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

Permittee Name: Nevada Gold Mines LLC
Project Name: Cortez Gold Mine Project
Permit Number: NEV0000023
Review Type/Year/Revision: Renewal 2020, Fact Sheet Revision 00

A. Location and General Description

Location: The facility is located on a combination of public (administered by the Bureau of Land Management) and private land in east-central Lander County, within portions of Sections 12, 13, and 24, Township 27 North (T27N), Range 47 East (R47E); Sections 18, 19, and 30, T27N, R48E, and Sections 9 and 10, T26N, R48E, Mount Diablo Baseline and Meridian, approximately 34 air-miles southeast of the town of Battle Mountain. The facilities are situated along the west flank of the Cortez Mountains, at the foot of Mount Tenabo and approximately 4 air-miles north of the historic townsite of Cortez. Access to the Project area is possible by traveling approximately 30 miles east from Battle Mountain, on Interstate 80 to the Beowawe exit #261 (State Route 306). Proceed south on State Route 306 approximately 31 miles through the communities of Beowawe and Crescent Valley to the junction with the road to Grass Valley. The Cortez Gold Mine facilities are located approximately 5 miles east, across the Crescent Valley alkali flats. The Horse Canyon area, which is included in the Permit, is approximately 2 miles east of Mount Tenabo and can be accessed via the Horse Canyon Haul Road over a distance of approximately 10 miles.

General Description: The Project originally consisted of open pit mines, waste rock storage facilities, conventional cyanide heap leach pads, carbon columns, a carbon-in-leach mill (Mill 1), seven tailings impoundments, a circulating fluid bed (refractory ore) roaster, a groundwater remediation pumpback system, and support facilities. The facility had been in planned temporary closure (NAC 445A.444) since October 1999. It is now in permanent closure status. Management and monitoring of several components were transferred to the Cortez Hills Project Water Pollution Control Permit (WPCP) NEV2007106 in late 2008 and early 2009, as water management facilities, and multiple component closures were completed prior to the 2010 renewal. The operational process components were designed and constructed to operate without any release or discharge from the fluid management system except for meteorological events that exceed the design storm event. The facility disturbance footprint occupies approximately 1,600 acres.

B. Synopsis

General: Water Pollution Control Permit NEV0000023 (Permit) was first issued 6 July 1981 as an Authorization to Discharge for the Cortez Gold Mine. Subsequent renewals of the Permit do not authorize any discharge except meteorological events that exceed the design storm event.
The Project is located within the Cortez Mining District, which was founded in 1862. Mining and leaching operations were active from 1886 to about 1930, in Mill Canyon, located approximately 1.5 miles northeast of the Project site. Historic mill tailings, encountered during the geotechnical investigation for the Tailings Area 6 (TA-6), were traced to a Mill Canyon source. In the mid-1960s, Placer Amex, Inc., a subsidiary of Placer Development Limited, initiated an exploration program south of the original Cortez mill. The new discovery lead to the formation of the Cortez Joint Venture, previously a partnership between Barrick Cortez Inc. and Barrick Gold Finance, Inc. In July 2019, Barrick Cortez Inc. was incorporated into a new joint venture with Newmont USA Limited and formed into a new entity called Nevada Gold Mines LLC (NGM). NGM took ownership and the Permit was transferred following the submittal of documents required by NAC 445A.419.

The Cortez Gold Mine includes inactive components, most of which have been closed. As noted above, a few components were transferred to WPCP NEV2007106 as water management facilities. When it operated, the Cortez Gold Mine utilized heap leach technology in addition to a refractory ore roaster, an original 2,000-ton per day (tpd) counter-current decantation (CCD) mill, which was converted to a 2,000 tpd carbon-in-leach (CIL) mill (Mill 1) in 1981, and a carbon adsorption plant. No pits are included in the Permit. From 1994 until closure began in 1999, ore processed at the Project facilities came from either the Crescent Pit or the Pipeline Pit.

**Heap Leach Pads and Associated Components**

Closed in 2008 to 2009, there are three covered heap leach pad (HLP) facilities, the East, West, and 91-C HLPs; these were constructed in 1972, 1984, and 1990, respectively.

As the East and West HLPs were constructed prior to the 1989 promulgation of the Nevada State mining regulations, they do not meet current industry standards for heap leach pad construction. They cover a combined 2.3 million square feet and contain approximately 1.7 million tons of material. These pads consist of a soil layer system comprised of three 6-inch lifts of clay material compacted to 95% of optimum dry density with a design permeability of 1 x 10^-7 centimeters per second (cm/sec) (SRK, 2006). The clay is overlain with 6 inches of gravel that serves as a drainage layer. High-density polyethylene (HDPE) plastic liner was not used in the construction; the pads were not leak detected.

Solution from the pads was conveyed to collection ditches lined with either 60-mil HDPE or 40-mil Hypalon® material placed on a compacted clay base.

See Figure 1 for locations of all monitored facilities.
Figure 1: Monitoring wells and facilities at the Cortez Gold Mine Project site.
The 91-C HLP was constructed over spent ore on the southern portion of the West HLP. The composite liner system is comprised of two compacted 6-inch lifts of tailings material, obtained from TA-4 and TA-5, with a design permeability of less than $1 \times 10^{-6}$ cm/sec, and a layer of 60-mil HDPE (SRK, 2006). The double-lined solution collection ditches for the 91-C pad contained leak detection, but the pad itself did not (SRK, 2006). The 91-C pad has a footprint of approximately 723,000 square feet.

The underdrain solution collection system for the 91-C pad is comprised of an 18-inch thick crushed ore layer placed on 4-inch diameter perforated corrugated HDPE pipes placed on 30-foot centers on 60-mil HDPE liner. The pad is divided into three cells with 2-foot-high divider berms. The pad leak detection trenches were constructed along the upgradient edge of the divider berms. Pregnant solution was collected on the margins of the pad in 60-mil HDPE lined collection ditches. Until 2004, solution was conveyed to the 91-C Pregnant Pond through a 14-inch diameter pipeline. The solution collection ditches and the buried portion of the 14-inch diameter conveyance pipeline are traced by leak detection. In 2004, a surface HDPE pipeline was constructed to convey 91-C draindown directly to the TA-7 south toe ditch (SOL-91-C monitoring point; see Figure 1 above).

In 2009 and 2010, the reclamation work on the three heap leach pads was completed. The 91-C and East leach pad draindown pipes were tied into each other and now drain to the toe of TA-7; draindown from the West Pad reports to the Seepage Collection System (SCS). The collection ditches are not leak detected with the exception of the 91-C pad. The draindown from 91-C and West HLP has been dry for several years. The West HLP draindown continues to be collected at low flow.

**Ponds**

**Solution Pond 1 (SP1)** was constructed to the immediate west of the West HLP in 1971. It was constructed of 18 inches of compacted clay/silt material with a capacity of 2.2 million gallons. Its original intent was to hold water from the Thickener 3 tailings wash. In 1989 it was lined with 60-mil HDPE and used for emergency water storage. There was no leak detection system installed. It was closed and backfilled in 2007 (SRK, 2006).

**Pregnant Pond 2 (PP2)** was constructed in 1975. It also was constructed with an 18-inch compacted clay base and held approximately 3.1 million gallons. It received pregnant solution from the West HLP. Solution was originally pumped from PP2 to the carbon columns located at Mill 1. In 1989, a 60-mil HDPE liner was installed over the compacted clay base. Leak detection for PP2 was a gravel-filled trench excavated in the center of the compacted base layer and sloped toward the pond’s reclaim tower. A 4-inch diameter perforated polyvinyl chloride (PVC) pipeline ran the length of the trench and connected to a 4-inch diameter PVC vertical riser pipe. When Mill 1 went into closure in 1999, solution was then pumped to the Water Storage Reservoir.

PP2, located approximately 75 feet to the south of monitoring well MW09A, was thought to be a potential source of contaminants reporting to this well. An
engineering design change (EDC) modification, approved on 7 June 2006 by the Nevada Division of Environmental Protection (Division) and submitted in accordance with a Permit Schedule of Compliance, authorized closure of PP2. The EDC approval also authorized construction of the West Heap Leach Pad Seepage Collection System (see below) as a new collection system. However, the contamination plume continues to persist as of the 2020 Renewal.

Final permanent closure of PP2 included removal and appropriate disposal of all pipelines, pumps, tanks, and associated infrastructure. Characterization and appropriate disposal were completed for remaining pond sediments and subgrade materials. A risk assessment, per NAC 445A.227, was accepted by the Division on 3 April 2007. The site was backfilled and contoured to promote free drainage from the facility. Water quality in MW09A has not improved since the closure.

The 91-C Process Ponds, Pregnant and Barren, were constructed in 1990. The Pregnant Pond had a capacity of 3.1 million gallons and the Barren was much smaller at 600,000 gallons. Both ponds were constructed with 40-mil secondary and 60-mil primary HDPE liners. A layer of geonet was installed between the liners and served to convey any leakage to individual gravel-filled sumps. The ponds were closed and backfilled between 2008 and 2009. Draindown from the 91-C HLP currently reports to TA-7.

The Scale Pond was built in 1989 to receive roaster contact cooling water. This single-lined 40-mil HDPE pond was not leak detected. It ceased operating in 1997; it was backfilled and removed from the Permit following an EDC approval in 2015.

The Pumpback Pond was also built in 1989 and was constructed to receive degraded groundwater from the Pumpback system of wells. It was placed into closure in 2004 and backfilled in 2007 (NGM, 2020).

The TA-7 Underdrain Pond (UDP) was constructed in 1994; it is double-lined and leak detected. The secondary liner is 40-mil HDPE with a 60-mil primary. A layer of 10-ounce geotextile serves as the leak detection conduit to a gravel-lined sump. The sump is evacuated through an 8-inch HDPE riser pipe (SRK, 2006). The leak detection is monitored electronically weekly (NGM, 2020, Appendix B). This pond was still in use as of the 2020 Renewal to manage draindown from TA-7. The UDP, as well as TA7, were transferred to Cortez Hills Project (WPCP NEV2007106) for oversight in 2008.

The Stormwater Pond (SWP) was built in 1994 and remained in use as of the 2020 Renewal. It was constructed of a compacted soil base, a layer of geonet, with a 60-mil HDPE primary liner. It is linked to the Underdrain Pond via a 20-foot wide 60-mil lined spillway. In 2008, an EDC was approved to perform repairs on the Stormwater Pond. The primary liner was found to be bowing up from groundwater incursions. The EDC allowed for partial backfill and re-lining of the pond. It was a successful repair and the incursions have ended. The SWP was transferred to Cortez Hills Project in September 2008.

The Water Storage Reservoir (WSR) was constructed in 1990. It sits on the southeast corner of TA 4-5 and can hold 17 million gallons of water in each of its two cells. It stores pumpback water from the Cortez Gold Mine’s well field; it also

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stores contact water from the underground workings once it is treated by the desilting plant near the Cortez Hills portal. This water is piped across the valley to the Pipeline Project’s Mill 2 where it is used in the process. It is managed under the Cortez Hill’s Permit.

**West Heap Leach Pad Seepage Collection System**

This facility was authorized via an EDC on 7 June 2006. The construction was completed 26 February 2007 and the collection system replaced PP2, which was closed concurrently. The collection system is comprised of a 1,550-gallon polyethylene tank, for primary solution containment, enclosed within a Jensen Precast prefabricated and epoxy-lined circular concrete water holding tank that provides secondary containment for the system. The secondary containment capacity is approximately 2,070 gallons, when equilibrated with the internal primary tank, and provides approximately 133% of the primary tank capacity.

Seepage from the West HLP is conveyed by gravity to the system through a surface-located 4-inch diameter HDPE pipeline tied into the existing 6-inch diameter HDPE pipeline from the heap. A dedicated, minimum 20-gpm, submersible pump, located within the primary tank, is activated by a float-level switch when the tank volume reaches approximately 775 gallons (approximately 50% capacity). Collected solution is conveyed through a surface-located, 2-inch diameter HDPE pipeline to the WSR. The pipeline to the WSR is free-draining back to the primary tank to minimize the potential for damage to the pipeline during periods of freezing temperatures and no flow through the pipeline.

System inspections are performed weekly. A remote sensor system alerts staff of upset conditions in the system. Any solution accumulated in the secondary containment tank must be pumped to the primary tank. Average daily flow was originally calculated from weekly totalizer readings for both the inlet and outlet pipelines. On 21 September 2016, the Permittee submitted an EDC requesting to remove the totalizer from permitted monitoring as it would not function in low flow conditions. Collected draindown from the pads is now measured using a stopwatch and a small container. Solution is collected quarterly for Profile I analysis from either the in-flow pipeline or, if there is no flow from the heap, from the accumulated solution in the primary tank.

**MW09A Pumpback System**

To address continued poor water quality and Division Profile I reference value exceedances reported for samples from MW09A, an EDC was approved in September 2009 to convert MW09A into a pumpback well. The Pumpback System construction was completed in late 2010.

Pumpback solution from MW09A is conveyed to the WSR through a buried 1-inch diameter HDPE pipeline placed within a 3-inch diameter HDPE pipeline for secondary containment. The pipeline was constructed to be free-draining and placed in a 2-foot deep backfilled trench to further minimize the potential for freezing.
The pumping rate at MW09A is monitored with a piezometer well, MW09B, located approximately 50 feet north of MW09A. MW09B was completed to a total depth of 61.5 feet and lined with a PVC screen from 19 feet to 59 feet. The screen was constructed with sealed zones both above and below the interval and brackets the water table encountered during well development at a depth of 22.9 feet in the hole. MW09B allows calibration of the pumping rate and drawdown in MW09A to ensure it does not significantly impact the existing remediation well pumpback system that captures groundwater downgradient from TA-6 and TA-7.

A potential source of the continued degradation may be percolation of meteoric water through backfill and into the footprint of the closed PP2 pond. The backfill material placed in the area of the pond footprint had settled significantly since closure in 2007. Therefore, additional backfill, graded to promote drainage of meteoric water away from the footprint, was placed over the footprint and compacted in four 1-foot lifts to at least 90% maximum dry density as indicated by the modified Proctor method American Society for Testing and Materials Method D1557. New monitoring and reporting requirements were incorporated into the Permit for MW09A and MW09B. They include weekly water level measurements and monthly sampling for Division Profile I analytical suite.

**Tailings Facilities**

Tailings Areas 1, 2, and 3 (TA 1-3) was closed in 2004. Construction began in 1969. This combined facility has a footprint of approximately 104 acres. From 1969 to 1973, it received oxide tails from Mill 1. The impoundment was unlined and was constructed by compacting the native soil then depositing tailings from the original 2,000 tpd CCD mill within a primary “starter” embankment. In 1996, it was regraded to reduce infiltration, but was not covered at that time. Revegetation efforts were unsuccessful. In 2004, 12 – 18 inches of cover material was added and revegetated again, this time with more success.

Tailings Area 4 (TA-4) was constructed north of TA 1-3 in 1973. A bentonite-amended native soil mixture was compacted for the base of the impoundment during construction to reduce permeability. The embankment was built in the same manner as that for TA 1-3. The impoundment was operational from 1973 to 1976 and was also reclaimed in late 2004.

Tailings Area 5 (TA-5) was constructed adjacent to the north end of TA-4 in 1980. The impoundment was constructed with a compacted clay-silt base and no leak detection. A subsequent embankment raise combined TA-4 and TA-5 into a single tailings storage facility of approximately 57 acres. Material from the Mill 1 CIL Plant was discharged to TA-5 from 1981 to 1985. Tailings material from TA-5 was used for on-site construction purposes. TA-5 was reclaimed in late 2004.

Tailings Area 6 (TA-6) was constructed adjacent to and north of TA-5 in 1984. The impoundment was constructed with an 18-inch thick compacted soil base. This 77-acre facility had a design capacity of 2,700 acre-feet of tailings material and approximately 7.4 million tons (dry weight) of material were deposited. The embankment was constructed with tailings from TA 1-3, spent ore from the West HLP, as well as waste rock. Tailings discharge from the Mill 1 CIL plant to TA-6.
commenced in 1985 and ceased in 1996 (SRK, 2006). In 1989, a 3,500-foot long seepage collection ditch was constructed along the base of the west and north embankment toe to collect seepage. The ditch area was excavated, the subbase soils compacted, and a 60-mil HDPE liner was placed and keyed into the toe of the embankment. Solution collected in the ditch flowed by gravity to an HDPE-lined sump located at the north end of the impoundment and was pumped through a surface HDPE pipeline to the Underdrain Pond. The seepage collection ditch was covered by a subsequent embankment raise.

The Final Plan for Permanent Closure for Tailings Area 6 (TA6), dated March 2006, was approved on 24 May 2006. It included the addition, into the Permit, of the monitoring of three existing static solution level piezometers (OW1, OW2, OW3). The plan was implemented during the first calendar quarter of 2007, and completed in November 2007 with the installation of 12 inches of alluvium and reseeded.

Tailings Area 7 (TA-7) was constructed in 1994 and ceased accepting tailings material when Mill 1 entered closure status in 1999. This lined facility abuts TA-6 on the west side and shares an embankment. Management and monitoring were transferred to WPCP NEV2007106 in September 2008 along with the ancillary underdrain and stormwater ponds.

**Mill 1 Facilities**

The 91-C Carbon Adsorption Plant was closed and reclaimed between 2008 and 2009. It was comprised of five carbon columns, connected in series, and a 3,800-gallon sodium cyanide mix tank. The plant was located within secondary containment constructed of a concrete slab with a 6-inch high stem wall. The secondary containment volume was approximately 8,800 gallons, well in excess of 110% of the largest solution vessel volume of 3,800 gallons. The containment slab drained to a collection sump that flowed to the 91-C Barren Pond via a ‘plus’ 1,000 gpm pipeline.

Mill 1 and its ancillary facilities were removed during reclamation activities from August 2011 to April 2014. The Mill 1 facility dated from 1969; Lurgi GmbH constructed a circulating fluid bed roaster in 1989 to oxidize carbonaceous and sulfidic ore. The Roaster was demolished in 2014.

**Pits**

There are currently no pits monitored under this Permit. The Cortez deposit was mined via the Cortez Pit from 1968 until 1973, when operations moved to the Gold Acres deposit (WPCP NEV0094102). A pit lake existed in the Cortez Pit from 1973 to 1998; at that time the lake disappeared.

The Crescent Pit, located on the west side of the valley, was mined under the Cortez Permit from 1994 through 1997, but has been consumed by the Pipeline Pit. Therefore, waste rock characterization for the Crescent Pit was performed and submitted as part of the Pipeline Project (WPCP NEV0093109) reporting. Pipeline ore was processed at the Cortez Mill 1 until 1999, when the Pipeline Mill #2 and associated components were completed.
South Silicified Waste Rock Storage Facility (WRSF)

The Horse Canyon operations were located approximately 2.5 miles northeast of the Cortez facility on the northeast flank of Mount Tenabo. Horse Canyon was mined from 1983 through 1987, with final ore stockpile removal in 1993. The Horse Canyon facilities included the South Silicified Pit and South Silicified WRSF; the Horse Canyon Pits 1 and 2 and Horse Canyon WRSFs 1 through 9, and the South Extension Pit.

Acid rock drainage (ARD) was identified in April 1994 at the South Silicified WRSF, an unlined waste rock storage facility which pre-dates the 1989 promulgation of Nevada’s mining regulations. The ARD, when flowing, is collected in cut-off trenches and passively neutralized in-situ by carbonate rock backfilled in the trenches. Monitoring wells SS-01 and SS-02 were installed in 1997 to determine the effectiveness of the treatment system. To date, no groundwater degradation has been detected. The Permittee was required, by a Schedule of Compliance (SOC) item in the 2020 Permit Renewal, to investigate the need for the treatment facility to be maintained, upgraded, or removed from the Permit.

On 10 June 2020, the Permittee submitted an EDC requesting the SSD system and ancillary monitoring wells be transferred from NEV0000023 to the Horse Canyon/Cortez Unified Exploration Project (HCCUEP, NEV2016104). A corresponding EDC was received for the HCCUEP Permit. Both EDCs were approved and the Permits were revised. The reason for the transfer was to ensure that monitoring of the SSD system continued with a WPCP that was active and not in closure status. The Cortez Gold Mine Permit is in permanent closure.

Groundwater Pumpback System and Remediation

Six groundwater monitoring wells were installed around the perimeter of TA 1-3 and TA-4 in 1969. These wells were sampled occasionally, revealing the presence of cyanide. At that time, the possibility of groundwater contamination was not considered a serious problem, as the valley floor was believed to be nearly impermeable, a notion that has since been dismissed. In 1980, an area of degraded shallow groundwater was identified downgradient of TA-5. In 1981, additional monitoring wells were installed. In April 1982, MW7 was converted to a pumpback well. In May 1982, MW6 was also converted to a pumpback well. In 1983, five pumpback wells were installed to replace converted wells 6 and 7. The pumpback system was relocated to allow for the 1984 construction of TA-6. By 1990, 13 pumpback wells were in operation. In 1992, six additional pumpback wells were brought on line. In 1997, 17 new monitoring and observation wells were added to the system.

Prior to the cessation of mining and beneficiation in 1999, degraded groundwater from the 19 pumpback wells was pumped to the Pumpback Pond for use in the Mill 1 CIL and roaster circuits. Since commencement of the closure period, pumpback water has been pumped to the UDP and either evaporated during warm months with snowmaker sprays located at TA-7 or pumped to the WSR. The water balance is monitored daily to ensure proper operation.
Downgradient flow of impacted water beyond the pumpback wells is restricted by the remediation system. A confining layer restricts hydraulic communication between the degraded shallow groundwater aquifer and the deeper non-degraded alluvial aquifer. An EDC, approved 22 March 2004, authorized a reduction in sampling frequency for certain pumpback wells due to a trend of continued reduction in contaminant concentrations below regulatory limits for the wells. All affected wells remain operable in the event increased monitoring, sampling, or pumping is warranted.

Groundwater modeling and iso-concentration plots are compiled in a previously separate annual update report. Solution from TA 1-3 through TA-6 and possibly the East and West HLPs is the likely cause of contamination in the shallow groundwater aquifer. Arsenic is naturally occurring and common in the entire valley and most wells associated with WPCP NEV0000023, NEV0093109 (Pipeline Project), NEV0095111 (Pipeline Infiltration), and NEV2007106 (Cortez Hills Project) show elevated arsenic.

However, for NEV0000023, chloride, magnesium (Mg), nitrogen, sulfate, and total dissolved solids (TDS), are the remaining constituents of concern. See Table 1.

| Table 1: Constituents of Concern with MW09A and MW44 (10-Year Period) |
|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Well        | Date         | Chloride       | Mg              | Nitrogen        | pH          | Sulfate        | TDS              |
| MW09A       | 7/24/09      | 2,570          | 503             | 147             | 7.3         | 2,290          | 10,900           |
|             | 11/12/19     | 1,400          | 270             | 63              | 7.3         | 2,000          | 5,400            |
| MW44        | 7/14/09      | 638            | 201             | 7.7             | 8.1         | 1,430          | 4,990            |
|             | 10/28/19     | 980            | 180             | 3.7             | 7.9         | 1,900          | 4,000            |

Two corrective action plans (CAPs) have been submitted for the groundwater plume(s) associated with MW09A (July 2009) and MW44 (June 2012). As part of the 2020 Permit Renewal, the Permittee is required to determine whether these CAPs have been successful, and to update or replace them as warranted. Prior investigations have been inconclusive. PP2 has been suspected as having contaminated groundwater at MW09A and TA-6 has been assumed to be the source of the MW44 plume. Other possibilities may be TA 1-3 and/or TA 4-5; TA-7 is lined. However, PP2 has been closed and covered for many years, and MW09A continues to show elevated constituents. These constituents appear to be seasonal in the Division Profile I reference value exceedances with higher numbers occurring in wetter months. It is possible that the cover on PP2 is not adequate and leakage in the liner system continues to drive contaminated solution into the shallow aquifer. Or, it may be possible that the nearby tailings facilities are contributing to the seasonal fluctuations in MW09A.

In the 2020 Permit Renewal Application, the Permittee requested that monitoring wells MWP1, MWSP, and TB02 be removed from the monitoring requirements. MWP1 and TB02 have been dry since 2000; MWSP dried up in 2009. Since there are active wells fairly close-by each of them, the Division agreed and the wells were
removed from the Permit. The Permittee is required to abandon the wells per Division of Water Resources regulations.

C. **Receiving Water Characteristics**

The Cortez Mine Project is located at an approximate elevation of 4,800 feet above mean sea level in the southern portion of Crescent Valley on the pediment draining the western flank of the Cortez Mountains. The pediment is covered by several coalescing alluvial fans, comprised of weathered sedimentary and metamorphic rock outwash, which terminate at the Crescent Valley playa.

There are no perennial surface water resources within a one-mile radius of the process components. Several ephemeral channels flow in response to major storm events and snowmelt runoff.

Groundwater in the Cortez Mine Project area is recharged by runoff from the western slopes of the Cortez Mountains. Groundwater beneath the process components occurs at depths ranging from 11 to 59 feet below ground surface. The groundwater hydraulic flow gradient is generally to the northeast at 10 to 30 feet per mile. A groundwater remediation pumpback system was installed following identification of groundwater degradation in 1980. A hydrocarbon remediation system is also operated at the site.

D. **Procedures for Public Comment**

The Notice of the Division’s intent to issue a Permit authorizing the facility to close, subject to the conditions within the Permit, is being published on the Division website: [https://ndep.nv.gov/posts](https://ndep.nv.gov/posts). 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.

C. **Pathway to Final Closure and Permit Termination**

The contamination plume(s) associated with monitoring wells MW09A and MW44 continue to be concerning. As long as these issues persist, the WPCP cannot be
terminated. The Permittee is required by SOC items in the 2020 Permit Renewal, to determine the source(s) of each plume and submit an updated CAP. In order for the Permit to be terminated, the source(s) must be mitigated. The Permittee has been directed by this Renewal to 1) provide a work plan with schedule to outline the investigation; 2) provide updated CAP(s) following the investigation including a determination of the effectiveness of the previous CAPs; finally, 3) the Permittee is required to provide an efficacy update of the revised CAP(s) just prior to the 2025 Permit Renewal. Once the plumes have dissipated and the associated monitoring wells are displaying background water quality, and the heap leach draindown is well managed by a passive system, this Permit may be terminated.

F. **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 groundwater contamination will be placed on required routine sampling of monitoring wells.

G. **Federal Migratory Bird Treaty Act**

Under the Federal Migratory Bird Treaty Act, 16 U.S.C. 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 CFR 10, April 15, 1985) includes nearly every bird species found in the State of Nevada. The U.S. Fish and Wildlife 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 (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.

Prepared by: L.A. Kreskey  
Date: 11 June 2020  
Revision 00: Renewal 2020; Permit effective 22 July 2020

**References**
