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

Permittee Name: Goldwedge LLC
Project: Goldwedge Mine
Permit Number: NEV2002107
Review Type/Year/Revision: Renewal 2022, Fact Sheet Revision 00

A. Location and General Description of Facility

Location: The Goldwedge Mine (Goldwedge) is located within the historic Manhattan Mining District within portions of Section 18, Township 8 North, Range 44 East, Mount Diablo Baseline and Meridian, approximately 39 miles (by air) northeast of the town of Tonopah and ½-mile west (by air) of the town of Manhattan in Nye County, Nevada. The mine and mill facility are located on private land and less than 1 acre of public land (administered by U.S. Forest Service (USFS) Toiyabe National Forest). Future expansion of the facility onto public land administered by the U.S. Bureau of Land Management (Battle Mountain District—Tonopah Field Office) is proposed for a later date. The Permittee for the Project is Goldwedge LLC, a subsidiary of Scorpio Gold (U.S.) Corporation (Scorpio).

To access the Goldwedge site, proceed east from Tonopah on U.S.-6, approximately 5.4 miles to the junction of S.R.-376. Proceed north on S.R.-376, approximately 37 miles to the junction of S.R.-377. Proceed east on S.R.-377, approximately 6.2 miles to the Goldwedge site, located 100 feet north of the road. The town of Manhattan is approximately one half mile east of the project site.

General Description: The Goldwedge Project is permitted as an underground gold mine and chemical processing facility. Flocculants and flotation chemicals are the only chemicals permitted for use in the process. 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.

The Permittee also operates two Rapid Infiltration Basins (RIBs) west of the mine site and south of S.R.-377 to manage and reintroduce dewatering water from the Goldwedge underground mine back into the local groundwater basin. Specific operation, monitoring, reporting and recordkeeping requirements are addressed in Water Pollution Control (WPC) Permit NEV2008101.
B. Synopsis

Background: The Goldwedge Project is comprised of a single-decline underground mine, two Waste Rock Disposal Facilities (WRDFs) with a combined capacity of 180,000 tons, a concrete-lined Ore Stockpile Pad (OSP) with an 8,000-ton temporary storage capacity, a Crushing and Screening Circuit and Gravity Separation Plant capable of processing up to 20 tons per hour (tph), 400 tons per day (tpd), and 146,000 tons per year (tpy), two double-lined and leak-detected ponds (total capacity approximately 925,000 gallons), a 500,000-ton lined Fines/Oversize Pad (e.g. tailings storage facility), conveyors, maintenance shop, Process Laboratory, haul and access roads. The double-lined ponds also serve as storm event ponds.

Mining: The underground mine is estimated to contain a total of 500,000 tons of mineralized ore at a depth of 285 feet below ground surface (bgs). Mined ore and waste rock is hauled to the surface by two, 10-ton haul trucks for placement on the OSP located near the decline portal or to the WRDF located on the west side of the project site.

The OSP is approximately 72 feet by 144 feet and is constructed of a 4-inch thick layer of soil cement underlain by a 14- to 18-inch layer of gravel, designed to contain run off from the ore. Current capacity of the pad is approximately 8,000 tons. The pad floor is graded to a central drain grate and waterstop material installed for watertight integrity. Ore is removed from the pad via front-end loader and fed to the crushing plant for size reduction. Refer to the sub-section entitled “Beneficiation and Precious Metals Recovery” for additional details.

Dewatering: Groundwater was first encountered at a depth of 163 feet below ground surface (bgs), requiring the installation of a dewatering sump, pumps, and conveyance pipe. There is no oil/water separator device installed; however, an absorption cloth has been placed in the intake pool where water enters the pump.

Continuous dewatering of the mine started 5 December 2011; as a result, the water table has lowered to approximately 215 feet bgs. Groundwater is believed to be associated primarily with the bedrock structure. Historically, dewatering pumping volumes have ranged from 50 gallons per minute (gpm) to 300 gpm. As mine development advances to deeper levels, this could potentially increase to 600 gpm. A second dewatering well (DW-2) has been permitted for installation and operation, but it is not yet constructed as of the issuance of the 2022 major modification and renewal.

The dewatering well (DW-1) was initially installed to provide fresh water to the mill and was drilled to a depth of 700 feet bgs (cased to 588 feet) and has a depth to water of 260 feet bgs. Monitoring Well MW-1 was initially installed as a production well in 2002, drilled to a depth of 300 feet bgs with a depth to water of 165 bgs.
During active operations, dewatering water is pumped from DW-1 to the Freshwater Holding Pond (FHP) for use as make-up water in the gravity circuit. In addition, a small amount of dewatering water is supplied to the underground operations. Dewatering water not used for consumptive purposes is directed to one of two Rapid Infiltration Basins (RIB-A and RIB-B) located on the west side of the site and S.R.-377 for introduction back into the local groundwater basin (for additional details, refer to “WPCP NEV2008101 Fact Sheet”).

**Dewatering Impacts on Neighboring Sites:** A comprehensive hydrological study was initiated to determine the impacts of future dewatering at Goldwedge on the Round Mountain Gold Corporation’s (RMGC’s) Manhattan Mine (WPCP NEV0088013), the AU Mines’ Manhattan Gulch Project (WPCP NEV2009103, currently in temporary closure), the White Caps Gold Mining Company’s White Caps Mill Project (not yet permitted), and the water supply for the town of Manhattan. A comprehensive report highlighting the impacts of mine dewatering at the Project site on closed, current, and future operations at neighboring mine sites and the water supply and quality for the town of Manhattan was submitted to the Division during the first quarter of 2014. The report verified the complexity of the hydrology within the vicinity of Goldwedge and includes a plan to address any necessary mitigation as a result of dewatering at Goldwedge.

**Ore and Waste Rock Characterization and Management:** Meteoric Water Mobility Procedure (MWMP) and Acid Neutralization Potential/Acid Generation Potential (ANP/AGP) analytical tests are performed on a quarterly basis on ore, waste rock, and spent ore, pursuant to Part I.D.5 of the Permit.

MWMP analytical results indicate that, with the possible exception of arsenic, the mobilization of constituents above any Profile I standard is unlikely. ANP/AGP analytical results indicate that most rock lithotypes have very strong acid neutralization potential. However, some unoxidized waste rock lithotypes have shown a slight potential for acid generation. If any of these PAG lithotypes are encountered, the Permittee’s current plan is to either mix or encapsulate the PAG waste with limestone or other non-PAG material, pursuant to the “Waste Rock Management Plan”, to preclude acid generation. A portion of the non-PAG waste rock generated will be used for backfill in abandoned drifts.

The existing WRDF occupies a footprint of approximately 0.55 acres and is approaching its 30,000 ton design capacity. The WRDF is constructed on native soil of which the top 6 inches have been stripped. The waste rock is placed in 25-foot-high lifts with a 38-foot-wide bench to achieve a desired overall side slope of 2.5 horizontal:1 vertical (2.5H:1V).

The previous Permittee, (Royal Standard Minerals, Inc./Manhattan Mining Company), expanded the WRDF on private, patented land. The expansion increased the WRDF footprint to nearly 4 acres and storage capacity by 150,000
tons. The existing WRDF was expanded by extending the footprint of the existing dump to 1.6 acres and constructing a second WRDF on a 2.26 acre parcel upgradient of the settling pond. The revised WRDF expansion was approved by the Division on 12 September 2008.

**Beneficiation and Precious Metals Recovery:** The Physical Separation Plant and Flotation Circuit (PSPFC) is designed to process up to 20 tph, 400 tpd (at peak operation) and 146,000 tpy. The volume of make-up water required for start-up is estimated at 450 gpm; however, as water is recycled back into the circuit, this is expected to reduce to about 250 gpm.

The Process Facility is housed in a pre-engineered metal building, 150 feet by 100 feet by 26 feet high with a reinforced concrete slab foundation.

Run-of-mine (ROM) ore is delivered by 10-ton haul trucks from the decline to the OSP and then transferred via front-end-loader to the Impact Crusher. Crushing operations consist of a Feed Hopper, a Vibrating Grizzly Feeder, a Horizontal Impact Crusher, a Vibrating Screen, and conveyors to transfer oversize and undersize discharge product. The Eagle Impact Crusher reduces the ore to a minus ¾-inch size before it is conveyed into the Gravity Separation Circuit.

From the Crushing Circuit, the minus ¾-inch discharge product is conveyed to a Pioneer Triple-Deck Screen for removal of the minus ½-inch material. The minus ½-inch (undersize) material is discharged to a SWACO Screen, and the oversize plus ½-inch is conveyed to the Hardinge Ball Mill. Discharge from the Ball Mill reports back to the top of the Triple-Deck Screen. Process upsets are collected into a near-by concrete floor sump and are pumped to one of two, 500-gallon tanks.

The SWACO Screen discharges to two Knelson Concentrators (KC-20 and KC-30) or two Diester Concentrating Tables. The coarse overflow concentrate is pumped as slurry from the KC-20 concentrator to the Ball Mill and the fine underflow concentrate is placed in a drying oven and discharged into 55-gallon drums for shipment offsite to Metals Research Corporation (Kimberly, Idaho) for further processing and gold recovery.

The coarse overflow concentrate from the KC-30 concentrator is discharged as a slurry to the 500-gallon tanks and then pumped to an 18,800-gallon thickener. The 500-gallon KC-30 tank is piped so the pump can report to the flotation circuit or be bypassed to the 18,800-gallon thickener tank if flotation recovery isn’t required.

Potassium Amyl Xanthate and Methyl Isobutyl Carbinol are added to the 500-gallon KC-30 tank which is pumped to the Rougher feed box of the Flotation circuit. The Rougher float concentrate reports to the Cleaner Feed Box. The Rougher tails reports Scavenger Feed Box. The Cleaner float concentrate reports
to the Drum Filter Feed Tank which is pumped to the Drum Filter. The Cleaner tails report to the Cleaner Tails Tank which is pumped to the Rougher Feed Box. The Scavenger concentrate reports to the mill sump. The Scavenger Tail reports to the 18,800-gallon thickener tank. The Drum Filter Concentrate is discharged into a storage hopper which sent offsite for processing.

A polymer flocculant is added to the top of the thickener to aid in settling out the solids in the slurry. The fine underflow concentrates from the KC-20 and KC-30 concentrators are dried and discharged into 55-gallon drums for shipment off-site to Metals Research Corporation (Kimberly, Idaho) for further processing and gold recovery.

Thickener overflow is discharged via a gravity line to the double-lined and leak-detected Settling Pond and Thickener underflow is pumped to a Fluid Systems, Inc. Dewatering Screen for size separation. The dewatered coarse oversize material from the screen is discharged onto the tails conveyor and conveyed to the TSF.

The undersize material from the Dewatering Screen is pumped to a Sperry Systems Filter Press. The Filter Press supernatant solution is recycled to the KC-20 and KC-30 tanks for use as make-up water. The solid concentrates from the Filter Press are discharged onto the tails conveyor, which discharges to the TSF.

The design of the PSPFC is to recycle and reuse 100 percent of the process water that is discharged to the Settling Pond. The system utilizes approximately 260 gpm of this water on a regular basis. The system has a maximum temporary design capacity of 450 gpm. Make-up water is provided to the process circuit from a dewatering well used to dewater the underground workings.

**Process Circuit Changes:** In an effort to manage the increased amount of flow generated within the circuit and optimize grinding efficiency, an engineering design change (EDC) approved by the Division 31 October 2013 authorized the modification of the existing process circuit by adding three new cyclones (Krebs Model D10B-840). A pair of cyclones, installed parallel to each other, will be located upstream of the KC-20 and KC-30 concentrators for the purpose of processing fine-grained gold ores. Coarse material exiting the Cyclone underflow outlet is discharged to the KC-20 Concentrator, while fine material exiting the Cyclone overflow outlet is discharged to the KC-30 Concentrator. Parallel installation allows for one Cyclone to operate independently while the other serves as a backup for cleaning and maintenance purposes.

The SWACO Screen will remain in the process circuit, upstream of the KC-20 and KC-30 concentrators but utilized on an as-needed basis when coarse-grained gold ore is processed. Isolation valves will be utilized to direct coarse-grained gold ore to the SWACO Screen in lieu of the paired cyclones.
A third Krebs Cyclone will be added downstream of the KC-20 Discharge Tank, above the Hardinge Ball Mill feed bin. Material from the KC-20 Discharge Tank is fed to the Cyclone, coarse material exiting the Cyclone underflow outlet is discharged to Ball Mill Feed Bin, while fine material exiting the Cyclone overflow outlet is discharged to the Pioneer 48 triple-deck screen. A new Sperry Filter Press will be installed within the milling circuit and in-line with an existing Sperry Filter Press. The new Filter Press is identical to the existing filter press to serve as a backup for operational maintenance and cleaning. No additional containment structures are required since the three cyclones and the filter press are all located within existing process mill containment.

In January 2017, an EDC was approved by the Division for the addition of one Telsmith 24FC Gyrasphere Cone Crusher downstream of the primary impact crusher and double-deck screen to achieve more consistent material gradations. Oversize material from the double-deck screen is conveyed to the new cone crusher for further size reduction. The screen provides feed to the cone crusher that is sized between 3/8-inch and 1 1/2-inch. From the Telsmith cone crusher, the material is conveyed back to the feed conveyor for the double-deck screen. Once the material meets the required size gradation, it is conveyed to the existing milling circuit for further processing.

**Settling Pond:** The originally single-lined, 60-mil high-density polyethylene (HDPE) settling pond is approximately 180 feet by 40 feet by 10 feet deep and receives wash water from the gravity separation tailings via the HDPE-lined discharge/inlet channel. The pond is divided into three equal sized cells which are intended to operate in series to provide ample sediment settling time. Typical wash water detention time is approximately 10 hours, based on a maximum volumetric flowrate of 450 gpm. Pond volume (at 12 inches of freeboard) is 926,000 gallons.

The HDPE liner is placed over a 12-inch layer of soil, constructed in two 6-inch lifts with the soil compacted to 95 percent Modified Proctor (American Society for Testing and Materials [ASTM] Method D 1557). Application materials state that sediment is collected by vacuum suction trucks and lined fines/oversize pad (i.e. tailings impoundment) for final disposition (Refer to the sub-section entitled “Fines/Oversize Pad” for additional details).

Following solids sedimentation, the wash water is pumped to an 80,000 gallon storage tank where a 1,253-foot long 6-inch diameter gravity pipeline delivers the water from the tank back to the PSPFC. An earthen basin with a minimum 1-foot-high berm constructed of compacted fill (92 percent Modified Proctor, ASTM Method D 1557) surrounds the tank.

An EDC approved by the Division on 12 September 2008, authorized construction of a high-density polyethylene (HDPE) lined sediment channel on
the east end of the settling ponds to remove the coarse fraction of the suspended sediments prior to its discharge into the settling pond.

In the revised design, wash water is conveyed to the sediment channel via pipeline in an HDPE-lined inlet channel located at the north end of the sediment channel. The wash water is discharges into a trapezoidal-shaped channel, approximately 20 feet wide by 300 feet long by 4.5 feet deep (including 1 foot of freeboard). The channel is single-lined with 60-mil HDPE over a 12-inch layer of soil, constructed in two 6-inch lifts and compacted to 92 percent Modified Proctor (ASTM Method D 1557). The channel liner is fusion welded to the pond liner and anchored using a key trench and the channel is filled with a 2-foot layer of 1-inch (nominal) drainrock overlain by a layer of geotextile fabric, overlain by a 1.5-foot layer of 1-inch (nominal) drainrock. The purpose of the geotextile is to add stability to the drain rock matrix; allow a wheeled loader to operate in the channel to facilitate removal of the collected sediment without damaging the HDPE liner; and to enhance sedimentation. A 1.5-foot-high by 2-foot-wide berm, constructed of engineered fill, separates the settling pond from the sedimentation channel.

A 12-inch-diameter booted discharge pipe conveys solution from the channel to the ponds through the berm and HDPE liner. In addition a 6-inch-diameter emergency overflow pipe is installed to convey solution to the ponds in the event of a system upset.

In 2022, a major modification was approved by the Division to upgrade the facility to a chemical processing facility with the addition of a flotation circuit and upgrading the settling ponds and freshwater pond to be double-lined and leak-detected.

The liner system for the new settling ponds would consist of a double geomembrane liner and a leak collection and recovery system (NewFields, 2020). An HDPE liner of 80-mil thickness would serve as the primary liner, and an HDPE liner of 60-mil thickness would serve as the secondary liner. The secondary liner would function as a seepage barrier in the event the primary liner is damaged or punctured. The HDPE liners have high strength and durability as well as ultra-violet resistance, so a cover would not be required.

A geonet drainage layer will be placed between the HDPE primary and secondary liners in the ponds to act as a separating, highly pervious layer to intercept and transport leakage. The geonet will lead into a depressed gravel-filled sump located at the pond low point to allow for collection of leakage. Within the sump area, the soil beneath the secondary liner will be amended and compacted to create a 2-foot-thick low permeability soil layer with a maximum permeability of $1 \times 10^{-7}$ centimeters per second (cm/s). From the depressed sump, an HDPE riser pipe would be located between the primary and secondary liners and extend to the pond crest. The riser pipe would allow for leak detection monitoring and removal of solution leakage.
Revised Overflow Channel Design: An EDC approved by the Division 9 November 2011, authorized the construction of a road over the Overflow Channel and installation of pipe-in-pipe to replace the open channel.

The design replaced the open HDPE-lined channel. A 36-inch-diameter corrugated metal pipe (CMP) was placed in the channel at the location of the road. An 8-inch diameter HDPE pipe, enclosed in a 12-inch-diameter HDPE pipe runs from the tailings, through the CMP, to the Settling Ponds. This maintains both flow from the Fines/Oversize Pad to the Settling Pond, and containment. The road was constructed over the CMP.

A runoff calculation was performed utilizing 25-year, storm precipitation data with ten-minute duration. The intensity and flow calculations indicated that an 8-inch-diameter pipe will be sufficient to carry the overflow from the tailings into the Settling Pond. The 8-inch-diameter pipe will be installed in the pad with 10 feet of the perforated pipe. The pipe will continue from the pad through a berm where it is enclosed in a 12-inch-diameter HDPE pipe. The berm is lined with HDPE liner, while the 12-inch-diameter pipe acts as secondary containment the full length of the channel to the settling pond.

Freshwater Pond: The Freshwater Pond has historically been used to store freshwater from the production well or from the underground dewatering system. It is not physically connected to the Settling Pond. Originally constructed as a single HDPE-lined pond, it is 120 feet by 140 feet by 8 feet deep, with a design capacity of approximately 850,000 gallons at a freeboard depth of 2 feet. The pond is lined with a single 60-mil HDPE liner placed over a 12-inch layer of soil, constructed in two 6-inch lifts with the soil compacted to 95 percent Modified Proctor (ASTM Method D 1557).

With the major modification for the addition of a floatation circuit, the pond was upgraded to a double-lined and leak-detected pond by installing a single layer of 80-mil drain liner over the existing layer of 60-mil geomembrane to construct a dual containment system with leak detection. The drain liner geomembrane is manufactured with drainage studs that create a drainage pathway between the two layers of geomembrane, similar to a conventional geonet installation. The drain liner will be secured at the crest of each pond by extrusion welding the new drain liner to the existing geomembrane. Fluids reporting to each pond will be evacuated using submersible pumps placed in the ponds on an as-needed basis.

Leak detection will be provided in the Freshwater Pond by installing a lined sump in the bottom of the Freshwater Pond. The sump will be installed between the secondary and primary layers of geomembrane and will require removal of some of the existing geomembrane and installation of a new layer of secondary geomembrane to construct the sump. Leaks will be monitored using a pump installed in 8-inch HDPE pipe extending from pond crest into the sump.
Fines/Oversize Pad: The Goldwedge Fines/Oversize Pad (also referred to as the Tailings Storage Facility) was designed to satisfy future use as a heap leach pad (HLP) and at the time of Division’s approval (2002), met the HLP design criteria pursuant to NAC 445A.434. The TSF was approved for construction in three phases (Cells 1, 2 and 3) and when completed, will occupy a final footprint of 790 feet by 490 feet, and a maximum height of 50 feet. Final capacity is estimated at 500,000 tons. Currently, only the first phase (Cell 1) has been constructed, with dimensions of approximately 250 feet by 400 feet, and capacity of 100,000 tons. There are approximately 70,000 tons of tailings on the Phase 1 pad, with capacity for an additional 30,000 tons.

The pad consists of an 80-mil HDPE liner placed over a 12-inch layer of low permeability material, with a compacted in-place permeability of $1 \times 10^{-7}$ cm/sec or less. Perforated collection pipes (4-inch outside diameter, corrugated polyethylene) have been placed on the HDPE liner surface across the width of the pad on 50-foot centers and covered with eighteen inches of minus 2-inch crushed rock. The collection pipes route solution to the downgradient collection ditch and have been sized to handle a 35-gpm solution application rate plus any excess, should the pad ever be converted to a heap leach pad.

The solution collection piping and ditches along the lower portion of the pad perimeter are designed to transport the combined pad interior flows from the 25-year, 24-hour storm event and accommodate the future maximum heap leach pumping rate of 460 gpm.

The solution collection ditch is lined with 80-mil HDPE liner and anchored in an anchor trench. The collection ditch bottom contains a main collection pipe constructed of 10-inch diameter perforated, corrugated polyethylene culvert embedded in clean gravel fill to minimize channel flow in the ditch. A second protective layer of 80-mil HDPE is laid on top of the primary HDPE liner in the ditch prior to laying the collection pipe and backfilling the ditch with clean gravel. Collected solution is conveyed via gravity to the settling ponds and eventually returned to the gravity circuit.

A leak detection system consisting of geonet is located along each of the periphery collection ditches. The geonet is placed between the liners along the entire length of the collector pipes in the periphery ditches. Additionally, leak detection has also been installed along all interior berms or flow barriers. Two-inch-diameter HDPE pipes extend from the drainage net through the lower 80-mil liner and through the embankment. The pipes report to a 24-inch-diameter monitoring sump for easy monitoring of solutions. These monitoring ports are located on the outside of the pad area on approximately 250-foot centers.

Tailings are stacked on the pad using a conveyor and front end loader. Solution from the pad is captured in the drainage system and conveyed to the lined settling
ponds via an 8-inch HDPE dual containment pipe installed in a 36-inch corrugated metal culvert pipe sleeve underneath an access road to the settling pond.

Because of the relatively unknown integrity and competency of the Fines/Oversize Pad liner system, the Division had requested that an integrity evaluation be performed prior to the placement of tailings within the pad.

**Integrity Evaluation Findings and Recommendations:** With the Permittee’s intention of resuming active operations at the site, an engineering consulting firm NewFields Mining Design & Technical Services (NewFields) was commissioned to perform an integrity evaluation of the Fines/Oversize Pad. This evaluation consisted of a review of available design documentation, Record of Construction Report, and a site inspection of the facility. NewFields determined that the facility was constructed in general accordance with the requirements of the approved design. A formal report was submitted to Division for review on 25 March 2013. The Division accepted NewFields’ integrity evaluation findings and authorized Scorpio to undertake and complete all necessary repairs under the following terms and conditions:

1. The Division requested that all liner repair locations be identified on a plan view drawing; the repair procedures utilized (e.g. “wedge welded” or “extrusion welded”), and the Quality Assurance/Quality Control (QA/QC) test results for the repairs.

2. For any activity requiring HDPE liner removal, exposure of the underliner or sub-base material, and requiring compaction, the compaction must be performed to meet the original design specifications and followed up with QA/QC compaction testing results. The Division requested that these locations also be identified on a plan view drawing and submittal of the compaction test results.

3. Since there was no record of a slope stability analysis being performed on the TSF by the design engineer-of-record, the Division required that prior to the return to active tailings deposition, a slope stability analysis be performed to evaluate the current state of the Fines/Oversize Pad and phased deposition pursuant to the approved design.

4. Since the current plan for the Fines/Oversize Pad is to operate as a dry stack facility with a minimal amount of fluid head on the pad, the Division will require that the leak detection system be monitored after any abnormal introduction of fluids to the pad, such as significant meteoric precipitation events and rapid melting of snow on the pad.

5. Any substantial deviations from the approved Fines/Oversize Pad design will require the submittal of an EDC to the Division.
6. Only after all repairs are completed and the Division receives and evaluates the above requested information would active deposition into the Fines/Oversize Pad be authorized.

The Permittee performed the identified maintenance and repairs associated with the Goldwedge Fines/Oversize Pad liner system. NewFields performed the QA/QC testing and inspection of the work as it was performed, and of the completed work products. All work performed was accepted by NewFields based on field inspections and testing performed. Activities performed included:

1. Removal of overliner material from the inside slope of the perimeter berm and the re-establishment of the 2.5 feet of freeboard from the top of the overliner to the crest of the perimeter berm.

2. Construction of formal access ramp over perimeter berm with new drainage pipes and sufficient height of cover over HDPE liner.

3. Inspection of exposed geomembrane around pad perimeter, and installing patches or extruded beads on areas where damage to geomembrane was discovered.

Work was completed during April and May of 2013. Material for the liner patches was 80-mil smooth HDPE, and the patches were installed by extrusion welding. NewFields performed QA/QC testing and inspection of the work as it progressed. QA/QC testing performed by NewFields consisted of destructive testing of extrusion welded seams for both peal and shear strength using a calibrated tensiometer (ASTM Method D 6693). Destructive seam testing was performed daily on trial welds prior to start up, and on samples taken by NewFields from the repair welds. Patches were installed as needed and all extrusion welds were vacuum tested. All seam testing had passing results and was accepted by NewFields.

*Diversion Structures:* Diversion ditches were constructed on the upgradient sides of the facility and are designed to divert run-off as a result of the 100-year, 24-hour storm event volume.

**C. Receiving Water Characteristics**

*Site Hydrology/Hydrogeology and Background Groundwater Quality:* There is one surface water body (i.e. pit lake) within one mile of the site. This pit lake is located at the now closed Manhattan Mining facility located southeast of the Gold Wedge Project site. The current Permittee-of-Record for the Manhattan Mining facility is Round Mountain Gold Corporation.

The pit lake is believed to be cross-gradient from the Gold Wedge Project. Other than the pit lake, no surface waters such as streams or springs exist within one mile of the site.
Groundwater is encountered at a depth of 163 feet bgs at monitoring well MW-1 and at 260 feet bgs at dewatering well DW-1. Groundwater characterization results from both wells indicate that groundwater quality meets Division Profile I reference values.

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 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 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.

Prepared by: Michelle Griffin
Date: 29 June 2022
Revision 00: 2022 Major Modification and Renewal.