



NEVADA DIVISION OF  
**ENVIRONMENTAL  
PROTECTION**

STATE OF NEVADA  
Department of Conservation & Natural Resources

Brian Sandoval, Governor  
Leo M. Drozdoff, P.E., Director  
David Emme, Administrator

11 May 2016

Mr. Darek Huebner  
Environmental Manager  
Barrick Goldstrike Mines Inc.  
P.O. Box 29  
Elko, Nevada 89803

**Sent by Email and Certified Mail**  
**# 9171 9690 0935 0012 6993 74**

Re: Barrick Goldstrike – Boulder Valley Infiltration Project WPCP NEV0089068  
Permit and Fact Sheet Revision 02 to Remove Monitoring Point NA-14

Dear Mr. Huebner:

The Nevada Division of Environmental Protection (Division) – Bureau of Mining Regulation and Reclamation (BMRR) revised the Permit and Fact Sheet to remove the monitoring requirement of well NA-14 at Barrick Goldstrike Boulder Valley Infiltration Project NEV0089068. Monitoring well NA-14 was inadvertently added to the Permit monitoring requirements with the 2015 renewal. Monitoring well NA-14 was established to provide only groundwater level data and as such a sampling pump was never installed.

Enclosed please find the following documents associated with the Boulder Valley Infiltration Project WPCP NEV0089068 (Renewal 2015, Revision 02):

1. Permit NEV0089068 Revision 02
2. Fact Sheet Revision 02

The revised Permit is effective as of 11 May 2016, and it is valid and shall remain in effect until 9 April 2019, unless modified, suspended, or revoked. There were minor boiler plate language updates in addition to the removal of monitoring well NA-14 from the Permit and Fact Sheet.

Please review the enclosed documents and advise me immediately of any errors or omissions. Barrick Goldstrike Mines Inc. must familiarize all responsible parties with the monitoring and reporting requirements of the revised Permit. If you have any questions, you may call me at (775) 687-9557.

Sincerely,

Shawn Gooch, P. E.

Staff Engineer, Regulation Branch  
Bureau of Mining Regulation and

**BARRICK GOLDSTRIKE  
ENVIRONMENTAL DIVISION**

cc: Rob Kuczynski, P.E., Supervisor, Regulation Branch, BMRR  
Patrick Goldstrand, Compliance Inspector, BMRR  
Sarah Schmidt, BLM, Tuscarora Field Office  
Shannon Barngrover, Barrick Goldstrike Mines Inc.

**MAY 17 REC'D**

**RECEIVED**

STATE OF NEVADA

Department of Conservation and Natural Resources  
Division of Environmental Protection  
Bureau of Mining Regulation and Reclamation  
**Water Pollution Control Permit**

Permittee: **Barrick Goldstrike Mines Inc.  
Boulder Valley Infiltration Project  
P.O. Box 29  
Elko, NV 89803**

Permit Number: **NEV0089068**  
Review Type/Year/Revision: **Renewal 2015, Revision 02**

Pursuant to Nevada Revised Statutes (NRS) 445A.300 through 445A.730, inclusive, and regulations promulgated thereunder by the State Environmental Commission and implemented by the Division of Environmental Protection (the Division), this Permit authorizes the Permittee to construct, operate, and close the **Boulder Valley Infiltration Project**, a water management facility, in accordance with the limitations, requirements and other conditions set forth in this Permit. The Permittee is authorized to discharge to rapid infiltration basins (RIBs) up to **101 million gallons per day (MGD)**.


The facility is located in Eureka County, within Sections 22, 23, 24, 27, 32, 33, and 34, Township 36 North (T36N), Range 49 East (R49E); Sections 3, 4, 5, 7, 8, 17, 18, 19, 20, 29, 30, 31, 32, 33, 34, 35, and 36, T35N, R49E; Sections 24, 25, 26, 35, and 36, T35N, R48E; Sections 4, 5, 6, 8, 11, 14, 15, 16, 17, 21, 22, and 27, T34N, R49E; and Sections 1, 2, 11, 14, and 15, T34N, R48E; Mount Diablo Baseline and Meridian, approximately 27 miles north of Carlin, Nevada.

The Permittee must comply with all terms and conditions of this Permit and all applicable statutes and regulations.

This Permit is based on the assumption that the information submitted in the application of 29 May 2002, as modified by subsequent approved amendments, is accurate and that the facility has been constructed and is being operated as specified in the application. The Permittee must inform the Division of any deviation from or changes in the information in the application, which may affect the ability of the Permittee to comply with applicable regulations or Permit conditions.

This Permit is effective as of **11 May 2016**, and shall remain in effect until **9 April 2019**, unless modified, suspended, or revoked.

Signed this 11<sup>th</sup> day of May 2016.

  
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Joe Sawyer, P.E.  
Chief, Bureau of Mining Regulation and Reclamation

I. Specific Facility Conditions and Limitations

A. In accordance with operating plans and facility design reviewed and approved by the Division, the Permittee shall:

1. Construct, operate, and close the Project in accordance with those design plans; and
2. Except for the discharge authorized by this Permit, not release or discharge any contaminants from the fluid management system that would result in degradation of waters of the State.

B. Schedule of Compliance:

1. Prior to 31 July 2015, the Permittee shall submit to the Division, for review and approval, a major modification which includes improvements to the water treatment system which will reduce concentrations of arsenic in water discharged to the rapid infiltration basins (RIBs) to 0.017 mg/L or less.  
*Completed 20 July 2015.*

C. The fluid management system covered by this Permit consists of the following components:

1. Dewatering wells and collection pipelines;
2. Gravity flow pipelines, including the 72-inch diameter pipeline to the TS Ranch Reservoir, the 54-inch diameter pipeline to the irrigation system, delivery pipelines to the injection wells, and the 24-inch diameter pipeline to the RIBs;
3. Ferric sulfate Water Treatment Plant (located at the cooling channel);
4. High density polyethylene (HDPE) lined Cooling Channel, 50-inch diameter bypass pipeline, and Settling Pond;
5. TS Ranch Reservoir and Cofferdam;
6. Sand Dune Canal;
7. Pump Stations P1 and P2;
8. Water Treatment Plant (arsenic co-precipitation) located at Pump Station 1;
9. Three RIBs: Pond 1, Pond 2, Pond 3;
10. A 46-inch diameter Pump-back Pipeline, a 46-inch diameter Recirculation Pipeline, a 54-inch diameter Irrigation Pipeline, and a 36-inch diameter Pipeline to multiple irrigation pivots; and
11. All components used to collect, convey, manage, and control the discharge water, including but not limited to, pumps, pipes, valves, vents, flow meters, fittings, tanks, drains, basins, sumps, ditches, berms, culverts, drill rigs, mobile equipment, run-off/run-on structures, and devices for controlling erosion or sedimentation.

**D. Monitoring Requirements:**

<b><u>Identification</u></b>	<b><u>Parameter</u></b>	<b><u>Frequency</u></b>
1. Feed water (GFPD-2B)	Profile I <sup>(1)</sup> and flow rate (MGD)	Quarterly
2. Groundwater monitoring wells: Upgradient –NA-22, NA-29 Downgradient –NA-23, NA-26, NA-32, and NA-34	Profile I <sup>(1)</sup> and water and collar elevations (ft AMSL)	Quarterly
3. Antimony attenuation model calibration wells <sup>(5)</sup> : NA-18	Profile I <sup>(1)</sup> and water and collar elevations (ft AMSL)	Semi-annually (1 <sup>st</sup> and 3 <sup>rd</sup> quarters)
4. Rapid infiltration basins (V3) Influent	Profile I <sup>(1)</sup>	Monthly when in use
5. Water balance program (WBP)	Per Water Balance Methodology in Operations Plan	Per Water Balance Methodology in Operations Plan
6. Treated water at Cooling Channel downstream end <sup>(4)</sup> (CCE)	Profile I <sup>(1)</sup>	Monthly when in use
7. Sand Dune Canal at Pump Stations (P1 and P2)	Profile I <sup>(1)</sup>	Quarterly when in use
8. Outfall from Water Treatment Plant at Pump Station P1 (WTP) <sup>(2)</sup>	Profile I <sup>(1)</sup> and flow rate (MGD)	Monthly when in use
9. Sand Dune, Knob, and Green Springs <sup>(3)</sup> (SD, K, G)	Profile I <sup>(1)</sup>	Semi-annually (1 <sup>st</sup> and 3 <sup>rd</sup> quarters)
10. Pond Leak Detection Cooling Channel Bypass Settling Pond (sump capacity, 8,750 gal)	Average daily accumulation (gpd)	Weekly <sup>(6)</sup> (once commissioned)

The Permittee may request a reduction of the monitoring frequency after four quarters of complete monitoring based on justification other than cost. Such reductions may be considered modifications to the Permit and require payment of modification fees.

**Abbreviations:**

AMSL = above mean sea level; gal = gallons; gpd = gallons per day; MGD = million gallons per day; ft = feet; SU = standard units; mg/L = milligrams per liter; CaCO<sub>3</sub> = calcium carbonate; N = nitrogen; TDS = total dissolved solids

**Footnotes:**

(1) Profile I:

Alkalinity (as CaCO <sub>3</sub> )	Cadmium	Magnesium	Silver
Bicarbonate	Calcium	Manganese	Sodium
Total	Chloride	Mercury	Sulfate
Aluminum	Chromium	Nitrate + Nitrite (as N)	Thallium
Antimony	Copper	Nitrogen, Total ( as N)	TDS
Arsenic	Fluoride	pH (± 0.1 SU) <sup>(7)</sup>	Zinc
Barium	Iron	Potassium	-
Beryllium	Lead	Selenium	-

- (2) Sample location is downstream of treatment (post treatment) at the end of the mixing area as shown on the schematic drawing of the arsenic treatment system submitted with the original application for Permit.
  - (3) Sample location must be as near as physically possible to the spring discharge point.
  - (4) Monitoring point CCE temporarily moved to the Coffey Dam Spillway after the 36-inch cooling channel by-pass pipeline was commissioned.
  - (5) Constituent concentrations observed in the antimony attenuation model calibration well will be used to verify/calibrate the attenuation capacity available in the mounded groundwater system occurring beneath the TS Ranch Reservoir.
  - (6) The sump must be inspected and evacuated on a more frequent basis than weekly if the fluid level is above the top of the sump or the invert of any pipe which discharges into the sump, whichever level is lower, or if the potential exists to exceed the sump capacity. Records are required documenting volume, date, and time of extraction to show that sumps are maintained in this condition.
  - (7) All sample analyses resulting in a pH value less than or equal to 5.0 SU shall also be analyzed for acidity (mg/L, as CaCO<sub>3</sub> equivalent).
- E. Quarterly and annual monitoring reports and release reporting shall be in accordance with Part II.B.
- F. All sampling and analytical accuracy shall be in accordance with Part II.E.
- G. Permit Limitations
1. Arsenic concentrations at the outfall into the RIBs (RIB sample location V-3 conveyance pipeline sample port prior to discharge to the RIBs) shall not exceed 0.02 mg/L for two consecutive months. If an exceedance occurs,

analytical data for the previous two months must be reviewed to determine if the average arsenic concentration is greater than 0.02 mg/L; if so, an action plan must then be developed to reduce arsenic concentrations to less than or equal to 0.02 mg/L. Multiple samples may be taken within a given month and reported to the Division to show that the average concentration for that month meets the criteria listed above.

2. During non-irrigation months the arsenic concentrations at the outfall from the water treatment plant at the end of Sand Dune Canal (monitoring point WTP in Part I.D.7) shall not exceed 0.02 mg/L for two consecutive months. If an exceedance occurs, analytical data for the previous two months must be reviewed to determine if the average arsenic concentration was greater than 0.02 mg/L; if so, an action plan must then be developed to reduce arsenic concentrations to less than or equal to 0.02 mg/L. Multiple samples may be taken within a given month and reported to the Division to demonstrate that the average concentrations for that month meet the criteria listed above.
3. Based on the background receiving groundwater characterization, and the Boulder Valley Antimony Attenuation Study, analysis of water samples from downgradient monitoring wells shall not result in exceedances of the following maximum constituent concentrations:

pH	between 6.5 and 8.5 SU <sup>(7)</sup>	Arsenic	0.017 mg/L
TDS	1,000 mg/L	Barium	2.0 mg/L
Magnesium	150 mg/L	Cadmium	0.005 mg/L
Aluminum	0.2 mg/L	Chromium	0.1 mg/L
Antimony	0.040 mg/L	Copper	1.0 mg/L
Beryllium	0.004 mg/L	Iron	0.6 mg/L
Chloride	400 mg/L	Lead	0.015 mg/L
Fluoride	4.0 mg/L	Manganese	0.1 mg/L
Nitrate + Nitrite (as N)	10.0 mg/L	Mercury	0.002 mg/L
Nitrogen Total (as N)	10.0 mg/L	Selenium	0.05 mg/L
Sulfate	500 mg/L	Silver	0.1 mg/L
Thallium	0.002 mg/L	Zinc	5.0 mg/L

4. The calculated flow rate measured for monitoring Part I.D.1 shall not exceed 101 MGD.
5. Discharge to the RIBs shall be managed to prevent overtopping or surface discharge from the basin(s) and the infiltration mound shall be controlled to

prevent the formation of surface seeps or artificial springs from the RIB operation.

6. Discharge from the Water Treatment Plant (arsenic co-precipitation) at Pump Station P1 shall not exceed 28.8 MGD.
7. The daily accumulation exceeding 150 gallons per day averaged over the quarter in the leak detection sump identified in Part I.D.10.
8. The daily accumulation exceeding 50 gallons per day averaged over the year in the leak detection sump identified in Part I.D.10.

Exceedances of these limitations may be Permit violations and shall be reported as specified in Part II.B.4. Note that any limits related to water quality given above do not apply to water diverted for agricultural use, where Nevada Administrative Code (NAC) 445A.1236 irrigation standards should be observed.

- H. The facility shall maintain an automated or manual calibrated rain gauge, which shall be monitored at least daily to record precipitation (inches of water). A written and/or electronic record of daily accumulations of precipitation shall be maintained on site.
- I. The Permittee shall inspect all control devices, systems and facilities weekly. Drainage and containment systems shall also be inspected during, when possible, and after major storm events. These inspections are performed to detect evidence of:
  1. Deterioration, malfunction, or improper operation of control systems;
  2. Sudden changes in the level of the contents of any monitoring device; and
  3. Severe erosion or other signs of deterioration in dikes, diversions, or other containment devices.
- J. Prior to initiating permanent closure activities at the water management facility or any water management process component within the facility, the Permittee must have an approved final plan for permanent closure.
- K. The Permittee shall remit an annual review and services fee in accordance with NAC 445A.232 starting July 1 after the effective date of this Permit and every year thereafter until the Permit is terminated or the facility has received final closure certification from the Division.
- L. The Permittee shall dispose of or treat Petroleum-Contaminated Soil (PCS) generated at the facility in accordance with the PCS Management Plan approved for the North Block Project NEV0091029. Hazardous waste determination must be made for each source prior to transportation of the affected material from the Permittee's property.
- M. When performing dust suppression activities, the Permittee shall use best management practices and appropriate selection of water source and additives to prevent degradation of waters of the State. If a dust suppressant exceeds a water

quality standard and the corresponding natural background water concentration in the area where dust suppression will occur, the Permittee shall demonstrate no potential to degrade waters of the State.

N. Continuing Investigations:

1. The Permittee shall submit to the Division for review and approval with each Permit renewal, and with any application to modify the Permit that could affect the water quality of the permitted discharge, an updated hydrogeochemical evaluation of current and predicted future water quality near the Boulder Valley discharge, including the remaining attenuation capacity for antimony in the infiltration mound system above the pre-infiltration water elevation, the predicted future discharge volume and chemistry, and the resultant potential for degradation of groundwater in response to infiltration at the TS Ranch Reservoir. The evaluation must include other parameters in addition to antimony if the current discharge concentration limits applicable to those parameters have been exceeded in the previous five years. If applicable, the hydrogeochemical evaluation must include additional proposed controls to eliminate any potential for groundwater degradation. Approval may require modification of the Permit and payment of modification fees.

II. General Facility Conditions and Limitations

A. General Requirements

1. The Permittee shall achieve compliance with the conditions, limitations, and requirements of the Permit upon commencement of each relevant activity. The Administrator may, upon the request of the Permittee and after public notice (if required), revise or modify a Schedule of Compliance in an issued Permit if he determines good and valid cause (such as an act of God, a labor strike, materials shortage or other event over which Permittee has little or no control) exists for such revision.
2. The Permittee shall at all times maintain in good working order and operate as efficiently as possible, all devices, facilities, or systems installed or used by the Permittee to achieve compliance with the terms and conditions of this Permit.
3. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application or in any report to the Administrator, the Permittee shall promptly submit such facts or correct information. Any inaccuracies found in this information may be grounds for revocation or modification of this Permit and appropriate enforcement action.

B. Reporting Requirements

1. The Permittee shall submit quarterly reports, in both hard copy and a Division-approved electronic format, which are due to the Division on or



before the 28<sup>th</sup> day of the month following the quarter and must contain the following:

- a. Analytical results from samples collected in accordance with Parts I.D.1, I.D.2, I.D.3, I.D.4, I.D.6, I.D.7, I.D.8, and I.D.9 reported on Nevada Division of Environmental Protection (NDEP) Form 0190 or equivalent;
- b. Feed water flowrate obtained in accordance with Part I.D.1;
- c. Groundwater and collar elevations obtained in accordance with Part I.D.2;
- d. Monthly water balance calculations in accordance with Part I.D.5;
- e. Outfall flowrate obtained in accordance with Part I.D.8;
- f. Monitoring results from the leak detection sump identified in Part I.D.10, reported on NDEP Form 0590 or equivalent; and
- g. A record of releases, and the remedial actions taken in accordance with the approved Emergency Response Plan on NDEP Form 0490 or equivalent.

Subsequent to any noncompliance or any Project expansion which may lead to an increased discharge rate or frequency, the Division may require an accelerated monitoring frequency. If the Permittee monitors any parameter at a location designated herein more frequently than required by this Permit, using methods that comply with the requirements in Part II.E., the results of such monitoring shall be included in the quarterly monitoring report.

2. The Permittee shall submit an annual report, in both hard copy and a Division-approved electronic format, by February 28<sup>th</sup> of each year, for the preceding calendar year, which contains the following:
  - a. A synopsis of releases on NDEP Form 0390 or equivalent;
  - b. A brief summary of site operations, construction, and expansion activities, major problems with the water management system and water balance program;
  - c. Analytical results from samples collected in accordance with Part I.D.3 reported on NDEP Form 0190 or equivalent;
  - d. Groundwater elevations obtained in accordance with Part I.D.3; and
  - e. Graphs of pH, TDS, sulfate, arsenic, antimony, fluoride, and boron concentrations versus time for all samples collected in accordance with Parts I.D.1, I.D.2, I.D.3, I.D.4, I.D.6, I.D.7, I.D.8, and I.D.9. These graphs shall display a five-year history previous to the date of submittal. Additional parameters may be required by the Division, if deemed necessary; and
  - f. A table of total monthly precipitation amounts recorded in accordance with Part I.H, reported for a five-year history previous to the date of submittal.

3. Release Reporting Requirements: The following applies to facilities with an approved Emergency Response Plan. If a site does not have an approved Emergency Response Plan, then all releases must be reported as per NAC 445A.347 or NAC 445A.3473, as appropriate.
  - a. A release of any quantity of hazardous substance, as defined at NAC 445A.3454, to surface water, or that threatens a vulnerable resource, as defined at NAC 445A.3459, must be reported to the Division as soon as practicable after knowledge of the release, and after the Permittee notifies any emergency response agencies, if required, and initiates any action required to prevent or abate any imminent danger to the environment or the health or safety of persons. An oral report shall be made by telephone to (888) 331-6337 for in-State callers or (775) 687-9485 for out-of-State callers, and a written report shall be provided within 10 days in accordance with Part II.B.4.b.
  - b. A release of a hazardous substance in a quantity equal to or greater than that which is required to be reported to the National Response Center pursuant to 40 Code of Federal Regulations (CFR) Part 302 must be reported as required by NAC 445A.3473 and Part II.B.3.a.
  - c. A release of a non-petroleum hazardous substance not subject to Parts II.B.3.a. or II.B.3.b., released to soil or other surfaces of land, and the quantity is equal to or exceeds 500 gallons or 4,000 pounds, or that is discovered in or on groundwater in any quantity, shall be reported to the Division no later than 5:00 P.M. of the first working day after knowledge of the release. An oral report shall be made by telephone to (888) 331-6337 for in-State callers or (775) 687-9485 for out-of-State callers, and a written report shall be provided within 10 days in accordance with Part II.B.4.b. Smaller releases, greater than 25 gallons or 200 pounds and less than 500 gallons or 4,000 pounds, released to soil or other surfaces of land, or discovered in at least three cubic yards of soil, shall be reported quarterly on NDEP Form 0390 or equivalent.
  - d. Petroleum Products and Coolants: If a release is subject to Parts II.B.3.a. or II.B.3.b., report as specified in Part II.B.3.a. Otherwise, if a release of any quantity is discovered on or in groundwater, or if the total quantity is equal to or greater than 100 gallons released to soil or other surfaces of land, report as specified in Part II.B.3.c. Smaller releases, with total quantity greater than 25 gallons but less than 100 gallons, released to soil or other surfaces of land, or if discovered in at least three cubic yards of soil, shall be reported quarterly on NDEP Form 0390 or equivalent.
4. The Permittee shall report to the Administrator any noncompliance with the Permit.
  - a. Each such event shall be reported orally by telephone to (775) 687-9400, not later than 5:00 P.M. of the next regular work day from the time the

Permittee has knowledge of the circumstances. This report shall include the following:

- i. Name, address, and telephone number of the owner or operator;
  - ii. Name, address, and telephone number of the facility;
  - iii. Date, time, and type of incident, condition, or circumstance;
  - iv. If reportable hazardous substances were released, identify material and report total gallons and quantity of contaminant;
  - v. Human and animal mortality or injury;
  - vi. An assessment of actual or potential hazard to human health and the environment outside the facility; and
  - vii. If applicable, the estimated quantity of material that will be disposed and the disposal location.
- b. A written summary shall be provided within 10 days of the time the Permittee makes the oral report. The written summary shall contain:
- i. A description of the incident and its cause;
  - ii. The periods of the incident (including exact dates and times);
  - iii. If reportable hazardous substances were released, the steps taken and planned to complete, as soon as reasonably practicable, an assessment of the extent and magnitude of the contamination pursuant to NAC 445A.2269;
  - iv. Whether the cause and its consequences have been corrected, and if not, the anticipated time each is expected to continue; and
  - v. The steps taken or planned to reduce, eliminate, and prevent recurrence of the event.
- c. The Permittee shall take all available and reasonable actions, including more frequent and enhanced monitoring to:
- i. Determine the effect and extent of each incident;
  - ii. Minimize any potential impact to the waters of the State arising from each incident;
  - iii. Minimize the effect of each incident upon domestic animals and all wildlife; and
  - iv. Minimize the endangerment of the public health and safety which arises from each incident.
- d. If required by the Division, the Permittee shall submit, as soon as reasonably practicable, a final written report summarizing any related actions, assessments, or evaluations not included in the report required in Part II.B.4.b., and including any other information necessary to determine

and minimize the potential for degradation of waters of the State and the impact to human health and the environment. Submittal of the final report does not relieve the Permittee from any additional actions, assessments, or evaluations that may be required by the Division.

C. Administrative Requirements

1. A valid Permit must be maintained until permanent closure is complete. Therefore, unless permanent closure has been completed, the Permittee shall apply for Permit renewal not later than 120 days before the Permit expires.
2. The Permittee shall submit current Permit contact information described in paragraphs (a) through (c) of subsection 2 of NAC 445A.394 within 30 days after any change in previously submitted information. The same information shall be submitted in the same timeframe with any application for a Permit transfer, in addition to the information required at NAC 445A.263, subsection 4(e). An application for a new Permit, Permit renewal, or a Permit modification that requires public notice shall include current Permit contact information described in paragraphs (a) through (d) of subsection 2 of NAC 445A.394.
3. All reports and other information requested by the Administrator shall be signed and certified as required by NAC 445A.231. 3.4.
4. All reports required by this Permit, including, but not limited to, monitoring reports, corrective action reports, and as-built reports, as applicable, and all applications for Permit modifications, shall be submitted in both hard copy and a Division-approved electronic format.
5. When ordered consistent with Nevada Statutes, the Permittee shall furnish any relevant information in order to determine whether cause exists for modifying, suspending, or revoking this Permit, or to determine compliance with this Permit.
6. The Permittee shall maintain a copy of, and all modifications to, the current Permit at the Permitted facilities at all times.
7. The Permittee is required to retain during Project operation, and for a minimum of three 3 years thereafter, all records of monitoring activities and analytical results, including all original strip chart or data logger recordings for continuous monitoring instrumentation, and all calibration and maintenance records. This period of retention must be extended during the course of any unresolved litigation.
8. The provisions of this Permit are severable. If any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not thereby be affected.
9. The Permittee is authorized to manage fluids and solid wastes in accordance with the conditions of this Permit. Issuance of this Permit does not convey

property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of Federal, State or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under the Water Pollution Control Statutes for releases or discharges from facilities or units not regulated by this Permit. NRS 445A.675 provides that any person who violates a Permit condition is subject to administrative or judicial action provided in NRS 445A.690 through 445A.705.

#### D. Division Authority

The Permittee shall allow authorized representatives of the Division, at reasonable times, and upon the presentation of credentials to:

1. Enter the premises of the Permittee where a regulated activity is conducted or where records are kept per the conditions of this Permit;
2. Have access to and copy any record that must be kept per the conditions of this Permit;
3. Inspect and photograph any components, equipment (including monitoring and control equipment), practices, or operations regulated by this Permit; and
4. Sample or monitor for any substance or parameter at any location for the purposes of assuring Permit and regulatory compliance.

#### E. Sampling and Analysis Requirements

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. For each measurement or sample taken pursuant to the conditions of this Permit, the Permittee shall record the following information:
  - a. The exact place, date, and time of the inspection, observation, measurement, or sampling; and
  - b. The person(s) who inspected, observed, measured, or sampled.
3. Samples must be taken, preserved, and labeled according to Division approved methods.
4. Standard environmental monitoring chain of custody procedures must be followed.
5. Samples shall be analyzed by a laboratory certified or approved by the State of Nevada, as applicable for the method(s) being performed. The Permittee must identify in all required reports the certified and approved laboratories used to perform the analyses, analytical methods performed, (electronic version of report only), laboratory reference numbers, sample dates, and laboratory test dates.

6. The accuracy of analytical results, unless otherwise specified, shall be expressed in mg/L and be reliable to at least two significant digits. The analytical methods used must have a practical quantitation limit (PQL) equal to or less than one-half the reference value or water quality standard for Profile I and Surface Water Profile parameters, respectively. Laboratories shall report the lowest reasonable PQL based on in-house method detection limit studies. Samples for Profile I parameters shall be filtered and analyzed for the dissolved fraction, unless otherwise required by the Division; samples for Surface Water Profile parameters shall be analyzed in accordance with NAC 445A.1236 and any other applicable surface water regulations.

F. Permit Modification Requirements

1. In accordance with NAC 445A.258, 445A.261, and 445A.263, any planned Project expansion, production increase, or modification that would result in a new or increased discharge, must be reported to the Division by submittal of an application for a new Permit. A change that is in conformance with the existing Permit, or that qualifies as a minor modification pursuant to NAC 445A.263, subsection 4, must be reported to the Division by submittal of a written notice of the changes. An application for a new Permit must comply with NAC 445A.228 through 445A.263, as applicable. The expansion, production increase, or modification shall not commence until a new Permit or written Division approval is obtained.
2. Prior to the commencement of discharge at any location within the State outside of the Project area which is owned or operated by the Permittee but not identified and characterized in a previously submitted Permit application, the Permittee shall submit to the Division an application for a new Permit which identifies the locations of the proposed outfalls, and characterizes the potential for the discharge to release pollutants and degrade waters of the State. The discharge shall not commence until the new Permit is obtained.
3. The Permittee must notify the Division in writing at least five days before commencing the discharge authorized by this Permit of the intent to begin active operation of the Project.
4. The Permittee must obtain a written determination from the Administrator of any planned modification of the Project as to whether it is considered a minor modification of the Permit or a change that requires a new Permit.
5. If a toxic effluent standard or prohibition is established under NAC 445A for a toxic pollutant that is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this Permit, this Permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the Permittee so notified.

Prepared by: Joe Sawyer  
Date: 29 May 2015  
Revision 00: Permit Renewal 2015

Incorporated Permit NEV0095114 Boulder Valley Recirculation Permit to eliminate substantial overlap between Permits.

Prepared by: Shawn Gooch  
Date: 12 February 2016  
Revision 01: EDC 2015

Incorporation of site specific antimony discharge standard and antimony attenuation calibration well.

Revision 02: Permit Revision

Removal of Well NA-14 from Monitoring Requirements I.D.2 and minor boilerplate revisions SG 05/2016

## **FACT SHEET**

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

**Permittee Name:** Barrick Goldstrike Mines Inc.  
**Project Name:** Boulder Valley Infiltration Project  
**Permit Number:** NEV0089068  
**Review Type/Year/Revision:** Renewal 2015, Fact Sheet Revision 02

### **A. Description of Facility**

**Location:** The facility is located in Eureka County, within Sections 22, 23, 24, 27, 32, 33, and 34, Township 36 North (T36N), Range 49 East (R49E); Sections 3, 4, 5, 7, 8, 17, 18, 19, 20, 29, 30, 31, 32, 33, 34, 35, and 36, T35N, R49E; Sections 24, 25, 26, 35, and 36, T35N, R48E; Sections 4, 5, 6, 8, 11, 14, 15, 16, 17, 21, 22, and 27, T34N, R49E; and Sections 1, 2, 11, 14, and 15, T34N, R48E; Mount Diablo Baseline and Meridian, approximately 27 miles north of Carlin, Nevada.

**General Description:** This Project consists of management and reintroduction of dewatering water from the Barrick Goldstrike Mine and the Leeville Mine operated by Newmont Mining Corporation, 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 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 specific portions of 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 injection of dewatering water is authorized by Underground Injection Control (UIC) permit UNEV93209 and the irrigation system is operated by Newmont Mining Corporation. Discharges to the Humboldt River are authorized by National Pollutant Discharge Elimination System (NPDES) permit number NV0022675.

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 evapotranspires 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 Newmont's 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. The actual discharge rate has varied from 0 to 96.4 MGD.

### *Infiltration System*

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 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 infiltration at the TS Ranch Reservoir.

In March 2014, an EDC was approved 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 Coffey Dam. The Permittee intends to increase dewatering at the minesite 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 an existing roadway and flows by gravity to discharge into the lined Coffey 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 will be moved temporarily to the Coffey 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 has submitted an EDC in order 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. The settling pond will accommodate both increased flow rates and allow for increased residence time for settling of ferric hydroxide floc and particulate matter for increased operational and maintenance capability. Effluent from the settling pond will overflow into a weir and then be discharged to the existing Coffey Dam or the TS Ranch Reservoir. The pond will be 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.

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 Newmont's 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 Coffey 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 but discharge from the water treatment plant is limited by the Permit to 28.8 MGD. The system is capable of discharging up to 64.8 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.

#### *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 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 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 jointly by the Permittee and Newmont Mining Corporation. 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 from both this Project and the Leeville Infiltration Project (WPCP NEV2002105).

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 sent to the **Elko Daily Free Press** for publication. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list and to any other states whose waters may be affected by the issuance of the Permit. 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 Nevada Revised Statutes Chapter 233B, unless waived by the applicant.

**E. Proposed Determination**

The Division has made the tentative determination to issue the 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 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: Joe Sawyer  
Date: 20 May 2015  
Revision 00: Permit Renewal 2015

Incorporated Permit NEV0095114 Boulder Valley  
Recirculation Permit to eliminate substantial overlap between  
permits.



Prepared by: Shawn Gooch  
Date: 12 February 2016  
Revision 01: EDC

For the incorporation of a site specific antimony discharge  
standard and designation of a new antimony calibration well.

Revision 02: Permit Revision

Removal of NA-14 from I.D.2. [SG 05/2016]