

BRUNSWICK MINE

Glencore Canada Corporation

February 17th, 2015

Water Supply Source Assessment

Initial Application – Revision to Submission on February 13th, 2015

Name of Proponent: Glencore Canada Corporation
Brunswick Mine
P.O. Box 3000
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Rationale for the Alternate Water Supply:

The water treatment plant at Brunswick Mine requires raw water for the ongoing operations. This consumption varies, according to treatment rate, with highest treatment rates during spring run-off and fall rainy periods. Lower treatment rates occur during summer and winter periods.

The current source of raw water is the fresh water pump station at the Nepisiguit River Head Pond. This station provided water during the mining operations, which was considerably higher than the on-going requirement in closure. The water is pumped through a steel pipeline from the pump station to the treatment plant, an approximate distance of 8 km.

The design of the pumping station and pipeline was to provide water flows in excess of 8,000 lpm for the operation of the mining and milling operations. In closure this raw water flowrate required is approximately 200 lpm at peak consumptions. There exists an opportunity to source an alternate supply of water and de-commission the Nepisiguit Pump Station, with the following potential benefits:

- 1-Eliminates risk of pumphouse flooding, due to NB Power operating head pond at a higher elevations.
- 2-Eliminates risk to operations in the event a pipeline failure.
- 3-Reduction in electrical power consumption.
- 4-Reduction in site maintenance costs.
- 5-Removes transfer of water from one watershed, discharged into other.

Location of Drill Targets: Property PID 20172953

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A GLENCORE Company

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Plan to drill wells in the South West edge of the property, as marked on Figure 1 below.



Figure 1: Aerial Photo of the Brunswick Mine Site (PID 20172953)

The location of the proposed drill target is also indicated on Figure 2, showing Brunswick Mine, in relation to distance from Bathurst, Allardville, and New Brunswick Highways 430, 180, 134 and 11.

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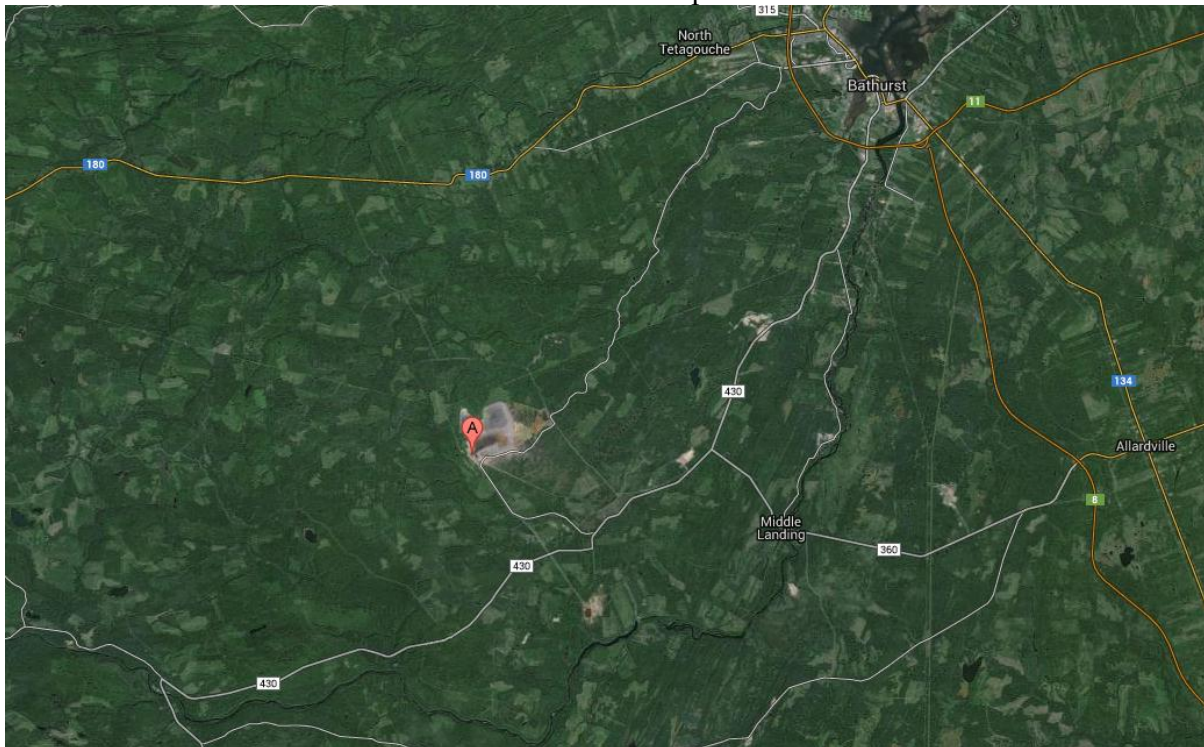


Figure 2: Google Maps of the Brunswick Mine site

Required water quantity: peak consumption of 288 m³/day (estimated), with a peak pumping rate of 200 litres per minute.

Alternate Water Supply Sources in Area (including municipal systems):

The proposed water supply source is located approximately 600 m east of the Pabineau River, 8 km North of the Nepisiguit River, and 10 km West of the Little River. The location of these three watercourses is shown in Figure 3.

There are no municipal systems in the area.

The Area Hydrogeology was studied as part of the original Brunswick Mine Closure Plan. The Hydrogeological Study was completed by SNC-Lavalin, with a Final Report issued in March 2010.

As part of the groundwater monitoring program by Brunswick Mine, two monitoring wells were installed south of the proposed drill target. The water level in these wells has been measured. The data is shown in Table 1.

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The proposed hydrogeological testing and work schedule is as follows:

May 11th – May 15th 2015 – Drilling of Wells (6 Inch Diameter)

May 19th – May 22nd 2015 – Constant Rate Pump Test

June 2015 – Evaluation of Data

August 2015 – Develop Scope of Work for Construction

September 2015 – Construction

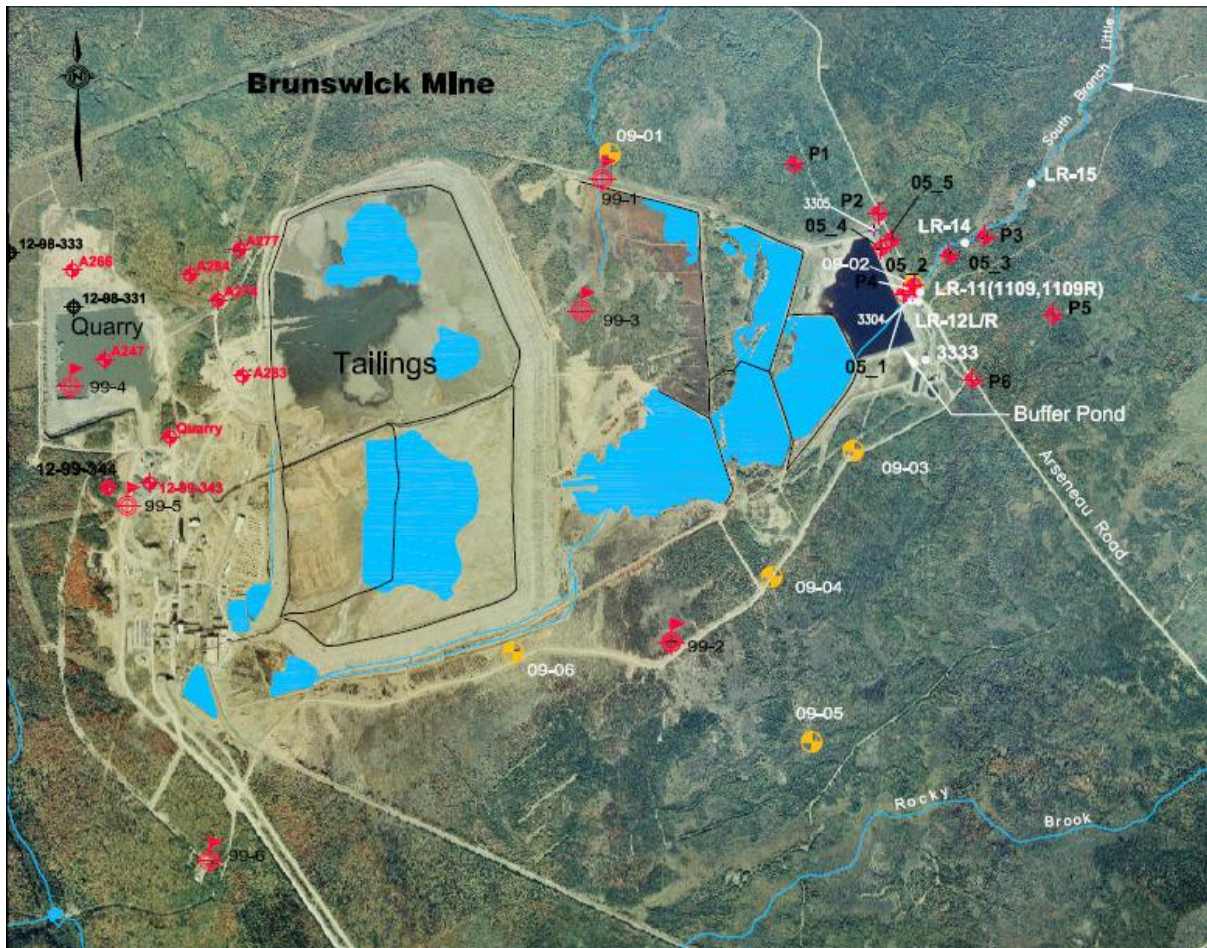


Figure 3: Location of Watercourses

Monitoring Well	Northing	Easting	Well Depth	Ground Elevation
	(m)	(m)	(m)	(m)
99-6-1	22227.194	12298.043	18.20	2656.97

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99-6-2	22227.944	12294.923	9.20	2657.09
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Table 1: Location of Monitoring Wells 99-6-1 and 99-6-2

There are no contamination sources within 500 m of the drill targets. The Brunswick Mine Tailings Basin is approximately 750 m east of the drilling target, but the ground elevation is 25 meters lower than the drilling target location.

There have not been groundwater quantity or quality issues observed in this area. The depth of water in the measured in the past 5 years has averaged 2.0 meters below grade, with a maximum of 5 m below grade, and a minimum of 0.5 m below grade. The observed data is presented in Tables 2 and 3

dd-mm-yy	CU-D	PB-D	ZN-D	FE-D	CA-D	MG-D	SO4-D	HARD-D	PH-F	DEPTH m
04-Aug-09	<0.01	<0.02	0.10	0.04	29.10	1.32	15.1	78.1	7.4	1.28
28-Sep-09	0.05	<0.02	0.15	0.14	33.60	1.39	12.9	89.7	7.1	4.76
16-Mar-10	<0.02	<0.01	<0.02	0.08	0.02		10.5	10.5	8.0	2.24
03-Jun-10	<0.01	<0.02	0.11	0.04	17.40	0.85	11.4	46.9	7.5	1.84
29-Mar-11	<0.01	<0.02	0.04	<0.01	18.80	0.84	11.1	50.4	6.4	1.46
22-Jun-11	<0.01	<0.02	0.04	0.01	18.80	0.81	10.7	50.3	6.7	0.55
25-Aug-11	<0.01	0.03	0.06	0.06	22.80	1.06	12.9	61.3	5.8	0.18
07-Oct-13	<0.01	<0.02	0.05	0.04	21.70	0.88	57.8	8.8	6.85	1.42
05-Jun-14	<0.01	<0.02	0.03	<0.01	19.50	0.83	52.1	8.9	6.6	4.40

Table 2: Measured Concentrations in (Deep) Well 99-6-1

ID	dd-mm-yy	CU-D	PB-D	ZN-D	FE-D	CA-D	MG-D	SO4-D	HARD-D	PH-F	DEPTH m
W99-6-2	04-Aug-09	<0.01	<0.02	0.08	0.02	24.60	1.03	10.6	65.6	7.3	1.26
W99-6-2	28-Sep-09	0.01	<0.02	0.12	0.10	26.60	1.15	14.2	71.3	7.3	4.43
W99-6-2	16-Mar-10	<0.02	<0.01	<0.02	0.09	0.02		10.5	10.5	7.9	1.98
W99-6-2	03-Jun-10	<0.01	<0.02	0.12	0.01	18.20	0.86	11.1	48.9	7.0	1.84
W99-6-2	09-Sep-10	<0.01	0.02	0.10	0.01	26.70	1.06	11.7	70.9	7.7	5.15
W99-6-2	23-Nov-10	<0.01	<0.02	0.10	0.01	23.00	1.02	11.3	61.7	7.5	1.21
W99-6-2	29-Mar-11	<0.01	<0.02	0.04	<0.01	19.00	0.93	12.2	51.2	6.0	0.37
W99-6-2	22-Jun-11	<0.01	<0.02	0.04	0.01	20.40	0.89	10.6	54.6	6.1	2.41
W99-6-2	25-Aug-11	<0.01	0.03	0.08	0.09	22.70	1.05	12.1	61.1	6.3	2.11
W99-6-2	12-Dec-11	<0.01	<0.02	0.05	0.01	22.90	1.01	11.5	61.3	5.5	1.16
W99-6-2	19-Apr-12	<0.01	<0.02	0.05	0.01	20.20	0.94	54.3	11.0	7.11	1.15
W99-6-2	13-Jul-12	<0.01	<0.02	0.05	<0.01	21.30	0.93	57.0	10.0	6.34	1.87
W99-6-2	20-Sep-12	<0.01	0.02	0.08	0.06	25.70	1.12	68.8	11.5	6.19	3.35
W99-6-2	03-Apr-13	0.01	<0.02	0.07	0.06	21.80	1.01	58.5	9.9	7.26	1.83
W99-6-2	25-Jun-13	<0.01	<0.02	0.05	0.01	20.70	0.91	55.4	8.8	7.1	1.46
W99-6-2	07-Oct-13	<0.01	0.02	0.05	0.06	16.50	0.73	44.2	6.7	7.69	0.88

Table 3: Measured Concentrations in (Shallow) Well 99-6-2

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There are no watercourses within 60 meters of the proposed drill targets. The nearest watercourse is the Pabineau River, located more than 600 m West of the proposed drill targets.

Stakeholder Consultation Activities

A meeting will be scheduled to provide details of the plan with the Chief and Council at Pabineau First Nations. A stakeholder assessment was completed, and no other stakeholders were identified to be potentially impacted by this project, due to low water volume requirements and the location of the site.

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Appendix 1

Borehole Logs for Groundwater Monitoring Wells

99-6-1

99-6-2