uses such as OHV or other recreational use in the future, depending on the final stability and revegetation of these areas.

3.17.1.11 Public Health and Safety

Impacts from risk associated with tailings embankment safety would exist for a long time on the landscape and may result in some land uses downstream of the facility being curtailed. Over time, the reduction of risk would diminish, and productivity of downstream areas would recover.

Impacts from increased mine-related traffic, increased fire hazard, and hazardous materials use in mine operations would be short-term impacts that would end with mine reclamation.

3.17.1.12 Scenic Resources

Impacts on visual resources would be both short and long term. While impacts associated with processing plant buildings and structures such as utility lines and fences would cease when they are removed at closure, the subsidence area and tailings storage facility would permanently alter the scenic landscape and affect the scenic quality of the area in perpetuity. Impacts on dark skies from night lighting would cease after mine closure and reclamation.

3.17.1.13 Cultural Resources

Physical and visual impacts on archaeological sites, tribal sacred sites, cultural landscapes, and plant and mineral resources caused by construction of the mine would be immediate, permanent, and large in scale. Mitigation measures cannot replace or replicate the historic properties that would be destroyed by project construction. The landscape, which is imbued with specific cultural attributions by each of the consulted tribes, would also be permanently affected.

3.17.1.14 Socioeconomics

Socioeconomic impacts are both positive and negative and are primarily short term. The project would provide increased jobs and tax revenue from construction through final reclamation and closure. However, this would be offset by potential impacts on local tourism and outdoor recreation economies, and a decrease in nearby property values; as these effects are largely the result of the tailings storage facility, which is a permanent addition to the landscape, they could persist over the long term.

The long-term continued population and economic growth in areas of the Copper Triangle with existing copper mines indicates that these impacts are in the magnitude of being decades long and would not be permanent.

3.17.1.15 Tribal Values and Concerns

Physical and visual impacts on TCPs, TEKPs, and plant and mineral resources caused by construction of the mine would be immediate, permanent, and large in scale. Mitigation measures cannot replace or replicate the tribal resources and traditional cultural properties that would be destroyed by project construction. The landscape, which is imbued with specific cultural attributions by each of the consulted tribes, would also be permanently affected.

3.17.1.16 Environmental Justice

Environmental justice impacts are expected only for the town of Superior and tribes with cultural, social, or religious ties to the project area. These populations would be affected permanently from direct, permanent impacts on these sites and values. The loss of these values would be long term.

3.17.1.17 Livestock and Grazing

Livestock grazing and long-term productivity would be permanently impacted within the tailings storage facility and subsidence area.

Although reclamation would eventually return some level of vegetation to the tailings storage facility, productivity would be unlikely to recover to current conditions. Existing grazing around the MARRCO corridor and other linear corridors would be short-term uses, ending with reclamation at the end of mine life, with no impact on long-term productivity.

3.17.2 Unavoidable Adverse Effects

As required by CEQ regulations implementing NEPA (40 CFR 1502.16), this EIS describes the adverse or significant environmental effects that cannot be avoided from implementation of the proposed project or alternatives. In the resource sections of this chapter, the direct, indirect, and cumulative environmental effects of the project are discussed in detail. Impacts that are significant and cannot be avoided are summarized in the following text. Refer to the referenced resource section in this chapter for a complete description of these impacts. Resource areas that are not listed are not expected to experience unavoidable adverse effects.

3.17.2.1 Geology, Minerals, and Subsidence

Unavoidable adverse impacts would occur through disturbance caused by the subsidence, to a small area of Martin limestone with potential paleontological resources (Alternatives 2 and 3), and to unpatented mining claims not associated with the Resolution Copper Project (all tailings facilities and/or pipeline corridors). Impacts on cave/karst resources and to the public from geological hazards from access to the subsidence area, induced seismicity, or damage to Apache Leap are not considered likely to occur.

3.17.2.2 Soils and Vegetation

The mitigation described would only minimally offset project impacts. The unavoidable adverse effects remain as described, including the complete loss during operations of soil productivity, vegetation, and functioning ecosystems within the area of disturbance, and eventual

recovery after reclamation (though not likely to the level of desired conditions, and potentially over extremely long time frames). Impacts on special status plant species, where they occur, and the spread of noxious and invasive weeds (though reduced by applicant-committed environmental protection measures) would also be unavoidable adverse effects.

3.17.2.3 Noise and Vibration

No impacts above selected thresholds were identified from construction blasting noise and vibration (provided explosive loading is appropriately limited), from construction non-blasting noise (beyond 1,000 feet from active equipment), or from operational vibrations (beyond 50 feet from active equipment).

For operational noise, with the exception of Dripping Springs Road, the only impacts identified above selected thresholds were associated with the maximum range of impacts, which is an infrequent and unlikely scenario that suggests that all equipment is running simultaneously and during the quietest period (i.e., lowest background levels observed). Under most conditions, the analysis indicates that no impacts would be expected from project noise.

Application of the mitigation of rerouting traffic from Dripping Springs Road would eliminate those operational noise impacts as well.

After mitigation, no unavoidable adverse impacts are anticipated from noise or vibration.

3.17.2.4 Transportation and Access

Increased traffic associated with mine worker commuting and truck traffic to and from the mine are expected to result in impacts that cannot be avoided or fully mitigated, including increased traffic congestion and increased risk of traffic accidents. Decreases in LOS to subpar levels (LOS E or F) would occur at several intersections due to mine traffic, unless traffic changes were made to accommodate the increased traffic. The only applicant-committed environmental protection measure that

would alleviate impacts on level of service would be the addition of turn lanes at the SR 177/U.S. 60 intersection.

Access to the Oak Flat area, including Devil's Canyon and Apache Leap, would be maintained to an extent, but using less-direct routes than NFS Road 315 that currently provides the primary access. Loss of access to these areas would be mitigated, but not fully.

Loss of access to the highlands north of the West Plant Site would be fully offset for Alternatives 2, 3, 5, and 6 by rerouting the road. Loss of access to the general public under Alternative 4 would not be mitigated by this measure, as only administrative access would be maintained.

All alternatives, including Alternative 6, could result in some loss of access to mining activities and grazing facilities in the area around the tailings storage facilities.

3.17.2.5 Air Quality

For the proposed action and all alternatives, emissions from mine-related activities would meet applicable Federal and State standards for air quality but the increase in air pollutant concentrations would constitute impacts that cannot be avoided.

3.17.2.6 Groundwater Quantity and Groundwater-Dependent Ecosystems

Given the effectiveness of mitigation, there would be no residual impacts on public water supplies near the mine site. All lost water supplies would be replaced.

For GDEs expected to be impacted by groundwater drawdown, the mitigation measures described would be effective enough that there would be no net loss of riparian ecosystems or aquatic habitat on the landscape, although the exact nature and type of ecosystems would change to adapt to new water sources. However, impacts on the sense of place and nature experienced at these perennial streams and springs, rare in a desert environment, would not be mitigated by these actions.

The mitigation plan would not mitigate any GDEs lost directly to surface disturbance, ranging from two to five, depending on tailings alternative.

Impacts on water supplies in the East Salt River valley in the form of groundwater drawdown and reduction of regional groundwater supply would not be fully mitigated.

3.17.2.7 Groundwater and Surface Water Quality

The applicant-committed environmental protection measures for stormwater control would effectively eliminate any runoff in contact with ore or tailings. There are no anticipated unavoidable adverse effects associated with the quality of stormwater runoff.

Seepage from the tailings storage facilities has a number of unavoidable adverse effects. In all cases, the tailings seepage adds a pollutant load to the downstream environment, including downstream aquifers and downstream surface waters where groundwater eventually daylight. The overall impact of this seepage varies by alternative. Alternatives 2, 3, and 4 all either have anticipated impacts on water quality or have a high risk to water quality because of the extreme seepage control measures that must be implemented, and the relative inflexibility of adding more measures as needed, given the proximity to Queen Creek.

Alternatives 5 and 6 are located at the head of larger alluvial aquifers with some distance downstream before the first perennial water (the Gila River). Adverse effects are not anticipated from these alternatives, and in addition these locations offer more flexibility in responding to potential problems with additional seepage controls.

3.17.2.8 Surface Water Quantity

The primary impact described in the analysis (in this section, as well as section 3.7.1) is the loss of surface water flow to riparian areas (including xeroriparian vegetation along ephemeral washes) and loss of surface flow to any GDEs that are associated with these drainages. With the possible exception of the Queen Creek project, the conceptual mitigation proposed under the Clean Water Act would not be effective at

avoiding, minimizing, rectifying, or reducing these impacts. Rather, the proposed conceptual mitigation would be mostly effective at offsetting impacts caused by reduced surface water flows by replacing riparian function far upstream or downstream of project impacts.

As the subsidence area is unavoidable, the loss of runoff to the watershed due to the subsidence area is also unavoidable, as are any effects on GDEs from reduced annual flows. The loss of water to the watershed due to the tailings facility (during operations, prior to successful reclamation) is unavoidable as well, due to water management and water quality requirements. Direct impacts on wetlands, stock tanks, and ephemeral drainages from surface disturbance are also unavoidable.

3.17.2.9 Wildlife and Special Status Wildlife Species

Biological resources would be impacted by direct surface disturbance, noise, vibration, light, dust, air pollutants, and traffic. Adverse impacts that cannot be avoided or completely mitigated include changes in cover, changes in foraging efficiency and success, changes in reproductive success, changes in growth rates of young, changes in predator-prey relationships, increased movement, habitat fragmentation and disruption of dispersal and migration patterns through animal movement corridors, and increased roadkill.

3.17.2.10 Recreation

Recreational use of the area would be permanently adversely impacted. Unavoidable adverse impacts on recreation include long-term displacement from the project area, and the loss of public access roads throughout the project area. These impacts cannot be avoided or fully mitigated.

3.17.2.11 Public Health and Safety

The mine and associated activities are expected to increase risks to public health and safety from the presence of a large tailings storage

facility on the landscape, and the transport of concentrate and tailings by pipeline. These risks are unavoidable. However, risk of failure is minimized by required adherence to National Dam Safety Program and Aquifer Protection Permit program standards and by applicant-committed environmental protection measures.

While increased risk of fire ignition from mine activities cannot be entirely prevented, risks are expected to be substantially mitigated through adherence to a fire plan that requires mine employees to be trained for initial fire suppression and to have fire tools and water readily available.

While the risk of hazardous materials spills would increase during construction and active mining phases, following applicable Federal and State laws and regulations for storage, transport, and handling of such materials is expected to mitigate for this risk. Resolution Copper has prepared a wide variety of emergency response and material handling plans; implementation of these plans minimizes the risk for unexpected releases of hazardous materials and provides for rapid emergency cleanup.

3.17.2.12 Scenic Resources

The subsidence area and residual tailings storage facility would constitute a permanent adverse impact that cannot be avoided or completely mitigated. While night brightness from mine facility lighting would be mitigated to a large degree, residual impacts would remain that are not avoidable and cannot be completely mitigated.

3.17.2.13 Cultural Resources

Cultural resources and historic properties and uses would be directly and permanently impacted. These impacts cannot be avoided within the areas of surface disturbance, nor can they be fully mitigated. The land exchange is also considered an unavoidable adverse effect on cultural resources.

3.17.2.14 Socioeconomics

Loss of jobs in the local tourism and outdoor recreation industries cannot be avoided or fully mitigated. Likewise, loss in property values for property close to the mine would constitute an impact that cannot be avoided or fully mitigated. The applicant-committed environmental protection measures would be effective at expanding the economic base of the community and improving resident quality of life, and could partially offset the expected impacts, although many of the current agreements would expire prior to full construction of the mine.

3.17.2.15 Tribal Values and Concerns

Significant tribal properties and uses would be directly and permanently impacted. These impacts cannot be avoided within the areas of direct impact, nor can they be fully mitigated.

3.17.2.16 Environmental Justice

The change in scenery and dark skies for the town of Superior cannot be avoided or fully mitigated. Similarly, the disproportionately high and adverse impacts on cultural resources and tribal values and concerns cannot be avoided or fully mitigated.

3.17.2.17 Livestock and Grazing

Grazing would be impacted by a reduction in the area available for grazing (a permanent reduction for the area of the subsidence crater and tailings storage facility; a temporary reduction for the area within the perimeter fence until reclamation returns the area to a condition that is compatible with livestock grazing), and by impacts on seeps, springs, and stock tanks that are used by livestock. Water source enhancement conservation measures may offset some of the impacts on seeps, springs, and stock tanks used by livestock on current grazing allotments. These impacts cannot be avoided or fully mitigated.

3.17.2.18 Irreversible and Irretrievable Commitments of Resources

As required by NEPA, this section also includes a discussion by resource of any irreversible or irretrievable commitment of resources that would result from implementing any of the action alternatives. Irreversible and irretrievable commitment of resources is defined as follows in FSH 1909.15 (U.S. Forest Service 2012a):

Irretrievable. A term that applies to the loss of production, harvest, or use of natural resources. For example, some or all of the timber production from an area is lost irretrievably while an area is serving as a winter sports site. The production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production.

Irreversible. A term that describes the loss of future options. Applies primarily to the effects of use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity that are renewable only over long periods of time.

3.17.2.19 Geology, Minerals, and Subsidence

Irreversible commitment of geological and mineral resources would occur with the excavation and relocation of approximately 1.4 billion tons of rock and with the recovery of approximately 40 billion pounds of copper, as well as the burying of any mineral resources below the alternative tailings facilities.

With respect to paleontological and cave/karst resources, a commitment of resources is considered to be irretrievable when project impacts limit the future use or productivity of a nonrenewable resource over a limited amount of time—for example, structures built on top of paleontologically sensitive geological units that might later be removed. A commitment of resources is considered to be irreversible when project

impacts cause a nonrenewable resource to be permanently lost—for example, destruction of significant fossils and loss of associated scientific data.

An irreversible commitment of paleontological resources could occur at the Alternative 2 and 3 tailings storage facility location, where potentially fossil-bearing rocks associated with the Martin limestone could be destroyed in site preparation or buried permanently.

3.17.2.20 Soils and Vegetation

Soils are a finite resource, and any loss of soils resulting from their removal for tailings storage and from erosion and delivery to downstream channels is irreversible. The loss of soil productivity is effectively irreversible because a stable new plant community would take an extremely long time to redevelop on the surface of the tailings and waste-rock facilities (decades or centuries). The area of the subsidence crater and tailings storage facility would constitute an irreversible loss of soil that would be lost in perpetuity.

Irretrievable effects on soils and vegetation would take place at disturbed areas where reclamation is successfully accomplished or only temporary in nature, particularly along rights-of-way. Soils and vegetation in these areas would eventually return to full functionality, possibly within years or decades.

3.17.2.21 Noise and Vibration

Irretrievable commitment of resources would consist of mine-related noise during the construction, mining, closure, and reclamation phases of the mine. Because the mine-related noise would cease after closure of the mine, noise impacts would not be considered an irreversible commitment of resources.

3.17.2.22 Transportation and Access

Irretrievable impacts on transportation and access would occur as a result of an increase of traffic on State, County, and public NFS roads

from mining and related activities within the analysis area and from the reduction of public access to roads within the perimeter fence. Because mine-related traffic would cease after mine closure, traffic impacts would not be considered an irreversible commitment of resources. Existing roads that would be decommissioned within the perimeter fence of the mine would constitute both an irreversible and irretrievable commitment of resources. Roads that are permanently covered with tailings or within the subsidence crater would be an irreversible commitment, while those that are cut off to public access by the perimeter fence could potentially be restored or rerouted following mine closure, and therefore are considered to be an irretrievable commitment of resources.

3.17.2.23 Air Quality

During the construction and mining phases of the project, air pollutant concentrations would be higher throughout the analysis area than current levels but within applicable air quality standards; thus, air quality is not impacted for other uses in the airshed and these effects would not be considered irretrievable. Following mine closure and successful reclamation, pollutant concentrations would return to pre-mining levels, and there would be no long-term irreversible commitment of resources.

3.17.2.24 Groundwater Quantity and Groundwater-Dependent Ecosystems

Mine dewatering at the East Plant Site under all action alternatives would result in the same irretrievable commitment of 160,000 acre-feet of water from the combined deep groundwater system and Apache Leap Tuff aquifer over the life of the mine.

Changes in total groundwater commitments at the Desert Wellfield vary by alternative for tailings locations and tailings type. Alternative 4 would require substantially less water overall than the other alternatives (176,000 acre-feet, vs. 586,000 acre-feet for Alternative 2). Loss of this water from the East Salt River valley aquifer is an irretrievable impact; the use of this water would be lost during the life of the mine.

While a number of GDEs and riparian areas could be impacted by groundwater drawdown, these changes are neither irreversible nor irretrievable, as mitigation would replace water sources as monitoring identifies problems. However, even if the water sources are replaced, the impact on the sense of nature and place for these natural riparian systems would be irreversible. In addition, the GDEs directly disturbed by the subsidence area or tailings alternatives represent irreversible impacts.

3.17.2.25 Groundwater and Surface Water Quality

The potential impacts on water quality from tailings seepage would cause an irretrievable commitment of water resources downstream of the tailings storage facility, lasting as long as seepage continued. Eventually, the seepage amount and pollutant load would decline, and water quality conditions would return to a natural state. This may take over 100 years to achieve in some instances.

While long lived, the impacts on water quality would not be irreversible, and would eventually end as the seepage and pollutant load declined.

3.17.2.26 Surface Water Quantity

With respect to surface water flows from the project area, all action alternatives would result in both irreversible and irretrievable commitment of surface water resources. Irreversible commitment of surface water flows would result from the permanent reduction in stormwater flows into downstream drainages from the subsidence area. Changes to wetlands, stock tanks, and ephemeral drainages caused by surface disturbance would also be irreversible. Irretrievable commitment of surface water resources would be associated with additional temporary diversion, storage, and use of stormwater during active mining, but that would be restored to the watershed after closure and reclamation.

3.17.2.27 Wildlife and Special Status Wildlife Species

The direct loss of productivity of thousands of acres of various habitat from the project components would result in both irreversible and irretrievable commitment of the resources that these areas provide for wildlife (i.e., wildlife breeding, foraging, wintering, and roosting habitat; animal movement corridors, etc.). Some habitat could reestablish after closure, which would represent an irretrievable commitment of resources. However, portions of the tailings storage facility landform may never return to pre-mining conditions, and the effects of reduced quality of habitat would likely be irreversible.

3.17.2.28 Recreation

In general, there would be irretrievable and irreversible impacts as a result of displaced recreation users and adverse effects on recreation experiences and activities. There would be irretrievable impacts on recreation with all action alternatives. Alternatives 2, 3, and 5 with the west corridor would cross the Arizona National Scenic Trail. Alternative 4 would require rerouting of the trail.

Each action alternative would result in the permanent removal of off-highway routes, resulting in a permanent loss of recreation opportunities and activities. Public access would only be permitted outside the mine perimeter fence. Although routes through the project area might be reestablished after closure of the East Plant Site, West Plant Site, filter plant and loadout facility, and the MARRCO corridor, routes through the subsidence crater and tailings storage facility likely would not be reestablished. Therefore, impacts on OHV routes are considered irretrievable for those that would be reestablished following mine closure, and irreversible for those that would be permanently affected.

Even after full reclamation is complete, the post-mine topography of the project area may limit the recreation value and potential for future recreation opportunities.

3.17.2.29 Public Health and Safety

Irreversible changes with respect to tailings safety are not expected. The risk from pipeline failures ends upon closure of the mine. The risk from a tailings storage facility would persist for decades but would diminish as the structure drains. Impacts on public safety from tailings or tailings and concentrate pipelines would constitute an irretrievable commitment of resources.

With respect to fuels and fire management, there are not expected to be any irretrievable or irreversible changes to resources. Vegetation and fuels in the project area would be constantly changing as reclamation procedures are implemented. Eventually, reclamation is expected to return site vegetation to a state that is reminiscent of existing vegetation communities in the area.

Irreversible changes with respect to public health and safety are not expected. All potential hazards discussed are limited solely to the construction and operation phases and are not expected to remain after closure of the mine. Therefore, they would constitute an irretrievable commitment of resources.

With respect to hazardous materials, there are not expected to be any irretrievable or irreversible changes to resources. Although there is the potential for contamination of surface water, groundwater, or soils in the event of a spill or accidental release, such an occurrence is not expected to occur, and environmental remediation is possible (and required by law) if it does occur.

3.17.2.30 Scenic Resources

For all action alternatives, there would be an irretrievable loss of scenic quality from increased activity and traffic during the construction and operation phases of the mine. The size and extent of the tailings facilities would create losses of scenic quality until rock weathering and slope revegetation have reduced color, form, line, and texture contrasts to a degree that they blend in with the surrounding landscape; revegetation would occur relatively soon after closure, but weathering would take such a long time scale as to be considered permanent. Due to the

geological time frame necessary for these processes to occur, the loss of scenic quality associated with the tailings facilities would effectively be irreversible.

For each action alternative, the visual contrasts that would result from the introduction of facilities associated with the project would be an irretrievable loss of the undeveloped, semiprimitive setting until the project is closed and full reclamation is complete. Under all of the action alternatives, existing views would be irreversibly lost behind the tailings storage facility because of the height and extent of the piles.

There would be an irretrievable, regional, long-term loss of night-sky viewing during project construction and operations because night-sky brightening, light pollution, and sky glow caused by mine lighting would diminish nighttime viewing conditions in the direction of the mine. Impacts on dark skies due to night lighting would cease after mine closure and reclamation. Regional dark skies would continue to brighten due to other development factors in the region throughout the mine life. Therefore, it is unlikely that a return to current dark sky conditions would occur after mine closure.

3.17.2.31 Cultural Resources

The direct impacts on cultural resources and historic properties from construction of the mine and associated facilities constitute an irreversible commitment of resources. Archaeological sites cannot be reconstructed once disturbed, nor can they be fully mitigated. Sacred springs would be eradicated by subsidence or tailings storage construction and affected by groundwater water drawdown. Changes that permanently affect the ability of tribal members to use known TCPs for cultural and religious purposes are also an irreversible commitment of resources.

3.17.2.32 Socioeconomics

Some changes in the nature of the surrounding natural setting and landscape would be permanent, including the tailings storage facility and the subsidence area. The action alternatives would therefore potentially

cause irreversible impacts on the affected area with regard to changes in the local landscape, community values, and quality of life.

3.17.2.33 Tribal Values and Concerns

The direct impacts on TCPs and TEKPs from construction of the mine and associated facilities constitute an irreversible commitment of resources. Traditional cultural properties cannot be reconstructed once disturbed, nor can they be fully mitigated. Sacred springs would be eradicated by subsidence or tailings storage construction and affected by groundwater water drawdown. Changes that permanently affect the ability of tribal members to use known TCPs and TEKPs for cultural and religious purposes are also an irreversible commitment of resources. For uses such as gathering of traditional materials from areas that would be within the subsidence area or the tailings storage facility, the project would constitute an irreversible commitment of resources.

3.17.2.34 Environmental Justice

There would be irretrievable socioeconomic impacts under all action alternatives because existing land uses, including recreation opportunities, would be precluded within the project area during the life of the project. All action alternatives would potentially cause irreversible impacts on the affected area with regard to changes in the local landscape, infrastructure and tax base funding, community values, and quality of life for residents of the town of Superior.

3.17.2.35 Livestock and Grazing

Vegetation on the site would be continually changing as reclamation procedures are implemented. Eventually, reclamation is expected to return the site to conditions potentially suitable for post-closure land uses such as grazing. Irretrievable commitment of grazing resources would occur until reclamation has returned the site to conditions suitable for

grazing. However, the subsidence area and tailings storage facility likely represent an irreversible loss of grazing land.

3.17.2.36 Cumulative Effects

Cumulative effects analysis has been conducted, and the results are addressed by each individual resource in chapter 3.

3.17.2.37 Other Required Disclosures

The Tonto National Forest will consult with the following agencies, as required by pertinent law and regulation.

3.17.2.38 Consultation under the Endangered Species Act

The Tonto National Forest will begin consultation with the FWS regarding species protected under Section 7 of the ESA once a preferred alternative is identified. All reasonable and prudent measures and terms and conditions specified in the biological opinion are nondiscretionary and would be included as components of the decision in the ROD and final mining plan of operations.

3.17.2.39 Consultation under the National Historic Preservation Act

The Tonto National Forest continues to consult with the Advisory Council on Historic Preservation, BLM, Arizona SHPO, ASLD, and 15 Indian Tribes regarding cultural resources protected under Section 106 of the National Historic Preservation Act. A Programmatic Agreement is being drafted at this time with all parties involved (see appendix O of this EIS). All agreements and mitigation measures specified in the PA and the historic properties treatment plan are nondiscretionary and would be included as components of the decision in the ROD.

3.17.2.40 Conflicts with Regional, State, and Local Plans, Policies, and Controls

NEPA at 40 CFR 1502.16 directs, “Statements shall discuss (c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian Tribe) land use plans, policies and controls for the area concerned. (See 1506.2(d).)”

Title 40 CFR 1506.2(d) states, “To better integrate environmental impact statements into State or local planning processes, statements shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law.”

Plans that are reviewed for compliance include the following.

Federal Agencies

- Tonto National Forest Land and Resource Management Plan (1985, amended through 2017)
- Tonto National Forest Travel Management Plan
- BLM Safford District Resource Management Plan (1992, 1994)
- BLM Lower Sonoran and Sonoran Desert National Monument Resource Management Plan (2012)
- BLM Middle Gila Canyons Travel Management Plan (2010)

State Government

- ADOT Long Range Transportation Plan (2018)
- Arizona State Workforce Development Plan (2016)
- Statewide Comprehensive Outdoor Recreation Plan (2018–2022)

- Arizona State Parks and Trails 5-Year Strategic Plan (2018–2022)
- State Wildlife Action Plan (SWAP) (2012–2022)
- AGFD long-term wildlife and game management plans

Pinal County

- Pinal County Comprehensive Plan 2009 (updated 2015)
- Pinal County Strategic Plan (2017–2020)
- Pinal County Open Space and Trails Master Plan (2007)
- Pinal County State Implementation Plans (SIPs) and applicable Maricopa Association of Governments Regional Air Quality Plans
- Pinal Regional Transportation Plan (2017)
- Pinal County Area Drainage Master Plans
- Central Arizona Council of Governments Regional Transportation Plan (2015)

Gila County

- Gila County Comprehensive Plan (2003, Amended 2018)
- Gila County Land Use and Resource Policy Plan (2010)
- Gila County Small Area Transportation Study (2006)
- Gila County Transportation Study (2014)
- Gila County State Implementation Plan (SIP)

Indian Tribes

- Unknown