



**U.S. Fish and Wildlife Service**

# Environmental Assessment

for the Issuance of an Eagle Take Permit for  
the Silicon Exploration Project

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**Nevada**

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**ACRONYMS AND ABBREVIATIONS**

<b>ACEPM</b>	Applicant-Committed Environmental Protection Measure
<b>AGA</b>	AngloGold Ashanti North America
<b>Applicant</b>	AngloGold Ashanti North America
<b>BLM</b>	Bureau of Land Management
<b>CFR</b>	Code of Federal Regulations
<b>Eagle Act</b>	Bald and Golden Eagle Protection Act
<b>EA</b>	Environmental Assessment
<b>EIS</b>	Environmental Impact Statement
<b>EMU</b>	Eagle Management Unit
<b>ESA</b>	Endangered Species Act of 1973
<b>LAP</b>	Local Area Populations
<b>mph</b>	miles per hour
<b>NDOW</b>	Nevada Department of Wildlife
<b>NEPA</b>	National Environmental Policy Act
<b>NHPA</b>	National Historic Preservation Act
<b>PEIS</b>	Programmatic Environmental Impact Statement
<b>Plan</b>	Plan of Operations
<b>Project</b>	Silicon Exploration Project
<b>Project area</b>	Silicon Exploration Project Plan of Operations Boundary and a Surrounding Four-mile Radius
<b>REA</b>	Resource Equivalency Analysis
<b>Service</b>	United States Fish and Wildlife Service
<b>SWReGAP</b>	Southwest Regional Gap Analysis Project
<b>U.S.C.</b>	United States Code

## 1.0 Introduction

This Environmental Assessment (EA) analyzes the environmental consequences of the United States (U.S.) Fish and Wildlife Service (Service) issuing an incidental take permit for the take of golden eagles (*Aquila chrysaetos*) associated with the Silicon Exploration Project (Project) pursuant to the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] §§ 4321–4347). Issuance of an eagle take permit by the Service for take that is incidental to otherwise lawful activities under the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. §§ 668–668d and 50 Code of Federal Regulations [CFR] § 22.26) constitutes a discretionary federal action that is subject to NEPA. This EA assists the Service in ensuring compliance with NEPA, and in making a determination as to whether any “significant” impacts could result from the analyzed actions that would require preparation of an Environmental Impact Statement (EIS). This EA evaluates the effects of alternatives for the Service’s decision whether to issue an eagle take permit.

The Eagle Act authorizes the Service to issue eagle take permits only when the take is compatible with the preservation of each eagle species, defined as “consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the geographic range of each species” (50 CFR 22.3).

The Applicant, AngloGold Ashanti North America (AGA, Applicant), is requesting Eagle Act take coverage for resource exploration associated with the Project and has submitted an incidental eagle take permit application to the Service. The Project’s Eagle Conservation Plan (ECP) (**Appendix A**) is the foundation of the application from the Applicant.

The Applicant is requesting a permit for reoccurring disturbance to and loss of annual productivity from breeding golden eagles for up to 10 times over no more than 10 years. This EA evaluates whether issuance of the incidental eagle take permit would have significant impacts on the existing human environment. “Significance” under NEPA is defined by regulation at 40 CFR 1508.27, and requires short- and long-term consideration of both the context of a proposal and its intensity.

This proposal conforms with, and carries out, the management approach analyzed in, and adopted subsequent to, the Service’s Programmatic Environmental Impact Statement (PEIS) for the Eagle Rule Revision, December 2016 (USFWS 2016a). Project-specific information not considered in the PEIS has been considered in this EA as described below. Based on this Project-specific analysis and application of the criteria provided in the PEIS, the Service has determined that an EA is the appropriate level of review.

## 1.1 Purpose and Need

The Service's purpose in considering the proposed action is to fulfill their authority under the Eagle Act (16 U.S.C. §§ 668–668e) and its regulations (50 CFR § 22). Applicants whose otherwise lawful activities may result in take of eagles can apply for eagle incidental take permits so that their projects may proceed without potential violations of the Eagle Act. The Service may issue eagle take permits for eagle take that is associated with, but not the purpose of, an activity. Such permits can be issued by the Service when the take that is authorized is compatible with the Eagle Act preservation standard; it is necessary to protect an interest in a particular locality; it is associated with, but not the purpose of, the activity; and it cannot be practicably avoided (50 CFR § 22 and 81 Federal Register 91494).

The need for this action is a decision on an eagle incidental take permit application from AGA. The decision must comply with all applicable regulatory requirements and be compatible with the preservation of eagles.

## 1.2 Authorities

Service authorities are codified under multiple statutes that address management and conservation of natural resources from many perspectives, including, but not limited to the effects of land, water, and energy development on fish, wildlife, plants, and their habitats. This analysis is based on the Eagle Act (16 U.S.C. 668–668e) and its regulations (50 CFR 22). The PEIS (USFWS 2016a) has a full list of authorities that apply to this action (USFWS 2016a: Section 1.6, pages 7-12), which are incorporated by reference here.

## 1.3 Background

AGA's Plan of Operations (Plan) has been approved by the BLM Battle Mountain District Office, Tonopah Field Office (BLM 2020). Under the Plan, AGA is approved to conduct exploration drilling within the Project Plan boundary (**Figure 1-1**). The Project is located approximately seven miles northeast of Beatty, Nevada in Nye County and can be accessed in two directions from Beatty, Nevada: 1) traveling south 1.3 miles on U.S. Highway 95 (US 95) and approximately 8.9 miles up Fluorspar Canyon Road (Nye County Road 249) and Tate's Wash Road (Nye County Road 926019); and 2) traveling 3.6 miles north on US 95 and approximately 4.1 miles east on the North Beatty Wash Road (Nye County Road 926026) that connects to the Beatty Wash Road (Nye County Road 926025) at the Project.

The Project includes conducting an exploration drilling program within the approximately 3,630-acre Plan boundary to determine the extent and quality of a mineral resource within the approximately. Surface-disturbing activities are approved for up to 155 acres, and consist of an existing road network for Project access, reverse circulation and core drilling from constructed drill sites, road construction and overland travel, bulk sampling, geotechnical auger holes and geological test pits, geologic and geophysical mapping, water monitoring well and water

extraction well installation, and construction of a meteorological station. The disturbance occurs in phases, and Phase I consists of approximately 50 acres of surface disturbance in addition to five acres of Notice-level surface disturbance for a total of approximately 55 acres. The remaining 100 acres of disturbance will occur under subsequent phases (155 acres total) over approximately 10 years. Exploration activities may occur year-round and 24 hours per day, with up to four drill rigs operating at one time and up to 20 personnel present.

Within the vicinity of the BLM-approved drilling, six nest sites (SI-301, SI-302, SI-303, SI-304, SI-305, and SI-502), thought to represent one breeding pair's territory, are located on natural features. The location of the ore body occurs in the immediate proximity of the nest sites.

The Project area (Silicon Exploration Project Plan of Operations boundary and a surrounding four-mile radius) includes various rock outcrops that serve as potential eagle nesting areas. Vegetation communities are dominated by Mojave Mid-Elevation Mixed Desert Scrub, Sonora-Mojave Creosotebush-White Bursage Desert Scrub, and Inter-Mountain Basins Semi-Desert Shrub Steppe, which provide habitat of varying ranges for golden eagle prey base. Limited water sources are present in the Plan boundary, and the majority of seeps and springs in the Project area are present along the Amargosa River, which is approximately three miles west of the nest sites. In addition, paved and non-paved roads are located in the Project area, including US 95, that provide carrion for eagles and represent potential scavenging habitat.

#### 1.4 Scoping, Consultation, and Coordination

This EA incorporates by reference the scoping performed for the PEIS (USFWS 2016a: Chapter 6, page 175). A draft of this EA, the Applicant's ECP, and a draft Finding of No Significant Impact was made public on the Service's Pacific Southwest Region webpage (<https://www.fws.gov/cno/conservation/MigratoryBirds/EaglePermits.html>) for 30 days to solicit public comments beginning December 20, 2022. The Service received one public comment letter on the draft EA and revisions were incorporated into the EA as a result of substantive comments, as appropriate. Public comments and responses are included in **Appendix B**.

#### 1.5 Tribal Coordination

Tribal participation is an integral part of the NEPA and the National Historic Preservation Act (NHPA) process, as well as a key component of determining whether to issue an eagle take permit. Cultural and religious concerns regarding eagles were analyzed in the PEIS (USFWS 2016a), and tribal consultation was conducted for the PEIS (USFWS 2016a). The PEIS (USFWS 2016a) identified tribal coordination as an important issue for subsequent analysis, given the cultural importance of eagles to the tribes. In accordance with Executive Order 13175, Consultation and Coordination with tribal governments (65 Federal Register 67249, November 9, 2000), the NHPA Section 106 (36 CFR 800) and the Service's Native American Policy, the Service consults with Native American tribal governments whenever actions taken under the

authority of the Eagle Act may affect tribal lands, resources, or the ability to self-govern. This coordination process is also intended to ensure compliance with the American Indian Religious Freedom Act.

The Service sent letters to eight federally recognized tribal governments located within 109 miles (the natal dispersal distance of golden eagles, thought to adequately define the species local area population [LAP]) of the Project informing them of the received permit application and preparation of this EA, and offering the opportunity for formal consultation regarding potential issuance of the permit. In addition, comments from Tribes are also encouraged and welcomed during the 30-day comment period on the EA.

## **2.0 Proposed Action and Alternatives**

In this analysis, and in our consideration of take authorization to the Applicant, each incident of “take” results in loss of productivity for a single season for a single eagle breeding pair. Take that may result in injury or mortality of eagles is not expected nor would it be authorized under this permit. While the available data indicates one breeding territory is most likely to be impacted by activities, as these pairs have nests located in the vicinity of the Project Area, eagle populations are dynamic with shifting territory boundaries and eagle pairs may establish new nest locations. New territories and new nesting locations may be identified in the Project Area or its vicinity over the life of the permit. To allow for operational flexibility, the Applicant may utilize the 10 take authorizations for no more than ten years and as needed should nesting locations differ within the Project Area. Effects of up to ten incidents of take over ten years is expected to be the same, regardless of exact location.

### 2.1 Alternative 1: Proposed Action

The Service proposes to issue an incidental eagle take permit, with associated conditions, to the Applicant for disturbance to and loss of annual productivity of breeding golden eagles, as allowed by regulation (Proposed Action). The permit would be issued for up to 10 incidents of take over no more than 10 years.

Under this alternative, all monitoring and adaptive management measures, minimization measures, and detection and reporting measures outlined in Section 2.11-2.13 would be permit requirements. Monitoring associated with the permit would be conducted as outlined in Table 2-1 and by a third party monitor as required by our regulations.

#### *2.1.1 Compensatory Mitigation*

Compensatory mitigation would be conducted within the Pacific Flyaway Eagle Management Unit (EMU). The Applicant would provide the compensatory mitigation at the required 1.2:1 ratio by retrofitting electric utility poles, as discussed in the 2016 PEIS. The intent would be to minimize the potential for eagle electrocutions and ensure that the effects of eagle incidental take

are offset at the population level. The amount of compensatory mitigation required for the lost productivity has been determined through the Service's Golden Eagle Resource Equivalency Analysis (REA) (USFWS, 2013). The permit would require 90 to 207 electric utility poles to be retrofitted to offset the impacts to golden eagle breeding territories. The exact number of retrofits depends on the longevity of each pole's retrofit. Simple retrofits are accomplished by placing plastic covers on electric components. As plastic covers are a temporary solution, once retrofitted, the power pole is considered "eagle safe" for 10 years. If a pole is reframed or reconstructed, the pole is made permanently safe for eagles because adequate spacing is provided between electrical components. The Service gives a 30-year credit for this type of retrofit (USFWS, 2013).

AGA would provide compensatory mitigation for five incidents of take no later than 30 days after permit issuance. At the five-year review, the Service and AGA would consult and evaluate the amount of mitigation owed or credited for the remainder of the permit authorization period.

### *2.1.2 Adaptive Management*

Continued monitoring will inform the Applicant on the status of existing nests as well as if new nests are being constructed near the Project and its associated activities. If monitoring determines that multiple take events may occur in a given year, and that the Proponent is approaching their take permit limits (i.e., up to 10 takes over no more than 10 years), adaptive management would be implemented. First, the Applicant would apply avoidance buffers on in-use/occupied nests to prevent incidental take (no surface-disturbing activities within one mile of an in-use/occupied nest during breeding season including early courtship through post fledging nest dependency (i.e., December 15 through July 15). If avoidance is not practicable, the Proponent may request a permit amendment from the Service. During annual monitoring, should a bald eagle nest be discovered in the project area, the Applicant would implement protective buffers and coordinate with the Service.. Additionally, at the five-year review of the permit, the Service may consider additional adaptive management strategies, if necessary, in coordination with the Applicant.

### *2.1.3 Eagle Nest Monitoring*

The Applicant will monitor eagle nest sites annually using independent, third party monitors that report directly to the Service. The project area eagle nest monitoring will inform the applicant and agencies when golden eagle nests are in-use in the project area in order to validate the number of take incidents that occur, and ensure compliance with the permit authorization.

### *2.1.4 Five Year Review*

Long term eagle incidental take permits require we conduct five year reviews. During the five year review process, we would evaluate if take occurred for each known breeding territory in each year. For example, should disturbance occur within one mile of a golden eagle nest during the courtship phase, or egg laying period of the breeding season (January 15 – April 1), the



Service would assume project activities prevented eagles from breeding and a take incident occurred. If the applicant's data validates no disturbance occurred within one mile of a breeding pair's nest site until after April 1 in a given year, and monitoring confirms nests are not in-use, the Applicant could proceed with their Project activities and the Service would determine no take occurred. We would take into consideration any alternate nests used within a given territory when evaluating the Project data and making these determinations.

After assessing how many take incidents occurred during the first five years, we would then evaluate how much compensatory mitigation might be either credited or owed for the remainder of the 10 year permit duration.

## 2.2 Alternative 2: No Action Alternative

Under the No Action Alternative, the Service would take no further action on AGA's permit application. However, the Service must take action on the permit application and determine whether to deny or issue the permit. Accordingly, this alternative is considered because Service policy requires evaluation of a No Action Alternative and it provides a clear comparison of any potential impacts to the human environment from the Proposed Action. The No Action Alternative in this context analyzes predictable outcomes of the Service not issuing a permit. Should a Permit not be issued, compensatory mitigation would not be required. Thus, for purposes of analyzing the No Action Alternative, the conservation measures proposed in the Permit application package would not be required. The Applicant may choose to voluntarily implement some, none, or all of those conservation measures. Under this alternative, it is assumed that the Applicant would take reasonable steps to avoid taking eagles, but AGA would not be protected from enforcement for violating the Eagle Act should take of an eagle occur.

## 2.3 Common to All Alternatives

This section describes components of the Project that are the same for the Proposed Action and No Action Alternative whether or not a permit is issued. If a permit is issued, these measures would become permit requirements.

### *2.3.1 Monitoring*

The Applicant will implement all measures required by other agencies and jurisdictions to conduct the activity at this site, including applicant-committed Environmental Protection Measures (ACEPMs). The applicant will implement all conservation measures and commitments summarized below. Monitoring will be implemented over the life of the Project. **Table 2-1** presents a summary of the ACEPMs with monitoring and a schedule for implementation per the existing BLM NEPA document (BLM 2020).

**Table 2-1 ACEPM Monitoring Schedule**

ACEPM	Monitoring Actions	Duration
ACEPM 1	A nest survey would be conducted by a qualified biologist prior to any surface disturbance associated with exploration activities during the avian breeding season (March 1 through July 31) for raptors and other migratory birds. Pre-disturbance surveys for migratory birds are only valid for 14 days. If the disturbance for the specific location does not occur within 14 days of the survey, another survey would be needed. If active nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food), a protective buffer (the size depending on the habitat requirements of the species) would be delineated after consultation with the BLM resource specialist. Source: BLM 2020	Annually as needed for the life of the Project.
ACEPM 2	Annual surveys would be conducted at golden eagle nest sites that are within one mile of the Project Area to determine nest status. The timing of the surveys may be adjusted due to winter weather conditions and is subject to approval from the Nevada Department of Wildlife (NDOW) based on consideration of bighorn sheep ( <i>Ovis canadensis</i> ) lambing activity. Source: BLM 2020	Annually as needed for the life of the Project.
ACEPM 3	Vehicle speeds on undeveloped access roads shall not exceed 15 miles per hour (mph) and 25 mph on more improved main access roads. Source: BLM 2020	For the life of the Project.

Source: BLM 2020

### 2.3.2 Minimization Measures

AGA is implementing the following measures and will continue to implement the measures to minimize impacts to golden eagles from the Project.

Carcass Management: Staff will remove carcasses from all roadways within the Plan boundary when on site and dispose of them appropriately to reduce the risk of vehicle collisions.

Employee Awareness and Training Program: Staff and contractors working on the Project will be provided training on reducing risks to eagle collisions, reporting eagle and nest observations, and any Service requirements provided within the eagle permit.

### 2.3.3 Detection and Reporting Measures

Eagle injuries, mortalities, and previously undocumented eagle nests may be detected through incidental observations by AGA personnel and contractors. To improve the probability that injuries and mortalities do not go undetected, AGA field staff will be advised to remain alert for eagles within exploration areas and access roads at all times. The detection of any new nest sites will occur through incidental observations and any monitoring that occurs.

In the event that a new nest is detected within proximity to exploration activities, the AGA Environmental Department or designee will record the circumstances and conditions associated with the observation. Among the information recorded and reported to the Service will be the

date and time of the detection, the Global Positioning System location (North American Datum 83), the status of the nest, and if possible, the species.

When AGA personnel or their contractors encounter a golden eagle injury or mortality within the Plan boundary, they must report the incident to the AGA Environmental Representative. Personnel must not handle dead or injured eagles unless specifically directed to do so by the Service. In the event of an eagle injury, AGA's Environmental Representative will notify the Service and NDOW immediately (the same business day) and in the event of mortality, notification will occur by the next business day.

## 2.4 Other Alternatives Considered but Not Evaluated in this Environmental Assessment

The Service considered other alternatives based on communication with the Applicant but concluded that these alternatives did not meet the purpose and need underlying the action because they were impracticable for the Applicant to carry out or did not adequately address the risk of take at the Project. Therefore, the Service did not assess the potential environmental impacts of those alternatives. Below is a summary of the alternatives considered but eliminated from further review.

### *2.4.1 Alternative 3: Deny Permit*

Under this alternative, the Service would deny the permit application because the Applicant falls under one of the disqualifying factors and circumstances denoted in 50 CFR 13.21, the application fails to meet all regulatory permit issuance criteria and required determinations listed in 50 CFR 22.26, or because the Service determined that the risk to eagles is so low that a take permit is unnecessary.

Our permit issuance regulations at 50 CFR 13.21(b) set forth a variety of circumstances that disqualify an Applicant from obtaining a permit. None of the disqualifying factors or circumstances denoted in 50 CFR 13.21 apply to AGA. Next, the Service considered whether the Applicant meets all issuance criteria for the type of permit being issued. For eagle take permits, those issuance criteria are found in § 22.26(f). AGA's application meets all the regulatory issuance criteria and required determinations (50 CFR 22.26) for eagle take permits.

When an Applicant for an eagle take permit is not disqualified under 50 CFR 13.21 and meets all the issuance criteria of 50 CFR 22.26, denial of the permit is not a reasonable option. Therefore, this alternative, denial of the permit, was eliminated from further consideration.

## **3.0 Affected Environment**

This section describes the current status of the environmental resources and values that are affected by the Proposed Action and alternatives.

### 3.1 Golden Eagles

General information on the population trends, distribution, and habitat of golden eagles are detailed in the PEIS (USFWS 2016a: Sections 3.3 and 3.4). This section more specifically describes the golden eagle population in the Project area.

#### 3.1.1 Project Area Habitat

##### **Foraging Habitat**

Vegetation communities in the Project area have been mapped by the Southwest Regional Gap Analysis Project (SWReGAP) in land cover files (USGS 2011). The SWReGAP mapping shows 24 vegetation communities occurring within the four-mile radius of the Plan boundary (**Table 3-1**). Three are mapped as over five percent of the Project area: Mojave Mid-Elevation Mixed Desert Scrub (46 percent), Sonora-Mojave Creosotebush-White Bursage Desert Scrub (30 percent), and Inter-Mountain Basins Semi-Desert Shrub Steppe (13 percent). Each of the remaining 21 communities account for approximately 11 percent of the Project area. The potential foraging value of the various habitat types present in the region has not been quantified, but in general, they support golden eagle prey base at varying degrees which supports golden eagle foraging. Cliffs, canyons, and outcrops have the potential to support nesting golden eagles.

**Table 3-1 SWReGAP Vegetation Communities within the Project Area**

Vegetation Community	Acres	Percent
Agriculture	138	0.12%
Developed, Open Space - Low Intensity	651	0.55%
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	6	0.01%
Great Basin Pinyon-Juniper Woodland	178	0.15%
Great Basin Xeric Mixed Sagebrush Shrubland	1,065	0.90%
Inter-Mountain Basins Big Sagebrush Shrubland	474	0.40%
Inter-Mountain Basins Cliff and Canyon	36	0.03%
Inter-Mountain Basins Greasewood Flat	42	0.04%
Inter-Mountain Basins Mixed Salt Desert Scrub	1,199	1.01%
Inter-Mountain Basins Montane Sagebrush Steppe	105	0.09%
Inter-Mountain Basins Semi-Desert Grassland	9	0.01%
<b>Inter-Mountain Basins Semi-Desert Shrub Steppe</b>	<b>15,443</b>	<b>13.04%</b>
Invasive Annual and Biennial Forbland	2	0.00%
Invasive Annual Grassland	11	0.01%
<b>Mojave Mid-Elevation Mixed Desert Scrub</b>	<b>54,305</b>	<b>45.85%</b>
North American Arid West Emergent Marsh	27	0.02%
North American Warm Desert Bedrock Cliff and Outcrop	5,653	4.77%
North American Warm Desert Lower Montane Riparian Woodland and Shrubland	266	0.22%
North American Warm Desert Playa	608	0.51%
North American Warm Desert Volcanic Rockland	634	0.54%
North American Warm Desert Wash	26	0.02%
Recently Mined or Quarried	233	0.20%

Vegetation Community	Acres	Percent
<b>Sonora-Mojave Creosotebush-White Bursage Desert Scrub</b>	<b>35,485</b>	<b>29.96%</b>
Sonora-Mojave Mixed Salt Desert Scrub	1,840	1.55%
<b>Total</b>	<b>118,438</b>	<b>100.00</b>

\*Bold denotes dominant habitat types.

Other habitat types that are believed to represent golden eagle foraging habitats in the region include roads and natural water sources. Paved (e.g., US 95) and non-paved roads are located within the Project area. Golden eagles frequently feed on roadkill and other carrion (especially during winter) even when live prey is available; golden eagles consume fresh carrion during the nesting season (Kochert and Steenhof 2002). Roads within the Project area, particularly improved roads that allow vehicles to travel at higher speeds, represent golden eagle scavenging habitat (note, however, that they also present a substantial hazard to golden eagles, which are at risk of being killed or injured by vehicle strikes). Springs provide a reliable water source for eagle prey and, therefore, have the potential to allow for higher concentrations of eagle prey in those areas. There are multiple seeps and springs and intermittent and ephemeral drainages along the Amargosa River approximately three miles west of the nest sites. Riparian habitats, agricultural pivots, and pastures in the Project area also support populations of rodents and lagomorphs.

### **Nesting Habitat**

Golden eagle nesting habitat includes cliff and rock outcrops in Beatty Wash, the Yucca Mountains to the and east, and the Bare Mountains to the south Golden eagles may nest in trees if available.

### **Other Topographic Features Attractive to Eagles**

Tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive features for eagles. Mountainous areas that include ridgelines and slopes with a variety of aspects, such that winds from multiple directions would create deflection currents, are also suitable for soaring. Saddles or low points on ridge lines or near riparian corridors may serve as flight paths.

#### *3.1.2 Project Area Golden Eagle Population*

The golden eagle nesting territories within the four-mile radius of the Project were delineated based on surveys conducted in 2019 and 2020, as well as information provided by NDOW. A total of four distinct territories were delineated based on proximity of nests to one another and concurrent use of adjacent nests. **Appendix C** summarizes the golden eagle territories and status of nests within the Project area. **Figure 3-1** shows the nest locations in the Project area and vicinity. There is limited data for fledged young in the Project area. One of four territories within the Project area was documented by NDOW as fledging young in 2014 (SWCA 2019). The

nesting rate for 2019 was zero percent (none of four territories in-use) and for 2020 was 25 percent (one of four territories in-use).

### *3.1.3 Territories Within the Project's Plan Boundary*

One known territory occurs within the Plan boundary (**Figure 3-2**). There are six nest sites within the territory (SI-301, SI-302, SI-303, SI-304, SI-305, and SI-502) with five located inside of the Plan boundary and one outside. These nests are within 1.2 miles of each other and have not been simultaneously in use. The territory was documented as occupied and fledged an eaglet in 2014, and was not occupied in 2015, 2018, or 2019 (SWCA 2019). This territory was occupied again in 2020 with an incubating eagle observed on SI-301 (SWCA 2020). The next closest territory is approximately three miles to the southwest.

### *3.1.4 Project Eagle Population Stressors*

#### **Exploration Activities**

Exploration activities include preparation of drill pads, development of roads, and drilling. Risks to golden eagles include unintentional disturbance from activity near nest sites, such as noise and visual irritation from surface disturbance, vehicular traffic on roads, and drilling.

#### **Roads**

Mobile equipment (i.e., vehicles) used in operations at the Project or traveling to or from the Project could strike and injure or kill wildlife. Road-killed wildlife may attract scavenging eagles, which in turn could be injured or killed by vehicle collision. AGA has speed limits placed on equipment and vehicles operating at the Project. Vehicle speeds on undeveloped access roads shall not exceed 15 mph and 25 mph on more improved main access roads. The greater risk for vehicle mortality is on area roads outside of the Project (e.g. US 95), which are outside of AGA's control, due to higher speeds and additional traffic.

#### **Utilities**

Electrical utility infrastructure present in the Project area includes power poles, power lines and guy wires, and transformers. These utilities present risks to eagles from electrocution and collision. Electrical transmission and distribution lines that do not include sufficient spacing between energized lines or between energized lines and ground wires represent an electrocution hazard to large birds. The Project is not authorized to construct additional electrical utility infrastructure; therefore, additional electrical utility infrastructure would not be constructed by the proponent within the Project area.

### 3.2 Bald Eagles

Bald eagles (*Haliaeetus leucocephalus*) are known to occur in the region, but are not expected to be affected by exploration activities associated with the Project; therefore, disturbance and loss of territory of bald eagles are not expected to result from the Project (BLM 2020).

### 3.3 Migratory Birds

Effects to migratory birds have been analyzed in the PEIS (USFWS 2016a). A variety of migratory birds have been identified in the Plan boundary; however, issuance of the proposed permit is not anticipated to affect one or more species of migratory birds. Additionally, AGA has ACEPMs to reduce potential impacts to migratory birds within the Plan boundary (BLM 2020).

### 3.4 Species Listed under the Endangered Species Act

The Mojave desert tortoise (*Gopherus agassizii*), a federally threatened species listed under the Endangered Species Act of 1973 (ESA), as amended (ESA) (16 U.S.C. §§ 1531-1544), has the potential to occur within the Plan boundary (BLM 2020). The Service consultation in compliance with Section 7 of the ESA was completed on November 25, 2019 (08ENVS00-2020-F-0017). The Service concluded that the Project is not likely to jeopardize the continued existence of the threatened Mojave desert tortoise, and the Applicant would implement desert tortoise minimization measures outlined during the consultation. The Service's decision regarding an eagle take permit would not alter the physical footprint of the Project and therefore would not alter the Project impacts to federally threatened and endangered species in the Plan boundary, including the Mojave desert tortoise.

### 3.5 Coordination with Tribal Governments

Bald and golden eagles are important symbols of U.S. history and sacred to many Native American cultures. Some Native American cultures utilize eagles, eagle feathers, and other eagle parts for religious practices and cultural ceremonies. Outside of rituals and practices, wild eagles as live beings are deeply important to many tribes (Lawrence 1990, as cited by USFWS 2016a). Numerous tribes confirmed the importance of wild eagles during scoping and tribal consultation for the PEIS (Service 2016).

Tribal participation is an integral part of the NEPA and the National Historic Preservation Act (NHPA) process, as well as a key component of the Service's decision whether to issue an eagle take permit. Cultural and religious concerns regarding eagles were analyzed in the PEIS (Service 2016), and tribal consultation already conducted for the PEIS is incorporated by reference into this EA. The PEIS identified tribal coordination as an important issue for subsequent analysis, given the cultural importance of eagles to the tribes. In accordance with Executive Order 13175, Consultation and Coordination with Tribal Governments (65 FR 67249), the NHPA Section 106 (36 CFR § 800) and the Service's Native American Policy, the Service consults with Native

American tribal governments whenever our actions taken under the authority of the Eagle Act may affect tribal lands, resources, or the ability to self-govern. This coordination process is also intended to ensure compliance the American Indian Religious Freedom Act.

To notify Tribes regarding potential issuance of the requested Permit, the Service sent letters to the eight federally-recognized tribal governments located within 109 miles (the natal dispersal distance of golden eagles thought to adequately define the local area population of the eagles) of the Project informing them of the received Permit application and preparation of this EA.

As of the start of the 30-day comment period, no tribes provided comment during scoping and tribal outreach for this EA. The Proposed Action or considered alternatives would not impact cultural or socioeconomic interests beyond the impacts already discussed in the PEIS. Therefore, cultural and socioeconomic interests has not been analyzed further in this EA.

### 3.6 Climate Change

Climate change was considered in the PEIS (USFWS 2016a; Section 3.9, page 144), and is not analyzed further in this EA.

## **4.0 Environmental Consequences**

This section summarizes the effects on the environment of implementing the Proposed Action or alternatives to the action. The discussion of overall effects to the environment of the eagle take permit program is provided in the PEIS (USFWS 2016a). This section of this EA analyzes only the effects that were not analyzed in the PEIS (USFWS 2016a) that may result from the issuance of an eagle take permit for this Project.

### 4.1 Alternative 1: Proposed Action

In determining the significance of effects of the Project on eagles, the Service screened the Proposed Action of issuing an eagle take permit for the take of golden eagles against the analysis provided in the PEIS (USFWS 2016a) and the Service's 2016 report, *Bald and Golden Eagles Population Demographics and Estimation of Sustainable Take in the United States, 2016 Update* (USFWS 2016b). The Service assessed Project effects to eagles at the project, local, and regional scales.

#### *4.1.1 Direct and Indirect Effects*

Under the Proposed Action, the Applicant is requesting authorization for disturbance to and loss of annual productivity from breeding golden eagles for up to 10 take incidents for no more than 10 years from the date of the issuance of the permit. Within one mile of authorized surface disturbance activities, there is thought to be one breeding pair occupying a territory that consists of six nest sites (SI-301, SI-302, SI-30, SI-304, SI-305, and SI-502) (**Figure 3-2**) which are



located on natural outcrops. During implementation of exploration activities, it is most likely that eagles associated with this territory are the most likely to be the breeding pair impacted. However, there is some potential for a second breeding pair to nest within one mile of surface disturbance that could also be impacted. As such, the Proposed Action would authorize the disturbance to and loss of annual productivity for up to 10 take incidents to breeding golden eagles over a 10 year period regardless of which territory might be disturbed. We acknowledge that the take incidents could occur such that one breeding pair is disturbed per year, or multiple breeding pairs could be disturbed in any given year. Regardless, the Applicant could not exceed 10 take incidents over the 10 year authorization period.

The Proposed Action would have a direct impact to the golden eagles through the presence of drilling in close proximity to their nests, thus causing potential negative impacts to golden eagle breeding and nesting activities.

Disturbance of an occupied golden eagle territory is assumed to result in loss of annual productivity (i.e., number of young reared) from that territory. The Service uses an estimate of 0.59 golden eagle young fledged per occupied nesting territory per year (USFWS 2016c) to estimate loss of annual productivity.

Along with the monitoring and minimization measures outlined in Section 2, the Applicant would provide compensatory mitigation to offset the expected take. To determine the amount of mitigation required, the Service's Golden Eagle REA was used (USFWS 2018) as described in Section 2 of this EA.

The Eagle Act regulations require compensatory mitigation to be conducted in the same Eagle Management Unit (EMU) in which the take occurs. The Project is located in the Pacific Flyway EMU. The site of power poles to be retrofitted has not yet been determined but would be in the Pacific Flyway.

In addition, the Proposed Action incorporates adaptive management and minimization measures as described in Section 2. The proposed ACEPMs would continue to be implemented but as permit stipulations to further reduce the risk of Project-related injury or mortality hazards to eagles within the Project boundary.

The Proposed Action meets the purpose and need as it is consistent with the Eagle Act and its regulations and adequately addresses the risk of take at the Project.

### **Bald Eagles**

Because the Project has not changed in scope, timing, or duration, no significant adverse effects are foreseen to bald eagles as a result of the Project (BLM 2020). Although take of bald eagles is not expected to occur at this Project and take of bald eagles would not be permitted, bald eagles

in the region may benefit from avoidance and minimization measures established to reduce the risk to golden eagles. Bald eagles may benefit from compensatory mitigation actions provided to offset the take of golden eagles under the Proposed Action.

### **Migratory Birds**

Because the Project has not changed in scope, timing, or duration, no significant adverse effects to migratory bird populations are expected as a result of the Project (BLM 2020). Issuance of an eagle take permit to the Project may also provide benefits to migratory birds. Power pole retrofits completed as compensatory mitigation for the eagle take permit may minimize electrocution risk for raptors and other migratory birds, just as with eagles.

### **Species Listed under the Endangered Species Act**

The Mojave desert tortoise (*Gopherus agassizii*), a federally threatened species listed under the Endangered Species Act of 1973 (ESA), as amended (ESA) (16 U.S.C. §§ 1531-1544), has the potential to occur within the Plan boundary (BLM 2020). The Service consultation in compliance with Section 7 of the ESA was completed on November 25, 2019 (08ENVS00-2020-F-0017). The Service concluded that the Project is not likely to jeopardize the continued existence of the threatened Mojave desert tortoise, and the Applicant would implement desert tortoise minimization measures outlined during the consultation (BLM 2020). The effects of authorizing incidental eagle take is not expected to have effects to species protected by the ESA, including the Mojave desert tortoise.

#### *4.1.2 Cumulative Effects*

The purpose of this cumulative effects evaluation is to identify situations where the eagle take proposed under the Proposed Action, combined with take from other present or foreseeable future actions and sources, may be approaching levels that are biologically problematic or that cannot reasonably be offset through compensatory mitigation. Effects of take may be cumulative at the project scale, at the local-area eagle population scale, and at the EMU scale.

At the Project scale, the alteration of the eagle habitat from Project development could cause shifting in eagle pair territory boundaries in the vicinity of the Project, which could cause increased antagonistic interactions with surrounding eagle pairs, potentially creating a ripple-effect of impacts to eagles in areas surrounding the Project.

To ensure that eagle populations at the local scale are not depleted by cumulative take in the local area, the Service analyzed in the PEIS (USFWS 2016a) the amount of take that can be authorized while still maintaining LAP of eagles. The LAP scale is defined for eagles as the median natal dispersal distance for the given species, which for golden eagles is a 109-mile radius (USFWS 2016b). In order to issue a permit, cumulative authorized take must not exceed five percent of a LAP unless the Service can demonstrate why allowing take to exceed that limit

is still compatible with the preservation of eagles. The eagle take permit regulations require the Service to conduct an individual LAP analysis for each permit application as part of the application review.

Therefore, the Service considered cumulative effects to the LAP surrounding the Project Plan boundary (**Figure 4-1**) to evaluate whether the take to be authorized under this permit, together with other sources of permitted take and unpermitted eagle mortality, may be incompatible with the persistence of the Project's LAP. Data provided by AGA, data on other eagle take authorized and permitted by the Service, and other reliably documented unauthorized eagle mortalities has been incorporated to estimate cumulative impacts to the LAP. The cumulative effects analysis was conducted as described in the Service's Eagle Conservation Plan Guidance (USFWS 2013).

The LAP for the Project was estimated to be 365.44 golden eagles. The five percent benchmark for authorized take of that LAP is 18.27 eagles, while current authorized take in the LAP, including that estimated to occur at the Project, is 4.77 golden eagles or 1.31 percent of the LAP per year. The take that would be authorized by this permit for the Project does not exceed one percent of the LAP, so it would not significantly impact the LAP.

Additionally, take of eagles has the potential to affect the larger eagle population. Accordingly, the 2016 PEIS analyzed the cumulative effects of permitting take of golden eagles in combination with ongoing unauthorized sources of human-caused eagle mortality and other present or foreseeable future actions affecting golden eagle populations. As part of the analysis, the Service determined sustainable limits to permitted take within each EMU. The take that would be authorized by this permit would be offset by the compensatory mitigation that would be provided by the Applicant, so it would not significantly impact the EMU eagle population. The minimization measures that would be required under the permit, along with the additional adaptive management measures, are designed to further ensure that the permit is compatible with the preservation of golden eagles at the regional EMU population scale.

## 4.2 Alternative 2: No Action Alternative

### *4.2.1 Direct and Indirect Effects*

The Service assumes the level of take is the same under the Proposed Action and No Action Alternative, but under the No Action Alternative, the Service would take no action on the permit application. A permit would not be issued, and compensatory mitigation would not be required. Under this alternative, direct impacts of the Project on the golden eagle population would be assumed to be loss of productivity at one nest site in one golden eagle breeding pair's territory, over ten years, and this take would not be offset by compensatory mitigation. The Applicant would continue to implement the monitoring and avoidance measures for the Project as described in Section 2; however, additional measures outside of those referenced in Section 2, including compensatory mitigation, would not be implemented.

This alternative does not meet the purpose and need for the action because, by regulation (50 CFR 13.21), when in receipt of a completed application, the Service must either issue or deny a permit to the Applicant. The No Action Alternative also does not meet the purpose of and need for the action because it would result in the adverse, unmitigated effects to golden eagles described above, and these effects are not compatible with the preservation of golden eagles.

### **Bald Eagles**

Under the No Action Alternative, benefits that bald eagles might incur from minimization measures established under a golden eagle take permit to reduce the risk to golden eagles, as well as from compensatory mitigation actions provided to offset the take of golden eagles, would not occur.

### **Migratory Birds**

Any incidental benefits to migratory birds from minimization measures and compensatory mitigation required under an eagle take permit would not be realized under the No Action Alternative.

### **Species Listed under the Endangered Species Act**

Any incidental effects to federally threatened and endangered species from minimization measures and compensatory mitigation required under an eagle take permit would not be realized under the No Action Alternative.

#### *4.2.2 Cumulative Effects*

Cumulative impacts are defined as incremental impacts of the action on the environment when added to other past, present, and reasonably foreseeable future actions. The geographic extent of for the analysis of cumulative impacts is within a 175-kilometer (109-mile) radius surrounding the Project LAP, which represents the average natal dispersal distance of golden eagles (USFWS 2016a). There is incomplete information available regarding the level of unpermitted golden eagle take in the region; thus, golden eagle take in the past, present, and foreseeable future is not fully known. Over the past 25 years, the Service knows of 142 golden eagles killed by a variety of causes. This information suggests that approximately 5.68 golden eagles are killed per year in the LAP. Thus, the known annual unpermitted take suggests an anticipated unpermitted take of approximate 1.52 percent per year for the LAP. Two permits have been previously issued within the LAP (#00542B and 23857D) which have authorized take of 4.18 golden eagles each year. The Service is currently reviewing one additional permit application 20776D, and if issued, take would be fully offset by the compensatory mitigation that would be provided by the permit holder. Overlap of take from pending permit applications (#20776D) within the LAP is approximately 0.59 estimated eagles per year.

The total anticipated cumulative take would be 2.99 percent per year for the LAP. The loss of productivity authorized by permits would be fully offset by the compensatory mitigation that would be provided by the permit holders. The anticipated unpermitted take of approximate 1.52 percent per year for the LAP would not be offset by compensatory mitigation.

#### 4.3 Comparison of Effects of Alternatives

The main differences between the Proposed Action and the No Action Alternative are the issuing of a permit with compensatory mitigation requirements to offset the permitted take under the Proposed Action and the level of concurrent and post-construction monitoring that would occur (**Table 4-1**). The Service assumes the level of take is the same under the Proposed Action and No Action Alternative, but under the No Action Alternative, compensatory mitigation would not be required.

The Proposed Action is likely to have no significant impacts on golden eagles as there is no unmitigated take, and it meets all regulatory requirements and the conservation standard set forth in the 2016 PEIS (USFWS 2016a).

**Table 4-1 Comparison of the Proposed Action and No Action Alternative**

	<b>Alternative 1: Proposed Action</b>	<b>Alternative 2: No Action Alternative</b>
<b>Eagle Take Levels</b>	Loss of productivity from breeding golden eagles up to 10 incidents over 10 years.	Loss of productivity from breeding golden eagles up to 10 incidents over 10 years.
<b>Avoidance and Minimization</b>	Applicant will continue to implement the measures to minimize impacts to golden eagles (Section 2) at the Project including: vehicle speed limits; employee awareness/training programs; and carcass management.	Same as detailed under the Proposed Action, as the applicant is committed to these measures even without issuance of a permit.
<b>Compensatory Mitigation</b>	Retrofitting of power poles to offset the loss of annual productivity from breeding golden eagles for up to 10 take incident for no more than 10 years from the date of the issuance of the permit.	None provided.
<b>Detection and Reporting</b>	Applicant will continue to meet their BLM requirements from the 2020 EA, implement the measures to minimize impacts to golden eagles (Section 2) including the reporting and detection system to ensure that personnel adhere to the appropriate actions should a previously unidentified nest, injured eagle, or deceased eagle be identified.	Same as detailed under the Proposed Action.
<b>Unmitigated Eagle Take</b>	None.	Loss of productivity from breeding golden eagles up to 10 take incidents over 10 years.

	<b>Alternative 1: Proposed Action</b>	<b>Alternative 2: No Action Alternative</b>
<b>Adaptive Management</b>	If continued monitoring determines that there are multiple takes occurring in a given year and that the Proponent is approaching their take permit limits, adaptive management would be implemented. First, the Applicant would apply avoidance buffers on in-use/occupied nests to prevent incidental take. If avoidance is not practicable, the Proponent may request a permit amendment from the Service. Additionally, at the five-year review of the permit, the Service and the Applicant may consider additional adaptive management strategies.	None.
<b>Data Collection/Monitoring</b>	A qualified third party biologist will monitor golden eagle nests within one mile of the Project annually to determine nest status. Applicant will also document any eagle mortality identified while working at the Project.	AGA will conduct annual nest status monitoring for the Project, as the applicant is committed to these measures even without issuance of a permit.
<b>Company Liability for Eagle Take</b>	None	Yes.

## **5.0 Mitigation**

The Proposed Action incorporates measures to minimize and avoid impacts to the maximum degree practicable, as required by regulation. To ensure that regional eagle populations are maintained consistent with the preservation standard, regulations require that any golden eagle take that cannot practicably be avoided and is above EMU take limits must be offset by compensatory mitigation at a 1.2 to 1 ratio. As golden eagle take limits for all EMUs were determined to be zero (USFWS 2016a), compensatory mitigation is necessary to offset any authorized take of golden eagles. The 1.2 to 1 ratio for compensatory mitigation achieves a net benefit to golden eagle populations, ensuring that regional eagle populations are maintained consistent with the preservation standard of the Eagle Act despite indications of declines in golden eagle populations (USFWS 2016a). As this would fully offset the estimated take, as well as provide an additional net benefit to eagle populations, there would be no significant effects to eagle populations from issuing an eagle take permit under the Proposed Action. Section 2 provides details of the compensatory mitigation and minimization measures that would be completed under the Proposed Action.

## **6.0 List of Preparers and Reviewers**

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- Heather Beeler, Wildlife Biologist, U.S. Fish and Wildlife Service



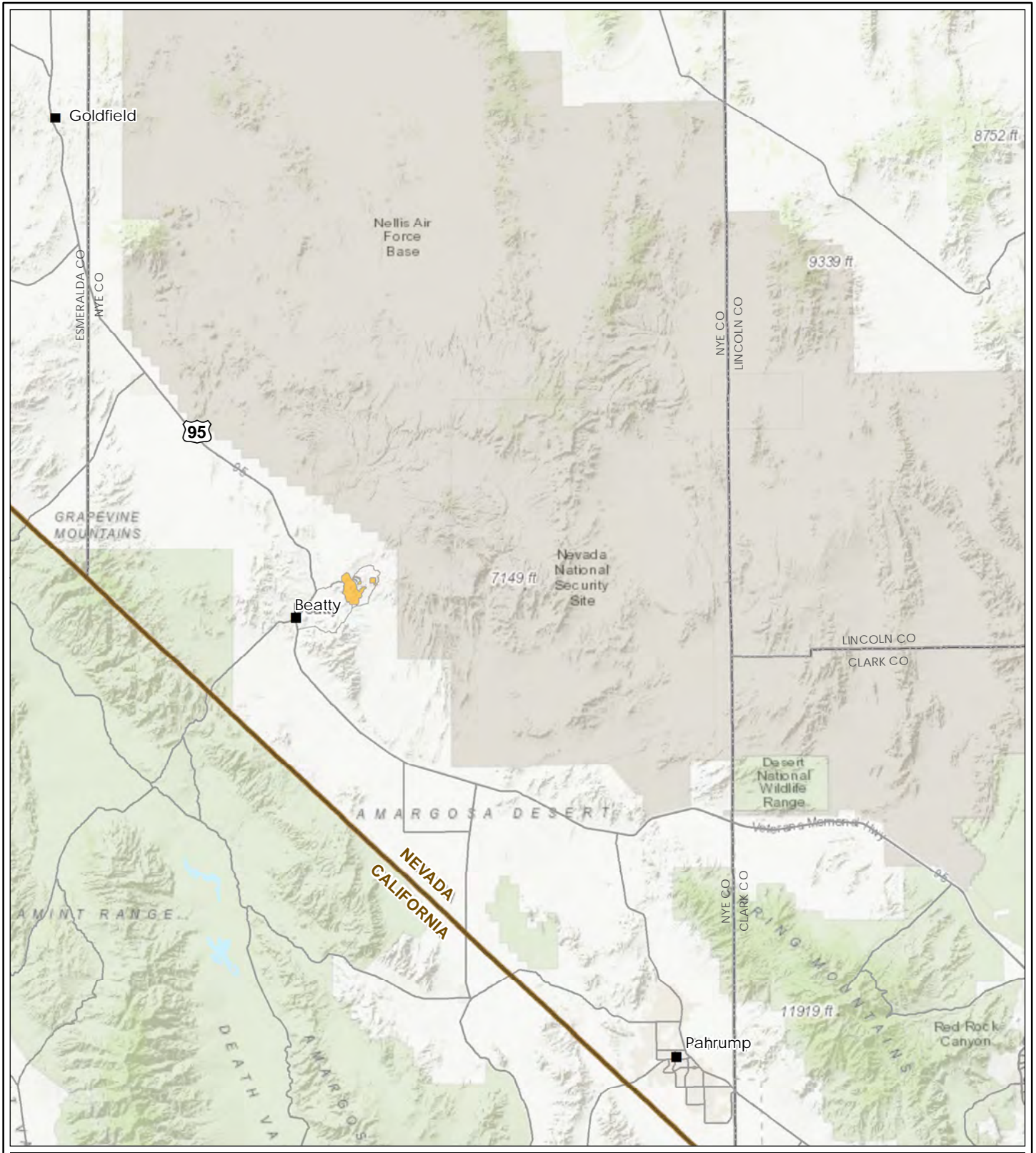
## 7.0 References

- Bureau of Land Management (BLM). 2020. AngloGold Ashanti North America Silicon Exploration Project Nye County, Nevada Environmental Assessment. Battle Mountain District. #DOI-BLM-NV-B020-2020-0017-EA. April 2020.
- Kochert, M. N. and K. Steenhof. 2002. Golden Eagles in the U.S. and Canada: Status, Trends, and Conservation Challenges. *Journal of Raptor Research*. 36(supplement):33-40.
- McIntyre, C. L. and L. G. Adams. 1999. Reproductive characteristics of migratory Golden Eagles in Denali National Park, Alaska. *Condor* 101:115-123.
- McIntyre, C. L. 2002. Patterns in Nesting Area Occupancy and Reproductive Success of Golden Eagles (*Aquila Chrysaetos*) in Denali National Park and Preserve, Alaska, 1988-99. *J. Raptor Res.* 36(1 Supplement): 50-54. Raptor Research Foundation Inc. 2002.
- Pagel, J.E., D.M. Whittington, and G.T. Allen. 2010. Interim golden eagle technical guidance: Inventory and monitoring protocols; and other recommendations in support of golden eagle management and permit issuance. Division of Migratory Bird Management. U.S. Fish and Wildlife Service. 26pp.
- Steenhof, K., M. N. Kochert, and T. L. McDonald. 1997. Interactive effects of prey and weather on Golden Eagle reproduction. *J. Anim. Ecol.* 66:350-362.
- SWCA Environmental Consultants. 2019. Silicon Exploration Project Golden Eagle Nest Survey Report. Prepared for AngloGold Ashanti north America and Bureau of Land Management Tonopah Field Office. July 2019.
- SWCA Environmental Consultants. 2020. Silicon Exploration Project Golden Eagle Nest Follow-up Occupancy Survey, Proposed Silicon Exploration Project, Nye County, Nevada. August 5, 2020.
- United States Fish and Wildlife Service (USFWS). 2013. Eagle Conservation Plan Guidance. Module 1 – Land-based Wind Energy, Version 2. 103pp.
- United States Fish and Wildlife Service (USFWS). 2016a. Programmatic Environmental Impact Statement for the Eagle Rule Revision. United States Department of the Interior Fish and Wildlife Service. December 2016.
- United States Fish and Wildlife Service (USFWS). 2016b. Bald and Golden Eagles. Population Demographics and Estimation of Sustainable Take in the United States, 2016 Update. United States Department of the Interior Fish and Wildlife Service. April 2016.
- United States Fish and Wildlife Service (USFWS). 2016c. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests. Action: Final rule. 50 CFR Parts 13 and 22. December 16, 2016.

United States Fish and Wildlife Service (USFWS). 2018. Golden Eagle (GOEA) Resource Equivalency Analysis: A Mitigation Framework for Permitted Takes of Golden Eagle Disturbance at Nests. Version Date: October 22, 2018.

United States Geological Survey (USGS). 2011. National Gap Analysis Program. Southwest Regional GAP Analysis Project—Land Cover Descriptions. RS/GIS Laboratory, College of Natural Resources, Utah State University. Available online at: [http://swregap.nmsu.edu/HMdatabase/landc\\_database\\_report.pdf](http://swregap.nmsu.edu/HMdatabase/landc_database_report.pdf)

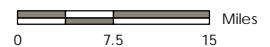
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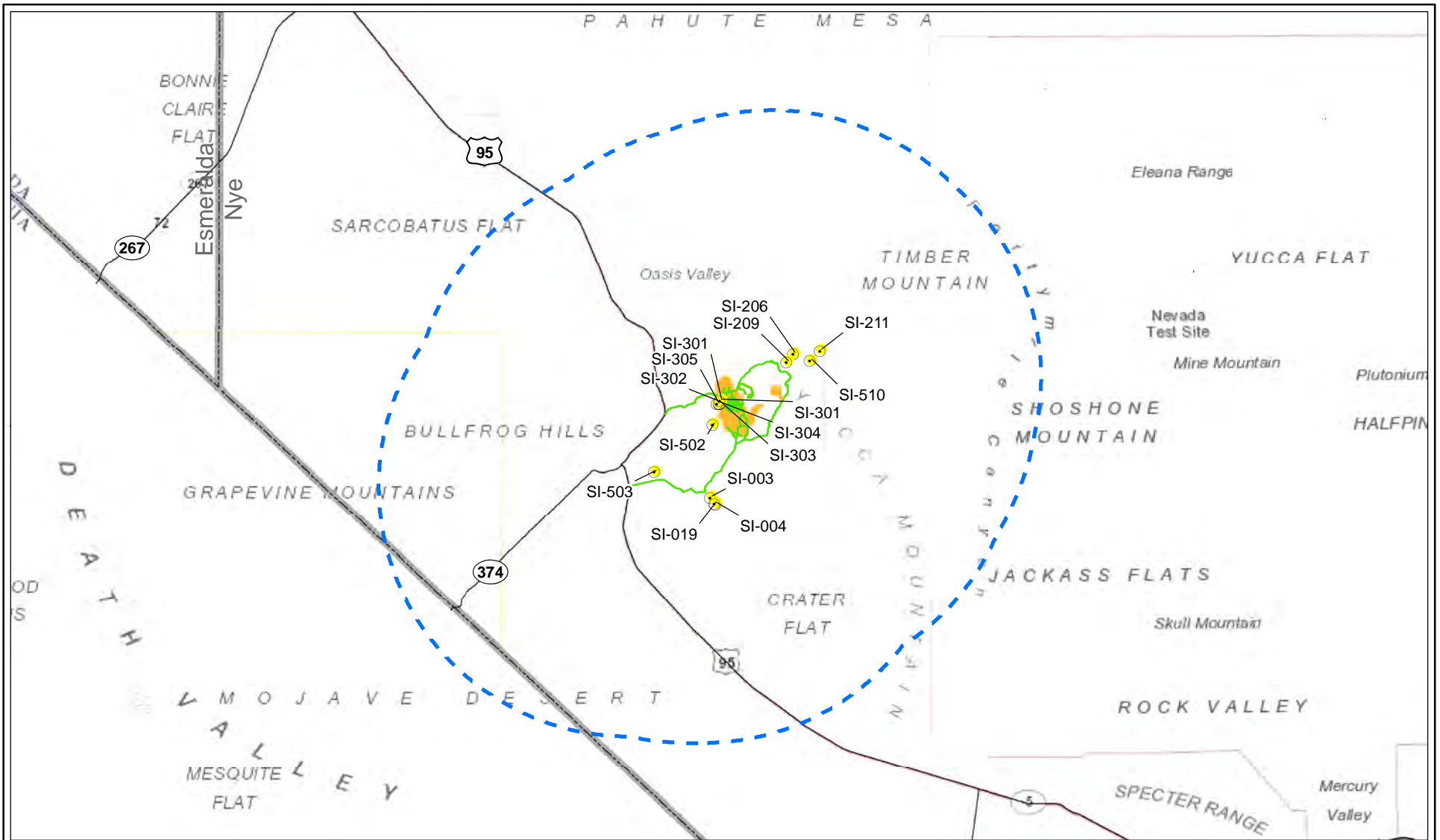


Legend

- Silicon Exploration Project
- Plan of Operations Boundary

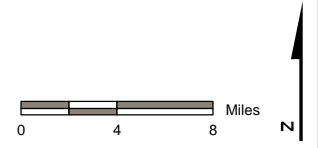
Figure 1-1  
 Project Location  
 Silicon Exploration Project  
**Environmental Assessment of  
 Eagle Take Permit Application**



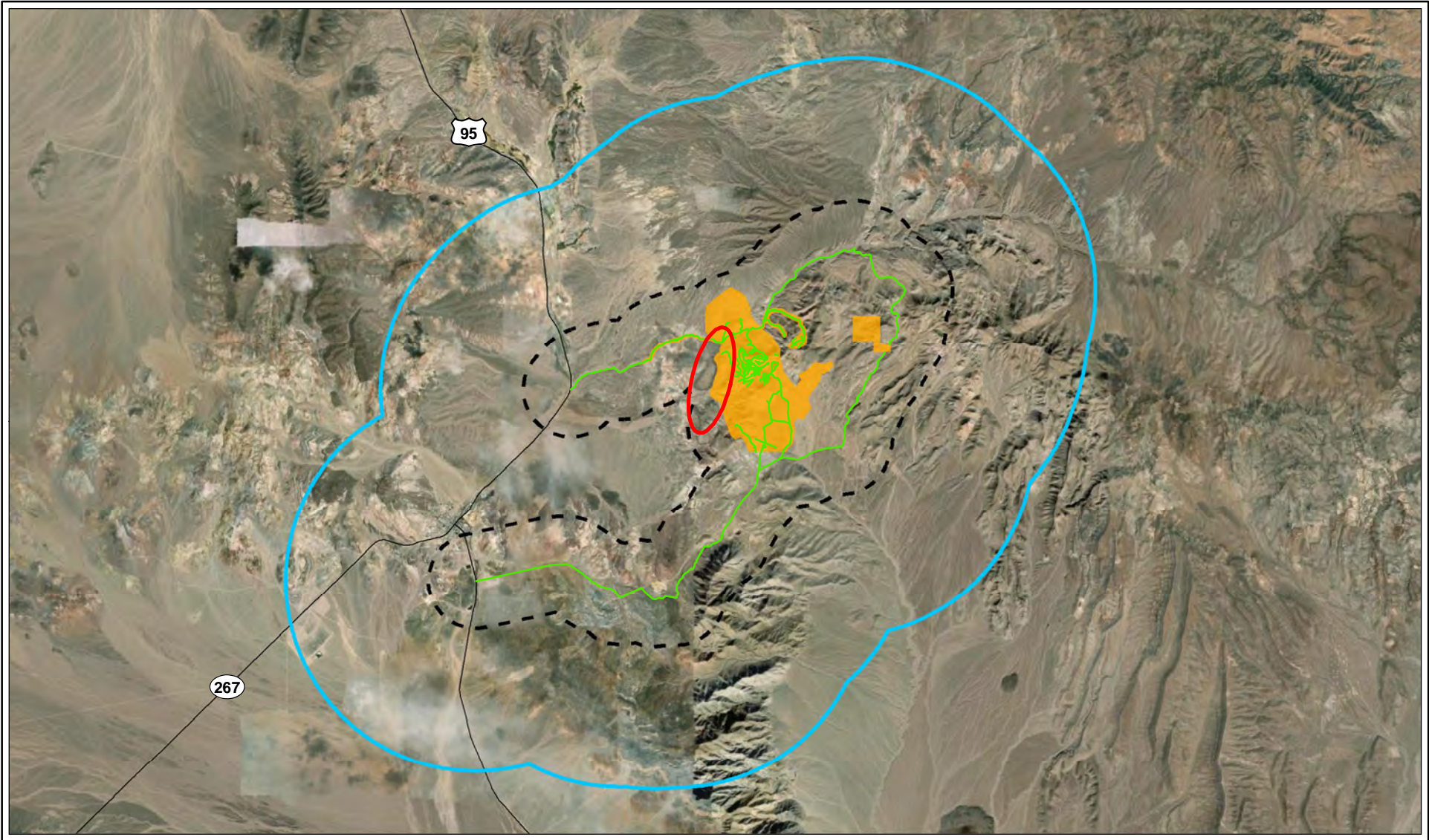


- Legend**
- Plan of Operations Boundary
  - Exploration Roads
  - 10-mile Buffer of the Project Area
  - Golden Eagle Nests

**Figure 3-1**  
**Golden Eagle Nests**  
**Silicon Exploration Project Environmental**  
**Assessment of Eagle Take Permit Application**







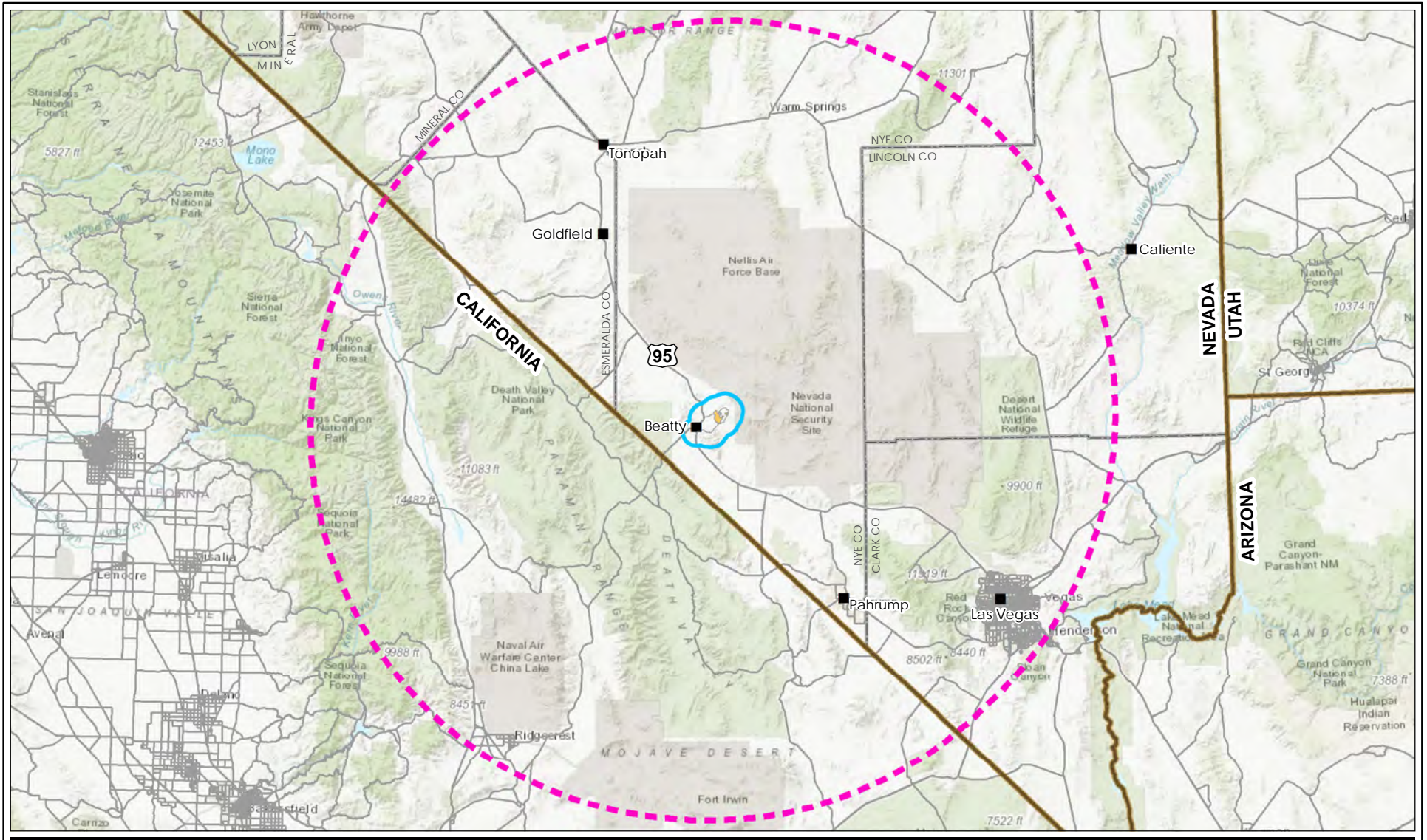
Legend

- Plan of Operations Boundary
- Exploration Roads
- 1-Mile Radius of Plan of Operations Boundary
- Project Area (4-mile Radius of Plan of Operations Boundary)
- SI-301, SI-302, SI-303, SI-304, SI-305, and SI-502 Territory

**Figure 3-2**  
**Golden Eagle Territory Proposed for Take**  
**Silicon Exploration Project Environmental**  
**Assessment of Eagle Take Permit Application**







**Legend**

- Silicon Exploration Project Plan of Operations Boundary
- Project Area (4-Mile Radius of Plan of Operations Boundary)
- Cumulative Effects Study Area (109-Mile Radius of Plan of Operations Boudnary)

**Figure 4-1**  
**Cumulative** Effects Study Area  
 Silicon Exploration Project  
**Environmental Assessment of**  
 Eagle Take Permit **Application**



# **APPENDIX A**

## **Eagle Conservation Plan**



**EAGLE CONSERVATION PLAN  
SILICON EXPLORATION PROJECT  
NYE COUNTY, NEVADA**

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Stantec Project Number 203722317

November 11, 2021

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## ACRONYMS AND ABBREVIATIONS

<b>ACEPM</b>	Applicant-committed Environment Protection Measure
<b>AGA</b>	AngloGold Ashanti North America
<b>BGEPA</b>	Bald and Golden Eagle Protection Act of 1940, as amended
<b>BLM</b>	Bureau of Land Management
<b>CFR</b>	Code of Federal Regulations
<b>ECP</b>	Eagle Conservation Plan
<b>km</b>	Kilometer
<b>NDOW</b>	Nevada Department of Wildlife
<b>Plan</b>	Plan of Operations
<b>Project</b>	Silicon Exploration Project
<b>study area</b>	Project Footprint and a Surrounding Four-mile Buffer Area
<b>SWReGAP</b>	Southwest Regional Gap Analysis Project
<b>USFWS</b>	United States Fish and Wildlife Service

## 1.0 PURPOSE OF THIS PLAN

The purpose of this Eagle Conservation Plan (ECP) is to support an application for a golden eagle (*Aquila chrysaetos*) nest take permit under the permit regulations of the Bald and Golden Eagle Protection Act of 1940, as amended (BGEPA). Specifically, AngloGold Ashanti North America (AGA) is requesting a take permit issued by the United States Fish and Wildlife Service (USFWS) under 50 Code of Federal Regulations (CFR) § 22.26 for the incidental take of golden eagles from otherwise lawful activities associated with the Silicon Exploration Project (Project). The Project is located approximately six miles (10 kilometers [km]) northeast of the town of Beatty, Nevada (Figure 1). The Project is a mineral exploration project authorized by the Bureau of Land Management (BLM) Battle Mountain District, Tonopah Field Office in Nye County, Nevada.

The BGEPA (as amended) prohibits the “take” of bald and golden eagles. BGEPA defines “take” to include “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb,” and prohibits take of individuals and their parts, nests, or eggs. Permitting regulations (50 CFR Part 22) were issued in 2009 and revised in 2016. Known as the “Eagle Permitting Rule,” these regulations allow the USFWS to administer a permit program allowing for the lawful take of eagles and nests.

AGA has prepared this ECP to support their application for a BGEPA eagle “take” permit. This ECP provides information and materials to support an eagle nest take permit application and demonstrates that the proposed take is compatible with the preservation of golden eagles and the issuance criteria in 50 CFR § 22.26. There are six golden eagle nest sites (SI-301, SI-302, SI-303, SI-304, SI-305, and SI-502) associated with one territory within the one-mile buffer of authorized Project disturbance. This ECP supports the eagle nest take permit application that has been submitted by AGA requesting authorization for reoccurring disturbance to and loss of annual productivity from breeding golden eagles no more than 10 times up to 10 years (2022-2032).

An application for a take permit under 50 CFR § 22.26 requires the information listed below. Also provided is a reference to where in this ECP the information is provided.

- The duration of the Project for the permit is 10 years (see Section 1);
- A description of approved activities at the Project and surrounding area (Section 2);
- A discussion of eagle habitat, as it relates to foraging, nesting, and topography, found in the four-mile radius of the Project area (Section 3);
- A brief description of the golden eagle nesting population within a four-mile radius of the proposed Plan of Operations (Plan) boundary and territories proposed for take (Section 4);
- An assessment of the risks to golden eagles posed by the Project (Section 5);
- A review of practicable avoidance and minimization measures that AGA could and are employing to abate the potential risk (Section 6); and
- Monitoring and adaptive management of eagle populations (Section 7).

## 2.0 INTRODUCTION AND BACKGROUND

### 2.1 LOCATION AND EXPLORATION HISTORY

The project is located on the western end of the Yucca Mountains and is located approximately six miles (10 km) northeast of the town of Beatty in Nye County, Nevada. The Project can be assessed in two directions from Beatty, Nevada: 1) traveling south 1.3 miles (2.1 km) on U.S. Highway 95 (US 95) and approximately 8.9 miles (14.3 km) up Fluorspar Canyon Road (Nye County Road 249) and Tate's Wash Road (Nye County Road 926019); and 2) traveling 3.6 miles (5.8 km) north on US 95 and approximately 4.1 miles (6.6 km) east on the North Beatty Wash Road (Nye County Road 926026) that connects to the Beatty Wash Road (Nye County Road 926025) at the Project. AGA submitted a notice of intent (Notice N-95843) in 2019, the Plan was approved by BLM in 2020 (NVN-097820) (BLM, 2020a), and a Finding of No Significant Impact and Decision Record were issued by the BLM on July 24, 2020 (BLM, 2020b).

### 2.2 AUTHORIZED AND PROPOSED FACILITIES

AGA is authorized to conduct phased mineral exploration-related activities within a 3,630-acre area (Project Area) to determine the extent and quality of a mineral resource. Surface-disturbing activities are approved for up to 155 acres. The following are authorized disturbances that could occur as a result of the Project, which are also shown on **Figure 2**: reverse circulation and core drilling from constructed drill sites, road construction and overland travel, bulk sampling, geotechnical auger holes and geological test pits, geologic and geophysical mapping, water monitoring well and water extraction well installation, and construction of a meteorological station. Some of these features have not yet been constructed, and these disturbances occur in phases. Phase I consists of approximately 50 acres of surface disturbance in addition to five acres of Notice-level surface disturbance for a total of approximately 55 acres. The remaining 100 acres of disturbance will occur under subsequent phases over approximately 10 years. Exploration activities may occur year-round and 24 hours per day, with up to four drill rigs operating at one time and up to 20 personnel on site. In addition to AGA's authorized disturbance, there is an existing road network throughout the Project area used for Project access.

## 3.0 AREA HABITATS

The Eagle Conservation Plan Guidance Module 1 – Land-based Wind Energy, Version 2 recommends that an analysis of potential impacts on nesting golden eagles include the Project footprint itself (Plan boundary) and a surrounding four-mile buffer area (study area) (**Figure 1**). Although this guidance was designed for wind energy, no such guidance exists for mining, and is the best available guidance for analysis of potential impacts.

### 3.1 FORAGING HABITAT

Vegetation communities in the study area have been mapped by the Southwest Regional Gap Analysis Project (SWReGAP) in land cover types (**Figure 3**) (USGS, 2011). The SWReGAP mapping shows 24 vegetation communities occurring within the study area. **Table 1** presents the total acres of the vegetation communities within the study area. Three vegetation communities are mapped as over five percent of the Project area: Mojave Mid-Elevation Mixed Desert Scrub (51 percent), Sonora-Mojave Creosotebush-White Bursage Desert Scrub (24 percent), and Inter-Mountain Basins Semi-Desert Shrub Steppe (16 percent). Each of the remaining 21 communities account for approximately nine percent of the study area. Golden eagle prey species, such as black-tailed jackrabbits (*Lepus californicus*), mountain cottontails (*Sylvilagus nuttallii*), and larger diurnal rodents (i.e., yellow-bellied marmots [*Marmota flaviventris*]), are commonly found within many of the vegetation communities present in the study area. The potential foraging value of the various habitat types present in the region has not been quantified, but in general, they are believed to represent high-value native foraging habitats.

Other habitat types that are believed to represent important golden eagle foraging habitats in the region include roads and natural water sources. Paved (e.g., US 95) and non-paved roads are located within the study area. Golden eagles frequently feed on roadkill and other carrion (especially during winter) even when live prey is available; golden eagles consume fresh carrion during the nesting season (Kochert and Steenhof, 2002). Roads within the Project area, particularly improved roads that allow vehicles to travel at higher speeds, represent potentially high-value golden eagle scavenging habitat. Springs provide a reliable water source for eagle prey and, therefore, have the potential to allow for higher concentrations of eagle prey in those areas. There are multiple seeps and springs and intermittent and ephemeral drainages along the Amargosa River approximately three miles west of the nest sites. Riparian habitats, agricultural pivots, and pastures in the Project area also support populations of rodents and lagomorphs.

### 3.2 NESTING HABITAT

Within the study area, various rock outcrops were identified as areas with nesting golden eagles. In 2020, there was one in-use/occupied golden eagle nest (SI-301) documented in the study area, which was on a rock outcrop. Golden eagle nesting habitat includes cliff and rock outcrops in Beatty Wash, the Yucca Mountains to the north and east, and the Bare Mountains to the south. Golden eagles may nest in tree if available.

### 3.3 TOPOGRAPHIC FEATURES ATTRACTIVE TO EAGLES

Tops of slopes oriented perpendicular to prevailing winds or near ridge crests of cliff edges are features that are conducive to slope soaring and are attractive features for eagles. Saddles or low points on ridge lines or near riparian corridors may serve as flight paths. Nearby perch and roost sites may also attract eagles. As described above, the area surrounding the Project represents golden eagle potential foraging habitat, though the value of this habitat varies in quality.

Cliffs and outcrops occur in the Beatty Wash, the Yucca Mountains to the north and east, and the Bare Mountains to the south. Mountainous areas that include ridgelines and slopes with a variety of aspects, such that winds from multiple directions would create deflection currents, are suitable for soaring. Habitats surrounding the Project include perch and roost sites, and the area is suitable golden eagle nesting and foraging habitat as described above.

**Table 1 SWReGAP Vegetation Communities within the Study Area (Four-mile Radius)**

Vegetation Community	Acres	Percent
Developed, Open Space - Low Intensity	66	0.09
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	6	0.01
Great Basin Pinyon-Juniper Woodland	165	0.23
Great Basin Xeric Mixed Sagebrush Shrubland	1,009	1.39
Inter-Mountain Basins Big Sagebrush Shrubland	376	0.52
Inter-Mountain Basins Cliff and Canyon	35	0.05
Inter-Mountain Basins Greasewood Flat	37	0.05
Inter-Mountain Basins Mixed Salt Desert Scrub	822	1.13
Inter-Mountain Basins Montane Sagebrush Steppe	3	<0.01
Inter-Mountain Basins Semi-Desert Grassland	9	0.01
<b>Inter-Mountain Basins Semi-Desert Shrub Steppe</b>	<b>12,119</b>	<b>16.65</b>
Invasive Annual and Biennial Forbland	2	<0.01
Invasive Annual Grassland	10	0.01
<b>Mojave Mid-Elevation Mixed Desert Scrub</b>	<b>37,014</b>	<b>50.86</b>
North American Arid West Emergent Marsh	26	0.04
North American Warm Desert Bedrock Cliff and Outcrop	892	1.23
North American Warm Desert Lower Montane Riparian Woodland and Shrubland	266	0.37
North American Warm Desert Playa	364	0.5
North American Warm Desert Volcanic Rockland	612	0.84
Recently Mined or Quarried	233	0.32
<b>Sonora-Mojave Creosotebush-White Bursage Desert Scrub</b>	<b>17,212</b>	<b>23.65</b>
Sonora-Mojave Mixed Salt Desert Scrub	1,491	2.05
<b>Total</b>	<b>72,771</b>	<b>100</b>

\*Bold denotes dominant habitat types.

## 4.0 TERRITORIES PROPOSED FOR TAKE

A major component of the risk assessment is to identify Project activities that could result in a take. Those territories proposed for take are those that have been identified within the Plan boundary and are in the USFWS's one-mile buffer of surface disturbance activities. Golden eagle surveys have been conducted around the Project area in 2019, 2020, and 2021 (SWCA, 2019, 2020, 2021), and additional data regarding the Beatty Wash Territory was provided by Nevada Department of Wildlife (NDOW) for 2014, 2015, and 2018 (SWCA, 2019). Inventory and monitoring efforts of 2019, 2020, and 2021 have followed Pagel et al. (2010), which is the standard golden eagle survey protocol accepted by the USFWS. In 2019 and 2020, surveys were ground based due to restricted airspace of the Nevada Test and Training Range, and NDOW had previously expressed concern of potential impacts of aerial surveys to desert bighorn sheep (*Ovis canadensis nelsoni*) during the lambing season. These two surveys (2019 and 2020) focused on completing a thorough inventory of nests within a four-mile radius and capturing information regarding nest occupancy, productivity, and success. The 2021 survey was ground-based but only focused eight nests from two territories (Beatty Wash and Upper Beatty Wash) that were considered in-use/occupied during 2019 and 2020.

The 2019 surveys were conducted between January 10-25 and March 12-17, and the 2020 surveys were conducted between January 15-24 and February 20-27. The 2021 surveys were conducted between January 13-16 and March 2-22.

A total of 14 golden eagle nest sites have been documented within four-mile radius of the study area during six surveys over the last eight years (2014, 2015, 2018, 2019, 2020, and 2021). During these six surveys, two nests (SI-301 and SI-510) were considered in-use/occupied by golden eagles (**Table 2**). In addition to the current nests known to occur and breeding pairs using the four-mile radius, there is potential for additional nests, territories, and breeding pairs to nest in the area.

One in-use/occupied nest (SI-301) and five alternative nests (SI-302, SI-303, SI-304, and SI-305) are less than one-mile of the proposed surface disturbance and within the Project boundary. The remaining alternate nest (SI-502) is within one mile of the proposed surface disturbance and located outside Project boundary. These six nests have been considered a territory referred to as Beatty Wash. As such, the potential impacts of the Project include the indirect take of the Beatty Wash territory. A viewshed analysis has been conducted using proposed disturbance, topography, and Geographic Information System tools for each nest to illustrate the portions of anthropogenic activity that are within line-of-sight from the golden eagle nests subject to take (**Figure 4**). Due to their sensitive nature, nest locations are not shown in this figure.



**Table 2 Golden Eagle Nests Within the Vicinity of the Project and Status (2014-2021)**

Territory	Nest ID	Year and Territory Status						Number of Seasons Territory was In-Use /Occupied	Territory Occupancy Rate
		2014 <sup>1</sup>	2015 <sup>1</sup>	2018 <sup>1</sup>	2019 <sup>1</sup>	2020 <sup>2</sup>	2021 <sup>3</sup>		
Beatty Wash	SI-301	In-Use/Occupied	Unoccupied	Unoccupied	Unoccupied	In-Use/Occupied	Unoccupied	2	0.33
	SI-302								
	SI-303								
	SI-304								
	SI-305								
	SI-502								
Upper Beatty Wash	SI-206	--	--	--	In-Use/Occupied	Unoccupied	Unoccupied*	1	0.5
	SI-209								
	SI-211								
	SI-510								
Fluorspar Canyon	SI-503	--	--	--	Unoccupied	Unoccupied	--	0	0
Specie Spring	SI-003	--	--	--	Unoccupied	Unoccupied	--	0	0
	SI-004								
	SI-019								
<b>Total Number of In-Use/Occupied Territories/Total Territories Surveyed</b>		1/1	0/1	0/1	1/4	1/4	0/1		
<b>Territory Occupancy Rate</b>		1	0	0	0.25	0.25	0		

Bold territory is proposed for take

<sup>1</sup> SWCA, 2019 – No specific-nest information provided for 2014, 2015, and 2018 surveys

<sup>2</sup> SWCA, 2020

<sup>3</sup> SWCA, 2021

\*Only SI-211 and SI-510 were monitored

In-Use/Occupied = an eagle (bald or golden) nest characterized by the presence of egg(s), dependent young, or an adult on the nest in the past 10 days during the breeding season

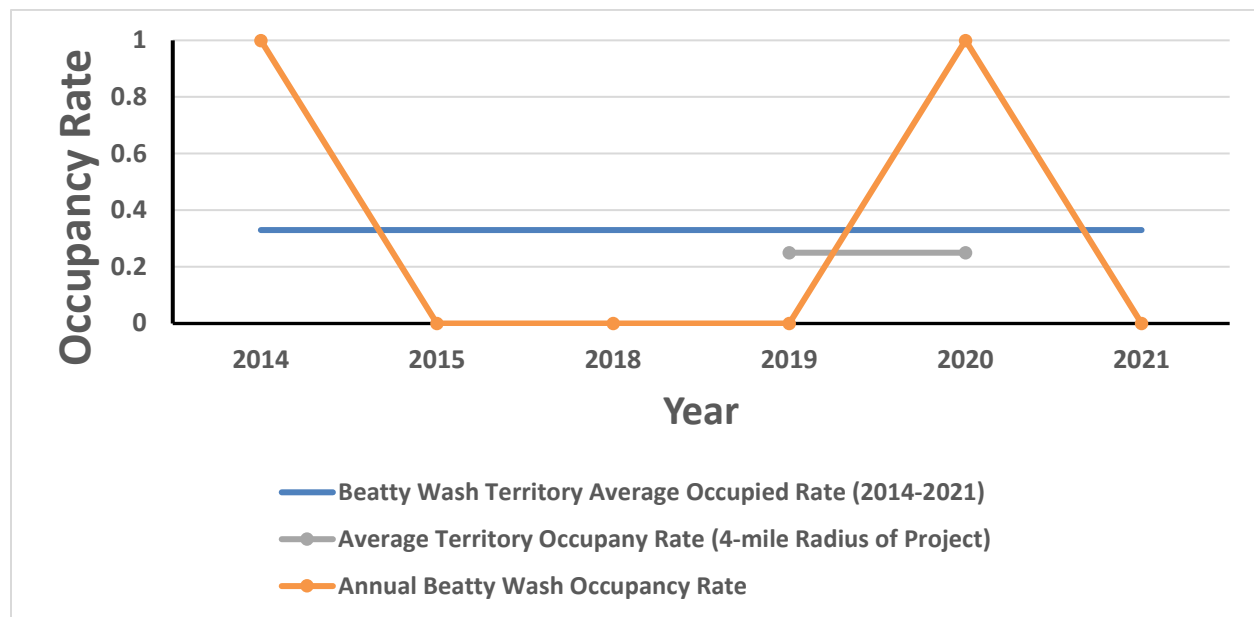
Unoccupied (alternate nest) = one of potentially several nests within a nesting territory that is not an in-use/occupied nest at the current time. When there is not an in-use/occupied nest, all nests in the territory are alternate nest

## 4.1 BEATTY WASH TERRITORY: SI-301, SI-302, SI-303, SI-304, SI-305, AND SI-502

The Beatty Wash territory consists of six nests (SI-301, SI-302, SI-303, SI-304, SI-305, and SI-502) on the western of the Project boundary along Beatty Wash on the western portion of the Yucca Mountains. These nests are within 1.1 miles of each other and have not been simultaneously in use. The closest nest (SI-003) is 4.1 miles southwest of SI-502, and the next closest nest (SI-503) is 4.2 miles to the southwest of SI-502. Both closest nests are thought to be part of a separate territory.

All six nests were surveyed from 2019 to 2021, and these nests were found and identified as golden eagle nests in 2019. However, NDOW data suggests that one nest within the territory was in-use/occupied (in-use) in 2014 (SWCA, 2019); therefore, some of these nests in Beatty Wash territory were potentially identified earlier than 2019. Because nest-specific data is not available for 2014 to 2018, occupancy was calculated for individual nests using the 2019 to 2021 data and it should be recognized that the actual occupancy per nest is likely different. During this period, SI-301 was in-use/occupied in 2020 resulting in an occupancy rate of 33 percent. All other nests within Beatty Wash territory were never in-use/occupied resulting in an occupancy rate of zero percent. Overall, the territory was documented as in-use/occupied in 2014 and 2020 resulting in a territory occupancy rate of 33 percent. The territory is above the average occupancy when compared to territories within the study area (average occupancy per territory per year is 16.7 percent). **Graph 1** presents the Beatty Wash territory status per year compared to the average for the territories defined with the study area.

**Graph 1** Beatty Wash Territory Occupancy Rate Compared to Average Territory Occupancy Rates of Study Area



## 5.0 RISK ASSESSMENT

A major component of the risk assessment is to identify project activities that could result in a take. This section presents a discussion of the assessment of the level of risk from the Project to the golden eagle breeding population in the vicinity of the Project. Principal risks to golden eagles from mineral exploration are generally low, and include activities associated with exploration drill pads, drilling, and exploration roads, and other proposed/authorized mining activities listed in Section 2.0. The greatest risk-factor to golden eagles associated with a mineral exploration project is likely occur during the courtship, nesting, and fledging season. This is especially true when golden eagle breeding territories are located within one mile of surface activity.

A summary of proposed take to golden eagles anticipated from activities associated with Project is provided in **Table 3**. Discussion of the risk that could be posed by the Project to golden eagles is described below.

**Table 3 Summary of Impacts to Eagles at the Silicon Exploration Project**

Eagle Impact	Silicon Impacts
Direct take (mortality)	Sections 5.2 and 5.3: None anticipated, low risk
Indirect take (loss of productivity from disturbance)	Section 4.0: Breeding Golden Eagles and Associated Territories No More than 10 times for up to 10 years
Habitat loss	Section 5.1
Territory loss (number of territories)	Section 4.0: Breeding Golden Eagles and Associated Territories No More than 10 times for up to 10 years
Nest removal (number of nests for each territory involved)	None

### 5.1 HABITAT-RELATED RISKS

The Project is approved for total surface disturbance of up to 155 acres. Reduction of habitat because of direct exploration disturbance has the potential to impact golden eagles. Specifically, impacts to functional shrublands that support jackrabbit populations could influence prey availability to golden eagles, especially during the breeding season when adults are foraging routinely to provide adequate food for their young. However, due to the extensive amount of available foraging habitat within the four-mile buffer of the Project (**Table 1** and **Figure 3**), scarcity of food because of direct loss of habitat is not likely to be a limiting factor to the local golden eagle breeding population.

### 5.2 VEHICLE COLLISION-RELATED RISKS

Mobile equipment (i.e., vehicles) used in operations at the Project or traveling to or from the Project could strike and injure or kill wildlife. Road-killed wildlife may attract scavenging eagles, which in turn could be injured or killed by vehicle collision. Because AGA already implements conservation measures associated with reducing road mortality risk (see Section 6.0), the potential for eagle mortality due to vehicle collision at the Project is low. Additional traffic controls can be implemented by AGA as necessary through direct communication regarding road hazards.

## 6.0 AVOIDANCE AND MINIMIZATION MEASURES

AGA currently employs conservation measures associated with the authorized Plan, including applicant-committed Environmental Protection Measures (ACEPMs). The applicant will implement all conservation measures and commitments summarized below. Upon issuance of a take permit, monitoring would be conducted as required per permit stipulations, including being conducted by a third party over the life of the Project. **Table 4** presents a summary of the ACEPMs with monitoring and a schedule for implementation. Although not specific to golden eagle protection, the implementation and continuation of the following plans will continue to benefit golden eagle conservation: 1) noxious weed control, 2) solid and hazardous wastes 3) management, reclamation, 4) carcass management on roadways; 5) employee awareness and training program, and 6) detection and reporting measures.

**Table 4 Golden Eagle Protection Measures**

ACEPM	Monitoring Actions	Duration
ACEPM 1	A nest survey would be conducted by a qualified biologist prior to any surface disturbance associated with exploration activities during the avian breeding season (March 1 through July 31) for raptors and other migratory birds. Pre-disturbance surveys for migratory birds are only valid for 14 days. If the disturbance for the specific location does not occur within 14 days of the survey, another survey would be needed. If in-use/occupied nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food), a protective buffer (the size depending on the habitat requirements of the species) would be delineated after consultation with the BLM resource specialist. Source: BLM, 2020a	Annually as needed for the life of the Project.
ACEPM 2	Annual surveys would be conducted at golden eagle nest sites that are within one mile of the Project Area to determine occupancy. The timing of the surveys may be adjusted due to winter weather conditions and is subject to approval from NDOW based on consideration of bighorn sheep ( <i>Ovis canadensis</i> ) lambing activity. Source: BLM, 2020a	Annually as needed for the life of the Project.
ACEPM 3	Vehicle speeds on undeveloped access roads shall not exceed 15 miles per hour and 25 miles per hour on more improved main access roads. Source: BLM, 2020a	For the life of the Project.

## 7.0 MONITORING AND ADAPTIVE MANAGEMENT

Upon issuance of a take permit, AGA will conduct aerial and ground surveys of the eagle population within the one-mile radius of the Plan boundary for the duration of exploration operations following Pagel et al. (2010) using a third-party contractor. Monitoring objectives include: 1) to track occupancy, productivity, and success of nests within the Plan boundary; and 2) to further delineate and refine the understanding of eagle territories within the one-mile radius. As needed, golden eagle nests within proximity to active mining will be monitored to document nest occupancy. Reports associated with this monitoring will be prepared and provided as specified in the take permit conditions.

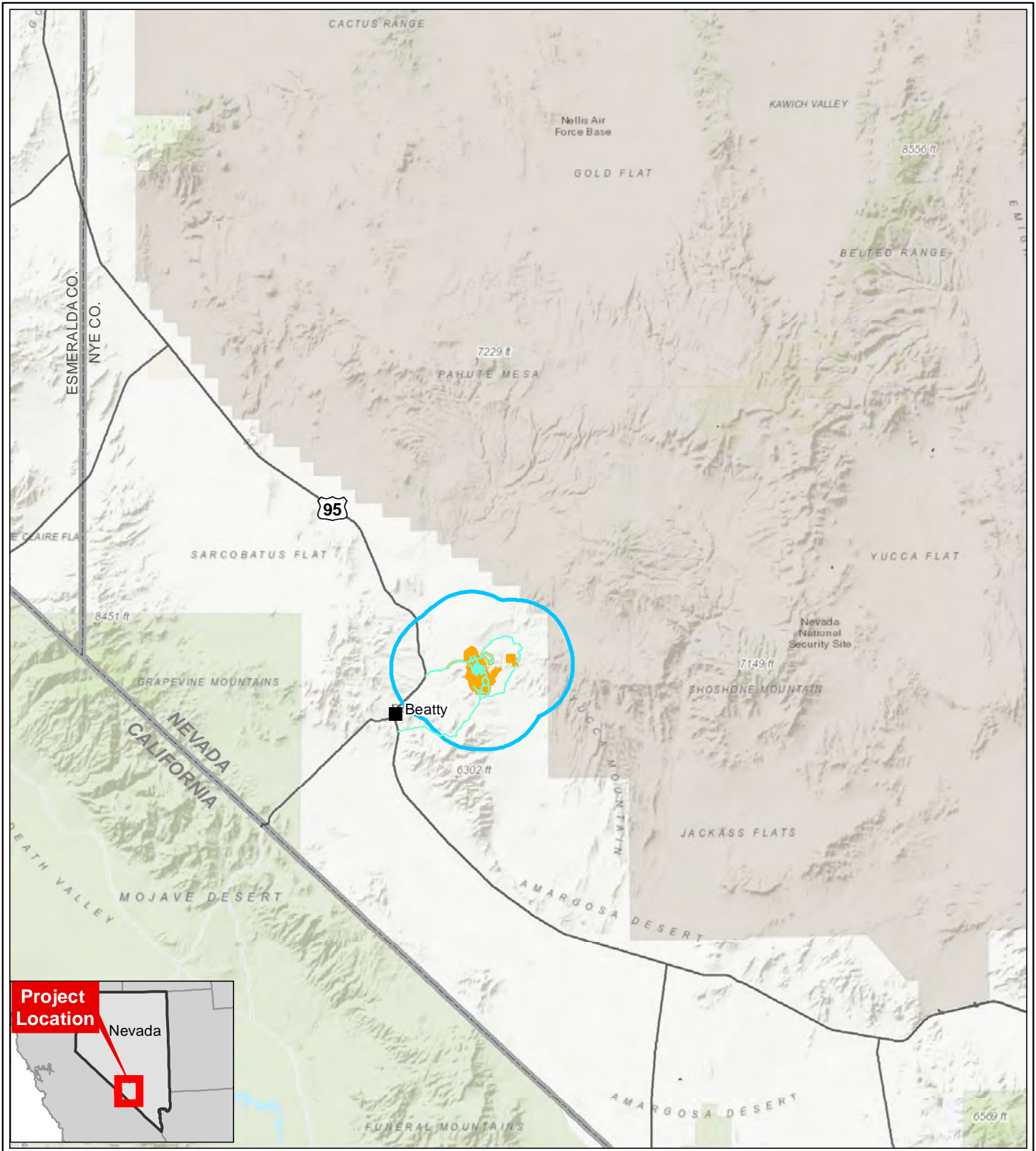
For adaptive management purposes, verification of implemented avoidance and minimization measures, as provided in Section 6.0, is necessary. AGA currently has a monitoring and reporting system for incidents related to wildlife fatality. Any incident that results in wildlife fatality or death must be reported to NDOW. Any golden eagle injuries or mortalities must be reported to NDOW and the USFWS.

AGA will continue to monitor the area golden eagle population for additional golden eagle nests. During the life of the Project, AGA recognizes the possibility for new construction of golden eagle nests within the Plan boundary and one-mile radius. Continued monitoring will inform the Applicant on the status of existing nests as well as if new nests are being constructed near the Project and its associated activities. If monitoring determines that there are multiple takes occurring in a given year and that the Proponent is approaching their take permit limits (i.e., up to 10 takes over no more than 10 years), adaptive management would be implemented. First, the Applicant would apply avoidance buffers on in-use/occupied nests to prevent incidental take (no surface-disturbing activities within one mile of an in-use/occupied nest during breeding season including early courtship through post fledging nest dependency (i.e., December 15 through July 15). If avoidance is not practicable, the Proponent may request a permit amendment from the Service. Additionally, at the five-year review of the permit, the Service may consider additional adaptive management strategies, if necessary, in coordination with the Applicant.

## 8.0 REFERENCES

- Bureau of Land Management (BLM). 2020a. AngloGold Ashanti North America Silicon Exploration Project Nye County, Nevada Environmental Assessment. Battle Mountain District. #DOI-BLM-NV-B020-2020-0017-EA. April 2020.
- Bureau of Land Management (BLM). 2020b. AngloGold Ashanti North America Silicon Exploration Project Nye County, Nevada Finding of No Significant Impact and Decision Record. Battle Mountain District. #DOI-BLM-NV-B020-2020-0017-EA. July 24, 2020.
- Kochert, M. N. and K. Steenhof. 2002. Golden Eagles in the U.S. and Canada: Status, Trends, and Conservation Challenges. *Journal of Raptor Research*. 36(supplement):33-40.
- Pagel, J.E., D.M. Whittington, and G.T. Allen. 2010. Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations. Division of Migratory Bird Management, U.S. Fish and Wildlife Service. February 2010.
- SWCA Environmental Consultants. 2019. Silicon Exploration Project Golden Eagle Nest Survey Report. Prepared for AngloGold Ashanti north America and Bureau of Land Management Tonopah Field Office. July 2019.
- SWCA Environmental Consultants. 2020. Silicon Exploration Project Golden Eagle Nest Follow-up Occupancy Survey, Proposed Silicon Exploration Project, Nye County, Nevada. August 5, 2020.
- SWCA Environmental Consultants. 2021. Silicon Exploration Project 2021 Golden Eagle Nest Survey, Proposed Silicon Exploration Project, Nye County, Nevada. March 22, 2021.
- United States Geological Survey (USGS). 2011. National Gap Analysis Program. Southwest Regional GAP Analysis Project—Land Cover Descriptions. RS/GIS Laboratory, College of Natural Resources, Utah State University.  
[http://swregap.nmsu.edu/HMdatabase/landc\\_database\\_report.pdf](http://swregap.nmsu.edu/HMdatabase/landc_database_report.pdf)

## FIGURES



**Legend**

- Silicon Project Boundary
- Raptor Survey Area (4-Mile Radius)
- Exploration Roads



Nye County, NV NAD 1983 UTM Zone 11N		
DRAWN BY: CJ	1ST REVIEW: BT	2ND REVIEW: JE
DATE: 7/6/2021	PROJECT NO: 203722317	

Anglo Ashanti North America  
Eagle Conservation Plan  
Silicon Exploration Project

**Figure 1**  
**Project Location**  
**and Study Area**

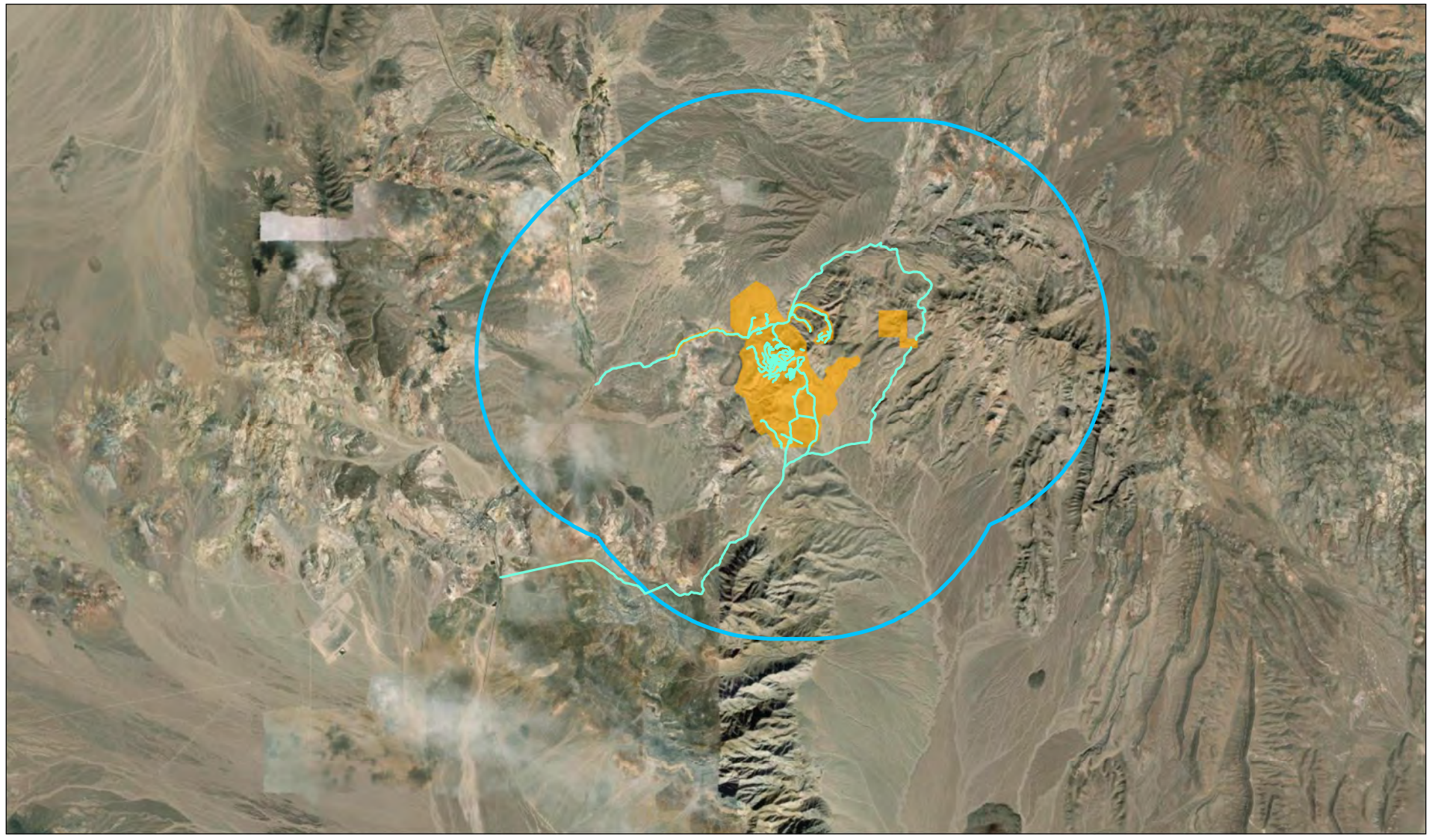
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Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, incenna P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community  
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




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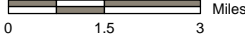
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**Legend**

-  Silicon Project Boundary
-  Raptor Survey Area (4-mile Radius)
-  Exploration Roads


 1 in = 3 miles

Nye County, NV  
NAD 1983 UTM Zone 11N

DRAWN BY: CJ	1ST REVIEW: BT	2ND REVIEW: JE
DATE: 7/6/2021		PROJECT NO: 203722317

Anglo Ashanti North America  
Eagle Conservation Plan  
Silicon Exploration Project

**Figure 2**  
**Existing and Proposed Facilities**

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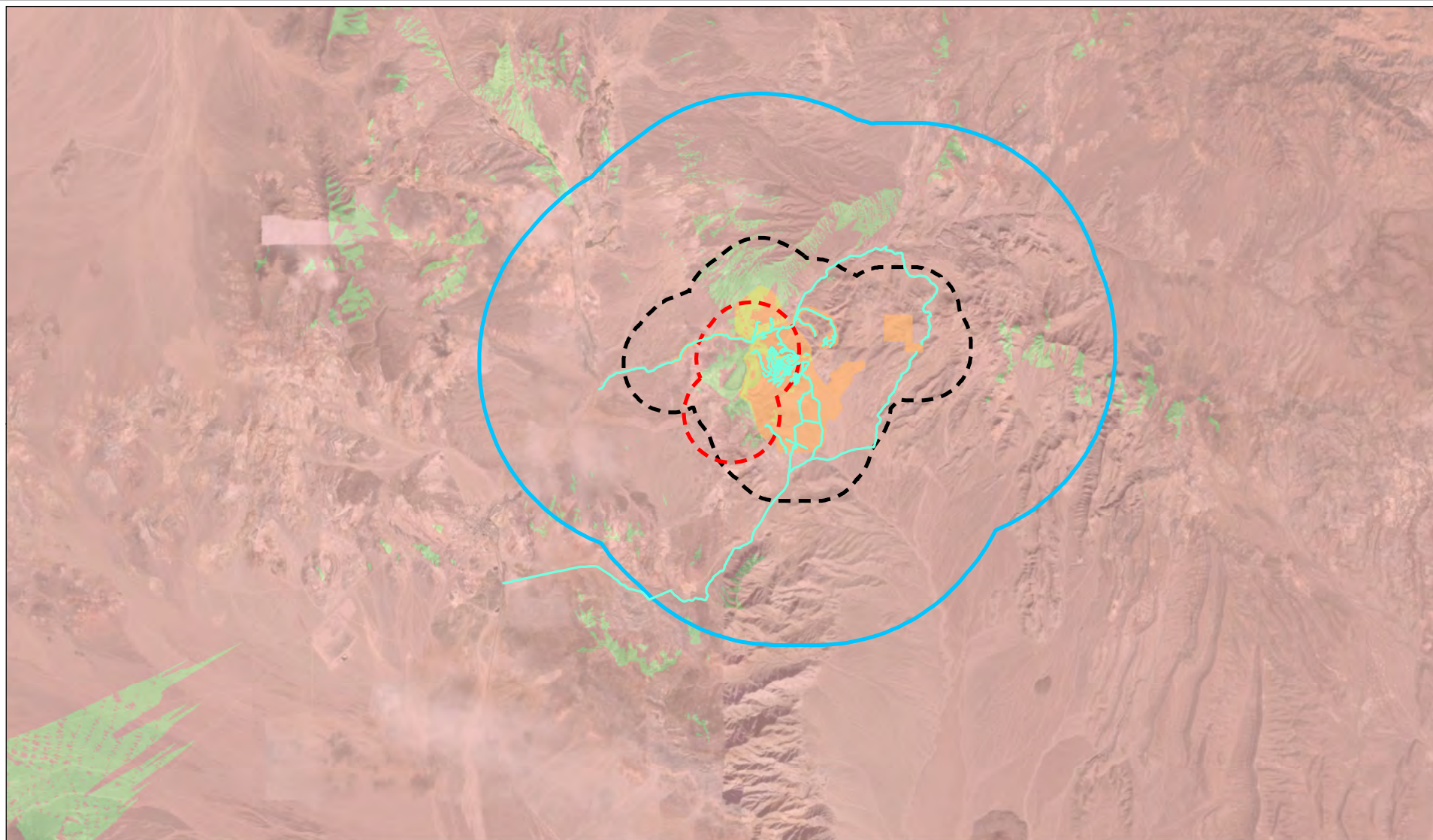
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community












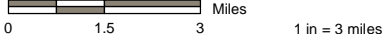




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<b>Legend</b>	
 Silicon Project Boundary	 Project Boundary 1-mile Radius
 Raptor Survey Area (4-mile Radius)	<b>Viewshed</b>
 Exploration Roads	 Not Visible
 Golden Eagle Territory	 Visible

 	
	
Nye County, NV NAD 1983 UTM Zone 11N	
DRAWN BY: CJ	1ST REVIEW: BT
DATE: 7/6/2021	
PROJECT NO: 203722317	

Anglo Ashanti North America Eagle Conservation Plan Silicon Exploration Project
<b>Figure 4</b> <b>Golden Eagle Nests Viewshed</b>

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Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## **APPENDIX B**

### **Public Comments and Responses**

## Silicon Exploration Project Eagle Take Permit Application Draft Environmental Assessment Public Comments and Responses

Letter ID #	Comment ID #	Name/Entity	Comment	Response
1	1.1	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	We would like to request that the permit only be issued for 5 Takes instead of ten.	Comment noted. Under Alternative 1: Proposed Action, the Service has analyzed the impacts of 10 incidents of take per the application submitted by the Applicant for the Project and we will make a decision for the requested permit based on our analysis as presented in the EA.
1	1.2	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	Members of Basin and Range Watch and Western Watersheds Project live within 4 miles of the Silicon Exploration Project and have watched nearly in a daily basis, their operation and mitigation violations that happen sometimes.	Concerns regarding the Applicant's compliance with the BLMs applicant committed environmental protection measures (ACEPMs) and mitigation are beyond the scope of this EA; however, these concerns have been shared with the BLM Tonopah Field Office as they are the under purview of the BLM Decision Record and their EA for the Project.
1	1.3	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	We request this because AngloGold Ashanti North America has not been within adequate compliance with the regulations of the Bureau of Land Management Decision Record mitigation which approved the Silicon Exploration Project. In particular, the drillers for the company have not complied with the regulations to mitigate night lighting or noise. The exploration project runs on a 24/7 schedule and for safety reasons, the exploration sites have been extensively illuminated. The BLM Environmental Assessment for the project in 2020 required that night lighting be mitigated to a point of less intensity.	Concerns regarding the Applicant's compliance with the BLMs applicant committed environmental protection measures (ACEPMs) and mitigation are beyond the scope of this EA; however, these concerns have been shared with the BLM Tonopah Field Office as they are the under purview of the BLM Decision Record and their EA for the Project. In addition we will continue our coordination with the BLM and the industry to consider and evaluate best management practices for birds when using night lighting
1	1.4	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	We have observed golden eagles regularly across this region, including over the hills where gold exploration is occurring, as well as foraging over adjacent creosote desert rolling terrain and Oasis Valley. We have viewed nests with binoculars on the nearby Bare Mountains.	Comment noted. The existing environment and baseline data for known presence of golden eagles and foraging habitat are discussed within Chapter 3.0 Affected Environment of the EA, noting the current existence of territories and individual nests observed and documented within the area of analysis.
1	1.5	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	<b>Lights:</b> Since August of 2020, members of Basin and Range Watch have complained to the BLM about 8 different times asking that AngloGold's requirement to mitigate light pollution be enforced. The fall out of compliance about every other month. The BLM EA states:	Concerns regarding the Applicant's compliance with the BLMs ACEPMs and mitigation are beyond the scope of this EA. However, we shared the commenter's concerns about lights with the BLM Tonopah Field Office as they are the under purview of the BLM Decision Record and their EA for the Project.  We also discussed the commenters concerns with the Applicant focused on understanding potential measures available to

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Letter ID #	Comment ID #	Name/Entity	Comment	Response
			<p><i>“To minimize effects from lighting, AGA would utilize hooded stationary lights and light plants. Lighting would be directed onto the pertinent site only and away from adjacent areas not in use, with safety and proper lighting of the active work areas being the primary goal. Lighting fixtures would be hooded and shielded as appropriate. AGA would utilize lighting designed to reduce the impacts to night skies.”</i></p> <p>At any given time, there can be as many as 5 different bright lights on the mountain they are exploring on. Some of the lights are pointed west as well as east and are brighter than moonlight.</p> <p>The complaints have been mostly based on aesthetics, but these lights are clearly too bright to mitigate impacts to wildlife. These lights most likely are attracting and impacting eagles, other migratory birds and bats. The problems do commonly occur in winter during eagle nesting seasons.</p>	<p>implement lighting Best Management Practices to minimizing impacts to birds. The Service will continue to coordinate with the BLM, the Applicant, and the industry to understand current practices and to explore opportunities for improvements.</p>

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1	1.6	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	<p><b>Noise:</b></p> <p>The drill rigs are very loud. They must drill bits down hundreds of feet. They also continuously change the drill bits which makes a very loud “clink” noise. The noise can be heard as far as three miles away but becomes more intense about one mile away.</p> <p>The acoustic environment has a major influence in shaping animal behavior. A growing number of studies quantify the impact of nonlethal human disturbance on the behavior and reproductive success of animals. Most researchers agree that noise can effect an animal's physiology and behavior, and if it becomes a chronic stress, noise can be injurious to an animal's energy budget, reproductive success and long-term survival.</p> <p>In draft guidelines for human disturbance of breeding golden eagles, Hansen et al. (2017) state that ground disturbance and noise can be more significant than aerial noise to raptors:</p> <p style="padding-left: 40px;">In general, animals appear to be more responsive to louder sounds than to quieter ones (Bowles 1995). For example, Mexican spotted owls only flushed in response to helicopters and chainsaws when sound energy was above certain levels (chainsaws: 46 dBA, helicopters: 92 dBA; Delaney et al. 1999). Awbry and Bowles (1990:21 cited in USFWS 2006) stated that "what little published literature (on raptors) is available suggests that noise begins to disturb most birds at around 80–85 decibels (dB) sound levels and that the threshold for the flight response is around 95 dB." The Service (USFWS 2006) noted in its review of effects of human disturbance on northern spotted owls that raptors tend to be more sensitive to visual disturbances than to auditory ones. However, auditory and visual stimuli from human activities may often interact synergistically in their effects on wildlife (USFWS 2006). This synergistic effect could be responsible for findings that raptors are often more strongly affected by terrestrial activities than aerial activities (USFWS 2006; e.g., Fraser et al. 1985, Delaney et al. 1999, Grubb et al. 2010). The Service (USFWS 2006) recommended an injury threshold for northern spotted owls of 46 dBA for terrestrial</p>	<p>Comment noted. The Service acknowledges the potential for noise to affect eagles, as is reflected in our regional buffer guidance that recommends a 1 mile no disturbance buffer for most activities, and a 2 mile buffer for blasting. If buffers are not practical for a project to implement, in most situations we recommend the project proponent apply for an incidental eagle take permit.. We evaluated the Applicant’s request for an eagle incidental take permit accordingly in this EA, considering potential for disturbance to eagles from Project exploration activities including noise. Under the Bald and Golden Eagle Protection Act permit regulations (50 CFR 22.26) we must consider, among other things, if an eagle take request is necessary to protect a legitimate interest in a particular locality. As the BLM had previously authorized the Project’s exploration activities, these activities are a legitimate interest. Therefore, our EA analyzed the Applicant’s eagle take request as allowed by our regulations. If issued an incidental eagle take permit, the Applicant’s impacts to golden eagles would be offset through required compensatory mitigation. To address long term population concerns, our Regional Migratory Bird Program is actively engaged in coordination efforts with the other agencies, including the BLM, industries, researchers, and non-government organizations in our efforts to manage for sustainable populations of eagles and birds throughout Nevada..</p>
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Letter ID #	Comment ID #	Name/Entity	Comment	Response
			<p>activities due to the potential for stronger effects of ground-based activities than of aerial activities.</p> <p>Road traffic by trucks, water trucks, and heavy machinery can impact eagles. In wildlife considerations in planning and managing road corridors little attention has been given to the effects of disturbance by traffic on populations of breeding birds. Recent studies, however, show evidence of strongly reduced densities of many species of woodland and open habitat in broad zones adjacent to busy roads. The density reduction is related to a reduced habitat quality, and traffic noise is probably the most critical factor. Because density can underestimate the habitat quality, the effects on breeding populations are probably larger than have been established (Reijnen et al. 1997).</p> <p>Long-term disturbance could lead to declines in animal populations, including eagles. We recommend that heavy and loud mining and traffic activities should not be allowed 1.2 km from an active golden eagle nest during the period January 1 to August 1.</p>	
1	1.7	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	Mining activities that produce extremely loud noises should be avoided within 1/2 mile of active nests (or within 1 mile in open areas), unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area.	In general, we recommend that a project may demonstrate compliance with the Eagle Act in two ways, by either implementing no disturbance buffers recommended by the Service, or by applying for an eagle incidental take permit. As described in the EA, we would authorize disturbance incidental to the project's activities, thereby alleviating the need for the project to implement nest buffers. The comment is noted and will be retained in our records.
1	1.8	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	Nests should be monitored during the mining activity.	Per Table 2-1 of the Service's EA (page 6-7), annual nest surveys are to be conducted by a qualified biologist prior to surface disturbing activities during the avian breeding season (March 1 through July 31) for the life of the Project. Additionally, annual surveys are to be conducted at golden eagle nests documented within one mile of the Project.
1	1.9	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	<p><b>Loss of Foraging Habitat:</b></p> <p>About 40 percent of the main ridge AngloGold is exploring on has been impacted. Many plant communities have been removed including creosote/bursage, Joshua tree, blackbrush and several others.</p>	Concerns regarding the Applicant's compliance with the ACEPMs for mitigation of impacts to golden eagle foraging habitat are beyond the scope of this EA; however, these concerns have been shared with the BLM Tonopah Field Office as they are the under purview of the BLM Decision Record and their EA for the Project.



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			<p>According to the BLM EA: <i>“The depth of cut for newly constructed exploration roads would be minimal. During reclamation activities at the Project, potential growth media stored in the form of berms and push piles, created during construction activities, would be distributed over surface disturbance areas. Distribution of the salvaged growth media during the earthwork portion of reclamation would support effective recontouring and seedbed preparation prior to seeding. Soil amendments are not considered necessary in those areas where sufficient growth media are available.”</i></p> <p>Very few of these mitigation measures have been implemented to minimize damage to foraging habitat.</p>	
1	1.10	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	<p><b>Bald Eagles:</b></p> <p>The BLM EA stated that: <i>Bald eagles (Haliaeetus leucocephalus) are known to occur in the region, but are not expected to be affected by exploration activities associated with the Project; therefore, disturbance and loss of territory of bald eagles are not expected to result from the Project (BLM 2020).</i></p> <p>Members of Basin and Range Watch have sited bald eagles a number of times at the Parker Ranch, which is included in the Silicon “project area” defined by the eagle report from the EA. Cunningham observed an immature bald eagle on January 3, 2022, roosting on a cottonwood in Oasis Valley in the morning within view of the Silicon Mine project; it flew off. The area may be a migration corridor and foraging habitat for bald eagles given that some artificial ponds and lakes are stocked with bass.</p>	<p>The Service’s determination that disturbance and loss of territory of bald eagles is not anticipated as a result of Project activities is based on baseline data collected and annual monitoring survey results within the area of analysis. While bald eagles are known to occur in the region, territories and individual nests have not been documented within the area of analysis; therefore, we determined take of bald eagles is not likely under the proposed project. Section 2.1.2 of the EA (page 5) includes adaptive management measures that would apply to bald eagles.</p>
1	1.11	Basin and Range Watch/Western Watersheds Project/Center for Biological Diversity	<p><b>Conclusion:</b></p> <p>Please do not issue ten takes for eagles for this company. They are just trying to make their lack of compliance legal. Please only issue 5 Takes for the next ten years.</p>	<p>Comment noted. We have considered the applicant’s permit request as allowed under our Eagle Act incidental take permit regulations (50 CFR 22.26). We have determined that issuance of a permit to the Applicant allowing for up to 10 incidents of take from disturbance over 10 years is appropriate and would not result in population level impacts.</p>

## **APPENDIX C**

### **Project Area Golden Eagle Territories and Nest Data Summary**

## Appendix C Project Area Golden Eagle Territories and Nest Data Summary

Annual golden eagle ground surveys have been conducted within a four-mile radius of the Project in 2019 and 2020. Additionally, some data from earlier years is available from Nevada Department of Wildlife (NDOW). A summary of golden eagle nest survey data for nests within four miles of the Project from 2019 and 2020 is presented in **Table 1**.

**Table 1 Summary of Nest Surveys from 2019 and 2020**

Year	2019	2020
Golden Eagle (or Possible Golden Eagle) Nests Surveyed	14	14
In-use <sup>1</sup> Golden Eagle Nests	0	1
Not in-use <sup>2</sup> Golden Eagle (or Possible Golden Eagle) Nests	14	13

<sup>1</sup> In-use Nest – A nest used for breeding in the current year by a pair of golden eagles.

<sup>2</sup> Not in-use – Those nests not selected by golden eagles for use in the current nesting season.

Sources: SWCA 2019 and 2020

In addition, the golden eagle nesting territories within the four-mile radius of the Project were delineated (SWCA 2019). Four distinct territories were delineated based on proximity of nests to one another, concurrent use of adjacent nests, alternating use (from year to year) of adjacent nests, and nearest available quality nesting substrate obtained from surveys and monitoring at the Project. Figure 3 from SWCA's 2019 report displays the four golden eagle nesting territories relative to the Project area and the 14 nest sites. This figure has not been included in this document due to the sensitive nature of eagle nest locations. **Table 2** summarizes the golden eagle territories and use within the Project area.

Of the four territories delineated, the survey area and methods are only consistent in the Project area for 2019 and 2020 data, and there is limited data available for the Project area from 2014, 2015 and 2018. Data available for 2014, 2015 and 2018 were provided to SWCA by NDOW (SWCA 2019). Of the territories delineated, one was in-use in 2014, none were in-use in 2015, 2018, or 2019, and one was in-use in 2020. In 2014, NDOW identified that one of the nests in the Beatty Wash territory successfully fledged eaglets (SWCA 2019). There is no additional data available for fledging success of the territories surveyed.

**Table 2 Territories within the Project Area and Status**

Territory	Nest ID	Year and Territory Status					Number of Seasons Territory was In-use	Territory Use Rate
		2014	2015	2018	2019	2020		
Beatty Wash	SI-301	In-use	Not In-use	Not In-use	Not In-use	In-use	2	0.40
	SI-302							
	SI-303							
	SI-304							
	SI-305							
	SI-502							
Upper Beatty Wash	SI-206	--	--	--	Not In-use	Not In-use	0	0.00
	SI-209							
	SI-211							
	SI-510							
Fluorspar Canyon	SI-503	--	--	--	Not In-use	Not In-use	0	0.00
Specie Spring	SI-003	--	--	--	Not In-use	Not In-use	0	0.00
	SI-004							
	SI-019							
<b>Total Number of In-use Territories/Total Territories Surveyed</b>		1/1	0/1	0/1	0/4	1/4		
<b>Territory Use Rate</b>		1.00	0.00	0.00	0.00	0.25		

Note: Of the four territories delineated, the survey area and methods are only consistent in the Project area for 2019 and 2020.  
 Source: SWCA 2019 and 2020

## **References**

SWCA Environmental Consultants. 2019. Silicon Exploration Project Golden Eagle Nest Survey Report. Prepared for AngloGold Ashanti north America and Bureau of Land Management Tonopah Field Office. July 2019.

SWCA Environmental Consultants. 2020. Silicon Exploration Project Golden Eagle Nest Follow-up Occupancy Survey, Proposed Silicon Exploration Project, Nye County, Nevada. August 5, 2020.