

FACT SHEET

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

Permittee Name: **KG Mining (Bald Mountain) Inc.**

Project Name: **Casino/Winrock Mine**

Permit Number: **NEV0090020**

Review Type/Year/Revision: **Renewal 2024, Fact Sheet Revision 00**

A. Location and General Description

Location:

The Casino-Winrock Mine is located in northwestern White Pine County, approximately 10 miles south of the Ruby Lake National Wildlife Refuge at the southern end of the Ruby Valley, 60 miles south-southeast of Elko Nevada. The facility is located within Sections 11 and 12, Township 24 North (T24N), Range 57 East (R57E), and Sections 8, 9, 16, 17, 20, and 21, T24N, R58E, Mount Diablo Baseline and Meridian.

General Description:

The Casino/Winrock Mine is in post-closure monitoring per NAC 445A.446. The mine operated from 1989 to 2000 and processed approximately 3.4 million tons of gold ore by conventional heap leaching.

The mine site currently consists of five pits, two rock disposal areas, one leach pad, two evapotranspiration basins (formerly the process and stormwater ponds), and one infiltration basin. All process buildings and support facilities have been removed from the site. Long-term heap draindown reports to an evapotranspiration basin and infiltration field. The leach pad has been recontoured, and topsoil applied and seeded. All rock disposal areas have also been recontoured and seeded.

Prior to the completion of Bald Mountain's 2016 Environmental Impact Statement (EIS), the Winrock Mine had its own Plan of Operations (PoO). However, the Winrock Mine has since been incorporated into Bald Mountain Mine's North Operations Area (NOA) Plan of Operations (NVN-082888). The NOA is authorized for a total of 10,782.3 acres of disturbance. The facilities covered under this Water Pollution Control Permit account for 165.8 of those acres. The mine site is located entirely on public lands administered by the U.S. Bureau of Land Management (BLM), Ely District, Bristlecone Field Office.

B. Synopsis

Water Pollution Control Permit (Permit) NEV0090020 was first issued to USMX, Inc. in August 1990. The Casino Mine was developed in 1990 with construction of a heap leach pad and process facilities. Active mining was completed at the Casino Mine in mid-1991. At that time, an expansion of the Casino leach pad began when development of the Winrock Mine was initiated. Active mining was completed at

the Winrock Mine in mid-1992. USMX continued to operate the mine until August 1993 when Placer Dome - Bald Mountain Mine purchased the property. Leaching of the Casino/Winrock ore was completed in 1996. The site entered post-closure monitoring in May 2003. In March 2006, Placer Dome merged with Barrick Gold Corporation and became Barrick Gold U.S. Inc. In conjunction with a purchase agreement between Barrick and the KG Mining (Bald Mountain) Inc. (Permittee), effective January 2016, Permit NEV0090020 was transferred to the Permittee effective 25 April 2016.

The Permit was previously renewed in 1995, 1999, 2016 and 2019. The 2024 renewal shall remain in effect until 23 May 2029.

Figures 1 and 2 below provide a site map including all components and monitoring locations specific to the Casino/Winrock Mine.



Figure 1 – Casino/Winrock Mine Permit components, monitoring locations, and site map.



Figure 2 – Casino/Winrock Mine Permit components, monitoring locations, and site map.

Geology:

The Casino-Winrock Mine is located in the Maverick Springs Range at the northeastern edge of the Alligator Ridge mining district. Here, the strata-bound disseminated gold deposits are hosted by the Mississippian Chainman Shale, and underlying Joana Limestone Formations. Leachable gold occurs in the oxidized portions of otherwise carbonaceous silty shales and other sediments of the Chainman and in oxidized jasperoids of the Joana. A major northwest-trending pre-mineral shear zone localized the Deer Camp and Blowout ore bodies. Alteration and mineralization were controlled by primary lithology, proximity to hydrothermal activities, and both hypogene and supergene oxidization. The lowermost Devils Gate Limestone, intersected in only a few drill holes, is generally barren and unaltered.

The Pilot Shale Formation is a uniformly black carbonaceous somewhat calcareous siltstone. Minor ore-grade material occurs in an argillized to silicified and oxidized zone just beneath Joana jasperoids. The lower Pilot-Devils Gate transition, where intersected, is barren.

The massive Joana Limestone nearly always occurs as an oxidized jasperoid breccia. Outcrops in the Blowout area contain massive barite veins. Some unreplaced limestone occurs in fringing waste areas.

Alteration within the Chainman Formation is the most diverse because of the variety of lithologic types. The predominant black carbonaceous silty shales may be argillized, bleached, or silicified, all in varying intensity. Unoxidized, black, carbonaceous, somewhat pyritic ores are derived from this lithology. Such ores are considered “preg-robbing” because the contained carbon in the rock competes with cyanide in the process solution for gold.

The geology in the pit areas consists of Chainman Shale, Joanna Limestone, and Pilot Shale Formations. The ore zone of the Casino Mine was hosted by the Pilot Shale and the ore zone of the Winrock Mine was hosted by the shales and siltstones of the lower Chainman and the jasperoidal top of the Joanna Limestone.

Open Pit:

The mine site originally consisted of five open pits: Casino, Blowout, Blowout Extension, Deer Camp and Hilltop. The Casino Pit was originally known as the Keno Pit; the Blowout, Deer Camp and Hilltop pits were associated with the Winrock Mine. Beginning in late 2016, the Blowout, Blowout Extension, Deer Camp and Hilltop pits were expanded and combined into the Winrock Main Pit as part of the Mooney Basin Mine.

Table 1 - Casino -Winrock Mine approximate open pit closure dimensions

Pit Identification	Size (acres)	Maximum Depth (feet)
Casino	14.2	235

None of the open pits penetrated the groundwater table. Post-closure monitoring of the remaining pits consists of identifying pit surfaces as dry, damp, or wet (visible flow or ponding). If a groundwater source or persistent ponded water is present, the Permittee shall collect a representative sample and analyze for Nevada Division of Environmental Protection (Division) Profile III reference values, plus field pH and specific conductance (SC), reported as $\mu\text{S}/\text{cm}$ (microSiemens per centimeter). Photos of any ponded areas shall also be taken and documented in the semi-annual monitoring report. All pits shall be evaluated for stability, safety, and access restrictions. To date, no water has been observed in the open pits.

Rock Disposal Areas (RDAs):

There were two rock disposal areas on site, one associated with the Casino Mine and the other with the Winrock Mine. The Casino RDA covers approximately 15.5 acres. The Winrock RDA covered approximately 19.2 acres. The Winrock RDA contains approximately 8 percent sulfidic material. Both RDAs have been regraded, covered with growth media, and seeded.

In 1998, a site inspection revealed exposed sulfides on the Winrock RDA. Shortly thereafter, the Permittee began an investigation utilizing sonic drilling and characterization of the Winrock RDA using acid-base accounting (ABA) and the meteoric water mobility procedure (MWMP). The investigation resulted in a set of goals and objectives, provided below, for the closure of the Winrock RDA, which were completed in September 2001.

1. Relocated the sulfide material located on the Winrock RDA top surface into the Blowout Pit;
2. Graded and covered the sulfide material - backfilled into the Blowout Pit with native alluvial material at a depth of four feet;
3. Graded the Winrock RDA top surface to promote positive drainage;
4. Placed intermediate cover on the top and side slopes of the Winrock RDA upper lift;
5. Placed a minimum depth of one-foot of topsoil over the intermediate cover and other areas on the RDA, which lacked growth medium or showed evidence of sulfides on the surface;

6. Reclaimed the access road leading to the Winrock RDA;
7. Contoured and reclaimed exploration roads and drill pads surrounding the Winrock Pit area;
8. Ripped - on contour - the top and side slopes of the Winrock RDA.

In November 2016, the Permittee combined the Casino/Winrock plan boundaries into the North Area Operations (NOA) Plan boundary and submitted a minor modification to develop four new open pits at the Mooney Basin Mine, NEV0098100, which included the Winrock North Pit, Winrock South Pit, and Winrock Main Pit. Waste rock from the Winrock Pits will be placed at the Winrock North, East, and West Rock RDAs. The three existing open pits (Hilltop, Blowout, and Deer Camp pits) will be expanded into a single pit known as the Winrock Main Pit, and two additional open pits known as Winrock North and Winrock South will be developed within the Winrock Area.

Mining occurred under the Mooney Basin Permit, NEV0098100, as such, the expanded Winrock pits and RDAs are monitored by this Permit.

The Permittee is required to inspect the Casino RDA (semi-annually) for mass and surface stability. Inspect for seepage and identify surfaces as dry, damp, or wet (visible flow or ponding). If any seepage is emanating from any portion of an RDA, the Permittee shall collect a representative sample and analyze for Division Profile I reference values. The Permittee shall also conduct field pH and SC analyses. Photos of the seepage area shall also be taken and documented in the semi-annual monitoring report.

Heap Leach Pad:

The heap leach pad is approximately 16 acres in size. The pad was constructed in two phases: Casino Project and Winrock Project. The primary liner was constructed of 60-mil high density polyethylene (HDPE) overlying a 12-inch layer of compacted clay sub-base. No compaction specifications or transmissivity values are available. The pad was divided into cells of 300 feet (ft.) by 600 ft. and separated by berms with perforated drain pipes to allow for solution collection. Leak detection port MW-1 is located at the edge of the pad near the solution conveyance channel. Two additional leak detection monitoring ports are located downgradient of the pad (MW-2) and channel (MW-3). The heap surface has been regraded, covered with growth media to a depth of approximately 18 inches and seeded.

In March 2005, monitoring of the leak detection ports MW-1, MW-2, and MW-3 was discontinued pursuant to previous Permittee's request and subsequent Division approval. Remaining monitoring in the Permit remains unchanged.

Approximately 452,000 cubic yards (cy) of spent ore was removed from the heap leach pad in three separate events beginning in 1999. This material was utilized as overliner protection for the Mooney Basin leach pad expansions (Water Pollution Control Permit NEV0098100) and did not result in a decrease in the overall pad footprint, but did decrease the total elevation.

Converted Process Ponds:

There are two converted ponds at the site, formerly the pregnant (CWCP-1) and storm water (CWCP-2) ponds. The primary liner for both ponds consists of 60-mil HDPE overlying a compacted soil layer. No compaction specifications or transmissivity values are available. Only the pregnant pond was constructed with a leak detection port (MW-4). Monitoring of leak detection port MW-4 was also discontinued in March 2005 at the request of the previous Permittee following Division approval.

The ponds were modified in 1998 for incorporation into the heap leach draindown solution infiltration system. The modifications consisted of re-lining the ponds, including the ditches leading from the heap to the ponds and between the ponds, with half-inch thick conveyor belting, to protect the liner from punctures during backfilling operations. Both ponds were backfilled with spent leach material, the pregnant pond with approximately 69,300 cubic feet (cf) and the stormwater pond with approximately 183,300 cf. After backfilling was completed, the ponds were then covered with a nonwoven geofabric overlain by a minimum of 18-inches of growth medium. The final capacities of the pregnant and stormwater ponds are 29,700 cf and 78,590 cf, respectively, or 108,290 cf (810,057 gallons) combined. In this design the ponds are used as storage/surge reservoirs. Solution which fills the storage capacity of the pregnant pond overflows to the stormwater pond where it is stored. Any solution which fills the storage capacity of the stormwater pond overflows to a 3,500 gallon dosing siphon tank which “doses” the solution out to an infiltration field.

The infiltration field is approximately 2,156 square feet in size and consists of 720 linear feet of 3-foot wide louvered infiltrators which are sized for the 100-year, 24-hour storm event. To date (2019), no solution has discharged from the former stormwater pond to the dosing tank or the infiltration field.

Tables 2 and 3 below provide empirical data for the CWCP-1 and CWCP-2, respectively, based on the averages of 73 sampling events (March 1999 through October 2018), and includes only those parameters, with the exception of pH, that may be considered elevated or of interest with respect to Division Profile I reference values (RVs). Importantly, the CWCP-1 and CWCP-2 solutions are contained within lined ponds, so the exceedances of Division Profile I reference values do not have the potential to degrade waters of the State unless overflow occurs.

Table 2 – CWCP-1 (Former Process Pond Constituents, March 1999 – May 2024)

Constituent	Division Reference Values (mg/l)	Average Concentration & Range (mg/L)	Trend
Arsenic	0.01	0.088 (0.030 – 0.194)	Increasing
Nitrate + Nitrite (as N)	10	166 (77 - 370)	Stable
pH (in Standard Units)	6.5 – 8.5	7.4 (6.0 – 8.4)	Decreasing
Selenium	0.05	1.13 (0.74 – 1.9)	Increasing
Sulfate	500	1,425 (1,150 – 2,110)	Increasing
Thallium	0.002	0.003 (0.001 – 0.008)	Stable
Total Dissolved Solids	1,000	3,315 (2,300 – 4,600)	Increasing
WAD Cyanide	0.2	0.079 (0.0025(ND*) – 0.462)	Decreasing

*ND = Non-detect

Table 3 – CWCP-2 (Former Stormwater Pond Constituents, March 1999 – May 2024)

Constituent	Division Reference Values (mg/l)	Average Concentration & Range (mg/L)	Trend
Arsenic	0.01	0.079 (0.041 – 0.138)	Increasing
Nitrate + Nitrite (as N)	10	65 (7 - 123)	Decreasing
pH (in Standard Units)	6.5 – 8.5	7.4 (6.1 – 8.2)	Decreasing
Selenium	0.05	0.717 (0.16 – 1.45)	Decreasing
Sulfate	500	1,750 (1,500 – 2,130)	Increasing
Thallium	0.002	0.007 (0.003 – 0.015)	Decreasing
Total Dissolved Solids	1,000	3,300 (2,530 – 3,600)	Increasing
WAD Cyanide	0.2	0.005 (0.0025(ND) – 0.080)	Decreasing

Monitoring is performed in accordance to Part I.D of the Permit.

Since the piezometer in CWCP-1 has never indicated a solution outflow to CWCP-2, in all likelihood, the chemistry represented by CWCP-2 may be the result of solution remaining in the pond at the time the backfilling of the pond commenced in 1998. Spent leach ore was utilized as backfill material.

The 2019 Permit renewal included a Schedule of Compliance (SOC) item requiring the installation of a monitoring well to be located hydrologically downgradient of the ET cells and infiltration field to verify that degradation of groundwater has not occurred.

As required per SOC Item I.B.2, the Permittee completed the installation of monitor well CWMW-19, located approximately ¼-mile hydrologically downgradient (to the north) of the Winrock heap leach pad (HLP) evapotranspiration (ET) basins and infiltration field and screened in the uppermost usable saturated water-bearing zone. The Record of Construction, submitted on 3 September 2019, was approved by the Division on 10 September 2019.

Review of water quality data since installation indicates that the groundwater meets all NDEP Profile I RV's.

Additionally, in October 2019, the Permittee submitted an EDC to include monitoring well CWMW-15 in the Permit. This well is located adjacent to the Casino-Winrock Rock Disposal Area (RDA) and upgradient of the HLP and ET cells. Due to an obstruction in the well, CWMW-15 was replaced by well CWMW-15R and is located approximately 20 feet to the southeast.

In February 2023, KGBM installed Winrock monitoring well (WMW-1) to monitor the RDA north of the Winrock pit. WMW-1 was installed to a total depth of 820 ft. bgs and depth to water of 648 ft. bgs and is located on the western edge of the RDA. Water quality since installation meets Profile I reference values.

The Permittee will be required to monitor both wells on a quarterly basis for depth to water and water quality Profile I chemistry.

In September 2024, KGBM removed the DTS and capped piezometers CWCP-1 and CWCP-2. These monitoring locations have been removed from the Permit.

C. Receiving Water Characteristics

The facility is located at an elevation of approximately 6,470 ft. above mean sea level (AMSL). The average annual precipitation at the site is approximately 13 inches per year. The mean annual potential evaporation is 47.22 inches. There are no springs, perennial streams, or lakes located within a 1-mile radius of the site. The nearest surface water is the Ruby Marshes, located approximately 10 miles to the north.

During production well drilling, groundwater was encountered at 720 ft. below ground surface (bgs). The static water level subsequently rose to 560 ft. bgs, indicating confined groundwater conditions. Background water quality data collected from the mine site water supply well indicates that only iron exceeds the Division Profile I reference values.

Two condemnation holes were drilled in the area of the leach pad, one to 535 ft. and the other to 555 ft. and no groundwater was encountered in either.

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. Pathway to Final Closure and Permit Termination

In accordance with NAC 445A.409 and 445A.446, for final closure and Permit termination the Permittee must demonstrate to the Division that: 1) all sources at the facility have been stabilized, removed, or mitigated; 2) any applicable requirements in NAC 445A.429, 445A.430, and 445A.431 have been achieved; and 3) sufficient post-closure monitoring has occurred to verify the adequacy of these actions to ensure the long-term protection of waters of the State, human health, and wildlife under the physical, chemical, and climatic conditions reasonably expected to occur at the site. If the facility includes a long-term trust and/or requires perpetual treatment or

maintenance, post-closure monitoring may never be reached and the Division may not be able to terminate the Permit.

The pathway to final closure and Permit termination at this facility includes the following specific actions:

- Complete additional approved permanent closure actions on the heap leach pad and ET Basin components if warranted;
- Submit a final closure report for heap leach pad and ET Basin components;
- Monitor the facility through major storms and large winter/spring seasons to verify that closed components and the fluid management system remain functional with no potential for degradation of waters of the State;
- Discuss with the Division whether the facility is ready for final closure and Permit termination. If so, submit for review and approval a request for final closure and Permit termination including a demonstration of compliance with all applicable closure requirements (e.g., NAC 445A.379, 445A.409, 445A.424, 445A.429, 445A.430, 445A.431, 445A.446, 445A.447).

The Division may require additional actions if warranted in accordance with site conditions and applicable statutes, regulations, orders, and Permit conditions.

G. Rationale for Permit Requirements

The site has been in post-closure monitoring since May 2003. The former pregnant pond and stormwater pond have been converted to in-series evapotranspiration basins and the Permit allows for a controlled discharge through a dosing tank system and engineered infiltration field in accordance with Division approved engineering designs submitted by the Permittee which are contained within the approved closure plan. Since inception, there has been no overflow from the process pond to the stormwater pond, and hence no recorded discharge to the infiltration field. None is predicted to occur in the long-term except possibly if a significantly larger winter occurs than has previously occurred at the site.

The primary method for identification of escaping process solution, from areas other than the approved discharge location, will be placed on routine inspection of the facilities and monitoring as required by the Permit.

With the installation of new groundwater monitoring well (CWMW-19), the Permittee will verify whether degradation of groundwater has occurred.

Specific monitoring requirements can be found in the 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 (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.

Prepared by: Karl W. McCrea
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