

4.17 CULTURAL RESOURCES

4.17.1 Effects Analysis Indicators and Methodology of Analysis

4.17.1.1 Issues and Indicators

The issues and indicators for cultural resources were developed from general issues identified by public and agency comments during the scoping process, consultation, and through professional research. The indicators are quantitative direct or indirect impacts when the appropriate information is available, or otherwise qualitative. The duration and geographic extent of an impact is the temporal and physical expanse of the impact, respectively. Context refers to the significance of an action within a setting, such as society as a whole (human, national), the affected region (regional), the affected interests, and the locality (local or site-specific). The analysis of effects to cultural resources includes the following issues and indicators:

Issue: The Stibnite Gold Project (SGP) would impact cultural resources through temporary or permanent ground disturbing activities during construction, operation, and closure and reclamation phases.

Indicators:

- Location and acres of ground disturbance.
- Number and location of historic properties, including traditional cultural properties (TCPs) and cultural landscapes (CLs).
- Significance of cultural resources that could be displaced, damaged, or destroyed.

Issue: The SGP may impact aboveground historic properties, TCPs, and CLs by introducing visual elements that could diminish the integrity of the resources.

Indicators:

- Locations of tall or massive SGP components in relation to aboveground historic properties, TCPs, and CLs.
- Number and location of aboveground historic properties, TCPs, and CLs that may have altered viewsheds.

Issue: The SGP would create noise and vibration that could impact fragile standing or partially standing historic properties, TCPs, and CLs.

Indicators:

- Vibration causing activities, including very high noise levels, and the locations of activities.
- Number and location of standing or partly standing historic properties, TCPs, and CLs in relation to noise and vibration causing activities.

Issue: The SGP may create increased visibility of cultural resources through increased public access via new roadways and improvements to existing roads, which could potentially lead to loss or destruction.

Indicators:

- Location of public access roads that would be improved, constructed, and remain in use following mine closure and reclamation.
- Number and location of historic properties, including TCPs and CLs, that may be impacted.

4.17.1.2 Data Sources

Cultural resources within the analysis area were identified and analyzed using records of previous cultural resource studies and previously recorded archaeological sites from the Idaho State Historic Preservation Office (SHPO), the Payette National Forest Heritage Program Office, and the Boise National Forest Heritage Program Office. Geographic Information System analyses, survey information, review of aerial photographs, cultural resource literature reviews, and information and analysis documented in reports on other resources prepared for the SGP also were used. This analysis includes field data collected up to October 2019. Per the National Historic Preservation Act (NHPA), only historic properties (any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places [NRHP]), which includes TCPs and CLs, were considered in the impact analysis.

As discussed in Section 3.17, Cultural Resources, the Nez Perce Tribe and the Shoshone-Paiute Tribes have completed ethnographies that discuss potential TCPs, CLs, resource collection areas, and sacred sites among other areas of concern (Battaglia 2018; Walker 2019). Specific spatial data for these resources are not currently publicly disclosed. The Shoshone-Bannock Tribes Cultural Department is still in the process of preparing their ethnographic work for the SGP, and there is currently no information available from their studies. Therefore, effects to potential TCPs and CLs are not able to be analyzed at this time. Data from ethnographies prepared by the tribes will be included prior to the Record of Decision.

There are parts of the analysis area where ground disturbance may occur from the SGP that have not been surveyed for cultural resources. Midas Gold Idaho, Inc.'s (Midas Gold's) resource environmental protection actions include continued cultural resources surveys in areas where SGP components would occur (Midas Gold 2016). Additionally, a SGP-specific Programmatic Agreement (PA) is being developed, and that legally-binding NHPA Section 106 document would include language that specifies how the United States Forest Service (Forest Service) will

complete identification of the cultural resources Area of Potential Effects (APE), what the level of effort for identification of historic properties will be, how effects to historic properties will be assessed, and how specific effects will be resolved in consultation with SHPO, the Advisory Council on Historic Preservation, tribes and other consulting parties. Additionally, it will identify mitigation measures and how the Forest Service will ensure that they are carried out.

4.17.2 Direct and Indirect Effects

Analysis from the sources listed previously revealed six known historic properties within the analysis area plus one potential historic property. See Section 3.17, Cultural Resources.

Two historic properties are located at the mine site (Stibnite Historic District and the precontact site) and are common to all action alternatives. Two historic properties are linear sites that pass through and beyond the mine site (Old Thunder Mountain Road [National Forest System Road {FR} 440] and Idaho Power Company [IPCo] Line 328) and are common to all action alternatives. Two Forest Service administrative sites (Landmark Ranger Station and Meadow Creek Lookout) also are located along mine access routes under one or more of the action alternatives. In addition, Thunderbolt Mountain Lookout has not been recorded as a historic property; however, it does meet the age requirements, and its history suggests it could be eligible for listing on the NRHP. It is included in the analysis area, because, under all action alternatives, it is the potential location of a 10-foot-high very high frequency (VHF) radio repeater with solar panels.

The following analysis of effects associated with cultural resources is considered in the overall context of local, regional, and national history. This is particularly true for the NRHP-listed Stibnite Historic District, which was listed in the NRHP based on its significance within the context of World War II (under Criterion A). However, it is important to note that the Stibnite Historic District no longer contains any NRHP-eligible components, and the District could potentially be delisted, pending ongoing consultation between the Forest Service and Idaho SHPO.

Elements of this context include:

- The history of mining of central Idaho (local)
- Mining in the West (regional)
- The significance of mining at Stibnite in relation to World War II (national)
- The precontact history of central Idaho (local)
- Native American traditions (site-specific, local, regional, national)

4.17.2.1 Alternative 1

Alternative 1 has the potential to result in direct and indirect effects to cultural resources, because the SGP involves extensive ground, visual, and noise disturbance, as well as the potential for increased public use and future increased public access.

Direct effects to cultural resources from the SGP occur at the same time and place, with no intervening cause. They can stem from ground disturbance that includes physical removal of artifacts, features, or structures or otherwise displacing, damaging, or destroying these types of cultural resources. Direct effects also can come from altering the physical features of a historic property even if that alteration is temporary, such as attaching solar panels to historic structures. Direct effects also can be visual or noise related or can come from changes in access. For direct physical impacts, the magnitude of impact ranges from low to high and may be reduced by avoidance of known historic properties. Any direct impacts would be permanent, as impacts to historic properties (loss or destruction) cannot be reversed.

Indirect effects are effects caused by the SGP that occur later in time and/or farther removed in distance but are still reasonably foreseeable. For the SGP, there is one potential indirect effect identified for all cultural resources. It is the potential increase in public access into the analysis area when roads that were closed during the SGP are re-opened, because new and upgraded roads increase the likelihood of inadvertent damage or vandalism to historic properties due to increased exposure of these resources in a previously low-traffic area.

All areas of proposed ground disturbance in the mine site under Alternative 1 were surveyed for cultural resources between 2011 and 2019. Under Alternative 1, six historic properties would be impacted. These properties must be considered under the NHPA and the National Environmental Policy Act. Impacts under Alternative 1 to these historic properties are discussed below under each of the three proposed phases of the SGP (construction, operations, and closure and reclamation). Implementation of Alternative 1 also could cause impacts to potential TCPs, CLs, resource collection areas, and/or sacred sites, but effects on these types of resources cannot be analyzed at this time, because the nature and locations of these resources have not been made public by the tribes with interest in the area, including the Nez Perce Tribe, the Shoshone-Bannock Tribes, and the Shoshone-Paiute Tribes.

4.17.2.1.1 CONSTRUCTION

Direct effects to historic properties under Alternative 1 during the construction phase would be caused by ground disturbance. Direct effects to historic properties also would result from increased numbers of people in the SGP area for construction activities and, thus, potential for accidental or intentional harm to cultural resources by the general public; temporary noise from construction activities; and visual intrusions as new infrastructure, utilities, and roads are built. Restricted access to the mine site area during construction closures would restrict tribal access to potential TCPs and CLs. Impacts of access restrictions are addressed further in Section 4.24, Tribal Rights and Interests. Impacts from construction noise would be temporary and intermittent. However, many sites of religious and cultural significance, which may be defined as TCPs and CLs, depend on a sense of solitude in an area, and construction noise would potentially disrupt American Indian religious and cultural practices (see Section 4.24, Tribal Rights and Interests). No vibrations from blasting, drilling, or ore processing activities would occur in the construction phase, so no aboveground historic structures would be affected. Likewise, visual intrusions would be minimal during construction, as the major visual impacts would occur during the operations phase.

4.17.2.1.1.1 Mine Site

Activities proposed during the construction phase could cause direct impacts that can damage or displace historic properties. Ground disturbance at the mine site would impact the NRHP-listed Stibnite Historic District and the precontact site. These would be directly impacted due to ground disturbance under Alternative 1. Legacy tailings materials in the Meadow Creek Valley, within the Stibnite Historic District, would be removed. Construction phase impacts would directly impact some portions of the two linear historic properties (Old Thunder Mountain Road [FR 440] and IPCo Line 328) through transmission line upgrades and road improvements, discussed below. Direct ground disturbing impacts also could affect any TCPs or CLs, particularly if associated with religious or spiritual activities, not yet identified and/or disclosed in the mine site or along access roads or utilities routes (including communications tower locations).

Direct effects also could result from an increase in the number of people in the analysis area due to the temporary influx of construction workers and, later, a more permanent presence post-construction when workers are housed at the mine site. Though closures during construction, operations, and closure and reclamation would limit public access into the area, the number of workers (peak of 1,000, with an average 750-person work force) is well above the average number of visitors or recreationists in the area at any given time. This increase could lead to vandalism or unintentional disturbance or damage to historic properties. Restricted access to the mine site area during construction and subsequent phases would restrict tribal access to TCPs and CLs within the Operations Area Boundary. For more information on tribal rights and interests as they relate to restricted access by tribes, see Section 4.24, Tribal Rights and Interests.

4.17.2.1.1.2 Access Roads

The Burntlog Route would connect to a portion of the historic Old Thunder Mountain Road (FR 440), and this action has the potential to directly, though minimally, impact this historic property by overlapping the Old Thunder Mountain Road for approximately 3 miles of the over 25-mile-long historic route. Old Thunder Mountain Road is still frequently used as an all-terrain vehicle route maintained by the Forest Service. Because there would be no realignment, and only a relatively short segment of the entire Old Thunder Mountain Road would be impacted, there would be no adverse effects to Old Thunder Mountain Road as a result of implementation of Alternative 1.

Mine site access routes under Alternative 1 also pass near the Meadow Creek Lookout but would not physically impact the structure. The proposed groomed over snow vehicle (OSV) route on the west side of Johnson Creek Road between Warm Lake Road and Cabin Creek Road would require tree removal, which could potentially adversely affect culturally modified trees that may be present. This type of cultural resource is known to exist in other areas adjacent to Johnson Creek Road. Due to the possibility of modified trees, this area would require survey and be added to the cultural resources APE prior to SGP-related ground disturbing activities. Mitigation measures for effects to these resources would be stipulated in the PA.

Upgrades to roads could lead to an increase in public usage, and this could increase access to and vulnerability of cultural resources within the analysis area. These activities plus construction noise also could potentially impact TCPs or CLs not yet identified along the access road alignments.

4.17.2.1.1.3 Utilities

Transmission Line

Under Alternative 1, direct effects from ground disturbance and from increased visual intrusions would occur from construction of the utilities proposed under Alternative 1. Construction to upgrade the existing historic IPCo Line 328 and build a new transmission line segment would involve subsurface excavation to set poles, surface disturbance for pulling and tensioning the lines, and clearing and minor expansion of the right-of-way. Approximately 63 miles of the existing 12.5-kilovolt and 69-kilovolt transmission lines would need to be upgraded, and approximately 8 miles of new line would be constructed along portions of the historic route of IPCo Line 328 from Johnson Creek Substation to the mine. The transmission line itself is a historic property, and it would be impacted by the upgrade activities, including the removal and replacement of existing structures, insulators, and conductors. However, a portion of the IPCo Line 328 from the village of Yellow Pine to the mine site has been removed, and some of the line between the proposed Johnson Creek Substation and the mine site no longer exists, primarily due to weathering (Lahren 2016a, b; 2017). The condition of the transmission line would require further evaluation, and this evaluation would be included in the PA. Portions of the existing transmission line that have not already been surveyed or were not included in the cultural resources APE would be surveyed. This requirement also will be stipulated in the PA. However, because the transmission line is currently in operation, routine maintenance is performed on the line, and IPCo intends to keep materials and workmanship similar to the historic line, no adverse effect to the IPCo Line 328 is anticipated.

The viewsheds of both the Thunderbolt Mountain and Meadow Creek lookouts would be impacted by the transmission line upgrade and construction of new transmission line. However, the portion of the transmission line that would cause a visual intrusion on the Thunderbolt Mountain Lookout would be an upgrade of an existing line, so there would be no adverse effects, as existing conditions would only change due to an increase in the widening of the clearing and height of the poles needed for increased kilovolt capacity. For the Meadow Creek Lookout, the portion of the transmission line in that area would be new, and this would be a major change from the existing visual conditions. The cleared right-of-way for the new transmission line would appear as a light-colored, thin band following the ridgeline, creating a strong level of contrast against the rugged, vegetation-covered hillside. Although visually evident, it would appear subordinate to the tailings storage facility (TSF) that would dominate the landscape in the valley floor, as discussed in Section 4.20.2.1.3.2, Utilities Operations. Visual impacts would be permanent for the upgraded portion of the line, because that line would remain in place and be maintained by IPCo following the mine closure and reclamation phase. Visual intrusions to the setting of the Meadow Creek Lookout would be considered an adverse effect.

Communications Towers

Ground disturbance also would occur during construction of the communications towers, though the largest area of disturbance would be an 1,800-square-foot area for the cellular tower base, perimeter fencing, and associated equipment. Accessing new construction areas, such as those for the communications towers, requires trucks that could potentially damage cultural resources present within the construction access road. Three cell tower alternative locations are being considered, including near the Meadow Creek Lookout, on a summit east of Blowout Creek, or near Hangar Flats pit. There would be adverse effects to Meadow Creek Lookout if the 60-foot tall cellular tower were placed at this historic building.

VHF radio repeaters would be placed along the Burntlog Route as needed and near the Meadow Creek Lookout and Thunderbolt Lookout. Ground disturbance would be small and not permanent for the VHF radio repeaters, which are placed on a 3-foot-square concrete pads that require little excavation. However, VHF radio repeaters do require small solar panel arrays (2 feet by 3 feet in size) that would potentially be attached to the existing lookout towers. Under Alternative 1, there could be a 10-foot-tall VHF radio repeater placed directly adjacent to the historic Meadow Creek Lookout and associated solar panels attached to the roof of the lookout cabin. The VHF radio repeater also could potentially be placed on the lookout tower itself, or there could be a 60-foot-tall cellular monopole placed directly adjacent to the tower. Both types of communications towers would cause adverse visual impacts to the Meadow Creek Lookout. In addition, Meadow Creek Lookout has an unresolved adverse effect in place from a small utility building and associated solar array that currently obstructs the viewshed from the lookout (Osgood 2008). The SGP could compound the impacts to the lookout through installation of the radio repeater and/or cell tower.

Under Alternative 1, a VHF radio repeater also may be placed at Thunderbolt Mountain Lookout. As with Meadow Creek Lookout, the repeater would be placed directly adjacent to the lookout, and solar panels may be placed on the roof of the cabin. This would not be considered a direct physical impact, because the repeaters and their solar panels are not large and could be easily removed; however, it is a temporary but long-term direct visual impact that would last for approximately 20 years, or the life of the mine. Though not recorded as a historic resource, the Thunderbolt Mountain Lookout has been identified by the Forest Service as potentially eligible for listing on the NRHP based on its age of over 50 years and its history. Thunderbolt Mountain Lookout is located several miles southwest of Meadow Creek Lookout, closer to Cascade, Idaho (**Figure 3.17-1c**, Overview Map with Cultural Resources Analysis Area – Sheet 3 of 4). Without appropriate avoidance, minimization, or mitigation measures, there would be adverse effects to the Meadow Creek Lookout and the Thunderbolt Mountain Lookout, if either one is selected as a communications tower site under Alternative 1.

4.17.2.1.1.4 Off-site Facilities

Ground disturbing construction activities associated with the off-site facilities (the Stibnite Gold Logistics Facility and the Landmark Maintenance Facility) include construction of parking areas, buildings, and outdoor storage areas. These are small areas (less than 25 acres each) in relatively developed areas that are not likely to contain cultural resources, including TCPs or

CLs. An archaeological survey of the site proposed for the Stibnite Gold Logistics Facility was conducted in 2017. The SHPO has concurred that the Stibnite Gold Logistics Facility would have no adverse effect to historic properties (Davis 2018). The location of the Maintenance Facility at Landmark under Alternative 1 has been surveyed for archaeological resources, and no historic properties were located (AECOM 2020; Lahren 2017).

Under Alternative 1, the Landmark Maintenance Facility would be constructed approximately 500 feet southwest of the Landmark Ranger Station (see **Figure 3.17-2b**). The maintenance facility would be visible from the Landmark Ranger Station and would have an adverse effect to the historic property due to the change in setting. However, the Forest Service anticipates that adverse effects could be avoided or mitigated through architectural design under the terms of the PA with the Idaho SHPO and other consulting parties.

4.17.2.1.2 OPERATIONS

Direct ground surface impacts to cultural resources would have already occurred during the construction phase as described above. Although active mining at the open pits would not begin until this phase, the footprint of disturbance would have already been impacted during construction, with the exception of vertical impacts below the ground surface, which would increase as mining progresses in the open pits and the underground Scout Portal.

There is the potential for activities under Alternative 1 to facilitate increased incidental public access to, and usage of, National Forest System lands due to access road improvements and construction that would be in use during the operations phase. This increased potential for public access, in addition to the SGP-related personnel (a consistent work force of between 475 and 525 people) and associated traffic in the area, could result in direct effects to cultural resources by intentional and unintentional displacement or damage due to the overall increase in people and traffic in the analysis area. However, public visits to sites in the Payette National Forest and Boise National Forest are in keeping with the desired conditions for the Heritage Program as described in the Forest Land and Resource Management Plans, which state, "People visiting the National Forest can find opportunities to explore, enjoy, and learn about cultural heritage..." (Forest Service 2003, 2010).

In Section 4.20.2, Direct and Indirect Effects for Scenic Resources, changes to characteristic landscapes were assessed by evaluating visual contrast (landform and vegetation, water form, and rock form alterations) that would occur through implementation of Alternative 1. The perception of visual contrast associated with Alternative 1 considered the alternative's viewshed and associated viewshed limiting factors for sensitive use areas. This analysis was used to help determine the level of direct visual impacts to cultural resources from implementation of Alternative 1.

Historic properties in the mine site that would be directly impacted by changes to their viewsheds include Old Thunder Mountain Road (FR 440), IPCo Line 328, the Stibnite Historic District, Meadow Creek Lookout, and the precontact site. Alternative 1 would diminish the

integrity of the historic properties by introducing visual elements that are not in keeping with their integrity of setting, feeling, or association.

Noise and vibrations from operations at the mine site would increase during this phase, and much of it would be constant during working or daylight hours. The increased noise levels could adversely impact some types of TCPs or CLs by causing distractions and changing natural conditions. Vibrations from the blasting, drilling, and ore processing activities during this phase could potentially cause accelerated collapse of any fragile standing or partially standing historic properties, including TCPs. There are no fully standing historic structures in the analysis area; however, there are several that are partially standing and fragile, such as the ore sorting structures in the Yellow Pine pit and some deteriorated foundations located in areas that were once residential and service neighborhoods associated with the Stibnite Historic District. None of the individual historic archaeological sites within the Historic District are historic properties, because they have all been determined not eligible for inclusion in the NRHP (Davis 2012, 2018). Therefore, there would be no effects on known historic properties from noise and vibrations under Alternative 1. However, TCPs that have not yet been publicly disclosed would likely be adversely affected.

4.17.2.1.3 CLOSURE AND RECLAMATION

Some of the impacts during this phase would be comparable to the construction phase for cultural resources as far as ground disturbance. For instance, buildings would be removed, and the Burntlog Route would be decommissioned and reclaimed within its original corridor, except for the short portions of Burnt Log Road (FR 50477) that were abandoned and reclaimed during construction. The Landmark Maintenance Facility also would be removed. During closure and reclamation, Alternative 1 would involve ground disturbance and noise impacts similar to the construction phase, but visual impacts would decrease as open pits are partially filled or completely filled and recontoured, as with the Yellow Pine pit, and as the Development Rock Storage Facilities (DRSFs) and the TSF are returned to natural looking contours and vegetation is established. This process would take a very long time, and the area would never be returned to existing conditions, as DRSFs and the TSF would remain noticeable in that they would never quite match the surrounding area. Public access through the mine site would be returned to pre-operations levels, although some access roads (Burntlog Route) would be reclaimed and allowed to return to a pre-construction, pre-mining state. The removal of access restrictions after the closure and reclamation phase also could constitute an indirect effect to cultural resources due to a resurgence of public access to the analysis area and potential impacts to TCPs, CLs, and other identified resources.

4.17.2.2 Alternative 2

Most actions during construction and operations phases under Alternative 2 are similar to those under Alternative 1 and would impact many of the same historic properties in the same way as under Alternative 1. However, there are a few changes during the construction and operations phases that would impact cultural resources differently as related to the access roads, off-site

facilities, and the transmission line. These changes would be the same for the construction and operations phases.

4.17.2.2.1 CONSTRUCTION

4.17.2.2.1.1 Access Roads

Approximately 5.3 miles of the Burntlog Route would be located near Riordan Creek under Alternative 2. This route was surveyed for cultural resources by AECOM archaeologists in September 2019, and no historic properties were located (AECOM 2020). This route would bypass two crossings of the Old Thunder Mountain Road (FR 440) and avoid impacts at these locations (see **Figure 3.17-1a**).

Public access would be provided through the mine site via a new road that would link the Stibnite Road portion of the McCall-Stibnite Road (CR 50-412) at the northern portion of the mine site to current Thunder Mountain Road (FR 50375) where it comes in at the southeast end of the mine site. This would not impact the Native American trail route or the historic (wagon road) alignment of Old Thunder Mountain Road (FR 440). However, portions of this public access route via Stibnite Road (CR 50-412) to Thunder Mountain Road (FR 50375) have not been surveyed for cultural resources and would need to be surveyed prior to any SGP-related ground disturbance. This would be a provision in the PA.

4.17.2.2.1.2 Utilities

Transmission Line

The transmission line route under Alternative 2 would include a bypass around Thunder Mountain Estates subdivision in Cascade. This route would not impact any known historic properties; however, the transmission line route has not been surveyed for cultural resources, and there may be historic properties present that could be affected other than IPCo Line 328 itself, which is a historic property. This inventory would be completed prior to ground disturbing activities per stipulations in the PA. This change in alignment also would necessitate a relocation of the Cascade switching station from its current location at the intersection of Thunder City Road and Weant Lane to Warm Lake Road (**Figure 2.4-12**). Additionally, 0.9 mile of the existing transmission line also would be routed in the same general area in order to use an abandoned railroad grade. This grade no longer contains rails or ballasts and is not a historic property.

4.17.2.2.1.3 Off-site Facilities

The Burntlog Maintenance Facility would be located 4.4 miles northeast of the Landmark Ranger Station along Burnt Log Road (FR 50477). This area was surveyed in 2018 and did not contain any historic properties (AECOM 2020). This proposed location of the Burntlog Maintenance Facility would not affect known historic properties. However, information about TCPs or CLs along Burntlog Route is currently unknown.

4.17.2.2.2 OPERATIONS

The impacts to cultural resources under Alternative 2 do not change between the construction and operations phases.

4.17.2.2.3 CLOSURE AND RECLAMATION

Closure and reclamation phase activities for Alternative 2 would not impact cultural resources in any substantially different way than Alternative 1, as most of the differences relate to stream channel reroutes, the methods of partially or completely filling in the open pits, and types of materials used for capping the DRSFs prior to adding growth media and replanting.

4.17.2.3 Alternative 3

Actions during the construction and operations phases under Alternative 3 at the mine site would impact the same historic properties in the same way as described under Alternative 1, except additional historic properties may be impacted where the TSF and Hangar Flats DRSF would be located in the East Fork South Fork Salmon River (EFSFSR) drainage. The EFSFSR drainage in this area has not been surveyed for cultural resources; however, under provisions in the PA, it would be surveyed prior to any ground disturbing activities. Some mine site infrastructure (worker housing and associated water and sanitation facilities, the new transmission line into the mine site, and the mine access road in Blowout Creek drainage) also would be located in the Blowout Creek drainage under Alternative 3. In addition, the legacy tailings in Meadow Creek would not be re-processed. The location of the TSF and the worker housing facility also would necessitate approximately 2.5 miles of the new 8.3-mile-long 138-kilovolt transmission line be aligned to be coincident with a minimally developed access road in the Meadow Creek drainage (**Figure 2.5-2**). Additionally, under Alternative 3, there would be no public access through the mine site during the SGP.

4.17.2.3.1 CONSTRUCTION

4.17.2.3.1.1 Mine Site

Under Alternative 3, the legacy tailings in Meadow Creek drainage within the Stibnite Historic District would not be reprocessed. The location of the TSF and Hangar Flat DRSF in the EFSFSR would not impact known historic properties. However, the proposed location of the TSF/DRSF has not been surveyed for cultural resources. Under Alternative 3, the location of the TSF and the Hangar Flats DRSF could impact currently unidentified historic properties, including TCPs or CLs. However, as previously stated, stipulations in the PA would require that this area is surveyed prior to ground disturbance.

With the TSF located in the EFSFSR drainage, the worker housing facility would be located in the Blowout Creek drainage. An access road would be constructed during this phase. The area around Blowout Creek has been surveyed for archaeological resources at a reconnaissance level, and no historic properties were identified (see **Appendix L-1**). Locations of potential TCPs and CLs in this area are not publicly disclosed.

4.17.2.3.1.2 Access Roads

Changes to access roads under this alternative include not constructing the off-highway vehicle (OHV) Trail or Horse Heaven/Powerline access road connector, which would potentially result in fewer visitors in the area around Meadow Creek Lookout. Because the number of visitors in the area would potentially be decreased under Alternative 3, there are no anticipated impacts to Meadow Creek Lookout.

Not having a public access route through the mine site would block tribal access to TCPs and CLs (see more on access restrictions and its effect to tribal rights and interests in Section 4.24, Tribal Rights and Interests). It also would minimize the public visitor traffic in this already low-traffic area.

4.17.2.3.2 OPERATIONS

This phase would impact cultural resources in the same way as the construction phase described above, except for visual impacts to the precontact site. Under this alternative, because the site would be farther away in the EFSFSR drainage, with more upright topography between the precontact site and the mine site, it is anticipated that there would be no adverse visual effects to the precontact site under Alternative 3 in the operations phase.

4.17.2.3.3 CLOSURE AND RECLAMATION

Under Alternative 3, impacts to cultural resources during the closure and reclamation phases would be the same as described under Alternative 1, except the public access route would be provided around the EFSFSR TSF location either by retaining a portion of the mine access road that goes up Blowout Creek or by converting the temporary operational TSF access road along the TSF pipeline into a permanent public road connecting to the existing Thunder Mountain Road (FR 50375) at both ends. FR 50375 is not part of the historic property, which is only the Old Thunder Mountain Road (FR 440). Therefore, there would be no adverse effects to Old Thunder Mountain Road (FR 440) as result of implementation of Alternative 3.

4.17.2.4 Alternative 4

The primary difference under this alternative that affects cultural resources is the use of the Yellow Pine Route as access to the mine site. Under Alternative 4, the Yellow Pine Route would be used, and the Burntlog Route would not be constructed. Not all portions of Yellow Pine Route have been surveyed, and unidentified cultural resources could be present.

Communications tower construction would be by helicopter under Alternative 4, and, therefore, associated access roads would not be needed for this project component, which eliminates ground disturbance in these locations. Also, the location of the off-site maintenance facility is distinct from the other action alternatives and has not been surveyed for cultural resources (**Figure 2.6-1**).

4.17.2.4.1 CONSTRUCTION

4.17.2.4.1.1 Access Roads

Under Alternative 4, access to the mine site would be via the Yellow Pine Route, which would be upgraded, including borrow sources along its route. Portions of this route have not been surveyed for cultural resources; however, they would be inventoried in accordance with PA stipulations prior to disturbance outside the existing roadbed. Public access would be via a new access road to link Stibnite Road (CR 50-412) with Thunder Mountain Road (FR 50375). The groomed OSV route west of Johnson Creek Road would be used from construction through mine closure. There would be no OHV Trail built at Horse Heaven, which would mean there would be no increased access to historic properties in that area.

4.17.2.4.1.2 Utilities

Communications Towers

Under Alternative 4, the potential communications tower locations at Meadow Creek Lookout and Thunderbolt Mountain Lookout would be constructed and maintained by helicopter. Although this would eliminate ground disturbance from access roads and, therefore, reduce incidental impacts near the lookouts in areas that have not all been surveyed for cultural resources, including TCPs or CLs, the direct impacts, such as attaching solar panels or other tower equipment to the lookouts, would be an adverse effect.

4.17.2.4.1.3 Off-site Facilities

The Landmark Maintenance Facility would be moved west of Landmark on the south side of Warm Lake Road farther from the historic Landmark Ranger Station. This would result in decreased visual impacts to the Ranger Station from the maintenance facility buildings, but there would still be an adverse effect to the Landmark Ranger Station due to visual effects. The area proposed for the Landmark Maintenance Facility under Alternative 4 has not been surveyed for cultural resources. Provisions in the PA would require survey of this area if this alternative is selected.

4.17.2.4.2 OPERATIONS

The impacts to cultural resources under this alternative would not change between the construction and operations phases.

4.17.2.4.3 CLOSURE AND RECLAMATION

Closure and reclamation phase cultural resources impacts under Alternative 4 would be to the same as described under Alternative 1, except there would be no impacts associated with reclamation of Burntlog Route.

4.17.2.5 Alternative 5

Alternative 5 is the No Action Alternative, and it would not involve mining at Stibnite. Cultural resources would continue to deteriorate at the current rate, and no structural remains would be preserved or stabilized. Existing roads would be maintained, but improvements and new road construction would not take place. Under Alternative 5, noise, vibration, and visual intrusions would not increase in the analysis area from current conditions.

However, other actions would continue, such as existing and approved exploration activities and reclamation obligations under Midas Gold's Golden Meadows Exploration Project Plan of Operations and Environmental Assessment (Forest Service 2015). These approved activities include the use of the existing road network, construction of several temporary roads (less than 0.5 mile total) to access drill sites, drill pad construction, and drilling on both National Forest System and private lands at and near the mine site. The continuation of existing and approved exploration activities at the mine site would result in the continued use of the existing administrative offices, the housing or man camp area, truck maintenance shop area, potable water supply system, wastewater treatment facility, helipad and hangar, and airstrip (located primarily on patented land).

Under Alternative 5, traditional cultural uses of the area would continue, including for tribal fishing, hunting, gathering, and spiritual practices. Access to public land in the area would continue as governed by law, regulation, policy, and existing and future landownership constraints.

Under Alternative 5, the existing historic properties located in the analysis area would remain in their current states and would be expected to experience natural deterioration over time. Under the No Action Alternative, there would be no SGP-related permanent ground disturbance or visual, noise, and vibration impacts, as no new facilities would be constructed, no large open pits would be created, no tailings storage or DRSFs would be formed, and blasting, drilling, and ore processing would not occur.

4.17.2.5.1 MINE SITE

Because SGP-related activities would not take place, the structural and artifact remains in the mine site would be expected to continue along their current trajectory. Based on various site visits (including the archaeological evaluation of the Stibnite Historic District in 2018), available photo-documentation (from the 1940s, 1970s, 1980s, and 2000s), and the current rate of weather-related deterioration for the remaining structural remains and historic artifacts, it is estimated that all of the structures will be completely collapsed and dispersed within the next 20 years. The Meadow Creek Lookout would continue to be managed by the Boise National Forest as it is today. Likewise, Old Thunder Mountain Road (FR 440) would continue under its current management, as would IPCo Line 328.

4.17.2.5.2 ACCESS ROADS

Under Alternative 5, there would be no new or upgraded access roads, and the current access to the mine site on existing roads (Warm Lake, Johnson Creek, and Stibnite roads) would remain. Old Thunder Mountain Road (FR 440) and Meadow Creek Lookout would remain in the same setting and would continue to experience existing levels of traffic, maintenance, and recreational exposure. Midas Gold would continue road maintenance obligations along Stibnite Road under a cooperating agreement with Valley County per the Golden Meadows Exploration Environmental Assessment.

4.17.2.5.3 UTILITIES

Under Alternative 5, no new utilities, including new and upgraded transmission lines and communications towers, would be constructed. However, some impacts can be expected to the historic IPCo Line 328 as part of regular maintenance by IPCo. The four historic properties (the precontact site, Meadow Creek Lookout, IPCo Line 328, and Landmark Ranger Station) and the Thunderbolt Mountain Lookout located in the utilities and maintenance facilities' footprint under the SGP or in the visual and public access impact area would remain in the same setting and would continue to experience existing levels of deterioration and public use. The precontact site would remain in a relatively remote and inaccessible location without visual intrusions from new transmission lines and/or communications towers, although it would continue to be accessible to the public as a recreational/hunting area. The Landmark Ranger Station is not currently open to the public.

4.17.2.5.4 OFF-SITE FACILITIES

Under Alternative 5, the two off-site support facilities would not be constructed. Therefore, there would be no effects to historic properties at these locations under Alternative 5.

4.17.3 Mitigation Measures

Mitigation measures required by the Forest Service and measures committed to by Midas Gold as part of design features of the SGP are described in **Appendix D**, Mitigation Measures and Environmental Commitments; see **Table D-1**, Preliminary Mitigation Measures Required by the Forest Service, and **Table D-2**, Mitigation Measures Proposed by Midas Gold as Project Design Features, respectively. The preceding impact analysis has taken these mitigation measures into consideration, as well as measures routinely required through federal, state, or local laws, regulations or permitting, such that the identified potential impacts of the SGP are those that remain after their consideration.

Mitigation measures may be added, revised, or refined based on public comment, agency comment, or continued discussions with Midas Gold and will be finalized in the Final Environmental Impact Statement.

4.17.4 Cumulative Effects

The cumulative effects analysis area for cultural resources is the same area as the analysis area for direct and indirect effects. Past, present, and reasonably foreseeable future actions (RFFAs) include activities, developments, or events that have the potential to change the physical, social, economic, and/or biological nature of a specified area. This includes approved activities, such as continued mining and reclamation work on private land. Existing and future activities directly associated with a proposed action and other RFFAs provide the basis for defining and analyzing cumulative impacts. A cumulative effect must overlap in space and time with the direct and indirect effects of the action.

Past actions have impacted cultural resources in the cumulative effects analysis area. Mining activities have impacted archaeological and historic resources, as well as TCPs. Natural activities like wildfires also have impacted cultural resources and continue to do so. Many of the past human activities were conducted prior to statutory and regulatory protection measures for cultural resources resulting in the loss of unknown resources.

Descriptions of past and present actions and RFFAs considered as part of the cumulative effects analysis for all resources are discussed in Section 4.1.5, Cumulative Effects.

Table 4.17-1 summarizes impacts from these types of activities for cultural resources.

Table 4.17-1 RFFA and Potential Cumulative Effects to Cultural Resources

Cumulative Project Type	Potential Effects to Cultural Resources
Mineral exploration and mining activities	Historic mines in the analysis areas have changed the landscape over time through removal of vegetation and displacement of soils. Currently planned or future mine development would further alter the landscape from its pre-contact and historic state during exploratory drilling, development; and operations upon closure of the mine. During exploratory drilling, development, and operations, the increased ground disturbance may disturb cultural resources.
Closure and Reclamation Projects/Comprehensive Environmental Response, Compensation, and Liability Act Actions	Projects that are currently undergoing reclamation or will in the future would likely cause further damage to any cultural resources in the area. These projects would likely be closed, which involves the removal of some of the infrastructure and reclamation of the land to restore native wildlife and plant habitats that are important to Native American tribes. However, mature forest types wouldn't be available for decades. Several Comprehensive Environmental Response, Compensation, and Liability Act Removal Actions were conducted by the Forest Service, Environmental Protection Agency, and Exxon-Mobil Corporation. These actions also can impact cultural resources by removing potentially hazardous, but also historic, tailings and capping historic dumps.
Transportation projects	Road maintenance, improvement projects, and culvert replacements are likely in the analysis areas. These types of improvements cause ground disturbance that represents a potential impact to cultural resources. Maintenance of existing roadways would likely only be short-term, while new roadways would have a more permanent effect. Also related to transportation projects are gravel quarry or gravel pit development to provide fill material for road construction. This activity would be a potential impact to any cultural resources present in those areas.

4 ENVIRONMENTAL CONSEQUENCES
4.17 CULTURAL RESOURCES

Cumulative Project Type	Potential Effects to Cultural Resources
Infrastructure Development	Local communities perform or obtain permits to upgrade infrastructure, such as electrical transmission lines. These development activities can cause ground disturbance that could impact cultural resources, and they often involve physical upgrades to historic transmission lines.
Recreation and tourism	Recreational activities (i.e., camping, hiking, fishing, hunting, trapping, trail riding, firewood harvest, etc.) are likely to continue to affect cultural resources in the future. Increased road and trail networks open new wilderness areas to additional human disturbance, which can increase access to cultural resources in the Area of Potential Effect potentially leading to vandalism or accidental destruction of artifacts of site features.
Wildfire and noxious weed control projects	Wildfires and noxious weeds have affected cultural resources throughout the analysis area either by burning structures or by increasing visibility of pre-contact cultural resources. Additional wildfires are likely to affect cultural resources in the future in the same way. Control of invasive and noxious plant species is likely to have a minimal effect on cultural resources, as mechanical or hand-pulling would increase ground surface visibility and would cause some ground disturbance.
Development projects	Private residential developments are likely to impact cultural resources in the future. Pre-contact and historic landscapes would be lost, while additional human presence would potentially affect cultural resources through increased access.
Watershed Management	Watershed management can involve repairs and reclamation of roads and recreation site repairs to prevent erosion into watersheds, but many projects involve only monitoring of erosion of roadway sediments into watersheds, and this would not have an impact on cultural resources. Ground disturbance from road repairs or reclamation could impact unidentified cultural resources in those areas; however, the Forest Service Heritage Programs would generally complete archaeological surveys of any Forest Service roads or campsites being repaired or reclaimed so any cultural resources encountered during the surveys could be avoided.

4.17.4.1 All Action Alternatives

The action alternatives, taken together with other concurrent actions and RFFAs, would create an increase in ground disturbance and visual and noise intrusions along with increased public access in some areas and restricted access in other areas within the analysis area. These cumulative actions would increase the impacts to cultural resources within the cumulative effects analysis area. Cultural resources for all RFFAs on federally managed lands would be governed by the NHPA Section 106 process. RFFAs identified in the analysis area could generate incremental changes to cultural resources, exposing additional sites, or causing disturbance to the sites or their setting. Effects to cultural resources also would occur due to physical disturbance or changes to the character or setting of cultural resources. There would be adverse cumulative effects on cultural resources.

4.17.4.2 Alternative 5

Cumulative effects associated with the No Action Alternative could occur with approved activities associated with the Golden Meadows Exploration Project, such as exploratory drilling for mineral resources and construction of support facilities either by Midas Gold or other groups

on private land. Impacts to cultural resources would be governed by the NHPA cultural resources process, and, therefore, minimal impacts are anticipated.

4.17.5 Irreversible and Irretrievable Commitments of Public Resources

The Council on Environmental Quality guidelines require an evaluation of “any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented” (40 Code of Federal Regulations Part 1502.16). Resources that would be irreversibly or irretrievably used during implementation of the SGP would include a range of natural, physical, human, and financial resources. Irreversible commitments occur when a resource is permanently affected, consumed, or renewable only over lengthy time spans. An irretrievable commitment occurs when a resource is not consumed or destroyed, but rather becomes unavailable for use for the foreseeable future. Cultural resources are considered a public resource, and their destruction (partial or complete) is a permanent and irreversible effect. They are non-renewable resources. Uses of cultural resources include recreational destinations, public displays, research by universities and cultural resource professionals, and tribal use of TCPs or CLs. If historic properties are disturbed, damaged, or destroyed by ground disturbance or restricted access due to implementation of the proposed action or any alternatives, these uses becomes permanently unavailable. If traditional use areas become unavailable for use for the foreseeable future by tribes in the SGP area, this would constitute an irretrievable commitment of resources (see Section 4.24, Tribal Rights and Interests for more information on irretrievable commitments of public resources).

4.17.5.1 All Action Alternatives

4.17.5.1.1 IRREVERSIBLE

Historic properties that could be impacted by the action alternatives constitute an irreversible commitment, regardless of mitigation. Once gone, only the data collected remains; the resources cannot be used for any additional purposes.

4.17.5.1.2 IRRETRIEVABLE

Under the action alternatives, the restriction of public access in the operations area would remove the land from other uses while the mine is in operation, but the use would eventually be reversed through removal of the exclusion area and reclamation. Lack of access to TCPs and CLs by tribes would be an irretrievable commitment of resources, because a generation of tribal members is likely to lose traditional knowledge of these places; this is an impact to tribal rights and interests (see Section 4.24, Tribal Rights and Interests).

Implementation of any action alternatives could result in an irretrievable commitment of historic properties if avoidance and mitigation measures of the SGP are not implemented. If the Stibnite

Historic District remains a historic property¹, the SGP would result in an irretrievable and irreversible commitment of cultural resources.

4.17.5.2 Alternative 5

Under Alternative 5, the No Action Alternative, the SGP would not be undertaken. Consequently, there would be no irreversible and irretrievable commitment of cultural resources beyond that currently occurring.

4.17.6 Short-term Uses versus Long-term Productivity

This section evaluates the extent to which the alternatives would balance short-term uses of cultural resources with long-term productivity. The goal of this section is to provide a sense of the resilience or sustainability of cultural resources to short-term disturbances associated with the SGP. The relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity is applicable only to action alternatives. Short-term refers to uses with duration of a few years or less.

The resilience of cultural resources is very low in comparison to other social or biological resources, because actions associated with the SGP (i.e., ground disturbance and road improvements that could increase access to the analysis area) that may affect cultural resources would be permanent. Once a cultural resource is disturbed or possibly damaged or destroyed through ground disturbance or through increased public use of the area, which can lead to ground disturbance, it cannot be replaced. The duration of the use is not important, because the damage to a cultural resource, such as a precontact archaeological site, can occur immediately. Additionally, restricted access in the operations area boundary during the operations phase would adversely affect long-term productivity, because, over the life of the mine, a generation of tribal members would experience loss of traditional knowledge and use of culturally significant resources and places. Short-term uses and uses such as temporary staging areas for reclamation material or access roads that would later be returned to their pre-construction state have the potential to permanently impact cultural resources. There is the potential for the loss of long-term productivity to any cultural resources subjected to short-term use.

4.17.6.1 Action Alternatives

Under the action alternatives, all short-term direct impacts to cultural resources would lead to a loss of long-term productivity. Some short-term protection measures could lead to long-term productivity (use of a cultural resource for data, interpretive, or cultural purposes) of resources.

¹ The Stibnite Historic District lacks the components that made it eligible for listing in the NRHP; however, it is still listed and must be considered a historic property.

If TCPs or CLs are identified, short-term use may be denied while protecting long-term productivity.

4.17.6.2 Alternative 5

Under Alternative 5, the SGP would not be undertaken. Consequently, there would be no short-term use that would affect cultural resources and no effect on long-term productivity.

4.17.7 Summary

Table 4.17-2 provides a summary comparison of cultural resources impacts by issues and indicators for each alternative. The table discusses six known historic properties within the analysis area for cultural resources. As discussed in Section 4.17.2, Direct and Indirect Effects, these six properties are all the known historic properties within the footprint of Alternative 1. All SGP components of Alternative 1 have been surveyed for archaeological resources. Therefore, the number and locations of historic properties affected, except TCPs and CLs, are known for Alternative 1.

All action alternatives have an undisclosed number of potential TCPs and CLs. The Forest Service is in ongoing consultation with the Nez Perce Tribe and the Shoshone-Paiute Tribes to determine what protected information can be made public. The Shoshone-Bannock Tribes' ethnographic report is in progress.

Two historic properties are at the mine site (Stibnite Historic District and the precontact site). These historic properties would be adversely impacted under all action alternatives due to construction impacts. Alternative 3 differs from the other action alternatives at the mine site, because it would not disturb legacy tailings at Meadow Creek, and it would locate the Hangar Flats DRSF and the TSF in the EFSFSR. This is not a substantial difference in the amount of ground disturbance but would impact different portions of the Stibnite Historic District. However, the net impact of disturbances to the Stibnite Historic District remains adverse for all action alternatives.

Two historic properties (Old Thunder Mountain Road [FR 440] and IPCo Line 328) are linear sites that pass through and beyond the mine site. Impacts to these resources are common to all action alternatives. Although the alternatives vary in the length of miles or number of crossings of these linear resources, effects are not anticipated to be adverse. For example, the Burntlog Route access road proposed under Alternatives 1 and 3 would overlap 3 miles of the 25-mile long Old Thunder Mountain Road (FR 440), which was originally a Native American travel route before becoming a historic road (Battaglia 2018; Walker 2019). Alternatives 2 and 4 would impact less of Old Thunder Mountain Road by using the Burntlog Route Riordan Creek Segment or Yellow Pine Route, respectively. Regardless, Old Thunder Mountain Road is currently part of FR 440 (an all-terrain vehicle road) and would not be realigned by the SGP. Therefore, no adverse effect would occur. All action alternatives also would impact segments of the IPCo Line 328, and additional characterization of the historic transmission line would be undertaken. However, because the transmission line is currently in operation, routine maintenance is performed on the line, and IPCo intends to keep materials and workmanship

similar to the historic line, no adverse effect to the IPCo Line 328 is anticipated under any of the action alternatives.

The remaining two of the six historic properties are Forest Service administrative buildings (Landmark Ranger Station and Meadow Creek Lookout) located along mine access routes under one or more of the action alternatives. The SGP would impact these buildings through direct alterations to the buildings and/or through alterations to their integrity. Landmark Ranger Station would have adverse impacts under Alternatives 1, 3, and 4 because of changes in setting caused by construction of the Landmark Maintenance Facility within its viewshed. At the Meadow Creek Lookout, a new transmission line, new potential communications tower, and other components added to the building would cause an adverse effect under all action alternatives. In addition, the Thunderbolt Mountain Lookout, a potential historic property that has not been formally inventoried, would be subject to similar impacts if selected as a location for a communications tower under all action alternatives.

The introduction of visual elements would alter the integrity of setting, feeling, and/or association of certain historic properties. The effects are exacerbated by the locations of some historic properties on high points in the landscape with full 360-degree views of the surrounding landscape. In contrast, the magnitude of direct visual impacts to the Stibnite Historic District would be low, partly because there are very few standing aboveground historic resources and because the stockpiles, open pits, DRSFs, and the TSF that would fill drainages would be in keeping with the Historic District's historical association with mining. The exception would be the cellular tower, which would be 60 feet tall and visible from the entire analysis area at the mine site. Because most aboveground historic resources in the Stibnite Historic District no longer exist, there would be no adverse visual impacts to these resources under any action alternative. Under Alternatives 1 and 3, the Meadow Creek Lookout, Landmark Ranger Station, and the precontact site would be subject to altered viewsheds. There would be no impact to Landmark Ranger Station under Alternative 2, and Alternative 4 would have less visual impact than Alternatives 1 and 3 on this same resource and on the precontact site. Under all action alternatives, effects from increased visual intrusions also are of concern for TCPs or CLs that could be present in the APE.

The potential impact for noise is the same for all action alternatives. The SGP could introduce noise and vibrations that could affect standing historic structures through blasting, drilling, and ore crushing. The number and locations of standing or fragile partially standing structures that could be impacted by an increase in vibrations is the same for all action alternatives and includes four ore sorting structures at Yellow Pine pit. These are within the Stibnite Historic District but are not individual historic properties. Noise levels higher than ambient also could affect use of TCPs or CLs by creating a distraction and altering the sense of solitude and feeling of the natural environment.

Ground disturbance totals vary between the action alternatives. Alternative 4 has the least amount of acreage subject to ground disturbance (3,219 acres), with nearly 400 fewer acres than Alternative 3, which has the most ground disturbance (3,610 acres). In general, reduced

ground disturbance lowers the potential for impacts and for inadvertent cultural resources discoveries during construction.

In summary, direct impacts to cultural resources caused by ground disturbance, new visual elements, and/or noise and vibration disturbances do not vary substantially among the action alternatives. Direct impacts would affect between five (Alternative 2) and six (Alternatives 1, 3, and 4) historic properties that include the Stibnite Historic District, two Forest Service administrative buildings, a transmission line, a historic road/Native American travel corridor, and a precontact site. Visual impacts could adversely affect between 2 to 3 historic properties that include a lookout, ranger station, and precontact site. Another potential historic property, the Thunderbolt Mountain Lookout, could be visually impacted. Audible and vibration disturbance could affect four standing structures at the Yellow Pine pit, but these are not historic properties. All of these types of impacts, as well as access restrictions caused by the SGP for a period of 20 years, could affect integrity of TCPs and CLs and the ability of tribes to access these resources under all alternatives. See also Section 4.24, Tribal Rights and Interests, for further consideration of impacts to tribal resources of concern and tribal access.

Under Alternative 5 (No Action), there would be far fewer ground disturbing activities within the analysis area than under the other alternatives. Alternative 5 is the only alternative with no adverse effects to historic properties.

The indirect effect from possible future increased access to the analysis area following the closure and reclamation phase is the same under all action alternatives. After the access restrictions are removed, traffic may increase over current use, and this could possibly create an indirect effect to cultural resources by making them more visible and more vulnerable to damage or vandalism.

Areas that have not been surveyed are those under Alternatives 2, 3, and 4 that are outside the footprint of Alternative 1, primarily the EFSFSR area at the southeast end of the mine site where the TSF and DRSF would be located under Alternative 3, the groomed OSV route on the west side of Johnson Creek Road proposed under Alternative 4, portions of the Yellow Pine Route, and the Landmark Maintenance Facility under Alternative 4 south of Warm Lake. Any areas within the APE that have not been surveyed would be inventoried prior to SGP-related ground disturbing activities that may impact historic properties in accordance with stipulations in the PA. The PA also will include provisions for identifying TCPs and CLs prior to ground disturbance associated with the SGP. Additionally, it will identify mitigation measures for historic properties and how the Forest Service will ensure that they are carried out.

Table 4.17-2 Comparison of Cultural Resources Impacts by Alternative

Issue	Indicator	Baseline Conditions	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
The SGP may affect historic properties through ground disturbance.	Acres and locations of ground disturbance	Not applicable	3,533 acres Ground disturbance at the mine would impact Stibnite Historic District and the precontact site. Access road disturbance overlaps 3 miles of the 25-mile Old Thunder Mountain Road. Transmission line disturbance overlaps the IPCo Line 328. See Table 2.3-1, Land Management and Acreage by Component, Alternative 1	3,423 acres Same as Alternative 1 except: <ul style="list-style-type: none"> Reduces ground disturbance (eliminate West End DRSF) Impacts less of Old Thunder Mountain Road (re-routes approximately 5.3 miles of the Burntlog Route) Routes 0.9 mile of IPCo Line 328 to a former railroad grade. (The grade is not a historic property.) See Table 2.4-2, Land Management and Acreage by Component for Alternative 2	3,610 acres Same as Alternative 1 except: <ul style="list-style-type: none"> Does not disturb legacy tailings at Meadow Creek Locates the Hangar Flats DRSF and the TSF in the EFSFSR. This is not a substantial difference in the amount of ground disturbance but would impact different portions of the Stibnite Historic District. See Table 2.5-2, Land Management and Acreage by Component for Alternative 3	3,219 acres Same as Alternative 1 except: <ul style="list-style-type: none"> Makes groomed OSV route on west side of Johnson Creek Road permanent, not temporary as with other action alternatives. This could affect unknown cultural resources (not surveyed). Reduces ground disturbance via helicopter installation of communications towers instead of roads. See Table 2.6-2, Land Management and Acreage by Component for Alternative 4	Approved activities would continue.
	Number of cultural resources	Six historic properties are present within the APE: <ul style="list-style-type: none"> Stibnite Historic District Old Thunder Mountain Road (FR 440) IPCo Line 328 Landmark Ranger Station Meadow Creek Lookout Precontact site One potential historic property also is present: <ul style="list-style-type: none"> Thunderbolt Mountain Lookout Numbers and locations of potential TCPs and CLs have not been publicly disclosed	Alternative 1 would directly impact: Six historic properties: <ul style="list-style-type: none"> Stibnite Historic District Old Thunder Mountain Road (FR 440) IPCo Line 328 Landmark Ranger Station Meadow Creek Lookout Precontact site One potential historic property: <ul style="list-style-type: none"> Thunderbolt Mountain Lookout Unknown number of TCPs and CLs	Same as Alternative 1 except: Avoids Landmark Ranger Station	Same as Alternative 1 except: There is an unknown number of historic properties at TSF and DRSF at EFSFSR (not surveyed).	Same as Alternative 1 except: There is an unknown number of cultural resources at Landmark Maintenance Facility and along portions of Yellow Pine Route (not surveyed).	Existing historic properties located in the analysis area would remain in their current states and would be expected to experience natural deterioration over time.
	Significance of cultural resources that could be displaced, damaged, or destroyed.	Only historic properties or significant cultural resources are considered in the analysis.	Same as baseline.	Same as baseline.	Same as baseline.	Same as baseline.	Same as baseline.
The SGP may affect aboveground resources, TCPs, and CLs by introducing visual elements.	Locations of tall or massive SGP components where screening landscape features are lacking.	The existing Yellow Pine pit is massive.	Three open pits during operations, four DRSFs, a TSF, and several other mining facilities would be present at the mine site and off-site facilities.	Same as Alternative 1, except there would only be three DRSFs.	Same as Alternative 1, except the Hangar Flats DRSF and the TSF would be in the EFSFSR drainage instead of Meadow Creek valley.	Same as Alternative 1.	No new visual intrusions.
	Number and types of cultural resources including TCPs and CLs that would have viewshed altered.	Most of the aboveground resources in the Stibnite Historic District no longer exist. Meadow Creek Lookout, Landmark Ranger Station, and Thunderbolt Mountain Lookout are standing. The integrity of the precontact	Most of the aboveground historic sites in the Stibnite Historic District no longer exist. Visual impacts would occur to:	Same as Alternative 1 except: Landmark Ranger Station would not be impacted.	Same as Alternative 1 except: There would be less of a visual impact to the precontact site due to location of SGP components in EFSFSR drainage.	Same as Alternative 1 except: There would be less of a visual impact, but still an adverse visual impact, to Landmark Ranger Station due to slightly increased distance from Landmark Maintenance Facility.	No new impacts to the viewshed of cultural resources.

4 ENVIRONMENTAL CONSEQUENCES
4.17 CULTURAL RESOURCES

Issue	Indicator	Baseline Conditions	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
		site is sensitive to visual intrusions. Numbers and locations of potential TCPs and CLs have not been publicly disclosed.	<ul style="list-style-type: none"> Meadow Creek Lookout Landmark Ranger Station Precontact site Thunderbolt Mountain Lookout potential historic property Unknown number of TCPs and CLs 				
The SGP may affect aboveground resources, TCPs, and CLs through noise and vibration disturbance.	Noise levels and locations of activities that would produce high noise levels and ground vibrations.	Current noise levels are intermittently louder than ambient due to approved activities.	Vibrations would be caused by blasting, drilling, and ore crushing. Haul trucks would cause high noise levels, but these would be much shorter term and more intermittent.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Same as baseline.
	Number and location of standing or fragile partially standing structures, TCPs, and CLs that could be impacted by increase in noise and vibrations.	There are only a few partially standing structures located within the Stibnite Historic District, and none of them are historic properties. Numbers and locations of potential TCPs and CLs have not been publicly disclosed.	Yellow Pine pit ore sorting structures (total of four) located in the pit would be impacted. These are not historic properties. An unknown number of TCPs and CLs could be impacted.	Same as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	No increase in vibrations and no new blasting noise or vibrations.
The SGP may cause increased visibility of cultural resources through increased public access via new roadways and improvements to existing roads.	Number and location of public access roads improved or constructed.	There are existing roads that currently access the mine site.	Yellow Pine Route, Burntlog Route, OHV Trail from Horse Heaven to Powerline access road, Cabin Creek OSV route, and Johnson Creek OSV route from Trout Creek to Warm Lake Road. The OHV Trail would increase access to the Meadow Creek Lookout.	Same as Alternative 1, except: There would be a reroute of an approximately 5.3-mile segment of the Burntlog Route near Riordan Creek.	Same as Alternative 1 except: The OHV Trail would not be constructed, and, thus, there would be no chance of increased public access to Meadow Creek Lookout.	Same as Alternative 1 except: The Burntlog Route would not be implemented, and the Yellow Pine Route would be used for public access.	No increased public access – no roads would be upgraded or constructed.
	Number of cultural resources including TCPs and CLs that may be affected.	There are two historic properties (Old Thunder Mountain Road and Meadow Creek Lookout) along proposed new roadways and improvements to existing roads. Numbers and locations of potential TCPs and CLs have not been publicly disclosed.	Increased public access would occur in proximity to two historic properties (Old Thunder Mountain Road and Meadow Creek Lookout) along proposed new roadways and improvements to existing roads, as well as to an unknown number of potential TCPs and CLs.	Same as Alternative 1 except: There would be less of an impact to Old Thunder Mountain Road due to fewer road crossings.	Same as Alternative 1 except: The OHV Trail would not be constructed, and, therefore, there would be no increased public access to the Meadow Creek Lookout.	Same as Alternative 1 except: There would be increased public access beyond baseline conditions along Yellow Pine Route, which has not been surveyed in its entirety.	No increased public access – no roads would be upgraded or constructed, and no cultural resources would be impacted.