

## FACT SHEET

(Pursuant to Nevada Administrative Code [NAC] 445A.401)

Permittee Name: **Nevada Gold Mines LLC**  
**1655 Mountain City Highway**  
**Elko, NV 89801**

Project Name: **Arturo Mine Project**

Permit Number: **NEV2013101**  
Review Type/Year/Revision: **(Renewal 2023, Fact Sheet Revision 00)**

### **A. Location and General Description**

Location: The Arturo Mine Project is located on private land and public land administered by the U.S. Bureau of Land Management (BLM) in Elko County in portions of Sections 2-4, 9, 10, 15, and 16, Township 36 North, Range 49 East; and Sections 26-28, and 33-35, Township 37 North, Range 49 East, Mount Diablo Base and Meridian (MDB&M), approximately 27 aerial miles northwest of the town of Carlin, Nevada.

General Description: The Project consists primarily of Heap Leach Pad 12 ( as of the 2023 Renewal has not been built), associated process ponds, process buildings, ore stockpiles, an open pit mine, and two waste rock facilities, as well as existing Dee Gold Mining Company (DGMC) heap leach and tailings facilities (in closure). Total mineral processing is limited by the Permit to 12,000,000 tons of ore per year. Mill-grade ore will be shipped to North Block Goldstrike (NEV0091029) for processing. Facilities are required to be designed, constructed, operated, and closed without any discharge or release in excess of those standards established in regulation except for meteorological events that exceed the design storm event.

### **B. Synopsis**

#### *General*

The Barrick-Dee Venture Arturo Mine (BDMV), managed by the Permittee, is the current Permittee of the mine, which has been intermittently operated for 30 years. Cordex Exploration Company conducted exploration activities in the Project area from 1981 to 1983. DGMC obtained control of the mining claims within the Project area in 1983. In 1984, DGMC, with Rayrock Mines, Inc. as the mine operator, began production with an open pit. In 1999, DGMC began underground mining of the Dee Deep North deposit from a decline in the bottom of the open pit. The open pit and underground operations were subsequently shut down in 2000 due to a period of low gold prices. Reclamation and closure activities were initiated in 2000 on the heap

leach pads, tailings disposal facilities, waste rock disposal facilities (WRDFs), and ancillary facilities.

Barrick Gold Exploration Inc. (BGEI) entered into an agreement with DGMC and began exploration at the DGMC property in June of 1998. Glamis Gold, Ltd. acquired Rayrock Mines Inc. in 1999. BGEI and Glamis Marigold Mining Company, successor in interest to DGMC, entered into an agreement in January 2005 and formed BDMV. Goldcorp, Inc. acquired Glamis Gold, Ltd. in 2006 as a subsidiary. In 2007, Goldcorp, Inc. changed the name of Glamis Marigold Mining Company to Marigold Mining Company.

As a separate entity, Barrick Rossi Mining Venture (a mining venture between Barrick Gold Exploration Inc. and Meridian Rossi Corporation) began the Storm Underground Mine from a second decline in the bottom of the DGMC property open pit in 2006. The Storm Underground Mine is closed, stabilization is pending, and the Arturo Project will continue to operate, as separate Projects managed and coordinated by the Permittee under separate Permits.

Three water pollution control Permits (WPCPs) are currently in varying states of operation and closure within the Arturo Project area. The DGMC facilities are permitted under WPCP Permit NEV0050005. The Storm facilities are permitted under WPCP Permit NEV2004109 and is closed. The Arturo facilities are permitted under this WPCP Permit NEV2013101. Facilities which are not currently accounted for in the Arturo Permit, but covered under the DGMC or Storm Permits, may be brought into the active operating Permit through an established Nevada Division of Environmental Protection (Division) approval process.

On 20 June 2019 the Division received formal notice of the merger of Barrick Gold Exploration and Newmont Mining Corporation creating the Nevada Gold Mines LLC joint venture. The Arturo Mine Project is now owned by Nevada Gold Mines LLC (the Permittee).

### *Permit Modifications*

WPCP NEV2013101 was issued by the Division effective March 2015. There have been no major or minor modifications to the Permit since that time.

Numerous Engineering Design Changes (EDCs) associated with the Arturo Mine Project have been approved by the Division since the submittal of the 2013 WPCP application as summarized below.

An EDC approved by the Division on 10 November 2016 authorized installation of a second high-density polyethylene (HDPE) liner with leak detection on the Ore Stockpile Pad Stormwater Collection Pond. Permit part I.D.7 was updated to include monitoring requirements for the associated leak detection sump.

An EDC approved by the Division on 28 December 2016 authorized placement of waste rock backfill in the East Arturo Pit to facilitate exploration drilling for the El Niño Underground Mine. The backfill was placed to an elevation of 5,035 feet amsl and now serves as the base for the El Niño portals and associated surface facilities. The potential impact of the backfill on water quality was evaluated in the 2016 update to the pit lake study.

An EDC approved by the Division on 18 January 2018 authorized characterization of waste rock via LECO analysis rather than by visual identification, which was originally allowed by the Adaptive Waste Rock Management Plan (AWRMP).

An EDC approved by the Division on 04 May 2018 authorized construction of surface infrastructure in the East Arturo Pit to support the El Niño Underground Mine, including an ore/waste stockpile, truck shop, vehicle wash bay, fuel, and lubricant pad, and associated concrete containments. The as-built report for the authorized infrastructure was approved by the Division in 2019.

An EDC approved by the Division on 30 April 2019 authorized expansion of the West WRDF resulting in 230 acres of new surface disturbance and reconfiguration.

An EDC approved by the Division on 05 August 2019 authorized the Arturo West Overburden Storage Area (WOSA) Stormwater Ponds associated with ongoing development of the West WRDF, which will result in intermittent stormwater detention in the two ponds on the northern face of the WRDF.

An EDC approved by the Division on 06 August 2019 authorized construction of Ore Stockpile Pad 3, which is located north of the previously approved ore stockpile. Ore Stockpile Pad 3 is intended for temporary storage of potentially acid generating (PAG) material prior to processing. Ore Stockpile Pad 3 has not yet been constructed.

An EDC approved by the Division on 11 October 2019 authorized an addendum to the AWRMP to allow removal of Non-PAG waste rock from the Arturo Mine Project to the nearby North Block Tailings Disposal Facility and Tailings Storage Facility 3 (WPCP NEV0091029), and the AA Tailings Storage Facility (WPCP NEV0090060) for use as construction and cover material as needed.

An addendum to the 2019 renewal application, dated 22 April 2020 requested the transfer of two monitoring items from the Storm Underground Mine Project NEV2004109 to the Arturo Mine Project NEV2013101. The two monitoring items from NEV2004109 are Section I.D.2, Dee Pit monitoring and sampling and Section I.D.3, In-Pit Waste Rock Stockpile monitoring and sampling. With the renewal these monitoring items are now in the Arturo Mine Project Permit NEV2013101 as I.D. 10 Pit Lake Monitoring and I.D.11, In-Pit Rock/Ore Stockpile. Section I.D.10, Pit Lake

Monitoring was already in Permit NEV2013101, so the sample location was changed from North Pit to North (Dee) Pit to reflect the monitoring transfer.

Another addendum to the 2019 renewal application, dated 03 August 2022, requesting a reduction in the sampling frequency of monitoring well DGWS-5 (DW-5) from annually to biennially (every other year). The 2019 renewal application was approved by the Division with the 2023 renewal effective **Day Month 2023**.

*DGMC Property Facilities (NEV0050005)*

The DGMC property operation was an open-pit gold mine with heap leach pads and tailings disposal facilities currently in final reclamation and closure. The majority of the disturbance has been successfully reclaimed and the bond released.

Processing operations included both milling and heap leach facilities. The mill, solution processing, and heap leach facilities have been permanently closed and reclaimed. Heap Leach Pad Number (No.) 1-9 was the first heap leach pad constructed and was in operation from 1983 to the early 1990s. This heap leach pad was regraded and seeded in the mid-1990s, and vegetation has been established. Heap Leach Pads No. 10 and No. 11 were constructed and operated during the mid to late 1990s.

During closure and reclamation of these heap leach pads in the late 1990s, the processed ore material was regraded on the liners and covered with growth material. The heap leach pads were then seeded, and vegetation has been established. During reclamation, process solution ponds associated with the heap leach pads were converted to draindown management facilities. Draindown from Heap Leach Pad No. 1-9 and Heap Leach Pad No. 10 is combined and managed through a synthetically lined evapotranspiration (ET) cell and clay layered constructed wetland facility located to the south of Heap Leach Pad No. 1-9. Draindown from Heap Leach Pad No. 11 is managed in a synthetically lined ET cell (formerly the pregnant pond) located on the northern perimeter of the facility. Solution can and has overflowed into two unlined evaporation cells/fields which ultimately report to the Tailings Dam 1 (TD1) facility. The draindown management facilities associated with the reclaimed heap leach pads at the site are monitored in accordance with WPCP NEV0050005, which requires quarterly monitoring and reporting to the Division.

High-grade ore was milled, and the resulting slurry was leached in carbon-in-leach tanks. After processing to recover precious metals, the mill slurry was stored in the tailings disposal facilities.

TD1 was the first tailings disposal facility constructed at the DGMC property, and was operated throughout the life of the mine. During the 1990s, a process pond with a synthetic liner was converted to an ET cell to collect draindown from the base of TD1. In the early 2000s, TD1 ceased operation and was regraded and seeded. The ET cell was modified to manage seepage and stormwater from the reclaimed facility as part of the final plan for permanent closure, retaining the original synthetic liner. A permanent stormwater diversion ditch located upgradient of TD1 was constructed as part of the site's long-term water management system. The ditch was designed to divert runoff from a 100-year, 24-hour storm event.

Tailings Dam 2 (TD2) was constructed and operated during the late 1980s to mid-1990s. Recent field investigations indicate tailings were not deposited over the full TD2 footprint. In the mid to late 1990s, TD2 ceased operation and was regraded and seeded. Vegetation has been established on TD2, and the perimeter fence was removed in 2010. A permanent stormwater diversion ditch located upgradient of TD2 was constructed as part of the site's long-term water management system. The ditch was designed to divert runoff from a 100-year, 24-hour storm event. TD2 has been permanently closed, reclaimed, and bond released.

Water Well No. 5 and a 1.25-million-gallon water tank are still active on the property. Water Well No. 5 supplied water to the Storm Underground Mine and will be used to supply makeup water to the Arturo Project.

#### *Storm Underground Mine Facilities (NEV2004109)*

The existing Storm Underground Mine facilities are located within the Project boundary in areas that ultimately will be partially mined by the Arturo open pit or buried by the West WRDF.

The Storm Underground Mine has not operated since the first quarter of 2013 and is currently in permanent closure.

#### *Arturo Mine Project Facilities (NEV2013101)*

The Heap Leach Pad 12 (HLP 12) facility will be located to the south of the reclaimed leach facilities and the existing open pit and north of the closed TD2. Currently, it is anticipated that the leach pad will be constructed in two phases totaling an area of approximately 8.4 million square feet. Based on a low-grade pit-run material with a tonnage factor of 18.2 cubic feet per ton (110 pounds per cubic foot), the pad will accommodate approximately 72 million tons (MT) of ore placed to an ultimate height of 300 feet. Individual lifts are planned to be in the range of 15 to 45 feet in height with overall side slopes of 3 Horizontal:1 Vertical (3H:1V). In

addition, mill-grade ore will be shipped to North Block Goldstrike (NEV0091029) for processing.

The plan is to excavate the existing reclaimed DGMC leach pad materials (approximately 10 MT) and place the material on HLP 12. The barren solution application rate is expected to be between 0.002 to 0.005 gallons per minute per square foot (gpm/ft<sup>2</sup>) with a total pregnant solution flow to the process plant equal to 4,000 gallons per minute (gpm). The typical primary leach cycle is estimated to be approximately 90 days. The design for the HLP 12 composite liner system includes a 12-inch thick low-hydraulic conductivity soil layer (LHCSL) material (prepared subbase) of imported “clayey” borrow consisting of select Carlin Formation overburden material from the Arturo open pit compacted to have a maximum in place coefficient of permeability of  $1 \times 10^{-6}$  centimeters per second (cm/sec). The prepared subbase will be overlain by 80-mil HDPE liner. The HDPE liner will be covered with a 24-inch nominal thickness cushioning/drainage layer of overliner cover material. An integrated piping network is included in the pad design to enhance solution recovery and limit head on the liner system. Overliner material will consist of material excavated from the pit or other suitable borrow or imported material.

The pad is located in a broad drainage that will be graded to drain to a single low point. Pregnant solution (leachate) will be collected within a perforated and non-perforated collection piping network integral to the liner cover system. Two main collection headers will carry solution to the pregnant solution pipeline located in the transfer channel at the pad outlet area. Pregnant solution will discharge from the transfer pipe to a steel pregnant solution tank located on a shelf within the Primary Pond (PP) containment. From the pregnant solution tank, pregnant solution will be pumped directly to the process plant located adjacent to the ponds. In the event solution flows are greater than can be handled by the pregnant solution tank, solution will overflow the tank and discharge to the PP. A bypass pipe in a lined channel is also located in the pond area in case maintenance is required on the pregnant solution tank or associated pumping systems. The bypass pipe and channel allow flow to be diverted to the double-lined Secondary Pond (SP). This arrangement will allow for operational flexibility and maintenance without a significant disruption to leaching operations. The pipeline channels are HDPE-lined to provide secondary containment for the solution piping. Except for the extension of the pad lining and leachate collection system into the Phase II pad area, no additional fluid management features are associated with the planned expansion.

The process pond system will be located immediately south of the leach pad and consists of the pregnant solution tank, the PP, and the SP. Both ponds will be double-lined with 80-mil HDPE and an intermediate leak collection and recovery system (LCRS) to allow for operational flexibility in process solution and stormwater management. The overall pond system capacity was designed to provide storage for 5.5 to 8.1 million gallons of process inventory, pond ballast to prevent wind damage, a 24-hour power loss event with a nominal leach solution return rate of 4,000 gpm,

containment of the runoff/infiltration from a 100-year, 24-hour storm event, plus direct precipitation falling on the pond surface, as well as 2 feet of freeboard. To provide additional operational flexibility and conservatism, additional pond capacity has been provided to contain the projected maximum Project water balance that considers extended wet periods.

The leach pad footprint will be graded to optimize cuts and fills, provide an overall balanced (cut to fill) earthworks and to provide a downgradient buttress zone to provide stability to the heap. Following clearing and grubbing operations, mass grading of the leach pad and pond area will be completed. Cuts and fills within the majority of the Phase I leach pad typically are on the order of 5 feet or less and will consist of a general smoothing of topographic features. The primary areas that require the majority of the Phase I earthworks are within the approximately 400-foot wide toe buttress area along the downgradient edge of the facility to control leach pile stability and the pond and plant areas. Maximum cuts and fills within the Phase I leach pad, ponds, and plant pad area range from 44 to 42 feet, respectively. Preliminary grading for the Phase II pad expansion indicates cuts and fills on the order of 24 and 35 feet will be required. The heap leach facilities will be separated from the natural upgradient watersheds by stormwater diversion systems designed to safely pass the 100-year, 24-hour storm event.

Arturo Mine is located in a seismically active region and therefore a pseudo-static slope stability analysis of the design was warranted. For slope stability analyses of the HLP 12, the most critical cross sections, slopes with the steepest base grade, and greatest maximum height, were evaluated for stability.

The design Peak Horizontal Ground Acceleration (PHGA) for a 10% probability of exceedance in 50 years is 0.11 gravity (g), for a Magnitude 6.9 event, at a distance of 4.1 kilometers from the mine site on the Sheep Creek Range Southeastern Fault. The calculated return period for this earthquake event is approximately 500 years. For pseudo-static stability analysis, a seismic coefficient of 0.11 g was utilized based on the estimated peak horizontal ground acceleration from a probabilistic seismic hazard. Stability analyses were completed for infinite slope failure surface, rotational, and transitional failure surfaces.

The HLP 12 will be designed with benches in the range of 15 to 45 feet in height with a 3H:1V overall slope angle. The HLP 12 has been designed to have a maximum height of 300 feet above the liner. Modeled rotational failure for this cross-section occurred exclusively through the ore material. Modeled block failure occurred through the ore material and then along a preferential surface between the liner and ore.

For the HLP 12, a minimum factor of safety of 1.3 for static loading and 1.0 for pseudo-static loading was estimated for the most critical sections resulting from transitional failure mode. The static loading factor of safety is equal to the

requirement of 1.3 but the pseudo-static factor of safety was less than the required 1.05 for pseudo-static loading. The lower factor of safety is acceptable because it has been demonstrated in a deformation analysis that the displacement from the design seismic event is on the order of 1 inch and thus will not compromise the integrity of the fluid management system or cause a release of contaminants to waters of the State.

### *Process Building*

A 4,000-gpm process plant will support the HLP 12 facility. The process plant building will be constructed on a near-level pad located at the southeast side of the process pond and plant pad area, and adjacent to the PP. The process building is rectangular in shape and approximately 150 feet long and 60 feet wide; one extended level in height; steel framed; and supported on spread and continuous footings; and concrete slab-on-grade. The process building will contain a crane supported on the perimeter columns and footings.

The process plant will house one carbon column train with five individual tanks, a barren solution sump and a drive-through area for a carbon loading-unloading truck. The floor slab in the carbon column area will slope to two sumps. Containment for 110 percent of the largest vessel will be provided by the sloping floor and perimeter curbing designed into the plant area. Volumes in excess of the plant storage capacity would overflow to the PP via an overflow and geomembrane-lined channel from the plant. Geomembrane-lined channels that provide secondary containment for process piping systems have been designed to provide a minimum capacity equal to 110 percent of the pipe flow.

The reagent storage area is proposed to be approximately 27 feet long by 20 feet wide and will be located on the south side of the process building. The floor slab in the reagent storage area will slope to sumps. Containment for 110 percent of the largest vessel will be provided by the sloping floor and perimeter curbing designed into the reagent storage area.

The surface surrounding the process building is anticipated to be gravel topped and support frequent light trucks and moderate to heavy maintenance vehicles and support trucks.

Makeup water for the processing plant will be obtained initially from the Water Well No. 5 (DGWS-5 in the Arturo Permit NEV2013101) which is located within the footprint of the West WRDF. This well is listed in the Storm Underground Permit NEV2004109 and Dee Mining Permit NEV0050005 as DW-5. Prior to the placement of waste rock at this location, a new water supply well will be permitted and developed near HLP 12 and Water Well No. 5 will be plugged and properly abandoned. Permit modification fees may apply. DGWS-5 is reported as dry as of the First quarter of 2023. A request to reduce monitoring to every other year (odd years)



was requested as an addendum to the renewal application. The request was approved by the Division with the renewal of Permit in 2023.

### *Ore Stockpile Pad*

The Ore Stockpile Pad will be used for temporary storage of ore from the Arturo open pit mining operation. The Ore Stockpile Pad will consist of a graded pad, with 12 inches of LHCSL compacted to have a maximum in place coefficient of permeability of  $1 \times 10^{-6}$  cm/sec and covered with a 3-foot thick protective layer to provide surface drainage and to protect the pad from vehicular traffic.

The pad area will be sloped to drain to the hydraulic low point on the southeast corner, where a depressed 80-mil HDPE single-lined sump was originally constructed to collect any meteoric water that may drain from the ore and/or the overliner material. The collection sump liner will be underlain by compacted and prepared surfaces of common fill and/or liner bedding materials. A minimum of 2 feet of freeboard will be maintained at all times.

In November 2016 an Engineering Design Change (EDC) was approved by the Division to place a second 80-mil HDPE liner and a geonet over the existing single lined pond and the construction of a leak detection and recovery sump with a fluid volume of 1523 gallons. The EDC included installation of a single evaporator with pumps and piping for disposal of meteoric water that may accumulate in the pond.

Ore will be categorized prior to removal from the open pit and will be transported to the HLP 12 facility, the Ore Stockpile Pad, or directly off site using mining trucks. The Ore Stockpile Pad is expected to be accepting ore that is plug dumped from mine haulage vehicles to heights on the order of 12 feet. Ore will be removed from the Ore Stockpile Pad by means of a front-end loader and mine haul trucks. Access on and off the pad for mine vehicles will be along the northern edge.

Perimeter berms, diversion channels, or roads will be located adjacent to the facility to divert non-contact runoff around the Ore Stockpile Pad area.

### *Off-Site Ore Processing*

Based on metallurgical and economic considerations, a maximum of 5,000,000 tons per year of mill-grade ore from the Arturo open pit may be processed by other NGM operations or sold to others for further processing off-site. Transportation of the mill-grade ore will be directly from the pit or from the Ore Stockpile Pad via the Bootstrap Haul Road right of way North Block Goldstrike (NEV0091029). Ore from the Project will be processed under the WPCP of the receiving facilities, where applicable in Nevada.

### *Waste Rock Disposal Facilities*

The Permittee plans to construct two WRDFs, the West WRDF and the East WRDF, to accommodate the 600 MT of waste rock material from the pit expansion. A portion of the waste rock suitable for cover material and growth media will be stockpiled for future use or used during concurrent reclamation. The specific sequence and schedule for mining waste rock and placing it in the WRDFs or utilizing it as cover/growth media will be determined during operations.

The West WRDF will have a maximum height of 615 feet with a crest elevation of 6,090 feet above mean sea level (AMSL) and occupy approximately 1,100 acres. The East WRDF will be much smaller with a maximum height of 210 feet with a crest elevation of 5,650 feet AMSL and will occupy approximately 190 acres.

The footprints of the WRDFs include a horizontal buffer zone of up to 100 feet to provide for operational flexibility and to account for support facilities, such as stormwater controls and haul roads. The WRDFs have been designed to ensure long-term stability, to provide for effective reclamation, closure, and to reduce overall visual impacts. Mined waste rock material will be hauled to the WRDFs and placed by end-dumping from the top of the active faces, resulting in working faces at an angle of repose (approximately 1.3H:1V). The preliminary design of the WRDFs has been evaluated for stability. The WRDFs will be constructed in 50- to 150-foot-thick lifts. The side slopes of the WRDFs will be graded to approximately 2.5H:1V to 3H:1V for reclamation.

The WRDFs are designed and will be constructed to minimize the risk of impact to waters of the State. Impacts to groundwater and surface water from seepage from the WRDFs are not anticipated to exceed water quality standards. Soil covers installed at closure will reduce or eliminate infiltration of water and oxygen.

The existing DGMC heap leach pads (No. 1-11) that are located within the footprint of the West WRDF will be excavated and the material will be relocated to the HLP 12 facility to be used as drainage layer. The existing heap leach pad liners and drainage system piping will be evaluated for potential to degrade waters of the State. If this material is determined to be chemically stable, it will be excavated and placed within the West WRDF. If this material is not determined to be stable, the material will be disposed on the West WRDF over the area occupied by TD1. Disposal of this material within the West WRDF will require a Class 3 solid waste disposal waiver from the Division's Bureau of Waste Management.

The existing DGMC TD1 facility located within the footprint of the West WRDF will remain in place. The West WRDF will be constructed to limit the thickness of waste rock placed over TD1 to 50 feet in order to address geotechnical and water quality issues associated with deeper burial of TD1. Waste rock initially will be placed downgradient, or east, of the TD1 embankment providing a buttress and

enhancing the stability of TD1 prior to cover of the main facility. After placement of the buttressing material, the existing TD1 will be covered with up to 50 feet of waste rock that will create a low area relative to the highest point on the final configuration of the West WRDF. The overall slopes of the completed West WRDF will be consistent in shape to natural landforms in the surrounding area. Additionally, the West WRDF will be constructed around the existing TD1 evapotranspiration (ET) Cell. The TD1 ET Cell will continue to collect and manage seepage water from TD1 during the construction, and after closure, of the West WRDF. No waste rock will be placed on the TD1 ET Cell, which will retain its existing synthetic liner. The placement of 50 feet of waste rock over TD1 is anticipated to produce a short-term (3-5 years) increase in draindown from the tails. This flow will be monitored (flow and chemistry) and managed by pumping the solution in a double-walled pipeline to the process plant to be added to the process fluids circuit.

Surface water on the West WRDF will be managed in accordance with the site Storm Water Pollution Prevention Plan (SWPPP). Final slope angles of the WRDFs will be constructed to slow run-off velocity and reduce erosion potential. Surface water flowing to the east over the low area of the buried TD1 and the TD1 ET Cell will be diverted around the open pit by perimeter berms and/or ditches. Over dumping the drainage that is currently occupied by the Dee Mine access road, between HLP 1-9 and HLP 10, will preclude free drainage from this area requiring diversion of runoff around the open pit. Approval of a specific design for this diversion is identified in the Permit as Schedule of Compliance Item 3.

The East WRDF primarily will be used for waste rock from the east and south pit lobes for shorter haulage distances. Additionally, the East WRDF will be used for waste rock placement in the initial stages of the mining schedule during the footprint preparation of the West WRDF (e.g., during the removal of the existing heap leach pads).

#### *Petroleum-Contaminated Soil (PCS) Management Plan*

In November 2015, the Permittee submitted a Non-fee application proposing that all PCS resulting from site activity be managed according to the approved PCS Management Plan for the North Block Project WPCP NEV0091029. The PCS Management Plan allows PCS to be transported to the roaster PCS stockpile pad where it is stored prior to being fed into the roaster for combustion of all petroleum constituents. A secondary PCS stockpile pad is located on the Bazza Waste Rock Facility that is utilized in addition to the PCS stockpile pad at the Roaster. Hazardous waste, and any other PCS that cannot be roasted, must be properly disposed of off-site at an authorized facility. The Non-fee application was approved by the Division in February 2016.

### C. Site Hydrology

Groundwater chemistry information available for the Arturo Mine was presented in the Dee Arturo Pit Lake Water Quality Prediction report (Schafer, 2010). This information provides a prediction of water quality for the local groundwater system. With the exception of arsenic, antimony, and thallium, baseline water quality analyses demonstrate groundwater quality is generally good and is predominantly calcium or calcium/sodium carbonate water. Groundwater elevations at the Arturo Mine are influenced by the dewatering operations at the North Block Goldstrike Mine which have resulted in lowering the groundwater levels approximately 1,700 feet within an approximately 2.5 mile-wide northwest-trending zone that extends from the Betze-Post Pit to near the center of the Arturo area. Groundwater pumping at North Block Goldstrike Mine for mine dewatering is projected to continue until the end of active mining. Additional pumping for Arturo Mine Project for mine closure and mine processing activities are expected to continue through 2034. The existing ground surface at the lower end of HLP 12 is approximately 5,400 feet AMSL, and the elevation of the regional groundwater surface is at approximately 3,600 feet AMSL, indicating a depth to the regional water table of approximately 1,800 feet beneath the ground surface as a result of the dewatering activities at the North Block Goldstrike Mine. Prior to dewatering, the regional groundwater elevation was approximately 5,240 feet AMSL, 140 feet below the Project site. At the conclusion of dewatering activities the pit lake will reach equilibrium where inflow from groundwater and rainfall will balance evaporation creating a hydraulic sink. All future pit lake water quality prediction studies will compare predicted results with NDEP Profile III Reference Values.

Surface water is located within the Boulder Creek watershed within the Boulder Flat Hydrographic Area 61. The headwaters of Boulder Creek are in the Tuscarora Mountains located east of the Arturo Mine. The Project area is dominated by unnamed, relatively steep, ephemeral channels that drain toward Boulder Creek. Boulder Creek is located immediately east of the mine area. Eight ephemeral streams were mapped, including three segments that do not reach the Boulder Creek (JBR, 2009). The channel beds are generally less than 2 feet wide with streambed slopes between one and five percent (Cedar Creek, 2009), and shallow depths, typically 2 inches or less, indicating low flow rates. Flows in Boulder Creek near the study area are monitored monthly in the northwest quarter of the southwest quarter, Section 2, Township 36 North, Range 49 East, MDB&M. Recent discharge ranged from dry in late February 2010, up to 12,640 gpm in late May 2009 (BDMV, 2010e). The stream is typically dry from late June or July until March. No perennial streams reach the Project area. Based on the lack of perennial stream reached, the short reaches of relatively small ephemeral drainages removed by mine components and stormwater controls will minimize any direct impacts to the Boulder and Antelope Creek drainages.

Three small unlined stormwater impoundments currently exist within the Project area that are used for runoff management and sediment control or stock watering. The largest of these is approximately 2 acres in size, which was built in 1964 by the BLM as a detention pond to reduce sedimentation in the Boulder Creek resulting from wildfires, and was modified by the DGMC over time. An additional impoundment is located a short distance downgradient. The upper impoundment receives surface runoff from the existing Dee Mine Project components as well as Project seepage through a limestone-lined French drain. The lower impoundment was originally created as a temporary stock watering feature. The third impoundment is a small detention pond located outside of the Project area in Section 15, Township 36 North, Range 49 East, MDB&M. It receives runoff from the TD2 drainage and nearby watershed. Additional stormwater controls will be constructed to support the Arturo facilities as needed.

The East Pit Storm Water Pond will be built across an unnamed drainage upstream of the East Pit and is intended to prevent surface water from entering the East Pit. The East Pit Storm Water Pond will receive surface runoff and associated sediment loading from 0.24 square miles of rangeland. A spillway is provided to protect the dam from overtopping, no lower outlet works are envisioned, and the pond will accumulate water seasonally, limited by losses to evaporation and seepage. The dam will be constructed in a single stage, to a crest elevation of 5,753 feet AMSL (63 feet in downstream height). The total storage capacity at the spillway invert (5,748.3 feet AMSL) is 67.0 acre-feet; the storage capacity at the dam crest (5,753.0 feet AMSL) is 86.6 acre-feet. The dam size provides sufficient storage volume to store the 100-year, 24-hour runoff volume, in addition to the maximum seasonally-fluctuating water pool (Tierra Group, 2014).

Seeps occur within the mine boundary and several are associated with historic sediment and runoff control features, while others are at or near the toes of the existing WRDF (Cedar Creek, 2009). No flow monitoring is required due to the flows being either non-existent or small and seasonal (Cedar Creek, 2009; JBR, 2009).

#### **D. Procedures for Public Comment**

The Notice of the Division's intent to issue a Permit authorizing the facility to construct, operate and close, subject to the conditions within the Permit, is being published on the Division website: <https://ndep.nv.gov/posts/category/land>. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list. Anyone wishing to comment on the proposed Permit can do so in writing within a period of 30 days following the date the public notice is posted to the Division website. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected State or intrastate agency, or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.403 through NAC 445A.406.

**E. Proposed Determination**

The Division has made the tentative determination to issue the renewed Permit.

**F. Proposed Limitations, Schedule of Compliance, Monitoring, Special Conditions**

See Part I of the Permit.

**G. Rationale for Permit Requirements**

The facility is located in an area where annual evaporation is greater than precipitation. Therefore, it must operate under a standard of performance which authorizes no discharge(s) except for excess accumulations which are a result of a storm event beyond that required by design for containment.

The primary method for identification of escaping process solution will be placed on required routine monitoring of leak detection systems as well as routinely sampling downgradient monitoring well(s). Specific monitoring requirements can be found in the Water Pollution Control Permit.

**H. Federal Migratory Bird Treaty Act**

Under the Federal Migratory Bird Treaty Act, 16 U.S. Code. 701-718, it is unlawful to kill migratory birds without license or permit, and no permits are issued to take migratory birds using toxic ponds. The Federal list of migratory birds (50 Code of Federal Regulations 10, 15 April 1985) includes nearly every bird species found in the State of Nevada. The U.S. Fish and Wildlife Service (the Service) is authorized to enforce the prevention of migratory bird mortalities at ponds and tailings impoundments. Compliance with state permits may not be adequate to ensure protection of migratory birds for compliance with provisions of Federal statutes to protect wildlife.

Open waters attract migratory waterfowl and other avian species. High mortality rates of birds have resulted from contact with toxic ponds at operations utilizing toxic substances. The Service is aware of two approaches that are available to prevent migratory bird mortality: 1) physical isolation of toxic water bodies through barriers (e.g. by covering with netting), and 2) chemical detoxification. These approaches may be facilitated by minimizing the extent of toxic water. Methods which attempt to make uncovered ponds unattractive to wildlife are not always effective. Contact the U.S. Fish and Wildlife Service at 2800 Cottage Way, Room W-2606, Sacramento, California 95825, (916) 414-6464, for additional information.

Prepared by: Shawn Gooch

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Revision 00: 5-Year Renewal and Boiler Plate Updates [SG 04/10/2023]