

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 3948-BF7RDK

Issue Date: October 7, 2019

Glencore Canada Corporation
10050 Highway 101 Hwy E P.O. Box 2002
Timmins, Ontario
P4N 7K1

Site Location: 10050 Highway 101 East
Timmins City, District of Cochrane
P4N 7K1

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act , R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

- One (1) Crusher baghouse dust collector designated as "DC1 BH" discharging to the air at a volumetric flow rate of 16.3 actual cubic metres per second through a stack having an exit diameter of 1.62 metres and extending 34 metres above grade;
- Two (2) Crusher shaker type baghouse dust collectors designated as "DC2 and DC3 BHs" discharging to the air at a volumetric flow rate of 40.4 actual cubic metres per second through a stack having an exit diameter of 1.62 metres and extending 23.2 metres above grade;
- One (1) scrubber designated as "Kidd Fine Ore Bin Scrubber - Top" discharging to the air at a volumetric flow rate of 4.7 actual cubic metres per second through a stack having an exit diameter of 0.63 metres and extending 32.2 metres above grade;
- Two (2) ducon scrubbers designated as "Kidd Fine Ore Bin Scrubbers - Bottom" discharging to the air at a volumetric flow rate of 8.3 actual cubic metres per second through a stack having an exit diameter of 0.83 metres and extending 32.2 metres above grade;
- One (1) shaker type baghouse dust collector designated as "Lime BH" discharging to the air at a volumetric flow rate of 1.0 actual cubic metres per second through a stack having an exit diameter of 0.25 metres and extending 22.1 metres above grade;
- One (1) wet scrubber designated as "Lime Feeder Scrubber" discharging to the air at a volumetric flow rate of 0.2 actual cubic metres per second through a stack having an exit diameter of 0.13 metres and extending 23.1 metres above grade;
- One (1) Dracco Vacuum System discharging to the air at a volumetric flow rate of 0.83 actual cubic metres per second through a stack having an exit diameter of 0.15 metres and extending 3.3 metres above grade;
- One (1) Concentrate Dryer designated as "Copper 1" discharging to the air at a volumetric flow rate of 6.5 actual cubic metres per second through a stack having an exit diameter of 0.56 metres and extending 50 metres above grade and equipped with a continuous concentration monitoring system for sulphur dioxide;

- One (1) Concentrate Dryer designated as "Copper 2" discharging to the air at a volumetric flow rate of 6.8 actual cubic metres per second through a stack having an exit diameter of 0.56 metres and extending 50 metres above grade and equipped with a continuous concentration monitoring system for sulphur dioxide;
- One (1) Concentrate Dryer designated as "Zinc 1" discharging to the air at a volumetric flow rate of 7.5 actual cubic metres per second through a stack having an exit diameter of 0.56 metres and extending 50 metres above grade;
- One (1) Concentrate Dryer designated as "Zinc 2" discharging to the air at a volumetric flow rate of 7.5 actual cubic metres per second through a stack having an exit diameter of 0.56 metre and extending 50 metres above grade;
- One (1) wet type, counter current, multivane centrifugal scrubber equipped with a mist eliminator, located in the transfer tower area of the Concentrator Building, operating at a pressure drop of 12.7 centimetres of Water Column, using water as a scrubbing solution at a liquid flow rate of 1.3 litres per second, discharging into the air at a volumetric flow rate of 4.2 actual cubic metres per second through a side mounted rectangular exit, measuring 0.46 metre by 0.51 metre, at a height of 25 metres above grade;
- One (1) standby diesel generator set, having a rating of 200 kilowatts, to provide power for the Tailings #2 Thickener Building during emergency situations;
- One (1) standby diesel generator set, having a rating of 20.9 kilowatts, to provide power for the Administration Building during emergency situations;
- One (1) standby diesel generator set, having a rating of 100 kilowatts, to provide power for the Tailings Management Area Pond E Building during emergency situations;
- One (1) standby diesel generator set, having a rating of 1,750 kilowatts, to provide power for the Concentrator Building during emergency situations;
- One (1) standby diesel generator set, having a rating of 200 kilowatts, to provide power for the Tailings No. 2 Lime Station Building during emergency situations;
- One (1) standby diesel generator set, having a rating of 400 kilowatts, to provide power for the Frederick House River Pumphouse;
- One (1) multivane type wet scrubber, designated as Ore Receiving Wet Scrubber and located in the Montcalm Ore Receiving Building, used to treat dust created from trucks dumping crushed ore in to a loading pocket within the Montcalm Ore Receiving Building, having a water flow rate of 68 litres per minute and equipped with a mist eliminator, discharging to the air at a volumetric flow rate of 2.8 cubic metres per second through a stack having an exit diameter of 0.64 metre and extending 11.6 metres above grade;
- One (1) multivane type wet scrubber, designated as Montcalm Fine Ore Bin Scrubber - Top, and located in the Concentrator Building, used to treat dust from transferring and loading of crushed ore into a fine ore bin silo, having a water flow rate of 115 litres per minute and equipped with a mist eliminator, discharging to the air at a volumetric flow rate of 4.7 cubic metres per second through a stack having an exit diameter of 0.69 metre and extending 32.2 metres above grade;
- One (1) multivane type west scrubber, designated as Montcalm Fine Ore Bin

Scrubber - Bottom and located in the Concentrator Building, used to treat dust from unloading and transferring of crushed ore from a fine ore bin silo to the grinding circuit, having a water flow rate of 72 litres per minute and equipped with a mist eliminator, discharging to the air at a volumetric flow rate of 4.2 cubic metres per second through a stack having an exit diameter of 0.45 metre by 0.31 metre and extending 7.4 metres above grade;

- One (1) baghouse type dust collector, located in the Concentrator Building and serving the soda ash silo, used to treat emissions from loading of soda ash into the soda ash silo, having 284 square metres of cloth filter bags, equipped with a shaker cleaning mechanism, discharging to the air at a volumetric flow rate of 0.83 cubic metre per second through a stack having an exit diameter of 0.30 metre and extending 23.2 metres above grade;

- One (1) lime storage and slaking system, located at the Tailings Management Area No. 2 Lime Station, complete with a lime storage silo with a capacity of 316 tonnes and equipped with a bin vent filter with 22.6 square metres of polyester filter bags and with a shaker cleaning mechanism, discharging into the air at a volumetric flow rate of 0.3 cubic metre per second through a rectangular air outlet, having an equivalent exit diameter of 0.28 metre, extending 1.2 metres above the roof and 23.7 metres above grade;

- Exhausts from the Analytical Lab, discharging into the air as outlined in Schedule "A";

- Exhausts from the Maintenance Building, discharging into the air as outlined in Schedule "B";

- One (1) natural gas fired boiler, having a maximum combined thermal input of 2.2 Gigajoules per hour, serving the Concentrator Building; and

- One (1) natural gas fired boiler having a maximum thermal input of 20.8 Gigajoules per hour and serving the flotation circuit, discharging to the air at a volumetric flow rate of 3.3 cubic metres per second through a stack having an exit diameter of 0.8 metre and extending 22.6 metres above grade.

All in accordance with the Environmental Compliance Approval application submitted by Glencore Canada Corporation, signed by David Yaschyshyn, and dated November 6 2018, the Emission Summary and Dispersion Modelling Report prepared by Roki Fukuzawa P.Eng. of Hatch, dated November 13, 2018, and submitted in support of the application, information submitted via e-mail by Roki Fukuzawa P.Eng. on August 29, 2019, September 13, 2019 and September 26, 2019, and all other information and documentation submitted in support of the application.

For the purpose of this environmental compliance approval, the following definitions apply:

1. "*Air Quality Monitoring Manual*" means the *Ministry* publication entitled "*Operations Manual for Air Quality Monitoring in Ontario PIBS 6687e*", dated

March 2008, as amended;

2. "*Ambient Air Monitoring Program*" means the Ambient Air Monitoring Program titled "Kidd Concentrator Site Ambient Air Monitoring Program PRG-9995-1224", dated March 28, 2014, and prepared by Leah Fedat of Glencore Canada Corporation, including amendments accepted by the *District Manager* on January 26, 2018;
3. "*Approval*" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
4. "*Best Management Practices Plan*" means the document titled "Best Management Practices Plan for the Control of Fugitive Dust", dated March 7 2014, and prepared by David Yaschyshyn P.Eng. of Glencore Canada Corporation.
5. "*Company*" means Glencore Canada Corporation, that is responsible for the construction or operation of the *Facility* and includes any successors and assigns;
6. "*District Manager*" means the District Manager of the appropriate local district office of the *Ministry*, where the *Facility* is geographically located;
7. "*EPA*" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended ;
8. "*Equipment*" means the process and equipment described in the *Company's* application, this *Approval* and in the supporting documentation submitted with the application, to the extent approved by this *Approval*;
9. "*Facility*" means the entire operation located on the property where the *Equipment* is located;
10. "*Manual*" means a document or a set of documents that provide written instructions to staff of the *Company*;
11. "*Ministry*" means the ministry of the government of Ontario responsible for the *EPA* and includes all officials, employees or other persons acting on its behalf;
12. "*Montcalm Ore*" means custom ore from the Montcalm Mine facility located at Malette Road North in the Unorganized Township of Montcalm, District of Cochrane, Ontario;
13. "*Publication NPC-300*" means the *Ministry* Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. OPERATION AND MAINTENANCE

1. The *Company* shall ensure that the *Equipment* is properly operated and maintained at all times. The *Company* shall:
 - a. prepare, not later than three (3) months after the date of this *Approval*, and update, as necessary, a *Manual* outlining the operating procedures and a maintenance program for the *Equipment*, including:
 - i. routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the *Equipment* suppliers;
 - ii. emergency procedures, including spill clean-up procedures;
 - iii. procedures for any record keeping activities relating to operation and maintenance of the *Equipment*;
 - iv. all appropriate measures to minimize noise and odorous emissions from all potential sources; and
 - v. the frequency of inspection and replacement of the filter material in the *Equipment*;
 - b. implement the recommendations of the *Manual*.
2. The *Company* shall ensure that a maximum of one (1) copper dryer and one (1) zinc dryer are operated at any given time.
3. The *Company* shall operate the *Facility* at a production limit of up to a combined 3 million tonnes per year of copper ore and zinc ore, and up to a combined 1 million tonnes per year of *Montcalm Ore* and custom ore.

2. FUGITIVE DUST CONTROL

1. The *Company* shall implement the *Best Management Practices Plan* for the control of fugitive dust emissions resulting from the operation of the *Facility*. The *Company* shall update the *Best Management Practices Plan* as necessary or at the direction of the *District Manager*.

3. DOCUMENTATION REQUIREMENTS

1. The *Company* shall record, in a log book, each time a specific preventative and control measure described in the *Best Management Practices Plan* is implemented. The *Company* shall record, as a minimum:
 - a. the date when each emission control measure is installed, including a description of the control measure;
 - b. the date when each new preventative measure or operating procedure to minimize emissions is implemented, including a description of the preventative measure or operating procedure; and

- c. the date, time of commencement, and time of completion of each periodic activity conducted to minimize emissions, including a description of the preventative measure/procedure and the name of the individual performing the periodic activity.

4. RECORD RETENTION

1. The *Company* shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the recording activities required by this *Approval*, and make these records available for review by staff of the *Ministry* upon request. The *Company* shall retain:
 - a. all records on the maintenance, repair and inspection of the *Equipment*;
 - b. the log book which contains all records on the preventative and control measures implemented for each source of fugitive dust emission identified in the *Best Management Practices Plan*; and
 - c. all records of any environmental complaints, including:
 - i. a description, time and date of each incident to which the complaint relates;
 - ii. wind direction at the time of the incident to which the complaint relates; and
 - iii. a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

5. REPORTING REQUIREMENTS

1. The *Company* shall provide the *District Manager* no later than March 31 of each year, an annual report that shall include, as a minimum, the following:
 - a. a summary of the records produced by the continuous concentration monitoring systems on the Copper 1 dryer stack and Copper 2 dryer stack, and an evaluation of the performance of the continuous concentration monitoring systems including malfunctions; and
 - b. a record of any upset events including time, date, reason for upset, any remedial actions taken, and any measures to prevent such upsets in future.

6. AMBIENT AIR MONITORING

1. The *Company* shall carry out and maintain an ambient air monitoring program in accordance with the *Air Quality Monitoring Manual* at locations agreed to by the *District Manager* and the *Company*, for the measurement of

test contaminants accepted by the *District Manager*, and by methods and equipment accepted by the *District Manager*. The *Company* shall:

- a. implement the *Ambient Air Monitoring Program*s agreed to by the *District Manager*; and
- b. submit the ambient air monitoring data and summary reports on the *Ambient Air Monitoring Program* as per the requirements of the *Air Quality Monitoring Manual* to the *District Manager*, or on an alternative frequency acceptable to the *District Manager*;

2. The *Company* shall update the *Ambient Air Monitoring Program*s necessary or at the direction of the *District Manager*.

7. NOTIFICATION

1. The *Company* shall notify the *District Manager* of each environmental complaint verbally within two (2) business days of the complaint, and in writing within five (5) business days of the complaint. The written notification shall include:
 - a. a description of the nature of the complaint;
 - b. the time and date of the incident to which the complaint relates; and
 - c. the wind direction and other conditions at the time of the incident.
2. The *Company* shall notify the *District Manager* in writing at least ninety (90) days prior to the processing of any custom ore at the *Facility*, except for *Montcalm Ore*. The written notification shall include:
 - a. The composition of the custom ore to be processed, including metal contents; and
 - b. Dispersion modelling results and an assessment of compliance with the standards under O. Reg. 419/05 during processing of the custom ore referred to in Condition 7.2.a.

8. NOISE

1. The *Company* shall, at all times, ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300*.
- 2.

SCHEDULE "A"

Exhausts from Analytical Lab

Exhaust	Volumetric Flow Rate (actual cubic metres per	Stack Exit Diameter (metres)	Stack Height Above Roof (metres)	Stack Height Above Grade (metres)
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	second)			
Analytical Lab BH	13.0	0.94	9.2	17.6
Analytical Lab Central Bank Fume Exhaust	13.8	0.92	9.0	17.5
Perchloric Acid Stack	1.13	1.31 x 0.64	5.6	14.3
Balance Room Fume Hood Exhaust	0.52	0.18 x 0.22	0.9	9.6
Standards Room Fume Hood Exhaust (2)	0.47	0.16	3.0	11.7
Fire Assay Main Fume Exhaust	2.74	0.35 x 0.42	0.9	3.6
Fire Assay Slagging Exhaust	0.94	0.20 x 0.25	0.9	3.6
Fire Assay Parting Exhaust Fan #26	1.20	0.20 x 0.25	0.9	3.6
Atomic Absorption Exhaust Fan #9	0.87	-	0.9	9.6
Atomic Absorption Exhaust Fan #8	0.38	-	0.9	9.6
Main Claisse Fluxer Exhaust	0.05	-	0.9	9.6
ICP Exhaust Fan #14	0.24	0.15 x 0.18	0.9	9.6
Chem Lab Claisse Fluxer Exhaust Fan #16	0.51	0.20	0.7	9.4
Heating Boilers	-	0.76	8.0	17.0
Environmental Lab Perchloric Acid Stack	0.57	0.65 x 0.65	3.5	12.2
Environmental Lab Fume Hood	0.47	0.18 x 0.22	0.9	9.6

Exhaust				
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SCHEDULE "B"

Exhausts from Maintenance Building

Exhaust	Stack Volumetric Flow Rate (actual cubic metres per second)	Stack Exit Diameter (metres)	Stack Height Above Roof (metres)	Stack Height Above Grade (metres)
Central Fume Extracting System #1	8.09	0.45 x 0.50	1.2	11.9

The reasons for the imposition of these terms and conditions are as follows:

1. Conditions No. 1 and 2 are included to emphasize that the *Equipment* must be maintained and operated according to a procedure that will result in compliance with the *EPA*, the regulations and this *Approval*.
2. Conditions No. 3, 4 and 5 are included to require the *Company* to keep records and to provide information to staff of the *Ministry* so that compliance with the *EPA*, the regulations and this *Approval* can be verified.
3. Condition No. 6 is included to require the *Company* to gather accurate information so that the environmental impact and subsequent compliance with the *EPA*, the regulations and this *Approval* can be verified.
4. Condition No. 7 is included to require the *Company* to notify staff of the *Ministry* so as to assist the *Ministry* with the review of the site's compliance.
5. Condition No. 8 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Facility*.

Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s). 9194-9KPQAJ issued on July 7, 2014

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, 1993, the Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary* Environmental Review Tribunal 655 Bay Street, Suite 1500 Toronto, Ontario M5G 1E5	AND	The Minister of the Environment, Conservation and Parks 777 Bay Street, 5th Floor Toronto, Ontario M7A 2J3	AND	The Director appointed for the purposes of Part II.1 of the Environmental Protection Act Ministry of the Environment, Conservation and Parks 135 St. Clair Avenue West, 1st Floor Toronto, Ontario M4V 1P5
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*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

This instrument is subject to Section 38 of the Environmental Bill of Rights, 1993, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at <https://ero.ontario.ca/>, you can determine when the leave to appeal period ends.

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 7th day of October,
2019

Jeffrey McKerrall, P.Eng.

Director
appointed for the purposes of Part
II.1 of the *Environmental
Protection Act*

NR/
c: District Manager, MECP Timmins
Roki Fukuzawa P.Eng., Hatch Ltd.