



STATE OF NEVADA

Department of Conservation & Natural Resources

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

DIVISION OF ENVIRONMENTAL PROTECTION

Colleen Cripps, Ph.D., Administrator

FACTSHEET (pursuant to NAC 445A.236)

Permittee Name: BARRICK GOLDSTRIKE MINES INC.
P.O. BOX 29
ELKO, NV - 89803

Permit Number: NS0094002

Location: BARRICK GOLDSTRIKE MINE, ELKO
27 MILES NORTH OF CARLIN, NV, ELKO, NV - 89803
LATITUDE: 40.969130, LONGITUDE: -116.336366
TOWNSHIP: T36N, RANGE: R50E, SECTION: S19

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	MEIKLE RBC WWTF	Influent Structure		CARLIN	NV	89822	ELKO	41.002872	-116.381078	GROUNDWATER
002	ROASTER FACILITY SEPTIC TANK	Internal Outfall		CARLIN	NV	89822	ELKO	40.995042	-116.378228	GROUNDWATER
003	RODEO FACILITY SEPTIC TANK	Internal Outfall		CARLIN	NV	89822	ELKO	40.992672	-116.380186	GROUNDWATER
004	GOLDSTRIKE RBC WWTF	Influent Structure		CARLIN	NV	89822	ELKO	40.975875	-116.354325	GROUNDWATER
005	PUMPER TRUCK(S) SLUDGE DISCHARGE	Internal Outfall		CARLIN	NV	89822	ELKO	40.9880	-116.3670	GROUNDWATER
006	SUM OF OUTFALLS 001, 002, 003, 004, AND 005	Sum		CARLIN	NV	89822	ELKO	40.9880	-116.3670	GROUNDWATER
007	NORTH BLOCK TAILINGS FACILITY (NBTF)	Surface Disposal Site		CARLIN	NV	89822	ELKO	41.005491	-116.359278	GROUNDWATER
008	AA TAILINGS FACILITY (AATF)	Surface Disposal Site		CARLIN	NV	89822	ELKO	40.985279	-116.343571	GROUNDWATER
009	TAILS STORAGE FACILITY 3 (TSF3)	Surface Disposal Site		CARLIN	NV	89822	ELKO	40.991175	-116.353613	GROUNDWATER

General:

The Permittee, Barrick Goldstrike Mines, Inc., operates a gold mining complex in Elko and Eureka Counties, approximately 27 miles northwest of Carlin, Nevada. The Permittee has applied for a renewal of its discharge permit to continue discharging domestic wastewater generated by the workforce at facilities located at Barrick Goldstrike Mine (BGM) to the composite-lined North Block Tailings Facility (NBTF) and the soil-lined AA Tailings Facility (AATF) located at the BGM site. In addition, the Permittee intends to discharge to the proposed composite-lined Tails Storage Facility 3 (TSF3), when construction is completed and authorized by the Bureau of Mining Regulation and Reclamation (BMRR). The domestic wastewater (sewage and septage) generated at BGM is combined with the tailings, and the slurry is discharged to the tailings facilities or combined with supernatant water at the tails thickener facility. Supernatant water is reclaimed from the tailings facilities for Process (roaster circuit, autoclave, and/or TCM). The relatively small

amount of domestic waste is thoroughly mixed with tailings and distributed at the tailings facilities; therefore, there is a limited potential for constituents of concern (COCs) to accumulate to concentrations that could pose a threat to human health.

Discharge Characteristics:

This permit will continue to authorize the disposal of domestic wastewater from the following outfalls:

- Meikle Rotating Biological Contactor (RBC) Wastewater Treatment Facility (WWTF);
- Roaster Facility Septic Tank;
- Rodeo Facility Septic Tank; and
- Goldstrike RBC WWTF.

In addition to the above outfalls, this permit also authorizes the discharge of sludge from the Meikle and Goldstrike RBC WWTFs and solids from other septic tanks, portable tanks, and the Guard Shack holding tank located at the BGM site.

Domestic waste is collected from numerous structures located at BGM. The primary crusher 1,000-gallon septic tank, mill, autoclave, administration building, assay lab, truck shop, Tessengerlo Kerley, Inc. (TKI) building, elution buildings, process water treatment facility, and gypsum precipitate plant discharge domestic wastewater to the Goldstrike RBC WWTF via a low-pressure sanitary sewer system. The lift station for the low-pressure sanitary sewer system is located adjacent to the Goldstrike RBC WWTF. The treated effluent from Goldstrike RBC WWTF is discharged to AATF and/or NBTF. When completed and authorized by NDEP, Goldstrike RBC WWTF will also discharge its effluent to the proposed TSF3. The Meikle buildings discharge wastewater to the Meikle RBC WWTF via a gravity sanitary sewer system. The treated effluent from Meikle RBC WWTF is discharged to AATF and/or NBTF. When completed and authorized by NDEP, Meikle RBC WWTF will also discharge its effluent to the proposed TSF3.

Discharge monitoring reports for the AATF and NBTF for all quarters of 2012 and 2013 disclose maximum daily concentrations of fecal coliform ranging between < 1 to 11 cfu/100ml. These concentrations are below the permit limits of 23 cfu/100 ml.

Receiving Water:

The receiving waters are lined tailings ponds which minimize the potential of domestic/sanitary waste from the BGM workforce to impact groundwaters of the State.

The effluent from the septic tanks, and the effluent and sludge from the Meikle RBC WWTF and Goldstrike RBC WWTF, will be discharged into the tailings facilities along with process tails in slurry form. The pH of the tailings slurry is approximately 10.0 standard units or greater. Because of this high pH and the inorganic nature of the tailings, this environment is hostile to potential pathogenic and enteric microbes in the domestic waste. The lined ponds at NBTF and AATF are authorized by BMRR permits NEV91029 and NEV90060, respectively. BMRR will require the proposed TSF3 to be designed and constructed to similar or greater zero discharge standards of performance. Groundwater is approximately 210 feet below NBTF at an elevation of approximately 5,288 feet above mean sea level.

Summary of Changes From Previous Permit:

Due to a new permit naming convention at NDEP, Bureau of Water Pollution Control, the permit identification has been changed from NEV94002 to NS0094002. This change does not reflect a change in the type of permit being issued. NEV and NS permits are for groundwater discharges to the State of Nevada. These are not to be confused with "NV" permits which are reserved for NPDES permitting.

Proposed Effluent Limitations:

The discharge shall be limited and monitored by the Permittee as specified in the following tables:

Ponds / Rapid Infiltration Basins for Sample Location 001 (Influent Structure) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	001	Continuous	METER

Ponds / Rapid Infiltration Basins for Sample Location 002 (Internal Outfall) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	002	Quarterly	CALCTD
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	002	Quarterly	CALCTD

Ponds / Rapid Infiltration Basins for Sample Location 003 (Internal Outfall) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	003	Quarterly	CALCTD
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Raw Sewage Influent	003	Quarterly	CALCTD

Ponds / Rapid Infiltration Basins for Sample Location 004 (Influent Structure) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Continuous	METER
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	004	Continuous	METER

Ponds / Rapid Infiltration Basins for Sample Location 005 (Internal Outfall) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	005	Once Per Batch	CALCTD
Flow rate	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	005	Once Per Batch	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. Flow rate of sludge discharged into the RBC.

Ponds / Rapid Infiltration Basins for Sample Location 006 (Sum) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 0.150 Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	006	Quarterly	CALCTD
Flow rate	Quarterly Average	<= 0.150 Million Gallons per Day (Mgal/d)		Effluent Gross ^[1]	006	Quarterly	CALCTD

Notes (Ponds / Rapid Infiltration Basins):

1. Sum of outfalls 001, 002, 003, 004, and 005.

Ponds / Rapid Infiltration Basins for Sample Location 007 (Surface Disposal Site) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate ^[1]	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	007	Quarterly	CALCTD ^[2]
Flow rate ^[1]	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	007	Quarterly	CALCTD ^[2]
Flow rate ^[3]	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Internal Monitoring Point	007	Quarterly	CALCTD
Coliform, fecal general	Daily Maximum		<= 400 Most Probable Number per 100ml T (MPN/100mL)	Prior to Reuse ^[4]	007	Quarterly	DISCRT
Coliform, fecal general	Quarterly Average ^[5]		<= 200 Most Probable Number per 100ml T (MPN/100mL)	Prior to Reuse ^[4]	007	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

- Total discharge of effluent received from septic tanks and RBC WWTF(s) and sludge received from pumper truck(s).
- The calculation method for effluent discharged to tailing pond shall be explained in the Operations & Maintenance (O&M) manual.
- Total discharge of tailings to tailings facility. The method and location of estimating the volume of tailings discharged to the tailings facility shall be explained in the O&M manual.
- Variable sample location. Samples shall be collected at best location to provide the most representative sample of reclaimed water used prior to Process (Roaster, Autoclave, and/or TCM). Disclose sample location in DMR.
- Calculate using the geometric mean.

Ponds / Rapid Infiltration Basins for Sample Location 008 (Surface Disposal Site) To Be Reported Quarterly

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate ^[1]	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	008	Quarterly	CALCTD ^[2]
Flow rate ^[1]	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	008	Quarterly	CALCTD ^[2]
Flow rate ^[3]	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Internal Monitoring Point	008	Quarterly	CALCTD
Coliform, fecal general	Daily Maximum		<= 400 Most Probable Number per 100ml T (MPN/100mL)	Prior to Reuse ^[4]	008	Quarterly	DISCRT
Coliform, fecal general	Quarterly Average ^[5]		<= 200 Most Probable Number per 100ml T (MPN/100mL)	Prior to Reuse ^[4]	008	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

- Total discharge of effluent received from septic tanks and RBC WWTF(s) and sludge received from pumper truck(s).
- The calculation method for effluent discharged to tailing pond shall be explained in the O&M manual.
- Total discharge of tailings to tailings facility. The method and location of estimating the volume of tailings discharged to the tailings facility shall be explained in the O&M manual.
- Variable sample location. Samples shall be collected at best location to provide the most representative sample of reclaimed water used prior to Process (Roaster, Autoclave, and/or TCM). Disclose sample location in DMR.
- Calculate using the geometric mean.

Ponds / Rapid Infiltration Basins for Sample Location 009 (Surface Disposal Site) To Be Reported Quarterly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate ^[1]	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	009	Quarterly	CALCTD ^[2]
Flow rate ^[1]	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	009	Quarterly	CALCTD ^[2]
Flow rate ^[3]	Quarterly Average	M&R Million Gallons per Day (Mgal/d)		Internal Monitoring Point	009	Quarterly	CALCTD
Coliform, fecal general	Daily Maximum		<= 400 Most Probable Number per 100ml T (MPN/100mL)	Prior to Reuse ^[4]	009	Quarterly	DISCRT
Coliform, fecal general	Quarterly Average ^[5]		<= 200 Most Probable Number per 100ml T (MPN/100mL)	Prior to Reuse ^[4]	009	Quarterly	DISCRT

Notes (Ponds / Rapid Infiltration Basins):

1. Total discharge of effluent received from septic tanks and RBC WWTF(s) and sludge received from pumper truck(s).
2. The calculation method for effluent discharged to tailing pond shall be explained in the O&M manual.
3. Total discharge of tailings to tailings facility. The method and location of estimating the volume of tailings discharged to the tailings facility shall be explained in the O&M manual.
4. Variable sample location. Samples shall be collected at best location to provide the most representative sample of reclaimed water used prior to Process (Roaster, Autoclave, and/or TCM). Disclose sample location in DMR.
5. Calculate using the geometric mean.

Rationale for Permit Requirements:

Flow from outfalls is monitored to verify the permit fee category. The primary method of waste treatment is via dilution, detention, pH control, and mixing in the tailings facility. The secondary treatment standards do not apply because the effluent and solids are discharged to lined, zero discharge tailings facilities. The

liquid portion is contained and reused within a limited human contact environment. The tailings facilities contain the discharge and treat the waste via dilution, detention, pH control, and mixing. The discharge from the milling and roasting facilities is approximately 1,000 times the volume of the sanitary discharge. Mixing occurs due to turbulence in the tailings discharge pipe, the tails box, and pumps. The volume of tailings discharged to the tailings facilities is monitored to document the dilution factor.

Fecal Coliform:

The fecal coliform monitoring requirement was established to ensure that the water being reclaimed from the tailings facilities has minimal concentrations of pathogens.

Special Conditions:

SA – Special Approvals / Conditions Table

Item #	Description
1	Disregard Section B.PB - Ponds/Rapid Infiltration Basins.
2	Disregard Sections C.13, C.33, and C.34.
3	Publicly owned treatment works (POTW) standards are waived because this facility is not a POTW.

Flow:

The total discharge of domestic waste to the tailings facilities is limited to 0.150 million gallons per day (MGD). Discharge monitoring reports for all quarters of 2012 and 2013 show an average discharge of 0.058 MGD.

Corrective Action Sites:

Not applicable because this is a mining facility.

Wellhead Protection Program:

A wellhead protection area has not been established for this area.

There is an inactive public water system well at the BGM site. It is considered to be moderately to highly vulnerable to VOC contamination per the "Water System Assessment Report (NDEP Bureau of Safe Drinking Water, April 2005)." The tailing facilities, Rodeo septic tank, Roaster septic tank, and Meikle RBC WWTF are located greater than 6,000 feet from an inactive public drinking water system. The Primary Crusher septic tank, Water Management septic tank, and Goldstrike RBC WWTF are located within 3,000 feet of the inactive public drinking water system.

Schedule of Compliance:

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit two copies of an updated Operation and Maintenance (O&M) manual for review by the Division. The O&M Manual shall be prepared by a Nevada Registered Professional Engineer or other Division-approved qualified person. If no updates or revisions are required, the Permittee shall submit a letter by the due date stating that there have been no changes to the previously reviewed O&M manual. ^[1]	4/1/2015

Notes (Schedule of Compliance Table):

1. O&M Manuals prepared by a Nevada Registered Professional Engineer must be signed and stamped in accordance with NAC 625.610.

Deliverable Schedule:

DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	4/28/2015
2	Annual Report	Annually	1/28/2016

Procedures for Public Comment:

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Elko Daily Free Press** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until 5:00 P.M. **1/19/2015**, a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator of EPA Region IX 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 determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue / re-issue the proposed 5-year permit.

Prepared by: **Kenneth Greene**

Date: **7/1/2013**

Title: **P.E.**