



ADMINISTRATIVE PENALTY
PENALTY ASSESSMENT FORM

FILE NO: 2017-16

PART ONE: THE CONTRAVENTION(S)

Party

Barkerville Gold Mines Ltd. (BGM)

Contravention(s)

Failure to comply with Section 2.6.7 of permit PE12601 (Permit) – Water collected in existing pits or underground workings may be transferred to the Main Zone Pit or Tailings Storage Facility for storage while mining, milling or underground exploration is underway.

Date(s) of Contravention(s)

- Between November 25 and December 3, 2016; and
- Between April 27 and April 27, 2017.

Background

Barkerville Gold Mines Ltd. Operations

1. Barkerville Gold Mines Ltd (BGM) is a company registered in British Columbia (BC) that operates two gold mines and one processing mill in the Cariboo (Southern Interior BC).
2. The QR Gold Mine and Mill (QR) is located approximately 60km southeast of Quesnel, BC.
3. QR initially opened in 1994, but closed between 1998 and 2010. The site currently employs approximately 40 staff.
4. No mining has occurred at the site since October 2013. Ore from the Bonanza Ledge Mine has been processed at the QR mill from 2014/15 onwards.
5. As a result of mining and processing the ore in the mill, a number of waste discharges occur, specifically mine impacted effluent and tailings.

Effluent sources: Tailings and Mine Impacted Water

6. One method to extract gold from the ore in a mill and cyanidation plant is by the Cyanide Destruction Process. The waste slurry generated by this process is called tailings, and is generally disposed of in tailings impoundments. The QR mill and cyanidation plant utilizes the Cyanide Destruction Process to extract gold from the ore, and generates tailings that consist of a mix of waste rock and cyanide in a water matrix.
7. Gold tailings contain environmental pollutants including heavy metals and sulphate, and are therefore only authorized for disposal in specific locations. At QR the tailings impoundment locations were the Tailings Storage Facility (TSF) and Main Zone Pit (MZP) however, due to seepage issues in the TSF, since 2014 tailings can only be discharged to the MZP.
8. Tailings must be stored underwater to prevent the material getting exposed to the elements. Exposure to the elements can create environmental concerns such as metal leaching, acid rock drainage, or fugitive dust generated from the tailings. The water stored in the tailings impoundment is called supernatant and can only be discharged out of the tailings impoundments in accordance with Permit requirements.

Authorization for Environmental Discharges – Permit 12601

9. The provincial regulatory authorization governing the discharge of effluent from QR is Permit PE 12601 (the Permit) issued pursuant to the *Environmental Management Act*, S.B.C. 2003, c. 53.
10. The Permit was issued and is administered by the BC Ministry of Environment and Climate Change Strategy (Ministry).
11. The Permit authorizes the discharge of effluent from specific locations on the mine site to the receiving environment, provided the characteristics of the effluent are within those specified in the Permit.
12. There are a number of historical open pits on site (Image 1: Site Plan), one of these is the Northwest Zone Open Pit (NWZP). Accumulated surface water in these pits is considered to be mine impacted and must be handled in accordance with the Permit.
13. Since 2014, tailings effluent from the gold ore mill and cyanidation plant is only authorized for disposal at the MZP due to seepage issues in the TSF.
14. Section 2.6.7 of the Permit authorizes the transfer of water from existing pits (such as the NWZP) to the MZP or TSF while mining, milling, or underground exploration is underway. However, due to the nature of the tailings effluent in the MZP and TSF, the permit does not authorize the transfer of supernatant from the MZP or TSF to any existing pits (MZP effluent can be transferred to the TSF in accordance with section 2.6.7).

15. The Permit was first issued March 3, 1994. All references to section of the Permit in this document refer to the last relevant amendment dated July 11, 2012.

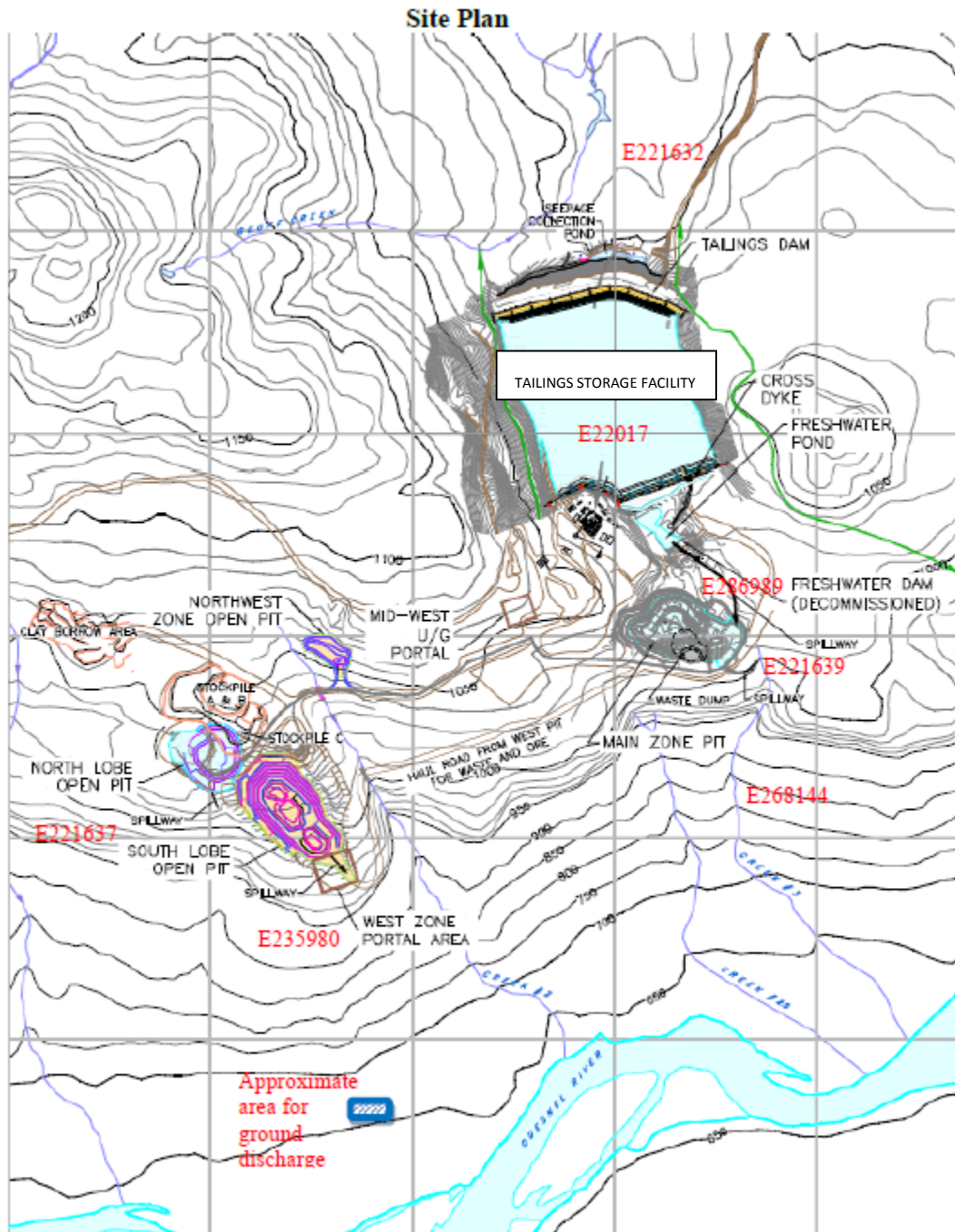


Image 1: Site Plan from Permit 12601

Summary of Relevant Facts

16. On June 21, 2016, Ministry Officer Jack Green conducted an onsite inspection of QR to determine compliance with the Permit. During the course of the inspection BGM representatives Chris Parness (Vice President) and Lazlo Gotz (Environmental Manager) discussed plans to increase capacity in the MZP for impending tailings from a proposed underground mining operation by draining the NWZP into the TSF, then pumping supernatant from the MZP to the NWZP. Officer Green confirmed and verbally communicated during the inspection that these actions would be a non-compliance with the Permit. This point was reiterated in the subsequent inspection report (IR) 30109 which stated, “Section 2.6.7 authorizes the transfer of water from existing pits to the MZP or TSF while mining, milling or underground exploration is underway. However, the permit does not authorize the transfer of supernatant from the MZP to any existing pits. In order to carry out this plan BGM would require prior approval from the Director”

[2016-06-21 Inspection Report 30109]

17. On July 21, 2016, BGM attended a pre-application meeting with Ministry Authorizations Officers Luc Lachance and Leslie Berkes. Notes from the pre-application meeting show that BGM were informed that prior to approving the dewatering of the MZP, the Ministry would require submission and approval of a 'Discharge Plan', to include, amongst other things, details of proposed timing and volume for dewatering of the MZP, proposed monitoring program for the duration of the project; and planning and justification.

[2016-07-21 Meeting Notes]

18. On October 5, 2016, Inspection Report 30109 was issued via email.

[2016-10-05 IR30109 sent]

19. The Ministry has no record of submission of a Discharge Plan, or any notification or approval request from BGM. The Ministry did not issue an approval for the discharge of effluent from the MZP to then NWZP.

20. On April 28, 2017, Ministry Officer Jack Green conducted an onsite inspection of QR Mine to determine compliance with the Permit. During the course of the inspection, Lloyd Thomas (BGM General Foreman, QR Gold Mine) informed Officer Green that pumping of supernatant from the MZP to the NWZP was ongoing. Records of volumes pumped were provided and confirmed the following:

- Between 25 November 2016 and 3 December 2016, 17,151 cubic metres of supernatant was pumped from the MZP and discharged to the NWZP.
- Between 27 and 28 April 2017, 2,725 cubic metres of supernatant was pumped from the MZP and discharged to the NWZP.
- A total of 19,876 cubic metres of supernatant were pumped from the MZP and discharged to the NWZP.

This non-compliance, documented in Inspection Report 53364, was initially referred for investigation by the British Columbia Conservation Officer Service (BC COS).

Following discussions with the BC COS, it was determined that this file should be referred for an Administrative Monetary Penalty (AMP).

[2017-04-28 Inspection Report 53364]

21. On June 21, 2017, Inspection Report 53364 was issued via email. Steve Jennings (BGM Environmental Manager) responded the same day, confirming receipt of the inspection report and that a response will be issued upon review. No further response was received from BGM regarding this report.

[2017-06-21 IR 53364 sent and received]

PART TWO: PENALTY CALCULATION

Based on the information provided above, it is recommended that one administrative penalty be imposed for:

Failure to comply with Section 2.6.7 of permit PE12601 (Permit) – Water collected in existing pits or underground workings may be transferred to the Main Zone Pit or Tailings Storage Facility for storage while mining, milling or underground exploration is underway.

Factors to be considered in penalty calculation:

a) Nature of Contravention or Failure

Major.

“Where non-compliance undermines the basic integrity of the overarching regulatory regime and significantly interferes with the Ministry’s capacity to regulate.”

“Operating a high risk activity without proper authorization”

BGM wilfully disregarded the advice and guidance provided by Ministry staff regarding the steps to take in order to transfer effluent from the MZP to the NWZP in accordance with the requirements of the *Environmental Management Act*. In doing so, BGM undermined the integrity and authority of the Ministry, and showed a blatant disregard for the potential risks to the environment of their actions.

According to the Compliance Priority Index (CPIX) (Ministry index for prioritizing inspections based on the industrial sector of the operation and potential risk to the environment from that sector) all mining files are considered high risk. In this situation, the risk level is also based on the activity - the discharge of supernatant to a pit without determining the suitability of that pit for storing supernatant, or the potential risks to the environment of doing that, and taking steps to address those risks.

The Ministry requires information regarding the proposed discharge prior to the commencement of the discharge in order to evaluate the potential risk to the environment. The Ministry will then set requirements on the proponent in order to address any concerns and reduce the risk to an acceptable level. By disregarding the requirements stipulated by the Ministry, and commencing with the discharge without implementing any measures to reduce impacts, or at least monitor any potential impacts to the environment (e.g. increased monitoring of groundwater in the vicinity of the NWZP during and after discharge), BGM significantly increased the risk of harm to the environment.

b) Actual or Potential for Adverse Effect

Medium. By not providing the information requested by the Ministry during the meeting of July 21, 2016, and instead commencing the discharge of supernatant from the MZP to the NWZP, BGM interfered with the Ministry’s capacity to protect the environment. The

information requested by the Ministry is necessary to determine the potential risk to the environment of the proposed discharge, and to determine what measures are necessary to minimize those risks to an acceptable level.

BASE PENALTY:



\$ 20,000.00

c) Previous contraventions or failures, AP's imposed or orders issued: + \$ 2,000.00

- 2017-12-06 – IR53364 – AMP Recommendation. Unauthorized discharge, submission of conceptual plan, provision of training records, freeboard exceedance, failure to conduct ditch inspections, failure to conduct required monitoring.
- 2016-09-29 – IR30148 – Warning. Failure to conduct required monitoring, failure to provide Quality Assurance Manual, deficient annual report.
- 2016-06-21 – IR30109 – Advisory. Failure to maintain water cover on tailings, failure to conduct inspection of surface water control works.
- 2015-09-10 – IR22407 – Warning. Discharge exceedances, failure to maintain groundwater wells in good working order, failure to maintain water cover on tailings, failure to report non-compliance.
- 2015-07-22 – IR20506 – Order. Failure to meet Order requirements.
- 2014-11-18 – IR18786 - Advisory. Failure to maintain ditch inspection records.
- 2014-04-01 – IR17496 – Investigation. Failure to submit annual reports in accordance with Order.
- 2014-03-24 – IR17226 – Warning. Failure to conduct required monitoring, failure to submit QA data, failure to submit all required information in quarterly report, late report submission, failure to upload data into EMS.
- 2014-01-19 – IR14942 – Order. Failure to submit risk assessment, failure to submit annual reports.
- 2014-01-14 – IR14941 – Warning. Failure to report flow data, late report submission, failure to upload data into EMS, failure to conduct required monitoring, discharge exceedances.
- 2013-11-27 – IR13421 – Warning. Deficient risk assessment.
- 2013-10-24 – IR12583 – Warning. Failure to maintain diversion works, failure to maintain freeboard, failure to maintain ditch inspection reports.
- 2013-09-06 – IR11746 – Warning. Failure to submit quarterly reports.
- 2013-04-08 – IR9344 – Warning. Exceedance of max discharge rate, failure to provide training records prior to mill start-up, failure to provide surface run-off control works.

Due to BGM's long and consistent history of non-compliance with Ministry regulatory instruments, ten percent of the base penalty has been assigned for this factor.

d) Whether contravention or failure was repeated or continuous + \$ 2,000.00

The contravention was repeated, as discharge to the NWZP occurred on two occasions:

- Between November 25, 2016 and December 3, 2016; and
- Between April 27, 2017 and April 28, 2017.

Ten percent of the base penalty has been assigned for the repeated nature of this contravention.

e) Whether contravention or failure was deliberate + \$ 2,000.00

Deliberate. Officer Green informed Mr. Pharness and Mr. Gotz during the site inspection of June 21, 2016, that in order to discharge supernatant from the MZP to the NWZP they would require approval from the Director. Then during a meeting with Ministry Authorizations staff on July 21, 2016, BGM staff were instructed to provide a list of information for the consideration of the Director, before the Director could authorize approval of the discharge. Therefore, BGM had knowledge of the contravention and were aware of the requirements under the *Environmental Management Act* to comply. BGM wilfully disregarded the direction of Ministry staff and chose to commence the discharge without the approval of the Director.

Ten percent of the base penalty has been assigned for the deliberate nature of this contravention.

f) Economic benefit derived by the party from the contravention or failure + \$ 2,000.00

BGM saved the costs of conducting additional monitoring in the vicinity of the NWZP during and after the discharge period, and the costs of preparing an application package for authorization to discharge (studies, application fee).

Ten percent of the base penalty has been assigned to account for the avoided costs resultant from this contravention.

g) Exercise of due diligence to correct the contravention or failure - \$ 0

There was no exercise of due diligence on the part of BGM in preventing/correcting the contravention. BGM wilfully disregarded all advice and guidance provided by Ministry staff. They commenced the discharge knowing that in doing so they would be in contravention of their permit requirements. No reduction from the base penalty has been assigned for this factor.

h) Efforts to correct the contravention or failure - \$ 0

No efforts were made to correct the contravention. BGM abated the discharge by request of Officer Green upon discovery of the discharge during the site inspection of 28 April 2017. No variation from the base has been assigned for this factor.

i) Efforts to prevent reoccurrence of the contravention or failure - \$ 2,000.00

On March 11, 2019, BGM submitted a letter to the Ministry requesting authorization to transfer effluent from the MZP to the TSF during a period when no mining, milling or exploration was occurring on site. The Ministry authorized this transfer for the period of March 21, 2019 to May 21, 2019 in a letter dated March 21, 2019. This move to prevent reoccurrence of the contravention is acknowledged with a ten percent reduction of the base penalty.

j) Any additional factors that are relevant +/- \$ 0

N/A

**TOTAL PENALTY
ADJUSTMENTS:**

BOX B

Add factors (c) to (j)

= + \$ 6,000.00

**PENALTY AFTER
CONSIDERING ALL FACTORS:**

Add Box A and B

\$ 26,000.00

IS A DAILY MULTIPLIER BEING APPLIED TO THIS PENALTY

No, the repetitive nature of this contravention has been accounted for in factor d.

**TOTAL PRELIMINARY PENALTY
ASSESSMENT**

\$ 26,000.00