Executive Summary

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Introduction

The following sections summarize the Final Environmental Impact Statement (FEIS) for the Pan Mine Project. This information is provided as a synopsis for the public, but it is not a substitute for the review of the complete FEIS. The document is structured into eight chapters and one appendix section. The document structure is as follows: Chapter 1 provides an introduction to the project; Chapter 2 describes the Proposed Action and Alternatives; Chapter 3 discusses the affected environment and identifies each resource examined in the FEIS; Chapter 4 discloses the environmental consequences and the potential impacts to the resources; Chapter 5 discusses the past, present, and reasonably foreseeable future actions occurring within the cumulative effects study area for each resource, and the cumulative effects that would occur when combined with the Proposed Action; Chapter 6 discusses the consultation and coordination that was conducted during the FEIS process, including a description of the scoping process and a list of preparers and reviewers; Chapter 7 provides the public comments and response on the DEIS, and Chapter 8 details the references used in the preparation of the FEIS, the glossary, and the index. The appendices are the last section of the FEIS.

The Pan deposit has been explored by several exploration and mining companies since 1978. In 2004, an Exploration Plan of Operations (POO) and Reclamation Permit Application NVN-078305 were submitted on behalf of Castleworth Ventures, Inc. for exploratory drilling at the project site. An Environmental Assessment (EA) was prepared and a Decision Record/Finding of No Significant Impact (DR/FONSI) was issued, which approved 25 acres of disturbance for drill pads and drill roads. The Nevada Division of Environmental Protection (NDEP) issued Reclamation Permit No. 0228 in 2004, which was transferred to Midway Gold US Inc. (Midway), who was the successor in interest to Castleworth Ventures, Inc. in 2008.

Midway submitted an amendment to the 2004 exploration plan in 2010, which proposed an additional 75 acres of disturbance to develop a new access road and construct additional drill pads and drill roads. An EA was prepared for this amendment, and a DR/FONSI was issued in July 2011, which allowed for 100 acres of total disturbance. NDEP approved the amended reclamation permit on October 3, 2011.

Midway submitted a POO for the development of the Pan Mine to the Bureau of Land Management (BLM) Ely District, Egan Field Office, in October 2011, with revised versions submitted in February 2012, May 2012, January 2013, and April 2013. This POO would increase the disturbance area from 100 acres to approximately 3,204 acres. This EIS is being prepared by the BLM in coordination with the cooperating agencies as part of the review process of the POO.

Proposed Action

The Proposed Action includes constructing, operating, closing, and reclaiming the following:

- Two main open pits: North Pan Pit and South Pan Pit;
- Four satellite pits: Black Stallion, North Syncline, Syncline, and South Syncline Pits;
- Crushing facilities and associated stockpiles;
- Two waste rock disposal areas (WRDAs);
- Heap leach pad, conveyors, processing facilities, and ponds;
- Water supply wells and delivery/storage system;
- Haul and secondary roads;
- Additional exploration within the POO; and
- Ancillary facilities including: power supply; stormwater controls; reagent, fuel, and explosives storage; buildings including administration, laboratory, security, warehouse, core shed, and parking; potable water supply and septic systems; maintenance shop; ready line; light vehicle wash; communications facilities; helicopter pad; plant growth medium and woody debris stockpiles; Class III-waivered landfill; area for petroleum contaminated soils; monitoring wells; borrow areas; fencing; and yards.

The Proposed Action would include a 69 kilovolt (kV) transmission line, which would be constructed from El Dorado junction at Strawberry Road and U.S. Highway 50, then east along U.S. Highway 50 (south of the Highway 50 right-of-way [ROW] fence) to the mine access road, and south into the project area along the side of the mine access road. The portion of the power line from the intersection of Strawberry Road and U.S. Highway 50 to the mine site is considered a connected action and is evaluated in this FEIS. A 69 kV line from El Dorado to the Falcon to Gondor power line north of U.S. Highway 50 is a separate project being completed by Mt. Wheeler Power and will be evaluated in a separate National Environmental Policy Act document.

Southwest Power Line Alternative

To address concerns of potential impacts to greater sage-grouse from the Proposed Action power line, a Southwest Power Line Alternative is being considered that would route the power line from the junction of Strawberry Road and U.S. Highway 50 heading west approximately five miles and then parallel to State Route (SR) 379 south and southeast approximately 12 miles. At this point, the power line would head east away from SR 379 through Newark Valley and then north for approximately 15 miles terminating on the west side of the mine site (Figure 2.4-2). From the point where the power line heads east away from SR 379, a power line maintenance road would also be constructed. This power line would be of the same 69 kV, mono-pole design as the Proposed Action power line (Figure 2.3-2). Construction of this power line would disturb approximately 68 additional acres. The total length of this alternative is approximately 32 miles.

Waste Rock Disposal Site Design Alternative

The waste rock disposal site designs for both North Pan and South Pan pits were developed by Midway during the initial phases of the design process. The Waste Rock Disposal Site Design Alternative would be constructed with conventional techniques and would therefore not be geomorphic.

Several advantages, both environmental and economic, may be realized by adopting conventional waste rock disposal designs. The WRDA sites constructed with conventional techniques incorporate a smaller footprint than the geomorphic designs included in the Proposed Action design. The disturbed area for the alternative design WRDA's would be approximately 97, 102, and 202 acres, respectively, for the North West, North East, and South Pit WRDAs (Figure 2.4-1). This would result in a decrease of 79 acres of disturbance compared to the Proposed Action. In particular, the alternative North West and North East WRDAs are different than the Proposed Action North Pan WRDA (Figure 2.4-1 compared to Figure 2.3-4). The North East site would move much of the waste rock further away from greater sage-grouse Preliminary Priority Habitat (PPH) and disturb less greater sage-grouse Preliminary General Habitat (PGH). This alternative would also reduce the height of the North West WRDA, which would reduce the visual impacts from U.S. Highway 50 as compared to the Proposed Action design for the North Pan WRDA. With this alternative, standard waste rock placement designs would result in a significant reduction in the cost of construction and reclamation.

No Action Alternative

Under the No Action Alternative, activities associated with the Proposed Action would not occur. Mineral resources in these areas of expansion would remain undeveloped. The construction and operation of open pits, WRDAs, heap leach facilities, and support facilities would not occur. However, the previously-authorized exploration operations for the project would continue. The existing exploration plan includes approximately 100 acres of authorized surface disturbance. Authorized exploration operations include: road building; reverse circulation and core exploration drilling and drill pad construction; trench excavation and borehole augers; construction and monitoring of groundwater wells; development of a staging area for temporary storage of drilling materials and equipment; and provision of temporary portable sanitation facilities.

Preferred Alternative

The agency preferred alternative is a combination of the Southwest Power Line Alternative and the Waste Rock Disposal Site Design Alternative. The alternatives are preferred because they reduce impacts to greater sage-grouse in comparison to the Proposed Action. The Waste Rock Disposal Site Design Alternative disturbs 119 fewer acres of Preliminary General Habitat. Even though the fenced area impacting PGH during operations would be increased by 29 acres, the

additional 119 acres of undisturbed PGH within the fenced boundary would remain naturally vegetated through the life of the project and would consequently not require reclamation. The Southwest Power Line Alternative is an avoidance alternative that impacts 54 percent less Preliminary Priority Habitat, follows existing linear features within PPH, and would not pass between the East Blackpoint and Southwest Pancake Summit leks. It is located further away from these two active greater sage-grouse leks associated with the Proposed Action.

The Southwest Power Line Alternative would avoid the East Blackpoint lek by approximately 3.3 miles and Southwest Pancake Summit lek by approximately 4.29 miles. The impacted habitat for greater sage-grouse from the Proposed Action includes the fenced area within the project area, the access road, as well as those areas within 600 meters of the proposed transmission line. The Southwest Power Line Alternative impacts 1,441 fewer acres of PPH than the Proposed Action but it would impact 782 more acres of PGH to the south of the project area.

To reduce cumulative impacts from reasonably foreseeable future actions, the 32-mile power line for the Southwest Power Line Alternative could be shared by the proposed Gold Rock Project power line and the proposed American Vanadium Gibellini Mine power line. The Gold Rock Project power line could connect to the farthest southeast section of the Southwest Power Line Alternative and the Gibellini power line would share the portion of the Southwest Power Line Alternative that runs from Strawberry Road to Fish Creek (Figure 5.4-1).

Table 2.6-1 has a comparison of impacts from the Proposed Action and alternatives and more detailed impact analysis is located in Chapters 4 and 5.

Introduction to Resource Impacts

In Chapter 4 of this FEIS, the environmental consequences of the Proposed Action are evaluated and compared to the Action Alternatives and No Action Alternative. The primary environmental impacts for the Proposed Action and Alternatives are outlined in Chapter 4. The section below provides a summary of the potential impacts from the implementation of the Proposed Action and Action Alternatives.

Water Resources

Project-related activities have the potential to affect water resources through short- and long-term surface disturbance, as well as groundwater withdrawals for mine use. In evaluating the potential impacts to water resources as a result of the Proposed Action, water resources are categorized as either surface water or groundwater.

Surface Water

Potential environmental impacts to surface water resources during construction, operation, maintenance and reclamation include possible increases in sediment delivery, which would increase suspended sediment and turbidity in dry drainages due to increased erosion resulting

from vegetation clearing; topsoil stockpiling; fugitive dust from construction vehicles and earth-moving activities; general soil disturbance; potential mine-influenced drainage from WRDAs; and disturbance associated with roads and other ancillary facilities. Because surface water resources in the area are ephemeral to intermittent, the potential increased erosion and subsequent sediment delivery to dry drainages would occur during runoff from snow melt and rainstorms. As described in detail in the POO, and summarized in Section 2.3.14, extensive stormwater controls such as drainage diversion ditches, sediment control basins, straw bales, and other Environmental Protection Measures (EPMs) would be implemented to divert stormwater and snow melt around disturbance areas and control the transportation of sediment. Whenever practical, Midway would reclaim disturbed surfaces concurrent with construction and operations. Planned reclamation strategies include contouring, covering with growth medium, and seeding to hold soil in place during runoff.

Runoff that is contained in on-site sediment control basins would not discharge downstream in the existing drainage channels. Precipitation that would fall on the open pits, heap leach pad, and process ponds would be contained within those facilities and would not be discharged downstream of the project area, thus reducing the flow of surface water out of the project area compared to baseline conditions. There are no mapped springs or seeps within the project area; however, there is an unnamed spring located approximately 0.25 miles south and upgradient of the area. Based on topographic analysis, the unnamed spring in Section 15, T16N, R55E, NE/4 is not downgradient of any mine facilities or disturbance, and therefore would not be impacted by the Proposed Action or any Action Alternatives.

There are no identified wetlands within or in close proximity to the project area.

The potential for hazardous materials or other wastes to spill and subsequently affect surface water and groundwater quality would be minimized through implementation of secondary containment features and the Spill Contingency and Emergency Response Plan.

Groundwater

Potential impacts to groundwater during construction, operations, maintenance, and reclamation include groundwater contamination and the reduction of available groundwater in the basin through drawdown of the groundwater table. The depth to groundwater beneath the project area ranges from 650 to 800 feet below the ground surface and, therefore, would not be impacted by construction or mining activities. The potential for hazardous material or other wastes to spill and subsequently affect groundwater quality would be minimized through implementation of the Spill Contingency and Emergency Response Plan.

Acid Base Accounting and metals leaching potential tests were performed on over 600 rock samples from the site. Based on the results of this testing, using parameters established by NDEP and BLM guidelines, the majority of waste rock samples were found to be non-acid generating with an overall low to moderate potential for metals leaching, thus the potential for acid rock drainage and/or metals leaching from the WRDAs is considered low.

The process ponds for the barren and pregnant solutions would be double-lined with an 80-mil high density polyethylene (HDPE) primary liner and a 60-mil HDPE secondary liner, and would include a leak detection system. The heap leach pad would have an 80-mil HDPE liner placed over a low-permeability soil sub-grade. These design features are intended to eliminate leakage of process solutions to surface water or groundwater during the operations and post-closure periods for these facilities. During closure activities, the spent leach material on the heap leach pad would be allowed to drain with no fresh water rinsing. During the post-closure period, the heap leach pad would be capped with soil and vegetation to minimize long-term recharge of the spent leach material in the heap leach pad. Long-term drainage from the heap leach pad would be managed through evapo-transpiration in the reclaimed process ponds and would not be discharged to surface water or groundwater. By design, these facilities would have negligible impacts to surface water and groundwater resources.

There is the potential for Midway's water use to cause reduced availability of groundwater in the basin, through drawdown of the groundwater table. Midway estimates that it would use water at an average rate of approximately 400 gallons per minute. This equates to approximately 645.5 acre feet per year (afy), which represents 5.5 percent of current use in Newark Valley and 3.35 percent of Nevada Division of Water Resources perennial yield. Midway is leasing approximately 1,200.6 afy from eight permitted Applications to Appropriate the Public Waters of the State of Nevada within the Newark Valley Basin. These permitted applications have a total allowed appropriation of approximately 5,647 afy within the Newark Valley Basin. Approximately 2,016 afy of the permitted appropriations were used for irrigation in 2011. Midway has leased 1,200.6 afy instead of the anticipated 645.5 afy to account for potential weather conditions that could increase their usage. The anticipated 645.5 afy water usage for the Proposed Action, as well as the leased 1,200.6 afy, is far below the 5,647 afy appropriated for use with the eight applications. Midway has leased adequate water rights to fulfill its needs. Since it is unknown if the leased water represents wet rights or paper rights, to be conservative, it must be assumed that these are paper rights and represent added water use to the Newark Valley Basin. This would raise the annual use but use would still be substantially below the perennial yield for the basin. Coupled with the results of on-site pump testing, showing that maximum drawdown from the Midway supply wells would be less than ten feet for any actively used well within the Newark Valley Basin, this would be considered a long-term, minor impact.

Midway would implement a groundwater monitoring plan to detect any changes in groundwater level and quality that may be associated with mining activities. The monitoring plan includes a network of monitoring wells in both the deep carbonate aquifer and the perched alluvial aquifer below and downgradient of the project area. Upon mine abandonment, the exploration and groundwater monitoring bore holes and wells would be plugged and abandoned per state regulations.

With implementation of the project EPMs, the impacts to surface water and groundwater resources resulting from construction operation, maintenance, and reclamation of the Proposed Action and Action Alternatives would be both short- and long-term, and negligible to minor.

Geology and Minerals

Under the Proposed Action, geology and minerals would be directly affected by the removal of ore-bearing materials and overburden/waste rock. The anticipated level of impacts to geology and minerals under the Proposed Action from the operations, maintenance, and reclamation of the mine and associated facilities would be long term and major to the local geology.

Project design features, EPMs including installation of barriers, berms, and signage, and the Reclamation Plan are elements of the Proposed Action designed to reduce environmental impacts to topography.

Paleontological Resources

Effects to paleontological resources could occur from the disturbance of the ore and waste rock during the mining of the pits and the construction of the facilities.

Under the Proposed Action, there would be no to negligible effects to paleontological resources since there are no known, and low potential for, meaningful paleontological resources in the project area. Implementation of EPMs would minimize potential impacts if paleontological resources are encountered during construction and/or mining activities. If paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood), they would be left intact and immediately brought to the attention of the BLM Authorized Officer. Significant fossils encountered would be excavated and curated, adding to the scientific database; this would be an indirect, long-term beneficial impact.

Soils

Anticipated environmental impacts to soil resources include the potential loss of productive topsoil in disturbed areas; increased wind and water erosion of disturbed areas; and potential contamination of soils from spills of chemicals during transportation, storage, and use.

Measures to stabilize and protect growth medium stockpiles, such as protected stockpile locations and stockpile seeding, would be implemented to minimize soil loss. Additionally, the establishment of a temporary vegetative cover may aid in re-establishing biological activity within the soil. Reclamation and revegetation efforts would return some areas of soil disturbance to a productive state following construction, thereby reducing the duration and magnitude of impact for some areas. The incorporation of vegetative materials into the growth medium stockpiles during stripping would increase the organic matter content of the topsoil material, helping to increase potential productivity. The mixing of soils characteristic of low productivity (i.e. high salt content, clayey texture, or high coarse fragment content) with soils characteristic of higher productivity (i.e. low salt content, loamy texture, or low coarse fragment content) may serve to dilute negative soil characteristics and potentially increase the production potential of the growth medium.

Direct impacts to soil from the release of reagents or leach solutions during operation of the facility would be minimized with the use of spill prevention and dust control measures.

Reclamation of the heap leach pad, as described in Section 2.3.13, includes a greater depth of cover by growth medium (approximately 24 inches) in order to create a stable post-closure landform and reduce infiltration of meteoric water. The wind erosion hazard is expected to be low to moderate due to the high percentage of coarse fragments throughout the soil profiles of many soils in the project area. Windblown dust would result from the disturbance of fine-textured soils during construction, but dust abatement techniques such as the application of wetting and binding agents on haul roads would be used to reduce impacts. Upon completion or temporary suspension of mining operations, the EPMs for the project require recontouring of disturbed areas to the approximate natural slope with slopes at 3H:1V (Horizontal:Vertical) or to the original topography (whichever is less).

Physical and chemical changes to the soil as a result of Proposed Action construction, operations, maintenance, and reclamation activities would be expected to be long term and minor to moderate.

Air Resources

Under the Proposed Action, the Pan Mine would require a Class II operating permit from NDEP and would have emissions levels that fall below the prevention of significant deterioration major source threshold.

Operation at the mine site for the Proposed Action involves area source emissions. These include fugitive emissions from drilling, blasting, loading, unloading, wind erosion, haul roads, and dozing. Also included are tailpipe emissions from equipment and haul road vehicles. Greenhouse gas emissions associated with the proposed project primarily would be associated with the consumption of energy for mining and ore processing over the life of the mine. Material handling; primary, secondary, and tertiary crushing; conveying; and stacking are potential emission sources of particulate mercury. Controls would be applied to each of the processes to reduce overall particulate emissions, and Mercury emissions for these sources were estimated to be in compliance with the Nevada maximum achievable control technology for mercury. Sources of hazardous air pollutant emissions for the Proposed Action include hydrocarbon combustion, the refining process, constituents found in fugitive dust from ore and waste rock and process chemicals used on site. Ozone formation due to atmospheric transformation of project emissions is expected to be minimal.

The Proposed Action would result in long-term minor to moderate air resource impacts. These impacts would be limited to the immediate region surrounding the project area and would not produce long range impacts. Both the Proposed Action and Action Alternatives would meet federal and state air quality standards.

Climate Change

Climate change can affect the baseline characteristics of the Pan Mine project area. One of the phenomena attributed to climate change in the Great Basin is an increase of average annual precipitation from six to 16 percent since the 1950s. While this appears to support greater

availability of water, other factors, also attributed to climate change, such as higher temperature (0.6 to 1.1°F over the last 100 years) has lead to higher evapotranspiration rates, decline in snowpack volume, and earlier spring snowmelt. These factors make less water available during the irrigation season when most water use occurs. In addition, interannual variability in precipitation makes it more uncertain how climate change will affect precipitation total in any given year. Since water use in the Newark Valley Basin is well below annual yield, the effect of climate change on Pan Mine water use would be negligible.

Other impacts from climate change would be expected to have gradual impacts on the Pan Mine project area. These include increased stress on vegetation with resulting changes in communities and wildlife occupying these habitats.

Vegetation, Including Noxious and Non-Native, Invasive Weeds and Special Status Plants
Direct impacts of the Proposed Action to vegetation include the removal of approximately 2,752 acres of vegetation and 452 acres of permanent unreclaimed vegetation within the fenced portion of the project area totaling 3,204 acres. Loss of vegetation would result from the construction of new roads (i.e., construction of new access roads, improvement of existing roads), WRDAs, the heap leach facility, process facilities and ponds, growth medium stockpiles, and shop facilities and yards, as well as the excavation of pits. Special status species and habitat for special status species were identified within the project area; therefore, direct and indirect impacts to these species and the habitat available would occur with implementation of the Proposed Action (Figure 3.7-2). Habitat for sand cholla would be removed as a result of the construction of the power line and main access road leading to the project area. Indirect impacts to vegetation would include the increased potential for noxious and non-native, invasive weed establishment. Other indirect impacts include both long and short-term loss of forage for wildlife, wild horses, and livestock, and a potential increase of the erosion potential to soils.

Once mining is completed, reclamation activities would include the seeding of 2,752 acres of disturbed area with appropriate BLM-approved seed mixes. The seed mix would include both native and non-native species that have been successfully used in reclaiming disturbed areas in the past. The project EPMs would assist in the successful reclamation of disturbed areas following reclamation and closure, and would reduce the spread and establishment of weeds during the project and following reclamation and closure. Pre-disturbance surveys would be completed within sand cholla habitat prior to exploration disturbance in order to reduce potential impacts to this species.

Effects to these vegetation communities would be long term and minor, as these communities are typical of the Great Basin high desert and are common and widespread throughout the project area and areas adjacent to the project.

Wildlife, Including Migratory Birds and Special Status Wildlife
Direct long-term, and some permanent impacts to wildlife and wildlife habitat would occur due to mine facilities, access road, and transmission line construction. A permanent loss of 452 acres

of rangeland would result from the unreclaimed portions of the Proposed Action. However, this change, and in some cases loss, of habitat would be small compared to the available undisturbed wildlife habitat within the project area. Impacts would occur to areas that would be reclaimed and these impacts would likely be long term and minor, as the vegetative communities/wildlife habitat present within each of the project elements are common and widespread throughout the area.

Most of the wildlife species that inhabit the project area are highly mobile and would likely vacate the mine area and alter their movement patterns as personnel conduct development and operational activities. Species that are slow moving or that tend to retreat underground when approached could be directly affected by construction and mine operations. The increased human activity and noise associated with construction and mining activities would likely cause wildlife to temporarily avoid the area and displace into adjacent, undisturbed suitable habitat, causing increased competition for resources. This increased pressure on the habitat and wildlife species could affect individuals of a population. Increased vehicular traffic associated with the Proposed Action has the potential to cause an increase in wildlife-vehicle collisions.

Greater Sage-Grouse

Three greater sage-grouse leks may potentially be affected by the Proposed Action. Human disturbance associated with construction and mining activities could disturb greater sage-grouse during the breeding season. Specifically, ambient noise levels could increase at lek locations as a result of increased activity associated with the Proposed Action and vehicle collisions with greater sage-grouse could result from increased activity associated with construction and operations. Higher mortality rates from vehicle collisions during the breeding season could occur from increased greater sage-grouse activity near leks. Greater sage-grouse using the project area and vicinity would be displaced into adjacent undisturbed habitat and suitable habitat would be impacted. Construction would have a moderate short-term impact on greater sage-grouse within and adjacent to the construction area and a moderate long-term impact on greater sage-grouse habitat. The access road and power line have the potential to cause habitat fragmentation, which may disrupt migration movement between leks and nesting and brood rearing habitat. Impacts to greater sage-grouse from operations, maintenance, and reclamation are expected to be similar in intensity as construction; however, the duration of impacts would be long term and moderate.

In order to minimize the possibility of impacting greater sage-grouse breeding, wintering, nesting and brood rearing, Midway would employ the following on-site mitigation measures:

- Modified transmission line structures, including line strike diverters, and perch deterrents would be used for proposed transmission lines constructed within 3.2 miles of known greater sage-grouse leks of unknown and active status and within PPH as described in the Pan Mine Project Mitigation Plan. All modifications to the transmission lines, including line strike diverters, and perch deterrents will be approved by BLM, NDOW, and the USFWS prior to installation; and

- No construction or new ground disturbance would occur during the period from March 1 through May 15 from one hour before sunrise until three hours after sunrise within two miles of active greater sage-grouse leks.

During spring of 2013 ambient noise levels were measured at the lek sites. The modeled results exceed the impact threshold of 10 dB(A) at the Southwest Pancake lek from construction activities, and at the East Blackpoint lek from mining activities, Midway would limit noise at leks to less than 10 decibels above ambient from March 1 through May 15 from one hour before sunrise until three hours after sunrise. Midway would submit a plan subject to BLM approval that specifies the steps Midway would take to ensure that noise levels would remain below 10 decibels greater than ambient. Midway would conduct noise monitoring between March 1 and May 15 of each year to ensure that noise levels are achieved. If monitoring shows that noise thresholds are exceeded, Midway would employ mitigation measures as outlined in the BLM-approved plan. Suggested mitigation measures include:

- Restrict activities from March 1 through May 15 from one hour before sunrise until three hours after;
- Reduce vehicle speed limits on the access road during the period from March 1 through May 15;
- Restrict the use of engine brakes; and
- Other appropriate mitigation measures that reduce noise levels at leks.

An off-site mitigation plan would be developed and approved by the BLM, of which the key components would include:

- Complete off-site mitigation of impacted PPH on a three to one basis, meaning that for every one acre that is impacted by the project within PPH, Midway would restore or enhance three acres of habitat either adjacent to the project, within the Population Management Unit, or within adjacent PPH habitats (Appendix 4B).
- Complete off-site mitigation of impacted PGH on a two to one basis (Appendix 4B).

Midway would be given a mitigation offset for the cost of the USGS greater sage-grouse study for up to 50 percent of its total mitigation obligation from the project.

A Wildlife Working Group would be established and would consist of members from the BLM, NDOW, and Midway to determine specific off-site mitigation steps, ensure compliance, and monitor progress.

Pygmy Rabbit

Suitable pygmy rabbit habitat has been identified though no known occurrences exist within the project area. No individuals have been identified in the project area, and no signs of individuals

(including pygmy rabbit scat) have been identified in the project area. The construction of facilities within or near suitable habitat could result in direct sagebrush habitat loss. Power line structures provide raptor perches that facilitate predation, disrupt pygmy rabbit dispersal corridors, and the associated corridors increase human access for recreational activities, all of which impact pygmy rabbits and their habitat. Even though no known occurrences of pygmy rabbit have been documented within the project area, suitable pygmy rabbit habitat has been identified within the project area. Since suitable habitat has been identified within the project area, there is the potential for pygmy rabbit to occupy this habitat in the future. As a result, construction would have a long-term negligible to minor impact on pygmy rabbit within and adjacent to the construction area and a long-term negligible to minor impact on pygmy rabbit habitat. The operations, maintenance, and reclamation activities associated with the Proposed Action would have a long-term, negligible to minor impact on pygmy rabbits and a long-term negligible impact on suitable habitat.

In order to minimize the possibility of impacting the pygmy rabbit, Midway would employ the following:

- Pre-construction clearance surveys would occur prior to any surface disturbance. As pygmy rabbits are known to be active above ground throughout the year, these surveys would be required regardless of the season. If pygmy rabbit presence is identified during pre-construction clearance surveys and occupied or unoccupied burrows are found, new disturbance would not occur within 200 feet of the areas. If disturbance of these areas is determined to be unavoidable, consultation with the appropriate BLM and Nevada Department of Wildlife wildlife biologists would occur to develop mitigation techniques.

Golden and Bald Eagle

Per the Bald and Golden Eagle Protection Act and through consultation with the USFWS a ten-mile buffer was identified as an appropriate survey area to inventory foraging and nesting habitat for golden and bald eagles (Figure 3.8-4). During biological baseline surveys, two golden eagle nests were identified within the northern portion of the project area and 39 were identified within a 10-mile buffer. Although there is little potential for wintering roosting bald eagles to occur within the 10-mile buffer, the entire area does serve as potential foraging habitat. Potential impacts to nesting golden eagles could occur if nesting was attempted or occurred during construction activities. Construction could displace eagles from nests and the surrounding foraging habitat. Noise and human disturbance associated with operations, maintenance, and reclamation of the Proposed Action would impact foraging golden and bald eagles and displace them to habitat adjacent to the active mining area. Habitat fragmentation and displacement associated with construction activities would have long-term moderate impacts to golden eagles. In order to minimize the possibility of impacting golden eagle nesting and habitat fragmentation, Midway would employ the following measure:

- Midway would fully implement and adhere to the construction techniques, design standards, and avian mortality reporting set forth in the Eagle Conservation Plan for the Proposed Action.

Western Burrowing Owl

Suitable habitat for western burrowing owl is present within the project area though known occurrences have not been documented. Construction activities could potentially destroy suitable and occupied nesting habitat for burrowing owls as well as displace individual owls. Impacts to western burrowing owl would be short term and negligible. Operations, maintenance, and reclamation activities would have short term and negligible impacts to burrowing owls by discouraging them from foraging or nesting within the active mining area and by displacing them to adjacent areas with suitable foraging and nesting habitat. In order to minimize the possibility of impacting the western burrowing owl, Midway would employ the following measures:

- Pre-construction clearance surveys for western burrowing owl would occur prior to any surface disturbance occurring from March 15 through August 31. If occupied western burrowing owl nesting territories are encountered, Midway would avoid the area within 0.25 miles of the active territory until a qualified biologist has determined the young have fledged and the nesting territory has been abandoned for the season. If disturbance of these areas is determined to be unavoidable, consultation with the appropriate BLM and NDOW wildlife biologists would occur to develop mitigation techniques; and

- Midway would fully implement and adhere to the construction techniques, design standards, and avian mortality reporting set forth in the Bird and Bat Conservation Strategy (BBCS) for the Proposed Action.

Other Raptors

Special status raptor species are known to utilize the habitat within and adjacent to the project area. Noise and human disturbance associated with the construction, operations, maintenance, and reclamation of the Proposed Action would have a temporary impact on foraging raptors and would temporarily displace them to areas outside the active construction zone. EPMs, such as timing restrictions, active nest buffers, and implementation of a BBCS, would be employed prior to and during construction activities that would greatly reduce the likelihood of raptor nesting behavior being disrupted or nests being destroyed. The intensity of these impacts would vary from species to species but impacts resulting from construction operation, maintenance, and reclamation activities would be short term and are not expected to exceed the negligible level.

Migratory Birds

Many species of special status migratory bird species are known to utilize the habitat within and adjacent to the project area. Noise and human disturbance associated with the construction, operations, maintenance, and reclamation of the project would have a temporary impact on migratory birds and would temporarily displace them to areas outside the active construction and mining areas. EPMs, such as timing restrictions, active nest buffers, and implementation of a BBCS, would be employed prior to and during construction activities that would greatly reduce the likelihood of migratory bird nesting behavior being disrupted or nests being destroyed. The intensity of these impacts would vary by species. Due to the long term duration of mining operations, reclamation operations and closure operations; the vegetation removal associated with mine operations; the time period for vegetation re-establishment during reclamation; and

the permanent removal of pinyon-junipers which some migratory birds depend on for habitat, impacts to migratory birds would be long term and are not expected to exceed the minor level. In order to minimize the possibility of impacting migratory birds, Midway would employ the following measure:

- Midway would fully implement and adhere to the construction techniques, design standards, and avian mortality reporting set forth in the BBCS for the Proposed Action.

Bats

Several special status bat species have suitable foraging and roosting habitat throughout the project area though no known hibernacula habitat is present. Construction and mining activities, especially blasting, could disturb some of these areas. Bats most likely use the project area for foraging. Construction and mining activities could cause bats to temporarily abandon foraging habitat within active work zones. Foraging bats using the project area could be displaced to adjacent suitable habitat as a result of operations, maintenance, and reclamation. Impacts to bats from construction, operation, maintenance, and reclamation activities would be short term and negligible.

Dark Kangaroo Mouse

Occupied, suitable habitat for the dark kangaroo mouse is present within the survey area. Construction, operations, maintenance, and reclamation activities could destroy suitable and occupied habitat as well as displace individual kangaroo mice. Impacts to the dark kangaroo mouse would be short term and negligible. In order to minimize the possibility of impacting the kangaroo mouse, Midway would employ the following measures:

- During pre-construction trapping for dark kangaroo mice in potentially suitable habitat within the project area, occupied dark kangaroo mouse habitat was identified; however, this habitat is outside of the disturbance area. If disturbance of this area is proposed in the future, consultation with the appropriate BLM and NDOW wildlife biologists would occur to develop mitigation techniques.

Small Mammals

Common small mammals (i.e., cottontail, jackrabbit, and ground squirrel), common predators (i.e., coyote, fox, and badger), and common reptiles (i.e., western fence lizard and sagebrush lizard) known to occur throughout the project area could be displaced into adjacent undisturbed habitat during construction and mining activities and during operations, maintenance, and reclamation. However, some smaller and less mobile wildlife species could potentially be killed or injured during construction and mining activities. Impacts to these species from construction activities would be short term and minor and long term and minor during operations, maintenance, and reclamation.

Mule Deer

Occupied mule deer habitat is present throughout the project area although this habitat is of low to moderate value and mule deer are found in low densities within and adjacent to the project

area (NDOW, 2012b). This habitat has low to moderate value because it doesn't represent significant wintering grounds and has little use by mule deer. Noise and increased human activity in the project area would likely displace mule deer to adjacent habitat during activities associated with the Proposed Action. Impacts to mule deer resulting from the construction, operations, maintenance, and reclamation activities would be short term and negligible.

Pronghorn Antelope

Occupied pronghorn antelope habitat is present throughout and adjacent to the project area. Noise and increased human activity in the project area would likely displace pronghorn antelope to adjacent habitat during activities associated with the Proposed Action. Impacts to pronghorn antelope resulting from construction, operations, maintenance, and reclamation activities would be short term and negligible.

Range Resources

The primary impact on rangeland resources resulting from the Proposed Action would be the loss of vegetation/forage and land area within the fenced disturbed areas for the life of the project and the loss of a sheep trailing area from private fields in South Newark Valley easterly to the South Pancake allotment due to fencing and restricted access to active mining areas. The project area includes parts of three allotments (Newark, South Pancake, and Duckwater allotments). The Proposed Action would reduce the active grazing preference for the life of the mine, with the maximum potential impact being a temporary loss of 69 Animal Unit Months (AUMs). This includes 66 AUMs in the Newark allotment and three AUMs in the South Pancake allotment or less than 1 percent of the active permitted use (on an allotment basis) for the life of the mine. The grazing permits themselves for the Newark and South Pancake allotments would not be modified immediately due to the loss of forage resulting from the Proposed Action. A permanent loss of 452 acres (11.3 AUMs) of rangeland would result from the unreclaimed portions of the Proposed Action (North Pan Pit, South Pan Pit, the process pond, and stormwater control facilities). Successful reclamation of and increased forage productivity associated with the WRDAs may partially compensate for the permanent loss of 11.3 AUMs or forage. Project EPMs would include fencing active mine areas to exclude livestock and reclaiming disturbed areas to restore forage resources.

The Proposed Action would result in a long-term negligible to minor loss of rangeland and forage and would temporarily displace livestock during construction and operations of the Proposed Action.

Wild Horses

Potential impacts to wild horses from the Proposed Action include reduction in forage, displacement, and increased potential for collisions with vehicles. The anticipated habitat loss would be a long-term (i.e., for the life of the mine) impact to available forage until reclamation is completed. The Proposed Action includes fencing 3,204 acres of the project area. This would be a short-term loss of habitat and would temporarily displace wild horses. Impacts from mine blasting, equipment operation, and increased human presence in the project area would also

temporarily displace wild horses. It is likely that wild horses would become accustomed to the activity prior to cessation of operations. The location of project components (e.g., access road and fencing around the project) could intersect with daily movement routes between foraging areas. Permanent impacts (i.e., those disturbed areas not reclaimed) would be long-term but negligible (452 acres, much less than one percent of the herd management area [HMA]) as the wild horses associated with the Pancake HMA would likely utilize forage throughout the remainder of the 855,000 acre area.

The Appropriate Management Level (AML) range was established through prior decision-making processes and reaffirmed through the Record of Decision (ROD) and Approved Ely District Resources Management Plan (August 2008). Managing wild horse populations within the AML would minimize the potential for direct conflicts between mine activities and wild horses in the project area.

The EPMs outlined in Section 2.3.14 would be implemented to help minimize mortality to wild horses due to potential vehicular collisions. These EPMs would include installation of road signs and speed limits for the safety and protection of wild horses; fencing of active mine areas to exclude horses; and reclamation of disturbed areas to restore forage resources.

In order to minimize the potential of wild horses accidentally entering the fenced portion of the project area and not being able to be released easily, gates would be installed along the fence line at every corner, as a mitigation measure. If the fence stretches longer than one mile, a gate would be placed at one mile increments. Gates also need to be placed on either side of cattle guards.

Cultural Resources

Prehistoric and historic sites eligible for listing in the National Register for Historic Places (NRHP) are distributed throughout the project area. Direct impacts to NRHP-eligible prehistoric and historic sites, including disturbance, would occur within the project area. According to the Programmatic Agreement, all sites would be avoided where practicable by detailed project design. If avoidance is not feasible, further mitigation would be undertaken by Midway in accordance with the Programmatic Agreement. A historic properties treatment plan has been developed that includes testing and/or mitigation of sites for resources determined to be adversely affected. During construction activities, any unanticipated cultural resources discovered would require all work within a 100-meter radius of the discovery cease immediately and the BLM Authorized Officer be notified immediately. BLM would then evaluate the discovery in coordination with other consulting parties in order to determine and implement appropriate treatment, if necessary. No additional direct impacts to NRHP-eligible cultural resources from operations, maintenance, and reclamation would be anticipated after construction.

There are 75 NRHP-eligible cultural resource sites (i.e., historic properties) known to be within the project area. These include 67 historic sites, one prehistoric site, and seven multi-component sites. Impacts could potentially be avoided through construction design modification

or mitigated through data recovery studies. The 1913 to 1922 alternative route of the Lincoln Highway within the project area would be directly impacted by the Proposed Action and it would be rerouted outside of the project area. There would be major and permanent adverse impacts to the Lincoln Highway segment. Mitigation for the 1913 to 1922 alternative route of the Lincoln Highway includes: video documentation of existing condition and route of both the 1913 to 1922 alternative route and the proposed reroute; a reroute of the impacted segment of the Lincoln Highway; and installation of an informational kiosk. The purpose of videotaping the Lincoln Highway segment is to document its characteristics and condition prior to disturbance as part of mitigation in the form of data recovery. An Informational kiosk would provide the public with history about the highway and its realignments over the years. Impacts to other cultural resources would be major and permanent. The project area is within the Great Basin National Heritage Area however there are no interpretive sites at this time within the project area therefore there would be no impacts to the Great Basin National Heritage Area.

Native American Religious and Traditional

Various Tribes have been consulted or informed of the proposed project, and no specific concerns have been raised to date by these various tribes regarding any religious site, sacred site, or traditional cultural property. Tribal concerns expressed include, but are not limited to, wildlife, vegetation, water, and air, as well as existing land uses. If additional Native American concerns emerge through ongoing consultation, BLM would consult with the appropriate Tribe(s) and individuals to obtain information about those concerns, the importance of the resource, and what mitigation measures might be appropriate, such that BLM can determine an appropriate course of action taking that information into account. No traditional cultural properties or EO 13007 (Executive Order on the Indian Sacred Sites) sites have been identified within the project area that might be impacted by the Proposed Action. However, traditional use resources and values would be lost within the project area as a result of the Proposed Action. Therefore, there would be negligible to minor long-term impacts to Native American religious concerns from the Proposed Action.

Land Use and Access

The dominant land uses in the project area are livestock grazing/ranching, mining, hunting, and dispersed recreation. The Proposed Action and the associated power line would not conflict with any existing ROWs. The Proposed Action would result in active mining areas being restricted from public access for the life of the mine for the safety of the public and to protect mine property. Approximately 3,204 acres of the mine project area would be fenced and would be restricted during active mining and reclamation. Post-reclamation land use of most of the project area would be returned to geology and mineral resources, wildlife habitat, livestock grazing, recreation, and wild horse habitat as approximately 2,752 acres of the total 3,204 acres of new disturbance would be reclaimed. The North Pan Pit and South Pan Pit, as well as the process pond and stormwater control facilities (Figure 2.3-11), would remain unclaimed, resulting in a permanent change from current uses (a reduction in approximately 452 acres available for post-mining uses). Project EPMs would include maintaining security fencing and signage during operations to control access to active mine operations; providing permanent barriers and berms

to control public access to pit highwalls; establishing post-mining access in conjunction with the BLM travel management plan; and traffic control measures implemented during operations. In order to minimize unnecessary traffic on the access road, the mine access road would be signed to inform the public that it is a dead end road and for mine access only. There would be no additional impacts to land use beyond those already presented in specific resource sections, such as Section 4.3 (Geology and Minerals), 4.8 (Wildlife), 4.9 (Range), 4.10 (Wild Horses) and 4.15 (Recreation), for construction, operation, maintenance, and reclamation activities.

Visual Resources

The construction of the proposed project would require surface disturbances that remove existing vegetation cover from within the project area, which would introduce form, line, color, and texture elements that contrast with the features of the existing landscape. Construction would also require grading or reshaping of soils and landforms for the construction of roads, pits, WRDAs, heap leach pads, and other project facilities, which would also introduce form, line, color, and texture elements that contrast with the features of the existing landscape. The form, line, color, and texture elements introduced during mine construction would generally persist for the life of the project. Visibility of the project operations, would also introduce form, line, color, and texture elements that contrast with the features of the existing landscape.

Four Key Observation Points were analyzed. The portion of the project area where the proposed heap leach pad would be located is designated as BLM Visual Resource Management (VRM) Class IV, and the North WRDA site would be located in an area that is designated as BLM VRM Class III. Both the heap leach pad and the WRDA site meet the management objectives of the BLM VRM Class III and Class IV.

Concurrent reclamation during operation of the proposed project would reduce the degree of contrast between the existing landscape features and the proposed project. During final reclamation of the project area, equipment, power lines, structures, and other ancillary facilities would be disassembled and removed from the area. Project features would be graded to contours that resemble surrounding landforms to the extent possible and then seeded to establish vegetation cover. Thus, reclamation would reduce the visibility of the proposed project and lessen the degree of contrast with the existing landscape features.

Project EPMs would include: utilizing anti-glare light fixtures with fugitive light control designs to limit light pollution; light fixtures would be placed at the lowest practical height and would be directed to the ground and/or work areas to avoid being cast skyward or over long distances; light fixtures would incorporate shields and/or louvers where possible and be full cut-off type; buildings would be painted or stained to produce flat toned, non-reflective surfaces that approximate the color of the surrounding landscape; the use of dimmers, timers, and motion sensors would be installed where appropriate; and fugitive dust would be minimized to reduce “sky glow”. In addition the berms required for haul roads would naturally block vehicle lights emanating from haul roads and the pit areas. In the pits and WRDAs, the lights and equipment would be naturally shielded by the pit walls and distance.

Visual impacts resulting from the Proposed Action or Alternatives would be long-term, and minimal to moderate. The Proposed Action would be visible from US Highway 50, which due to the natural scenery and the cultural elements along the Highway make up the backbone of the Great Basin National Heritage Route. An impact analysis using the comparison of the proposed project features that would be visible from US Highway 50 under each alternative and the existing landscape features was performed and is presented in Chapter 4.

Recreation

The Proposed Action would result in access restrictions to the immediate mine project area, thus negatively affecting members of the public who would otherwise use the approximately 3,204 acres within the project area boundary for recreation. The impact would change the area available for dispersed recreational uses, but have no impact on developed recreation sites or facilities because they do not exist within the project area. The Proposed Action would change the area accessible for dispersed public recreation in the immediate vicinity, however, public access to the project area would be restored once reclamation is complete. Accordingly, the impact on recreation resources resulting from restricted access to the project area would be long term and minor. A certain percentage of the recreational users unable to access desired resources or opportunities within the project area would be anticipated to utilize other areas within the Ely District for dispersed recreation. The displacement of recreational users onto public lands outside of the project area would have an adverse impact on other recreational users that currently use these lands for dispersed recreation. The impact on recreation resources related to displacement of users from within the project area would be negligible and long-term for the life of the project.

The portion of the area of analysis located within approximately four miles of U.S. Highway 50 is located within the Loneliest Highway Special Recreation Management Area (SRMA) (Figure 3.14-1). A portion of the Loneliest Highway SRMA would have restricted access as a result of the proposed project. Public access to the project area would be restored once reclamation is complete. The impact of the Proposed Action on the Loneliest Highway SRMA would be long term and negligible.

The quality of dispersed recreation on neighboring lands within proximity to the project area may be adversely affected by the visual impacts of the physical presence of the project within the landscape. Reclamation of the surface disturbance within the area of analysis would reduce the visual impact that the Proposed Action would have beyond the life of the project. The short-term and long-term visual impacts on dispersed recreation opportunities would be negligible as the project is within a landscape containing existing human modifications.

The quality of dispersed recreation on neighboring lands within proximity to the project area may also be adversely affected by increased noise levels during the life of the project. Increased noise levels would result from operation of project equipment and vehicles, and the active construction, operation, and reclamation of the proposed project. Changes in the area that are accessible to users seeking primitive recreational experiences from dispersed recreation uses

would be minimal because the lands within close proximity to the project area already contain noise sources related to human activities, and because the existing landscape contains evidence of human modifications. The impact from noise would be long term and negligible.

Following reclamation, the project area would be accessible for recreation uses, including hunting. Reclamation vegetation would provide wildlife habitat, but it may differ from the types of habitat that existed prior to the proposed project. Thus, the wildlife species that use the project area after reclamation and their pattern of use within the project area may change. This change would be a long-term impact on recreation resources that is negligible.

Socioeconomics

The Midway Mine operations would create major, long-term, positive impacts on the economies of White Pine and Eureka counties and the community of Duckwater. Mine operations would result in beneficial, long-term impacts for individuals seeking stable employment as the mine would provide long-term employment and income throughout the life of the Proposed Action. Construction employment and the income generated by construction would have a beneficial, major, and short-term impact for residents and businesses located in the affected area. The project would also support some jobs in other industry sectors in the area. The effects to businesses and local governments would be beneficial, moderate and short-term. Businesses would benefit from purchases made by construction workers, and material and equipment purchases made by Midway. The operations and maintenance phases of the Proposed Action would result in a slight increase in population under the upper-bound population estimate assumption and a negligible increase under the lower-bound population estimate assumption. The impact of operations and maintenance on housing would be minor, as it is not anticipated that there would be a housing shortage associated with the Pan Mine workforce as a large share of the workforce would be hired from the area and already have homes in the area. If relocating households spurs development of additional housing, the effect could be potentially beneficial depending on the level of investment and economic opportunities generated in response to housing demand. Both the construction and the operation, maintenance, and abandonment phases of the mine would generate an increase in sales and use tax receipts. Purchases of equipment, supplies, and construction materials needed by the Proposed Action would be subject to sales tax as would consumer purchases by the construction workforce. Mine construction would have a short-term, negligible to minor effect on community services within the affected area. Occupancy of hotel rooms during construction could negatively impact tourism in White Pine and Eureka County. In the short-term (during construction), tourists and recreation visitors may choose not to visit the area if accommodations are unavailable or are considered too expensive. Competition for lodging could affect businesses that depend specifically on tourism and recreation. However, after the construction phase of the project, competition for lodging would likely ease and any detrimental effects on tourism should decrease. During mine operations, maintenance, and reclamation, 3,204 acres of land would not be available for dispersed recreation activities and a segment of the Lincoln Highway would be rerouted outside of the Project Area. These would be long-term, minor impacts to tourism.

Environmental Justice

The Proposed Action would not result in a disproportionate effect on a minority population or a low-income population. The Proposed Action is unlikely to place an undue burden on children because the area surrounding the project area is remote and few, if any, children live or have reason to congregate in the area. Because there is no disproportionate effect on an identified minority or low-income population, or on children that would be expected as a result of the Proposed Action, impacts on environmental justice issues would not be anticipated.

Hazardous Materials and Waste

The Proposed Action would result in the use of hazardous materials and waste management practices for mine production, with the potential to affect the air, water, soil, and biological resources from an accidental release of hazardous materials and/or solid and hazardous waste during transportation to and from the project area, or during storage or use on the project site. It is anticipated that the Proposed Action would result in the classification of a Large Quantity Generator of hazardous waste as defined by the EPA (more than 220 pounds or 100 kilograms per month). Used lubricants and solvents would be characterized according to Resource Conservation and Recovery Act requirements and would be stored appropriately. Midway would institute a waste management plan that would identify the wastes generated at the project area and their appropriate means of disposal. The project area has an existing Spill Contingency and Emergency Response Plan that addresses the response to hazardous material spills (including hazardous waste), notification procedures, and spill cleanup procedures for on- and off-site incidents.

Wastes produced during construction would be managed in compliance with state and federal regulations and recycled or disposed of in existing, permitted facilities. These management practices would therefore produce negligible environmental impacts.

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