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

Permittee: **Barrick Gold U.S., Inc. – Bald Mountain Mine**

Project: **Mooney Basin Project**

Permit Number: **NEV0098100 (Update 2012-07)**

A. Location and General Description

Location: The project is located in White Pine County, Township 23 North, Range 58 East, Sections 5, 6 and 7; Township 24 North, Range 57 East, Sections 25 and 36; Township 24 North, Range 58 East, Sections 18, 19, 20, 29, 30, 31 and 32; and, Township 23 North, Range 57 East, Section 1, Mount Diablo Baseline and Meridian (MDB&M), approximately 80 miles northwest of Ely, Nevada.

General Description: The Mooney Basin Project consists of open pit mining and associated waste rock dumps with ore processing by conventional cyanide heap leaching technology and precious metal recovery via carbon adsorption. Loaded carbon is transported off-site for precious metal (mainly gold) recovery. The Mooney Basin facilities are required to be designed and constructed, and must be operated and closed in such manner to prevent discharge or release of process fluids in excess of those standards established in regulation except for meteorological events which exceed the design storm event.

B. Synopsis

The facility includes open pit mining and processing at an authorized rate of 20,000,000 tons of ore per year. The North Area Facility components include the composite-lined leach pad (Original Pad, Expansion Phase I, Expansion Phase II, Expansion Phase III), two double-lined (with leak detection systems) process solution ponds (Process Ponds 1 and 2), three monitoring wells east of the process area, one double-lined storm pond (with leak detection system), a process plant, waste rock disposal areas, production wells and support facilities. Process Pond 2 was the original Storm Event Pond which is presently being used as a fresh water storage pond.

The South Area Facility, added as part of the 2010 major modification, consists of the composite lined leach pad, one double-lined (with leak detection system) Solution Pond, one double-lined (with leak detection system) Storm/Event Pond, a process plant, two monitoring wells, and support facilities. The fluid

management systems of the North and South Area facilities are completely independent.

The Deep South Area Facility, added as part of the 2013 major modification, consists of the composite lined leach pad (Pad 4), one double-lined (with leak detection system) Solution Pond, one double-lined (with leak detection system) Storm/Event Pond, one double-lined (with leak detection system) Solution Tank Shelf, two monitoring wells, and support facilities. Pregnant solution is pumped from the collection tank to the South Area Facility process plant for precious metal recovery.

Six (6) pits are mined using standard open pit methods including drilling, blasting and loading into haul trucks. Benches are 20-feet high and of variable width. Overall pit wall slope angles average 55 degrees. Blasted ore and waste rock are loaded into haul trucks by front-end loaders or hydraulic shovels. Ore is hauled to the run-of-mine (ROM) leach pad where it is end-dumped into place on a nominal 24-inch thick free-draining overliner material.

Depending on the mine plan and pit sequencing, waste rock may be hauled to mined-out portions of the pits for use as backfill material or placed in waste rock dumps. The closest any pit will come to intercepting groundwater will occur in the Sage Flats Pit where the proposed floor will be more than 100 feet above the water table. For this reason, pit lakes are not anticipated.

Each pit has an individual waste rock dump, or dumps associated with it. All dumps will be constructed by end-dumping in lifts to overall slopes of 2.5:1 (horizontal [H]) to vertical [V]). Final reclaimed slopes will be between 2.5H:1V and 3H:1V, which will ensure the physical stability of the dumps.

Analytical results of leachate from Meteoric Water Mobility Procedure (MWMP) testing of the waste rock indicate that several constituents exceed the Division Profile I reference values, specifically aluminum (0.67 mg/l), arsenic (0.43 mg/l), mercury (0.015 mg/l), and thallium (0.006 mg/l). Static test results for Acid Neutralizing Potential/Acid Generating Potential from representative waste rock samples indicate isolated areas of potential acid generation. However, subsequent modified humidity cell tests (kinetic tests) do not indicate potential for acid generation. Routine quarterly waste rock characterization will continue according to the Permit requirements and, to address potential acid generation concerns, the waste rock management plan of February 15, 2010 will be followed.

North Area Facility

The North Area Leach Pad consists of four (4) phases. The original leach pad covers an area of approximately 1.5 million square feet. The adjoining Phase I expansion leach pad is located immediately north, west and south of the original,

covering approximately 2.1 million square feet. The Phase II expansion leach pad covers 2.33 million square feet directly south of the Phase I expansion. The Phase III expansion leach pad covers 0.85 million square feet directly west of the Phase II expansion (total 6.78 million square feet).

The North Area Leach Pad was designed and approved to accommodate 39.2 million tons of ore at a design height of 180 feet. Based on engineering data provided by the Permittee, the permitted heap height was increased from 180 feet to 250 feet as part of the 2008 renewal. Stability analyses of the heap (including the Phase III expansion) with the new height resulted in minimum factors of safety of 1.30 (static) and 1.08 (pseudostatic).

The leach pad base has a maximum grade of 2 percent for the first 180 feet on the downgradient side that acts as a buttress. The remaining upgradient portions of the leach pad have a maximum base gradient of 6.25 percent. The perimeter berm and solution channel dimensions have been designed to accommodate runoff resulting from the 25-year, 24-hour storm event and the maximum cyanide leach solution application rate.

A dilute cyanide solution is applied to the heap via drip emitters. The solution is applied at a maximum of 0.005 gallons per minute (gpm) per square foot of leach pad on a maximum of approximately 15% (approximately 1 million square feet) of the total leach pad area, resulting in a maximum total pumping rate of 5,000 gpm.

In August 2008, the Division approved an Engineering Design Change (EDC) to allow a small scale program of limited application of barren solution into the heap through designated injection holes. Preliminary studies and analysis of core samples taken from the heap had shown that intermittent layers of low permeability material were impeding the uniform distribution of solution applied to the heap surface. To mitigate this effect, it was proposed that a series of boreholes be installed on the heap and solution be applied at various depths by gravity, bypassing the low permeability areas.

Application of solution was by gravity only, with total solution applied to the heap by all methods not to exceed the Permit limit of 5,000 gpm. Appropriate limits on locations of holes, minimum vertical distance from bottom of hole to top of liner, and maximum allowable injection rates at individual and adjacent holes, as well as increased monitoring of injection operations were added to the Permit where appropriate.

The small scale phase of the program was intended to provide data to be used to evaluate the feasibility of a full-scale injection program in the future. Based on the results of the injection program, as reported in the final evaluation submitted in February, 2012, the Permittee elected to terminate the program. Resumption of

injection hole operation will require submittal of a Permit modification (with appropriate fee) and approval by the Division.

The pregnant solution is collected within the drain blanket hydraulic relief piping system by which it is conveyed via gravity to the collection ditch situated along the eastern portion of the pad. The pregnant solution reports to Process Pond 1 where it is then pumped to the Carbon-In-Column (CIC) plant. The pregnant solution flows by gravity through either of two trains of five (5) carbon columns countercurrent to the activated carbon for precious metal recovery. Barren solution reports to the barren tank where the pH is adjusted, if necessary, and sodium cyanide is added prior to pumping to the heap. The loaded carbon from the last column is removed and transported off-site for precious metal recovery.

The North Area Leach Pad consists of a composite lined system with solution collection via perforated pipelines within the 24-inch thick drain blanket placed above the synthetic liner. The composite liner system consists of an 80-mil high density polyethylene (HDPE) liner placed above a prepared 12-inch thick compacted soil layer with a maximum hydraulic conductivity of 1×10^{-6} cm/sec. The drain blanket covers the hydraulic relief pipes placed on the synthetic liner, protecting the liner from punctures and reducing hydraulic head on the liner system. Four-inch diameter perforated, corrugated polyethylene pipes are spaced approximately 30 feet apart and convey process solution to the 18-inch diameter collection pipe in the solution channels on the eastern side of the leach pad.

The downgradient solution collection channels (north and south), including the transfer channel to the pregnant pond and the transfer channel to the overflow pond, are equipped with Leak Collection and Recovery Systems (LCRS) to recover fugitive process solution that may escape the primary liner. Each LCRS consists of a 4-inch diameter polyethylene perforated drainpipe placed at the bottom of the channels sandwiched between the liner and the soil subbase. The pipes are surrounded with clean granular fill material. Fugitive process solutions free drain to Process Pond 1 via three (3) dedicated pipes but the LCRSs for the southern two pad expansions each report to a dedicated sump (8 gallon capacity each).

The original pregnant pond (now identified as Process Pond 1) is designed and constructed with an 80-mil HDPE primary liner and a 40-mil HDPE secondary liner placed over a prepared native soil subgrade. Sandwiched between the primary and secondary liners is an HDPE geonet for collection and transfer of fugitive process solution, via gravity, to two (2) low points (leak detection sumps – 186 gallon capacity each). The pregnant pond floor is graded to the leak detection sumps which are filled with clean granular material. The sumps are evacuated via 8-inch diameter HDPE pipes that extend into the sump and daylight at the pond crest. The pipes are sealed with removable caps. Total capacity of Process Pond 1 is 7.34 million gallons at two (2) feet of freeboard.

During the second quarter of 2005, leak detection sumps in Process Pond 1 began reporting high volumes of fluid in excess of Permit leak detection limits. Extensive investigations were carried out which identified the sources of the leakage and also confirmed the integrity of the secondary liner. Repairs on the primary liner were completed in 2006, reducing the accumulations to nearly zero.

In the fourth quarter of 2007, elevated accumulations began to report again, increasing in the following quarters. To definitively address this problem, the Permittee initiated a comprehensive investigation of the primary liner integrity. Based on the initial findings of this investigation, the decision was made to replace the primary liner of Process Pond 1 rather than attempt to repair the existing liner. The Permittee submitted an EDC to this effect on July 13, 2009 which was approved for construction on July 17, 2009. The revised design consists of a new 60-mil HDPE primary liner placed over the existing 80-mil HDPE primary liner, with geonet in between. The 80-mil liner was breached in several locations to ensure free flow of any fugitive solution to the leak detection sumps. 60-mil HDPE wear sheets were welded to the new primary liner in areas which typically experience continuous flow of solution into the pond. The new liner installation was completed in October 2009.

In addition, the Permittee agreed to increase the monitoring of this area by installing three (3) monitoring wells. MMW-1, located north of the heap leach pad, serves as the upgradient groundwater monitoring well and encountered groundwater at approximately 285 feet below ground surface (bgs). MMW-2 was installed at the southeast corner of the heap leach pad, near water supply well MWW-3, for downgradient monitoring and encountered groundwater at approximately 300 feet bgs. MMW-3 serves as a vadose zone monitoring well located immediately east of the ponds and was drilled to a depth of approximately 80 feet at an angle of approximately 30° from vertical. Initial water sample analyses showed Profile I reference value exceedances of manganese (0.105 mg/L in MMW-1) and pH (11 SU in MMW-2 – possible contamination from the well drilling process).

The original storm event pond, now identified as Process Pond 2, is also lined with an 80-mil HDPE primary liner and 40-mil HDPE secondary liner with a geonet layer in between. The leak detection system is similar to that of Process Pond 1, except there is only one sump (186 gallon capacity) and one evacuation port. Process Ponds 1 and 2 are connected via a synthetically-lined transfer channel at 6,890 feet above mean sea level (ft amsl), the elevation at which the capacity of Pond 2 is 2.48 million gallons (two [2] feet of freeboard).

In July 2009, the Permittee requested that Process Pond 2 be approved for temporary use as a fresh water pond, to be used for filling of water trucks in the summer months. This was approved by the Division contingent on a complete

triple rinse of the pond and sampling of the fresh water after the initial fill. Use of the fresh water in the water trucks was approved by the Division after receipt of analysis showing no potential to degrade waters of the State. In addition, the Division requested, and received from the Permittee, revised calculations showing the ability of the pond system to accommodate the 25-year, 24-hour and 100-year 24-hour storm events while in this configuration. Normal monitoring of the leak detection system in the pond will continue according to the Permit.

The new Overflow Pond is double-lined with an 80-mil HDPE primary liner and a 60-mil HDPE secondary liner. The leak detection system consists of geonet between the primary and secondary liners which provides a flow path to the northeast corner of the pond at 1% slope to a leakage collection sump filled with drain rock (4,500 gallon capacity). The 8-inch diameter evacuation pipe is located between the liners, perforated in the sump, and daylights at the pond crest. In addition to the process solution volume, this pond is capable of containing runoff resulting from the 25-year, 24-hour storm event reporting to the Original Pad, Expansion Phase I, Expansion Phase II, and Expansion Phase III leach pads. Process Pond 1 and the Overflow Pond are connected via a transfer channel at 6,887 ft amsl, the elevation at which the capacity of Pond 2 is 2.48 million gallons (two [2] feet of freeboard).

Gold adsorption is carried out in two trains of five (5) carbon columns located in the process plant, which is designed and constructed to provide at least 110 percent secondary containment capacity of the largest tank volume. This is accomplished through a combination of floor sumps, concrete containment berms, and a 24-inch diameter overflow pipe to Process Pond 1. Reagent off-loading occurs within the plant where secondary containment is provided. All concrete seams are sealed with epoxy grout to prevent leakage. Process piping, to convey pregnant and barren solutions to and from the process plant, is located over 80-mil HDPE liner which acts as secondary containment, draining any leakage from the pipes directly to the ponds.

Diversion ditches have been designed and constructed around the leach pad, the ponds, and the process plant to direct upgradient runoff resulting from the 100-year, 24-hour storm event into existing natural drainage courses.

<u>South Area Facility</u>

The South Area Facility was proposed in the application for major modification received by the Division in February 2010 and approved in July 2010. The fluid recovery system is completely independent of the North Area Facility with no intermixing of pregnant solution. However, the barren solution transfer pipeline allows distribution of barren solution to either facility.

The South Area Heap Leach Pad (Pad 4) is located directly south of the North Area Facility and consists of one (1) phase covering an area of approximately 6.94 million square feet. The leach pad was designed and approved to accommodate 51.6 million tons of ore at a design height of 300 feet. Stability analyses of the heap resulted in minimum factors of safety of 1.30 (static) and 0.9 (pseudostatic). A deformation analysis was conducted as a follow-up to the pseudostatic study and showed that the maximum displacement of the heap material in a seismic event would be approximately 1 inch.

The leach pad base is divided into 7 cells, each of which is graded at 2% to the east and south where solution is collected and conveyed to the process plant. The perimeter berm and solution channel dimensions have been designed to accommodate runoff resulting from the 25-year, 24-hour storm event and the maximum cyanide leach solution application rate.

A dilute cyanide solution is applied to the heap via drip emitters. At the maximum permitted area application rate of 0.005 gpm/ft^2 the area of application would be approximately 29% of the total (approximately 2 million square feet). However, the operating plan calls for a reduction in the area application rate to approximately 0.0024 gpm/ft^2 and an increase in the area of application to approximately 60% of the total (approximately 4.2 million square feet). In either case, the maximum total application rate allowed by the Permit is 10,000 gpm.

The pregnant solution is collected within the underdrain piping system by which it is conveyed via gravity to the header pipe located in the collection ditch, which acts as secondary containment, situated along the eastern portion of the pad. The collection pipe system consists of 4-inch and 6-inch diameter perforated Corrugated Plastic Pipe (CPP) placed on 30-foot centers. These drain to 24-inch (cells 1-6) and 15-inch (cell 7) diameter intermediate collection pipes, which then convey fluid to the 30-inch diameter main collection header pipe running along the eastern side of the pad. The header pipe drains to the Pregnant Sump Shelf where it enters the process plant circuit.

Under normal operating conditions, the pregnant solution reports directly to the South Area Process Building. Alternatively, in the case of temporary shutdown of the plant for maintenance, the pregnant solution may be diverted to the Solution Pond and later pumped to the plant once it has restarted. The pregnant solution flows by gravity through either of two trains of five (5) carbon columns countercurrent to the activated carbon for precious metal recovery. The South Area Process Building also receives pregnant solution from the Deep South Facility.

Barren solution reports to the barren tank where the pH is adjusted, if necessary, and sodium cyanide is added prior to pumping to the heap. Barren solution flow is divided between the South Area Heap Leach Pad (Pad 4) and the Deep South

Area Heap Leach Pad (Pad 5), with all or part of the total going to either facility. The loaded carbon from the last column in each train is removed and transported off-site for precious metal recovery.

The leach pad consists of a composite lined system with solution collection via perforated pipelines within the 24-inch thick drain blanket placed above the synthetic liner. The liner system consists of an 80-mil HDPE liner placed above either a prepared 12-inch thick compacted soil layer with a maximum hydraulic conductivity of 1 x 10^{-6} cm/sec, or over a Geosynthetic Clay Liner (GCL) with equivalent or lower maximum permeability placed on a prepared subbase. The drain blanket covers the hydraulic relief pipes placed on the synthetic liner, protecting the liner from punctures and reducing hydraulic head on the liner system. The combination of 80-mil HDPE liner and $1x10^{-6}$ cm/s (max permeability) subbase meets the criteria of NAC 445A.434.2(a) without need for a leak detection and recovery system.

The South Area Solution Pond is designed and constructed with an 80-mil HDPE primary liner and a 60-mil HDPE secondary liner placed over a combination of prepared native soil and engineered compacted fill. Sandwiched between the primary and secondary liners is an HDPE geonet for collection and transfer of fugitive process solution, via gravity, to the leak detection sump (7,200 gallon fluid capacity). The Pregnant Pond floor is graded to the sump which is filled with clean granular material. The sump is monitored and evacuated via a 12-inch diameter HDPE pipe that extends into the sump and daylights at the pond crest. The pipe is sealed with a removable cap. Total capacity of the Solution Pond is 14.7 million gallons at two (2) feet of freeboard.

The South Area Storm/Event Pond is also lined with an 80-mil HDPE primary liner and 60-mil HDPE secondary liner with a geonet layer in between. The leak detection system is similar to that of the Solution Pond, with one sump (2,000 gallon fluid capacity) and one evacuation port. The Solution Pond is connected to the Storm/Event Pond via a synthetically lined transfer channel at 6,830 ft amsl at which level the capacity of the Storm/Event Pond is 9.1 million gallons (two [2] feet of freeboard).

The two ponds provide sufficient combined capacity to impound the fluid accumulation resulting from the 25-year, 24-hour storm event, plus 24 hours of draindown in case of power loss, and still maintain the required 2 feet of freeboard. The ponds are also capable of containing the same accumulations for the 100-year, 24-hour storm event without overtopping. In order to achieve necessary containment in either case, operational levels in both ponds must be maintained at ½ foot or less. Any accumulation of fluid in excess of this limit is required by the Permit to be evacuated within 20 days.

The South Area Process Building is designed and constructed to provide at least 110 percent secondary containment capacity of the largest tank volume. This is accomplished through a combination of floor sumps, concrete containment berms, and an outflow channel to the Pregnant Pond. Reagent off-loading occurs within the plant where secondary containment is provided. All concrete seams are sealed with epoxy grout to prevent leakage. Process piping, to convey pregnant and barren solutions to and from the process plant, is located over 80-mil HDPE liner which acts as secondary containment, draining any leakage from the pipes directly to the ponds.

Deep South Area Facility

The Deep South Area Facility was proposed in the application for major modification received by the Division in January 2013 and approved in July 2013. The fluid management system receives barren solution from the South Area Facility and conveys pregnant solution to the South Area Facility process building for gold recovery.

The Deep South Area Heap Leach Pad (Pad 5) is located directly south of the South Area Facility and consists of one (1) phase covering an area of approximately five (5) million square feet. The leach pad was designed and approved to accommodate 37 million tons of ore at a design height of 300 feet. Stability analyses of the heap resulted in minimum factors of safety of 1.30 (static) and 1.1 (pseudostatic).

The leach pad base is constructed as one large cell, graded at 2% to the east and south where solution is collected and conveyed to the solution tank. The perimeter berm and solution channel dimensions have been designed to accommodate runoff resulting from the 25-year, 24-hour storm event and the maximum cyanide leach solution application rate.

A dilute cyanide solution is applied to the heap via drip emitters. At the maximum design area application rate of 0.0025 gpm/ft^2 the area of application would be approximately 80% of the total (approximately four [4] million square feet). The maximum total application rate allowed by the Permit is 10,000 gpm.

The pregnant solution is collected within the underdrain piping system by which it is conveyed via gravity to the header pipe located in the collection ditch, which acts as secondary containment, situated along the eastern portion of the pad. The collection pipe system consists of 4-inch diameter perforated CPP placed on 30-foot centers. These drain to 24-inch diameter intermediate collection pipes, which then convey fluid to the 24-inch diameter main collection header pipes running along the eastern and southern sides of the pad. The header pipe drains to the solution tank from where it is pumped to the South Area Facility process building.

Pregnant solution reports directly to the solution tank located on the solution tank shelf at the northeast corner of the solution pond. Alternatively, in the case of temporary shutdown of the South Area Facility process plant for maintenance, the pregnant solution may be diverted to the Solution Pond and later pumped to the plant once it has restarted.

After passing through the South Area Facility CIC circuit, the adjustment of pH and sodium cyanide addition is managed, as required, in the South Area Barren Solution Tank. Part or all of the barren solution flow is then returned to the Deep South Facility for reapplication on the heap leach pad. The barren solution return lines and pregnant solution delivery lines are 30-inch diameter steel pipe which lie in a HDPE-lined secondary containment channel. The channel measures 16 feet across at the base with a minimum depth of three (3) feet. The side slopes are 2H:1V.

The leach pad consists of a composite lined system with solution collection via perforated pipelines within the 24-inch thick overliner placed above the synthetic liner. In areas adjacent to the downgradient perimeter berms the overliner thickness is increased to 40 inches. The liner system consists of an 80-mil HDPE liner placed above either a 12-inch thick compacted soil layer with a maximum hydraulic conductivity of 1×10^{-6} cm/sec, a 12-inch thick compacted soil layer with a maximum hydraulic conductivity of 1×10^{-7} cm/sec, or over a GCL with equivalent or lower maximum permeability placed on a prepared subbase. The 1×10^{-7} cm/s permeability area is over the shallow groundwater identified during geotechnical investigations carried out prior to the submittal of the major modification. The overliner material covers the hydraulic relief pipes placed on the synthetic liner, protecting the liner from punctures and reducing hydraulic head on the liner system. The combination of 80-mil HDPE liner and 1×10^{-6} cm/s or less permeability subbase meets the criteria of NAC 445A.434.2(a) without need for a leak detection and recovery system.

The Deep South Area Solution Pond is designed and constructed with an 80-mil HDPE primary liner and a 60-mil HDPE secondary liner placed over a combination of prepared native soil and engineered compacted fill. Sandwiched between the primary and secondary liners is an HDPE geonet for collection and transfer of fugitive process solution, via gravity, to the leak detection sump (3,100 gallon net fluid capacity). The pond floor is graded to the sump which is filled with clean granular material. The sump is monitored and evacuated via a 12-inch diameter HDPE pipe that extends into the sump and daylights at the pond crest. The pipe is sealed with a removable cap. Total capacity of the pond is 18.4 million gallons at two (2) feet of freeboard.

The South Area Storm/Event Pond is also lined with an 80-mil HDPE primary liner and 60-mil HDPE secondary liner with a geonet layer in between. The leak detection system is similar to that of the Deep South Area Solution Pond, with

one sump (3,100 gallon net fluid capacity) and one evacuation port. Both Deep South Area ponds are connected via a synthetically lined transfer channel at 6,709 ft amsl at which level the capacity of the Storm/Event Pond is 10.6 million gallons (two [2] feet of freeboard).

The Deep South Area Solution Tank rests on the Solution Tank Shelf, an extension of the Solution Pond, located in the northeast corner. The shelf is sloped toward the pond so that any solution that leaks or splashes out immediately enters the pond. The shelf is lined with an 80-mil HDPE primary liner and 60-mil HDPE secondary liner with a geonet layer in between. The leak detection system is independent of that of the Solution Pond, with its own sump (300 gallon net fluid capacity) and one evacuation port consisting of a 12-inch diameter HDPE pipe that extends into the sump and daylights at the pond crest, sealed with a removable cap.

The two ponds provide sufficient combined capacity to impound the fluid accumulation resulting from the 25-year, 24-hour storm event, plus 24 hours of draindown in case of power loss, and still maintain the required 2 feet of freeboard. The ponds are also capable of containing the same accumulations for the 100-year, 24-hour storm event without overtopping. In order to achieve necessary containment in either case, operational levels in both ponds must be maintained at ½ foot or less. Any accumulation of fluid in excess of this limit is required by the Permit to be evacuated within 20 days.

Diversion ditches have been designed and constructed around each process area (North, South, and Deep South) to direct upgradient runoff resulting from the 100-year, 24-hour storm event into existing natural drainage courses. This includes systems of culverts and armored (rip-rap) channels between the North Area Facility and the South Area Facility, and between the South Area Facility and the Deep South Area Facility, conveying stormwater from the upgradient watershed west of the site to natural drainages east of the heap leach pads.

Management of Petroleum Contaminated Soil (PCS) for the site is covered by the approved PCS Management Plan for the Bald Mountain Mine NEV0050045. All PCS management activity for the Mooney Basin Project is to be included in the report for Bald Mountain Mine.

C. Receiving Water Characteristics

The Mooney Basin Project is located on an alluvial fan emanating from the eastern flank of the Ruby Mountains. The North Area Heap Leach Pad is situated just north of a drainage divide at the head of Mooney Basin, while the South Area Heap Leach Pad (Pad 4) is situated just south of the same divide. The site slopes to the east at 6 to 7 percent grade, with existing ephemeral drainages located north and south of the leach pads. Run-off diverted around process components,

especially upgradient (west) of the leach pads, is effectively received by these natural drainages. There are no perennial surface flows or springs in the project area.

A condemnation hole, advanced to a depth of 1,000 feet below ground surface (ft bgs)within the North Area pad footprint, did not encounter groundwater. However, two holes completed south of the North Area Heap Leach Pad intercepted groundwater at depths of approximately 600 to 700 feet. Facility water supply wells, located approximately 100 to 400 feet east of North Area Heap Leach Pad Expansion Phase II (three wells), indicate static water levels at approximately 280 ft bgs. Water quality at these production wells meets Division Profile I reference values. Upgradient and downgradient monitoring wells added in 2009 encountered groundwater at approximately 285 and 300 feet, respectively. Groundwater data for the production and monitoring wells are reported quarterly and results can be found in NDEP files.

During the geotechnical investigation of the area designated for the Deep South Heap Leach Pad (Pad 5), shallow groundwater was encountered in the southern approximately 400 feet of the leach pad footprint. The water was encountered approximately 36 ft bgs with a westerly gradient. Pump tests showed low productivity and the extent of area and recharge of the perched body are thought to vary seasonally.

In order to prevent degradation of the shallow groundwater, the design of the Deep South Heap Leach Pad (Pad 5) includes a more stringent subbase permeability requirement ($1x10^{-7}$ cm/s maximum) in this area. In addition, a second monitoring well (MMW-17) in the Deep South area was added and screened within the shallow groundwater to allow monitoring for presence and quality of water.

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 sent to the **Ely Daily Times** for publication. 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 of public notice. 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, any affected 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 Permit.

F. Proposed Effluent Limitations, Schedule of Compliance, Special Conditions

See Section I of the Permit.

G. Rationale for Permit Requirements

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

The primary method for identification of escaping process solution will be placed on required routine monitoring of leak detection systems as well as routinely sampling downgradient monitoring wells. 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.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, 15 April 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 (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:	Paul Eckert
Date:	**July** 2013
Revision:	2013 Major Modification (deep south area heap leach pad [pad 5] and process ponds)