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

Permittee Name: **Waterton Global Mining Company, LLC**

Project Name: **Esmeralda Project**

Permit Number: **NEV0087072 (Renewal 2013)**

A. Location and General Description

Location: The Esmeralda Project, formerly known as the Aurora Project, is a gold and silver mining and milling operation, located in Mineral County approximately 33 miles southwest of the town of Hawthorne, in the historic Aurora Mining District. The Project site is located within portions of Township 5 North, Range 28 East, Sections 2 through 11, 15 through 20, and 29 through 32, Mount Diablo Baseline & Meridian (MDB&M). The project encompasses both private and public lands, with the public land administered by the United States Forest Service, Humboldt-Toiyabe National Forest, through the U.S. Forest Service (USFS) Bridgeport Ranger District.

The Permittee for the Esmeralda Project is Waterton Global Mining Company, LLC (Waterton). In 2013, Waterton purchased both Esmeralda and Hollister Mine (Water Pollution Control Permit NEV2003107) from the bankruptcy auction of the combined assets of Antler Peak Gold Inc. (APGI) and Rodeo Creek Gold Inc. (RCGI), both wholly-owned subsidiaries of Great Basin Gold Limited (GBGL). Previously, Metallic Ventures (U.S.), Inc. (MVI) conveyed its interests in the Esmeralda Project to APGI on 15 December 2008.

Characteristics: The Esmeralda Project is permitted to process up to 127,700 tons of gold and silver-bearing ore annually. Both underground and surface mining techniques are utilized to mine the ore, which is crushed and then leached with sodium cyanide solution in a carbon-in-leach (CIL) circuit. The Esmeralda Project is designed to be 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.

Site Access: *From Hawthorne*--proceed south on SR-359 for a distance of 4 miles to Lucky Boy Pass Road; proceed southwest on Lucky Boy Pass Road for a distance of 2 miles to the Junction of Lucky Bay Road/Toiyabe National Forest Road NF-026; proceed southwest on Lucky Bay Road/NF-026 for a distance of 16 miles to the junction of Anchorite Pass Road, Nine Mile Raven Road/NF-028, and Four Corners Road/Mineral County Road-3C; proceed south 6 miles to the Esmeralda Mine site. *From Wellington*--proceed southeast on the Wellington Cut-Off for a distance of approximately 3 miles to the junction of SR-338; proceed southeast on SR-338 approximately 24 miles and over Sweetwater Summit to the junction of Nine Mile Raven Rd./Toiyabe National Forest

Road NF-028; proceed east 14 miles on Nine Mile Raven Road/NF-028 to the junction of Anchorite Pass Road, Four Corners Road/Mineral County Road-3C and Nine Mile Raven Road/NF-028; proceed south 6 miles to the Esmeralda Mine site.

B. Synopsis

History: The Aurora Mining District has been mined intermittently since the discovery of gold and silver in 1860. The Aurora Partnership conducted open pit mining from the Humboldt pit and heap leaching operations from 1987 to 1997. A pit lake has since formed in the Humboldt Pit. Nevada Goldfields, Inc. (NGI) selectively mined and milled ore from the Prospectus Vein from 1987 to 1998. NGI acquired the Humboldt open pit operation from the Aurora Partnership (Aurora) in 1997; the partnership retained the heap leach pad. In 1998, all activities were suspended and the project was put into a care and maintenance mode.

Metallic Ventures (U.S.), Inc. (MVI) purchased the property and mining facilities in March of 2000, out of the NGI bankruptcy. MVI began underground mining operations in February 2004, but ceased mining operations that September with milling operations ending shortly thereafter. On 16 March 2005 the facility was placed in "Temporary Closure" under a care and maintenance mode with no mining, milling or dewatering activities taking place. MVI conveyed its interests in the Esmeralda Project to APGI/GBGL as part of the 15 December 2008 sale of the facility. APGI/GBGL began a comprehensive upgrade of the Esmeralda Mill and on 1 September 2009, the facility returned to active operations with the processing of ore obtained from the RCGI/GBGL Hollister Mine (Water Pollution Control Permit [WPCP] NEV2003107), near Tuscarora, Nevada.

On 24 April 2013, Waterton purchased both the Esmeralda and Hollister mines from the bankruptcy auction of the combined assets of GBGL. The Esmeralda Mill facility continues to process Hollister ore on a much reduced schedule.

Mining: The Esmeralda Project consists of five open pits (Prospectus, Humboldt, Martinez/Juniata/Chesco, Last Chance, and Ann) and two exploration development declines (Prospectus and Martinez) each located within their respective pits. During MVI's tenure, the pits have remained essentially untouched, the only exceptions being the Prospectus and Martinez pits, which have been backfilled with waste rock generated from the development of the Prospectus and Martinez declines. Between January and September 2004, approximately 50,000 tons of ore were removed from the Prospectus and Martinez declines and processed in the Esmeralda Mill facility.

Dewatering: During the development of the Martinez and Prospectus Declines in 2002 and 2003, MVI encountered several pockets of groundwater. As a short-term measure, MVI began pumping dewatering water from the declines to the tailings pond for temporary storage and evaporation with the expectation that once the mill became operational again, the dewatering water would then be utilized for process make-up water. Unforeseen delays in the mill refurbishing and the unexpected increase in the volume of water encountered during decline development, resulted in the addition of more dewatering solution to the tailings pond.

In 2003 Concerns were raised by the Division and MVI regarding dewatering water management at the Esmeralda site. As an emergency effort to alleviate the water management situation at the time, MVI requested and received approval to construct and discharge dewatering water meeting the NDEP Profile I standards, into two temporary rapid infiltration basins (WPCP TNEV2003108) located downgradient of the tailings facility. Because of the poor performance of the rapid infiltration basins, MVI requested and received approval from the Division to discharge dewatering water meeting Profile I standards, into the Humboldt Pit Lake (WPCP TNEV2003110) as an emergency measure on a temporary basis. (Note: Refer to Fact Sheets for WPCP TNEV2003108, WPCP TNEV2003110 and WPCPTNEV 2003110 (AMENDED) for additional information. All temporary permits expired in 2004).

Dewatering wells and sumps were used to collect and remove the water at a combined rate of 400 gallons per minute (gpm). Up to 100 gpm was eventually used for consumptive purposes (i.e. mill make-up water and dust suppression) with the remaining portion discharged (on a temporary basis) into to the Humboldt Pit. The temporary RIBs permitted under WPCP TNEV2003108 were later converted to temporary settling ponds under WPCP NEV2004327, administered by the Division's Bureau of Water Pollution Control (BWPC).

Dewatering water was also discharged into an ephemeral drainage downgradient of the mine site (Days Creek) under three temporary discharge Permits (WPCP TNEV 2003470, WPCP TNEV2004327 and WPCP TNEV2005345) and under NPDES Permit NV 0023345. All dewatering ceased in June 2005.

Waste Rock Disposal: The waste rock generated during the development of the Prospectus and Martinez Exploration Declines, is comprised of rhyolite, andesite, quartz, and clay. The acid neutralization potential/acid generation potential (ANP/AGP) ratio is in excess of 1.2:1 (average ratio of 6.68:1) and exhibits significant neutralization potential. Since this development waste rock is non-acid generating, it is disposed of as backfill in either the Prospectus or Martinez pits.

The clay-like material comprises a small percentage (less than 1 percent) of the total waste rock generated from decline development. This material was disposed of pursuant to the Waste Rock Management Plans (WRMP), which requires encapsulation of the potentially acid generating (PAG) material by non-PAG material during ore disposal.

Prior to MVI's purchase of the property, five waste rock dumps (WRDs) were constructed by NGI (Prospectus, Martinez, Juniata, Chesco/Lucky Moon and Ann) and five WRDs were constructed by Aurora (North/Victor, Belle Weather Dump, Main Dump, South Republic Dump and Frisco Belle). With the exception of some regrading and cover placement by MVI, these WRDs have not been disturbed since 2003. However, waste rock from the Prospectus, North/Victor, and the Juniata WRDs were used as borrow material for embankment construction of Tailings Storage Facility (TSF)-2. Refer to the section ***"Tailings Storage Facility"*** for additional details.

Mill Facility: The Esmeralda Mill facility was constructed and in operation prior to the 1989 implementation of the Division's mining regulations. During the summer of 2003 and prior to its start-up in 2004, MVI refurbished the mill facility and in the process, reevaluated the entire beneficiation process for efficiency and to take advantage of the softer ore characteristics (i.e. lower work index).

The design throughput for the mill facility is approximately 1,500 tons per day; however, during MVI's operation in 2004, nominal throughput was about 215 tons per day. All process components in the mill facility are placed within secondary containment.

Prior to the mill facility's return to active operations, a Schedule of Compliance (SOC) item in the WPCP required APGI/GBGL to demonstrate the integrity of the fluid management system prior to the commencement of operations and the re-introduction of any process solution into the Esmeralda Mill facility and tailings impoundment. During the course of the fluid management audit, Hanlon Engineering Architecture, Inc. (Hanlon) and Tetra Tech, Inc. (Tetra Tech) identified several containment deficiencies within the process containment areas.

In an effort to expedite the resumption of operations at the Esmeralda Mine and Mill facility, APGI/GBGL initiated a two-phase program of repairs, upgrades and expansion of the mill facility.

Phase I (Engineering Design Change [EDC] approved 26 May 2009) corrected containment deficiencies inside and outside the Esmeralda Mill building. The existing containment stem walls were extended as needed to achieve a minimum 110 percent containment capacity for the largest tank in both the tank farm and mill areas. New constructed joints were treated with water stops and sealants. Additional concrete stem walls/curbs were also installed within the mill building to address other identified containment deficiencies.

Phase I also replaced the existing clay stockpile pad, located above the crusher, with new reinforced concrete stockpile pad located above the existing crusher area in the vicinity of the "Mud Alley" drainage. The new pad is approximately 142 feet by 95 feet by 1-foot thick and surrounded by a retaining wall on three sides. The floor of the stockpile pad was graded to drain to a central sump. Any stormwater run-off and drainage from the pad collected in the sump is returned to the process circuit via 6-inch diameter standard design ratio (SDR)-11 high-density polyethylene (HDPE) pipe inside a 10-inch diameter SDR-11 HDPE pipe for pipe-in-pipe containment. Sufficient area is still available for further expansion of the pad, if necessary. Construction of the stockpile pad required the Mud Alley drainage to be diverted around the ore stockpile pad and then returned back to its natural drainage.

Phase II (EDC approved 18 August 2009 and Minor Modification approved 25 September 2009) added a new lime slaking system, new gravity, flotation, dewatering (thickening) and cyanide detoxification/destruction circuits; improvements to the electrowinning and refining circuits and a new reagent storage facility adjacent to the Esmeralda Mill facility. In addition, new and upgraded emission control devices were also installed at the mill facility. The 350 ton per day (tpd) processing rate remained unchanged.

With a site elevation in excess of 7,000 feet above mean sea level (ft amsl), the construction season at the Esmeralda Project site is weather dependent and in most years, is over by late October. In an effort to take advantage of the concrete batch plant and construction crews then (August 2009) mobilized at the site, APGI/GBGL separated Phase II into two separate submittals: EDC and Minor Modification. The EDC portion was for the necessary foundation and containment construction, the Minor Modification portion was for the addition of the process components and changes which were in the design phase at the time of the EDC submittal.

The addition of the new gravity and flotation circuits required the remodeling and expansion of the existing Esmeralda Mill facility. The existing Truck Shop, located on the west side of the mill, was remodeled extensively and a 30-foot by 50-foot steel building extension was added onto the south side of the Truck Shop to accommodate the new gravity and flotation circuits. A 25-foot by 25-foot steel building extension was added to the northwest corner of the Truck Shop to accommodate the refinery circuit.

Portions of the existing Truck Shop floor were demolished and replaced with thicker, reinforced concrete sections to support the new process equipment in those locations where support pedestals are not sufficient for the design loading. The Truck Shop floor was divided into three (3) separate containment areas (electrowinning, gravity separation and flotation); each designed to contain 110-percent of the largest tank/vessel volume within the containment area. Poured concrete curbs were installed to segregate the containment areas and the floor in each area has been graded to drain to its own dedicated sump. Waterstop and sealants were also used to assure the containment is watertight and the concrete floor sumps were lined with HDPE.

The refinery circuit area is segregated from the other portions of the gravity circuit by a security wall and berms and sized to provide the necessary 110-percent containment. In addition, the refinery area has its own dedicated sump. Waterstops and sealants were used to assure the containment is watertight and the concrete floor sumps were lined with HDPE.

The new Pre-Leach Thickener (located between the CIL Tanks and Crusher/Ore Stockpile area) required new containment construction. The 50-foot diameter by 12-foot high thickener rests on 42 concrete pedestals, 18-inch by 18-inch by 12-inch high, placed equidistant on a 6-inch thick reinforced concrete slab which is graded to drain into a 480-gallon sump, lined with HDPE. The concrete slab has an area of approximately 6,600 sq ft and is surrounded by a 6-foot high concrete stem wall. A 2,800-gallon lime holding tank and a 5,000-gallon mill water tank also occupy the containment area. Minimum required containment volume for the Pre-Leach Thickener is 194,000 gallons; available containment volume (less pedestal and tank volumes) is approximately 318,000 gallons, demonstrating sufficient containment capacity.

A new reagent building was constructed approximately 50 feet west of the Esmeralda Mill facility and 40 feet south of the existing Fuel Tank Area. The cinder block reagent building was constructed on a 6-inch thick reinforced concrete pad, approximately 96 feet by 21 feet, divided into four containment compartments, with internal dimensions nominally 23 feet by 21 feet. The floor of each compartment is coated with an acid resistant compound and graded to drain into its own dedicated sump. In addition, the reagent building has a concrete entrance apron in front of the entrance doors.

With no active mining currently at Esmeralda, run-of-mine (ROM) ore from an off-site source (Hollister Mine) owned and operated by the Permittee is transported via dump truck to the Esmeralda mill site, where it is placed on the concrete ore stockpile pad for use as mill feed.

The stockpiled Hollister ore is fed into a vibrating grizzly and then discharged into a jaw crusher for primary crushing. The discharge from the jaw crusher reports to a secondary cone crusher where it is crushed further and then conveyed to the mill feed stockpile. The minus 3-inch ore is fed to the semi-autogenous (SAG) mill for additional size reduction to 80 percent passing, minus 200 mesh. SAG mill discharge is transferred to a cyclone bank for preliminary gravity/size separation. Cyclone overflow reports to the flotation circuit, while the cyclone underflow reports to the "Gekko" gravity circuit which is comprised of a rougher and cleaner jig, re-grind mill and cyclones.

The concentrate from the Gekko circuit is discharged to the re-grind mill for additional size reduction and coarse gold liberation; the jig tails are transferred to the cyclone sump and cyclone for dewatering. Cyclone underflow reports to one of two ball mills operated in closed circuit for additional size reduction while the cyclone overflow reports to the leach feed thickener. Ball mill discharge is returned back to the cyclone circuit for additional dewatering.

The flotation circuit is comprised of six flotation cells operated counter current to each other. Potassium amyl xanthate (PAX) is used as a non-selective sulfide flotation collector, with copper sulfate and lime added to optimize sulfide mineral collection and pH control, respectively. Methyl isobutyl carbinol (MIBC) is used as the frothing agent.

The flotation concentrate is discharged to a thickener (Thickener #3) for dewatering. The thickener underflow (flotation concentrate) is transferred to a cyclone for additional dewatering. The cyclone underflow is returned to the Gekko re-grind mill for additional size reduction and the cyclone overflow is transferred to the intense cyanide leaching reactor (ICLR). The thickener overflow is recycled back into the flotation circuit as make-up water. Flotation tails are transferred to the leach feed thickener for dewatering and leaching.

The ICLR is essentially a rotating drum where the flotation concentrate is combined with sodium cyanide, sodium hydroxide and hydrogen peroxide. The rotating action of the drum combined with the chemical reagents and flotation concentrate significantly increases the gold cyanidation kinetics when compared to standard CIL tank leaching.

Discharge from the ICLR is transferred to a thickener (Thickener #1) for dewatering. The underflow from Thickener #1 is transferred to a second thickener (Thickener #2) for additional dewatering. The overflow from Thickener #1 is transferred to a pair of electrowinning cells for gold recovery. The underflow from Thickener #2 is transferred to the leach feed thickener, while the overflow is recycled back to Thickener #1.

CIL and Cyanide Detoxification/Destruction: Underflow from the leach feed thickener reports to a series of three (3), 20-foot diameter by 20-foot high agitation leach tanks. Discharge from the third leach tank is discharged to the first of six (6), 16-foot diameter by 18-foot high CIL tanks (CIL Tanks #1 through #6). The cyanide solution solubilizes the gold and silver in the fine-ground ore slurry for adsorption onto the activated carbon, which flows counter-current to the slurry.

The barren slurry from the last CIL tank is pumped to a 16-foot diameter by 18-foot high tank (formerly CIL Tank #7) where hydrogen peroxide (H_2O_2) and sulfuric acid (H_2SO_4) are mixed together to form Caro's acid solution (peroxymonosulfuric acid (H_2SO_5) to destroy the weak-acid dissociable (WAD) cyanide present in the barren slurry prior to its discharge to the Tailings Storage Facilities (TSF-1 and TSF-2).

In its current configuration, loaded carbon from the first CIL tank (CIL Tank #1) is recovered with a carbon screen and then discharged into a single 4-foot diameter by 16-foot high pressurized carbon stripping vessel. Within the vessel, the loaded carbon is washed with nitric acid and then soaked in a concentrated solution of sodium hydroxide and sodium cyanide to de-adsorb the gold and silver.

The barren carbon is regenerated by heating it in a furnace to drive off any organic matter that may have been adsorbed in the process. The reactivated carbon returns to the CIL circuit for reuse in the extraction process. The stripped solution containing the gold and silver is routed through a heat exchanger where it is collected and then passed though an electrowinning cell. The residue is then dried, mixed with flux, and smelted in a small furnace to produce a doré button.

The existing carbon stripping vessel was designed to operate at a carbon stripping rate of 2.5 tons per day (tpd). In its current configuration, the vessel could adequately maintain the 2.5 tpd rate, based on an average mill head grade of 0.20 troy ounces per ton (tr oz/t) gold and 1.1 tr oz/t silver for the Esmeralda ore. The Hollister Mine ores processed at the Esmeralda mill facility are characterized by high silver content and corresponding high silver to gold ratios, resulting in increased metal loading on the carbon.

Maintaining a loaded carbon stripping rate of 2.5 tpd, has resulted in a reduction in stripping efficiency and an increase in the amount of dissolved precious metals lost to the tailings facility. In order to maintain high precious metal recoveries, the loaded carbon feed rate must either be reduced (and create a "bottleneck" with the loaded carbon) or increase stripping vessel capacity.

An EDC (authorized 25 February 2010) added a second 2.5 tpd carbon stripping vessel and associated components to the carbon stripping circuit at the Esmeralda Mill facility. The second carbon stripping vessel will be placed within existing containment adjacent to the existing stripping vessel inside the mill building. Both carbon stripping vessels utilize the same set of pregnant and barren solution storage tanks, one strip solution feed pump and will share the solution heating system. No increase over the current solution requirements is necessary.

The reconfigured carbon stripping circuit will allow for the alternating operation of the vessels. The stripping circuit will be operated by filling the first stripping vessel with 2.5 tons of loaded carbon. The loaded carbon is washed with nitric acid and then soaked in a hot, concentrated solution of sodium hydroxide and sodium cyanide to begin the strip cycle and de-adsorb the gold and silver. During the 12-hour strip cycle, the hot hydroxide-cyanide solution is circulated through the carbon at a rate of approximately 40 gallons per minute (gpm). While stripping is occurring in the first vessel, the second vessel is emptied of the stripped carbon and refilled with loaded carbon and readied for the next strip cycle once the first vessel's strip cycle is completed. The stripped carbon is returned to the CIL circuit to be loaded again.

The hot solution from the first strip cycle is used for the initial filling of the second vessel, conserving solution, reagents and contained heat. Once the first vessel is drained, the second strip vessel begins its 12-hour stripping cycle. The 12-hour stripping cycles for both vessels alternate once each day, moving and stripping a total of 5 tpd of carbon.

Tailings Storage Facility (TSF-1 and TSF-2): Tailings slurry is pumped from the Cyanide Detoxification/Destruction Circuit located at the mill facility at a rate of 350 tons per day (dry) to TSF-2 through a 4-inch diameter, HDPE pipe within an 8-inch diameter HDPE pipe, placed in a shallow trench.

The tailings slurry is approximately 30 percent solids and is sub-aerially discharged on a planned rotational basis from distribution drop bars along the perimeter of the tailings impoundment to enhance dewatering and consolidation. The supernatant pond is maintained in the central and east portion of the TSF-2 impoundment around the decant structure. The water is removed from the tailings impoundment's decant structure to the reclaimed water pond through a 4-inch diameter HDPE pipe within an 8-inch diameter HDPE pipe placed in a shallow trench that parallels the tailings discharge line. The decant structure is a perforated 48-inch corrugated metal pipe surrounded by coarse aggregate.

TSF-1: Discharge to TSF-1 ceased in December 2012 and TSF-1 is now in closure. TSF-1 was built in stages beginning in 1988. The impoundment was constructed on fine-grained historic tailings averaging approximately 20 feet in thickness and a particle size between 80 and 90 percent minus 200-mesh. The upper one-foot of historic tailings was moisture conditioned and re-compacted to a permeability of 1 x 10^{-6} cm/sec during construction to provide a low-permeable bottom layer for the impoundment. The original design consisted of a starter dike with a maximum height of about 13 feet on the west side that tied into the natural hillside on the east side. The west side was equipped with a toe drain to collect seepage from the tailings and a decant structure located in the lowest portion of the impoundment and raised with each new lift.

A rip-rapped surface drainage ditch was also constructed west of the impoundment of sufficient size to accommodate the 100-year, 24-hour storm event. The original design also included the construction of two, five-foot-high lifts to the starter dike. The first lift was completed in June 1991; the second lift was completed in November 1992.

Beginning in November 1993, a centerline addition to the existing embankment was implemented in four phases. These additions raised the crest elevation an additional 22 feet and a height of 7,076 feet above mean sea level (ft amsl). Work was completed in October 1996. A second phased expansion of the tailings impoundment was initiated in 1997. This expansion consisted of an 18-foot-high downstream raise on the existing impoundment plus an extension of the wing walls from the north and south sides of the impoundment into the hillside to the east. The initial 10-foot downstream lift construction (without wing walls) was started in October 1997; however construction was halted in December 1997 due to declining gold prices. Only half the earthwork was completed.

In October 2003, seepage (approximately 5.0 gpm) was first observed on the northwest and south walls of the tailings embankment. Results from a geotechnical assessment indicated that seepage was exiting the embankment through a more permeable layer, approximately 13 to 15 feet below the 1993 crest elevation, but the seepage did not create a condition where imminent failure of the embankment was likely.

A Minor Modification (authorized by the Division on 1 December 2003) added an internal drain system within the previously approved raise. The drain system consists of two toe drains and a sloping chimney drain to intercept seepage and prevent the further saturation of the downstream portion of the embankment.

The toe-drains consist of rounded cobble surrounded by 12-ounces per square yard (oz/sq yd) non-woven geotextile. One toe drain was constructed to flow from the north side of the impoundment to the access ramp with a second toe-drain constructed to flow southwesterly to the opposing side of the impoundment to the access ramp. Ditches lined with Bentomat™ and backfilled with screened river gravel and graded to drain toward the access ramp. The sloping chimney drain consists of compacted crushed gravel on 12-oz/sq yd non-woven geotextile placed on the downstream face of the 1993 embankment fill. Seepage collected in the internal drain system is piped to a containment facility located south of the tailings impoundment.

The containment facility consists of a reinforced polypropylene lined pond that provides secondary containment for the polypropylene storage tank, which serves as the primary containment vessel. A layer of gravel over geotextile provides a foundation for the tank. The tank and pond can contain approximately 35,000 gallons of seepage based on a maximum seepage rate of 13 gpm. Solution collected is to be pumped to the make-up water pond. As part of the approved raise, the Division required the installation of new embankment piezometers in the area of first seep occurrence (EP-1), in the southwest quadrant of pond (EP-2) and in the southeast quadrant of the pond, away from any future wall expansion (EP-3).

On 15 December 2008, APGI/GBGL completed its purchase of the Esmeralda Project. An SOC item in the Permit required the new Permittee to demonstrate fluid management system containment integrity prior to the commencement of operations and the re-introduction of any process solution into the Esmeralda process facility and tailings impoundment.

TSF-1 was dry at the time of the integrity evaluation making any seepage determination impossible. Because of the past seepage history of TSF-1, APGI/GBGL agreed with the Division's request to improve containment integrity prior to the resumption of any tailings deposition. A dividing berm was constructed in mid-2009 to create a North Cell and South Cell for TSF-1. APGI/GBGL began depositing tailings slurry into the South Cell on a temporary basis and committed to lining the North Cell with geosynthetic liner during 2010.

A Minor Modification approved on 30 April 2010 authorized the placement of geosynthetic liner within the TSF-1 North Cell to minimize seepage losses into the underlying tailings. Construction and lining of the approved TSF-1 North Cell began during the latter portion of the 3rd quarter of 2010. With the end of the 2010 construction season rapidly approaching, APGI/GBGL informed the Division on October 19, 2010 that completion of the TSF-1 North Cell would not be possible. As an interim measure, an EDC approved on 10 November 2010 authorized the two-phased construction of the North Cell. Phase 1, which involved the construction of a berm to divide the North Cell into a West and East basin with the West Basin completely lined during 2010. Phase 2, which involved the placement of the liner in the East Basin, was completed during 2011.

The overall project involved the decommissioning of the existing decant riser pipe, excavation of an overdrain sump area in both the West and East basins of the North Cell, placement of 60-mil linear low-density polyethylene (LLDPE) Drain Liner^{TM} over the tailings in both the West and East basins, placement of smooth 60-mil LLDPE liner over the interior slopes of both the embankment and the interior berm slopes, placement of 12-oz/sq yd non-woven geotextile over the Drain Liner^{TM}, installing perforated pipe in each overdrain sump, backfilling each overdrain sump with gravel, and installing a pipe above the liner in each sump to allow consolidation water collected in each sump to be pumped back to the process circuit.

Heavy equipment traffic within the North Cell footprint has resulted in a stable, non-deforming foundation for the liner and deposited tailings. Maximum tailings depth within the cell is approximately 18 feet with an average tailings depth of 12 feet within the impoundment. Some settlement of the underlying tailings is likely, however significant settlement is not anticipated. All interior slopes are graded to 2H:1V.

During the Phase 2 (East Basin) construction, the existing 48-inch diameter corrugated steel decant riser pipe was decommissioned by over excavating the tailings adjacent to the pipe to a minimum of three feet below the existing tailings surface then cutting the pipe. The cut portion of the pipe was disposed of in an approved disposal location. The decant pipe was backfilled with gravel to approximately five feet of the end of the pipe. The last five feet was sealed with a cement grout plug to minimize any leakage into the decant pipe. Excavated tailings were not removed from TSF-1 but used for North Cell construction or recompacted around and over the top of the decant pipe to provide a solid foundation for the overlying LLDPE liner.

Both the West and East basins of the North Cell are lined with 60-mil Drain Liner™ overlain by 12-oz/sq yd non-woven geotextile. The liner provides a drain for tailings water to be collected and returned to the process circuit via the overdrain sumps constructed in both the West and East basins. Effective volume of each sump is approximately 5,000 gallons. The drain liner promotes the consolidation of the tailings while minimizing the amount of head on the liner and minimizing leakage potential.

Smooth LLDPE liner is used on the slopes to prevent a continuous connection between the tailings consolidation drain layer and meteoric water over the long term. The liner is secured in an anchor trench excavated around the perimeter of the North Cell. The liner was laid in a 3-foot deep anchor trench and the soil excavated from the trench was recompacted (minus any oversize material) in the anchor trench to secure the liner.

As stated previously, the Esmeralda Mill slurry discharge is approximately 30 percent solids. An EDC approved 19 July 2011, authorized the installation of a dewatering cyclone to reduce the water content and increase the solids content of the tailings discharged to TSF-1. The denser tailings product (cyclone underflow) has a solids content of approximately 70 percent solids by weight for deposition in the northeast cell. The cyclone overflow (tailings fine product) has a solids content of approximately 10 percent solids by weight and is deposited in the existing LLDPE-lined northwest cell.

A single skid-mounted dewatering cyclone unit, comprised of a booster pump and cyclone, was placed within TSF-1 on the internal divider berm. Discharge to TSF-1 was approximately 350 dry tons per day. The cyclone unit operated until 2012 when the tailing discharge into TSF-1 ceased. The cyclone has since been dismantled and removed. Installation and operation of the cyclone and booster pump required the extension of existing tailings distribution piping from the current discharge point within containment to the cyclone using 4-inch diameter HDPE pipe, a distance of approximately 650 feet all within the existing TSF-1 containment.

TSF-1 Tailings Slurry Discharge/Distribution System Changes: Before discharge to TSF-1 ceased in 2012, a Minor Modification (approved 29 June 2012) authorized a revision to the existing tailings discharge/distribution to allow an elevated central distribution point to be used to create a conical tailings landform on the surface of TSF-1.

Tailings discharge/distribution within TSF-1 remained unchanged through the use of the skid-mounted cyclone. The tailing distribution system was modified by moving the cyclone to center of TSF-1 and placing it on a platform of fill four feet high to elevate the cyclone underflow outlet pipe approximately 10 feet above the existing tailings surface. The tailings delivery line was be placed on metal stands to elevate the delivery line above the future tailings beach along the alignment of the existing road at approximately a 3-percent grade from the perimeter of the tailings facility interior to the location for the relocated cyclone.

The tailings deposition formed a beach with a slope of approximately 3 percent from the center of the facility out toward the perimeter of the facility. The tailings beach did not contact the TSF-1 embankment and a "gap" was left in an effort to maintain a minimum of 2 feet of freeboard from the embankment crest to the tailings surface. This allowed stormwater flows to be routed around the perimeter of the facility into the northeast cell to temporarily store stormwater until it could be transferred to the Reclaim Pond and consumed in the mill circuit.

Placing the cyclone in the center of the facility and discharging tailings from an elevated position generated a cone with a maximum height of approximately 10 feet and side slopes of 3 percent within the interior of TSF-1. The additional storage created by this landform allowed for interim tailings storage until discharge into TSF-2 was fully authorized.

Following cessation of tailings deposition in TSF-1, any accumulated stormwater continues to be pumped to the Reclaim Pond for consumption in the mill circuit until closure activities commence on TSF-1. At closure, the northeast cell was backfilled and regraded to prevent stormwater accumulation and promote flow to the closure spillway.

TSF-2: In order to provide for sufficient tailings storage capacity for the future activities, a Major Modification for the design, construction, operation, and closure of an LLDPE-lined tailings facility (TSF-2) was submitted to the Division on 11 July 2011, approved on 22 November 2011 and became effective on 7 December 2011. Construction was completed in September 2012 and authorization to impound was granted by the Division in 12 October 2012.

TSF-2 is located downgradient and northwest of TSF-1 and occupies a footprint of approximately 40.6 acres, with a total LLDPE-lined basin and embankment area of approximately 31.8 acres. Design capacity of TSF-2 is approximately 990,000 tons of tailings. Assuming a tailings discharge rate of 350 dry tons per day (tpd), a slurry concentration of 30 percent solids by weight, and an average in-place dry density of 74 pounds per cubic foot (pcf), this equates to approximately 7.8 years of operation.

TSF-2 is designed for staged construction. The first stage of construction (Stage 1) has a tailings capacity of 270,000 tons and an elevation of 41 feet above the liner (7,009 ft amsl). The second stage of construction (Stage 2) will add an additional 720,000 tons of tailings and increase the elevation by 22 feet to a final height of 63 feet above the liner surface. Maximum embankment crest elevation will be 7,031 feet amsl at the point where the embankment passes over the unnamed drainage that passes through the site. The maximum embankment height will be 74 feet at this location.

Construction of TSF-2 required the abandonment and replacement of two groundwater monitoring wells (MW-2A and MW-3A) and the realignment of the existing mine access road. MW-2A is located within the lined footprint of the Stage 1 construction and was abandoned prior to grading. MW-3A is located within the lined footprint of the Stage 2 construction and was abandoned prior to grading.

In addition, because of the unique topography, TSF-2 intersects an unnamed drainage that runs through the site. This drainage has been diverted around TSF-2 via two diversion channels to be located north and south of TSF-2. Refer to the section *"Mine Access Road Re-alignment and Diversion Channel Construction"* for additional details.

TSF-2 consists of a main embankment and an upstream saddle dam constructed from waste rock obtained from the Prospectus, North/Victor, and Juniata WRDs. The impoundment embankment slopes and basin are covered with geocomposite clay liner (GCL) overlain by a 60-mil LLDPE. A 12-inch thick low-hydraulic conductivity soil layer (LHCSL), with a permeability of 2.2×10^{-8} cm/sec and compacted to a maximum dry density of 95 percent (ASTM D698) is used as an underliner beneath the GCL.

TSF-2 Underliner Drain and Collection System (UDCS): Beneath the underliner is a network of gravel drains designed to intercept groundwater from springs and seeps and convey flows downstream of the TSF-2 embankment. The UDCS is comprised of several 3-foot deep trapezoidal-shaped trenches with a floor width of 3 feet and side slopes of 2H:1V. Placed within each trench is a 4-inch diameter perforated ADS N-12 corrugated polyethylene tubing (CPT), surrounded by 2-inch diameter drain gravel, wrapped with 12-oz/sq yd non-woven geotextile. The perforated CPT transitions to a 4-inch diameter HDPE solid-wall pipe prior to penetrating the embankment and reporting to a subsurface HDPE manhole (underliner underdrain collection sump) located downstream of the embankment.

The sump is monitored weekly for any solution accumulation, and if present, for Profile I constituents. Water reporting to the underdrain collection sump will discharge to the unnamed drainage downstream of the main embankment. If water quality standards for discharge are not met, water will be pumped from the underliner drain collection sump to the TSF-2 supernatant pond and then returned to the process circuit for consumption.

TSF-2 Embankment Toe Drain: An embankment toe drain was installed on the downstream toe of the maximum height section of the main embankment at each stage of construction to intercept any seepage from potential springs under the footprint of the embankment. The drain consists of a perforated 4-inch diameter N-12 CPT pipe, surrounded by 2-inch diameter drain gravel, wrapped with 12-oz/sq yd non-woven geotextile gravel and wrapped with geotextile. No flows are anticipated to enter the toe drain, however, any spring flows that may develop will be small and easily contained within the toe drain and will report to the underdrain collection sump where the water quality can be monitored.

TSF-2 Overliner Drain and Collection System (ODCS): An overliner drain and collection system was installed within TSF-2 to reduce hydraulic head on the liner system and to remove supernatant solution from the tailings as the tailings consolidate. The ODCS is designed to accommodate a maximum flow rate of 0.4 cubic feet per second (cfs), although actual anticipated flow rates are much less. A 200-gpm submersible pump is utilized to drain the overliner drain collection area and pump the collected solution back to the TSF-2 supernatant pond. During the initial startup of tailings deposition, pumping from the overliner drain collection area was not performed until at least five feet of tailings solids had been deposited over the solution collection area, pursuant to the TSF-2 operating plan.

The LLDPE-lined interior of TSF-2 is graded to drain to the lined collection sump, located at the upstream toe of the TSF-2 main embankment. The 6-foot deep collection sump has a trapezoidal cross-section with 2H:1V side slopes to promote drainage toward the collector pipe header network. The sump is filled with 2-inch diameter gravel with an effective porosity of 25 percent. The total volume of water stored in the pore spaces of the gravel is estimated at 10,200 gallons.

The collector pipes are 12-inch diameter perforated HDPE, wrapped in geotextile filter sock. The pipes are placed within the sump over a 12-inch thick layer of 2-inch diameter drain gravel which overlies the 60-mil LLDPE liner. The collector pipes are connected to a 6-inch diameter, perforated ADS N-12 CPT header drain pipe network and then connected to two 12-inch diameter steel casing pipes extending upstream of the embankment face to the embankment crest. A 6-inch diameter SDR 9 HDPE pipe is contained within the operational casing pipe to convey flows from the overliner drain to the supernatant pond on the TSF-2 surface.

Twelve-inch diameter steel pipes are used to permit a submersible pump to be lowered to the overliner drain collection area. The steel casing pipes are placed in a geomembranelined channel with a 13 percent slope on the upstream face of the embankment and anchored by placing gravel in the channel surrounding the pipes. Pump access and dewatering operations occur at the upstream crest of each stage.

The pump dewatering flows can be adjusted as needed to maintain low hydraulic heads above the liner system for the tailings storage operations. The overliner drain dewatering pump flows are routed to the supernatant pond on the tailings surface.

Supernatant pond elevation is monitored by both visual and surveyed observations of the pond level. Daily monitoring will include observations of the embankment, impoundment levels, pipelines, and pumping facilities. Reclaim water pumping rates and tailings deposition locations are adjusted to control the supernatant pond elevation and shape.

The TSF-2 supernatant pond is designed to accommodate the volumes generated from the 100-year, 24-hour storm event with an additional 3 feet of freeboard. A 300-gpm capacity pump with a 4-inch diameter HDPE discharge pipe is used to convey reclaim water from TSF-2 to the reclaim water pond. The reclaim pipeline is comprised of a 4-inch diameter HDPE pipe inside the impoundment and 4-inch diameter HDPE pipe within an 8-inch diameter HDPE secondary containment pipe outside of TSF-2.

Drainage from the tailings are collected at the upstream toe of the tailings embankment in the overliner collection sump and pumped back into the supernatant pond on the tailings surface. Collector pipes installed over the liner promote drainage of the tailings. Water from the collector drains enters the overliner drain collection area before being pumped to the crest of the embankment with a submersible pump. A pipeline conveys the water to the supernatant pond, where it can be pumped to the reclaim water pond for re-use in the process circuit. A 6-inch diameter HDPE pipe is used to return flow to the supernatant pond within the impoundment containment limits.

All pipelines containing tailings or process solutions are contained within the impoundment footprint or within secondary HDPE pipes suitable for containing unintended release of fluids in the event of pipeline failure.

Mine Access Road Re-alignment and Diversion Channel Construction: In order to construct the TSF-2 main embankment and saddle dam discussed previously, the main access road to the site was relocated and diversions were constructed on both the northern and southern periphery of the TSF-2. An EDC approved June 8, 2011, authorized the re-alignment of the mine access road to the west of the existing access road, on private ground beginning at the Esmeralda-USFS property boundary to the Guard House at the mine entrance.

The new road has a width of 35-feet and a grade of no more than 8 percent. The curve radii are designed to accommodate all anticipated traffic to and from the mine, including large 18-wheeled dump trucks used to transport off-site ore to the Esmeralda site.

Following the completion of the roadway re-alignment, the power lines along the existing mine site access road were relocated to the realigned access road alignment.

The EDC also authorized the construction of two new stormwater diversion channels (North and South diversion channels), which are designed to safely accommodate the peak flow of 110 cubic feet per second (cfs) and 260 cfs respectively, due to the 100-year, 24-hour storm event at the site. The channels are designed to safely convey the peak flow within the confines of the channel along with a minimum of six inches of dry freeboard. In addition, a 14-foot wide maintenance road will be constructed as part of the north diversion channel, at a minimum height of 3.5 feet above the channel floor.

Reclaim Pond: The Reclaim Pond was designed and constructed in 1988 to store reclaim water from the existing tailings impoundment (TSF-1) and minimize the amount of water stored on the tailings surface. Pond dimensions are 120 feet by 150 feet by 12 feet deep, with a total capacity of 850,000 gallons and an operating capacity of 530,000 gallons at three feet of freeboard. During active operations, reclaim water flows from the base of the pond through an 8-inch diameter HDPE pipe-in-pipe to a 48-inch diameter sump located north of the pond. A submersible pump mounted in the bottom of the sump pumps the reclaim water back to the mill via a buried 4-inch diameter HDPE pipe-in-pipe.

The original liner design for the pond consisted of a 60-mil high-density polyethylene (HDPE) liner overlaying a 12-inch thick compacted soil layer. Drainage net was placed between the HDPE liner and soil layer to convey any leakage through the primary liner to a leak detection sump.

In 1998, when the mill was placed on stand-by status, sediment from the process tanks was deposited in the pond where it settled over the primary liner and the outlet from the leak detection sump. Initial plans called for the removal and disposal of the dried reclaim pond sludge, followed by an inspection of the liner and leak detection testing for liner integrity by the end of the third quarter of 2003. Because of unexpected delays and difficulties, the previous Permittee (MVI) submitted an EDC on 5 December 2003, to redesign the reclaim pond containment system.

The redesign allowed MVI to leave the 60-mil HDPE liner and sludge in place. A 16-inch layer of compacted clay fill (permeability 1×10^{-6} cm/sec) was added to the top of the existing sludge and covered by a layer of 16-ounce non-woven geotextile. A layer of 36-mil reinforced, UV resistant, **CSPE** (chlorosulfonated polyethylene or Hypalon™) covered the pond surface and a new collection sump, approximately 4 feet by 4 feet by 1.5 feet deep was constructed and filled with rounded cobble and a 4-inch diameter HDPE pipe was installed to serve as the leak detection port. The Division approved this EDC on 17 December, 2003.

Because of the Division's concerns regarding liner integrity, APGI/GBGL agreed to replace the existing primary liner system in the Reclaim Pond and replace it with a double-lined system with an LCRS. An EDC approved 15 August 2012, removes the 36-mil PPE and 16-ounce non-woven geotextile installed in 2003 with a new double-lined liner system. The compacted clay fill placed within the base of the Reclaim Pond as a part of the 2003 construction was left in place, inspected to ensure it provides an adequate foundation, and then used as a foundation for the new double-lined system. The drainage rock within the existing LCRS Sump was removed.

The new liner system consists of a 60-mil smooth LLDPE secondary liner overlain by a geonet (to provide conveyance of any leakage through the primary liner to the leakage collection sump), which in turn is overlain by a 60-mil smooth LLDPE primary liner. A leakage collection sump was incorporated into the liner system design to allow any leakage to be collected and pumped back into the pond to prevent potential release to the environment.

The leakage collection sump was constructed at the base of the pond in the vicinity of the existing LCRS Sump. A 4-inch diameter perforated HDPE pipe was placed within the LCRS Sump to aid in leakage collection. The perforated HDPE was coupled to a solid wall 4-inch diameter HDPE to allow a pump to be lowered down the pipe to pump out the LCRS Sump as needed. Both of the LLDPE liners and the geonet are secured at the crest of the Pond in an anchor trench backfilled with compacted native soil. A Schedule of Compliance item requires the Permittee to initiate Reclaim Pond liner replacement within 30 days of the effective date of the 2013 Permit renewal.

Humboldt Pit Lake: As the Aurora Partnership and later NGI continued the development and deepening of the Humboldt Pit, groundwater was first encountered at an elevation of 7,157 ft amsl in the east end of the pit. The pit was dewatered with its own dedicated well (i.e. the Humboldt Pit Well) or pumped directly from the pit on an as-needed basis. Typical operational pumping rate for the Humboldt Well is between 180 and 200 gpm. Mining in the Humboldt Pit was completed to a final floor elevation of 6,990 ft amsl and at this time (1997), the central and eastern portions of the pit were partially backfilled with waste rock material.

A lake began to form in the Humboldt Pit following the cessation of all dewatering during the summer of 1996, with an average inflow of about 50 gpm. In November 1996, pit lake volume was estimated at 31.0 million gallons, based on a measured elevation of 7,018.0 ft amsl. In November 2003, prior to the discharge of dewatering solution to the pit lake, lake elevation was 7,126.5 ft amsl, lake depth was 136.5 ft (at its deepest point) and the lake volume was estimated at 210 million gallons. Cresting was predicted to begin at an elevation of 7,146.0 ft amsl.

As stated previously, due to the poor performance of the RIBs, MVI requested and received approval from the Division to discharge dewatering solution meeting Profile I reference values, directly into the Humboldt Pit Lake as an emergency measure on a temporary basis. (Note: Refer to Fact Sheets for WPCP TNEV2003108, WPCP TNEV 2003110 and WPCP TNEV2003110 (AMENDED) for additional information). On 8

November 2003, MVI began discharging Dewatering Solution from the Martinez Decline.

In an effort to reduce the amount of seepage emanating from the tailings impoundment and to remove as much decant solution from the impoundment as possible, MVI received approval from the Division on 8 January 2004, to begin discharging tailings decant solution that met Profile I reference values to the pit lake, pursuant to WPCP TNEV2003110 (Amended). All discharge of decline dewatering water and tailings decant solution to the Humboldt Pit Lake ceased at the end of January 2004, with the expiration of all temporary permits. At that time, pit lake elevation was 7,132 ft amsl, with a depth of 142 ft (at its deepest point) and the contained volume was estimated at 239.6 million gallons.

As of July 2013, the pit lake elevation was estimated at 7,141 ft amsl, with a depth of 151 ft (at its deepest point), and volume estimated at 270 million gallons. Pit lake water chemistry is generally good with TDS and sulfate concentrations fluctuating above and below their respective Profile I reference values. Pit lake pH has remained in the neutral range and trace metals concentrations have either reported as below the Profile I reference values or as non-detect.

Several pit lake studies have been performed since 1989 to predict long term water quality and behavior under various scenarios. The most recent study was completed in 2004 by SRK Consulting and included an environmental risk assessment for the Humboldt Pit Lake and PHREEQC predictive water chemistry modeling. At that time, SRK concluded that although TDS and sulfate were predicted to remain slightly above their respective Profile I reference values over the long term, the pit lake water did not pose a credible risk to either human health or terrestrial and avian life anticipated to inhabit the site. With respect to the human health and ecological screening-level assessment, sulfate and TDS remained a negligible environmental risk due to their presence in concentrations of less than 1,000 mg/l and 1,200 mg/l, respectively.

As part of the 2013 Permit Renewal, SRK (Reno, NV) performed an updated pit lake study, incorporating recently collected analytical data. SRK concluded that the Humboldt Pit Lake continued to remain well mixed throughout the pit lake water column and that there were no anomalous sources of water entering the pit. Furthermore, pit lake water chemistry and pH has remained relatively unchanged, with sulfate and TDS concentrations slightly above their respective Profile I reference values of 550 and 1,100 mg/L as predicted by the 2013 modeling. Since the Humboldt Pit Lake water chemistry is good and the lake appears to have reached equilibrium, SRK saw no benefit in re-running the PHREEQC model. The Division agreed with SRK however, as a Schedule of Compliance (SOC) item, the Permittee is required to update the pit lake assessment (including predictive modeling) at the every renewal or operational change that may affect pit lake behavior and water chemistry.

Mud Alley Adit Drainage: During an October 2005 Mine Compliance Inspection, water was observed seeping along the toe of the slope below the water tank. Upon closer inspection, it was determined that the "Mud Alley" Adit had flooded and was out-flowing along the ore stockpile area, crusher area, and along the edge of the mill building. Profile I analytical results indicated elevated TDS concentrations, but these were still below the 1,000 mg/L Profile I reference value. Mud Alley Adit drainage has been monitored quarterly for Profile I constituents since the 1st quarter of 2006, and TDS concentrations have fluctuated around the 500 mg/L range.

The new stockpile pad constructed as part of the Phase I EDC required the Mud Alley drainage to be diverted around the ore stockpile pad and then returned back to its natural drainage.

C. <u>Receiving Water Characteristics:</u>

The Esmeralda Project is located in an alluvial valley between the Aurora Crater and a ridge extending westward from Aurora Peak. The upper portion of the valley adjacent to the mill site has been filled with tailings from historic mining activity. Surface drainages in the area flow only for short periods during spring snowmelt and meteoric events. Groundwater flows in a northeasterly direction and is monitored quarterly for depth to groundwater and Profile I constituents at monitoring wells MW-4 (Humboldt Pit Well), MW-5 (downgradient of the Humboldt Pit), MW-11-01 (downgradient of TSF-1 and TSF-2), and MW-13-01 (downgradient of TSF-1 and upgradient of TSF-2).

MW-4 was completed (1987) to a depth of 440 ft bgs (6,762 ft amsl) with a static groundwater depth of 295 ft bgs (6,907 ft amsl). Groundwater has slowly rebounded to its current (August 2013) depth of 53 ft bgs (7,149 ft amsl). Water quality for MW-4 meets Profile I reference values, with the exception of arsenic (0.015 mg/L). Iron, concentrations have historically demonstrated a slight exceedence of the 0.6 mg/L reference value; with typical iron concentrations between 0.65 and 0.8 mg/L; however, iron concentrations have been below the reference values during 2009, 2010, and 2011. WAD cyanide concentrations for MW-4 meet the 0.20 mg/L Profile I reference value, however historic concentrations were elevated, ranging between 0.03 and 0.09 mg/L. These pre-2009 elevated levels can be attributed to the now closed heap leach facility last operated by the Aurora Partnership during the early 1990's. WAD cyanide concentrations at this site have been below the detection levels since 2009.

MW-5 was completed in February 2004 to serve as a downgradient monitoring point for the Humboldt Pit Lake, pursuant to WPCP TNEV2003110. The well was required to be monitored for one quarter after the cessation of discharge of any solution into the Humboldt Pit Lake. Water quality meets the Profile I reference values with the exceptions of iron and manganese which show a slightly exceedence of their respective standards of 0.6 and 0.10 mg/L. MW-5 was incorporated into WPCP NEV0087072 to monitor background groundwater quality downgradient of the Humboldt Pit Lake.

MW-11-01was installed downgradient of TSF-1 and TSF-2 in March 2012. The well was completed to a depth of 200 ft bgs and the original static water elevation was measured at 140 ft bgs. The water level rebounded to 48 ft bgs where it has remained steady since March 2012. Water quality meets all Profile I reference values with slightly elevated arsenic (0.015 mg/L) and manganese (0.018 mg/L).

MW-13-01was installed immediately downgradient of TSF-1 pursuant to the Division's Administrative Order issued on 22 April 2013. MW-13-01 was completed on 14 June 2013 and serves as replacement for MW-3A, which was abandoned in 2012. The new well was drilled to a depth of 130 ft bgs and screened at an interval between 110 and 130 ft bgs across the alluvial-bed rock interface. The well is currently dry.

Historic monitor wells now abandoned include MW-1, MW-2A and MW-3A. MW-1 was originally located east of TSF-1 but was replaced by MW-11-01 to accommodate the 2004 tailings embankment expansion. Monitor wells MW-2A and MW-3A were located downgradient of TSF-1 and abandoned in February 2012 to accommodate the TSF-2 construction.

Mill make-up water and water for dust suppression is supplied by the Prospectus Pit Well (PPW). PPW was completed to a depth of 700 ft bgs (6,508 ft amsl). Groundwater depth at the time of completion (2004) was 290 ft bgs (6,918 ft amsl). Water quality for PPW meets Profile I reference values, with the exception of iron and arsenic which have on occasion exceeded their corresponding Profile I reference values. This is typical for the groundwater quality at the Esmeralda Project site.

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 **Mineral County Independent** in Hawthorne, NV 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 modification.

F. Proposed Limitations, Schedule of Compliance and Special Conditions:

See Part I of the permit.

G. Rational for Permit Requirements:

The facility is located in an area where annual evaporation is greater then 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 United States Code (USC) 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 (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 (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:	*Rob Kuczynski, P.E.*
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