Fact Sheet

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

Permittee Name: **Nevada Gold Mines LLC**
Twin Creeks Mine – South Project

Permit Number: **NEV0089035**
Review Type/Year/Revision: **Renewal 2025, Fact Sheet Revision 00**

A. Location and General Description of Facility

Location: The Twin Creeks – South Project is located on private land controlled by the Permittee and on public land administered by the Bureau of Land Management, Humboldt River Field Office within Humboldt County, Sections 16-21, and 28-32 of Township 39 North, Range 43 East, and Sections 13 and 24 Township 39 North, Range 42 East, Mount Diablo Base Line and Meridian, approximately 35 miles northeast of Golconda, Nevada.

General Description: The project consists of open-pit mining with beneficiation of up to 15,536,330 tons of ore per year by conventional heap leach cyanidation and milling, with precious metal recovery by carbon adsorption and zinc precipitation (Merrill-Crowe process). The previously authorized tonnage was 80,000,000 tons of ore per year, but that was reduced in 2024 to the highest historical processing rate of the facility. The facility is 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 which exceed the design storm event.

B. Synopsis

General

Permit NEV0089035 was originally issued to Santa Fe Pacific Mining, Inc to the Rabbit Creek Mine in April of 1990. Rabbit Creek Mine consisted of open pit mining, heap leach pad, mill and tailings facility, and three waste rock facilities. By 1991, Santa Fe Pacific Mining, Inc had changed its name to Santa Fe Pacific Gold Corporation. In 1994, Santa Fe Pacific Gold Corporation changed the name of the permitted mine from Rabbit Creek Mine to Twin Creeks Mine, Inc. By 1998, ownership of the Twin Creeks Mine had been moved to the Newmont Gold Company.

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 Twin Creeks Mine – South Project is now owned by Nevada Gold Mines LLC (the Permittee).

The current Twin Creeks Mine operates under two Water Pollution Control Permits (WPCP), WPCP NEV0086018 – North and WPCP NEV0089035 – South. The line that divides the two Permits is the Midway Fuel Facility, which is included in the South Permit, located in Section 18, T39N R45E. Because the Mega Pit is located south of the Midway Facility, waste rock sampling

and pit lake water quality prediction is reported under WPCP NEV0089035 – South Project. The Vista Pit is located in the North project and all sampling and reporting is transmitted under WPCP NEV0086018.

Open Pit Facilities

The Mega pit was initially mined under this permit by the Rabbit Creek Mine, though mining in this pit pre-dates the current regulatory framework. When mined by the Rabbit Creek Mine, the pit was referred to as the Production Pit, and had a pit depth of approximately 4680 feet above mean sea level (amsl) in 1992.

In 2020, Nevada Gold Mines, LLC, the current permittee, submitted a Minor Modification for the Cut 40 expansion to the permit to expand the Mega pit 500 feet to the north and deepen it an additional 240 feet to the northwest. That expansion extended the depth of the Mega Pit to 3440 feet amsl. As of the 2025 renewal, the Cut 40 expansion had not been completed.

A 'proto pit lake' first formed in 2004, when mining occurred below the water table. Continued dewatering of the Mega Pit brought the water table down and in late 2007, the 'proto pit lake' disappeared. The current Twin Creeks Pit Lake began forming in 2011 in the southern section of the pit (South Mega). Following the cessation of mining and dewatering operations, a second pit lake is predicted to form further to the north in the South Mega Pit and a third pit lake is predicted to form in the northern section of the pit (North Mega). The pit lakes will continue to fill and, by 2214 and 2222, the North Mega Pit and South Mega Pit lakes, respectively, will approach hydrologic equilibrium.

Processing Buildings – In Closure

Historically, the process circuit was a carbon in leach system for gold recovery. The ore was fed into a Semi-Autogenous Grinding (SAG) mill, forming a pulp that was fed to a thickener. From there, thickener overflow was directed to a series of carbon-in-leach (CIL) tanks for recovery of precious metals. The barren slurry was passed through a carbon screen prior to being pumped to the tailings impoundment where it was sub-aerially deposited. The loaded carbon was stripped, then processed through either a Merrill Crowe or electrowinning system. The precipitate was then retorted and smelted at the Juniper Mill (NEV0086018) for shipment to a refinery. All equipment including tanks, thickeners, vessels, pumps, and piping operated within secondary containment equal to or greater than 110% of the largest volume within a given area. Any spilled process solution would report to secondary containment sumps where it was pumped back into primary containment. Spent pulp or "slurry" was directed to the tailings impoundment via high density polyethylene (HDPE) pipelines located within a HDPE-lined secondary containment ditch.

This milling circuit has been inactive since October 2002 with the exception of the carbon stripping circuit, which was closed in 2006. As of the 2025 renewal, the Piñon Mill has continued to move toward complete closure and decommissioning. Absolutely no solution reports to the mill facility, the CIL and cyanide tanks had been removed, and the remaining process components of the ball

and SAG mills, carbon-in-column (CIC) tanks, and the stripping circuit have been locked out and are in the process of decommissioning.

The closure process for the Piñon Tailings Storage Facility was initiated in late 2007. Any future operations of the Piñon mill would thus require the construction of a new tailings storage facility, connection to the active Juniper Tailings Storage Facility, and/or other alternatives.

Tailings Impoundments – Closed Facility

The Piñon Tailings Storage Facility was taken out of service in 2001. Reclaim fluid from the facility was monitored for several years by groundwater and vadose wells. In 2006 closure was initiated with the capping of the facility.

The surface of the Piñon Tailings facility was reclaimed in 2006 by placing an alluvial cover over the tailings surface. Surface water flow generated by precipitation on the reclaimed tailings facility flows to the west side of the impoundment and then through a reinforced drop structure, originally constructed with stone rip-rap. The design was based on a 100-year 24-hour storm event.

Water from wells MW-29-6 and MW-2R-1 had been pumped into the seepage pond since 1999. At that time, these two wells were the only monitoring locations which have shown higher trending levels of chloride, nitrate, sulfate, and total dissolved solids (TDS) with exceedances of the Profile I reference values in MW-2R-1 of nitrate (15.5 milligrams per liter (mg/L)) and TDS (1,250 mg/L) in the second quarter of 2004. This pumping continued until 2014 when the data from the vadose wells indicated that the percolation of fluids carrying monitored constituents was abated. As an additional measure, a continuous pumping and monitoring program for MW-3 was added in early 2009 as well, which completed Schedule of Compliance (SOC) Item 2 from the 2008 renewal Permit. A Non-Fee request to terminate continuous pumping of monitoring wells MW-29-6, MW-2R-1, and MW-3 was approved by the Division on 3 December 2014 when it was shown that the percolation of fluids carrying monitored constituents was abated.

The Permittee submitted a final closure report and report of completion of work at the Piñon Tailings facility in October 2010. The final closure report was approved by the Division on 01 July 2013 at which time the Piñon Tailings facility was considered by the Division to be permanently closed.

In early February 2017, the runoff from a rain on snow event caused rip-rap in the drop structure to fail. An EDC was submitted to the Division on 18 August 2017 proposing a design for a revised drop structure using articulated concrete block mattresses to replace the stone rip-rap. The revised design is based on the flow from a 500-year, 24-hour storm event. The EDC was approved by the Division on 1 September 2017. Construction of the replacement drop structure was completed in April 2018.

Heap Leach Facilities – In Closure

Beneficiation of ore on the Osgood Heap Leach is through traditional heap leaching methods using dilute cyanide solution. A dilute solution of sodium cyanide, at a pH of between 9.5 and 11 Standard Units, is applied at a rate of 0.0025 to 0.004 gallons per minute per square foot (gpm/ft^2). The maximum permitted application rate is 9,000 gpm at a maximum application rate of 0.005 gpm/ft^2. After passing through the heap, the pregnant solution is directed to the pregnant pond or intermediate pond depending on the contained gold content. The pregnant solution is pumped to the processing plant for precious metal recovery via carbon columns. The loaded carbon is transferred to one of the two strip circuits on the mine site for metal recovery from the carbon. The precipitate is retorted and smelted at the Juniper Mill (NEV0086018) for shipment to a refinery.

Four heap leach pad phases have been permitted and constructed totaling 7 million square feet (ft^2). Phase I is 0.75 million ft^2. Phase II is 2.3 million ft^2, Phase III (A and B) is 1.98 million ft^2 and Phase IV is 1.96 million ft^2. Individual ore lift heights (approximately 50 feet each) and bench widths are controlled, based on engineering evaluation and recommendation, to ensure physical stability. The heap height is limited to 300 feet above the top of the synthetic liner.

In January of 2009, an Engineering Design Change (EDC) was approved by the Division which added Hydro-Jex operations to the Osgood heap leaching facility. As approved, the system allows for the drilling of wells in the heap at least 50 feet from the crest and at least 100 feet from any previously installed adjacent wells. Each well will be subjected to a short duration, high pressure stimulation phase intended to open pathways for improved solution infiltration. This will be followed by long-term static head infiltration of solution for gold recovery. Total solution application rate by Hydro-Jex is limited in the Permit to 4,500 gpm. Operational limitations and reporting requirements are included in the Permit.

The leach pad is lined with a single layer of 60-mil HDPE and is divided into "cells" that are bermed on the downgradient side to promote lateral flow to the external, 60-mil HDPE synthetically lined open channels (i.e. collection ditch) that direct the pregnant solution to either the pregnant pond or intermediate pond. Beneath the synthetic liners, on the upgradient side of each berm, a prefabricated "wick drain" is designed and constructed to allow the recovery and evacuation (by gravity) of process solution that escapes primary containment. The individual wick drains connect to 2-inch polyvinylchloride (PVC) pipes that report to an 8-inch diameter sump for monitoring. These sumps, when full, overflow to a central 4-inch diameter PVC pipeline which daylights at the process ponds for visual monitoring and quantification.

A nominal 1-foot-thick soil subbase, that has a maximum permeability of 1×10^{-6} centimeters per second, underlies the entire synthetic liner of the leach pad and collection ditches. The synthetic liner is keyed into the soil embankments and ditch berms surrounding the pad. Within the heap leach pad, a nominal 18-inches of "clean" liner cover is placed on the 60-mil synthetic liner which covers the hydraulic relief pipes.

Perforated 2-inch diameter HDPE pipelines detect leakage in individual segments of the collection ditches. The sumps, used for monitoring the collection ditches, overflow to a central pipeline to the ponds similar to the pad leak detection systems.

In the first quarter of 2012, flow began to increase in heap leach pad leak detection ports LEP-8, LEP-10, LEP-18, and LEP-30, peaking in the second quarter of 2012 at approximately 2,050 gallons per day (gpd), 1,100 gpd, 5,500 gpd, and 975 gpd, respectively. The Permittee took action to reduce the flow by suspending solution application in the areas of the pad corresponding to the leak detection ports with high flow and monitoring of adjacent groundwater was enhanced by the addition of downgradient monitoring well MW-7. Analysis of samples from all monitoring wells in the area of the heap leach pad have shown no evidence that process solution has escaped containment. Flows decreased somewhat in response to the modified application pattern but have remained well above Permit limits. In the first quarter of 2013, the Permittee suspended cyanide addition to the process solution, use of the Hydro-Jex system, and addition of make-up water. The Permit requires that these measures continue and that a final plan for permanent closure (FPPC) of the heap leach pad be submitted to the Division on or before 31 December 2013. The FPPC for the Osgood heap leach pad was submitted in April 2014 and conditionally approved by the Division on 12 May 2016. The conditions of approval were to submit supplemental information with the 2017 application for renewal or at a future date to be agreed upon. Since this supplemental information was not included in the 2017 application for renewal, SOC Item 1 was included in the 2018 Permit renewal to submit this information to the Division by 1 March 2019.

There is a pregnant pond, a barren pond, an intermediate pond and an overflow pond adjacent to the heap leach pad. The capacity of each, at 2 feet of freeboard, is 2,903,680 gallons (pregnant and barren ponds), 6,212,620 gallons (intermediate pond), and 7,414,284 gallons (overflow pond). These ponds are interconnected such that, in the event of power outages or severe storm events, excess solution from the pregnant, barren and intermediate ponds will drain into the overflow pond. The ponds include double synthetic 60-mil HDPE liners with geonet in-between to provide a preferential path for any leakage through the primary liner. The pond bottoms grade toward leak detection sumps that are filled with 3 feet of free-draining sand. An 18-inch diameter perforated pipe extends up the slope from each sump from where accumulated fluids may be monitored and evacuated. The recovery pipes are capped at the surface to preclude meteoric water from entering the system.

A non-fee approval was given in August 2007, to upgrade the existing Pregnant and Intermediate solution pipelines by inserting a 6-inch diameter HDPE pipeline inside the existing 10-inch diameter HDPE pipelines to provide pipe-in-pipe secondary containment over the entire pipeline transect, which consists of both above- and below-ground sections. Each 6-inch diameter primary pipeline is designed to convey solution at up to 600 gpm, between the process ponds and the Piñon Mill CIC circuit, in either direction.

In October of 2020, a Final Plan for Permanent Closure was submitted for the Osgood Heap Leach facility and was approved by the Division in July of 2021. As of the 2025 renewal, no new solution or ore had been added to the Osgood facility since before 2010. Evaporation and drain down

control continue, with mild re-grading occurring on some of the slopes. Closure processes continue on the HLP itself, with all of the associated ponds and leak detection systems still in active service.

In August of 2024, a Final Plan for Permanent Closure was approved by the Division for the Osgood Satellite CIC Facility, located near the Osgood Heap Leach Pad. As of the 2025 renewal, the CIC tanks have been drained and cleaned, and are designated for removal as scrap metal.

Waste Rock Facilities

There are four Overburden / Interburden Storage Areas (OISA) on this permit, labeled as OISA B, G, H, and I. Twin Creeks Mine utilizes a "blend and cover" management strategy for their potentially acid generating (PAG) waste rock, where both PAG and non-PAG material is blended in together and encapsulated in a "rind" of non-PAG material throughout the OISA. For this site, the base layer below the blended section will be composed of at least 50 feet of non-PAG material, and the final cover layer will be at least 100 feet of non-PAG material. The final cover layer may be composed of either non-PAG waste rock or alluvium. No cover layer will be required for areas of an OISA in which the upper lift is at least five-foot-thick and composed of acid-neutralizing material.

Ancillary Facilities

Twin Creeks South has several ancillary facilities that they share with the Twin Creeks North Permit (WPCP NEV0086018). These include a truck wash and three shops, the Mega Shop, the Transportation Shop, and the Welding shop, as well as the Midway Fuel Depot. Additionally, there are two fuel islands on the South facilities, a light vehicle fuel island at the very south end of the facility, and a mobile fuel island located inside the Mega Pit. The fuel island in the Mega Pit has not been in use in years, and may require repair work to become operational again.

Two basins lined with a single layer of HDPE are on site. The first is located adjacent to the tailings pipelines for secondary containment and collection of meteoric waters in the area. The second is for containing water that originates primarily from the truck wash but also from the three shops (Mega, Transportation and Welding). The water from the truck wash and shops is first sent through a series of oil/water separators, which include oil absorbent booms, to remove all hydrocarbons before arriving in the basin. The solids are periodically removed from the separators to a contained hydrocarbon management facility. Water from both basins is mainly evaporated, but some is used for dust suppression or used, on occasion, within the fluid management system. Water that is used for dust suppression must first be tested for Profile 1 constituents and total petroleum hydrocarbons.

Petroleum-Contaminated Soil (PCS) Management Plan.

A PCS Management Plan was approved by the Division as an EDC in July 2012, authorizing on-site disposal of PCS on the Stacker (W4) alluvium Overburden/Interburden Storage Area (Stacker OISA). Prior to management under the plan, hazardous waste determinations must be performed to demonstrate that the PCS is not hazardous waste. Hazardous waste must be managed and

disposed of in accordance with applicable regulations. On-site disposal of PCS is also contingent on the results of periodic screening analyses, which must show that the PCS does not exceed screening levels for various organic constituents established via risk assessment. Otherwise, the PCS must be properly disposed of off-site. PCS may be stored on temporary holding pads 1 through 6 (former bioremediation pads 5, 10, 15, 3, 8, and 13, respectively) while screening analyses are performed, or it may be provisionally placed at one of the approved disposal locations provided that it will be removed and properly disposed of elsewhere if it exceeds screening levels during subsequent screening analyses. Various time limits and other stipulations in the plan apply to temporary storage and provisional placement of the PCS.

C. Receiving Water Characteristics

The facility is located in the Kelly Creek drainage basin, a tributary to the Humboldt River system. Pre-dewatering depth to groundwater varied depending on the location but was generally greater than 100 feet below ground surface (bgs). The quality of the groundwater generally meets Profile I reference values except for exceedances for manganese and iron.

Two surface water expressions exist within the project area- Kelley Creek and Rabbit Creek are both surface waters that drain to the Humboldt River. While Kelley Creek occasionally dries up during the summer months, neither is considered a seasonal expression. Despite draining to the Humboldt River, neither Kelley Creek nor Rabbit Creed are considered jurisdictional waters as of the 2025 renewal, and they do not have specific surface water standards.

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, and Special Conditions

See Section I of the Permit.

G. Rationale for Permit Requirements

The facility is located in an area where annual evaporation is greater than annual precipitation. Therefore, it must operate under a standard of performance which authorizes no discharge(s) except for those accumulations resulting from 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 wells and surface water. 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 the 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 1340 Financial Boulevard, Suite 234, Reno, Nevada 89502-7147, (775) 861-6300, for additional information.

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