

## **FACT SHEET**

(Pursuant to Nevada Administrative Code (NAC) 445A.236)

Permittee Name:       **Barrick Gold Exploration, Inc.**

Project Name:         **Spring Valley Exploration Project**

Permit Number:       **NEV20141149 (New 2015, Fact Sheet Revision 00)**

### **A.     Location of Discharge**

Barrick Gold Exploration Inc. (the Permittee), a wholly-owned subsidiary of Barrick Goldstrike Mines Inc., operates an exploration project on public and private land on the eastern side of the Humboldt Range along Lovelock-Unionville Road, approximately 5 miles north of the Rochester Mine in Pershing County. The Project and outfalls are located, within Sections 22, 23, 25 through 29, and 32 through 36, Township 29 North (T29N), Range 34 East (R34E), and Sections 1 through 5 and 8 through 11, T28N, R34E, Mount Diablo Baseline and Meridian, about 21 miles northeast of the town of Lovelock, Nevada.

Site is accessed from the town of Lovelock by traveling north on Interstate 80 13.7 miles to Lovelock-Unionville Road at the historic town site of Oreana. Then traveling north east on Lovelock-Unionville Road approximately 11.5 miles to the project located along the north side of Lovelock-Unionville Road in this vicinity.

### **B.     Description of Discharge**

In an effort to manage drilling fluid generated as a result of the Permittee's Spring Valley Exploration Project, Temporary Water Pollution Control Permit TNEV2014108 (effective 17 April 2014) authorized the discharge of up to 6,800 gallons per day (gpd) of drilling fluid into constructed collection sumps located adjacent to each drill pad.

The 180-day Temporary Permit expired on 17 October 2014. Since the Division has no regulatory authority to renew and reissue Temporary Discharge Permits, the Permittee formally applied for a 5-year Discharge Permit on 07 July 2014 for the Spring Valley Exploration Project.

Forty-one locations have initially been identified for exploratory drilling at the Spring Valley Exploration Project site. Additionally, an unknown, but potentially similar or greater, number of boreholes may be added in subsequent years. The number of boreholes is not limited by this Permit, but all boreholes and sumps must be located within the specified Project area and must comply with all Permit requirements. The location of all active drill sumps must be identified in each

quarterly monitoring report, along with a notice of new discharges in accordance with NAC 445A.258, subsection 1. The drilling program requires the construction of drill pads and collection sumps to manage excess drilling fluid generated. Following completion of drilling activities, the boreholes will be plugged and abandoned pursuant to Nevada Division of Water Resources regulatory requirements, then the pads and sumps will be backfilled and graded.

At each borehole, excess drill water will be discharged to a two chambered sump, approximately 15 feet wide by 20 feet long by 15 feet deep (total volume at crest approximately 9,000 gallons). Each sump is divided into two chambers, "A" and "B", separated with weed-free straw bales/wattles for trapping drill cuttings and silt. The drilling fluid is pumped to Sump A, which captures the coarse cuttings and some of the suspended solids (drilling mud). Overflow from Sump A filters through the straw bales/wattles to Sump B, where the drilling fluid is further clarified via settling. The drilling water is managed to preclude surface discharges when possible, but in some cases the available sump capacity is exceeded and excess drilling water is discharged to the surrounding land surface. Any overflow discharge from Sump B to the surrounding land surface is monitored, sampled, and analyzed for Profile I parameters, and the surface discharge flow rate is measured or estimated, as best as practicable, for reporting and comparison with Permit limits. Best management practices (BMPs) shall be utilized to clarify the surface discharge at each overflowing sump, and to dissipate the energy of the overflow for the purpose of limiting the erosion and sediment transport caused by the discharge. Because the earthen sumps do not include engineered containment, discharge to groundwater also occurs as drilling water infiltrates into the subsurface through sump walls and bottoms. Discharge to groundwater may also occur as infiltration along the flow path of a surface discharge. Typically, before a sump overflows to the surrounding land surface, the Permittee will use a pump to convey the clarified water out of the sump in a more controlled manner. This process is active only when Sump B has reached overflow capacity. When the water level has declined and stabilized below the overflow status in Sump B, the water discharge process is not necessary. Overflow will not be discharged into or near any drainage, except during a storm event that causes surface runoff and if such a discharge cannot be reasonably prevented.

Discharge will be intermittent and seasonal during dryer months with the maximum permitted discharge of 72,000 gallons per day and a maximum instantaneous discharge rate from an individual outfall of 50 gallons per minute.

Hydrologic pump tests of boreholes or wells may be performed under this Permit only if compliance is maintained with all Permit requirements. If this may not be possible (for example, if the pump test discharge flow rate will exceed Permit limits, or if it is anticipated that the pump test water may flow into an existing surface water body, other than as a result of a concurrent storm event), a separate permit must be obtained prior to such testing.

**C. Proposed Determination**

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

**D. Receiving Water Characteristics**

Depth of ground water varies from an average of 30 feet below ground surface (bgs) or 5,320 feet above mean sea level (amsl) in the alluvium surface at the south and east to an average of 100 feet bgs or 5,410 feet amsl at the north where the bedrock daylights at the surface. Ground water flow is generally from the west, southwest to the east.

Natural background water chemistry within the Project area has exceeds Profile I reference values for several constituents. These exceedances include: aluminum at 18 mg/l, barium at 6.8 mg/l, beryllium at 0.0094 mg/l, iron at 27.0 mg/l, manganese at 1.20 mg/l, arsenic at 0.014 mg/l, and lead at 0.084 mg/l. There are two wells that reported high pH at 10.45 Standard Units (SU) and 10.48 SU, where the Profile I reference value is between 6.5 SU and 8.5 SU.

**E. Proposed Effluent Limitations, Schedule of Compliance, Monitoring, Special Conditions**

See Section I of the Permit.

**F. Rationale 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.

**G. 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 **Lovelock Review-Miner** for publication. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list. Anyone wishing to comment on the proposed Permit can do so in writing within a period of 30 days following the date of public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

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

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

#### **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: Shawn Gooch  
Date: 31 December 2014  
Revision 00: New Permit.