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

Permittee Name: **Nevada Gold Mines LLC**

Project Name: **Boulder Valley Infiltration Project**

Permit Number: **NEV0089068**
Review Type/Year/Revision: **Renewal 2025, Fact Sheet Revision 00**

A. Description of Facility

Location: The facility is located in Eureka County, within Sections 22-24, 27, 30 and 32-34, Township 36 North (T36N), Range 49 East (R49E); Sections 3-5, 7, 8, 17-20, and 29-36, T35N, R49E; Sections 24-26, 35, and 36, T35N, R48E; Sections 1, 2, 11, 14, and 15, T34N, R48E; Sections 4-6, 8, 11, 14-17, 21, 22, and 27, T34N, R49E; Sections 2,3,10, and 11, T35N, R50E; and Sections 29, 30, and 32, T36N, R50E; Mount Diablo Baseline and Meridian, approximately 20 miles northwest and 27 miles north of Carlin, Nevada.

General Description: This Project consists of management and reintroduction of dewatering water from the North Block Mine (Goldstrike) NEV0091029 and the Leeville Mine NEV0090056 both operated by Nevada Gold Mines LLC, including collection of spring flows into the Sand Dune Canal and the distribution of the water to infiltration basins, the TS Ranch Reservoir, and irrigated areas within Boulder Valley. The Project includes an arsenic treatment plant located near the pump station P1 at the end of the Sand Dune Canal. An additional arsenic treatment plant is located at the head of the cooling channel and cooling channel bypass. The project also includes the Leeville Water Treatment plant and associated ponds and settling basins, the Leeville Geotubes, and the Leeville Underground oil/water separator system. The Project is designed, constructed, and will be operated and closed without any discharge or release in excess of those standards established in the Permit or in regulation except for meteorological events which exceed the design storm event.

B. Synopsis

Water Pollution Control Permit (WPCP) NEV0089068 (Permit) covers the water management system in Boulder Valley. The system as a whole consists of collection, management, and reintroduction of dewatering water to the groundwaters of the State via rapid infiltration basins, injection, or irrigation, and recirculation of water from the Sand Dune, Knob, and Green springs back to the water management system. The WPCP NEV0095114 Boulder Valley Recirculation Project was incorporated into NEV0089068 with the 2015 renewal. The WPCP NEV2002105 Leeville Infiltration was incorporated into NEV0089068 with the 2025 renewal. The injection of dewatering water is authorized by Underground Injection Control (UIC) permit UNEV93209 and the irrigation system is operated by Nevada Gold Mines LLC. Discharges to the Humboldt River are authorized by National Pollutant Discharge Elimination System (NPDES) permit number NV0022675.

On 20 June 2019 the Division received formal notice of the merger of Barrick Gold Exploration and Newmont Mining Corporation creating the Nevada Gold Mines LLC joint venture. The Boulder Valley Infiltration Project NEV0089068 is now owned and operated by Nevada Gold Mines LLC (the Permittee).

Runoff from the upper watersheds drains to Boulder Creek, which flows through Boulder Narrows before discharging to Boulder Flat. The Goldstrike Mine is located above the entrance to Boulder Narrows, where mining activities have required dewatering, principally of the carbonate aquifer.

East of the carbonate aquifer, across the Post Fault in Little Boulder Basin, is a moderately permeable Paleozoic rock aquifer and an overlying low permeability alluvial aquifer. Mining activities have required dewatering in these formations in addition to the carbonate aquifer. Further east is the low permeability rock of the Tuscarora Mountain block.

The carbonate aquifer lies between the Post Fault on the east and the Siphon Fault on the west. This aquifer is highly permeable, with a nearly flat hydraulic gradient, running north-west to south-east, and is mostly covered by alluvium. The alluvium recharges the carbonate aquifer at the upper end, near the Post Fault. Before dewatering, the aquifer discharged to the alluvium at the lower end, near the Siphon Fault.

A volcanic aquifer lies to the west of the Siphon Fault in Boulder Valley. Water pumped from the carbonate aquifer by mine dewatering to the TS Ranch Reservoir has been seeping into this volcanic aquifer. This aquifer is also highly permeable, with hydraulic gradients measurable only over long distances, and covered by alluvium. As a result of TS Ranch Reservoir leakage, the alluvium now recharges the volcanic aquifer at the upper end, near the Siphon Fault and the water in the aquifer is then discharged to the Boulder Flat alluvium below Boulder Narrows.

Boulder Flat is the eventual recipient of all discharge from the carbonate and volcanic aquifers. Boulder Flat receives an estimated 19,000 acre-feet per year (afy) from Boulder Creek and the volcanic aquifer along with an estimated 29,000 afy from Rock Creek which drains the Willow Creek, Antelope Creek, and Rock Creek basins. Most surface water reaching Boulder Flat evaporates or infiltrates to groundwater without reaching the Humboldt River. The Humboldt River, forming the southern edge of Boulder Flat, discharges an estimated 20,000 afy into Boulder Flat alluvium. Boulder Flat evapotranspirates virtually all received water with a small portion discharging to Clovers Area to the west.

Water is pumped from the ground via dewatering wells around the Permittee's Betze Pit and Meikle Mine, and from the Leeville Mine. A portion of the water is used for mining, milling, and road dust suppression. The remainder of the dewatering water is conveyed by pipelines to the cooling channel/cooling channel bypass, the TS Ranch Reservoir, an infiltration point, and ultimately to injection, irrigation, or infiltration. The Permit allows up to 101 million gallons per day (MGD) to be discharged to the infiltration basins.

<u>Infiltration System</u>

The original construction of the Boulder Valley Infiltration (BVI) system included four settling ponds that were designed to overflow into a cross pond for water re-entry into the irrigation delivery pipeline. These ponds were lined with 100-mil white high-density polyethylene (HDPE). The total combined impoundment of the four ponds as designed was approximately 45 acre-feet. These ponds did not function as planned and were bypassed after approximately one year of use. In March 2009, an Engineering Design Change (EDC) was submitted which proposed closing the two middle ponds and reducing the size of the north and south ponds to make room for the construction of a haul road through this area. The reduced north and south ponds now function as an unlined stormwater collection pond (south) and a lined fill stand make-up water sump (north). The change resulted in the removal of monitoring point GFPD-2A upstream of the white ponds. A new monitoring point, GFPD-2B, was established at the new downstream reconnection point of the dewatering pipeline.

A buried gravity-flow pipeline, referred to as the 72-inch diameter pipeline, first used on 6 August 1993, was built to convey dewatering water from the northwest side of the Betze Pit to the cooling channel before entering the TS Ranch Reservoir. A 54-inch diameter pipeline carries water from the reservoir to Boulder Valley for irrigation. The water can be diverted into a 24-inch diameter pipeline which takes it to three infiltration basins. A 46-inch diameter Pump-back Pipeline, a 46-inch diameter Recirculation Pipeline, a 36-inch diameter Pipeline to multiple irrigation pivots, and two pump stations, P1 and P2, are also used for water management in Boulder Valley.

The Cooling Channel is a 2 mile long open, HDPE-lined channel that was built to maximize cooling and minimize gradient prior to discharge to the TS Ranch Reservoir. An EDC was approved by the Division in August 2007, to make permanent the installation of a ferric sulfate injection plant to reduce elevated arsenic levels identified in the dewatering water discharge. The plant is comprised of a ferric sulfate tank placed within a secondary containment tank, a dedicated pump, and conveyance pipelines placed within the pump building HDPE-lined containment area. Ferric sulfate solution is metered into the 36-inch diameter Dissipater Pipeline located at the outfall structure near the upgradient end of the HDPE-lined Cooling Channel. Arsenic levels in the feed water have ranged as high as 0.077 milligrams per liter (mg/L) but are reduced to below 0.01 mg/L by the treatment system. The plant is operated year round due to the year round infiltration at the TS Ranch Reservoir.

In March 2014, an EDC was approved by the Division for the construction of a cooling channel bypass pipeline to convey dewatering water from the existing dewatering pipeline outfall at the cooling channel to the TS Ranch Coffer Dam. The Permittee intends to increase dewatering at the mine site and initial plans to accommodate increased flow included conducting maintenance of the cooling channel. This change creates a cooling channel bypass pipeline 1,900 feet long. A 36-inch HDPE bypass pipeline is connected at the outfall of the existing 50-inch carbon steel (CS) dewatering pipeline, downstream of an existing non-operational gate valve which is located at the upstream end of the cooling channel. The 36-inch HDPE bypass pipeline parallels and existing roadway and flows by gravity to discharge into the lined Coffer Dam pond. The existing double-walled ferric tank was relocated to the north of the 50-inch CS pipe. The monitoring point which was previously at the cooling channel end was moved temporarily to the coffer dam outfall, and sampled weekly for two months in order to adequately evaluate water chemistry at the new sampling point and ensure the results are not skewed by system modifications. In lieu of conducting maintenance on the existing cooling channel, the Permittee submitted an EDC to install a new settling pond (further described below); accordingly, no maintenance of the cooling channel has been performed. The existing cooling channel will remain in place for use as a possible disposal site for accumulated sediments prior to closure.

In March of 2015, the Permittee submitted an EDC to construct a settling pond along the cooling channel bypass pipeline called Boulder Valley Settling Pond (BVSP). The BVSP accommodates both increased flow rates and allows for increased residence time for settling of ferric hydroxide floc and particulate matter for increased operational and maintenance capability. Effluent from the settling pond overflows into a weir and then can be discharged to the existing Coffer Dam or the TS Ranch Reservoir. The pond is double-lined with HDPE and an intermediate leak collection and recovery system. The pond can be dredged to remove solids for transport and disposal at an approved permitted location. This EDC was approved on 15 June 2015. Commissioning of the BVSP commenced on May 16, 2016, and continued through 2017 as various repairs were made to the liner.

The earthen TS Ranch Reservoir was built as a water storage facility for the Permittee's dewatering operations. Water from dewatering the Permittee's Betze Pit and Meikle Mine and Leeville Mine is stored in the reservoir for delivery to the irrigation systems, infiltration basins, or injection wells. The reservoir was designed for four stages of construction. Stage 3 was completed in the summer of 1990. The existing embankment has a height of 80 feet and a crest elevation of 5,065 to 5,100 feet amsl. The reservoir (including the coffer dam area) has a storage capacity of approximately 1,758 acre-feet.

The system includes three infiltration basins that are approximately 650 feet to 800 feet long and 200 feet wide. Water directed to these basins is introduced by closing valve V-1 and opening valve V-3. The excavated basin embankments are lined with riprap.

Recirculation System

WPCP NEV0095114 previously covered the Boulder Valley Recirculation Project.

The recirculation system covers the recirculation portion of the Water Management System, sending dewatering water back from the Sand Dune Canal into the TS Ranch Reservoir and/or into the rapid infiltration basins when demand for irrigation water is low.

The discharge water must have a quality that will not degrade the water in the receiving aquifer above the Profile I reference values and/or established baseline groundwater concentrations.

The need for the recirculation system developed when filling of the TS Ranch Reservoir was initiated in 1990. Water was pumped into the reservoir to dewater the Goldstrike Mine. The reservoir subsequently drained in April of 1991, when a previously unknown fault in the bottom of the reservoir washed out and allowed the water to flow into the volcanic rocks below. As a result of the fault, three springs began to flow in early 1992. The flow from the three springs now makes up the discharge into the Sand Dune Canal. The springs are located below the reservoir in volcanic rock exposed along the valleys edge. From east to west the springs are named Sane Dune, Knob, and Green.

The principal components of the recirculation system are the earthen Sand Dune Canal, the water treatment plant (arsenic co-precipitation), various pipelines to distribute water throughout Boulder Valley, pump stations, pivot irrigators, infiltration basins, and the TS Ranch Reservoir. Due to the tendency of the spring water to dissolve naturally occurring salts in the soils on its way to the canal, arsenic levels occasionally exceed the Profile I reference value of 0.01 mg/L requiring periodic operation of the water treatment plant. The water treatment plant uses the ferric sulfate co-precipitation process to reduce the arsenic concentrations below the established baseline groundwater quality standard of 0.017 mg/L prior to release into the TS Ranch Reservoir or the infiltration basins.

The recirculation system is capable of delivering 45,000 gallons per minute (64.8 MGD), but discharge from the water treatment plant is limited by the Permit to 28.8 MGD. During the months of March through October the water is primarily used for irrigation. During the months of November through February the water is mainly diverted to the infiltration basins or to the TS Ranch Reservoir. The water treatment plant at pump station 1 is shut down during irrigation months due to the discharge meeting irrigation standards. WPCP NEV0095114 was incorporated into the Boulder Valley Infiltration Discharge Permit NEV0089068 in April 2015.

Leeville Water Treatment Plant (Leeville WTP)

The Leeville Water Treatment Plant was previously covered by WPCP NEV2002105.

The primary components of the Leeville WTP are a dewatering water Surge Tank hydraulically linked to a double-HDPE-lined and leak detected Overflow Pond, a chemical precipitation water treatment plant, four Inflow Settling Basins, three treated water Settling Ponds, and pipelines for discharge of treated water and precipitated Settling Pond solids. The four Inflow Settling Basins, two for each Settling Pond #1 and #2, were added as an EDC modification approved by the Division 24 March 2004. The design for Settling Pond #3 was included in the original approved design and construction was authorized by the Division on 12 August 2004. Following a series of operational challenges, the original double-lined and leak detected Surge Pond was converted to an emergency Overflow Pond, designated the Surge Tank Overflow Pond (STOP), and an EDC approved by the Division 01 December 2004 authorized the construction of a steel dewatering water Surge Tank south of the pond for use in non-emergency situations.

Based on consistently good water quality following five years of treatment plant operation, the LCRS flow limits for the four Inflow Settling Basins and the three treated water Settling Ponds were removed from the Permit with the 2008 renewal; however, the Permit still requires at least weekly evacuation and flow monitoring of the pond LCRS sumps without flow limits. This requirement was reverted in the 2025 permit renewal, when the Leeville Infiltration Permit (NEV0095114) was joined to this permit (NEV0089068).

Dewatering water is routed through individual pipelines from the dewatering wells to a collection manifold and into a 42-inch diameter HDPE pipeline for discharge into the water treatment Surge Tank located approximately 200 feet upgradient of the water treatment plant. The steel Surge Tank measures approximately 20 feet in diameter by 20 feet high and has a capacity of approximately 38,000 gallons. Water is conveyed from the tank to the treatment plant through a 42-inch diameter, above-ground HDPE pipeline.

The original Surge Pond was converted in 2004 into the STOP following numerous maintenance and repair issues. In the event of an upset condition, overflow from the tank reports via a 42-inch diameter HDPE pipeline to the STOP then flows by gravity through the original leak detected pond outlet drain to the water treatment plant.

The STOP measures approximately 125 feet wide by 245 feet long. The maximum depth of the pond is 18 feet but the operational depth maintains, by design, 3 feet of freeboard. Maximum pond volume is calculated at 1,536,000 gallons (205,348 cubic feet). The pond is constructed of two 60-mil HDPE liners with a geonet LCRS between the liners. The secondary liner rests on a 6- to 12-inch thick Low Hydraulic Conductivity Soil Layer (LHCSL), compacted to 95 percent (%) maximum dry density (Modified Proctor American Society of Testing and Materials (ASTM) Method D1557) and placed over a subbase compacted to 95% maximum dry density (ASTM Method D1557).

Any leakage from the STOP reports to a 60-mil HDPE, single-lined leak detection sump with an approximate capacity of 3,671 gallons. The sump is filled with washed, minus 6-inch diameter rounded rock and fitted with an evacuation pump in a 10-inch diameter HDPE riser pipe sandwiched between the liners.

An EDC was approved by the Division in October 2009, to extend an existing 1-inch diameter, standard dimension ratio (SDR) 11, HDPE pipeline to convey ferric sulfate directly into the Surge Tank. The buried conveyance pipeline is located within a 3-inch diameter, SDR 11, HDPE pipeline to provide secondary containment. The buried portion of the pipeline is located in a trench 4 feet below surface with tracer marking tape placed just above the pipeline prior to backfilling the trench. The short surface runs of the pipeline are wrapped with aluminum-clad fiberglass and heat traced. The conveyance pipeline discharges into the top of the Surge Tank. The dewatering water is treated with a 50% by weight mixture of either ferric sulfate or polyferric sulfate to achieve a design dosage of 15 milligrams per liter (mg/L) of ferric iron (Fe3+). This change in point of addition, directly into the Surge Tank, did not perform well for the Permittee and was changed back to the previous point of addition near the WTP shortly after the new pipeline was installed.

A non-fee modification was approved by the Division in October 2013 for a temporary pilot treatment test to reduce arsenic and antimony concentrations in the treated water to within new Permit limits that went into effect on 10 January 2013 (0.01 mg/L and 0.006 mg/L, respectively). The modification allowed the temporary installation and use of small mixing tanks and connecting piping for treatment of dewatering water with hydrogen peroxide, ferric sulfate, sulfuric acid, calcium hydroxide, and a flocculant on existing secondary containment in the Leeville WTP building. The feed pipeline was the existing, but no longer used, buried, double-walled (1-inch diameter within 3-inch diameter), HDPE pipeline described above for the October 2009 EDC. In its new use, the feed pipeline conveyed dewatering water from the Surge Tank to the pilot test within the Leeville WTP building. The pilot test began in January 2014 and was completed in March 2014. An April 2014 summary report indicated that the pilot test did not consistently meet the 0.006 mg/L Permit discharge limit for antimony. The discharge limit was revised upward with the 2015 Permit renewal, as described below.

Water flows by gravity from the Surge Tank through an above ground, 42-inch diameter HDPE pipeline toward the WTP. Upstream of the WTP, the 42-inch diameter supply pipeline is split into two identical 24-inch diameter HDPE treatment pipelines. Magnetic flow meters monitor each treatment pipeline to facilitate reagent dosing rates with a mechanical metering pump. Downstream of the metering pumps, the two treatment pipelines converge into a single 48-inch diameter pipeline, which conveys the solution by gravity to an in-ground, concrete distribution box located on the 60-mil HDPE secondary containment. From the distribution box the flow is split into three individual streams for distribution to the treated water Settling Ponds.

Each treatment pipeline is equipped with an injector downstream of the magnetic flow meter for dosing the untreated dewatering water with ferric sulfate or polyferric sulfate at that point in the treatment stream as an alternative to dosing at the Surge Tank. When the treatment pipeline injectors are used, the dewatering water is still treated with a 50% by weight mixture of either ferric sulfate or polyferric sulfate to achieve a design dosage of 15 mg/L Fe3+. Untreated dewatering water is added downstream of the metering pump at the design rate of 6 gpm. Within approximately 8 seconds following injection of the sulfate solution, an anionic polymer, is added at 0.25% by weight of the treated water. The design polymer dosage is 2.0 mg/L, which is maintained at a constant rate by pacing the chemical metering pump to the process flow. Solution mixing is achieved by an in-line static mixers located downstream of the injectors.

The treatment pipelines are located on 60-mil HDPE secondary containment that is welded to the secondary pond liner. The HDPE liner was placed on 6 inches of sand bedding material and covered with geotextile and a 6- to 12-inch layer of drainage material. Any leakage from the reaction lines or the water treatment building will drain to a low point in the liner fitted with a 4-inch diameter perforated HDPE pipe, collection sump, and evacuation pump, which reports to the treated water Settling Ponds.

The Leeville WTP building is constructed of concrete and houses tanks, vats, pumps, and pipelines for receiving, storing, and dispensing the water treatment reagents. A list of reagents and their chemical properties was provided with the Permit application. The Permit requires Division approval of any other chemicals prior to use. Concrete joints are fitted with appropriate waterstop devices. The building is divided into several smaller compartments to isolate spills and simplify clean-up in the event of an upset. Each compartment can provide containment in excess of 110% of the volume of the largest single container housed, and can be equipped with a collection sump and automatic evacuation pump. Scupper drains, located above floor level in the compartment stem walls, hydraulically link all compartments. A major spill would ultimately report to the treated water Settling Ponds for containment.

Four Inflow Settling Basins, two for each Settling Pond #1 and #2, were constructed as an EDC modification in early 2004. The Inflow Settling Basins are located upstream of each respective Settling Pond and are designed to reduce inflow velocities and provide longer reagent contact time to promote more thorough flocculation. This longer residence time results in creation of larger sized particles, more complete and rapid settling of suspended solids within the Settling Pond, and, therefore, less potential suspended solid load being discharged with the treated water. Settling Pond #3 uses an upstream energy diffuser and a pond inlet structure, constructed within the pond containment system, rather than inflow basins to enhance solids settlement.

The Inflow Settling Basins are roughly irregular polygons in shape and range from 26 to 63 feet in length, 20 to 30 feet in width, and 1 to 5 feet in depth. However, each Inflow Settling Basin has an approximate capacity of 32,000 gallons with a 2-foot operational freeboard. The sizing yields 5 minutes of retention time for each basin at 5,000 gpm.

Each Inflow Settling Basin is constructed as a double-lined and leak detected pond. Construction consists of a prepared subgrade with a minimum 6-inch thickness of material compacted to at least 95% maximum dry density (Standard Procter ASTM Method D698). Above the subgrade, from bottom to top, the liner system is comprised of a 60-mil HDPE secondary liner, a 200-mil geonet LCRS layer, and an 80-mil HDPE primary liner. The Inflow Settling Basin liner system is welded to the existing Settling Pond liner system. Any leakage between the liners will report to a 30-gallon gravel-filled sump fitted with a 6-inch diameter polyvinyl chloride (PVC) riser pipe.

Flow to each Inflow Settling Basin is through a 30-inch diameter HDPE pipeline from the distribution box to a cast-in-place reinforced concrete channel, approximately 45 feet long, that serves as a header/weir to discharge fluid evenly into the basin. The entire header/weir is cast on top of the liner system with an extra geonet layer and a conveyor belt wear sheet between the primary liner and the base of cast-in-place concrete channel. Treated water flows from the Inflow Settling Basins directly into the Settling Pond distribution system across a compacted earthen weir overlain by the continuous liner system. The weir design provides a minimum 2-foot operating freeboard within the Inflow Settling Basin.

Two treated water Settling Ponds were constructed as part of the original Permit approval. Authorization to construct treated water Settling Pond #3, as approved in the original design, except for a thicker 80-mil HDPE primary liner, was given by the Division on 12 August 2004. Construction of treated water Settling Pond #3 was completed at the end of November 2004.

The treated water Settling Ponds each measure approximately 170 feet wide by 450 feet long at the crest. The ponds are designed for an average flow rate of 8,330 gpm, at a design overflow rate of 300 gallons per day per square foot applied to the bottom of the 10-foot clarification zone. The peak hydraulic loading rate is 12,000 gpm when one pond is out of service for precipitated solids removal or maintenance. The Settling Ponds are designed with an overall depth of 18 feet, including 3 feet of freeboard, 10 feet of clarification, and 5 feet of solids storage.

Except for treated water Settling Pond #3, which has an 80-mil HDPE primary liner, each Settling Pond is leak detected and constructed of two 60-mil HDPE liners with geonet between the liners to serve as a LCRS. The secondary liner for each pond rests on 6 to 12 inches of LHCSL material compacted to 95% maximum dry density (Modified Proctor ASTM Method D1557). Any leakage from a pond will report to an individual leak detection sump between the liners filled with washed, minus 6-inch diameter rounded rock encased in geotextile and fitted with an evacuation pump in a 10-inch diameter HDPE riser pipe.

Treated water Settling Pond #2 developed leakage through the primary liner in the third quarter of 2004, shortly after commissioning. Several phases of repair and testing were partially successful, but the pond remained off-line as of September 2015. Pond #1 developed leakage in 2014 but was repaired in early 2015 and remained in service, along with Pond #3, as of November 2015.

In August of 2020, the Division gave approval of an EDC for the removal of monitoring points which were duplicated in both the Leeville Permit and the Boulder Valley Infiltration Permit (NEV0089068), due to both permits essentially functioning as one system which is operated under one entity after the joint venture between Barrick Goldstrike Mines, Inc. and Newmont Mining Corporation. In 2025, both permits were consolidated into the Boulder Valley Infiltration Permit (NEV0089068). In addition, calculations were provided showing that the operation of the Leeville WTP was not necessary under current and expected conditions at both facilities. However, a strategy to continue to meet the permitted discharge requirements was proposed with the modification. This strategy consists of increased sampling, routing of flows to the Coffer Dam to allow for solids removal to achieve adequate hydraulic retention times, and possibly the operation of the Leeville WTP.

Settling Pond Solids Removal and Disposal

The settling ponds were previously covered by WPCP NEV2002105.

The Leeville Water treatment plant uses ferric sulfate coagulation ferric sulfate coagulation process for co-precipitation of dissolved arsenic and antimony, followed by flocculation with a polymer and solid/liquid separation in the treated water Settling Ponds. Precipitated solids collected in the Settling Ponds, comprised of ferric hydroxide precipitate, are pumped periodically for dewatering and proper disposal to the Leeville De-Sedimentation Project Phase I ('Geotubes'), located at the North Area Leach Project (WPCP NEV0087065) within the Mill 4 Tailings Storage Facility 2 (TSF 4-2). At the design flow rate of 27,000 gpm and a design reagent dosage rate of 15 mg/L Fe3+, settled solids will be removed from the Settling Ponds about every 90 days with a fixed slurry pump or a floating Settling Pond solids dredge.

The Settling Pond solids pipeline is used when necessary to remove accumulated solids from the Settling Ponds and has a design pumping rate of 1,000 gpm. The 8-inch diameter HDPE pipeline is approximately 3,500 feet long, and is contained within a 60-mil HDPE-lined containment ditch. The synthetic liner was placed on a minimum 6-inch-thick compacted layer of bedding sand over a prepared subbase compacted to 95% maximum dry density (Modified Proctor ASTM Method D1557). Samples of the Settling Pond solids were tested by the Toxic Characteristic Leaching Procedure (TCLP) and, based on the results, were deemed to be non-hazardous. In accordance with the Permit, annual characterization of Settling Pond solids includes Meteoric Water Mobility Procedure (MWMP), Profile I, and Acid Neutralization Potential:Acid Generation Potential ratio (ANP/AGP) analyses.

After the Settling Pond solids are allowed to dry within a Geotube at the Leeville De-Sedimentation Project, the Geotube is cut open and the Settling Pond solids are removed and disposed in the Class III waivered North Area Leach Project (WPCP NEV0087065) solid waste landfill.

Leeville De-Sedimentation Project Phase 1 (Geotubes)

The Leeville Geotubes were previously covered by WPCP NEV2002105.

An EDC approved by the Division in August 2010, authorized construction of the Leeville De-Sedimentation Project Phase I. A second phase may be constructed based on Phase I operational experience, but will require a Permit modification and submittal of appropriate fees. Phase I is located upstream of the existing Leeville Mine Underground Sump Oil/Water Separator System (see description below). The approved and subsequently modified design includes sumps, pumps, and pipelines to convey clarified water directly from the existing Sedimentation Basins and Pump Tank to the Leeville WTP. Previously, the clarified dewatering water from the Leeville Mine workings was discharged to TSF 4-

2 in the North Area Leach Project (WPCP NEV0087065). Although the De-Sedimentation Project is located within the southeast corner of the TSF 4-2 footprint, it was incorporated into the Leeville Infiltration Permit, because the clarified water from the De-Sedimentation Project is now conveyed to the Leeville WTP.

The Leeville De-Sedimentation Project Phase I is comprised of 12 geotextile filtration tubes (Tencate Geotubes®), known as 'Geotubes', placed on an engineered, HDPE-lined drainage platform with solution collection system. The Geotubes capture the majority of fine sediment contained in the Leevillle Mine Underground Sump water discharge, and most of the petroleum that is commonly contained in the Leeville Mine Underground Sump water. The latter aspect rendered the existing downstream oil/water separator unnecessary; hence it was bypassed with Division approval in 2012.

The flat, Geotube drainage platform, measuring approximately 170 feet in east-west dimension and approximately 750 feet in north-south dimension, was constructed to provide secondary containment and a filtered water collection system for 12 Geotubes. The Geotubes are separated into north and south groupings; Geotubes #1 through #6 comprise the south grouping and Geotubes #7 through #12 comprise the north grouping.

Valves and flexible pipelines direct water from the existing 8-inch diameter Leeville sump pipeline to all 12 Geotubes. Leeville WTP sediment pond dredge water, which does not contain oils and greases, is conveyed from the existing 10-inch diameter pipeline to Geotubes #1 through #4 only. Starting in 2012, underground mine dewatering water is also conveyed to Geotubes #1 through #4, as described below. After emerging from the Geotubes, the filtered water from all Geotubes is conveyed to the Sedimentation Basins, and ultimately back to the Leeville WTP, as described below.

Each Geotube is constructed of high strength geotextile and measures approximately 30 feet wide by 100 feet long. The Geotubes are placed at least 30 feet from adjacent Geotubes and from the edge of the drainage platform. When filled to the planned 50-60% capacity, an individual Geotube will expand to approximately 7.5 feet high. The Geotubes are rated for a 1,000 gpm fill rate but a lower rate increases filtering efficiency. Pilot testing indicates an average of two Geotubes will be filled per week, which equates to approximately 500 tons of collected sediment. When a Geotube is full, the contained sediment is allowed to dry. The drying time varies depending on the time of year, but is generally 4 weeks or more. The Geotubes remain in place on the lined platform while drying. The contained sediment is assayed prior to removal by cutting the Geotube open and removing sediment with a loader. Geotube sediment with recoverable metal grade is transported to the mill, or to the nearby Section 3 ore stockpile, for processing (WPCP NEV0090056). Non-ore Geotube sediment is characterized and placed in an appropriate waste rock disposal facility, except Leeville WTP Settling Pond solids, which are disposed in a Class III waivered landfill. The empty used Geotube bag material is also solid waste that must be disposed in an approved landfill, such as a Class III waivered landfill.

To construct the platform, the existing TSF 4-2 subgrade within the platform footprint was graded to form a surface sloped at a minimum 1% to drain from east to west. The prepared area was covered with a minimum 6-inch thick layer of specified bedding material compacted to a minimum 90% maximum dry density (ASTM Method D1557), followed by placement of an 80-mil textured HDPE liner that is directly covered with a minimum 12-inch thick layer of protective overliner comprised of screened underground backfill reject material with a maximum ⅜-inch diameter particle size.

A drainage layer, at least 4 feet thick and constructed of well-graded gravel with a maximum 2-inch diameter particle size, provides a high permeability layer that protects the underlying collection pipeline system from damage during loading and off-loading activities. The filtered water collection pipeline system incorporates 4-inch diameter perforated corrugated polyethylene (CPe) pipelines placed at 30-foot spacing in a herringbone pattern on the surface of the overliner layer. The collection pipeline system is divided into a north and south section, corresponding to the Geotube groupings within the platform, with the pipelines in a respective section reporting to a dedicated 8-inch diameter perforated CPe collection pipeline placed in an east-west orientation at the north-south midpoint of the platform. The two 8-inch diameter collection pipelines drain to a trapezoidal collection channel, located along the west edge of the platform.

The collection channel is lined with a continuation of the single 80-mil textured HDPE platform liner. The channel collects flow from the 8-inch diameter collection pipelines in addition to flow conveyed through the drainage and overliner layers within the lined platform rather than the collection pipeline system. The collection channel measures approximately 3 feet wide at the base and ranges from 2 to 6 feet in depth to direct collected solution flow from both the north and south ends of the platform to a pair of collection risers located at the combined low point and midpoint of the channel and the platform. A berm is constructed across the channel at this point to separate the north flow from the south flow and direct the segregated flows into the two vertical 24-inch diameter HDPE collection riser inlets.

The south and north collection risers are identified respectively as Collection Riser #1 and Collection Riser #2. Each riser is equipped with a top grate and a bottom blind flange. The 80-mil HDPE platform and collection channel liner is welded to a 6-inch wide HDPE ring around the top of each riser. Collected water is conveyed from each riser through a 10-inch diameter HDPE pipeline to the existing Sedimentation Basins (see below). Valves on the pipelines at the basin inlets allow regulation of flow between the basins or isolation of flow to a single basin when one of the basins is being cleaned or repaired.

In order to eliminate the need for direct discharge of underground mine water to the TSF 4-2, an EDC was approved by the Division in January 2012 for construction of the Leeville De-Sedimentation Project Truck Station. The Truck Station was constructed to accommodate discharge of mine water from both large (30,000-gallon) mine water haul trucks and smaller (3,000- to 4,000-gallon) drill water trucks into a collection and conveyance system for treatment in Geotubes #1 through #4 only. After exiting the Geotubes, the filtered mine water is comingled with the water from the other Geotubes.

A gravel roadway at the De-Sedimentation Project Truck Station provides access to a reinforced concrete pad and apron. The western portion of the pad, designed to accommodate the smaller trucks, is enclosed with a 2-foot high reinforced concrete containment wall and the eastern portion of the pad, designed to accommodate the larger trucks, is enclosed with a 2-foot, 4-inch high containment wall. Both discharge areas are sloped to a valley pan in the middle of the pad to convey discharge water to a 5-foot wide concrete launder, screened with a 2-inch by 2-inch welded wire mesh, and into a partially buried steel Truck Station Tank. The pad is equipped with a fire hose that can be used to wash heavier solids to the tank.

Discharge water exits the launder by gravity into the 35-foot diameter by 12-foot deep, 80,000-gallon steel Truck Station Tank. The internal and external surfaces of the tank are coated with epoxy or rubber sealants to prevent corrosion. A 2-foot thick by 7-foot tall concrete ring was poured around the base of the steel tank to address buoyancy concerns and anchor the tank when empty. Four high-pressure nozzles located along the inside circumference of the tank floor can be used as needed to agitate solids and keep them suspended in solution.

Two 700-gpm submerged pumps, with float sensors to determine water level, operate automatically to evacuate the Truck Station Tank. Only one pump is required to evacuate the tank; the second pump provides redundancy in the event of pump outage or maintenance. Water is pumped from the Truck Station Tank through a 6-inch diameter flexible hose that transitions to a 10-inch diameter HDPE pipeline equipped with a flow totalizer, densitometer, and a connection to the existing flocculation system. A new 10-inch discharge manifold, similar to the pre-existing manifold, connects the new conveyance pipeline to Geotubes #1 through #4. The Truck Station Tank is also equipped with an overflow that conveys water by gravity through an 18-inch diameter, above ground, HDPE pipeline to the existing Sedimentation Basins in the event of upset conditions at the tank.

Leeville Mine Underground Sump Oil/Water Separator System

The Leeville Underground Oil/Water separator system was previously covered by WPCP NEV2002105.

An EDC modification was approved by the Division in December 2007 to upgrade the oil/water separator system for improved treatment of Leeville Mine underground mine sump water prior to discharge to the TSF 4-2. The original separator system (located east of the county road and west of the Leeville Mine access road) was bypassed with installation of the new system. The new system was originally permitted and monitored in accordance with the Mill 5/6-Gold Quarry-James Creek Project (WPCP NEV0090056) but was transferred as a non-fee action in April 2009, to the North Area Leach Project (WPCP NEV0087065) where the clarified water was physically managed until late 2010.

Monitoring and reporting for the component was transferred again in August 2010, to the Leeville Infiltration Project (WPCP NEV2002105), following approval of an EDC to construct the Leeville De-Sedimentation Project Phase I (see description above). With the 2025 renewal of this permit, all of the facilities from the Leeville Infiltratin Project permit (WPCP NEV2002105) were moved to the Boulder Valley Infiltration Project permit (this permit). With the construction of the Leeville WTP, clarified water is conveyed to the that facility and monitoring and reporting are performed in accordance with this Permit. However, closure of these components, based on their physical location, will likely be completed in conjunction with the North Area Leach Project (WPCP NEV0087065).

The Leeville Mine Underground Sump Oil/Water Separator System is designed to manage average inflow rates of 800 gpm during an average 5-minute cycle twice per hour. The system is comprised of a pair of Sedimentation Basins (East and West) with secondary containment and a pre-fabricated oil/water separator tank with leak detection. The oil/water separator tank was bypassed as part of an EDC approved by the Division in January 2012.

Filtered water is conveyed to the Sedimentation Basins from the Leeville De-Sedimentation Project Phase I collection risers through a pair of 10-inch diameter HDPE conveyance pipelines. The East and West Sedimentation Basins are located on the southeast side of the TSF 4-2 within the limits of the impoundment basin. The Sedimentation Basins consist of two rectangular-shaped concrete chambers, placed side by side. Each basin measures approximately 125 feet long by 25 feet wide and has a maximum depth of about 6.5 feet. The initial 80-foot length of each basin is sloped down from ground surface at about 10% to provide access by a front-end loader to remove sediment. Based on operational experience, the Sedimentation Basins are designed for a minimum 30-day clean-out frequency per basin.

The basins have a rectangular, 1-foot deep by 1.5-foot wide, inlet channel on top of their outer walls that is equipped with a series of 13 gated weirs spaced on 6-foot centers. Flow from the 8-inch diameter conveyance pipelines to the inlet channel is regulated by a system of valves. An 80-foot long effluent launder, measuring 2 feet wide by 1 foot high, sized to handle 800 gpm flows, is located centrally between the two basins. Overflow from the basins passes into the launder through a series of 3-inch-deep v-notch weir, which originally discharged (see January 2012 EDC modification description below) from the launder through a 12-inch diameter HDPE pipeline into the oil/water separator tank.

An EDC was approved by the Division in January 2012 to authorize a pipeline modification to bypass the oil/water separator tank due to problems with solids build-up in the separator tank baffles. In addition, operating experience following construction of the De-Sedimentation Project demonstrated that very minor quantities of hydrocarbons remained in the water reporting to the Sedimentation Basins following Geotube filtration and that continued use of the oil/water separator was unnecessary. The EDC included installation of a pair of floating, closed-loop oil skimming plastic tubes to recover small amounts of hydrocarbons from the surface of the water within the basins. Any collected hydrocarbons are conveyed from the outer surface of the tubes to a 55-gallon drum located adjacent to each basin. The basin outflow launder was connected to a new 12-inch diameter HDPE pipeline to convey clarified water directly to the Pump Tank (see below).

The oil/water separator tank is a pre-fabricated, horizontal cylinder-shaped unit measuring approximately 8 feet in diameter by 26 feet in length. The entire unit is buried below grade immediately north of the Sedimentation Basins within a common LCRS sump (see below) excavated into the TSF 4-2 seal zone. The unit is equipped with internal baffles and monitoring and clean-out access ports. Due to limited access to the tank unit and the LCRS shared with the Sedimentation Basins, the unit could not be removed once bypassed as part of the January 2012 EDC. However, the unit was isolated with blind flanges on all pipelines and drained of fluid. LCRS monitoring will continue but the final disposition of the separator tank will need to be addressed as part of final closure of the facility.

A shared LCRS sump for the Sedimentation Basins and the oil/water separator tank (identified in the Permit as LVOWLD) is comprised of a trapezoidal-shaped trench excavated at the deep end of the Sedimentation Basins with the long axis of the excavation constructed perpendicular to the long axis of the basins. The base of the trench is covered with a Geosynthetic Clay Layer (GCL), which has a permeability of less than 1 x 10-9 centimeters per second (cm/sec) and is keyed into an anchor trench beneath the concrete Sedimentation Basins. The tank is placed in the trench within approximately 4 feet of pipe backfill material covered with random fill. To preclude ingress of meteoric and surface waters, the entire random fill area is covered with reconstructed TSF 4-2 basin seal zone material. Any fugitive solution from the Sedimentation Basins or the tank reports by gravity to a gravel-filled, 80-mil HDPE-lined, LCRS sump excavated beneath the centerline of the tank. The LCRS sump may be inspected and evacuated through a 20-inch diameter HDPE vertical observation port that daylights on the surface adjacent to the tank. Any collected solution can be evacuated with a portable pump to the Sedimentation Basins for flow quantification and treatment if necessary.

The Pump Tank is a steel, 10,000-gallon tank measuring 14 feet in diameter by 12 feet tall. The tank is designed to handle feed rates of 200 to 1,000 gpm and is mounted below grade on a concrete ring foundation in a backfilled trapezoidal excavation. The tank is equipped with a pair of vertically-mounted, variable-drive pumps rated at 1,000 gpm each. Only one pump is required for operation and the second provides a back-up. A 12-inch diameter HDPE pipeline, placed in the existing synthetic-lined conveyance ditch, connects to the 12-inch diameter pipeline from the East Sedimentation Basin with a wye fitting to convey water back to the Leeville WTP flow distribution box through a single 12-inch diameter HDPE pipeline. The wye fitting is equipped with check valves to prevent backflow of water from one pipeline to another. Water is sampled for Profile I and total petroleum hydrocarbon analyses at the distribution box discharge point.

A non-fee modification was approved by the Division in December 2013 for use of Watertech, Inc. antiscalants CWT-254® (sodium hypochlorite) and CWT-280® (containing sodium polyacrylate) in dosing rates of 20 mg/L and 106 mg/L, respectively, in cooling water in the heat exchangers at the Leeville-Turf Vent Shaft Freeze Plant. The spent cooling water was conveyed via a 6-inch diameter HDPE drain pipeline on the surface to the Leeville De-Sedimentation Project Pump Tank. As of September 2015, the Leeville-Turf Vent Shaft Freeze Plant had been taken out of service, dismantled, and removed.

Petroleum Contaminated Soil (PCS) Management

In December 2011, the Permittee submitted an EDC proposing that all PCS resulting from site activity be managed according to the approved PCS Management Plan for the North Block Project WPCP NEV0091029. The PCS Management Plan allows PCS to be transported to the roaster PCS stockpile pad (NEV0091029) where it is stored prior to being fed into the roaster for combustion of all petroleum constituents. A secondary PCS stockpile pad is located on the Bazza Waste Rock Facility that is utilized in addition to the PCS stockpile pad at the Roaster. Hazardous waste, and any other PCS that cannot be roasted, must be properly disposed of off-site at an authorized facility. The EDC was approved by the Division in January 2012.

C. **Receiving Water Characteristics**

The receiving water is groundwater in both the alluvium and bedrock aquifers of Boulder Valley. Depths to groundwater at wells near the permitted facilities since 2007 have been as follows:

IMW93-2 (just southwest of RIBs) – 206-215 ft (trending deeper)
IMW93-3 (west of northern irrigation site) – 50-59 ft (trending deeper)
IMW93-4 (east of northern irrigation site) – 51-67 ft (trending shallower)
IMW95-1 (west of central irrigation site) – 58-72 ft (trending shallower)
NA-23 (at TS Ranch Reservoir) – 333-363 feet (trending deeper)
NA-29 (west of BVI system, upgradient) – 873-893 ft (trending shallower)

Note that monitoring data for NA-23 and IMW93-3 is only available since 2009. These wells are sampled periodically as part of the Permittee's ongoing Boulder Valley hydrogeological monitoring. The groundwater gradient in this area is generally northwest to southeast. In general, laboratory testing of the monitoring well samples has shown compliance with the Profile I reference values. The only recorded exceedances were slightly elevated pH values in IMW95-1 (periodic excursions up to 8.7 Standard Units [SU]) and NA-29 (one instance of 8.8 SU) which are not considered significant but will continue to be observed to ensure they do not go higher. Sub-surface water levels are elevated near the infiltration areas of the TS Ranch Reservoir, near the infiltration ponds, and in the areas of active irrigation. This infiltration mounding in each of these areas increases during the periods of heaviest use.

Extensive monitoring programs are in place in the Boulder Valley as well as in the Betze Pit/Meikle Mine areas to establish water quality. A total of 76 monitoring wells provide data for the various permits in the project area, including 6 wells dedicated to NEV0089068

- upgradient wells NA-18, NA-22, and NA-29; and downgradient wells NA-26, NA-32, and NA-34. Based on these programs, monitoring data indicate that the post treatment dewatering water quality meets or exceeds the baseline groundwater quality of the aquifer beneath the Boulder Valley and/or the Profile I reference values.

Since groundwater mounding in the Boulder Valley groundwater began in 1991 from discharge activities there have been no increasing trends in the arsenic concentrations. Current arsenic concentrations are nearly identical to those measured in in 1991 before groundwater mounding began. Based on pre-construction background receiving groundwater characterization, analysis of water samples from downgradient monitoring wells will not result in exceedances of the following maximum constituent concentrations arsenic (0.017 mg/L) and antimony (0.006 mg/L). All detectable arsenic concentrations measured in the three downgradient monitoring wells (NA-26, NA-32, and NA-34) were analyzed statistically. It was determined that the data set best fits a normal probability distribution function with a mean standard deviation of 0.008 and 0.003 mg/L, respectively. Considering the pre-mounding arsenic concentrations at the downgradient compliance points a maximum arsenic concentration of 0.017 mg/L with a standard deviation of .003 mg/L was selected. The discharge to the RIBs shall not exceed an arsenic concentration of 0.020 mg/L for two consecutive months. The same criteria apply to the outfall from the WTP at the end of the Sand Dune Canal during non-irrigation months. If the average arsenic concentration is greater than 0.02 mg/L for more than 2 consecutive months; an action plan must be developed to reduce the concentrations to or less than or equal to 0.02 mg/L.

From 2012 to 2014, the Permittee performed studies, bench tests, and a pilot test to investigate possible modifications to the treatment process. The Permittee determined that such modifications would be expensive, but could be successful for arsenic; however, no modifications were discovered that would consistently lower the antimony concentration to the 0.006 mg/L antimony discharge limit. In 2014, the Permittee redirected its focus on achieving compliance to a demonstration that higher discharge limits for arsenic and antimony would not lead to groundwater degradation in Boulder Valley.

In January and June of 2015, the Permittee provided documentation to the Division to show that antimony attenuation is occurring within the volcanic rocks adjacent to the TS Ranch Reservoir. Then in July 2015, the Permittee submitted an EDC to the Division for the incorporation of a site specific antimony discharge standard and designation of a new antimony calibration well to replace the two wells previously used for this purpose.

As part of the 2015 EDC, the Division approved a proposal to raise the Permit discharge limits for arsenic and antimony to 0.017 mg/L and 0.040 mg/L, respectively, based on a demonstration that the new limits would not create the potential to degrade groundwater at the Boulder Valley discharge points. The new 0.017 mg/L arsenic discharge limit was derived from the mean Boulder Valley groundwater background arsenic concentration of 0.008 mg/L, plus three standard deviations.

For antimony, the mean Boulder Valley groundwater background concentration is less than 0.003 mg/L. The new 0.040 mg/L antimony discharge limit is based on a 2015 attenuation study supported by the Permittee. The attenuation study demonstrates that if the antimony concentration in the discharge water does not exceed 0.040 mg/L, there is sufficient attenuation capacity in the rock mass beneath the TS Ranch Reservoir and above the pre-mining groundwater elevation to prevent groundwater degradation above the Profile I reference value for antimony (0.006 mg/L) for at least 14 years, and possibly as long as 245 years, depending on the actual volumes and concentrations of future discharge water.

Monitoring well NA-23 is the closest monitoring point downgradient of the TS Ranch Reservoir, located within the infiltration mound footprint, but screened below the pre-infiltration water table. The well has remained non-detect for antimony. Other monitoring wells surrounding the TS Ranch Reservoir have also remained below detection limits for antimony since infiltration commenced. Antimony is also consistently below detection limits at the downgradient spring complex and pumpback stations. In order to verify antimony attenuation model results, well NA-18 was added to this Permit to replace the previous wells NA-14 and NA-23 as an antimony attenuation model calibration well. NA-14 was removed from the monitoring requirements in May 2016 when it was realized that the well was inadvertently added to the Permit with the renewal in 2015. NA-14 was never sampled because it was installed to provide water level information only and thus a sampling pump had never been installed.

The Permit was revised with the approval of the 2015 EDC to require continuing investigations, with each subsequent Permit renewal and with any Permit modification that may impact the discharge water quality, to determine if any additional controls will be necessary in the future to prevent degradation of groundwater in Boulder Valley. The 2015 EDC was approved by the Division in February 2016.

D. Procedures for Public Comment

The Notice of the Division's intent to issue a Permit authorizing the discharge, subject to the conditions within the Permit, is being published on the Division website: https://ndep.nv.gov/posts/category/land. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list. Anyone wishing to comment on the proposed Permit can do so in writing within a period of 30 days following the date the public notice is posted on the Division website. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected State, or intrastate agency, or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with Nevada Revised Statutes (NRS) Chapter 233B, unless waived by the applicant.

E. Proposed Determination

The Division has made the tentative determination to issue the renewed Permit.

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

See Section I of the Permit.

G. Rational for Permit Requirements

The facility must not discharge a pollutant that would result in the degradation of existing or potential underground sources of drinking water, or that would cause an exceedance of an applicable surface water quality standard or regulation.

The primary methods for ensuring compliance will be required routine monitoring and reporting, augmented by Division site inspections. Specific monitoring requirements can be found in the Permit.

H. Federal Migratory Bird Treaty Act

Under the Federal Migratory Bird Treaty Act, 16 U.S. Code 701-718, it is unlawful to kill migratory birds without license or permit, and no permits are issued to take migratory birds using toxic ponds. The Federal list of migratory birds (50 Code of Federal Regulations 10, 15 April 1985) includes nearly every bird species found in the State of Nevada. The U.S. Fish and Wildlife Service (the Service) is authorized to enforce the prevention of migratory bird mortalities at ponds. 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: Allie Thibault
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Revision 01: Permit Renewal, BP updates, added components from WPCP NEV2002105 (Leeville Infiltration)