From: Brash, Jennifer EMPR:EX
To: "dano@mxgoldcorp.com"

Cc: Hoffman, Al EMPR:EX; Howe, Diane J EMPR:EX; Craig, Andrew EMPR:EX; Shaw, Sean EMPR:EX; McConnachie,

Jennifer EMPR:EX; Constable, Lowell EMPR:EX; Paul Hughes; Day, Alan EMPR:EX; Narynski, Heather M EMPR:EX

**Subject:** 2018 08 29 Max Molybdenum Mine Geotechnical Inspection

**Date:** September 6, 2018 3:59:18 PM

Attachments: 2018 08 29 Max Moly EMPR Geotechnical Inspection.pdf

2018 08 29 Max Moly EMPR Geotechnical Inspection.docx

image001.jpg

Hello Mr. Omeniuk,

Please find attached a report of the Geotechnical inspection conducted on August 29, 2018 at the Max Molybdenum Mine (M-226). Please note that there are nine Orders, five advisories, and two Information Requests identified in the report that require your response and follow up within 15 days.

You are able to input your responses directly in the attached MSWord file. I have also included a PDF copy of the report for your records.

Please have this report posted in a conspicuous place on the property and accessible to the workers, in accordance with Section 30(1) of the *Mines Act*.

Should you have any comments or questions relating to the report, please do not hesitate to contact me by phone or email.

Best regards,

Jennifer Brash, M.Eng., P.Eng.
Senior Geotechnical Inspector
Ministry of Energy, Mines and Petroleum Resources
1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353





# Province of British Columbia MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

# Report of Inspector of Mines Geotechnical

Mine No.: 0500770
Permit No.: M-226
Total Orders: 9

099689

Inspection No.:

(Issued pursuant to Section 15 of the *Mines Act*)

Mine Name: Max Molybdenum Mine

Location: Trout Lake, B.C.

Owner, Manager: Dan Omeniuk

Company: MX Gold Corp.

Address: 1300 Redonda Street,

Winnipeg, MB R2C 3T7

Workers Contacted: None

Type of Mining: Metal – Underground (MU)

Date of Inspection: 2018-08-29

Inspector: Jennifer Brash, M.Eng., P.Eng., Senior Geotechnical Inspector

Accompanying Inspectors:

Paul Hughes, Andrew Craig

In Attendance: None

Copies to: Al Hoffman, Diane Howe, Lowell Constable, Jennifer McConnachie, Tania Demchuk, Alan Day,

Kathie Wagar; Heather Narynski

The Mine Manager is required to provide a written response within 15 days of receiving the inspection report. The Manager's response must outline the remedial steps taken by a specified date and the work still outstanding. A copy must be provided to the inspector, and in the case of health and safety matters, the occupational health and safety committee and the local union. In this document, Code means Health, Safety and Reclamation Code for Mines in British Columbia.

#### Introduction

A geotechnical inspection of the Max Molybdenum Mine site was conducted on August 29, 2018 by Jennifer Brash, Senior Geotechnical Inspector with the Ministry of Energy, Mines, and Petroleum Resources (EMPR), accompanied by Paul Hughes, Contract Geotechnical Inspector for EMPR and Andrew Craig, Environmental Geoscience Inspector with EMPR. No company representatives accompanied the inspectors on the tour; access to site was via a locked gate which was unlocked by a local Trout Lake resident (as pre-arranged by the Mine Manager).

#### **Preamble**

The Max Molybdenum Mine began production in 2008, and has been on 'care and maintenance' since 2011. Since the cessation of mining, minimal site activity has occurred. At the time of inspection, there was no work ongoing at site and were no on-site personnel.

The last EMPR geotechnical inspection was completed in 2016, at which time it was understood that the existing mill was to be refurbished and the tailings storage facility (TSF) reactivated to process ore from other mines<sup>1</sup>. It is EMPRs current understanding that MX Gold Corp. has no immediate plans to restart mining, refurbish the mill, or reactivate the TSF.

Jennifer Brash, M.Eng., P.Eng.

Dated: September 6, 2018

<sup>&</sup>lt;sup>1</sup> EMPR, 2016. Report of Geotechnical Inspector, June 15, 2016.

Geotechnical infrastructure includes a TSF, underground workings, waste rock dumps, and sediment ponds. The following areas were observed during the mine inspection tour:

- Underground Portals
- Waste Rock Dump and Plant Site Area
- Sediment Ponds
- TSF

Weather at the time of inspection was 14°C and overcast; there had been minor precipitation prior to the inspection.

The purpose of this inspection was to:

- assess whether the Mine is meeting the intent of the geotechnical requirements of the Code;
- · assess whether the Mine is meeting the intent of the geotechnical conditions in its Mine Permit;
- assess whether geotechnical engineering practices at the Mine are generally consistent with accepted practices at mines in British Columbia; and,
- · provide general comment on geotechnical infrastructure at the mine

This report is governed by the conditions and limitations set forth in the Mines Act and Code. This report is based on overview of select reports and work areas at the Mine, and cannot practically cover the entire mine site. Professional reliance has been used throughout this inspection.

Please note EMPR expects that all written recommendations made by a Professional Engineer, relating to geotechnical stability affecting health, safety, or environment, are followed by the Mine unless a suitable alternative written recommendation is provided by a Professional Engineer.

This report summarizes EMPR's observations, comments, and findings based on the Mine site tour and preliminary review of annual geotechnical reports. If required, inspection orders or other action items have been issued. For ease of reference the Mine Manager is asked to respond in red text in the space provided below each inspection order, warning, advisory, or information request.

#### Location: General

The most recent site-wide Emergency Preparedness and Response Plan (EPRP) EMPR has on file is dated 2016<sup>2</sup>. The TSF Operations, Maintenance, and Surveillance (OMS) manual was last updated in 2017<sup>3</sup>, and contains a section on emergency response specific to the TSF. These documents do not appear to be integrated, as required by the HSRC Section 10.4.2 (e). Also, both the site-wide and TSF EPRP documents note that the project site is located 4 km NW of Trout Lake town, which appears to be incorrect, and do not contain maps showing the site access.

**Advisory 1:** The Mine site location and access instructions should be clarified in the next revision of the OMS manual and the EPRP.

Manager Response:	

<sup>&</sup>lt;sup>2</sup> MX Gold Corp., 2016. Emergency Preparedness and Response Plan (EPRP) Max Molybdenum Mine Care & Maintenance (2016), Dated August 2016.

<sup>&</sup>lt;sup>3</sup> BGC, 2017. Max Molybdenum Mine Tailings Facility (Mine Permit M-226) Operation, Maintenance and Surveillance (OMS) Manual, Version 2017-01, dated October 23, 2017, prepared for MX Gold Corp.

	der 1 (Inspection of Mines) ued Pursuant To: Mines Act Section 15(4)
	servation of Contravention: TSF EPRP is not integrated into the Mine Emergency Response Plan (MERP).
Purs	nedial Action/Results To Be Obtained: suant to Code clause 10.4.2.(e), the Mine shall integrate the TSF EPRP into the MERP and submi updated document(s) to the Chief Inspector.
Red	ctify By/Completion Date: 2019-03-31
Mar	nager Response:
Location: U	Inderground Portals
	s understanding that the underground workings have not been maintained during the care and e period, and have experienced previous instability. As such, the underground workings were not
blocky rock	round portals were viewed, both of which comprised steel arch-shaped headcovers located within slopes. Blocks were secured with tendon support and strapping. Both portals access doors had ed with steel mesh secured by 2-3 wire ties; this not considered to be adequately secured against as 1 and 2).
	risory 2: Should access to the underground be needed, an assessment of the rock slopes above portals by a Professional Engineer will be required.
Mar	nager Response:

#### Order 2 (Inspection of Mines)

Issued Pursuant To: Mines Act Section 15(4)

Observation of Contravention:

Underground areas have been subject to past instability and there is no ongoing monitoring or maintenance apparent.

Remedial Action/Results To Be Obtained:

Pursuant to Code clause 1.1.2, there shall be no access permitted to the underground workings without:

- Prior inspection by a Professional Engineer;
- Written authorization for entry provided by a Professional Engineer; and,
- Completion of any and all ground control measures recommended by the Professional Engineer.

This order remains in effect until the remedial action listed above are addressed and accepted by the Inspector issuing the order.

Rectify By/Completion Date: N/A
Manager Response:
Order 3 (Inspection of Mines) Issued Pursuant To: Mines Act Section 15(4)
Observation of Contravention:
The portals were not secured against human entry.
Remedial Action/Results To Be Obtained: Pursuant to Code clause 6.25.1.(2), the Mine shall secure the portal entrances in such a manner as to prevent human ingress.
Rectify By/Completion Date: 2018-10-01
Manager Response:

#### Location: Waste Rock Dump and Plant Site Area

Senior Geotechnical Inspector

The waste rock dump is located upslope of the mill site and is partially retained by MSE walls. The MSE wall segment to the west of the ore bin appeared to have experienced visual bulging/deformation and rock was observed to be sliding down off the wall crest area and accumulating at the wall toe (Photo 3).

The crest of the dump was largely free of water and had berms present (Photo 4). Access roads are present at the toe of the dump in some areas; no rockfall catch ditches or berms were observed (Photo 5).

A surficial failure was observed on a steep bank of waste rock, resting at angle-of-repose, adjacent to the surface repair shop (Photo 6). Berms are not present in this area.

Order 4 (Inspection of Mines) Sesued Pursuant To: Mines Act Section 15(4) Observation of Contravention: The MSE walls adjacent to the ore bin appear to have experienced some deformation/bulging, and rock as been sliding off the wall crest.  Remedial Action/Results To Be Obtained: Pursuant to Code clause 1.1.2, the Mine shall:  • not add new loads on or near the MSE wall crests;  • restrict access to the crest of the MSE walls; and  • restrict access to the crest of the MSE walls; and  • restrict access below the MSE walls.  Rehould usage of the ore bin, waste rock dump, or areas beneath the MSE walls be required, and sessesment of the MSE wall stability, signed and sealed by a Professional Engineer and including accommendations for a monitoring program, will be required.  This order remains in effect until the remedial action listed above are addressed and accepted by the inspector issuing the order.  Rectify By/Completion Date: N/A	I CONCORD LACONORDO	
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Dated: September 6, 2018

**Location: Sediment Ponds** 

Mine-impacted water flows sequentially through a series of sediment ponds of varying sizes and dimensions. The ponds are separated by steep-sided vegetated mounds; the degree to which the ponds are dug into natural ground and/or retained by constructed fills was not readily apparent (Photo 7). The outlet of the lowest pond has a V-notch weir, datalogger, and staff gauge present; it was not evident if these monitoring instruments were regularly being read. Outlets of the upper ponds comprised open channels overgrown with vegetation and pipes.

form, similar to that required for the TSF, for each sediment pond present on site.

Manager Response:

Information Request 2: The Mine is to submit to the Chief Inspector the as-built records for the sediment ponds, per Code clause 10.5.1.

Manager Response:

Information Request 1: In accordance with Section 10.4.3 of the Code and in an effort to understand the size and potential Code requirements of the structures, the Mine is asked to fill out a dam registry

Location: TSF

The TSF is located downslope of the portals, mill site, and sediment ponds. The TSF is formed by two dams, the Southeast Dam and the Northwest Dam, each with a downstream seepage pond adjacent to the dam toe.

At the time of inspection, the TSF pond level was below the level of the tailings and staff gauge, resulting in exposed tailings beaches (Photo 8). However, water marks located near the right abutment of the Northwest Dam indicated that water had recently been approximately 1.5 m to 2 m higher. The impounded water was generally still (i.e. no surficial inflows were evident), with the exception of local areas of upward bubbling. One such area was observed within the pond to the upstream of the spillway area; here, bubbling was observed continuously for upwards of 5 minutes (Photo 9). Less consistently, bubbling was also observed along/near pipes from the Southeast Dam into the impoundment on the left side, near the roadway.

Preparation for a future lift at the Southeast Dam was evident; dental concrete and rock foundation preparation is evident on each abutment. The downstream dam slope has rockfill on the lower portion and finer-grained fill exposed on the upper portion and crest (Photo 10). Local ditching was present at each abutment to direct surface water flows off the dam. The dam crest was free of ponded water and appeared to grade into the pond. The upstream slope of the dam did not have erosion protection present. A small crack (approximately 2 m long and 0.5 cm wide) was observed on the upstream side of the dam; its location was marked with a small rock pile to facilitate monitoring by site personnel. Ponded water was observed downstream of the left side of the dam.

A non-engineered spillway is present near the right abutment of the Southeast Dam. It runs across the dam crest and along what appears to be a construction access ramp (Photo 10). The spillway is lined with geofabric and plastic membrane, both of which are locally stretched taut and are punctured (Photo 11). The downstream dam slope to the right of the spillway is irregular.

The seepage pond at the toe of the Southeast Dam is retained by an embankment and is free-flowing through a V-notch weir into Shrub Creek. A staff gage was observed at the pond outlet while coiled piezometer cabling was observed nearby.

The Northwest Dam conditions are similar to those at the Southeast Dam – the crest is generally well drained, local ditching diverts upslope water off the dam crest, tailings are exposed adjacent to the dam face, finer fills are exposed on the downstream slope and crest, and no erosion protection was present on the upstream dam face (Photo 12, 13). Some local evidence of ponded water was observed on the dam crest, particularly along the core-downstream shell interface. Minor erosion gullies were observed on the downstream face. Ponded water was present adjacent to the downstream toe of the Northwest Dam, and an outlet for this water was not readily observable (Photo 13).

The 2017 Dam Safety Inspection (DSI)<sup>4</sup> for the TSF notes that the Max mine TSF is classified as a 'major impoundment' and the NE and SW Dams are 'major dams'. These phrases are not reflective of the current HSRC. Further, the DSI references the BC Dam Safety Regulations consequence classifications rather than the EMPR HSRC requirements.

The 2017 DSI also provides a number of past and recent recommendations, several of which were assigned priority level 2, indicative of an issue that could result in a dam safety concern if not corrected. A summary of TSF and dam safety recommendations, including a scheduled completion date, was not provided by the Mine Manager as required by the HSRC. Among the priority level 2 recommendations is a repeated pattern of recommendations for an improved understanding of the TSF design flood event inflows and water balance, together with completion of upgraded spillway works (e.g. recommendations 2014-2, 2014-5, 2016-1, 2016-2, 2017-1). The need for construction of a proper spillway was also highlighted by EMPR in 2016<sup>3</sup>.

**Advisory 5:** The Mine and their consultants should ensure that the 2018 DSI is completed with reference to the 2017 HSRC and the HSRC Guidance Document, all available online<sup>5</sup>

1	Manager Response:
-	

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

<sup>&</sup>lt;sup>4</sup> BGC, 2018. MAX Molybdenum Mine Tailings Facility 2017 Dam Safety Inspection, dated March 29, 2018, prepared for MX Gold Corp.

<sup>&</sup>lt;sup>5</sup> https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/health-safety/health-safety-and-reclamation-codefor-mines-in-british-columbia.

#### Order 5 (Inspection of Mines)

Issued Pursuant To: Mines Act Section 15(4)

Observation of Contravention:

EMPR observed bubbling within the TSF pond and cracking along the upstream side of the Southeast Dam.

Remedial Action/Results To Be Obtained:

Pursuant to Code clause 1.1.2, the Mine shall immediately implement a program of monitoring that includes the bubbling within the TSF pond, observation of the upstream tailings beaches and cracking along the upstream side of the Southeast Dam.

along the upstream side of the Southeast Dam.
Rectify By/Completion Date: 2018-10-01
Manager Response:
Order 6 (Engineering Report) Issued Pursuant To: Mines Act Section 18
Observation of Contravention: EMPR observed bubbling within the TSF pond and cracking along the upstream side of the Southeast Dam.
Remedial Action/Results To Be Obtained: Pursuant to Code clause 1.1.2, the Mine shall submit to the Chief Inspector commentary from the TSF Engineer-of-Record assessing the causation of TSF pond bubbling and upstream cracking at the Southeast Dam. This can be submitted as part of the 2018 DSI, if desired.
Rectify By/Completion Date: 2019-03-31
Manager Response:

#### Order 7 (Inspection of Mines)

Issued Pursuant To: Mines Act Section 15(4)

Observation of Contravention:

High-water marks were observed significantly above the pond level at the time of EMPR inspection. The temporary spillway in place is damaged.

Remedial Action/Results To Be Obtained:

Pursuant to Code clause 1.1.2, the Mine shall:

- Provide pond level records for 2018;
- Confirm if the temporary spillway discharged at any time in 2018; and,
- Submit a statement from the TSF EOR confirming the adequacy of the temporary spillway or recommending remedial works/an updated spillway design (as appropriate).

Dated: September 6, 2018

Order	9	(Enforcement	of	Order)
-------	---	--------------	----	--------

Issued Pursuant To: Mines Act Section 35

Observation of Contravention:

The Mine has previously been ordered to establish an Independent Tailings Review Board (ITRB) for the Max Molybdenum  $TSF^6$ , but has not done so.

Remedial Action/Results To Be Obtained:

Pursuant to Code clause 10.4.2, the Mine shall establish an ITRB and submit the terms of reference, including qualifications of the board, to the Chief Inspector for approval.

including qualifications of the board, to the other inspector	ιοι αρριοναι.			
Rectify By/Completion Date: 2018-12-31				
Manager Response:				
Closure				
Please address the response to Jennifer Brash, Senior Geotechnic	al Inspector, at jennifer.brash@gov.bc.ca.			
You are reminded that, as per Section 15(6) of the Mines Act, your days of receiving this report. In addition, Section 30 (1) of the Mine posted in a conspicuous location at the mine site for 30 days.				
Please feel free to contact the undersigned with any questions or co	omments.			
Received byo	n			
[Mine Manager Name, Title]	[Date]			
Signature:				

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

<sup>&</sup>lt;sup>6</sup> EMPR, 2017. Review of Documentation Compliance for Tailings Storage Facilities (TSFs), dated July 20, 2017.



Photo 1: West Portal, note loose mesh

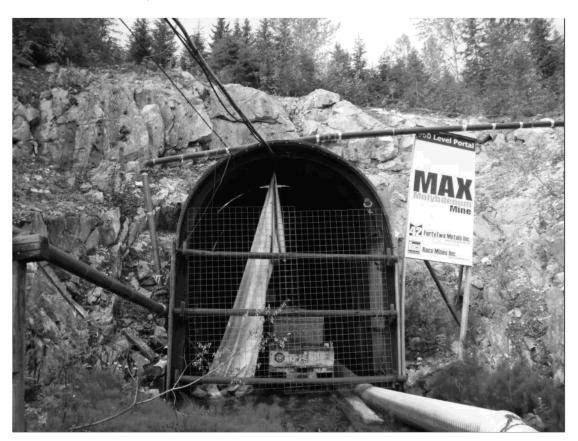


Photo 2: East Portal



Photo 3: MSE wall retaining waste rock dump



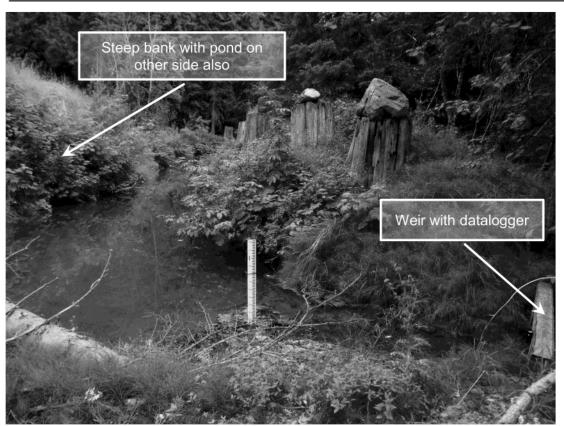
Photo 4: Waste Rock Dump Crest



Photo 5: Access road at toe of dump



Photo 6: Steep slope adjacent to surface repair shop



**Photo 7: Sediment Pond** 



Photo 8: TSF, beaches upstream of Southeast Dam



Photo 9: TSF, bubbling in pond, view from Southeast Dam towards Northwest Dam



Photo 10: TSF, Southeast Dam downstream slope, note spillway towards left



Photo 11: TSF, Southeast Dam spillway



Photo 12: TSF, Northwest Dam Crest



Photo 13: TSF, Northwest Dam downstream slope and ponded water at toe

From: Brash, Jennifer EMPR:EX

To: "dano@mxgoldcorp.com"

Cc: Marques, Victor EMPR:EX; Constable, Lowell EMPR:EX

Subject: RE: 2018 08 29 Max Molybdenum Mine Geotechnical Inspection

**Date:** October 1, 2018 11:50:58 AM

**Attachments:** <u>image001.jpg</u>

Mr. Omeniuk,

Please provide an immediate response to the EMPR Report of the Geotechnical Inspector supplied in the email below.

Regards,

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353

From: Brash, Jennifer EMPR:EX

Sent: Thursday, September 6, 2018 3:59 PM

To: 'dano@mxgoldcorp.com'

**Cc:** Hoffman, Al EMPR:EX; Howe, Diane J EMPR:EX; Craig, Andrew EMPR:EX; Shaw, Sean EMPR:EX; McConnachie, Jennifer EMPR:EX; Constable, Lowell EMPR:EX; Paul Hughes; Day, Alan EMPR:EX;

Narynski, Heather M EMPR:EX

**Subject:** 2018 08 29 Max Molybdenum Mine Geotechnical Inspection

Hello Mr. Omeniuk,

Please find attached a report of the Geotechnical inspection conducted on August 29, 2018 at the Max Molybdenum Mine (M-226). Please note that there are nine Orders, five advisories, and two Information Requests identified in the report that require your response and follow up within 15 days.

You are able to input your responses directly in the attached MSWord file. I have also included a PDF copy of the report for your records.

Please have this report posted in a conspicuous place on the property and accessible to the workers, in accordance with Section 30(1) of the *Mines Act*.

Should you have any comments or questions relating to the report, please do not hesitate to contact me by phone or email.

Best regards,

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353

BC\_EMPR\_H\_CMYK\_pos



From: <u>Craig, Andrew EMPR:EX</u>
To: <u>"dano@mxgoldcorp.com"</u>

Cc: Hoffman, Al EMPR:EX; Howe, Diane J EMPR:EX; Bailey, Brenda EMPR:EX; McConnachie, Jennifer EMPR:EX;

Constable, Lowell EMPR:EX; Brash, Jennifer EMPR:EX; "Paul Hughes"; EMPR Permitting and Reclamation

EMPR:EX; Demchuk, Tania EMPR:EX

Subject: RE: 2018 08 29 Max Molybdenum Mine Geoscience Inspection

**Date:** October 23, 2018 10:40:01 AM

Attachments: image001.jpg

EMPR InspectionReport 100012.docx EMPR InspectionReport 100012.pdf

Importance: High

#### Mr. Omeniuk,

EMPR provided you with Geoscience Inspection Report 100012 for the Max Molybdenum Mine (M-226) on September 6, 2018. Included in the report were four Orders. As Mine Manager, you are required to respond to the Inspection Report within 15 days.

As of today, this response is overdue by 32 days. As a result, MX Gold Corp. is in non-compliance and is required to undertake actions to rectify this situation as soon as possible.

If you have any questions or would like to discuss this issue in more detail, please don't hesitate to contact me.

Regards,

#### Andrew Craig, M.Sc., GIT

Environmental Scientist
BC Ministry of Energy, Mines & Petroleum Resources
6<sup>th</sup> floor, 1810 Blanshard St., Victoria, BC
(778) 676-5847

Andrew.Craig@gov.bc.ca

BC EMPR H CMYK pos



From: Craig, Andrew EMPR:EX

Sent: Thursday, September 6, 2018 3:34 PM

To: 'dano@mxgoldcorp.com'

**Cc:** Hoffman, Al EMPR:EX; Howe, Diane J EMPR:EX; Shaw, Sean EMPR:EX; McConnachie, Jennifer EMPR:EX; Constable, Lowell EMPR:EX; Brash, Jennifer EMPR:EX; Paul Hughes; Beddoes, Paul EMPR:EX; Hendrickson, Glen EMPR:EX

Subject: 2018 08 29 Max Molybdenum Mine Geoscience Inspection

Hello Mr. Omeniuk.

Please find attached a report of the Geoscience inspection conducted on August 29, 2018 at the Max Molybdenum Mine (M-226). Please note that there are four Orders and one Information Request identified in the report that require your response and follow up within 15 days.

Please have this report posted in a conspicuous place on the property and accessible to the workers, in accordance with Section 30(1) of the *Mines Act*.

Should you have any comments or questions relating to the report, please do not hesitate to contact me by phone or email.

Best regards,

#### Andrew Craig, M.Sc., GIT

Environmental Scientist

BC Ministry of Energy, Mines & Petroleum Resources

6<sup>th</sup> floor, 1810 Blanshard St., Victoria, BC

Phone: (778) 676-5847

Email: Andrew.Craig@gov.bc.ca



Inspection Number:

File Number:

Total Orders:

100012

Permit Number:

M-226

4

#### Report of Inspector of Mines - Reclamation

Issued pursuant to Section 15 of the Mines Act

Mine Name/Number Max Molybdenum Mine 0500770

Visit Date 2018-08-29

Type of Mining MU. METAL MINE UNDERGROUND

Location

Latitude/Longitude 50.63758, -117.58544

Northing/Easting/Zone 458601, 5609687, 11U

Manager Dan Omeniuk

Permittee MX Gold Corp.

Phone Numbers (604) 818 1706

Address 900-570 Granville St.

**Email** 

Vancouver BC

V6C 3P1

Inspector Andrew Craig, INSPECTOR

Accompanying Inspector Jennifer Brash, M.Eng., P.Eng.,

Inspector; Paul Hughes,

Inspector;

Address PO Box 9395, STN PROV

**GOVT** 

Victoria, B.C. V8W 9M9

In Attendance

Copies to Al Hoffman, Diane Howe, Sean Shaw, Jennifer McConnachie, Lowell Constable

The Mine Manager is required to provide a written response within 15 days of receiving the inspection report. The Manager's response must outline the remedial steps taken by a specified date and the work still outstanding. A copy must be provided to the inspector, and in the case of health and safety matters, the occupational health and safety committee and the local union. In this document, Code means Health, Safety and Reclamation Code for Mines in British Columbia.

#### Introduction

A geoscience inspection of the MX Gold Corp. (MX Gold) Max Molybdenum Mine (M-226) was conducted by the Ministry of Energy, Mines and Petroleum Resource (EMPR) on August 29, 2018. EMPR personnel in attendance included Andrew Craig (Environmental Scientist, Inspector of Mines), as well as Jennifer Brash (Senior Geotechnical Inspector) and Paul Hughes (Contract Geotechnical Inspector). Geoscience and Geotechnical Inspectors conducted an inspection within the same group; however, inspection reports for each discipline are provided under separate covers.

The Max Molybdenum Mine is currently in a state of care and maintenance, which commenced in 2011. EMPR Inspectors were given access to site by site personnel but were not accompanied by a company representative during the inspection. The site inspection began at approximately 10:00 and ended at 14:00. Weather conditions during the day were a mostly overcast and approximately 18°C.

The purpose of the inspection was to gain an overview of current site conditions and assess the status of reclamation and closure activities. Documents that were reviewed as part of this inspection included:

- 2017 Annual Reclamation Report
- 2017 Operation, Maintenance and Surveillance (OMS) Manual
- 2015 Reclamation Inspection Report #54096

The following inspection report provides a summary of observations that occurred during the site inspection. The report also

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			D4(40 Pogo

outlines EMPRs expectations related to the conditions listed in the *Mines Act* M-226 Permit, the *Health, Safety and Reclamation Code for Mines in British Columbia*, the *Mines Act*, and established best practices in environmental management of mines.

#### Area Inspected 1: East and West Portals

#### Latitude/Longitude:

#### Northing/Easting/Zone:

The East and West Portals are located southwest of the Mill and were gated and fenced to prevent access, but were not adequately secured (Photo 1 and Photo 2). At the time of the inspection, water was actively flowing from the East Portal via a drainage channel and from the West Portal via a pipe into a settling pond. Iron staining was observed in the drainage channel and settling pond (Photo 2 and Photo 3). Subsequent drainage from the settling pond was piped approximately 1 km to a series of secondary settling ponds.

#### Area Inspected Attachments:

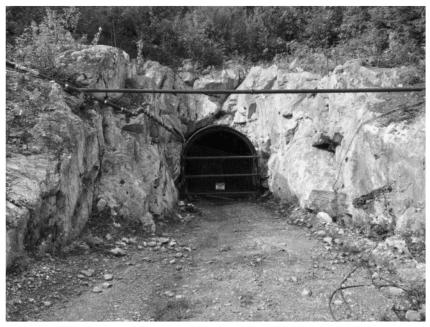


Photo 1. West Portal.



Photo 2. East Portal.



Photo 3. East and West Portal settling pond.

#### Area Inspected 2: Waste Rock Dump

#### Latitude/Longitude:

#### Northing/Easting/Zone:

According to the 2017 Annual Reclamation Report (ARR), approximately 208,979 tonnes of potentially acid generating (PAG) material is stored in the Waste Rock Dump. In addition, PAG waste rock characterized by humidity cell testing in the technical memorandum entitled, "RE: MAX Waste Rock Humidity Cell Update to April 19, 2010" submitted by Bruceling Engineering Consultants Inc. on May 5, 2010 indicated that onset of acid generation will take approximately 14 years.

At the time of the inspection, EMPR Inspectors were unable to identify where contact water is captured

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770

Andrew Craig

and/or monitored. Information presented in the 2017 ARR does not indicate that the PAG waste rock drainage is regularly monitored.

Order 1 (Inspection Mines):	Status: Open
Issued Pursuant To: Mines Act Section 15(4)	
Permit Conditions:	
Section 5(a) Protection of the Land and Watercourses - Drainage Management and Collection	
Observation of Contravention:	
Drainage structures and monitoring locations from the PAG waste rock pile were not evident during	the site inspection.
Remedial Action/Results To Be Obtained:	
The Permittee shall develop and submit a plan to the satisfaction of the Chief Inspector, by October and monitor contact drainage from the PAG waste rock dump.	15, 2018, to manage
Rectify By/Completion Date: 2018-10-15	
Manager Response:	

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

Order 2 (Enforcement o	f Order):		Status: Open
Issued Pursuant To: Mine	es Act Section 35		
Section 10.6.2, Health, S	afety and Reclamation	on Code for Mines in BC (MA), Cessat	tion of Operations
Observation of Contrave	ntion:		
The Permittee has not su	bmitted a Care and I	Maintenance Plan.	
Remedial Action/Results	To Be Obtained:		
minimum, the plan shall: and b) track important ch	<ul> <li>a) describe and doc anges to component de schedules and pro</li> </ul>	s of the mine that require long-term mocedures for ensuring permit and envir	nitoring and maintenance requirement itigation, monitoring and maintenance.
Rectify By/Completion Da	ate: 2018-10-31		
Manager Response:			
Area Inspected 3: Lay D	own Area		
Latitude/Longitude:		Northing/Easting/Zo	one:
2018 site inspection (Pho	to 4 and Photo 5). M		rked lay down area during the August appeared to be damaged and holding 015 Reclamation Inspection Report
nspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 050077
Andrew Craig		]	

#### Order 1 (Enforcement of Order):

Issued Pursuant To: Mines Act Section 35

Section 2.3.4, Health, Safety and Reclamation Code for Mines in BC (MA), Proper Containers Section 2.3.6, Health, Safety and Reclamation Code for Mines in BC (MA), Hazardous Waste Section 10.7.19, Health, Safety and Reclamation Code for Mines in BC (MA), Disposal of Chemicals and

Observation of Contravention:

Damaged and/or leaking waste storage containers were previously ordered to be removed from site and spills were to be remediated.

Status: Open

Remedial Action/Results To Be Obtained:

Pursuant to Sections 2.3.4, 2.3.6 and 10.7.19 of the Health, Safety and Reclamation Code for Mines in BC, the Mine Manager must ensure hazardous waste materials are handled appropriately by trained persons with spills or releases

2018, sonnel to s and n storage

cleaned up as soon as possible by trained persons. Contaminated and hazardous materials shall be disposed of appropriately off-site if they cannot be returned to the manufacturer.
In addition, the Permittee shall submit a Spill Prevention and Response Plan to the Chief Inspector by October 15, that specifies procedures for disposal and removal of all hazardous materials not in use on-site, training of site pershandle hazardous materials and respond to spills, and investigate contaminated ground and water caused by spills releases of hazardous materials. All stored hazardous materials must be appropriately labeled with MSDS posted i locations for reference. Note, this is a repeat order from the 2015 Reclamation Inspection Report #54096.
Rectify By/Completion Date: 2018-10-15
Manager Response:
Order Attachments:

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			
			Page 6 of 12 Page 26 of 1



Photo 4. Damaged reagent storage containers holding unknown materials/liquids.



Photo 5. Scrap metal pile.

## Area Inspected 4: Secondary Settling Ponds

#### Latitude/Longitude:

#### Northing/Easting/Zone:

A series of approximately nine secondary settling ponds and seven drainage channels store and transport water flow originating from the portal settling pond. At the time of the inspection, active water flow was observed from the portal outlet pipe and iron staining was observed on the surface of channel materials (Photo 5, Photo 6, Photo 7 and Photo 8). In addition, water quality monitoring data is presented in the 2017 ARR; however, the results for secondary settling pond discharge was not included.

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

# Area Inspected Attachments:



Photo 5. Portal settling pond outflow pipe.



Photo 6. Secondary settling pond drainage channel.



Photo 7. Secondary settling pond drainage channel.



Photo 8. Secondary settling pond drainage channel.

#### Area Inspected 5: Tailings Storage Facility

#### Latitude/Longitude:

#### Northing/Easting/Zone:

Components of the tailings storage facility (TSF) that were inspected during the August 2018 inspection included the southeast seepage pond, the north seepage pond and the tailings deposition area. At the time of the inspection, the southeast seepage pond was actively discharging through a weir into Shrub Creek and the water level was similar to the observations from the 2015 Reclamation Inspection Report #54096 (Photo 9). Water stored in the north seepage pond was not actively discharging. Water quality results from Shrub Creek or the seepage pond were not reported in the 2017 ARR.

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

Deposited tailings above the water level were observed at the North Dam beach, the Southeast Dam beach and at several locations along the perimeter of the TSF (Photo 10 and Photo 11). According to the 2017 OMS Manual, tailings were last sampled in September 2008 and oxidation of tailings is to be mitigated by keeping a significant percentage of the tailings flooded.

Order 1 (Inspection Mines):					Status: Open	
Issued Pursuant To: Mines Act Se	ction 15(4)					
Permit Conditions: Section 1(b) Protection of the Lan Section 1(c) Protection of the Lan			•	• ,	,	
Observation of Contravention:						
A substantial portion of tailings we and measures to prevent oxidation				TSF. Tailings are o	haracterized as PA	G
Remedial Action/Results To Be O	btained:					
The Permittee shall submit to the the TSF.	Chief Inspect	or by October 15	, 2018, a long-ter	m plan to ensure to	ailings will not oxidiz	e in
Rectify By/Completion Date: 2018	2-10-15					
Manager Response:						
Request 1						
Provide to the Chief Inspector by S settling pond, secondary settling powhich is to include total and dissolvent	ond outflow,	southeast seepa	ge recovery pond	and the EMA com	•	
Request Response:						
Respond Date: 2018-09-21						
Area Inspected Attachments:						
Inspector Mana	ger Initials	Report Date: 20	018-09-06	Max Mol	ybdenum Mine 0500	)770
Andrew Craig						



Photo 8. Southeast seepage pond and Shrub Creek.



Photo 9. Exposed tailings above the water level along the southeast dam.

Page 11 of 12 Page 31 of 105



Photo 10. Exposed tailings above the water level along the north dam.

#### Closure

The August 29, 2018 inspection provided an understanding of the current state of geoscience components at the Max Molybdenum Mine. A number of outstanding reporting requirements and repeat orders indicate that the mine is currently in non-compliance. MX Gold is reminded that they are required to resolve these issues and work towards developing a Closure Plan. If the contraventions on site continue to persist, EMPR will evaluate options to escalate enforcement.

Should you have any questions or concerns with the contents of this report, please do not hesitate to contact Andrew Craig by phone at 778-676-5847, or by email at Andrew.Craig@gov.bc.ca.

Received by		on		
,	[Mine Manager Name, Title]		[Date]	
Signature:				

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			Page 12 of 12 Days



Inspection Number:

File Number:

100012

Permit Number:

M-226

Total Orders:

4

#### Report of Inspector of Mines - Reclamation

Issued pursuant to Section 15 of the Mines Act

Mine Name/Number Max Molybdenum Mine 0500770 Visit Date 2018-08-29

Type of Mining MU. METAL MINE UNDERGROUND Location

Latitude/Longitude 50.63758, -117.58544 Northing/Easting/Zone 458601, 5609687, 11U

Manager Dan Omeniuk Permittee MX Gold Corp.

**Phone Numbers** (604) 818 1706 **Address** 900-570 Granville St.

Email Vancouver BC V6C 3P1

Inspector Andrew Craig, INSPECTOR Accompanying Inspector Jennifer Brash, M.Eng., P.Eng.,

Inspector; Paul Hughes,

Inspector;

Address PO Box 9395, STN PROV

**GOVT** 

Victoria, B.C. V8W 9M9

In Attendance

Copies to Al Hoffman, Diane Howe, Sean Shaw, Jennifer McConnachie, Lowell Constable

The Mine Manager is required to provide a written response within 15 days of receiving the inspection report. The Manager's response must outline the remedial steps taken by a specified date and the work still outstanding. A copy must be provided to the inspector, and in the case of health and safety matters, the occupational health and safety committee and the local union. In this document, Code means Health, Safety and Reclamation Code for Mines in British Columbia.

#### Introduction

A geoscience inspection of the MX Gold Corp. (MX Gold) Max Molybdenum Mine (M-226) was conducted by the Ministry of Energy, Mines and Petroleum Resource (EMPR) on August 29, 2018. EMPR personnel in attendance included Andrew Craig (Environmental Scientist, Inspector of Mines), as well as Jennifer Brash (Senior Geotechnical Inspector) and Paul Hughes (Contract Geotechnical Inspector). Geoscience and Geotechnical Inspectors conducted an inspection within the same group; however, inspection reports for each discipline are provided under separate covers.

The Max Molybdenum Mine is currently in a state of care and maintenance, which commenced in 2011. EMPR Inspectors were given access to site by site personnel but were not accompanied by a company representative during the inspection. The site inspection began at approximately 10:00 and ended at 14:00. Weather conditions during the day were a mostly overcast and approximately 18°C.

The purpose of the inspection was to gain an overview of current site conditions and assess the status of reclamation and closure activities. Documents that were reviewed as part of this inspection included:

- 2017 Annual Reclamation Report
- 2017 Operation, Maintenance and Surveillance (OMS) Manual
- 2015 Reclamation Inspection Report #54096

The following inspection report provides a summary of observations that occurred during the site inspection. The report also

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

outlines EMPRs expectations related to the conditions listed in the *Mines Act* M-226 Permit, the *Health, Safety and Reclamation Code for Mines in British Columbia*, the *Mines Act*, and established best practices in environmental management of mines.

#### Area Inspected 1: East and West Portals

#### Latitude/Longitude:

#### Northing/Easting/Zone:

The East and West Portals are located southwest of the Mill and were gated and fenced to prevent access, but were not adequately secured (Photo 1 and Photo 2). At the time of the inspection, water was actively flowing from the East Portal via a drainage channel and from the West Portal via a pipe into a settling pond. Iron staining was observed in the drainage channel and settling pond (Photo 2 and Photo 3). Subsequent drainage from the settling pond was piped approximately 1 km to a series of secondary settling ponds.

#### **Area Inspected Attachments:**



Photo 1. West Portal.

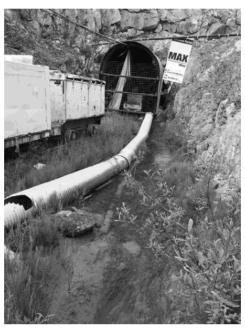


Photo 2. East Portal.



Photo 3. East and West Portal settling pond.

#### Area Inspected 2: Waste Rock Dump

#### Latitude/Longitude:

**Andrew Craig** 

### Northing/Easting/Zone:

According to the 2017 Annual Reclamation Report (ARR), approximately 208,979 tonnes of potentially acid generating (PAG) material is stored in the Waste Rock Dump. In addition, PAG waste rock characterized by humidity cell testing in the technical memorandum entitled, "RE: MAX Waste Rock Humidity Cell Update to April 19, 2010" submitted by Bruceling Engineering Consultants Inc. on May 5, 2010 indicated that onset of acid generation will take approximately 14 years.

At the time of the inspection, EMPR Inspectors were unable to identify where contact water is captured

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770

and/or monitored. Information presented in the 2017 ARR does not indicate that the PAG waste rock drainage is regularly monitored.

Order 1 (Inspection Mines):	Status: Open
Issued Pursuant To: Mines Act Section 15(4)	
Permit Conditions: Section 5(a) Protection of the Land and Watercourses - Drainage Management and Collection	
Observation of Contravention:  Drainage structures and monitoring locations from the PAG waste rock pile were not evident during to	the site inspection.
Remedial Action/Results To Be Obtained:  The Permittee shall develop and submit a plan to the satisfaction of the Chief Inspector, by October and monitor contact drainage from the PAG waste rock dump.	15, 2018, to manage
Rectify By/Completion Date: 2018-10-15	
Manager Response:	

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

Order 2 (Enforcement of	Order):		Status: Open
Issued Pursuant To: Mines	•		·
		on Code for Mines in BC (MA), Ce	essation of Operations
Observation of Contraven	ation:		
The Permittee has not sul		Maintenance Plan	
The Fernice Has her sail		Maintenance Flam.	
Remedial Action/Results			
minimum, the plan shall: a and b) track important cha	<ul> <li>a) describe and doc anges to component le schedules and pro</li> </ul>	sument key aspects of the ongoing is of the mine that require long-ter ocedures for ensuring permit and	Chief Inspector by October 31, 2018. At g monitoring and maintenance requirements, rm mitigation, monitoring and maintenance. environmental compliance. Note, this is a
Rectify By/Completion Da	nte: 2018-10-31		
Manager Response:			
Area Inspected 3: Lay Do	own Area		
_atitude/Longitude:		Northing/Eastin	g/Zone:
2018 site inspection (Photo	o 4 and Photo 5). Ma	any of the reagent storage contain	nmarked lay down area during the August ners appeared to be damaged and holding ne 2015 Reclamation Inspection Report
Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

## Order 1 (Enforcement of Order):

Issued Pursuant To: Mines Act Section 35

Section 2.3.4, Health, Safety and Reclamation Code for Mines in BC (MA), Proper Containers

Section 2.3.6, Health, Safety and Reclamation Code for Mines in BC (MA), Hazardous Waste

Section 10.7.19, Health, Safety and Reclamation Code for Mines in BC (MA), Disposal of Chemicals and

Observation of Contravention:

Damaged and/or leaking waste storage containers were previously ordered to be removed from site and spills were to be remediated.

Status: Open

Remedial Action/Results To Be Obtained:

Pursuant to Sections 2.3.4, 2.3.6 and 10.7.19 of the Health, Safety and Reclamation Code for Mines in BC, the Mine Manager must ensure hazardous waste materials are handled appropriately by trained persons with spills or releases cleaned up as soon as possible by trained persons. Contaminated and hazardous materials shall be disposed of appropriately off-site if they cannot be returned to the manufacturer.

In addition, the Permittee shall submit a Spill Prevention and Response Plan to the Chief Inspector by October 15, 2018, that specifies procedures for disposal and removal of all hazardous materials not in use on-site, training of site personnel to handle hazardous materials and respond to spills, and investigate contaminated ground and water caused by spills and releases of hazardous materials. All stored hazardous materials must be appropriately labeled with MSDS posted in storage locations for reference. Note, this is a repeat order from the 2015 Reclamation Inspection Report #54096.

Rectify By/Completion Date: 2018-10-15		
Manager Response:		
Order Attachments:		

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770

Andrew Craig Page 6 of 1Page 38 of 105



Photo 4. Damaged reagent storage containers holding unknown materials/liquids.



Photo 5. Scrap metal pile.

# Area Inspected 4: Secondary Settling Ponds

## Latitude/Longitude:

**Andrew Craig** 

#### Northing/Easting/Zone:

A series of approximately nine secondary settling ponds and seven drainage channels store and transport water flow originating from the portal settling pond. At the time of the inspection, active water flow was observed from the portal outlet pipe and iron staining was observed on the surface of channel materials (Photo 5, Photo 6, Photo 7 and Photo 8). In addition, water quality monitoring data is presented in the 2017 ARR; however, the results for secondary settling pond discharge was not included.

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770
--

## Area Inspected Attachments:



Photo 5. Portal settling pond outflow pipe.



Photo 6. Secondary settling pond drainage channel.



Photo 7. Secondary settling pond drainage channel.



Photo 8. Secondary settling pond drainage channel.

## Area Inspected 5: Tailings Storage Facility

## Latitude/Longitude:

# Northing/Easting/Zone:

Components of the tailings storage facility (TSF) that were inspected during the August 2018 inspection included the southeast seepage pond, the north seepage pond and the tailings deposition area. At the time of the inspection, the southeast seepage pond was actively discharging through a weir into Shrub Creek and the water level was similar to the observations from the 2015 Reclamation Inspection Report #54096 (Photo 9). Water stored in the north seepage pond was not actively discharging. Water quality results from Shrub Creek or the seepage pond were not reported in the 2017 ARR.

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

Deposited tailings above the water level were observed at the North Dam beach, the Southeast Dam beach and at several locations along the perimeter of the TSF (Photo 10 and Photo 11). According to the 2017 OMS Manual, tailings were last sampled in September 2008 and oxidation of tailings is to be mitigated by keeping a significant percentage of the tailings flooded.

Order 1 (Inspection Mir	ies):		Status: Open
Issued Pursuant To: Mine	es Act Section 15(4)		
, ,		ercourses - Metal Leaching and Acid R ercourses - Metal Leaching and Acid R	
Observation of Contrave A substantial portion of t and measures to preven	ailings were observed	d to be above the water level in the TS been implemented.	F. Tailings are characterized as PAG
Remedial Action/Results The Permittee shall subrithe TSF.		ctor by October 15, 2018, a long-term	plan to ensure tailings will not oxidize in
Rectify By/Completion D	Pate: 2018-10-15		
Manager Response:			
Request 1	ector by Sentember 3	0, 2018, all water quality monitoring re	asults collected to date from the portal
settling pond, secondary	settling pond outflow,	o, 2016, all water quality mornitoring re southeast seepage recovery pond an major cations and anions, pH and alka	d the EMA compliance point (Site C),
Request Response:			
Respond Date: 2018-09	-21		
Area Inspected Attachm	nents:		
Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig		1	



Photo 8. Southeast seepage pond and Shrub Creek.



Photo 9. Exposed tailings above the water level along the southeast dam.

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770

Andrew Craig



Photo 10. Exposed tailings above the water level along the north dam.

#### Closure

The August 29, 2018 inspection provided an understanding of the current state of geoscience components at the Max Molybdenum Mine. A number of outstanding reporting requirements and repeat orders indicate that the mine is currently in non-compliance. MX Gold is reminded that they are required to resolve these issues and work towards developing a Closure Plan. If the contraventions on site continue to persist, EMPR will evaluate options to escalate enforcement.

Should you have any questions or concerns with the contents of this report, please do not hesitate to contact Andrew Craig by phone at 778-676-5847, or by email at Andrew.Craig@gov.bc.ca.

Received by		on		
	[Mine Manager Name, Title]		[Date]	
Signature:				

nspector Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
---------------------------	-------------------------	-----------------------------

From: <u>Brash, Jennifer EMPR:EX</u>

To: "Dan Omeniuk"

Cc: Constable, Lowell EMPR:EX; Craig, Andrew EMPR:EX; Paul Hughes; Narynski, Heather M EMPR:EX; Howe, Diane

J EMPR:EX

Subject: RE: 2018 EMPR Geotechnical and Geoscience Inspections - follow up

**Date:** October 31, 2018 1:04:14 PM

#### Mr. Omeniuk.

Please note that, per the Mines Act, you are required to provide "a written report outlining the remedial steps taken and the work still outstanding". You can put this information into the various boxes titled "Manager Response" within the inspection report and send it back if you like. Per my prior email, please submit these responses today. Information such as the need to confirm timing with consultants may be incorporated into your responses, if relevant.

Regards, Jennifer

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353

From: Dan Omeniuk [mailto:dano@mxgoldcorp.com]

Sent: Wednesday, October 31, 2018 12:09 PM

To: Brash, Jennifer EMPR:EX

Cc: Constable, Lowell EMPR:EX; Craig, Andrew EMPR:EX; Paul Hughes; Narynski, Heather M EMPR:EX;

Howe, Diane J EMPR:EX

Subject: RE: 2018 EMPR Geotechnical and Geoscience Inspections - follow up

Hello Jennifer

I am working with the consultants to get me a response and timeline to deal with the inspection. Once they confirm their availability I will pass the info on to you.

## **Thanks**

From: Brash, Jennifer EMPR:EX [mailto:Jennifer.Brash@gov.bc.ca]

Sent: October-24-18 3:05 PM

To: Dan Omeniuk

Cc: Constable, Lowell EMPR:EX; Craig, Andrew EMPR:EX; Paul Hughes; Narynski, Heather M

EMPR:EX; Howe, Diane J EMPR:EX

**Subject:** 2018 EMPR Geotechnical and Geoscience Inspections - follow up

Mr. Omeniuk,

To follow up on our phone conversation yesterday, EMPR provided you with Geoscience Inspection Report 100012 and Geotechnical Inspection Report 099689 for the Max Molybdenum Mine (M-226) via emails on September 5 and 6, 2018, respectively. Per our phone conversation, you confirmed that you received these documents via email on the dates provided. As Mine Manager, you were required to respond to the Inspection Reports within 15 days. EMPR has not received the required responses.

As such, MX Gold Corp. is not in compliance with Section 15.(6) of the Mines Act. Further, the timeframes for several of the orders contained within the inspection reports have passed without the orders being fulfilled.

MX Gold Corp is required to provide a response to both the Geoscience and Geotechnical Inspection

Reports within 7 days. Failure to respond may result in escalating enforcement.

EMPR would like to note that several of the geotechnical orders pertaining to the Max Moly TSF require the input of the TSF Engineer-of-Record, including issues to be addressed as part of the 2018 Dam Safety Inspection (DSI).

If you have any questions or would like to discuss this issue in more detail, please don't hesitate to contact me.

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector Ministry of Energy, Mines and Petroleum Resources 1810 Blanshard St., Victoria, BC V8T 4J1 W: 778-698-5454

C: 250-812-0353

From: Craig, Andrew EMPR:EX

To: "dano@mxgoldcorp.com"

Cc: Brash, Jennifer EMPR:EX; Constable, Lowell EMPR:EX; Bailey, Brenda EMPR:EX; Howe, Diane J EMPR:EX;

Demchuk, Tania EMPR:EX; EMPR Permitting and Reclamation EMPR:EX

**Subject:** 2018 EMPR Geoscience Inspection - follow up

Date:November 8, 2018 9:41:57 AMAttachments:EMPR InspectionReport 100012.pdf

image001.jpg

#### Mr. Omeniuk,

EMPR issued a Geoscience Inspection Report (#100012) for the Max Molybdenum Mine (M-226) via email on September 5, 2018. As Mine Manager, you were required by Section 15.(6) of the *Mines Act* to respond within 15 days; however, EMPR has not received responses to the four Orders issued within the Geoscience Inspection Report (#100012).

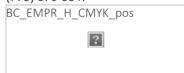
# A response to the four Orders issued within the Geoscience Inspection Report is required immediately. Failure to respond may result in escalating enforcement.

If you have any questions or would like to discuss this matter in more detail, please do not hesitate to contact me.

Regards,

## Andrew Craig, M.Sc., GIT

Environmental Scientist
BC Ministry of Energy, Mines & Petroleum Resources
6<sup>th</sup> floor, 1810 Blanshard St., Victoria, BC
(778) 676-5847



From: <u>Dan Omeniuk</u>

To: <u>Craig, Andrew EMPR:EX</u>

Subject: RE: 2018 EMPR Geoscience Inspection - follow up

**Date:** November 8, 2018 1:09:00 PM

Attachments: <u>image001.jpg</u>

REPORT OF INSPECTIONS OF MINES RECLAMATION.pdf

# Hello Craig

From: Craig, Andrew EMPR:EX [mailto:Andrew.Craig@gov.bc.ca]

**Sent:** November-08-18 11:42 AM

To: Dan Omeniuk

**Cc:** Brash, Jennifer EMPR:EX; Constable, Lowell EMPR:EX; Bailey, Brenda EMPR:EX; Howe, Diane J EMPR:EX; Demchuk, Tania EMPR:EX; EMPR Permitting and Reclamation

EMPR:EX

Subject: 2018 EMPR Geoscience Inspection - follow up

Mr. Omeniuk,

EMPR issued a Geoscience Inspection Report (#100012) for the Max Molybdenum Mine (M-226) via email on September 5, 2018. As Mine Manager, you were required by Section 15.(6) of the *Mines Act* to respond within 15 days; however, EMPR has not received responses to the four Orders issued within the Geoscience Inspection Report (#100012).

A response to the four Orders issued within the Geoscience Inspection Report is required immediately. Failure to respond may result in escalating enforcement.

If you have any questions or would like to discuss this matter in more detail, please do not hesitate to contact me.

Regards,

Andrew Craig, M.Sc., GIT

Environmental Scientist

BC Ministry of Energy, Mines & Petroleum Resources

6<sup>th</sup> floor, 1810 Blanshard St., Victoria, BC

(778) 676-5847

BC\_EMPR\_H\_CMYK\_pos





Inspection Number:

100012

File Number:

Permit Number:

M-226

Total Orders:

## Report of Inspector of Mines - Reclamation

Issued pursuant to Section 15 of the Mines Act

Mine Name/Number Max Molybdenum Mine 0500770

Visit Date 2018-08-29

Type of Mining MU, METAL MINE UNDERGROUND

Location

Latitude/Longitude 50.63758, -117.58544

Northing/Easting/Zone 458601, 5609687, 11U

Manager Dan Omeniuk

Permittee MX Gold Corp.

Phone Numbers (604) 818 1706

Address 900-570 Granville St.

Vancouver

Email

BC V6C 3P1

Inspector Andrew Craig, INSPECTOR

Accompanying Inspector Jennifer Brash, M.Eng., P.Eng.,

Inspector, Paul Hughes,

Inspector;

Address PO Box 9395, STN PROV

GOVT

Victoria, B.C. V8W 9M9

In Attendance

Copies to Al Hoffman, Diane Howe, Sean Shaw, Jennifer McConnachie, Lowell Constable

The Mine Manager is required to provide a written response within 15 days of receiving the inspection report. The Manager's response must outline the remedial steps taken by a specified date and the work still outstanding. A copy must be provided to the inspector, and in the case of health and safety matters, the occupational health and safety committee and the local union. In this document, Code means Health, Safety and Reclamation Code for Mines in British Columbia.

#### Introduction

A geoscience inspection of the MX Gold Corp. (MX Gold) Max Molybdenum Mine (M-226) was conducted by the Ministry of Energy, Mines and Petroleum Resource (EMPR) on August 29, 2018. EMPR personnel in attendance included Andrew Craig (Environmental Scientist, Inspector of Mines), as well as Jennifer Brash (Senior Geotechnical Inspector) and Paul Hughes (Contract Geotechnical Inspector). Geoscience and Geotechnical Inspectors conducted an inspection within the same group; however, inspection reports for each discipline are provided under separate covers.

The Max Molybdenum Mine is currently in a state of care and maintenance, which commenced in 2011. EMPR Inspectors were given access to site by site personnel but were not accompanied by a company representative during the inspection. The site inspection began at approximately 10:00 and ended at 14:00. Weather conditions during the day were a mostly overcast and approximately 18°C.

The purpose of the inspection was to gain an overview of current site conditions and assess the status of reclamation and closure activities. Documents that were reviewed as part of this inspection included:

- 2017 Annual Reclamation Report
- 2017 Operation, Maintenance and Surveillance (OMS) Manual
- 2015 Reclamation Inspection Report #54096

The following inspection report provides a summary of observations that occurred during the site inspection. The report also

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			
			Page 1 of 12 -

outlines EMPRs expectations related to the conditions listed in the *Mines Act* M-226 Permit, the *Health, Safety and Reclamation Code for Mines in British Columbia*, the *Mines Act*, and established best practices in environmental management of mines.

### Area Inspected 1: East and West Portals

#### Latitude/Longitude:

#### Northing/Easting/Zone:

The East and West Portals are located southwest of the Mill and were gated and fenced to prevent access, but were not adequately secured (Photo 1 and Photo 2). At the time of the inspection, water was actively flowing from the East Portal via a drainage channel and from the West Portal via a pipe into a settling pond. Iron staining was observed in the drainage channel and settling pond (Photo 2 and Photo 3). Subsequent drainage from the settling pond was piped approximately 1 km to a series of secondary settling ponds.

## Area Inspected Attachments:



Photo 1. West Portal.

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			Page 2 of 12 _

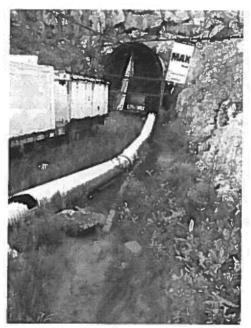


Photo 2. East Portal.



Photo 3. East and West Portal settling pond.

## Area Inspected 2: Waste Rock Dump

# Latitude/Longitude:

## Northing/Easting/Zone:

According to the 2017 Annual Reclamation Report (ARR), approximately 208,979 tonnes of potentially acid generating (PAG) material is stored in the Waste Rock Dump. In addition, PAG waste rock characterized by humidity cell testing in the technical memorandum entitled, "RE: MAX Waste Rock Humidity Cell Update to April 19, 2010" submitted by Bruceling Engineering Consultants Inc. on May 5, 2010 indicated that onset of acid generation will take approximately 14 years.

At the time of the inspection, EMPR Inspectors were unable to identify where contact water is captured

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770

Andrew Craig

and/or monitored. Information presented in the 2017 ARR does not indicate that the PAG waste rock drainage is regularly monitored.

## Order 1 (Inspection Mines):

Status: Open

Issued Pursuant To: Mines Act Section 15(4)

Permit Conditions:

Section 5(a) Protection of the Land and Watercourses - Drainage Management and Collection

Observation of Contravention:

Drainage structures and monitoring locations from the PAG waste rock pile were not evident during the site inspection.

Remedial Action/Results To Be Obtained:

The Permittee shall develop and submit a plan to the satisfaction of the Chief Inspector, by October 15, 2018, to manage and monitor contact drainage from the PAG waste rock dump.

Rectify By/Completion Date: 2018-10-15

Manager Response:

HAVE GONTRACTED BGC ENGINEERING AN	J
MASSE ENVINONMENTAL DEVELOP AND SUB	Mit
PLAN.	

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			Dog 4 of 12

Report of Inspector of Mines - Reclamation Max Molybdenum Mine 0500770

#### Order 2 (Enforcement of Order):

Issued Pursuant To: Mines Act Section 35

Section 10.6.2, Health, Safety and Reclamation Code for Mines in BC (MA), Cessation of Operations

Observation of Contravention:

The Permittee has not submitted a Care and Maintenance Plan.

Remedial Action/Results To Be Obtained:

The Permittee shall develop and submit a Care and Maintenance Plan to the Chief Inspector by October 31, 2018. At minimum, the plan shall: a) describe and document key aspects of the ongoing monitoring and maintenance requirements, and b) track important changes to components of the mine that require long-term mitigation, monitoring and maintenance. The plan must also provide schedules and procedures for ensuring permit and environmental compliance. Note, this is a repeat order from the 2015 Reclamation Inspection Report #54096.

Rectify By/Completion Date: 2018-10-31

Manager Response:

B6-C	AND	MASSE	wice	DEUELOPE	AND	SUBMIT
DUAN						

Area Inspected 3: Lay Down Area

Latitude/Longitude:

Northing/Easting/Zone:

Numerous waste storage containers and scrap materials were observed in an unmarked lay down area during the August 2018 site inspection (Photo 4 and Photo 5). Many of the reagent storage containers appeared to be damaged and holding unknown materials/fluids (Photo 4). Similar observations were documented in the 2015 Reclamation Inspection Report #54096.

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			5 - 5 - 640

Status: Open

#### Order 1 (Enforcement of Order):

Issued Pursuant To: Mines Act Section 35

Section 2.3.4, Health, Safety and Reclamation Code for Mines in BC (MA), Proper Containers

Section 2.3.6, Health, Safety and Reclamation Code for Mines in BC (MA), Hazardous Waste

Section 10.7.19, Health, Safety and Reclamation Code for Mines in BC (MA), Disposal of Chemicals and

#### Observation of Contravention:

Damaged and/or leaking waste storage containers were previously ordered to be removed from site and spills were to be remediated.

#### Remedial Action/Results To Be Obtained:

Pursuant to Sections 2.3.4, 2.3.6 and 10.7.19 of the Health, Safety and Reclamation Code for Mines in BC, the Mine Manager must ensure hazardous waste materials are handled appropriately by trained persons with spills or releases cleaned up as soon as possible by trained persons. Contaminated and hazardous materials shall be disposed of appropriately off-site if they cannot be returned to the manufacturer.

In addition, the Permittee shall submit a Spill Prevention and Response Plan to the Chief Inspector by October 15, 2018, that specifies procedures for disposal and removal of all hazardous materials not in use on-site, training of site personnel to handle hazardous materials and respond to spills, and investigate contaminated ground and water caused by spills and releases of hazardous materials. All stored hazardous materials must be appropriately labeled with MSDS posted in storage locations for reference. Note, this is a repeat order from the 2015 Reclamation Inspection Report #54096.

Rectify By/Completion Date: 2018-10-15

Manager Response:

BGC AND MASSE WILL DEVELOPE AND
SUBMIT PLAN. MINE IS NOT IN USE SO
NO PLAN SHOULD BE REQUIRED OTHER THAN CLEAN UP.
CLEAN OF.

Order Attachments:

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			Page 6 of 12

Status: Open



Photo 4. Damaged reagent storage containers holding unknown materials/liquids.



Photo 5. Scrap metal pile.

## Area Inspected 4: Secondary Settling Ponds

## Latitude/Longitude:

# Northing/Easting/Zone:

A series of approximately nine secondary settling ponds and seven drainage channels store and transport water flow originating from the portal settling pond. At the time of the inspection, active water flow was observed from the portal outlet pipe and iron staining was observed on the surface of channel materials (Photo 5, Photo 6, Photo 7 and Photo 8), In addition, water quality monitoring data is presented in the 2017 ARR; however, the results for secondary settling pond discharge was not included.

Inspector	Manager Initials	Report Date: 2018-09-06	Max Molybdenum Mine 0500770
Andrew Craig			

# Area Inspected Attachments:



Photo 5. Portal settling pond outflow pipe.



Photo 6. Secondary settling pond drainage channel.



Photo 7. Secondary settling pond drainage channel.



Photo 8. Secondary settling pond drainage channel.

## Area Inspected 5: Tailings Storage Facility

## Latitude/Longitude:

## Northing/Easting/Zone:

Components of the tailings storage facility (TSF) that were inspected during the August 2018 inspection included the southeast seepage pond, the north seepage pond and the tailings deposition area. At the time of the inspection, the southeast seepage pond was actively discharging through a weir into Shrub Creek and the water level was similar to the observations from the 2015 Reclamation Inspection Report #54096 (Photo 9). Water stored in the north seepage pond was not actively discharging. Water quality results from Shrub Creek or the seepage pond were not reported in the 2017 ARR.

Inspector Manager Initials Report Date: 2018-09-06 Max Molybdenum Mine 0500770

Andrew Craig

Deposited tailings above the water level were observed at the North Dam beach, the Southeast Dam beach and at several locations along the perimeter of the TSF (Photo 10 and Photo 11). According to the 2017 OMS Manual, tailings were last sampled in September 2008 and oxidation of tailings is to be mitigated by keeping a significant percentage of the tailings flooded.

#### Order 1 (Inspection Mines):

Status: Open

Issued Pursuant To: Mines Act Section 15(4)

#### Permit Conditions:

Section 1(b) Protection of the Land and Watercourses - Metal Leaching and Acid Rock Drainage (ML/ARD) Section 1(c) Protection of the Land and Watercourses - Metal Leaching and Acid Rock Drainage (ML/ARD)

#### Observation of Contravention:

A substantial portion of tailings were observed to be above the water level in the TSF. Tailings are characterized as PAG and measures to prevent oxidation have not been implemented.

#### Remedial Action/Results To Be Obtained:

The Permittee shall submit to the Chief Inspector by October 15, 2018, a long-term plan to ensure tailings will not oxidize in the TSF.

Rectify By/Completion Date: 2018-10-15

Manager Response:

BGC	ANA	MASSE	wice	SUBMIT	PLAN.

#### Request 1

Provide to the Chief Inspector by September 30, 2018, all water quality monitoring results collected to date from the portal settling pond, secondary settling pond outflow, southeast seepage recovery pond and the EMA compliance point (Site C), which is to include total and dissolved metals, major cations and anions, pH and alkalinity.

Requ	ıest	Re:	sp	on	se	:
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Respond Date: 2018-09-21

Area Inspected Attachments:

Inspector	Manager Initials	Report Date; 2018-09-06	Max Molybdenum Mine 0500770	
Andrew Craig			Page 10 of 12 Page 6	_



Photo 8. Southeast seepage pond and Shrub Creek.



Photo 9. Exposed tailings above the water level along the southeast dam.

Inspector

Manager Initials

Report Date: 2018-09-06

Max Molybdenum Mine 0500770



Photo 10. Exposed tailings above the water level along the north dam.

#### Closure

The August 29, 2018 inspection provided an understanding of the current state of geoscience components at the Max Molybdenum Mine. A number of outstanding reporting requirements and repeat orders indicate that the mine is currently in non-compliance. MX Gold is reminded that they are required to resolve these issues and work towards developing a Closure Plan. If the contraventions on site continue to persist, EMPR will evaluate options to escalate enforcement.

Should you have any questions or concerns with the contents of this report, please do not hesitate to contact Andrew Craig by phone at 778-676-5847, or by email at Andrew.Craig@gov.bc.ca.

Received by		on	
	[Mine Manager Name, Title]	[Date]	
Signature;			

Inspector Manager Initials Report Date: 2018-09-06 Max
Andrew Craig

From: Craig, Andrew EMPR:EX

To: "dano@mxgoldcorp.com"

Cc: Brash, Jennifer EMPR:EX; Bailey, Brenda EMPR:EX; Narynski, Heather M EMPR:EX; McConnachie, Jennifer

EMPR:EX; Constable, Lowell EMPR:EX; Demchuk, Tania EMPR:EX; Hendrickson, Glen EMPR:EX

Subject: Max Molybdenum Mine - Non-compliance Letter

**Date:** February 4, 2019 3:23:32 PM

Attachments: image001.jpg

2019 02 04 Max Moly Non-Compliance Letter.pdf

#### Mr. Omeniuk,

Please find attached a letter outlining the compliance status for Orders issued to MX Gold Corp. for the Max Molybdenum Mine (M-226) by EMPR within Geoscience Inspection Report 100012 and Geotechnical Inspection Report 099689, submitted on September 5, 2018 and September 6, 2018, respectively.

This letter also contains one new Order issued under Section 35 of the *Mines Act*, which will require a follow-up response within 15 days.

If you have any questions or require clarification, please feel free to contact me. Regards,

#### Andrew Craig, M.Sc., P.Geo.

Environmental Geoscientist
BC Ministry of Energy, Mines & Petroleum Resources
6<sup>th</sup> floor, 1810 Blanshard St., Victoria, BC
(778) 676-5847

Andrew.Craig@gov.bc.ca





February 4, 2019 Permit: M-226 Mine: 0500770

Dan Omeniuk
General Manager – Max Molybdenum Mine
MX Gold Corp.
1300 Redonda Street,
Winnepeg, MB
R2C 3T7

By e-mail: dano@mxgoldcorp.com

Re: Max Molybdenum Mine – Outstanding Orders from EMPR Inspection Reports

Dear Mr. Omeniuk:

On August 29, 2018, Andrew Craig (Environmental Scientist, Inspector of Mines), Jennifer Brash (Senior Geotechnical Inspector, Inspector of Mines) and Paul Hughes (Contract Geotechnical Inspector, Inspector of Mines) from the Ministry of Energy, Mines and Petroleum Resources (EMPR) conducted a site inspection at the Max Molybdenum Mine (M-226). Geoscience Inspection Report 100012 and Geotechnical Inspection Report 099689 were provided via email to the Mine Manager on September 6, 2018 and contained a total of five Advisories, three Information Requests and thirteen Orders, three of which were Orders repeated from prior inspections.

MX Gold Corp. failed to respond to the Inspection Reports within the required 15 day timeframe, and hence was not compliant with Section 15.(6)(b) of the *Mines Act*. After repeated follow-up from EMPR, responses to the 2018 Geoscience and Geotechnical Inspection Reports from the Mine Manager were received on November 8, 2018 and November 6, 2018, respectively.

The November 2018 responses from the Mine Manager largely comprised statements that the Orders would be addressed by BGC Consulting and/or Masse Environmental. Details relating to how or when Orders would be fulfilled were not provided, nor did the responses include description of the remedial steps taken and work still outstanding, as required under Section 15.(6)(a) of the *Mines Act*. Thus, EMPR considers the Mine Managers response to be incomplete.

MX Gold Corp. must provide updated responses to inspection reports 100012 and 099689 by February 19, 2019. These responses must clearly outline the remedial steps taken and the work still outstanding for each Order or Information Request. This may include provision of signed Scope of Work documents from BGC Consulting and Masse Environmental.

As of the date of this letter, the compliance deadline for nine Orders and one Information Request had passed. Failure to comply with inspection Orders is a violation of Sections 24 and 37 of the *Mines Act*. As a result, EMPR is issuing the following Order by way of this letter. A written response to this Order is expected within 15 days and must outline remedial steps taken so far, summarize outstanding work, and confirm the timeframe for fully addressing the order.

## Order 1 (Enforcement of Order)

Issued Pursuant To: Mines Act Section 35

Observation of Contravention:

The following Orders have not been addressed by the Mine within the required timeframes:

Geoscience Inspection Report 100012:

• Order 1, 2, 3, 4

Geotechnical Inspection Report 099689:

• Order 3, 5, 7, 8, 9

Remedial Action/Results To Be Obtained:

Pursuant to Section 35 of the Mines Act, the Mine Manager shall comply with all outstanding 2018 geotechnical and geoscience inspection Orders.

Rectify By/Completion Date: 2019-02-28

Aanager Response:

Should MX Gold Corp. remain out of compliance with the *Mines Act*, further compliance and enforcement action may be taken.

If there are any questions regarding the content of this letter please do not hesitate to contact Andrew Craig at 778-676-5847 or <a href="mailto:Andrew.Craig@gov.bc.ca">Andrew.Craig@gov.bc.ca</a> or Jennifer Brash at 778-698-5454 or <a href="mailto:Jennifer.Brash@gov.bc.ca">Jennifer.Brash@gov.bc.ca</a>.

Sincerely,

Andrew Craig, M.Sc., P.Geo. Environmental Geoscientist

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector From: Dan Omeniuk

To: <u>Craig, Andrew EMPR:EX</u>

Cc: Brash, Jennifer EMPR:EX; Bailey, Brenda EMPR:EX; Narynski, Heather M EMPR:EX

Subject: RE: Max Molybdenum Mine - Non-compliance Letter

**Date:** February 27, 2019 2:11:27 PM

Attachments: <u>image001.jpg</u>

## Hello Andrew

Mx Gold is no longer the owner of the mining properties. I will connect you with the new owners via email once I have all their information ready.

# **Thanks**

From: Craig, Andrew EMPR:EX [mailto:Andrew.Craig@gov.bc.ca]

Sent: February-26-19 4:10 PM

To: Dan Omeniuk

Cc: Brash, Jennifer EMPR:EX; Bailey, Brenda EMPR:EX; Narynski, Heather M EMPR:EX

Subject: RE: Max Molybdenum Mine - Non-compliance Letter

Importance: High

Mr. Omeniuk,

Please confirm that you have received the email sent by EMPR on February 4, 2019 and the compliance letter attached. You are required under Section 35 of the *Mines Act* to provide a response to the new Order outlined in the compliance letter within 15 days.

If you have any questions or require clarification, please feel free to contact me.

Regards,

## Andrew Craig, M.Sc., P.Geo.

A/Senior Environmental Geoscientist

BC Ministry of Energy, Mines & Petroleum Resources

6<sup>th</sup> floor, 1810 Blanshard St., Victoria, BC

(778) 676-5847

Andrew.Craig@gov.bc.ca

BC\_EMPR\_H\_CMYK\_pos



From: Craig, Andrew EMPR:EX

Sent: Monday, February 4, 2019 3:24 PM

To: 'dano@mxgoldcorp.com'

**Cc:** Brash, Jennifer EMPR:EX; Bailey, Brenda EMPR:EX; Narynski, Heather M EMPR:EX; McConnachie, Jennifer EMPR:EX; Constable, Lowell EMPR:EX; Demchuk, Tania EMPR:EX; Hendrickson, Glen EMPR:EX

Subject: Max Molybdenum Mine - Non-compliance Letter

Mr. Omeniuk,

Please find attached a letter outlining the compliance status for Orders issued to MX Gold Corp. for the Max Molybdenum Mine (M-226) by EMPR within Geoscience Inspection Report 100012 and Geotechnical Inspection Report 099689, submitted on September 5, 2018 and September 6, 2018, respectively.

This letter also contains one new Order issued under Section 35 of the *Mines Act*, which will require a follow-up response within 15 days.

If you have any questions or require clarification, please feel free to contact me. Regards,

Andrew Craig, M.Sc., P.Geo.

Environmental Geoscientist

BC Ministry of Energy, Mines & Petroleum Resources  $6^{\rm th}$  floor, 1810 Blanshard St., Victoria, BC (778) 676-5847



From: Brash, Jennifer EMPR:EX
To: Harrison Cookenboo

Cc: s.22 Akash Patel; Warren Newcomen; Constable, Lowell EMPR:EX; Narynski, Heather M EMPR:EX;

Craig, Andrew EMPR:EX; McConnachie, Jennifer EMPR:EX

Subject: RE: Dam inspection

Date: March 8, 2019 11:24:22 AM

Attachments: 2019 02 04 Max Moly Non-Compliance Letter.pdf

#### Mr. Cockenboo,

EMPR appreciates your initiative to promptly rectify this issue at the Max Moly site.

However, please note that part 10.5.3 of the Health, Safety, and Reclamation Code requires <u>annual</u> Dam Safety Inspections (DSI) be completed for TSFs while part 10.4.4 requires the annual DSI report to be <u>submitted</u> to the Chief Inspector by March 31, 2019 of the year following the inspection. The last DSI EMPR has received for the Max Moly TSF is from 2017. Thus:

- To be compliant with the Code, a DSI should have been completed for 2018 and submitted to the Chief Inspector by March 31 2019.
- Not having done a 2018 DSI is a violation of Code part 10.5.3 modification of the March 31, 2019 submittal date will not rectify this non-compliance.
- Should you elect to complete a DSI in Spring 2019, this would be considered to be the 2019 DSI, and will not fulfill the requirement for a 2018 DSI.

For your information, I've attached recent correspondence, which contains enforcement orders, sent to Dan Omeniuk regarding compliance at the Max Moly site.

Also, you will need to have the permit amended to reflect the new ownership – Lowell Constable will be able to advise on how to initiate and complete this process.

Feel free to contact me via phone or email if you have any questions.

Regards,

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353

From: Harrison Cookenboo s.22

Sent: Friday, February 8, 2019 10:30 AM

To: Warren Newcomen; Brash, Jennifer EMPR:EX

**Cc:** s.22 Akash Patel **Subject:** Re: Dam inspection

Ms. Jennifer Brash

Senior Geotechnical Inspector

**EMPR** 

Jennifer.Brash@gov.bc.ca

778-698-5454

Hi Jennifer,

Cameo Cobalt corp. has recently taken control of the Max and Willa properties in the Revelstoke - Slocan Lake area (subject to exchange approvals; see news release dated January 14, 2019). Cameo has been in communications with Warren Newcomen and is aware of a requirement to complete a Dam Safety Inspection at the site by March 31st. Because Warren is not available immediately, Cameo has asked me to inquire what you need to extend the March 31st deadline until such DIS can be completed with out snow cover.

I will try to follow-up this email with a telephone call later today.

Thanks,

Harrison Cookenboo, Ph.D., P.Geo.

Cell: s.22



February 4, 2019 Permit: M-226 Mine: 0500770

Dan Omeniuk
General Manager – Max Molybdenum Mine
MX Gold Corp.
1300 Redonda Street,
Winnepeg, MB
R2C 3T7

By e-mail: dano@mxgoldcorp.com

Re: Max Molybdenum Mine – Outstanding Orders from EMPR Inspection Reports

Dear Mr. Omeniuk:

On August 29, 2018, Andrew Craig (Environmental Scientist, Inspector of Mines), Jennifer Brash (Senior Geotechnical Inspector, Inspector of Mines) and Paul Hughes (Contract Geotechnical Inspector, Inspector of Mines) from the Ministry of Energy, Mines and Petroleum Resources (EMPR) conducted a site inspection at the Max Molybdenum Mine (M-226). Geoscience Inspection Report 100012 and Geotechnical Inspection Report 099689 were provided via email to the Mine Manager on September 6, 2018 and contained a total of five Advisories, three Information Requests and thirteen Orders, three of which were Orders repeated from prior inspections.

MX Gold Corp. failed to respond to the Inspection Reports within the required 15 day timeframe, and hence was not compliant with Section 15.(6)(b) of the *Mines Act.* After repeated follow-up from EMPR, responses to the 2018 Geoscience and Geotechnical Inspection Reports from the Mine Manager were received on November 8, 2018 and November 6, 2018, respectively.

The November 2018 responses from the Mine Manager largely comprised statements that the Orders would be addressed by BGC Consulting and/or Masse Environmental. Details relating to how or when Orders would be fulfilled were not provided, nor did the responses include description of the remedial steps taken and work still outstanding, as required under Section 15.(6)(a) of the *Mines Act*. Thus, EMPR considers the Mine Managers response to be incomplete.

MX Gold Corp. must provide updated responses to inspection reports 100012 and 099689 by February 19, 2019. These responses must clearly outline the remedial steps taken and the work still outstanding for each Order or Information Request. This may include provision of signed Scope of Work documents from BGC Consulting and Masse Environmental.

As of the date of this letter, the compliance deadline for nine Orders and one Information Request had passed. Failure to comply with inspection Orders is a violation of Sections 24 and 37 of the *Mines Act*. As a result, EMPR is issuing the following Order by way of this letter. A written response to this Order is expected within 15 days and must outline remedial steps taken so far, summarize outstanding work, and confirm the timeframe for fully addressing the order.

## Order 1 (Enforcement of Order)

Issued Pursuant To: Mines Act Section 35

Observation of Contravention:

The following Orders have not been addressed by the Mine within the required timeframes:

Geoscience Inspection Report 100012:

• Order 1, 2, 3, 4

Geotechnical Inspection Report 099689:

• Order 3, 5, 7, 8, 9

Remedial Action/Results To Be Obtained:

Pursuant to Section 35 of the Mines Act, the Mine Manager shall comply with all outstanding 2018 geotechnical and geoscience inspection Orders.

Rectify By/Completion Date: 2019-02-28

Manager Response:			

Should MX Gold Corp. remain out of compliance with the *Mines Act*, further compliance and enforcement action may be taken.

If there are any questions regarding the content of this letter please do not hesitate to contact Andrew Craig at 778-676-5847 or <a href="mailto:Andrew.Craig@gov.bc.ca">Andrew.Craig@gov.bc.ca</a> or Jennifer Brash at 778-698-5454 or <a href="mailto:Jennifer.Brash@gov.bc.ca">Jennifer.Brash@gov.bc.ca</a>.

Sincerely,

Andrew Craig, M.Sc., P.Geo. Environmental Geoscientist

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources Mailing Address: PO Box 9320, Stn Prov Govt Victoria, BC V8W 9N3

Location: 6<sup>th</sup> Floor, 1810 Blanshard Street Victoria, BC V8T 4J1 From: Novak, Kori EMPR:EX

To: "Dan Omeniuk - M-226 Max Molybdenum (dano@mxgoldcorp.com)"

Cc: Howe, Diane J EMPR:EX; Hoffman, Al EMPR:EX; Narynski, Heather M EMPR:EX; Hynes, Michelle EMPR:EX; EMPR

Permitting and Reclamation EMPR:EX

**Subject:** M-226 Reminder of Annual Geotechnical Reporting Requirements

**Date:** March 15, 2018 11:16:17 AM

Attachments: image001.png

YYYY MM DD Mine Name - Table 2.docx YYYY MM DD Mine Name - Table 1.docx

2018 03 14 Annual Geotech Reporting Reminder Letter FINAL.pdf

#### Dear Dan Omeniuk,

Please see the attached letter and word templates from the Manager of Geotechnical Engineering regarding permit M-226, Max Molybdenum Mine. This letter is being sent with as a reminder of upcoming permit requirements.

Thank you,

## **Kori Novak**

Project Assistant

Ministry of Energy, Mines and Petroleum Resources

6th Floor - 1810 Blanshard St.

Victoria, BC V8W 9N3 Ph: (778) 698-8880

www.gov.bc.ca/minepermitting





# Ministry of Energy, Mines & Petroleum Resources

Mines and Mineral Resources Division

Date: March 14, 2018

To: Dan Omeniuk, Mine Manager

Discovery Ventures Inc/ FortyTwo Metals, Max Molybdenum Mine

[Sent by email: dano@mxgoldcorp.com]

Cc: Al Hoffman, Chief Inspector of Mines, EMPR

Diane Howe, Deputy Chief Inspector, Reclamation and Permitting, EMPR

Heather Narynski, Manager, Tailings Storage Facilities, EMPR

Michelle Hynes, Health and Safety Specialist, EMPR

Re: Reminder of Annual Geotechnical Reporting Requirements – due March 31, 2018

This letter is a reminder of the annual geotechnical reporting requirements under Sections 10.4.4 and 10.4.5 of the Health, Safety and Reclamation Code for Mines in British Columbia (the Code), as summarized in Table 1 (attached). Reports shall be submitted on or before March 31, 2018 unless you have been exempted from some or all of these requirements in writing by the Chief Inspector. If, pursuant to Section 10.5.4 of the Code, a Dam Safety Review was conducted by your site in 2017, the report is also due by March 31, 2018.

A number of annual geotechnical reviews are required under Sections 10.4.1, 10.4.2 and 10.5.2 of the Code, as summarized in Table 2 (attached). Documentation of these reviews and current versions of related reports and manuals must be maintained on site and provided to any Inspector upon request.

Tables 1 and 2 were developed to provide assistance with respect to report submission, information review and compliance tracking by the mine and EMPR staff. Please complete Tables 1 and 2, and include with your submission.

Your site may have site-specific reporting requirements which are also due March 31, 2018, if required in your *Mines Act* permit. These may include, but are not limited to:

- Water balance and water management plan updates.
- Operation, Maintenance and Surveillance (OMS) Manual updates.
- Pit slope and waste rock dump performance reports.

It is your responsibility to be familiar with obligations regarding permit reporting requirements.

### All submissions shall be emailed to: permrecl@gov.bc.ca.

Please contact Heather Narynski (<a href="mailto:heather.narynski@gov.bc.ca">heather.narynski@gov.bc.ca</a>), Manager Tailings Storage Facilities, if you have any questions regarding reporting and review requirements related to tailings storage facilities and dams, or me via email (<a href="mailto:Lowell.Constable@gov.bc.ca">Lowell.Constable@gov.bc.ca</a>) if you have any questions regarding other geotechnical mine site infrastructure.

Sincerely,

Lowell Constable, P. Eng.

Loull ant

Manager, Geotechnical Engineering

Ministry of Energy, Mines and Petroleum Resources

Attachments: Table 1 – Summary of Annual Reporting Requirements

Table 2 – Summary of Annual Review Requirement

Fable 2 − Sun	Table 2 - Summary of Annual Review Requirements					
Code	Item for Review	Author	Review Date	Update Required?	Update Complete (including completion date)?	Update Submitted to EMPR (as required)?
10.4.1(3)	Annual reconciliation of water balance and water management plans	Mine Manager				Provide to Inspector on request
10.4.2(1)(d)	TSF risk assessment	Mine Manager				Provide to Inspector on request
10.4.2(1)(e)	Mine Emergency Preparedness and Response Plan (EPRP)	Mine Manager				Integrate with site wide Mine Emergency Response Plan
10.5.2(b)	OMS manual	Mine Manager, Reviewed by EoR				Provide to Inspector on request

Table	William J ve	table t Summary of Amaras reporting responses						J
Item No.	Code	Deliverable	Author	Title	Report Date	Date Submitted to EMPR	Notes/Comments	
-	10.4.4(b)	Annual TSF / Dam Safety Inspection (DSI)	EoR					
2	10.4.4(c)	10.4.4(c) Independent Tailings Review Board (ITRB) report of activities	Mine Manager, signed by ITRB members					
3	10.4.4(d)	Summary of TSF and dam safety recommendations, including scheduled completion dates	Mine Manager					
4	10.4.4(e)	10.4.4(e) Performance of high-risk dumps under Section 10.5.5 of the Code	Mine Manager					
5	10.4.4(f)	10.4.4(f) Updates to the TSF register	Mine Manager					
	10.4.4(g)1	Other information as directed by the Chief Inspector for TSFs including:						
9		Summary of design and construction works from the previous year	Mine Manager					
7		Planned design and construction works for the following year	Mine Manager					
8		Schedule for the following year	Mine Manager					
6		Update on Life of Mine operation and construction plans and schedule	Mine Manager					
10		Summary of OMS and EPRP updates	Mine Manager					
111		Summary of open engineering recommendations, regulatory orders and permit conditions, and status of each recommendation, including schedule to address	Mine Manager					
12		Summary of dangerous occurrences including significant TSF or dam safety incidents that occurred during the year	Mine Manager					
13		Update on risk management activities	Mine Manager					
14	10.4.5(b)	Dam safety review reports performed under Section 10.5.4 of the Code	Independent Professional Engineer					
15	10.4.5(c)	"as built" reports for tailings storage facilities and dams under section 10.5.1 of the Code	Mine Manager					

Note:

1. The list of additional information required for TSFs is specified in the Code Guidance Document, Section 4.1: Annual Manager's Report.

From: McConnachie, Jennifer EMPR:EX

To: "dano@mxgoldcorp.com"

Cc: Brash, Jennifer EMPR:EX; Craig, Andrew EMPR:EX; Murphy, Liz B EMPR:EX; Narynski, Heather M EMPR:EX;

Bailey, Brenda EMPR:EX; Constable, Lowell EMPR:EX; Rollo, Andrew EMPR:EX

**Subject:** M-226 Max Moly Mine - Section 35 Compliance Orders

**Date:** March 28, 2019 8:09:37 AM

Attachments: <u>image001.jpg</u>

2014 10 10 Reclamation Inspection Report.pdf 2019 03 28 Max Moly Non-Compliance Letter Recl.pdf

#### Mr. Omeniuk.

Please find attached a letter outlining the compliance status for Orders issued by the Ministry of Energy, Mines and Petroleum Resources (EMPR) within Reclamation Inspection Report 54096 issued April 8<sup>th</sup> 2015 to then owner Roca Mines Inc. for the Max Molybdenum Mine (M-226). The inspection report is attached for your reference.

This letter also contains two new Orders issued pursuant to Section 35 of the Mines Act, which will require a follow-up response within 15 days.

The new Orders are issued for non-compliance with both M-226 April 26th, 2010 Mines Act permit Approving Increase in Mill and Mine Production condition (Reclamation Program) and M-226 March 2nd, 2011 Mines Act permit Approving Change in Security Schedule condition (Reclamation Program).

Your recent response to the non-compliance letter issued by Andrew Craig M.Sc., P.Geo. A/Senior Environmental Geoscientist, on February 4<sup>th</sup>, 2019 stated that MX Gold Corp. is not the current owner of the Max Molybdenum Mine (M-226). However, EMPR records do not reflect this change in ownership, nor do the files indicate that a new Mine Manager has been designated. With your response, please indicate when an Application to change the ownership of M-226 Mines Act permit and/or Mine Manager will be submitted for review and approval.

If you have any questions or require clarification, please feel free to contact me. Regards,

#### Jennifer McConnachie, MSc, PAg

Manager, Reclamation

B.C. Ministry of Energy, Mines and Petroleum Resources

Mines and Mineral Resources Division

100 Cranbrook Street, 2nd floor, Cranbrook, BC, V1C 3P9

Phone: (250) 417-6035 Cell: (250) 640-0717 E-mail: <a href="mailto:Jennifer.McConnachie@gov.bc.ca">Jennifer.McConnachie@gov.bc.ca</a>

www.gov.bc.ca/minepermitting

?

For all reports, please ensure you include EMPR Permitting and Reclamation group mailbox PERMRECL@gov.bc.ca

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Ministry of Energy and Mines

# Ministry of Energy and Mines Mining & Mineral Division Report of Inspector of Mines

Reclamation and Permitting

(Issued pursuant to Section 15 of the Mines Act)

Inspection No.:

54096

18040-02-09

Mine No.:

File:

0500770

Emp/Cont:

0 / 0

RECL

Orders H&S: Stop Work:

0

Name of Property

**Max Molybdenum Mine** 

Permit No.

M 226

Location

Trout Lake

Owner, Manager

**Scott Broughton** 

Company

**Roca Mines Inc** 

Address

490 – 1122 Mainland Street Vancouver BC, V6B 5L1

Persons Contacted

Vanessa Freberg

Type of Mining

**METAL MINE UNDERGROUND** 

Date of Inspection

10/10/2014

Copies To

D Howe, G Hendrickson, A Day, J Jewsbury

Written response is required from the Mine Manager within 15 days of receiving the report. In this document, Code means Health, Safety and Reclamation Code for Mines in British Columbia.

#### Inspection Report

A reclamation inspection of the MAX Molybdenum Mine (M-226) was conducted on October 10, 2014 by Moss Giasson (MEM Reclamation Inspector), accompanied by Vanessa Freberg, company representative. The mine has been closed since a underground failure and has been in care and maintenance since 2010. A conceptual Reclamation and Closure plan was submitted in 2010 with no record of approval on file. An increase in site bond/security was approved in 2011 which covers areas associated with the increased site disturbance expected to be created through mill expansion and ongoing TSF construction.

Areas observed during the site overview included the borrow area, access roads and bridges, mill buildings (outside), material storage area, mine entrances, Tailings Storage Facility, settling ponds, camp, core storage area and contaminated soil disposal area with no operating procedure or manual available.

Generally, the area appears to be stable with no significant erosion or drainage issues. Natural vegetation is well established throughout the mine property and demonstrates the recovery of forestry end land use values. The forested lands around the mine provide for well-developed native plant communities and a healthy mid to late seral forest structure.

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Moss Giasson P.Ag.	Dated:	April 8, 2015
Reclamation Inspector		

Page

# **Tailings Storage Facility (TSF):**

The Tailings surface is covered with water and based on the review of the files is expected to be submerged at all times. A small tailing beach is present at the north end of that impoundment. Overall, the dam face exhibited little erosion, with some minor rilling occurring in the upper section of the slope (picture 1) above the rip rap. Erosion (picture 2) of this cover material in the upper dam face is expected to continue until some shallow rooted vegetation has been established (grass). Very few invasive species were identified and none appear to be creating any issues on the SE or NW dam structures. Native vegetation such as Black Cottonwood (Populus balsamifera), Trembling aspen (Populus tremuloides) and Douglas Fir (Pseudotsuga menziesii), Lodge Pole Pine (Pinus contorta), Hemlock (Tsuga heterophylla), and Willow (Salix sp.) have begun to naturally establish in areas that have not experienced recent use or disturbance such as along the edges and upland portions of the tailings facility, in old borrow pits and previously cleared areas around the TSF.

During the inspection of the SE Dam structure, the emergency spill way was examined. As observed in the field, the liner in the spill way is damaged in a number of locations (picture 3, 4). It also appears to have been ineffectively anchored (rocks and dirt fill), as material used to key in the liner (poly?) has eroded. Further, the liner does not cover the entire extent of the spillway, and, if the spill way was in use and required to provide conveyance of spill water, it would not provide effective erosion protection to the structure (picture 3 and 4). An assessment of the effectiveness of the liner and spillway should be conducted, in comparison with the spillway design, and a plan to mitigate the potential drainage control issue should be developed and implemented. Appropriate maintenance should be implemented to ensure that if the spill way were to be utilized that the liner will remain intact. In addition to the deteriorated condition of liner on the face of the dam, the pond outlet to the spillway was observed (picture 5). Upon review, it was apparent that the edges of the liner remain exposed (picture 5) and may not function effectively if emergency flow conditions were encountered. As recommended above, the outlet should be included in the assessment by a qualified professional to ensure the structure is maintained in an operational state.

The NW and SE dam embankments (picture 6) were observed during the September site inspection. For both embankments, limited vegetation has established on the crest and face of the structures. Minor erosion is evidence (picture 6), and continued erosion of the fill will continue in the absence of effective cover. The toe of the embankments does exhibit effective vegetation, likely from soil eroding from uphill and affording a suitable growth medium.

The pond below the NW dam impounds water and was actively draining to the north through the culvert installed through the fill (embankment??). A well-established native aquatic vegetation community is in place and provides some level of natural vegetation function. Flow volumes coming from the NW dam drain were not quantified or reported at the time of inspection.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated: April 8, 2015



Picture 1: Picture taken looking across the face of the SE Dam structure.



Picture 2: Note riling and minor erosion along crest of dam face. Also, note limited vegetation cover established on the upper section of the dam.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated:

April 8, 2015



Picture 3: Spill way geo-membrane liner for spill way from Dam. Membrane is poorly installed and anchored.



Picture 4: Note over all condition of the liner on the spillway (rips and improperly anchored). Liner does not extend to bottom of spill way.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated: April 8, 2015

Page



**Picture 5:** Outlet from tailings pond to the emergency spillway. Note that the edges of the liner are exposed/unanchored.



Picture 6: NW dam crest and pond below structure.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated:

April 8, 2015

#### Mine Adit/Entrance:

The two main underground entrances (picture 7, 8) were inspected. It is apparent that no effective barrier to access is installed or maintained. Direct access to the underground workings exists and poses a significant safety hazard. As discussed with the site representative, public do still access the site via trails and ATV, thus the safety risk is high with respect to the closure of the workings. Priority must be given to install effective barriers to the underground at both of these entrances.

In addition to the open and unsecure mine workings, water was actively draining from both entrances and collecting in a small pond/sump near the mine entrance (picture 8, 9). The pump shack (picture 10), where additives (flocculent) would be mixed in to the flow, was open and not secure. The pump shack may be considered a confined space. Until determined otherwise through the process of conducting a risk assessment, a confined space procedure must be developed and implemented immediately, in accordance with the Mines Act and Healthy, Safety and Reclamation Code of Mines in British Columbia.



Picture 7: Mine entrance. Note, no gate or barrier to access has been established. The mine vehicle is the only control from accessing the underground.

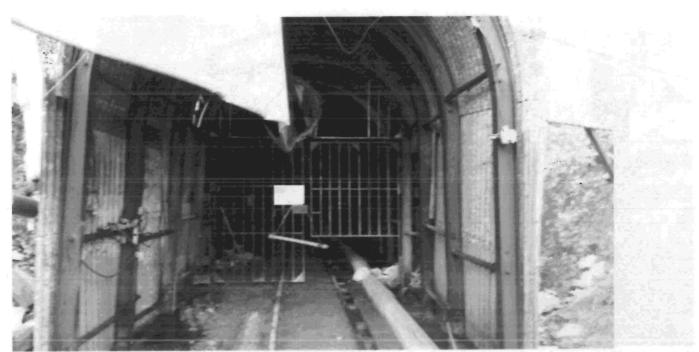
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Moss Giasson P.Ag.

Dated:

April 8, 2015

Reclamation Inspector



Picture 8: Second mine entrance remained open and unlocked. No effective barrier to access was in place as gate was unlocked. Note water along sides of this entrance.



Picture 9: Sump/pond where mine water is collecting. At the time of the inspection, the site representative did not know where the water reported to.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated:

April 8, 2015

Page

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Picture 10: Pump shack and sump near mine entrance. Not appropriately signed and structure was not secured.

# Mill Area/Ancillary Buildings:

The mill and ancillary structures (picture 11) were visited during the September site inspection. The mill was undergoing some maintenance due to impacts from snow. The interior of the mill was not inspected. Numerous out buildings and structures were observed, specifically the fuel storage area (picture 12), material storage (picture 13), camp and the mine maintenance areas.

Numerous tanks, buckets and vessels were observed to be retained in the fuel storage facility. Many of the storage containers still hold product, some of which were not labeled. No MSDS was observed or on hand for review. This storage facility should be assessed and the materials not in use should be removed to secure locations or disposed of in an approved facility off-site.

Various mine process chemicals (picture 12, 13) and materials are stored throughout the property in various building, sheds, and in the open. Some substances were observed to be in open bags (picture 13) or were contained in deteriorated storage containers. Materials at the camp area and core storage area and were left exposed to the environment (picture 13), resulting in release or deposition to the ground. An assessment of all materials or substances remaining on the mine property must be conducted and appropriate storage or disposal must occur as soon as possible. MEM does not consider it to be best practice to allow spills of hazardous materials due to inappropriate storage. Contaminated ground and used spill abatement materials should be cleaned up and disposed of appropriately as soon as possible. Similarly, spills must be reported as per the Spill Reporting Regulations under the *Environmental Management Act*.

Sites throughout the fuel storage facility, maintenance/shop bays, and surrounding land show signs of hydrocarbon releases/spills, as demonstrated by ground staining. Sites identified are the vehicle bay adjacent to

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Moss Giasson P.Ag. Reclamation Inspector

Dated: April 8, 2015

Page 82 of 105

the fuel storage facility (picture 14) and near the old ore bins (pictures 15, 16). A spill prevention and response plan must be developed and implemented, and an investigation of contaminated ground must be conducted to inform a remedial action plan.



Picture 11: Mine office, fuel storage and ancillary buildings.



Picture 12: Fuel Storage area. Numerous barrels with no labels, some with lids or left open. No MSDS available or catalogue of chemicals retained on site.

Host Kiash

Moss Giasson P.Ag.

Reclamation Inspector

Dated:

April 8, 2015



Picture 13: Two examples of process chemicals in various storage areas and in a range of conditions or with/without containment. Note bags are open and material has been deposited on the ground.



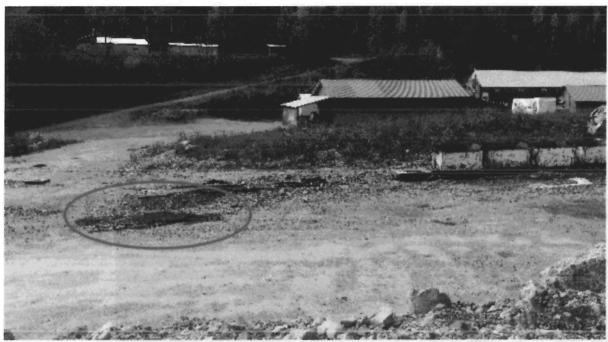
Picture 14: Numerous buckets, filters and empty vessels were observed in the truck bay. Note staining.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated: April 8, 2015



Picture 15: Note area of staining in left center of picture in red circle.



Picture 16: Close up of ground staining identified in picture 15.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated:

April 8, 2015

Page

11

# Camp/Assay:

The camp and assay (picture 17) areas were observed and appear to be maintained in good order. Ore quality and grade analysis was largely the function of the assay facility based on personal communication with the onsite representative.



Picture 17: Camp structures.

### Core Storage Area:

The core storage area was observed and a number of concerns were identified to the company representative. Specifically, open fuel tanks, Xtra Clay product (picture 18), oil soaked geotextiles (picture 20) and a large tank (picture 19) with what appeared to contain a hydrocarbon was observed. The large tote containing the hydrocarbon was not secure, and visual evidence indicated that the material in the tote was released to the ground (picture 19). Staining around this vessel was observed.

A large pallet of XtraClay product was observed to be left un-protected with the bags deteriorated to the point of material being spilled or released to the ground. The site representative did not know what this material was used for or the nature of the product, and whether this substance poses a concern from a spill or reporting perspective.

A pile of oil soaked geotextile material was observed at this location also. It did not appear that there was containment maintained or that this material was stored in an appropriate manor. Given the nature of hydrocarbons, the material and the overtopped tank provide significant concern with respect to contamination of the ground and surrounding soils.

Lastly, the generator and fuel tank were observed. Upon closer examination, the fuel tank was observed to

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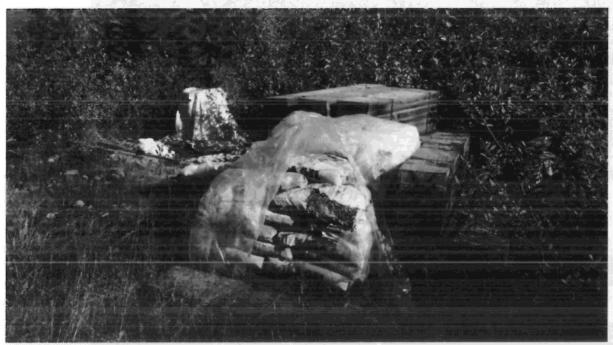
Moss Giasson P.Ag.

April 8, 2015

Reclamation Inspector

Page 12

have no lid or cap and was left vented to the atmosphere. No secondary containment was observed around this tank. Further, the tank appeared to be full of hydrocarbon and potentially water due to the tank being left open to the environment.



Picture 18: Xtra Clay product storage at core area.



Picture 19: Open topped hydrocarbon vessel at core storage area. Note black staining on ground. Significant staining on the ground within the red circle.

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Moss Giasson P.Ag.

Dated:

April 8, 2015



Picture 20: Oil contaminated geotextile wraps at core storage area.



Picture 21: Generator with fuel storage at core storage area.

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Moss Giasson P.Ag. Dated: April 8, 2015

Reclamation Inspector Page 14

#### Roads and access:

The mine access was gated near the turn off from the public road. Upgrades to the access control are required, which may include a new gate and barriers installed. Although the main access road has been well secured, other means of access are available to the public and people using ATV or Snowmobile, which is an ongoing management challenge.

It is important to monitor the surface drainage and ditching along all access road during the time the property remains in a care and maintenance state to ensure erosion of the road fill does not impact surface water systems or fish baring streams near and within the property. Ancillary roads are stabilized and seeding appears to have been effective. Although various invasive species were observed, generally this was at a low density and appears to not be extensive.

Generally, all areas along the various roads appear to be stable with no significant erosion or drainage issues observed. Some minor erosion was identified along the overburden stockpile (picture 22) but did not appear to be creating a stability or sediment release concern. All eroded material appears to report to a small stilling sump along the ditch line. The sump should be cleaned on a regular basis and cross ditching installed to ensure drainage is controlled in an acceptable manner.



Picture 22: Mine and Forestry road. Canada thistle observed at numerous locations along the road.

### **Settling Ponds:**

All settling ponds (picture 23) and channels (picture 24) were observed.

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Moss Giasson P.Ag.

Dated:

April 8, 2015

Reclamation Inspector

A soaker boom was installed downstream of the outlet weir (picture 25) and should be removed and disposed of properly. No explanation as to the purpose of the boom was available. It was likely installed to skim hydrocarbons present in the ponds at the outlet which does provide evidence that there may have been previous hydrocarbon releases or contamination present in surface waters draining through the settling ponds. The surrounding banks and openings associated with the various settling ponds appear to be well vegetated and stabilized. No erosion or slumping within the ponds was identified.

Some channel incising was observed at various channel inlets to the ponds. Minor bank erosion and undercutting was observed (picture 24), with no one location appearing to be of significant concern currently. Rip rap should be placed at select outlets/inlets to ponds to reduce erosion and improve bank stability. Monitoring of channels throughout the settling pond area is required to ensure banks and channel remain stable or if modifications are required that they are carried out in a timely manner.



Picture 23: Settling pond.

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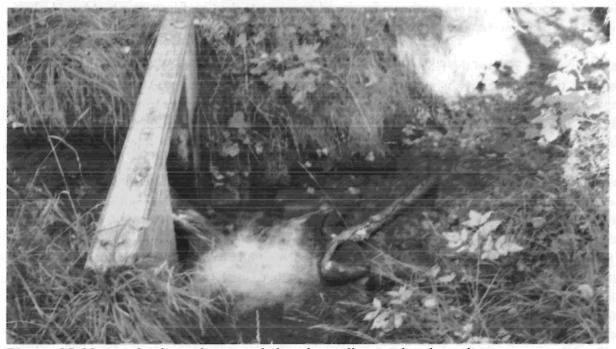
Moss Giasson P.Ag.

Dated:

April 8, 2015



Picture 24: Cascade into settling pond. Note some erosion and undercutting along channel.



Picture 25: Note soaker boom in stream below the settling pond outlet weir.

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Moss Giasson P.Ag.

Reclamation Inspector

Dated:

April 8, 2015

# **Invasive Species:**

In general, invasive species were observed at the soil stockpile near the TSF, around the TSF, along the main access road and in various disturbed areas throughout the mine. It did not appear that a management plan or strategy was in place to address increasing presence of invasive species on the property. Specifically Canada thistle (*Cirsium arvense*) and Mullein (*Verbascum thapsus*) were present and should be addressed through mechanical or chemical treatment.

#### Recommendations:

Based on the inspection conducted on September 10<sup>th</sup>, 2014, the following recommendations are provided:

- The TSF emergency spillway liner should be assessed by a qualified professional to determine if the spillway satisfies requirements for the TSF and provide recommendations to conduct works to ensure the structure is maintained in good working order.
- 2. An Invasive Plant Management Plan should be developed and implemented to limit the establishment of invasive plants on-site that could be detrimental to reclamation at this site.

#### **Orders:**

- Pursuant to Sections 6.25.1 and 10.6.5 of the Health, Safety and Reclamation Code for Mines in British Columbia (HSRC), the Mine Manager must ensure that all mine openings are properly secured to prevent inadvertent access by unauthorized person immediately. MEM requires that the Mine Manager develop and submit a plan to secure the underground openings to the Chief Inspector by May 31, 2015. This plan must be implemented as soon as possible.
- 2. Pursuant to Section 3.4.1 of the HSRC, the Mine Manager must ensure that the pump station discussed in the inspection report above is assessed to determine if it is a confined space immediately. If it is determined that the pump station satisfies the definition of a confined space, a written procedure for access must be developed and implemented as per Section 3.4.1(a), 3.4.1(c), and 3.4.1(d). MEM requires this issue to be remedied by May 31, 2015.
- 3. Pursuant to Sections 2.3.3, 2.3.4, 2.3.6, 2.3.7, and 10.7.28 of the HSRC, the Mine Manager must ensure that all hazardous materials are stored in designated locations, in proper containers, and waste materials are handled appropriately by trained persons, with spill or releases cleaned up as soon as possible by trained persons. Contaminated and hazardous materials should not be stored for prolonged periods of time must be disposed of appropriately off-site if they cannot be returned to the manufacturer. MEM requires that the Mine Manager develop and submit to the Chief Inspector, a spill prevention and response plan, that specifies procedures for disposal and removal of all materials not in use on-site, secure storage of materials that are used regularly on-site, training of site personnel to handle hazardous materials (WHMIS) and respond to spills, and investigation of contaminated ground and water caused by spills and releases of hazardous materials. All stored hazardous materials must be appropriately labeled with MSDS posted in storage locations for reference. The management plan and remedial

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Moss Giasson P.Ag.

Dated: April 8, 2015

action plan that is informed by the investigation are required by June 30, 2015.

4. Pursuant to Section 10.6.12 of the HSRC, MEM requires the development and submission of a Closure Management Manual that, at a minimum, a) describes and documents key aspects of the ongoing mitigation, monitoring and maintenance requirements, and b) tracks important changes to components of the system that effect long-term mitigation, monitoring and maintenance requirements. This plan must provide schedules and procedures for ensuring permit and environmental compliance, and be provided to the Chief Inspector by June 30, 2015.

#### Conclusion:

Reclamation Inspector

In conclusion, the mine property requires improved housekeeping and care and maintenance during dormancy. A number of areas of concern were identified where access controls are required, improvements to infrastructure should be carried out or where material handling, storage or disposal can be improved. Given the site is currently in a dormant state, a care and maintenance document should be developed and used to ensure the site remains in compliance with regulations.

Moss Giasson P.Ag. Dated: April 8, 2015

Page 19



March 28, 2019

Permit:

M-226

Mine:

0500770

Dan Omeniuk General Manager – Max Molybdenum Mine MX Gold Corp. 1300 Redonda Street, Winnipeg, MB R2C 3T7

By e-mail: dano@mxgoldcorp.com

Re: Max Molybdenum Mine - Outstanding Orders from EMPR Inspection Reports

Dear Mr. Omeniuk:

EMPR has recently conducted a review of files pertaining to the Max Molybdenum Mine, regulated under Mines Act Permit M-226. The files indicate that you are the designated Mine Manager of Max Moly Mine and the owner of the M-226 Mines Act Permit is Forty Two Metals, which our records indicate is a subsidiary of MX Gold Corporation (MX Gold). The objective of this letter is to 1) issue escalating enforcement regarding outstanding Orders inspection report issued on April 18, 2015, and to 2) issue additional Orders based on EMPR's ongoing permit compliance review.

# **Outstanding Inspection Orders**

On October 10, 2014 Moss Giasson (Contract Reclamation Inspector) with the Ministry of Energy, Mines and Petroleum Resources (EMPR) conducted a site inspection at the Max Molybdenum Mine (M-226). Reclamation Inspection Report 54096 was provided via email to the Mine Manager on April 18, 2015 and contained four orders.

The Mine Manager's response to the above mentioned orders was received April 24<sup>th</sup> 2015 via email by Inspector of Mines Jennifer McConnachie and indicated that Order 1 requiring closure of two portals had been completed. However, an EMPR Geotechnical and Geoscience Inspection on October 24<sup>th</sup>, 2018 found that the portal entrances were not secure.

Further, the Care and Maintenance Manual required in Order 4 of Reclamation Inspection Report 54096 has not been received by the Chief Inspector and therefore both orders were included in the Mines Act Section 35 letter dated February 4<sup>th</sup>, 2019 and issued by EMPR Mines Inspectors Andrew Craig, M.Sc., P.Geo., Environmental Geoscientist and Jennifer Brash, M.Sc., P.Eng., Senior Geotechnical Inspector.

In addition to the above Orders 1 and 4, EMPR review of the Reclamation Inspection Report 54096 indicates that the status of Orders 2 and 3 is unclear at this time. For example, the follow up report referenced in the April 24<sup>th</sup> 2015 Mine Manager's response has not been received.

MX Gold Corp. must provide updated responses to inspection report 54096 Order 2 and 3 by April 5<sup>th</sup>, 2019. These responses must clearly outline the remedial steps taken, the work still outstanding, and additional remedial steps to be taken with a schedule for completion of the work to fully comply with each Order.

Failure to comply with inspection Orders is a violation of Sections 24 and 37 of the Mines Act. As a result, EMPR is issuing the following Order by way of this letter. A written response to this Order is expected within 15 days and must outline remedial steps taken so far, summarize outstanding work, and confirm the timeframe for fully addressing the order.

**ORDER 1:** (Enforcement of Act, regulations, code, permit or order) Issued Pursuant To: Mines Act Section 35

### Observation of Contravention:

The following Orders have not been addressed by the Mine within the required timeframes:

Reclamation Inspection Report 54096:

Order 2 and 3

### Remedial Action/Results To Be Obtained:

Pursuant to Section 35 of the Mines Act, the Mine Manager shall comply with all outstanding 2014 reclamation inspection Orders.

Rectify By/Completion Date: 2019-04-05

Manager Res	ponse:			



#### **Permit Compliance Orders**

Based on EMPR's ongoing permit compliance review of M-226, MX Gold is non-compliant with the following M-226 Mines Act permit conditions. MX Gold is reminded that pursuant to 10.6.2(1)(a) of the Code, if a mine ceases operation, the owner, agent, or management shall continue to carry out the conditions of the permit. The following Orders pertaining to these observed non-compliances are issued by way of this letter. A written response to these Orders is expected within 15 days and must outline remedial steps taken to date, summarize outstanding work, and confirm the timeframe to fully comply with each Order.

ORDER 2: (Enforcement of Act, regulations, code, permit or order)
Issued Pursuant To: Mines Act Section 35

Observation of Contravention:

The following M-226 April 26<sup>th</sup>, 2010 Mines Act permit Approving Increase in Mill and Mine Production condition (Reclamation Program) has not been addressed by the Mine within the required timeframe:

2. Five Year Reclamation Plan/Closure Plan

By March 31st 2015, an updated Five Year Reclamation Plan or a Closure Plan (whichever ever comes first) shall be submitted to the Chief Inspector.

- (a) The Five Year Reclamation Plan shall document the current status of the work system and reclamation obligations, outstanding liability and associated costs, and all monitoring including water quality, and ongoing maintenance activities for the next five years of the mine operation. The plan shall also include detailed cover designs for all waste materials and other decommissioned areas within the project footprint.
- (b) The Closure Plan, submitted prior to 6 months of final closure, shall provide the current status of the work system and reclamation obligations, a compilation of all monitoring including ML/ARD prediction, water quality, closure and maintenance activities, any changes to the reclamation program that affect long-term mitigation, contingency plans, schedule for completion of reclamation works, and a breakdown of outstanding liabilities and associated costs. The post closure monitoring plan shall be developed in consultation with MOE and MEMPR.

Remedial Action/Results To Be Obtained:

Pursuant to Section 35 of the Mines Act, the Mine Manager shall comply with all M-226 Mines Act permit conditions.

Rectify By/Completion Date: 2019-04-05

Manager Response:

ORDER 3: (Enforcement of Act, regulations, code, permit or order)
Issued Pursuant To: Mines Act Section 35

Observation of Contravention:

The following M-226 March 2<sup>nd</sup>, 2011 Mines Act permit Approving Change in Security Schedule condition (Reclamation Program) has not been addressed by the Mine within the required timeframes:

### Reclamation Security

(a) The Permittee shall cause to be deposited with the Minister of Finance additional security in the amount of Seven Hundred and Seventy Thousand dollars (\$770,000.00), bringing the total security for this permit to One Million, Five Hundred Thousand dollars (\$1,500,000.00). The additional security shall be posted in accordance with the schedule shown below. The security will be held by the Minister of Finance for the proper performance of the approved program and all the conditions of this permit in a manner satisfactory to the Chief Inspector.

Date	\$	Cumulative
Security as of March 2, 2011		\$730,000.00
June 30, 2011	\$250,000.00	\$980,000.00
December 31, 2011	\$270,000.00	\$1,250,000.00
June 30, 2012	\$250,000.00	\$1,500,000.00

Remedial Action/Results To Be Obtained:

Pursuant to Section 35 of the Mines Act, the Mine Manager shall comply with all M-226 Mines Act permit conditions.

Rectify By/Completion Date: 2019-04-05

Ministry of Energy, Mines and Petroleum Resources Mailing Address: PO Box 9320, Stn Prov Govt Victoria, BC V8W 9N3 Location: 6<sup>th</sup> Floor, 1810 Blanshard Street Victoria, BC V8T 4J1

Should MX Gold Corp. remain out of compliance with the Mines Act, further compliance and enforcement action may be taken.

If there are any questions regarding the content of this letter please do not hesitate to contact the undersigned at <a href="mailto:Jennifer.McConnachie@gov.bc.ca">Jennifer.McConnachie@gov.bc.ca</a> or (250) 417-6035.

Sincerely,

Jennifer McConnachie, M.Sc., P.Ag.

Manager, Reclamation
Senior Reclamation Inspector

Om W. Carrachie

From:

Brash, Jennifer EMPR:EX

To:

Harrison Cookenboo

Cc:

Akash Patel; Narynski, Heather M EMPR:EX

Subject: Date: RE: Max Moly DSIs April 1, 2019 10:12:58 AM

#### Mr. Cockenboo.

Heather advised me that you may have additional questions regarding the Max Moly site. Please feel free to contact me if you need further clarification.

Regards,

#### Jennifer

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353

From: Harrison Cookenboo s.22

Sent: Thursday, March 21, 2019 11:29 AM

To: Brash, Jennifer EMPR:EX

Cc: Akash Patel; Narynski, Heather M EMPR:EX

Subject: Re: Max Moly DSIs

Heather Narynski

Manager of Geotechnical Engineering

Hi Heather,

I am trying to help Akash Patel and Cameo Cobalt Corp get their newly acquired Max Moly project into compliance. We have been in communication wit Jennifer Brash, who is out of the office until March 27th. She suggested we might communicate with you in the interim.

I would appreciate a call at your convenience, to make sure we are moving ahead as promptly and directly as possible.

My cell is: s.22

Harrison Cookenboo, Ph.D., P.Geo.,

Consulting Geologist

for Cameo Cobalt Corp.

On Thu, Mar 14, 2019 at 4:21 PM Brash, Jennifer EMPR:EX < <u>Jennifer.Brash@gov.bc.ca</u>> wrote:

#### Mr. Cockenboo.

I am out of the office tomorrow, and away until March 27. I would be happy to discuss at that time, or alternatively you can contact Heather Narynski who is the Manager of Geotechnical Engineering (copied on this email).

Regards,

Jennifer

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353

From: Harrison Cookenboo s.22

**Sent:** Thursday, March 14, 2019 3:20 PM

To: Brash, Jennifer EMPR:EX

Cc: Akash Patel Subject:

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector

Ministry of Energy, Mines and Petroleum Resources

1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353 Hi Jennifer,

I want to thank you for your email of March 8. Can Akash Patel and myself set a time tomorrow morning to discuss the issues you raised?

Might 10AM work for you?

Thanks,

Harrison Cookenboo, Ph.D., P.Geo.

Consulting Geologist

From: <u>Brash, Jennifer EMPR:EX</u>

To: "Dan Omeniuk"

Cc: Craig, Andrew EMPR:EX; McConnachie, Jennifer EMPR:EX; Narynski, Heather M EMPR:EX

**Subject:** Max Moly Annual TSF Reporting **Date:** April 10, 2019 2:39:01 PM

#### Mr. Omeniuk,

I'm not able to find the Annual Review reports for Max Moly TSF. The 2018 reports were due on March 31<sup>st</sup>. If they have been already submitted please let me know when/how they were submitted to EMPR. If they have not yet been submitted, please submit them by Friday. Regards,

Jennifer Brash, M.Eng., P.Eng. Senior Geotechnical Inspector Ministry of Energy, Mines and Petroleum Resources 1810 Blanshard St., Victoria, BC V8T 4J1

W: 778-698-5454 C: 250-812-0353 From: Novak, Kori EMPR:EX

Bcc: s.22

Subject: CIM 2018 Reminder Proactive Preparedness for Spring Melt Runoff

**Date:** April 11, 2018 2:15:29 PM

Attachments: CIM 2018 Reminder Proactive Preparedness for Spring Melt Runoff.pdf

image001.png

Dear Mine Manager,

Please see the attached letter regarding higher than average spring melt runoff, sent on behalf of Al Hoffman: Chief Inspector of Mines.

Thank you,

### **Kori Novak**

Project Assistant

Ministry of Energy, Mines and Petroleum Resources

6th Floor - 1810 Blanshard St.

Victoria, BC V8W 9N3 Ph: (778) 698-8880

www.gov.bc.ca/minepermitting

BC logo





April 11, 2018

ORCS: 11000-20

By email: To all Mine Managers

# Re: Reminder Proactive Preparedness for Spring Melt Runoff and Freshet Flows

This letter provides notification of significantly higher than average snow packs in many areas of the province. Overall, the province has an above normal snowpack as of April 1<sup>st</sup> (average of all snow measurements across the province is 127% of normal). To view snow conditions, current water levels and flood forecasting specific to your region, I direct you to the BC River Forecast Center website:

https://www2.gov.bc.ca/gov/content/environment/air-land-water/drought-flooding-dikes-dams/river-forecast-centre

With spring melt and freshet quickly approaching, these higher than average snow conditions have the potential to result in flooding in many areas of the province. Extreme run-off events not only have the potential to compromise receiving environment water quality and cause erosional damage to water management systems, but can also result in major slope instabilities if water is not managed accordingly. In the past, mines in BC have experienced landslides and debris flows that have impeded access and egress from sections of mines and even the main access routes.

I wish to remind all Mine Managers of the need for enhanced vigilance of site monitoring and water management by all staff during freshet periods. Please ensure that emergency preparedness and response plans are up to date, and all staff responsible for implementing response plans are aware of their roles and are prepared to act in that capacity. Take the time to recognize all higher risk areas of your mines sites and increase monitoring at those locations as necessary. Contingency resources (e.g., pumps and hoses) should be available and operable on short-notice if needed. You are also reminded of your duty to keep myself (number below) and the Regional Inspector apprised of any significant events that occur or if monitoring indicates that site conditions may result in major surface instabilities or impacts to the environment.

Ministry of Energy, Mines and Petroleum Resources

Health, Safety and Permitting Branch Mailing Address:
PO Box 9320
Stn Prov Got
Victoria, BC

V8W 9N3

Fax: 250 952 0491

Phone: 250 952 0494

Your attention to this matter is essential to ensure the ongoing protection of environmental quality and the health and safety of all mine employees, contractors, and members of the public.

Sincerely,

Al Hoffman, P.Eng

Chief Inspector of Mines

Cc: Diane Howe, Deputy Chief Inspector of Mines, Reclamation & Permitting
Caroline Nakatsuka, A/Deputy Chief Inspector of Mines, Health & Safety
Tania Demchuk, Deputy Chief Inspector of Mines, Compliance & Enforcement
Lowell Constable, Manager, Geotechnical Engineering
Julie Chace, Executive Director, Regional Operations
Doran Jones, Health and Safety Provincial Emergency Coordinator