

Appendix B1

Report: 2008 Geochemical Characterization Study: All-Weather Private Access Road and Airstrip Quarries



MEADOWBANK GOLD PROJECT

2008 Geochemical Characterization Study: All-Weather Private Access Road and Airstrip Quarries

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EXECUTIVE SUMMARY

This report documents the 2008 geochemical characterization study conducted on the 22 quarries located along the All Weather Private Access Road (AWPAR) between the Hamlet of Baker Lake and the Meadowbank Mine Site. In addition, Acid Base Accounting (ABA) analysis was performed on rock material from the area selected for expansion of the airstrip quarry at the Meadowbank Mine Site during the summer of 2008.

Material from the AWPAR quarries was used for the construction of the access road. A pre-construction field investigation and characterization study identified potential borrow sources, but additional quarries were excavated during the construction to improve accessibility to materials. Agnico-Eagle Mines Limited (AEM) committed to characterize the exposed rock and surface water in these quarries during the 2008 summer season to confirm that there are no significant occurrences of acid rock drainage or metal leaching. In June 2008, 17 water samples were collected from areas of standing water in the quarries, at the same time the flow and drainage patterns were documented in each quarry. In August 2008, 22 rock samples were collected and analysed to determine acid rock drainage and metal leaching potential. Ten additional samples from Quarries 6 and 17 were sent to Cantest in October 2008 for repeat ABA analysis because the original samples returned higher than expected Total Sulphur concentrations. The results from these analyses indicate that these quarry sources are non-acid generating rock with low metal leaching potential.

In March 2008 prior to construction, 12 rock samples were collected from the area designated for the potential airstrip quarry at the Meadowbank mine site. Surface water samples were collected on a monthly basis in the vicinity of the airstrip during the open water season from June through September. The results confirmed that the on-site airstrip quarry source is non-acid generating rock with low metal leaching potential.

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SECTION 1 • INTRODUCTION

The AWPARG is a 110 km all weather road connecting the Hamlet of Baker Lake to the Meadowbank Mine Site. In 2005 prior to construction and as a component of the Final Environmental Impact Statement, a geochemical assessment of acid rock drainage (ARD) and metal leaching (ML) potential was performed on potential borrow sites for construction materials. Results of this assessment indicated that all of the potential quarry sourced rock construction materials were expected to be non-acid generating with low metal leaching potential. It was further recommended that Agnico-Eagle Mines Ltd. (AEM) monitor the quality of run-off water contacting the open quarry sites as a measure of due diligence.

Construction on the AWPARG was completed in early 2008 with a total of 22 quarry sites developed to provide the required rock materials used in the road construction. This included several additional new quarry sites that were added by the road construction contractor in areas that had not been previously directly assessed for ARD/ML potential prior to the start of road construction. To demonstrate that none of these quarries was a potential source for ARD or ML; AEM committed to re-characterize each of the developed quarry sites for ARD/ML potential in the summer of 2008. AEM re-committed to this task during the Type A Water License process in February 2008. This report provides the results obtained from this re-characterization program.

The report also provides the results obtained from a program of additional ARD and ML characterization work conducted at the Meadowbank site in 2008 on the expanded airstrip quarry. This quarry was the primary source for all rock materials used for the construction of the mine site roads, the airstrip, building pads, lay-down areas and the East Dike.

The report also provides results from water quality sampling conducted in 2008 on drainage seeps from the site roads, the airstrip, building pads and lay-down areas. The objective was to monitor precipitation runoff that came into contact with this quarried rock to measure what contaminant levels are being released from these rock fill materials.

This report documents the geochemical characterization studies that were conducted in 2008 on these quarry sites. The results of the studies will be used to advise any future borrow operations and to finalize the closure and reclamation plans for the quarries.

SECTION 2 • AWPAR QUARRIES CHARACTERIZATION

The 2008 geochemical characterization program for the 22 AWPAR quarries involved four components:

1. Drainage Mapping – Prevailing drainage conditions were photographed and mapped at each quarry site during the spring freshet in June to facilitate reclamation planning (included as Appendix B);
2. Geological Mapping – Lithology and rock types of the quarry walls and floors were mapped (see Section 2.1.2);
3. Water Quality Sampling – During the spring freshet, water samples were collected from the quarries where standing water was present. The samples were analyzed for the following parameters: field pH, field Temperature, Field conductivity, pH, alkalinity, turbidity, hardness, chloride, fluoride, Sulphate, Nutrients (Total Ammonia and Nitrate), Dissolved Metals by ICP-MS and Hg by CVAA. The sample results are discussed in Section 2.2; and
4. Quarry Rock Sampling – During August 2008, 3 chip samples representative of all exposed rock types and lithologies were collected from the quarry walls. Samples were analyzed by Acid Base Accounting (ABA), BC MEM Shake Flask Extraction Procedure (SFE) and trace metals by ICP-MS. Additional sampling was conducted in Quarries 7 and 17 in October to follow up on unexpected results from the August sampling. Methodology and results are discussed in Sections 2.3 and 2.4.

2.1 QUARRY LOCATIONS

Figures 1a, 1b and 1c show the locations of the quarries relative to the All Weather Private Access Road and the 2005 potential borrow sites. The as-built drawings for quarries 1 through 22 are included in Appendix A.

2.1.1 Drainage Mapping

Drainage patterns were surveyed in each of the 22 quarries at the same time that the water samples were collected in June 2008. The photos and flow pattern diagrams for each quarry are included in Appendix B.

Table 2.1 summarizes the observed drainage conditions that were noted at each of the 22 road quarry sites and identifies whether any pooling of snowmelt was present at the time of the sampling. The survey was conducted in June of 2008 at which time most of the snow had recently melted leaving just deep drifts in shaded areas left to melt. In summary the survey was completed at the end of the spring thaw.

Thirteen of the twenty two quarry sites appear to be graded so that all snow melt and precipitation runoff is naturally contained within the quarry footprint. For the other nine quarries at least part of the quarry area slopes towards the access allowing snowmelt and precipitation runoff to partially exit the quarry footprint. Of these nine quarries, seven appear to have their drainage constrained either by the AWPAP or by broken rock piles within the quarry footprint. Quarries 13 and 17 were observed to be draining snowmelt onto the surrounding tundra with Quarry 17 draining into a small natural lake located adjacent to the quarry site.

Quarry 6 appears to have intercepted the phreatic zone as it was noted to contain significant water all summer long. There was no noted drainage from this quarry. The water appears to be fully constrained within the quarry footprint.

2.1.2 Geological Mapping

The geology of the 22 quarries was mapped by a geologist from AEM while the rock samples were collected in August 2008. The results of this mapping are summarized in Table 2.2.

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Table 2.1: AWPAR Observed Drainage Patterns

Quarry ID Number	Is Drainage Contained within the Quarry	Does water pool in the quarry	Is the pool area greater than 50% of the quarry area	Notes
1	Yes	Yes	No	Very small pool
2	Yes	Yes	No	Two very small pools
3	Yes	Yes	No	Very small pool
4	Yes	Yes	Yes	Permanent lake in this quarry – suspect quarry is within the phreatic zone
5	Yes	Yes	No	Small pool
6	No – slope is towards access	Yes	No	Extremely small pool (quarry used to store contaminated soils from Baker Lake Cleanup in 2008)
7	Yes	Yes	No	Small to Medium pool
8	Yes	Yes	No	Two pools – one near access constrained by road to the quarry
9	Yes	No	No	No water noted during survey
10	No – slope is partially towards access	Yes	Yes	Water noted draining onto road but constrained by road
11	No – slope is partially towards access	Yes	No	Water constrained by gravel pile in quarry
12	No – slope is partially towards access	Yes	No	Water draining onto the roadway but is being constrained on the road
13	No – slope is partially towards access	Yes	Yes	Water draining out of quarry onto local tundra
14	Yes	Yes	No	Medium side pool
15	Yes	Yes	No	Medium size pool
16	Yes	Yes	No	Deep but small pool near entrance
17	No	No	No	Quarry is draining towards a small adjacent lake
18	Yes	No	No	Draining towards back face of quarry but no pooling
19	No	No	No	Draining towards access road but appears contained by the roadway
20	No	Yes	No	Sloping towards access but constrained by road. Very small pool present
21	No	No	No	Sloping towards access but constrained by road. No pool present
22	Yes	No	No	No standing water present. Quarry is being used to store contaminated soil from mine site until landfarm is constructed.

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Table 2.2: Summary of Quarry Geological Mapping

Quarry #	Rock Type	Weathered Surface	Fresh Surface	Texture	Alteration	Mineralization	Magnetic	Carbonatized	Structure	Comments
Quarry 1	Monzonite.	Green mottled orange-pink.	Grey-green mottled orange-pink.	Coarse grained, massive.	Weakly amphibolitized.	Trace pyrite.	No.	No.	Pervasive jointing at 048°Az/18°E.	Numerous epidote filled hairline fractures.
Quarry 2	Gabbro.	Medium grey.	Medium grey-green mottled offwhite.	Coarse grained, massive.	Weakly amphibolitized.	1-2% fine grained disseminated magnetite, trace pyrite.	Yes.	Yes, reacts weakly to 10% Hcl.	Several joints sets: NW-SE/~50-60°SW ; E-W/90° ; NE-SW/70-80°SE; flat/~25°S	Roughly 20% jointing overall.
Quarry 3	Gabbro.	Dark green.	Dark green mottled offwhite.	Coarse grained, massive.	Strongly amphibolitized.	0.5% very fine grained disseminated pyrite overall.	No.	Yes, minor calcite stringers found throughout.	Pervasive jointing at 010°Az/50E; ~NW/~40°NE; ~W/~70°N; few flats.	The numerous joint sets (0.50-1.0m apart) make for blocky ground.
Quarry 4	Gabbro.	Dark green.	Dark green mottled offwhite.	Coarse grained, massive.	Strongly amphibolitized.	0.5% very fine grained disseminated pyrite overall.	No.	Yes, minor calcite stringers found throughout.	Pervasive jointing at 010°Az/50E; ~NW/~40°NE; ~W/~70°N; few flats.	The numerous joint sets (0.50-1.0m apart) make for blocky ground.
Quarry 5	Quartzite (more precisely a quartz arenite).	Light grey-offwhite and locally iron stained.	Pale grey with a pale green tinge.	Fine grained.	The intergranular quartzofeldspathic cement has been sericitized.	1% fine grained subhedral-euhedral disseminated pyrite overall.	No.	No.	Weak foliated along the bedding plane (appears parallel to the shearing) locally strongly sheared along ~10°Az/subvertical.	The unit is iron stained along the shear planes giving it a rust-brown banded appearance locally.
Quarry 6	Basalt	Dark green.	Dark grey-green.	Aphanitic, massive.	Moderately chloritized.	Trace pyrite, minor hematite along hairline fractures.	No.	No.	Few joints trending ~NW-SE/70°W	Locally the unit contains quartz-calcite filled amygdules.
Quarry 7	Quartzite (more precisely a quartz arenite)	Grey mottled black.	Grey mottled black.	Medium-coarse grained.	The inter granular quartzfeldspathic cement has been weakly sericitized.	1-2% fine graind disseminated pyrite overall,locally higher concentrations.	No.	No.	Strongly sheared along 10°Az/subvertical, causing the unit to be schistose.	The unit is locally strongly sheared.
Quarry 8	Andesite / basalt	Medium grey-green.	Medium grey-green.	Aphanitic to fine grained, massive.	Weak-moderately chloritized.	Trace subhedral pyrite.	No	Yes: moderate reaction to 10% Hcl.	Wekly foliated, ~5% jointing at 090°Az/80°S.	Quartz-calcite stringers can be found throughout and are randomly oriented.
Quarry 9	Andesite	Medium green colored.	Pale green-grey.	Aphanitic, massive.	Weakly chloritized.	Trace subhedral pyrite	No	Yes; weak reaction to 10% Hcl.	Shear zone in the southern pit wall runs ~100°Az/45°S.	The unit is weakly foliated along an E-W direction and contains ~5% quartz/calcite stringers randomly oriented throughout.
Quarry 10	Crystal tuff (rhyolite)	Pale grey	Pale grey-green mottled	Medium grained	Weakly sericitized	<1% euhedral to subhedral disseminated pyrite	No	No	Moderately foliated and locally sheared along ~98°Az/60°S with jointing at ~70°Az/60°S.	The unit consists of ~ 20-30%, subangular to subrounded, grey-blue quartz phenos>white feldspar phenocrysts hosted by a weakly sericitized felsic matrix.
Quarry 11	Crystal tuff (rhyolite)	Pale grey	Pale grey-green mottled offwhite	Medium grained	Weakly sericitized	Trace subhedral pyrite	No	Yes: weak reaction to 10% Hcl	Weak-moderately foliated along 090°Az/70°S	The unit consists of ~ 40%, subangular to subrounded, white feldspar>>grey-blue phenocrysts hosted by a weakly sericitized felsic matrix.

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Quarry #	Rock Type	Weathered Surface	Fresh Surface	Texture	Alteration	Mineralization	Magnetic	Carbonatized	Structure	Comments
Quarry 12	Crystal tuff (rhyolite)	Pale grey	Pale grey	Medium grained	Weakly sericitized.	<1% disseminated subhedral pyrite.	No	No	Highly sheared along 235°Az/80° causing a slaty cleavage.	Roughly 20-30%, 1-2mm subhedral quartz>feldspar phenos hosted by a weakly sericitized matrix.
Quarry 13	Crystal tuff (rhyolite)	Pale grey	Pale grey	Medium grained	Weakly sericitized.	0.5% subhedral disseminated pyrite.	No	No	Moderately foliated. Flat lying joints dip slightly NE.	20-30% blue quartz and offwhite-grey feldspar phenocrysts hosted by a weakly sericitized felsic matrix.
Quarry 14	Granite.	Green-brown.	Medium green-brown.	Medium-coarse grained, massive.	Moderately amphibolitized.	1% fine grained disseminated euhedral pyrite, trace fine grained anhedral chalcopyrite.	No	No	Minor randomly oriented fractures/joints.	The fractures are locally epidote filled.
Quarry 15	Monzodiorite	Grey-brown.	Grey mottled black.	Medium grained, massive.	Possibly weakly amphibolitized.	<1% fine grained disseminated pyrite overall.	No	No	Locally sheared at 226°Az/50°N	None.
Quarry 16	Monzonite	Medium brown.	Grey mottled pale brown.	Medium grained, massive.	Weakly amphibolitized.	1% fine grained subhedral-euhedral pyrite.	No	No	Pervasive jointing along 316°Az/50°E.	None.
Quarry 17	Granite.	Grey-brown.	Pale pink-brown mottled grey.	Coarse grained, massive.	None.	Trace pyrite.	No	No	Pervasive jointing at 343°Az/65°NE; flat set.	None.
Quarry 18	Quartzite.	Medium grey.	Medium grey mottled offwhite.	Medium grained.	None.	3-5% fine grained disseminated subhedral pyrite with ~1% fine grained anhedral disseminated chalcopyrite as well as 1-2% (?) extremely fine grained disseminated magnetite (very difficult to see) overall. ~1-2%	Yes; strongly.	No	Pervasive jointing (0.5-1.0m apart) trending 245°Az/55°N.	A granite dyke ~20m wide and trending 065° Az/vertical can be seen on the western wall of the quarry. The contacts are brecciated.
Quarry 19	Granite.	Grey-pink.	Pale pink mottled grey and dark green.	Very coarse grained, massive.	None.	Trace pyrite, minor magnetite with the hornblende crystals.	Yes.	No		
Quarry 20	Granite.	Pinkish-brown.	Pink mottled offwhite and grey.	Coarse grained.	Weakly amphibolitized.	Trace pyrite.	No.	No	Jointing at 216°Az/80°NW; flat set.	The joint intersections make for very blocky ground.
Quarry 21	Granite.	Grey-pink.	Medium pink mottled dark green.	Medium-coarse grained, massive.	None.	0.5% fine grained disseminated subhedral-euhedral pyrite.	No.	No	Jointing at 032°Az/70°SE; 092°Az/80°S.	Intersecting joints make for very blocky ground.
Quarry 22	Andesite.	Pale green.	Medium grey-green.	Aphanitic-fine grained.	Very weakly sericitized, silicified.	Trace fine grained disseminated pyrite.	No.	No	Numerous joint sets trending 289°Az/75°NE; 330°Az/70°E ; 102°Az/50°S.	The joint set intersections make the unit very blocky.

2.2 SURFACE WATER QUALITY SAMPLING

On June 22, 2008 during the spring freshet, water samples were collected from 17 of the 22 AWPARG quarries; specifically from all of the quarries where standing water or drainage was present. The objective was to quantify the water quality of the water that was ponding or draining at each quarry with the objective of determining whether any significant acid generation or metals leaching is occurring at these quarry sites. The water samples were sent to Maxxam Analytics laboratory (a nationally certified environmental water quality laboratory) in Montreal, Quebec and analysed for conventional parameters and metals by ICP-MS. Laboratory certificates and QA/QC data are available in Appendix C.

2.2.1 Discussion of Results

The water sample results are presented in Table 2.3 and are compared against the Metal Mining Effluent Regulations (MMER) Discharge Limits and the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (2007). Quarries 17, 18, 19, 21 and 22 were not sampled because there was no water accumulation or observable drainage.

The pH of the samples ranged between a low of 4.8 to a high of 8.0. Two of the quarries had water pH below 7, Quarry 7 at a pH of 4.8 and Quarry 20 at a pH of 5.9. All other water samples ranged around pH 7. Quarry 7 had a small standing pool of water with no release to the environment. The Sulphate value of this sample was 11 mg/L. Quarry 20 also had only a small standing pool of water with no release to the environment. The Sulphate value of this sample was 0.8 mg/L. At these relatively low Sulphate levels it is unlikely that these low pH values represent acidic rock drainage; however these two quarries warrant further monitoring.

With one exception Sulphate concentrations ranged between 0.6 and 12 mg/L. Quarry 16 returned a Sulphate concentration of 240 mg/L although the pH of the sample was 7.1, consequently it is recommended that this quarry also warrants further monitoring.

MMER TSS concentrations were exceeded in three of the samples, Quarries 2, 6 and 7 at 43, 48 and 63 mg/L respectively. In all three cases, the water samples were taken from relatively small pools of standing water during the spring melt and thus should not cause any concern as the water was fully contained.

No other parameters in all 17 of the water samples exceeded the MMER discharge standards.

Sample concentrations were also compared against the CCME Guidelines for the protection of freshwater aquatic life. The parameters where the CCME guideline was exceeded are highlighted in Table 2.2. These can be summarized as follows:

Aluminum: For all 17 samples the CCME guideline for Al of 0.10 mg/L was exceeded. The measured values ranged from a low of 0.13 to a high of 3.3. Only four of the 17 samples had Al concentrations in excess of 1.0 mg/L. These Al concentrations are thought to be associated with fine particulates contained in these samples. These elevated Al concentrations are not atypical of what is observed

elsewhere for precipitation runoff in contact with freshly exposed rock. In our opinion these levels should not be considered of immediate concern but warrants follow up monitoring in 2009. It should be noted that there is no MMER discharge standard for Al.

Arsenic: Fifteen of the seventeen water samples had total arsenic concentrations below the CCME guideline value of 0.005 mg/L (MMER discharge standard is 1.0 mg/L). Quarry 10 had an As concentration of 0.0074 mg/L and Quarry 11 had an As concentration of 0.013 mg/L. Drainage from these quarries is being constrained within the quarries either by the AWPAP or by a rock pile in the quarry. These exceedances of the CCME Guideline are not thought to be of concern but warrant further monitoring to confirm that concentrations are not increasing with time.

Chromium: Fourteen of the seventeen water samples had total chromium concentrations below the CCME guideline value of 0.001 mg/L. Quarry 1 had a Cr concentration of 0.0027 mg/L, Quarry 6 had a Cr concentration of 0.0075 mg/L and Quarry 7 had a Cr concentration of 0.0028 mg/L. All other samples had Cr levels that were below the analytical detection limit.

Copper: Twelve of the seventeen water samples had total copper concentrations that exceeded the CCME Guideline value of 0.002 mg/L. The highest measured concentration was at Quarry 14 at 0.031 mg/L. The MMER Discharge standard for Cu is 0.6 mg/L.

Lead: Fourteen of the seventeen water samples had total lead concentrations that exceeded the CCME Guideline value of 0.001 mg/L. The highest measured lead concentration was from Quarry 20 at 0.24 mg/L. The MMER discharge standard for Pb is 0.4 mg/L.

All other parameters were within the CCME Guidelines.

Total Ammonia (measured as N) in the seventeen samples ranged from a low of 0.13 mg/L to a high of 10 mg/L in Quarry 16. Eight of the samples had Total Ammonia concentrations under 1 mg/L. Four of the samples had ammonia concentrations greater than 5 mg/L with the highest being 10 mg/L.

In summary, the water sampling program conducted in June did not provide evidence of any significant acid generation or metal leaching issues associated with the 22 road quarries. This program should continue in the spring of 2009 to again check the status of the quality of the snowmelt and precipitation runoff in these quarries.

It should be noted that AEM did not actively discharge water from any of these quarry locations in 2008.

Quarry 4 contained a permanent pool of water through the full summer of 2008 with no evidence of loss of water (no decrease in level due to evaporation) and with no evidence of surface water entering this quarry. It is on a hill and thus does not represent a topographic low, suggesting a perched groundwater feature. The water quality as sampled in June did not trigger any cause for concern.

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Table 2.3: Sample Results – AWPARG Quarries Conventional Parameters and Metals by ICP-MS

Parameters	Units	MMER*	CCME**	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q20
Hg	mg/L		0.000026	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Ca	mg/L			5	9	6	5	<1	14	2	13	5	4	12	3	6	3	10	63	4
Mg	mg/L			2	2	1	1	<1	4	<1	3	<1	2	2	<1	<1	2	3	15	3
Total Hardness (CaCO3)	mg/L			22	30	20	16	<1	50	4	44	13	18	40	8	15	14	34	220	22
Al	mg/L		0.10	3.3	1.7	0.13	1.1	0.58	0.95	0.98	0.17	0.37	0.57	0.34	0.98	0.84	2.3	0.45	0.22	0.82
Sb	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	0.0026	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	0.0022	<0.001	<0.001
Ag	mg/L		0.0001	0.0006	0.00016	<0.0001	0.00011	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
As	mg/L	1.0	0.005	<0.001	<0.001	<0.001	0.0011	<0.001	0.0014	0.0028	0.0048	<0.001	0.0074	0.013	0.0031	<0.001	<0.001	<0.001	<0.001	<0.001
Ba	mg/L			0.036	0.026	0.0024	0.019	0.011	0.047	0.015	0.012	0.013	0.011	0.025	0.026	0.017	0.034	0.07	0.069	0.034
Cd	mg/L		0.000017	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Cr	mg/L		0.001	0.0027	<0.0005	<0.0005	<0.0005	<0.0005	0.0075	0.0028	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Co	mg/L			0.0012	0.0013	<0.0005	0.00092	0.0014	0.0014	0.018	0.00071	0.00086	0.0015	0.0027	0.002	0.001	0.0029	0.0015	0.0023	0.0021
Cu	mg/L	0.6	0.002	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.023	0.016	0.0037	0.0069	0.0041	0.0097	0.017	0.0087	0.031	0.011	0.003	0.0019
Mn	mg/L			0.043	0.051	0.013	0.034	0.014	0.074	0.13	0.023	0.028	0.03	0.044	0.083	0.048	0.15	0.059	0.37	0.2
Mo	mg/L		0.073	0.0024	0.0017	0.00094	<0.0005	<0.0005	0.001	<0.0005	0.0014	0.00088	0.0026	0.017	0.0010	0.00094	0.004	<0.0005	0.0066	<0.0005
Ni	mg/L	1.0	0.025	<0.001	<0.001	<0.001	<0.001	<0.001	0.0026	0.029	0.0041	0.0016	0.0015	0.0023	0.0028	0.0021	0.0044	0.0025	0.0061	0.003
Na	mg/L			26	24	12	1.2	0.25	4.3	0.53	5	0.52	19	12	1.4	0.98	4.2	10	40	1.6
Zn	mg/L	1.0	0.03	0.0052	0.0014	<0.001	<0.001	<0.001	0.0046	0.017	0.014	0.014	0.0018	0.0048	0.0067	0.0047	0.014	0.014	0.0024	0.0081
Se	mg/L		0.001	<0.001	<0.001	<0.001	<0.001	0.0018	0.0022	0.0034	0.0032	0.0036	0.0015	0.0028	<0.001	0.0035	<0.001	<0.001	<0.001	<0.001
Pb	mg/L	0.4	0.001	0.0019	0.0023	<0.0001	0.0014	<0.0001	0.0026	0.0021	0.00087	0.0012	0.0014	0.0042	0.0091	0.0029	0.0058	0.0087	0.0005	0.024
Tl	mg/L		0.0008	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Conductivity	mmhos/ cm			0.17	0.20	0.13	0.044	0.008	0.14	0.036	0.16	0.03	0.18	0.25	0.04	0.055	0.071	0.23	0.92	0.13
F	mg/L			0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.17	0.58	0.12
N-NH3	mg/L			0.29	0.84	1.5	0.35	0.13	0.49	0.38	2.5	0.33	1.8	6.7	0.73	1.2	1.6	6.9	10	5.3
pH		6.0 - 9.5	6.5 - 9	8.0	7.7	6.9	6.8	6.8	6.9	4.8	7.2	7.0	7.3	7.7	6.8	7.0	6.8	7.2	7.1	5.9
Nitrate (N) & Nitrite(N)	mg/L			1.1	1.9	3.9	1.6	0.27	5.4	0.58	7.3	0.36	4.0	11	1.5	2.4	5.3	18	43	13
SO4	mg/L			11	6.9	4.2	1.4	0.6	3.5	11	12	0.9	8.7	10	1.8	1.1	3.1	6.9	240	0.8
TSS	mg/L	30.0		8	43	7	27	24	48	63	7	26	5	8	25	6	30	8	3	26
Oil & Grease	mg/L			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

* mg/L, Maximum Authorized Concentration in a Grab Sample (MMER Regs Schedule 4, Table 1)

** mg/L, CCME, 1999. Updated 2007

CCME Exceedance
MMER Exceedance

2.3 ACID DRAINAGE POTENTIAL

22 composite rock samples between 1 and 2 kg were collected, one from each quarry, in August 2008. The samples were composited to be representative of only one lithology type. Quarry locations are included in Section 1.2 and sample information is summarized below in Table 2.4. The samples were sent to Cantest Ltd. laboratory in Burnaby, BC for ABA analysis to evaluate acid generation potential using the Modified Sobek Method including Sulphate S Analysis (to allow sulphide sulphur to be segregated from sulphate sulphur) and Inorganic CO₂ analysis to determine carbonate neutralization potential. Trace metals analysis using a four acid digestion with ICP-MS finish was also performed on all 22 samples.

Table 2.4: Rock Sample Information

Sample ID	Quarry	Rock Type	Dry Sample Wt. (Kg)
Q1 202045	Quarry 1	Monzonite	2.0
Q2 202046	Quarry 2	Gabbro	1.7
Q3 202047	Quarry 3	Gabbro	1.6
Q4 202048	Quarry 4	Gabbro	1.2
Q5 202087	Quarry 5	Quartz Arenite	0.9
Q6 202049	Quarry 6	Basalt	1.2
Q7 202050	Quarry 7	Quartz Arenite	1.6
Q8 202051	Quarry 8	Andesite - Basalt	1.4
Q9 202052	Quarry 9	Andesite	1.9
Q10 202053	Quarry 10	Crystal Tuff (Rhyolite)	1.3
Q11 202054	Quarry 11	Crystal Tuff (Rhyolite)	1.5
Q12 202055	Quarry 12	Crystal Tuff (Rhyolite)	1.5
Q13 202056	Quarry 13	Crystal Tuff (Rhyolite)	1.8
Q14 202056	Quarry 14	Granite	1.1
Q15 202058	Quarry 15	Monzodiorite	1.4
Q16 202059	Quarry 16	Monzonite	1.6
Q17 202060	Quarry 17	Granite	1.5
Q18 202061	Quarry 18	Quartzite	1.8
Q19 202062	Quarry 19	Granite	1.6
Q20 202063	Quarry 20	Granite	2.2
Q21 202064	Quarry 21	Granite	1.3
Q22 202065	Quarry 22	Andesite	1.2

2.3.1 Discussion of ABA Results

The acid generating potential (ARD potential) of rock is determined by comparing the maximum potential acidity a sample can generate (based on sulphide sulphur content) against the measured neutralizing potential of the sample (based on content of neutralizing minerals). Acid Potential (AP) and Neutralization Potential (NP) are measured in kg of CaCO_3 / tonne of rock sample.

The following criteria are used to assess ARD potential:

- AP – Acid Potential reported as kg of CaCO_3 equivalent per tonne of sample. AP is a measure of the maximum potential acidity that the sample can generate if all of the contained sulphide minerals oxidize and form acid. AP is a calculated value based on the total sulphur or total sulphide sulphur concentration within the sample. $\text{AP} = \text{wt\% Sulphide Sulphur} \times 31.25$. The Total Sulphur and the Sulphide Sulphur content in the sample are determined by analysis. The factor 31.25 is based on the acidity generated as derived from the general stoichiometry for the complete oxidation of pyrite and the subsequent hydrolysis of the Fe^{3+} generated. This factor therefore relates the total acidity produced with the equivalent alkalinity as CaCO_3 required for neutralization.
- NP – Neutralization Potential reported as kg of CaCO_3 equivalent per tonne of sample. NP is a measure of the neutralizing potential of the sample. NP is a measured value determined by measuring the amount of acid that the sample can neutralize under standardized laboratory conditions.
- NNP – Net Neutralization Potential reported as kg of CaCO_3 equivalent per tonne of sample. $\text{NNP} = \text{NP} - \text{AP}$. NNP is a measure of the balance between the acid generating and acid consuming potential of the sample. Typically if the NNP is greater than +20 kg CaCO_3 equivalent per tonne, then the sample is unlikely to be a net source of acid generation. Conversely, a NNP equal to zero or less, indicates that the sample is likely be a net source of acid generation. NNP values between 0 and +20 kg CaCO_3 equivalent per tonne of sample indicate uncertain acid generating potential, requiring better understanding of the proportion of the neutralizing minerals that are readily available to neutralize acidity and at what rate.
- NPR – Neutralization Potential Ratio. $\text{NPR} = \text{NP} / \text{AP}$. NPR is the ratio of Neutralizing Potential to Acid Generating Potential for the sample. Under the INAC MEND MEM Guidelines¹, (Table 2.5) the following criteria are suggested for the screening of the ARD potential of a sample of bedrock material:

¹ Guidelines for Acid Rock Drainage Prediction in the North, Indian and Northern Affairs Canada publication dated September 1992, Northern Mine Environmental Neutral Drainage Studies No. 1

Table 2.5: INAC Guidelines for Determining ARD Potential (1992)

Initial Screening Criteria	ARD Potential	Comments
NPR < 1	Likely	Likely acid generating unless sulphide minerals are non-reactive
1 < NPR < 3	Possible	Possibly acid generating if NP is insufficiently reactive or is depleted at a faster rate than sulphides
NPR >3	Low	Not Likely to be acid generating

Where these guidelines do not work as effectively is when assessing rock samples that have both very low sulphide sulphur concentrations and low to no neutralizing potential. In such a case, the NPR may be 1 but the rock will not likely be acid generating as there is no sulphide sulphur to generate any acidic drainage. This unique circumstance often occurs in quarried rock where there is no sulphide sulphur present. In BC, guidance² in such situations suggests that where the measured Total S of a rock sample is less than 0.30 wt% then the rock should be classified as being not likely to be acid generating.

ABA results from the 22 quarry samples are presented in Table 2.6. It was quickly noted that the sample from Quarry 7 returned a Total Sulphur concentration of 0.63 wt% and the sample from Quarry 17 returned a Total Sulphur concentration of 2.44 wt%. These were unexpectedly high and thus the AEM geology team went back to these two quarries and re-sampled, taking five samples from each site. It was speculated that just one fragment of pyrite incorporated into the original Quarry 6 and 17 composite samples would skew the results significantly hence the re-sampling at an increased frequency. These ten additional samples were submitted for repeat ABA and metals analyses, with the results presented in Table 2.7. Original laboratory certificates and QA/QC data for all sampling are available in Appendix C.

In summary the results provide evidence that all of the twenty two AWPAR quarries are expected to be non-acid generating.

In the first round of sampling the Total Sulphur concentrations in 20 of the 22 quarry composite samples was under 0.30 wt%. Consequently it is unlikely that there is sufficient sulphidic mineralization present in these quarries to create a significant source of acidic drainage. The two exceptions were Quarries 6 and 17. The re-sampling of these quarries returned different results with all ten samples containing a Total Sulphur concentration under 0.30 wt%.

Acid Generating Potential (AP) was equal to or below 5.31 kg CaCO₃ equivalent per tonne for 20 of the 22 initial quarry samples. Only Quarries 6 and 17 returned AP values greater than 5.31. On re-sampling all ten samples from these two quarries had AP values equal to or under 2.19 kg CaCO₃ equivalent per tonne. This reinforces the finding that there is little driving force present in these quarry

² Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, Dr. William Price, BC Ministry of Employment and Investment, Energy and Minerals Division

bedrock sources to allow for the generation of acidic drainage through oxidation of sulphide mineralization.

The measured Neutralizing Potential (NP) for 12 of the 22 initial quarry samples was greater than or equal to 20 Kg CaCO₃ equivalent per tonne. The other 10 quarry sites had low neutralization potentials with several having essentially no inherent buffering capacity as measured by NP.

Consequently the Net Neutralization Potential (NNP: $NNP = NP - AP$) for 14 of the 22 initial quarry samples was under 20 kg CaCO₃ equivalent per tonne which normally would suggest acid generating potential. However in this case, in most instances (except for the initial samples from Quarries 6 and 17) both the NP and the AP are low; consequently the NNP is also low. However this does not necessarily indicate acid generating potential as if a rock does not contain significant sulphidic mineralization then no matter what the measure neutralization potential the rock is not likely to become a significant source of acidic drainage. The re-sampling of Quarries 6 and 17 shows a similar pattern for NNP, in that for 8 of the 10 samples both the NP and AP are low. The other two samples had an NNP of greater than 20 kg CaCO₃ equivalent per tonne.

The Net Neutralization Potential Ratio (NPR: $NPR = NP/AP$) for 13 of the 22 initial quarry samples exceeds the suggested INAC criteria of 3 to be classified as unlikely to be acid generating. For the other 9 samples; 5 have an NPR ratio between 1 and 3 suggesting that acid generating potential is possible (Q12, Q14, Q19, Q20 and Q21). In each of these five cases the Total Sulphur content in the samples was low (below 0.1 wt% with three having Total Sulphur concentrations below the analytical detection limit). Consequently despite the low neutralization potential in these samples, the samples are unlikely to be acid generating because there is essentially no sulphidic mineralization to create acidic drainage. Two of the remaining 4 samples have an NPR of zero. These are Quarries 6 and 17. The NPR of 8 of the 10 additional samples from these two Quarry sites was greater than 3 suggesting that acid generation is not likely. The other 2 samples both had Total Sulphur concentrations under 0.10 wt% thus despite the fact that the NPR for both was below 3 both are unlikely to generate acidic drainage as there is insufficient sulphidic mineralization present.

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Table 2.6: Sample Results – Initial AWPARG Quarry Sampling ABA Analysis

Sample ID	Paste pH	CO ₂	CaCO ₃ Equivalent	Total Sulphur	Neutralization Potential (NP)	Acid Potential (AP)	Net Neutralization Potential NNP=NP-AP	Neutralization Potential Ratio NPR=NP/AP	Fizz Rating
		wt%	(Kg CaCO ₃ /Tonne)	wt%	(Kg CaCO ₃ /Tonne)	(Kg CaCO ₃ /Tonne)	(Kg CaCO ₃ /Tonne)		
Q1 202045	9.3	0.4	9.1	0.1	20.5	3.13	17.4	6.6	Slight
Q2 202046	9.5	0.6	13.4	<0.02	23.3	0.63	22.7	37.3	Moderate
Q3 202047	9.4	0.9	21.4	0.04	37.9	1.25	36.7	30.3	Strong
Q4 202048	7.6	0	0.9	0.17	1	5.31	-4.3	0.2	Slight
Q6 202049	9.1	0.1	1.6	<0.02	6.4	0.63	5.8	10.2	None
Q7 202050	6.4	0	0.5	0.63	0.1	19.69	-19.6	0.0	None
Q8 202051	8.9	5.8	132	0.03	125.6	0.94	124.7	134.0	Strong
Q9 202052	9.1	0.4	9.8	0.06	32.9	1.88	31.0	17.5	Strong
Q10 202053	9.4	0.5	11.4	0.09	19.8	2.81	17.0	7.0	Moderate
Q11 202054	9.3	1.1	23.9	0.12	28	3.75	24.3	7.5	Strong
Q12 202055	9.3	0.1	2.5	0.1	6.9	3.13	3.8	2.2	Slight
Q13 202056	9.2	1.6	35.5	0.03	33.9	0.94	33.0	36.2	Strong
Q14 202057	9	0.2	3.9	0.06	5.2	1.88	3.3	2.8	None
Q15 202058	9.3	0.3	6.4	0.09	17.1	2.81	14.3	6.1	Moderate
Q16 202059	8.7	<0.02	<0.5	0.04	5.4	1.25	4.2	4.3	None
Q17 202060	9.1	0	0.7	0.05	1.2	1.56	-0.4	0.8	None
Q18 202061	6.4	0	0.9	2.44	1.2	76.25	-75.1	0.0	None
Q19 202062	9.1	0	0.9	<0.02	1.5	0.63	0.9	2.4	None
Q20 202063	9.2	<0.02	<0.5	<0.02	1.6	0.63	1.0	2.6	None
Q21 202064	9.4	0.1	2.7	<0.02	1.7	0.63	1.1	2.7	None
Q22 202065	9.1	0.7	16.8	0.1	18.8	3.13	15.7	6.0	Strong
Q5 202087	9.3	0.9	21.1	<0.02	33.4	0.63	32.8	53.4	Strong

Note: where the Total S concentration was LT 0.02 wt% then a value of 0.02 wt% was used to calculate AP

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Table 2.7: Sample Results - Quarry 6 and Quarry 17 Follow Up ABA Analysis

Sample ID	Quarry ID	Paste pH	CO ₂	CaCO ₃ Equivalent	Total Sulphur	Neutralization Potential (NP)	Acid Potential (AP)	Net Neutralization Potential NNP=NP-AP	Neutralization Potential Ratio NPR=NP/AP	Fizz Rating
			wt%	(Kg CaCO ₃ /Tonne)	wt%	(Kg CaCO ₃ /Tonne)	(Kg CaCO ₃ /Tonne)	(Kg CaCO ₃ /Tonne)		
Q 202088	Q6	8.8	0.89	20.2	0.03	20.3	0.94	19.4	21.7	Strong
Q 202089	Q6	9	0.03	0.7	0.02	1.6	0.63	1.0	2.6	None
Q 202090	Q6	8.7	<0.02	<0.5	0.07	1.9	2.19	-0.3	0.9	None
Q 202091	Q6	8.8	0.06	1.4	<0.02	2.1	0.63	1.5	3.4	None
Q 202092	Q6	8.7	<0.02	<0.5	<0.02	2	0.63	1.4	3.2	None
Q 202093	Q17	8.6	0.32	7.3	<0.02	11.3	0.63	10.7	18.1	Slight
Q 202094	Q17	8.7	<0.02	<0.5	0.02	3.2	0.63	2.6	5.1	None
Q 202095	Q17	9.1	0.33	7.5	0.02	10.1	0.63	9.5	16.2	Slight
Q 202096	Q17	8.8	0.77	17.5	0.04	22.5	1.25	21.3	18.0	Strong
Q 202097	Q17	8.6	<0.02	<0.5	<0.02	4.9	0.63	4.3	7.8	None

Note: where the Total S concentration was LT 0.02 wt% then a value of 0.02 wt% was used to calculate AP

2.3.2 Discussion of Trace Metals Results

Trace metal analysis is used to determine the amount of solid metals present in the samples. These results are typically then compared against normal trace element concentrations in the earth's continental crust for each rock type. This information is provided in Appendix 3 from BC MEM Guideline for prediction of Metal Leaching and Acid Rock Drainage³ to determine whether any one or group of metals is present in sufficiently abnormal concentration to suggest that some metal leaching potential may be present.

Results from the trace metals analysis on the 22 rock samples are presented in Table 2.8. Results from the repeat analysis conducted on samples from Quarry 6 and quarry 17 are included in Table 2.9. Laboratory certificates for all data are available in Appendix C.

In both Tables 2.8 and 2.9, the individual sample results that exceeded the high end of the typical Earth's Crust concentration range for igneous rocks are highlighted on an element by element basis. These results do not indicate directly whether a sample is likely to be a significant source of metal leaching. The results provide a tool to flag elements that warrant monitoring because of their elevated concentrations in the rocks being characterized or to eliminate an element from further monitoring because of their low concentration.

The results suggest that the following elements warrant further monitoring due to their concentrations present in these rocks:

Molybdenum, Arsenic, Antimony, Lead, Copper, Uranium, Cadmium, Strontium, Aluminum and Sulphur

The results suggest that the following elements seem to be consistently present in low concentrations and likely do not warrant ongoing monitoring:

Zinc, Nickel, Cobalt, Manganese, Iron, Gold, Thallium, Calcium, Phosphorous, Lanthanum, Chromium, Magnesium, Barium, Titanium, Potassium, Tungsten, Zirconium, Tin, Yttrium, Tantalum, Beryllium, Rubidium, Hafnium and Mercury

³ Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, Dr. William Price, BC Ministry of Employment and Investment, Energy and Minerals Division

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Table 2.8: Sample Results - Trace Metals by Four acid digestion and ICP-MS

	Typical Concentrations in Earth's Crust for Igneous Rocks ⁴	Q1 202045	Q2 202046	Q3 202047	Q4 202048	Q6 202049	Q7 202050	Q8 202051	Q9 202052	Q10 202053	Q11 202054	Q12 202055	Q13 202056	Q14 202057	Q15 202058	Q16 202059	Q17 202060	Q18 202061	Q19 202062	Q20 202063	Q21 202064	Q22 202065	Q5 202087
Mo ppm	0.3 to 1.5	3.1	4.9	1.8	6.9	0.9	10.4	1.3	1.9	6.3	3.9	5	3.9	3.9	6.8	4.3	5.8	11.1	6	7.5	6.7	4.2	1.7
Cu ppm	5 to 87	22.1	9.6	19.2	22	152.7	23.9	103.8	33.2	16.4	24.6	27.4	22.4	38.5	23	27.1	2.5	73.6	2.3	2.1	2	25.1	4.9
Pb ppm	1 to 19	8.4	10.1	9.1	3	2.9	4.4	2.3	10.2	32.7	21.3	13.1	15.9	18.8	48.2	15.9	21.9	25.3	26.9	30.4	28.6	5.7	3.8
Zn ppm	39 to 130	123	68	112	8	110	8	77	82	48	51	56	40	95	293	80	43	49	21	22	11	41	61
Ag ppm	0.0x to 0.11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Ni ppm	4 to 2000	26.1	13.1	88.3	10.5	87.6	22	137.7	22.8	11.1	17.9	23.8	22.3	49.5	21.8	38.9	3	13.3	2.1	2.9	1.1	10.6	32.2
Co ppm	1 to 150	26	10.8	32.4	8.3	55.3	13.6	48.5	21.1	7.2	7.4	12.2	10.6	18.6	10.6	16.7	2.2	2.6	1.6	1.8	0.3	7.3	14.2
Mn ppm	390 to 1620	911	536	1168	28	1350	169	1461	953	166	455	503	378	638	486	503	186	322	284	257	247	281	582
Fe %	1.42 to 9.43	6.22	3.05	6.79	0.56	9.33	1.14	7.39	5.18	2.07	2.69	2.95	2.78	4.24	2.73	3.77	1.23	15.81	1.16	0.72	0.53	1.97	3.93
As ppm	1 to 2	3	2	2	2	1	17	12	3	14	13	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
U ppm	0.001 to 3	1.6	0.6	0.7	1.8	2.3	3.9	0.4	1.9	3.3	3.0	3.3	2.6	5.1	3.0	3.4	2.7	0.5	6.5	15.5	9.5	0.9	0.3
Au ppm	0.00x to 0.006	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Th ppm	0.004 to 17	10.6	3.0	1.0	4.0	6.8	4.6	0.3	6.1	11.4	11.5	11.5	10.6	13.8	10.5	8.3	17.1	0.2	34.1	17.7	29.8	3.5	1.1
Sr ppm	1 to 465	802	644	893	23	90	27	126	461	273	435	412	269	565	405	354	334	3	169	91	7	343	436
Cd ppm	0.x to 0.22	0.3	0.3	0.4	0.1	0.2	0.2	<0.1	0.1	0.2	0.1	<0.1	<0.1	0.1	0.9	0.2	0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1
Sb ppm	0.x to 0.2	0.4	0.2	0.6	0.4	0.2	1.4	0.6	2.5	1.3	0.9	0.6	0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.2	0.2
Bi ppm	0.007 to 0.01	<0.1	<0.1	<0.1	0.3	<0.1	0.2	<0.1	<0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.5	<0.1	0.1	0.2	<0.1	0.1
V ppm	40 to 250	161	70	172	9	251	10	252	157	46	67	76	70	105	68	90	17	<1	10	6	<1	67	98
Ca %	0.51 to 7.6	4.59	2.92	5.91	0.04	2.53	0.03	6.24	3.04	0.76	1.57	1.73	1.43	1.48	2.49	0.84	0.52	0.12	0.56	0.24	0.19	1.96	2.21
P %	0.02 to 1.1	0.369	0.072	0.133	0.005	0.087	0.007	0.026	0.068	0.027	0.051	0.055	0.054	0.068	0.05	0.054	0.026	0.033	0.014	0.019	0.001	0.058	0.111
La ppm	0.x to 70	92.5	21.6	25.9	11.2	18.1	10.2	2.7	27.1	30.7	33.4	37.5	36.6	39.8	31.2	30.1	42.7	1.2	58.6	28.8	19.1	19.3	15.0
Cr ppm	2 to 1600	52	69	182	65	17	144	185	53	55	58	79	61	88	94	102	57	142	48	50	38	50	57
Mg %	1.6 to 20.4	2.35	0.97	3.50	0.07	3.85	0.09	2.78	1.91	0.56	0.90	1.00	0.95	1.70	1.02	1.39	0.32	0.22	0.22	0.28	0.12	0.50	1.63
Ba ppm	0.4 to 1600	794	582	230	234	221	71	122	362	828	665	690	739	822	729	735	1142	20	604	490	14	513	331
Ti %	0.03 to 1.38	0.657	0.249	0.527	0.026	0.651	0.013	0.474	0.417	0.149	0.223	0.247	0.21	0.322	0.237	0.294	0.111	0.003	0.112	0.086	0.046	0.319	0.336

⁴ Appendix 3 in Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, Dr. William Price, BC Ministry of Employment and Investment, Energy and Minerals Division

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Table 2.8 continued

	Typical Concentrations in Earth's Crust for Igneous Rocks ⁵	Q1 202045	Q2 202046	Q3 202047	Q4 202048	Q6 202049	Q7 202050	Q8 202051	Q9 202052	Q10 202053	Q11 202054	Q12 202055	Q13 202056	Q14 202057	Q15 202058	Q16 202059	Q17 202060	Q18 202061	Q19 202062	Q20 202063	Q21 202064	Q22 202065	Q5 202087
Al %	2.0 to 8.8	8.91	7.63	9.03	1.98	8.31	1.32	8.19	7.76	7.19	7.35	7.59	7.58	9.40	7.51	7.76	6.90	0.11	6.66	6.17	6.33	7.92	9.58
Na %	0.42 to 4.04	3.068	3.662	3.595	0.041	4.445	0.060	2.121	3.297	2.755	3.430	3.412	3.213	3.061	2.034	4.103	2.850	0.024	2.643	2.682	2.890	3.142	6.196
K %	0.004 to 4.2	1.72	1.09	0.53	0.42	0.39	0.36	0.66	0.34	2.45	1.79	1.95	2.00	2.38	1.84	1.75	4.40	0.03	4.35	4.40	4.14	1.61	0.60
W ppm	0.77 to 2.2	0.6	0.4	0.4	0.2	0.4	0.2	0.5	0.6	1.1	0.8	0.5	1.1	1.2	0.6	0.5	0.3	0.2	0.3	0.1	0.3	0.4	0.3
Zr ppm	45 to 500	105.9	51.0	17.0	73.5	136.8	89.7	17.6	110.0	74.1	95.1	104.2	108.5	109.6	108.2	97.9	187.6	2.4	102.9	76.1	85.8	104.3	47.9
Ce ppm	0.x to 161	204	44	61	22	42	20	7	48	50	57	63	64	71	57	51	76	2	96	47	35	38	31
Sn ppm	0.5 to 3	2.0	0.6	1.1	0.5	1.3	0.4	0.4	1.1	0.6	0.9	1.0	1.2	1.0	1.0	1.3	0.8	0.5	1.6	0.9	0.9	0.9	0.8
Y ppm	0.x to 40	28.1	6.4	17.0	4.0	21.5	4.3	14.7	13.4	6.5	9.0	9.8	8.2	13.2	9.0	10.3	4.9	2.6	13.2	5.9	11.2	8.0	9.1
Nb ppm	16 to 35	7.0	3.4	3.6	0.9	6.5	0.4	2.1	4.8	4.4	5.2	5.4	5.3	8.5	5.4	7.5	3.3	0.2	13.0	8.3	16.2	5.2	2.9
Ta ppm	1 to 4.2	0.2	<0.1	0.1	<0.1	0.4	<0.1	0.1	0.3	0.3	0.3	0.3	0.3	0.5	0.4	0.5	0.1	<0.1	1.1	0.6	0.7	0.3	<0.1
Be ppm	0.x to 3	2	1	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	2	<1	2	2	<1	3	2	2	<1	<1
Sc ppm	3 to 30	18	6	23	1	34	1	33	17	4	7	7	8	11	7	11	2	<1	2	2	2	6	9
Li ppm	0.x to 40	40.6	12.4	19.7	1.5	26.4	5.6	27.5	29.7	8.7	20.0	12.0	23.7	26.2	61.8	21.5	8.0	1.8	15.0	4.9	4.6	16.1	20.4
S %	0.03	0.1	<0.1	<0.1	0.1	<0.1	0.6	<0.1	<0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.4	<0.1	<0.1	<0.1	0.1	<0.1
Rb ppm	0.2 to 170	64.1	24.9	10.6	18.5	4.6	11.6	19.8	5.7	69.5	62.6	50.9	60.2	74.6	57.8	50.9	163.9	1.1	158.7	125.1	167.6	43.1	8.1
Hf ppm	0.6 to 11	2.4	1.4	0.8	1.9	4.0	2.4	0.6	3.0	2.1	2.6	2.9	3.0	3.0	2.9	2.4	4.9	<0.1	3.2	2.6	3.6	2.4	1.1
Hg ug/g	0.0x to 0.09	0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

⁵ Appendix 3 in Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, Dr. William Price, BC Ministry of Employment and Investment, Energy and Minerals Division

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Table 2.9: Sample Results – Quarry 6 and Quarry 17 Repeat Trace Metals Analysis

Parameter	Typical Concentrations in Earth's Crust for Igneous Rocks ⁶	Q6 202088	Q6 202089	Q6 202090	Q6 202091	Q6 202092	Q17 202093	Q17 202094	Q17 202095	Q17 202096	Q17 202097
Mo ppm	0.3 to 1.5	15.5	6.0	7.3	6.4	7.0	1.4	1.3	1.5	0.4	0.4
Cu ppm	5 to 87	39.1	15.8	5.2	8.0	7.4	13.2	84.1	137.5	129.4	89.7
Pb ppm	1 to 19	23.7	26.9	24.2	20.6	22.3	2.3	4.5	6.4	3.3	2.8
Zn ppm	39 to 130	43	48	38	46	41	110	83	78	112	101
Ag ppm	0.0x to 0.11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ni ppm	4 to 2000	3.6	3.3	2.2	4.0	1.9	100.0	83.9	81.8	85.7	90.6
Co ppm	1 to 150	2.7	2.7	1.8	2.8	1.9	63.1	56.9	47.1	62.4	54.0
Mn ppm	390 to 1620	225	184	142	159	181	1488	1359	1396	1652	1335
Fe %	1.42 to 9.43	1.13	1.31	1.14	1.23	1.16	9.55	7.99	7.85	9.55	8.22
As ppm	1 to 2	<1	<1	<1	<1	<1	3	4	<1	1	1
U ppm	0.001 to 3	1.9	2.6	3.9	2.0	2.6	1.6	1.4	1.6	1.5	1.6
Au ppm	0.00x to 0.006	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Th ppm	0.004 to 17	15.5	18.1	23.6	14.5	20.3	5.5	5.0	5.2	5.6	5.3
Sr ppm	1 to 465	303	491	323	423	247	96	111	359	135	101
Cd ppm	0.x to 0.22	0.1	0.2	0.2	0.2	0.2	0.2	0.1	<0.1	0.1	0.1
Sb ppm	0.x to 0.2	0.1	<0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.1
Bi ppm	0.007 to 0.01	0.2	0.2	0.3	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
V ppm	40 to 250	19	15	11	22	11	226	199	209	233	221
Ca %	0.51 to 7.6	0.82	0.65	0.29	0.29	0.35	2.31	3.36	4.21	3.21	2.35
P %	0.02 to 1.1	0.026	0.033	0.021	0.035	0.027	0.046	0.049	0.048	0.053	0.057
La ppm	0.x to 70	34.4	50.9	42.2	31.9	51.2	13.9	16.0	17.3	14.9	19.2
Cr ppm	2 to 1600	73	64	76	73	70	24	18	20	10	10
Mg %	1.6 to 20.4	0.39	0.38	0.33	0.36	0.22	4.18	2.82	2.91	4.25	3.91
Ba ppm	0.4 to 1600	1277	1491	1429	1432	1546	420	267	397	413	209
Ti %	0.03 to 1.38	0.124	0.139	0.103	0.145	0.136	0.707	0.550	0.597	0.655	0.651
Al %	2.0 to 8.8	6.30	7.83	6.74	6.70	6.76	7.93	7.69	7.73	8.11	8.22
Na %	0.42 to 4.04	2.532	2.815	2.740	2.959	2.765	2.710	3.998	3.337	2.816	3.804
K %	0.004 to 4.2	3.43	3.35	3.35	4.01	3.56	1.20	1.16	1.46	1.34	0.45
W ppm	0.77 to 2.2	0.3	0.3	0.2	0.4	0.2	0.3	0.3	0.3	0.5	0.2
Zr ppm	45 to 500	181.0	220.4	195.9	201.8	213.4	142.9	98.5	98.6	121.5	123.6
Ce ppm	0.x to 161	62	93	79	60	90	29	33	34	29	37
Sn ppm	0.5 to 3	0.9	1.3	1.0	1.3	1.1	1.0	0.9	1.0	0.6	0.9
Y ppm	0.x to 40	7.1	5.3	4.5	6.1	4.3	19.6	17.8	17.9	17.1	19.3
Nb ppm	16 to 35	4.4	4.1	3.8	3.9	4.1	6.9	5.9	5.5	6.2	6.2
Ta ppm	1 to 4.2	0.2	0.1	0.1	0.2	<0.1	0.4	0.3	0.3	0.4	0.3
Be ppm	0.x to 3	2	2	1	2	2	<1	<1	<1	1	<1
Sc ppm	3 to 30	1	1	1	1	2	35	30	29	30	31
Li ppm	0.x to 40	9.6	7.7	9.1	9.7	7.2	37.6	8.3	10.0	20.4	22.1
S %	0.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Rb ppm	0.2 to 170	140.3	159.8	150.7	122.2	146.6	11.4	19.6	28.9	17.7	4.6
Hf ppm	0.6 to 11	4.8	5.7	5.2	5.1	5.4	3.7	2.6	2.4	3.2	3.2
Hg µg/g	0.0x to 0.09	0.004	0.002	0.002	0.002	0.002	0.009	0.005	0.005	0.007	0.006

⁶ Appendix 3 in Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, Dr. William Price, BC Ministry of Employment and Investment, Energy and Minerals Division

2.4 METAL LEACHING POTENTIAL

The 22 composite rock samples were also analysed by the BC MEM Shake Flask Extraction Procedure (SFE), where a portion of the sample is crushed (< 9.5mm) and then ground to a fine powder and then agitated for 24 hours in water with a 3:1 liquid to solid ratio. The leachate is then filtered and analysed for total metals by ICP-MS and Hg by CVAf. This data is used to assess whether a significant amount of any metal is likely to leach out of the material with precipitation and run-off. The results may indicate which metals should receive particular attention in ongoing monitoring efforts. The SFE test tends to over estimate this potential as it consists of a water leach on a finely ground sample of rock which tends to exaggerate the rate of release of metals as compared to a coarser particle size typically used in road construction. It is however a valuable tool to identify those metals likely to be of concern and to eliminate those that are likely not to be of concern.

2.4.1 Discussion of SFE Results

The SFE test leachate sample results are presented in Table 2.10 and are compared against the Metal Mining Effluent Regulations (MMER) Discharge Limits and the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (2007).

The pH of the leachate samples ranged between a low of 5.7 (Quarry 7) to a high of 9.5. Only the one sample had a pH below 6.0, which is the low end of Environment Canada's Metal Mining Effluent Regulation discharge standards. This one sample was from, Quarry 7 (leachate pH of 5.7) and is probably related to the elevated sulphur concentration noted in this composite sample. The follow up samples (all five) all showed much lower sulphur concentrations suggesting that this composite likely contained an abnormal sulphide mineral component that skewed the original composite that made it non-representative of the entire quarry material.

No other parameters in all 22 of the SFE leachate samples exceeded the MMER discharge standards. This suggests that metal leaching is not likely to be a significant concern for these rock materials.

Sample concentrations were also compared against the CCME Guidelines for the protection of freshwater aquatic life. The parameters where the CCME guideline was exceeded are highlighted in Table 2.10. These can be summarized as follows:

Aluminum: The CCME guideline for Al of 0.10 mg/L was exceeded in 20 of the 22 leachate samples. The measured values ranged from a low of <0.005 to a high of 4.05 mg/L. Thirteen of the twenty two leachate samples had Al concentrations in excess of 1.0 mg/L. These results are typical of other quarry rock characterization using the SFE test procedure. The procedure provides the ideal conditions for the dissolution of Al and is not representative of what takes place in the real world where the particle size of the rock exposed to weathering is several orders of magnitude greater. In our opinion these levels should not be considered of immediate concern but warrants follow up monitoring in 2009 of actual runoff from all quarry sites. It should be noted that there is no MMER discharge standard for Al.

Arsenic: Eighteen of the twenty two leachate samples had total arsenic concentrations below the CCME guideline value of 0.005 mg/L (MMER discharge standard is 1.0 mg/L). Quarry 1 had a

leachate As concentration of 0.006 mg/L, Quarry 10 had an As concentration of 0.041 mg/L, Quarry 11 had an As concentration of 0.036 mg/L and Quarry 12 had an As concentration of 0.008 mg/L. These exceedances of the CCME Guideline are not thought to be of concern as they are well below MMER discharge standards. The results indicate that further monitoring of actual drainage from these four quarry sites should continue in the spring of 2009 to confirm that concentrations of As in the drainage is not increasing with time.

Chromium: Sixteen of the twenty two SFE leachate samples had total chromium concentrations below the CCME guideline value of 0.001 mg/L. Quarries 2 and 10 had leachate Cr concentrations of 0.002 mg/L, Quarries 12 and 15 had Cr concentrations of 0.003 mg/L, Quarry 14 had a Cr concentration of 0.005 mg/L and Quarry 16 had a Cr leachate concentration of 0.01 mg/L. All other samples had Cr levels that were below the analytical detection limit.

Copper: Twenty one of the twenty two SFE leachate samples had copper concentrations that exceeded the CCME Guideline value of 0.002 mg/L. The highest measured concentration was at Quarry 6 at 0.024 mg/L. Only three of the twenty two leachate samples exceeded 0.010 mg/L Cu. The MMER Discharge standard for Cu is 0.6 mg/L.

Iron: Thirteen of the twenty two SFE leachate samples had Fe concentrations that exceeded the CCME Guideline value of 0.3 mg/L. The highest measured Fe concentration was 5.15 mg/L for the Quarry 6 sample. Nine of the twenty two leachate samples had Fe concentrations greater than 1 mg/L. It should be noted that there is no MMER discharge standard for Fe.

Lead: Twelve of the twenty two SFE leachate samples had total lead concentrations that exceeded the CCME Guideline value of 0.001 mg/L. Only three of these had Pb concentrations greater than 0.005 mg/L. The highest measured lead concentration was from Quarry 19 at 0.008 mg/L. The MMER discharge standard for Pb is 0.4 mg/L.

Nickel: The CCME Guideline of 0.025 mg/L for Ni was only exceeded in one of the 22 SFE leachate samples. This was the Quarry 7 sample which returned a leachate concentration of 0.079 mg/L. The MMER discharge standard for Ni is 1.0 mg/L.

Selenium: The CCME Guideline of 0.001 mg/L for Se was exceeded in 9 of the 22 SFE leachate samples. All 9 of these samples had leachate Se concentrations of 0.002 mg/L. There is no MMER discharge standard for Se.

Zinc: The CCME Guideline of 0.003 mg/L for Zn was only exceeded in one of the 22 SFE leachate samples. This was the Quarry 7 sample which returned a leachate concentration of 0.061 mg/L. The MMER discharge standard for Zn is 1.0 mg/L.

All other parameters were within the CCME Guidelines.

In summary, the SFE test procedures conducted on all 22 quarry composite samples did not provide evidence of any significant acid generation or metal leaching issues associated with the 22 road quarries.

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Table 2.10: Sample Results – AWPARG Quarries Shake Flask Extraction Results

Parameter	Method	Units	MMER*	CCME**	Sample ID																					
					Q1 202045	Q2 202046	Q3 202047	Q4 202048	Q6 202049	Q7 202050	Q8 202051	Q9 202052	Q10 202053	Q11 202054	Q12 202055	Q13 202056	Q14 202057	Q15 202058	Q16 202059	Q17 202060	Q18 202061	Q19 202062	Q20 202063	Q21 202064	Q22 202065	Q5 202087
Final pH (24h)	pH Meter	pH units	6.0 - 9.5	6.5 - 9	7.3	9.3	9.5	7.2	9.2	5.7	8.9	9.4	9.3	9.3	9.0	9.0	8.3	9.0	7.4	7.3	6.5	7.8	6.8	7.7	7.9	9.3
Conductivity (24h)	Conductivity Meter	µS/cm			114	97	76	50	59	47	64	72	155	83	61	75	68	69	31	54	135	68	100	116	193	61
Hardness (CaCO3)	Calculation from Mg/Ca	mg/L			10	16	12	21	19	8	16	11	15	14	14	14	17	17	9	7	34	18	25	25	67	14
Dissolved Al	ICP-MS	mg/L		0.1	1.2	3.04	0.51	0.26	4.05	0.015	0.99	0.63	3.56	1.34	2.54	1.49	4.05	2.55	3.66	2.55	< 0.005	2.99	0.31	2.01	0.28	0.96
Dissolved Sb	ICP-MS	mg/L			0.005	0.001	0.002	0.002	0.001	0.001	0.001	0.005	0.004	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved As	ICP-MS	mg/L	1.0	0.005	0.006	0.005	0.002	0.003	0.001	< 0.001	0.003	0.003	0.041	0.036	0.008	0.002	< 0.001	0.002	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Ba	ICP-MS	mg/L			0.008	0.063	0.002	0.014	0.027	0.01	0.002	0.004	0.1	0.019	0.061	0.032	0.064	0.045	0.035	0.061	0.051	0.042	0.013	0.007	0.005	0.003
Dissolved Be	ICP-MS	mg/L			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Bi	ICP-MS	mg/L			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved B	ICP-MS	mg/L			< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dissolved Cd	ICP-MS	mg/L		0.000017	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dissolved Ca	ICP-MS	mg/L			2.62	3.6	3.94	7.81	3.22	2.18	5.16	3.67	3.66	4.61	3.78	4.62	2.94	4.3	0.58	1.18	7.46	3.92	3.6	8.54	23.9	4.46
Dissolved Cr	ICP-MS	mg/L		0.001	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.003	< 0.001	0.005	0.003	0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Co	ICP-MS	mg/L			< 0.001	0.001	< 0.001	0.002	0.003	0.033	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.002	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Cu	ICP-MS	mg/L	0.6	0.002	0.007	0.007	0.003	0.006	0.024	0.015	0.003	0.002	0.007	0.007	0.011	0.007	0.014	0.007	0.011	0.01	0.007	0.006	0.007	0.008	0.007	0.004
Dissolved Fe	ICP-MS	mg/L		0.3	0.58	2.13	< 0.05	0.15	5.15	< 0.05	< 0.05	< 0.05	2.75	0.58	1.43	0.74	3.44	2.01	3.88	1.86	< 0.05	2.34	0.13	0.62	< 0.05	0.22
Dissolved Pb	ICP-MS	mg/L	0.4	0.001	< 0.001	0.003	< 0.001	0.001	0.002	< 0.001	< 0.001	< 0.001	0.026	0.002	0.002	0.002	0.006	0.006	0.003	0.003	< 0.001	0.008	0.001	0.004	< 0.001	< 0.001
Dissolved Li	ICP-MS	mg/L			< 0.001	0.002	< 0.001	0.002	0.001	0.009	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001	0.003	0.006	0.003	0.004	< 0.001	0.009	0.005	0.002	0.004	< 0.001
Dissolved Mg	ICP-MS	mg/L			0.76	1.68	0.57	0.26	2.75	0.71	0.68	0.47	1.32	0.63	1.02	0.68	2.42	1.41	1.81	0.91	3.64	1.89	3.79	0.88	1.87	0.58
Dissolved Mn	ICP-MS	mg/L			0.01	0.053	< 0.001	0.04	0.076	0.81	< 0.001	< 0.001	0.038	0.011	0.049	0.012	0.099	0.048	0.072	0.12	5.89	0.17	0.84	0.66	0.064	0.007
Dissolved Mo	ICP-MS	mg/L		0.073	< 0.0005	0.0008	< 0.0005	0.0017	< 0.0005	< 0.0005	< 0.0005	0.0015	0.0018	0.0009	0.0016	0.0009	0.0009	0.0005	< 0.0005	0.001	0.0006	0.0019	0.004	0.004	0.0071	< 0.0005
Dissolved Ni	ICP-MS	mg/L	1.0	0.025	< 0.001	0.001	< 0.001	0.002	0.005	0.079	< 0.001	< 0.001	0.002	< 0.001	0.002	< 0.001	0.006	0.002	0.005	< 0.001	0.021	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved P	ICP-MS	mg/L			< 0.15	< 0.15	< 0.15	0.2	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	0.2	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Dissolved K	ICP-MS	mg/L			3.9	8	1.6	1.9	0.7	3	2.8	1	11.9	7	4.2	6.4	7.4	7.8	3.1	5.7	3.7	6.3	5.7	7.7	6.6	1.1
Dissolved Se	ICP-MS	mg/L		0.001	0.001	0.002	0.002	0.002	0.001	< 0.001	0.001	0.002	< 0.001	0.001	0.001	0.001	0.002	0.001	< 0.001	0.002	0.002	0.002	< 0.001	0.002	< 0.001	0.001
Dissolved Si	ICP-MS	mg/L			4.3	7	3.8	6.1	8.3	2.5	1	3.5	6.6	4.4	6.4	3.9	5.6	4.8	6	4.9	2.6	8.5	3.3	5.6	2.4	2.8
Dissolved Ag	ICP-MS	mg/L		0.0001	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025	< 0.00025
Dissolved Na	ICP-MS	mg/L			16.9	9.99	8.43	0.63	10.7	0.75	5.22	10.2	21.9	7.61	7.26	6.59	7.08	4.45	5.6	5.7	3.16	4.84	5.15	5.13	7.74	7.56
Dissolved Sr	ICP-MS	mg/L			0.014	0.022	0.022	0.019	0.009	0.023	0.011	0.018	0.036	0.05	0.038	0.038	0.025	0.023	0.01	0.018	0.041	0.022	0.022	0.012	0.045	0.028
Dissolved Te	ICP-MS	mg/L			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Tl	ICP-MS	mg/L		0.0008	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Dissolved Th	ICP-MS	mg/L			< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0006	< 0.0005	< 0.0005	< 0.0005	0.0009	< 0.0005	0.001	< 0.0005	0.002	0.0007	0.0011	0.0023	< 0.0005	0.021	0.0014	0.0065	< 0.0005	< 0.0005
Dissolved Sn	ICP-MS	mg/L			< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Dissolved Ti	ICP-MS	mg/L			0.028	0.11	0.001	0.002	0.18	< 0.001	< 0.001	0.001	0.006	0.011	0.046	0.004	0.065	0.078	0.14	0.016	< 0.001	0.078	0.006	0.005	< 0.001	0.011

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Parameter	Method	Units	MMER*	CCME**	Q1 202045	Q2 202046	Q3 202047	Q4 202048	Q6 202049	Q7 202050	Q8 202051	Q9 202052	Q10 202053	Q11 202054	Q12 202055	Q13 202056	Q14 202057	Q15 202058	Q16 202059	Q17 202060	Q18 202061	Q19 202062	Q20 202063	Q21 202064	Q22 202065	Q5 202087
Dissolved U	ICP-MS	mg/L			< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005	< 0.0005	0.0059	0.0009	0.0018	< 0.0005	0.0016	0.0009	0.0012	0.0009	< 0.0005	0.007	0.0075	0.007	0.0005	< 0.0005
Dissolved V	ICP-MS	mg/L			0.022	0.01	0.011	< 0.001	0.037	< 0.001	0.002	0.012	0.007	0.008	0.01	0.006	0.007	0.008	0.014	0.002	< 0.001	0.003	< 0.001	< 0.001	< 0.001	0.006
Dissolved Zn	ICP-MS	mg/L	1.0	0.03	< 0.005	0.011	< 0.005	< 0.005	0.007	0.061	< 0.005	< 0.005	0.01	< 0.005	0.007	< 0.005	0.013	0.022	0.015	0.013	0.01	0.012	< 0.005	0.008	< 0.005	< 0.005
Dissolved Zr	ICP-MS	mg/L			< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dissolved Hg	CVAF	mg/L		0.000026	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002

* mg/L, Maximum Authorized Concentration in a Grab Sample (MMER Regulations Schedule 4, Table 1)

** mg/L, CCME, 1999. Updated 2007

CCME Exceedance

MMER Exceedance

SECTION 3 • AIRSTRIP QUARRY CHARACTERIZATION

3.1 ACID ROCK DRAINAGE POTENTIAL

In 2006, as part of a geochemical characterization study performed to determine ARD potential of airstrip construction materials, three overburden samples and ten rock samples, all with type IV (Intermediate Volcanic) lithology, were analysed with ABA analysis. All samples were categorized as potentially non-acid generating. Figure 4 shows the location of the 2006 samples in the vicinity of the location of the 2008 airstrip quarry.

In March 2008 in preparation for the second airstrip quarry site (QM-02 – an expansion of the original airstrip quarry), AEM conducted another geochemical characterization sampling program in the same area, with closer spacing between sample locations. Eleven holes were drilled over two different lithologies and eleven 3 kg composite samples of material were collected, prepared and shipped to Techni-Lab in Ste-Germaine Boulé, Quebec for conventional acid base accounting analysis and metals. Figure 5 shows the location of QM-02 in relation to the airstrip and original quarry. Sample results are presented in Tables 3.2 and 3.3 and the certificates of analysis are included in Appendix C.

Quarry QM-01 was the source of construction rockfill for all of the roads and pad areas, including the original airstrip, at the Meadowbank site constructed by Cumberland prior to AEM management of the site. This quarry site continued to be used as a source of construction material until mid 2008. In mid 2008 AEM sought and obtained authorization from the Kivalliq Inuit Association to expand QM-01 to incorporate the area now designated as QM-02. QM-02 was the primary source of all rockfill used in construction of site roads, site building pads, the expanded airstrip and the East Dike and continued as the primary source until December 2008.

The 11 samples taken from QM-02 for characterization prior to quarry development all contained Total Sulphur values at or near the analytical detection limit of 0.05 wt%. The highest Total Sulphur concentration recorded was 0.06 wt%. Consequently none of this rock material is likely to be a source of acid generation as there is not sufficient sulphide mineralization present to create a source of acid generation. All 11 samples were analyzed for sulphate sulphur with all samples returning a concentration below the analytical detection limit of 0.05 wt% indicating that the only source of sulphur present is likely there as sulphide mineralization and that little natural weathering of the sulphide minerals has occurred. Consequently the maximum acid generation potential (MPA or AP) is low for all 11 samples.

The measured neutralization potential for all 11 samples was moderately high, ranging from 71 to 116 kg CaCO₃ per tonne equivalent indicating that all of this rock has significant potential buffering capacity. Consequently the Net Neutralization Potential for this rock is moderately high, ranging from 71 to 116 kg CaCO₃ per tonne equivalent (NNP = Measured NP – MPA). This is because the MPA values are all low due to the low presence of total sulphide present. Consequently all 11 samples returned an NNP value greater than 20 kg CaCO₃ per tonne equivalent indicating that this rock is unlikely to be net acid generating.

The Neutralization Potential Ratio (NPR = Measured NP/MPA) for all 11 samples were moderately high, ranging from 36 to 72, with an average value of 55.9. These values are significantly higher than the INAC guidance of a 3 to 1 ratio required to classify a rock material as having unlikely acid generating potential. The inherent ratio of potential buffering capacity to maximum acid generating potential in this quarry rock material is well in excess of 3:1 primarily due to the low sulphide mineral presence. Consequently the bedrock material from Quarry Qm-02 is classified as being non-acid generating.

The 11 drill core composite samples taken from Quarry QM-02 were also subjected to trace metals analysis (for Au, Ag, Cu and Zn) to determine whether these metals are present in sufficient concentration to likely be a source of metal generation. The results of this analysis are presented in Table 3.3. Concentrations of both Au and Ag were below the analytical detection limits for all 11 samples (detection limit of 5 ppb for Au and 0.5 g/t for Ag).

Copper concentrations ranged from 24 to 84 ppm, averaging 55.2 ppm. Zinc concentrations ranged from 48 to 132 ppm, averaging 63.5 ppm. The BC ARD Guidelines⁷ report that the average crustal concentrations for both Cu and Zn are as follows for igneous rocks:

Table 3.1: Average Cu and Zn Crustal Concentrations

	Copper (ppm)	Zinc (ppm)
Ultra Basic Igneous Rock	10	50
Basaltic Rocks	87	105
High Calcium Granitic Rock	30	60
Low Calcium Granitic Rock	10	39
Syenites (Granite)	5	130

Consequently this source of rock does not show concentrations of either metal significantly outside the normal ranges for these rock types in the Earth’s crust. Based on these results metal leaching is not expected to an issue for this quarry source. However monitoring of precipitation runoff that comes into contact with these rock materials (airstrip, roads, lay-down areas) is warranted over the first few years to verify this prediction.

⁷ Appendix 3 in Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, Dr. William Price, BC Ministry of Employment and Investment, Energy and Minerals Division

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Table 3.2: Sample Results – Airstrip Quarry ABA Analysis

Sample ID	Location		Sampling Date (Month/Year)	Lithology Code	Paste pH	Total Sulphur (wt.%)	Sulphate Sulphur (wt.%)	Sulphide Sulphur* (wt.%)	Maximum Potential Acidity** (kg CaCO ₃ /Tonne)	Neutralization Potential (kg CaCO ₃ /Tonne)	Net Neutralization Potential (kg CaCO ₃ /Tonne)	NPR NP/MPA	Acid Generating Yes or No
	Northing	Easting											
PGA-NQ-01	7214631	637832	Mar-08	IVa	9.62	<0.05	<0.05	<0.05	<1.6	79.3	79.3	49.6	No
PGA-NQ-03	7214511	638052	Mar-08	IVa	9.73	0.06	<0.05	0.06	1.9	71.0	69.1	36.4	No
PGA-NQ-04	7214601	638112	Mar-08	IVa	9.70	<0.05	<0.05	<0.05	<1.6	71.9	71.9	44.9	No
PGA-NQ-05	7214653	638000	Mar-08	IVa	9.69	<0.05	<0.05	<0.05	<1.6	76.3	76.3	47.7	No
PGA-NQ-06	7214739	637892	Mar-08	IVa	9.58	<0.05	<0.05	<0.05	<1.6	108.0	108.0	67.5	No
PGA-NQ-07	7214795	637787	Mar-08	IVa	9.64	<0.05	<0.05	<0.05	<1.6	88.2	88.2	55.1	No
PGA-NQ-08	7214862	637668	Mar-08	IVa	9.46	<0.05	<0.05	<0.05	<1.6	108.0	108.0	67.5	No
PGA-NQ-09	7214664	637735	Mar-08	IV	9.53	<0.05	<0.05	<0.05	<1.6	116.0	116.0	72.5	No
PGA-NQ-10	7214746	637708	Mar-08	IV	9.47	<0.05	<0.05	<0.05	<1.6	107.0	107.0	66.9	No
PGA-NQ-11	7214728	637623	Mar-08	IV	9.59	0.06	<0.05	0.06	1.9	112.0	110.1	57.9	No
PGA-NQ-12	7214810	637597	Mar-08	IV	9.34	<0.05	<0.05	<0.05	<1.6	78.4	78.4	49.0	No
PGA-NQ-07 DUPLICATE			Mar-08	IVa	9.63	<0.05	<0.05	<0.05	<1.6	87.9	87.9	54.9	No
Average					9.6	<0.05	<0.05	<0.05	<1.6	92.4	92.0	55.9	
Minimum Value					9.3	<0.05	<0.05	<0.05	<1.9	71.0	69.1	36.4	
Maximum Value					9.7	0.06	<0.05	0.06	1.9	116.0	116.0	72.5	
Standard Deviation					0.12	0.00	0.00	0.00	0.00	17.79	17.82	11.52	
Count					11	11	11	11.00	11	11	11	11	

- Notes:
- 1. IVa = Intermediate Volcanics - Alteration Lithology Unit
 - 2. IV = Intermediate Volcanic Lithology Unit
 - 3: Sulphide sulphur is calculated as the difference between total sulphur and sulphate sulphur.
 - 4: MPA = sulphide sulphur x 31.25 (MPA = AP)
 - 5: NNP = NP-MPA.
 - 6: NPR = NP/MPA.

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Table 3.3: Sample Results – Airstrip Quarry Metals

Sample ID	Location		Sampling Date (Month/Year)	Lithology Code	Paste pH	Au ppb	Ag g/t	Cu ppm	Zn ppm
	Northing	Easting							
PGA-NQ-01	7214631	637832	Mar-08	IVa	9.62	<5	<0.5	84	68
PGA-NQ-03	7214511	638052	Mar-08	IVa	9.73	<5	<0.5	28	48
PGA-NQ-04	7214601	638112	Mar-08	IVa	9.70	<5	<0.5	76	68
PGA-NQ-05	7214653	638000	Mar-08	IVa	9.69	<5	<0.5	24	48
PGA-NQ-06	7214739	637892	Mar-08	IVa	9.58	<5	<0.5	82	60
PGA-NQ-07	7214795	637787	Mar-08	IVa	9.64	<5	<0.5	56	66
PGA-NQ-08	7214862	637668	Mar-08	IVa	9.46	<5	<0.5	62	132
PGA-NQ-09	7214664	637735	Mar-08	IV	9.53	<5	<0.5	24	50
PGA-NQ-10	7214746	637708	Mar-08	IV	9.47	<5	<0.5	44	50
PGA-NQ-11	7214728	637623	Mar-08	IV	9.59	<5	<0.5	56	60
PGA-NQ-12	7214810	637597	Mar-08	IV	9.34	<5	<0.5	38	48
PGA-NQ-05 DUP			Mar-08	IVa	9.63		<0.5	26	46
PGA-NQ-08 DUP			Mar-08	IVa		<5			
Average					9.6	<5	<5	52.2	63.5
Minimum Value					9.3	<5	<5	24.0	48.0
Maximum Value					9.7	<5	<0.05	84.00	132.0
Standard Deviation					0.12	0.0	0.0	22.44	24.18
Count					11	11	11	11	11

3.2 SURFACE WATER QUALITY SAMPLING

A program to monitor observable seeps or drainage around the Meadowbank mine site was conducted during the 2008 open water season with the objective of monitoring surface runoff water quality that had contacted the rock fill materials used in road, airstrip and building pad construction. This surface water quality monitoring was conducted as part of AEM's internal routine surface water monitoring program conducted at the Meadowbank Mine site during the 2008 open water season; specifically through the months of June to September. Figure 6 shows the location of these sampling stations and highlights those stations of interest for assessing water quality for runoff or seeps that have been in contact with the quarried rock material: QP-1, AS-D1, AS-D2, AS-P2, AS-P3, ASP-4, and AS-2. Sample results were assessed against the MMER Discharge Limits and the CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life and are presented in Table 3.5. The laboratory certificates are included in Appendix C.

There were a total of 7 stations sampled that were relevant to monitoring runoff water quality from site roadways, airstrip and building pads. The seven sites were sampled at different frequencies during the open water season dependent upon the presence of flow at each of the sites which changed over the open water months. These are summarized as follows:

Table 3.4: Stations and Sampling Frequency

Sampling Station	Description	Frequency
Site QP-1	Drainage from Airstrip Quarry QM-01	June, July & August
Site AS-2	Shoreline 3 rd Portage Lake, S of Airstrip	June, July, Aug & Sept
Site AS-D1	N Side of Airstrip	June & July
Site AS-D2	N Side of Airstrip	June and August
Site ASP-2	S Side of Airstrip	June
Site ASP-3	S Side of Airstrip	July & August
Site ASP-4	S Side of airstrip	June

Results for the other water sampling stations shown on Figure 6 are reported in the Meadowbank Water License (2AM-MEA0815) Annual Report for 2008. These sites were chosen for reporting here as they address specifically water quality from precipitation runoff in contact with quarried rock used in site construction.

MMER discharge standards were met for all samples and for all parameters, except for the following two exceptions:

- The sample collected from QP-1 (the drainage from Airstrip Quarry QM-01 in June had a Total Suspended Solids concentration of 32 mg/L as compared to the MMER standard of 30 mg/L. This drainage was being contained by the base of the airstrip (see Figure 6) to allow further settling and thus this water was not reaching any natural receiving water; and
- The sample collected from AS-D2 (drainage at the north east corner of the airstrip) in June had a Total Suspended Solids concentration of 210 mg/L as compared to the MMER standard of 30 mg/L. This portion of the airstrip was under active construction at this time. All of the drainage was being contained in the immediate area and thus this water was not reaching any natural receiving water.

The results were also compared against the CCME Guidelines for Protection of Freshwater Aquatic Life. It is important to note that these CCME Guidelines are not discharge standards but represent recommended concentrations to ensure the protection of freshwater aquatic life. The Guidelines are intended to be applied within the freshwater receiving environment such as a lake, stream or river. They are not intended to be used for seeps however they do provide some comparative points of comparison for assessing these water quality results.

CCME Guideline values were exceeded on some occasions for the following elements: Al, As, Cr, Cu, Zn and Pb. For all other parameters the concentrations measured were within CCME Guidance and thus are of no concern. Consequently this analysis focuses solely on those elements where CCME guidance values were exceeded.

Aluminum: CCME guidance for Al was exceeded for most samples. This is primarily related to particulate Al bearing sediments carried in these seeps and is not soluble Al. The results when compared with Total Suspended Solids show this relationship. Consequently sediment control measure that were in place to prevent this sediment reaching the nearby Third and Second Portage Lakes prevented, most of this Al from reaching the receiving waters.

Arsenic: The CCME guidance for As of 0.005 mg/L was exceeded slightly on three occurrences: twice at QP-1 – 0.0065 and 0.0056 mg/L and once at ASP-4 – 0.0057 mg/L. With little dilution these seeps would be well within CCME guidance for As.

Chromium: CCME guidance for Cr at 0.001 mg/L was exceeded at QP-01 for all three samples (0.01, 0.0077, and 0.0038); at AS-D1 (0.019 and 0.0053), at AS-D2 on one occasion (0.01) at AS-P2 (0.011), at AS-P3 on one occasion (0.0097) and at AS-P4 (0.016). Comparing Cr concentrations with Total Suspended Solids suggest that much of this Cr may be associated with particulate matter and is thus not dissolved. If this is the case then much of this Cr would not report to the receiving watershed but be removed through sediment management practices employed during construction.

Copper: CCME guidance for Cu at 0.002 mg/L was exceeded at QP-01 for all three samples (0.012, 0.009, and 0.01); at AS2 (.0036 and .0025) at AS-D1 (0.018 and 0.0099), at AS-D2 (0.0065 and 0.0039) at AS-P2 (0.0032), at AS-P3 (0.0054 and 0.0093) and at AS-P4 (0.017). Comparing Cu concentrations with Total Suspended Solids suggest that much of this Cu may be associated with particulate matter and is thus not dissolved. If this is the case then much of this Cu would not report to the receiving watershed but be removed through sediment management practices employed during construction.

Zinc: The CCME guidance for Zn of 0.03 mg/L was exceeded slightly on one occurrences: at AS-D1 – 0.032 mg/L. With little dilution this value would be well within CCME guidance for Zn.

Lead: CCME guidance for Pb at 0.001 mg/L was exceeded at QP-01 for all three samples (0.0084, 0.0037, and 0.0021); at AS-D1 (0.019 and 0.0049), at AS-D2 on one occasion (0.0094) at AS-P2 (0.0031), at AS-P3 (0.0011 and 0.0028) and at AS-P4 (0.024). Comparing Pb concentrations with Total Suspended Solids suggest that much of this Pb may be associated with particulate matter and is thus not dissolved. If this is the case then much of this Pb would not report to the receiving watershed but be removed through sediment management practices employed during construction.

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Table 3.5: Sample Results – Airstrip Quarry Conventional Parameters and Metals by ICP-MS

				QP-1			AS-2				AS-D1		AS-D2		ASP-2	ASP-3		ASP-4
				JUNE	JULY	AUGUST	JUNE	JULY	AUGUST	SEPT	JUNE	JULY	JUNE	AUGUST	JUNE	JULY	AUGUST	JUNE
Parameters	Units	MMER*	CCME**															
Mercury (Hg)+	mg/L		0.000026	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium (Ca)	mg/L			27	31	43	3	4	17	22	23	35	10	35	24	22	32	31
Magnesium (Mg)	mg/L			7	8	11	<1	1	4	6	6	7	3	7	3	4	6	7
Total Hardness (CaCO3)	mg/L			99	110	150	8	15	57	78	79	120	38	120	74	70	100	100
Aluminum (Al)	mg/L		0.1	2.6	1.5	0.96	0.028	0.032	0.11	0.036	5.3	1.9	3.2	0.27	3.3	1.1	2.3	6
Antimony (Sb)	mg/L			<0.001	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0025	<0.001	<0.001	<0.001
Silver (Ag)	mg/L		0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00021
Arsenic (As)	mg/L	1	0.005	0.0065	0.0056	0.0024	<0.001	<0.001	<0.001	<0.001	0.0025	0.0024	0.0019	<0.001	0.0029	0.0013	0.0017	0.0057
Barium (Ba)	mg/L			0.092	0.076	0.092	0.0041	0.0046	0.021	0.025	0.12	0.058	0.055	0.034	0.057	0.028	0.055	0.091
Cadmium (Cd)	mg/L		0.000017	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chromium (Cr)	mg/L		0.001	0.01	0.0077	0.0038	<0.0005	<0.0005	<0.0005	<0.0005	0.019	0.0053	0.01	<0.0005	0.011	<0.0005	0.0097	0.016
Cobalt (Co)	mg/L			0.004	0.0024	0.0016	<0.0005	<0.0005	<0.0005	<0.0005	0.0059	0.0019	0.0029	0.00054	0.0017	0.00058	0.0018	0.0041
Copper (Cu)	mg/L	0.6	0.002	0.012	0.009	0.01	<0.0005	0.001	0.0036	0.0025	0.018	0.0099	0.0065	0.0039	0.0032	0.0054	0.0093	0.017
Manganese (Mn)	mg/L			0.31	0.23	0.17	0.004	0.0023	0.0056	0.011	0.36	0.26	0.11	0.077	0.08	0.034	0.08	0.22
Molybdenum (Mo)	mg/L		0.73	0.00096	0.0027	0.0044	<0.0005	<0.0005	<0.0005	0.00074	<0.0005	0.0012	<0.0005	0.00086	0.00091	0.0011	<0.0005	0.0026
Nickel (Ni)	mg/L	1	0.025	0.011	0.0062	0.002	<0.001	<0.001	<0.001	0.0013	0.018	0.008	0.0089	<0.001	0.0077	0.0029	0.027	<0.001
Sodium (Na)	mg/L			3.8	4.5	9.8	0.62	0.75	2.6	4.5	1.4	3.7	0.82	4.4	1.7	3	2.4	4
Zinc (Zn)	mg/L	1	0.03	0.013	0.0099	0.0068	<0.001	0.0065	<0.001	0.0054	0.032	0.011	0.017	0.0042	0.0095	0.008	0.0089	0.025
Selenium (Se)	mg/L		0.001	<0.001	0.0048	<0.001	0.0021	0.0067	<0.001	<0.001	0.0018	0.0065	0.0029	<0.001	0.0023	0.0078	<0.001	<0.001
Lead (Pb)	mg/L	0.4	0.001	0.0084	0.0037	0.0021	<0.0001	<0.0001	<0.0001	<0.0001	0.019	0.0049	0.0094	0.00031	0.0031	0.0011	0.0028	0.024
Thallium (Tl)++	mg/L		0.0008	<0.002	<0.002		<0.002	<0.002			<0.002	<0.002	<0.002		<0.002	<0.002		<0.002
Conductivity	mmhos/cm			0.27	0.35	0.44	0.035	0.043	0.18	0.2	0.15	0.29	0.067	0.3	0.16	0.19	0.23	0.22
Fluoride (F)	mg/L			0.4	0.5	0.4	<0.1	<0.1	<0.1	<0.1	0.3	0.4	<0.1	0.2	0.1	0.2	0.2	0.4
Nitrogen-Ammonia (N-NH3)	mg/L			2.9	4.1	1.4	0.04	0.05	0.14	0.85	0.41	0.09	0.35	0.35	0.04	0.05	0.06	0.14
pH	pH	6.0-9.5	6.5-9	7.7	7.9	7.8	7.7	7.2	7.7	7.7	7.5	8	7.5	7.4	7.6	8.1	7.9	7.9
Nitrate (N) and Nitrite (N)	mg/L			11	13	19	0.16	0.31	6.5	8.7	1.1	1.7	0.44	2.3	2.2	1.5	0.75	2
Sulfates (SO4)	mg/L			7.4	9.6	13	1.9	1.8	8.2	6.9	5.8	16	2	4.3	5.7	9.4	8.2	5.2
Total Suspended Solids (TSS)	mg/L	30		32	14	30	<2	<2	<2	<2	28	25	210	5	12	9	11	12

+ Mercury not included in September test suite
++ Thallium not included in August and September test suite

* mg/L, Maximum Authorized Concentration in a Grab Sample (MMER Regulations Schedule 4, Table 1)
** mg/L, CCME, 1999. Updated 2007

CCME Exceedance
MMER Exceedance

SECTION 4 • CONCLUSIONS AND RECOMMENDATIONS

4.1 AWP PAR QUARRIES

During the 2008 spring freshet, water samples were collected from 17 of the 22 quarries constructed along the all weather private access road (AWPAR) constructed between Baker and the Meadowbank site in 2007/2008; specifically from all of the quarries where standing water or drainage was present. The objective was to quantify the water quality of the water that was ponding or draining at each quarry with the objective of determining whether any significant acid generation or metal leaching is occurring at these sites.

The water sample results were compared against the Metal Mining Effluent Regulations (MMER) Discharge Limits and the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life (2007). Quarries 17, 18, 19, 21 and 22 were not sampled because there was no water accumulation or observable drainage.

MMER TSS concentrations were exceeded in three of the samples, Quarries 2, 6 and 7 at 43, 48 and 63 mg/L respectively. In all three cases the water samples were taken from relatively small pools of standing water during the spring melt and thus should not cause any concern as the water was fully contained. No other parameters in all 17 of the water samples exceeded the MMER discharge standards.

Sample concentrations were also compared against the CCME Guidelines for the protection of freshwater aquatic life.

In summary the water sampling program conducted in June did not provide evidence of any significant acid generation or metal leaching issues associated with the 22 road quarries. This program should continue in the spring of 2009 to again check the status of the quality of the snowmelt and precipitation runoff in these quarries.

It should be noted that AEM did not actively discharge water from any of these quarry locations in 2008.

22 composite rock samples between 1 and 2 kg were collected, one from each quarry, in August 2008. The samples were composited to be representative of only one lithology type. The samples were sent to Cantest Ltd. laboratory in Burnaby, BC for ABA analysis to evaluate acid generation potential using the Modified Sobek Method including Sulphate S Analysis (to allow sulphide sulphur to be segregated from sulphate sulphur) and Inorganic CO₂ analysis to determine carbonate neutralization potential. Trace metals analysis using a four acid digestion with ICP-MS finish was also performed on all 22 samples.

The Net Neutralization Potential Ratio (NPR: $NPR = NP/AP$) for 13 of the 22 initial quarry samples exceeds the suggested INAC criteria of 3 to be classified as unlikely to be acid generating. For the other 9 samples; 5 have an NPR ratio between 1 and 3 suggesting that acid generating potential is

possible (Q12, Q14, Q19, Q20 and Q21). In each of these five cases the Total Sulphur content in the samples was low (below 0.1 wt% with three having Total Sulphur concentrations below the analytical detection limit). Consequently despite the low neutralization potential in these samples, the samples are unlikely to be acid generating because there is essentially no sulphidic mineralization to create acidic drainage. Two of the remaining 4 samples have an NPR of zero. These are Quarries 6 and 17. The NPR of 8 of the 10 additional samples from these two quarry sites was greater than 3 suggesting that acid generation is not likely. The other 2 samples both had Total Sulphur concentrations under 0.10 wt% thus despite the fact that the NPR for both was below 3 both are unlikely to generate acidic drainage as there is insufficient sulphidic mineralization present.

The 22 composite rock samples were also analysed by the BC MEM Shake Flask Extraction Procedure (SFE) to assess whether a significant amount of any metal is likely to leach out of the material with precipitation and run-off. The SFE test tends to over estimate this potential as it consists of a water leach on a finely ground sample of rock which tends to exaggerate the rate of release of metals as compared to a coarser particle size typically used in road construction. It is however a valuable tool to identify those metals likely to be of concern and to eliminate those that are likely not to be of concern.

In summary the SFE test procedures conducted on all 22 quarry composite samples did not provide evidence of any significant acid generation or metal leaching issues associated with the 22 road quarries.

4.2 AIRSTRIP QUARRY

In March 2008 AEM conducted a geochemical characterization sampling program at the newly expanded Airstrip Quarry (M-02). Eleven holes were drilled over two different lithologies and composite samples were shipped to Techni-Lab in Ste-Germaine Boulé, Quebec for conventional acid base accounting analysis. The 11 samples all contained Total Sulphur values at or near the analytical detection limit of 0.05 wt%. The highest Total Sulphur concentration recorded was 0.06 wt%. Consequently none of this rock material is likely to be a source of acid generation as there is not sufficient sulphide mineralization present to create a source of acid generation.

The Neutralization Potential Ratio ($\text{NPR} = \text{Measured NP/MPA}$) for all was moderately high, ranging from 36 to 72, with an average value of 55.9. These values are significantly higher than the INAC guidance of a 3 to 1 ratio required to classify a rock material as having unlikely acid generating potential; primarily due to the low sulphide mineral presence. Consequently the bedrock material from Quarry QM-02 is classified as being non-acid generating.

A program to monitor observable seeps or drainage around the Meadowbank mine site was conducted during the 2008 open water season with the objective of monitoring surface runoff water quality that had contacted the rock fill materials used in road, airstrip and building pad construction. Sample results were assessed against the MMER Discharge Limits and the CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life.

MMER discharge standards were met for all samples and for all parameters, except for the following two exceptions:

- The sample collected from QP-1 (the drainage from Airstrip Quarry QM-01 in June had a Total Suspended Solids concentration of 32 mg/L as compared to the MMER standard of 30 mg/L. This drainage was being contained by the base of the airstrip (see Figure 6) to allow further settling and thus this water was not reaching any natural receiving water; and
- The sample collected from AS-D2 (drainage at the north east corner of the airstrip) in June had a Total Suspended Solids concentration of 210 mg/L as compared to the MMER standard of 30 mg/L. This portion of the airstrip was under active construction at this time. All of the drainage was being contained in the immediate area and thus this water was not reaching any natural receiving water.

The results were also compared against the CCME Guidelines for Protection of Freshwater Aquatic Life. It is important to note that these CCME Guidelines are not discharge standards but represent recommended concentrations to ensure the protection of freshwater aquatic life. The Guidelines are intended to be applied within the freshwater receiving environment such as a lake, stream or river. They are not intended to be used for seeps however they do provide some comparative points of comparison for assessing these water quality results.

CCME Guideline values were exceeded on some occasions for the following elements: Al, As, Cr, Cu, Zn and Pb however no evidence of significant contaminant release was observed.

4.3 RECOMMENDATIONS

1. A program of follow up water sampling should again be conducted immediately following the 2009 spring freshet of all ponded and flowing water at the 22 AWPARG quarry sites to verify that no acid generation or metal leaching is occurring;
2. A program of follow up water sampling should again be conducted on the Meadowbank mine site immediately following the 2009 freshet and during the 2009 open water months at the same seep and drainage locations as sampled in 2008 to verify that no acid generation or metal leaching is occurring;
3. Future water samples should be analyzed for Total metals to allow MMER compliance to be assessed;
4. Future water samples should also be analyzed for Dissolved Metals to better distinguish between sediment associated metals and dissolved metals for comparison with CCME Guidance; and
5. The following metals should be analyzed at a minimum (both Total and Dissolved): Al, As, Cu, Cr, Fe, Pb, Ni, Se, and Zn

SECTION 5 • REFERENCES

Canadian Council of Ministers of the Environment (CCME) 1999 (updated 2007). Canadian Water Quality Guidelines for the Protection of Aquatic Life.

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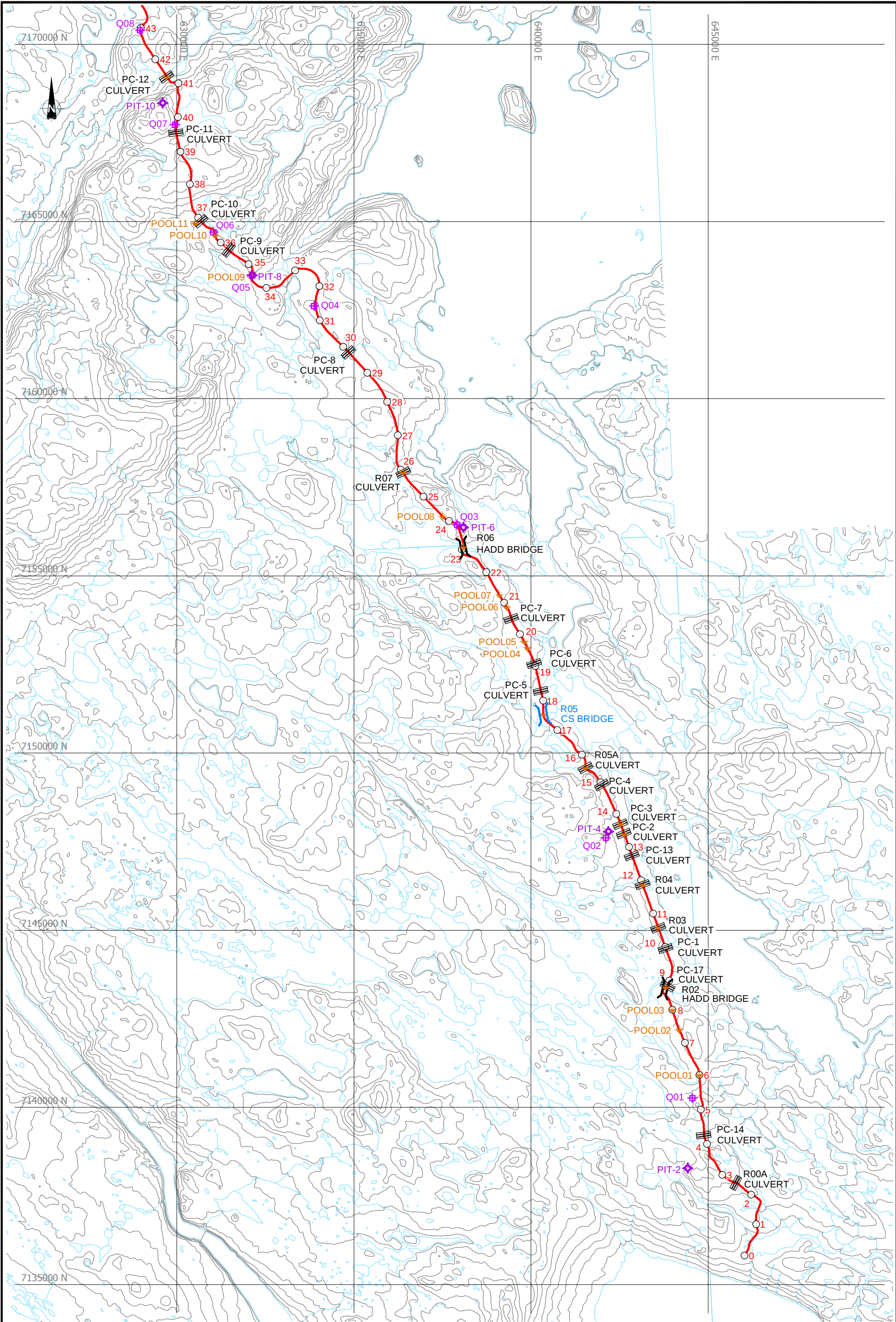
Golder Associates Ltd., 2006. Geochemical Characterization of Meadowbank Airstrip Materials. Prepared for Cumberland Resources Ltd., January 2006.

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Price, W.A.. 1997. Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia, 1997. Reclamation Section, Energy and Minerals Division, April 1997

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LEGEND

- SURFACE CONTACT WATER STATION
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- HADD BRIDGE
- CLEAR-SPAN BRIDGE
- EXISTING QUARRY
- KILOMETER MARKER
- PIT INVESTIGATED

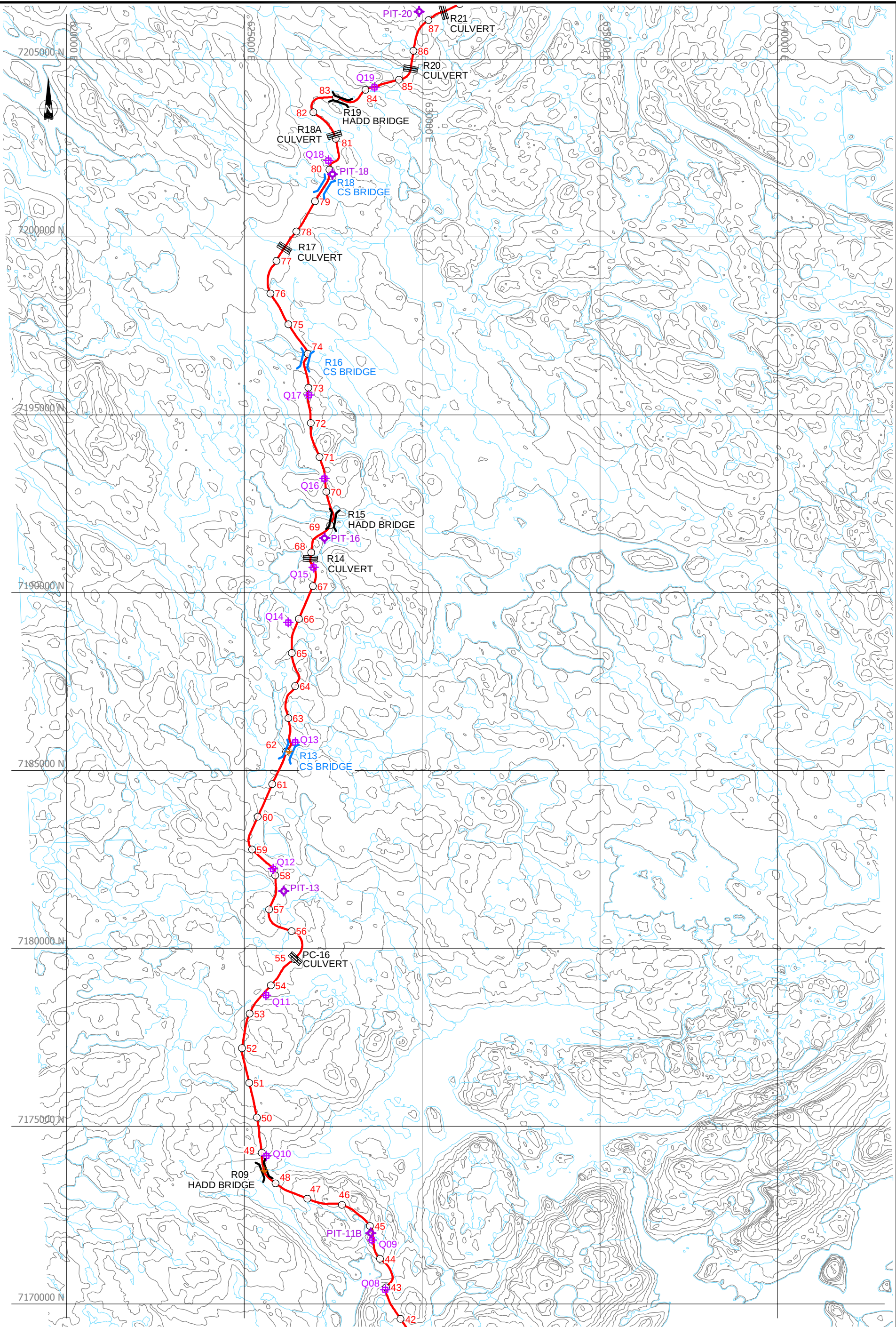
REFERENCES

- 1) ROAD ALIGNMENT, BRIDGE, CULVERT AND QUARRY LOCATIONS FROM NUNA M&T SERVICES Ltd.
- 2) POOL LOCATIONS FROM AZIMUTH CONSULTING GROUP INC.

FOR DISCUSSION
PURPOSES ONLY

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- SURFACE CONTACT WATER STATION
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- KILOMETER MARKER
- PIT INVESTIGATED

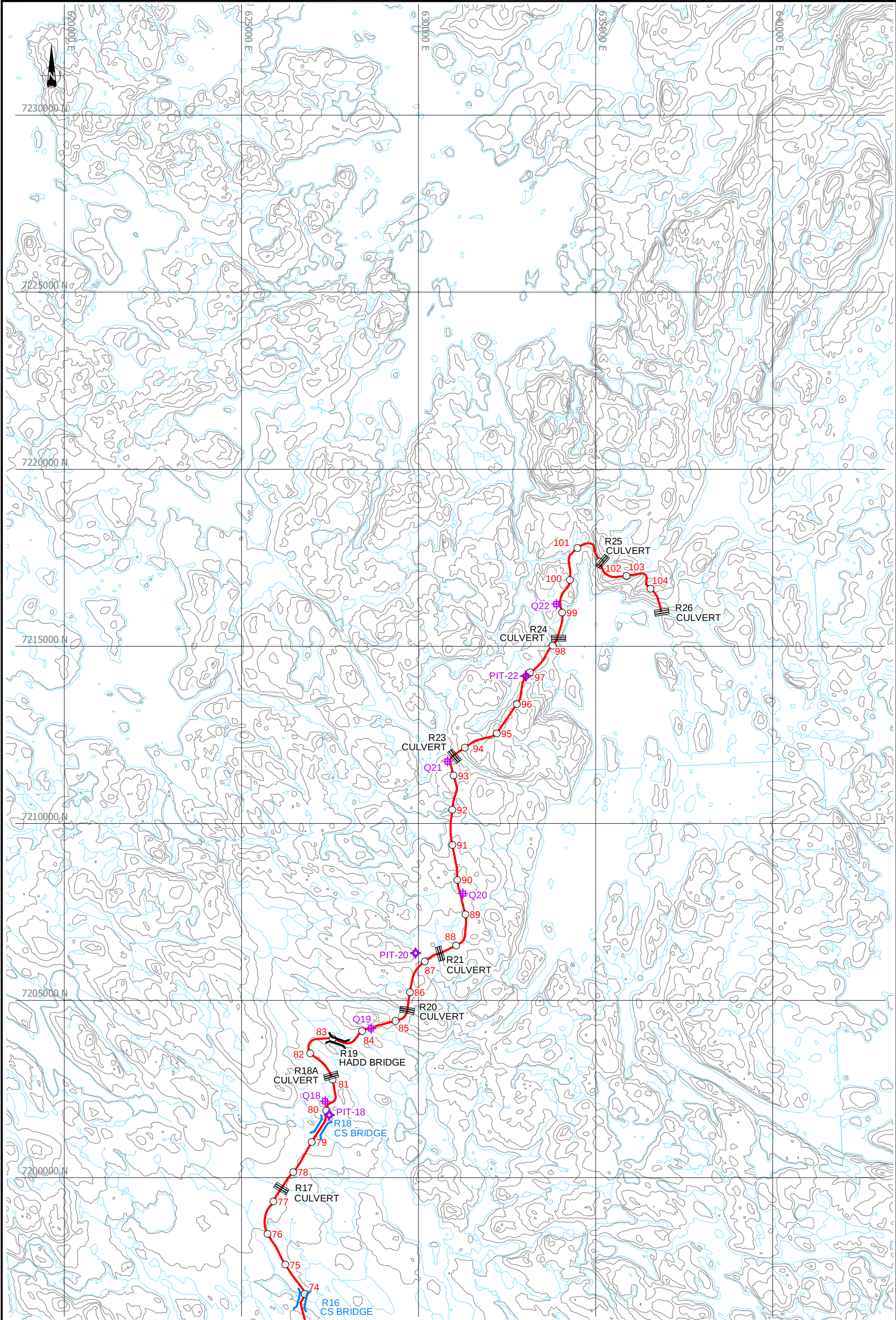
REFERENCES

- 1) ROAD ALIGNMENT, BRIDGE, CULVERT AND QUARRY LOCATIONS FROM NUNA M&T SERVICES Ltd.
- 2) POOL LOCATIONS FROM AZIMUTH CONSULTING GROUP INC.

FOR DISCUSSION
PURPOSES ONLY

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Golder Associates						
FIGURE 2						

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LEGEND

- SURFACE CONTACT WATER STATION
- CULVERT
- HADD BRIDGE
- CLEAR-SPAN BRIDGE
- EXISTING QUARRY
- KILOMETER MARKER
- PIT INVESTIGATED

REFERENCES

- 1) ROAD ALIGNMENT, BRIDGE, CULVERT AND QUARRY LOCATIONS FROM NUNA M&T SERVICES Ltd.
- 2) POOL LOCATIONS FROM AZIMUTH CONSULTING GROUP INC.

FOR DISCUSSION
PURPOSES ONLY

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FIGURE 3			

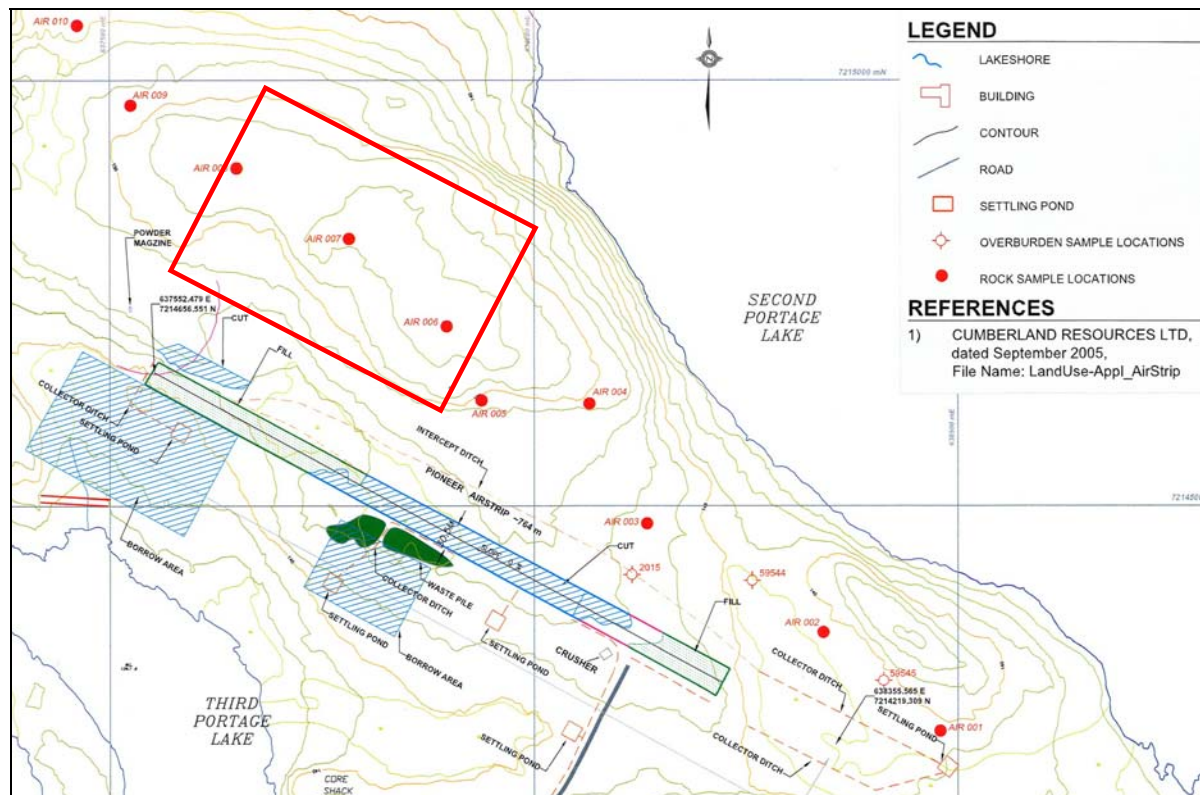


Figure 4: 2006 Airstrip Geochemical Characterization Study Area

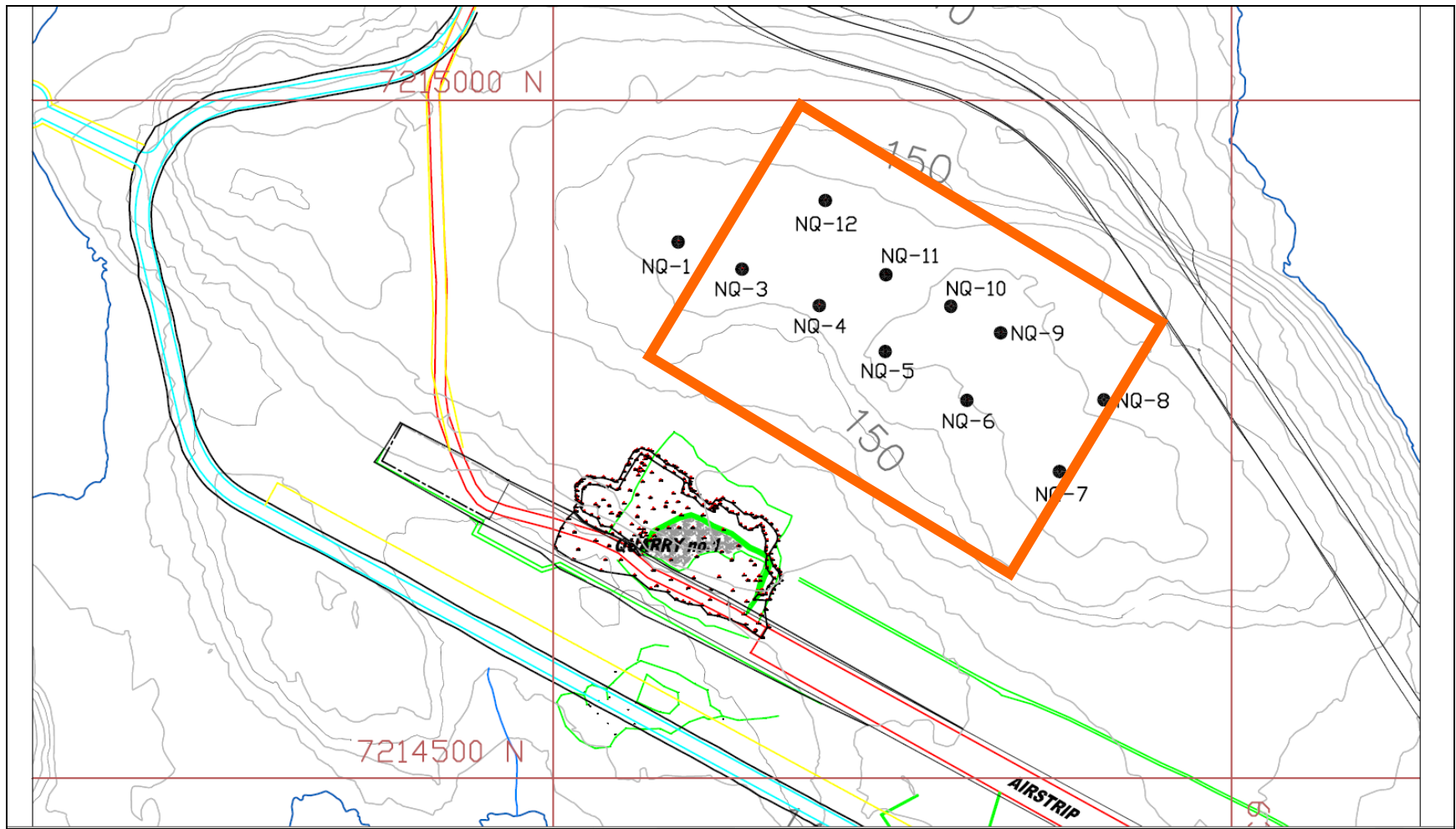


Figure 1: 2008 Airstrip Quarry Sample Locations

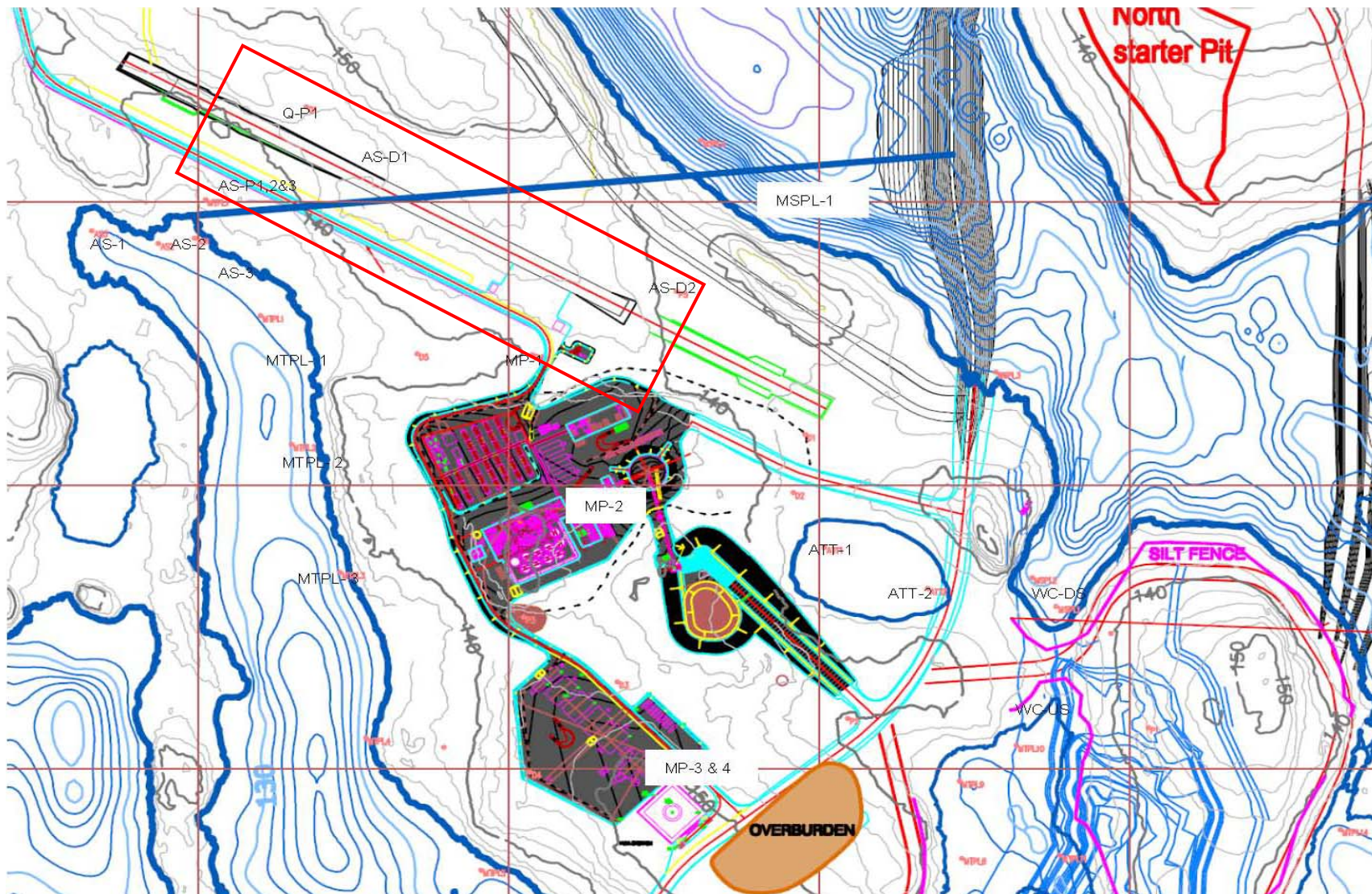
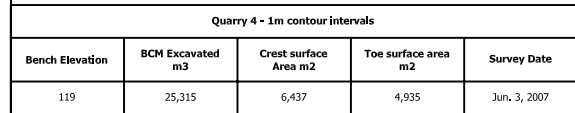
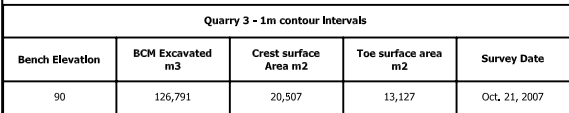
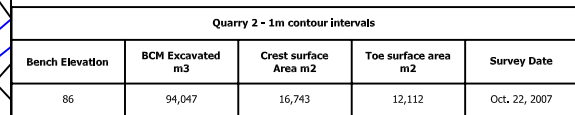
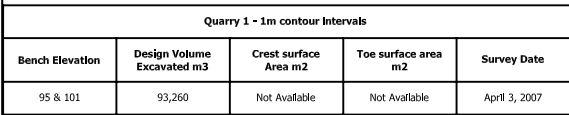


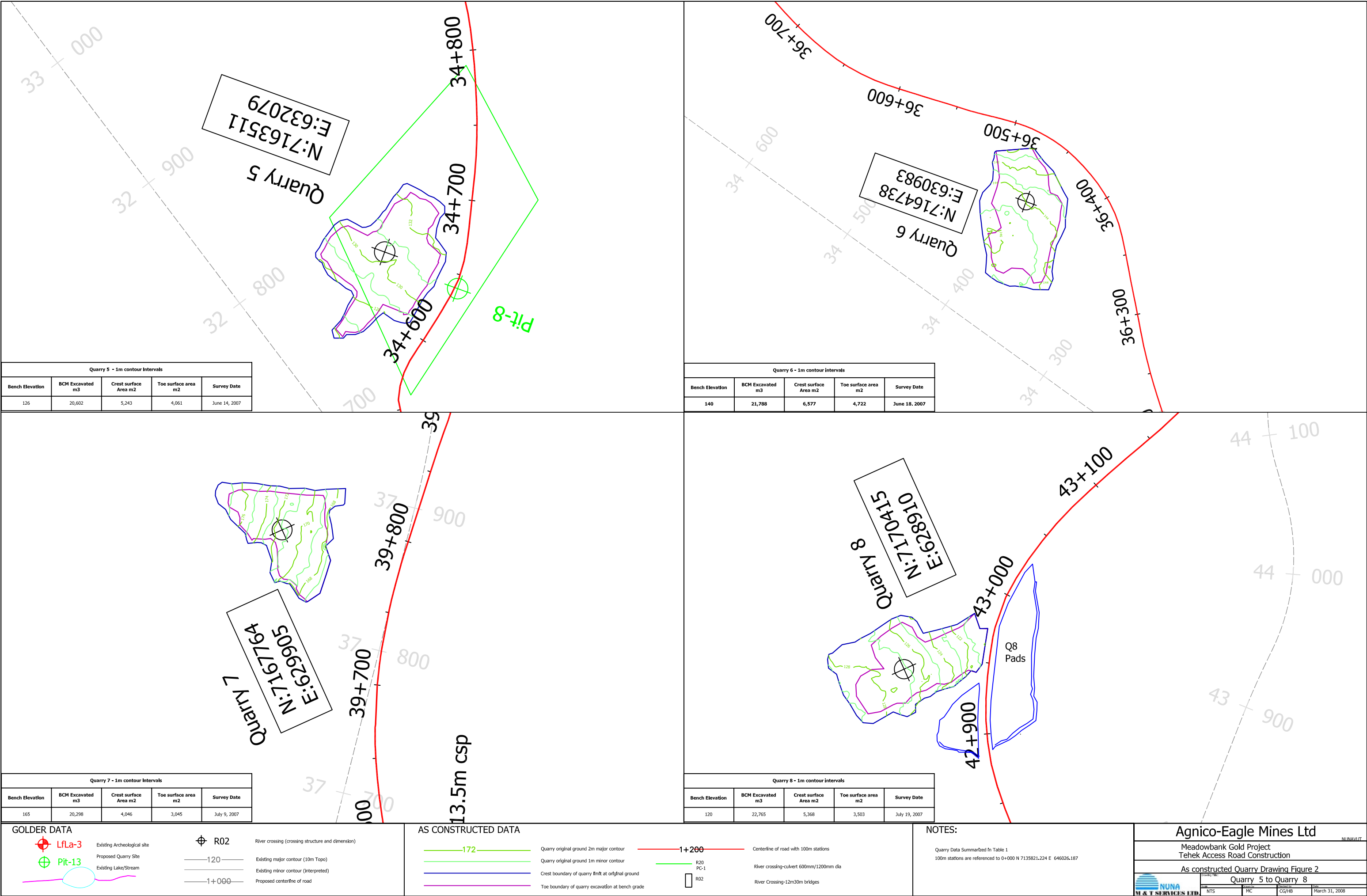
Figure 6: Meadowbank Site 2008 Sample Stations

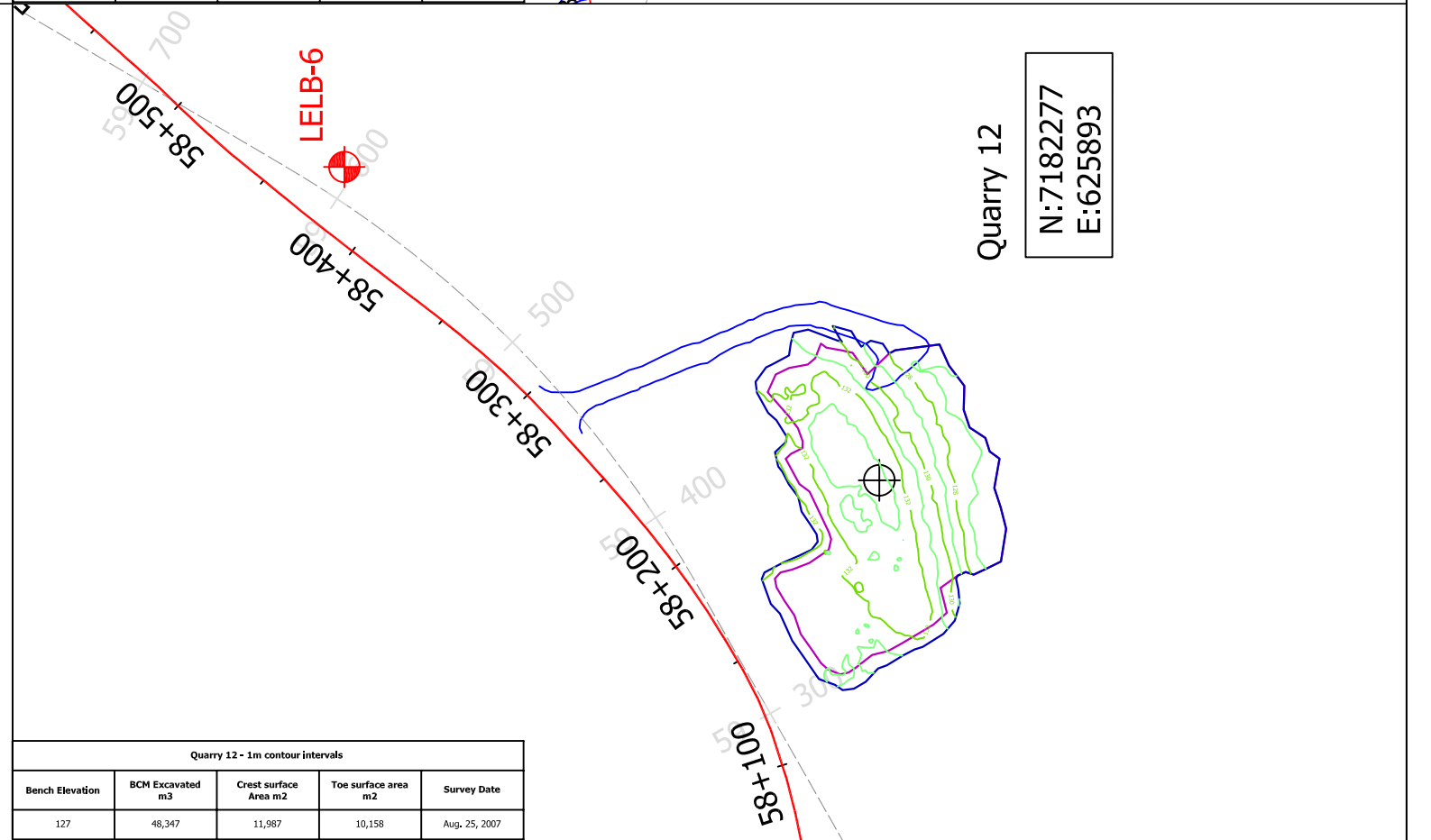
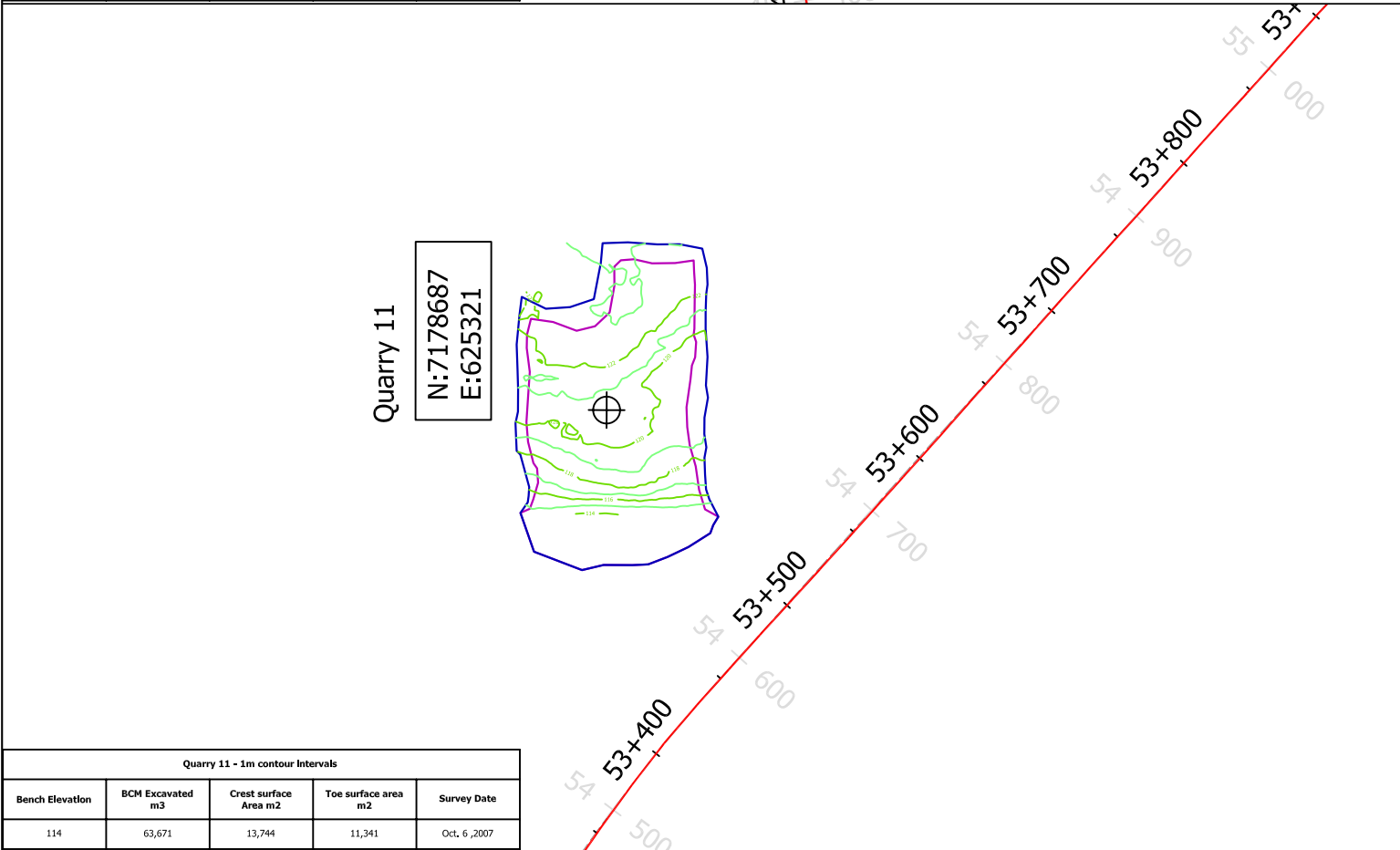
Appendix A

As-Built Drawings: All Weather Private Access Road Quarries, May 2008

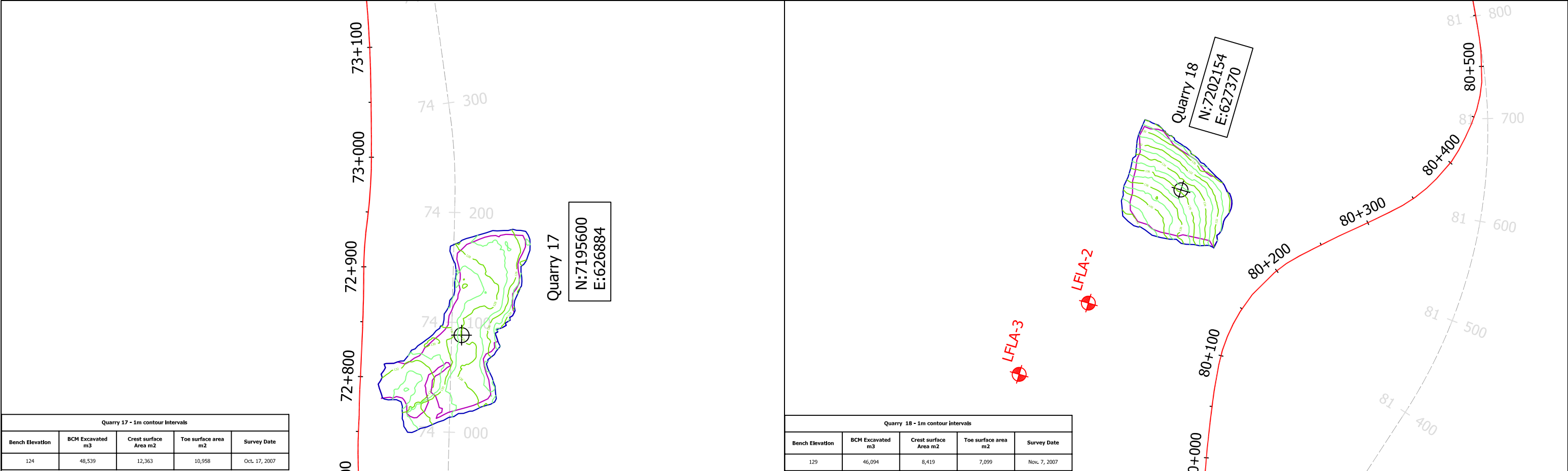


Drawing Title:			
Quarry 1 to Quarry 4			
Scale:	Drawn by:	Checked by:	Date:
NTS	MC	CG/HB	March 31, 2008



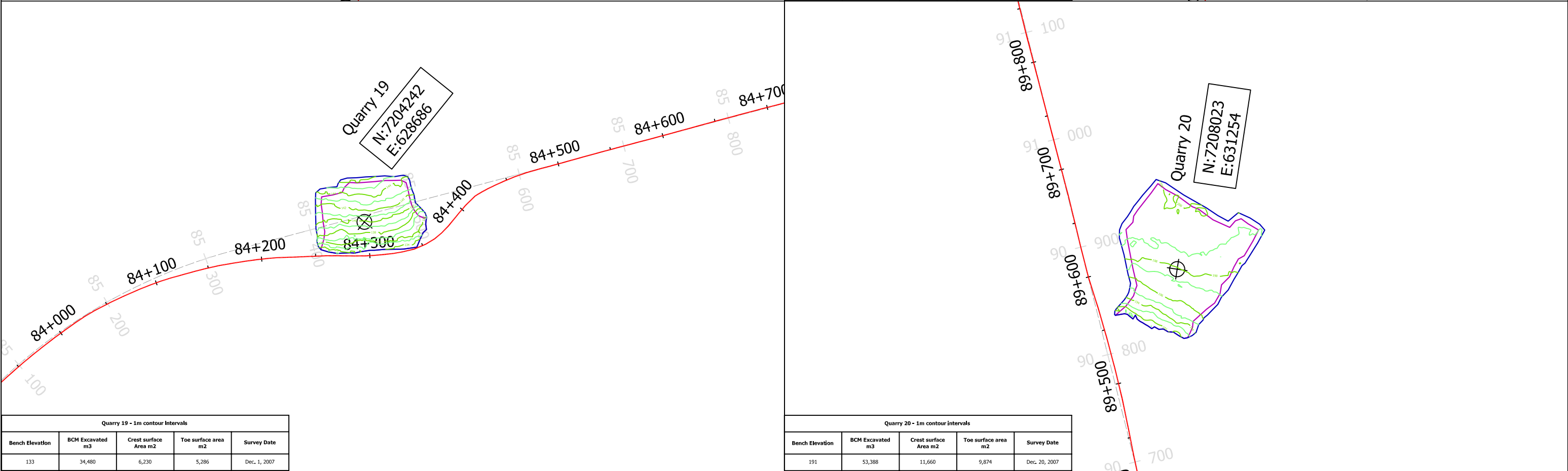


GOLDER DATA	AS CONSTRUCTED DATA	NOTES: Quarry Data Summarized In Table 1 100m stations are referenced to 0+000 N 7135821.224 E 646026.187	Agnico-Eagle Mines Ltd Meadowbank Gold Project Tehek Access Road Construction As constructed Quarry Drawing Figure 3 Showing Title: Quarry 9 to Quarry 12 <table border="1"> <tr> <td>Scale: NTS</td> <td>Author: MC</td> <td>Checker: CG/HB</td> <td>Date: March 31, 2008</td> </tr> </table>	Scale: NTS	Author: MC	Checker: CG/HB	Date: March 31, 2008
Scale: NTS	Author: MC	Checker: CG/HB	Date: March 31, 2008				



Quarry 17 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
124	48,539	12,363	10,958	Oct. 17, 2007

Quarry 18 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
129	46,094	8,419	7,099	Nov. 7, 2007



Quarry 19 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
133	34,480	6,230	5,286	Dec. 1, 2007

Quarry 20 - 1m contour intervals				
Bench Elevation	BCM Excavated m3	Crest surface Area m2	Toe surface area m2	Survey Date
191	53,388	11,660	9,874	Dec. 20, 2007

LFLA-3

Pit-13

Existing Archeological site

Proposed Quarry Site

Existing Lake/Stream

R02

120

1+000

River crossing (crossing structure and dimension)

Existing major contour (10m Topo)

Existing minor contour (Interpreted)

Proposed centerline of road

AS CONSTRUCTED DATA

172

1+200

R20

R02

Quarry original ground 2m major contour

Quarry original ground 1m minor contour

Crest boundary of quarry 1m/lt at original ground

Toe boundary of quarry excavation at bench grade

Centerline of road with 100m stations

River crossing-culvert 600mm/1200mm dia

River Crossing-12m30m bridges

NOTES:

Quarry Data Summarized In Table 1
100m stations are referenced to 0+000 N 7135821.224 E 646026.187

Agnico-Eagle Mines Ltd

NUNAVUT

Meadowbank Gold Project
Tehek Access Road Construction

As constructed Quarry Drawing Figure 5

Quarry 17 to Quarry 20

NUNA

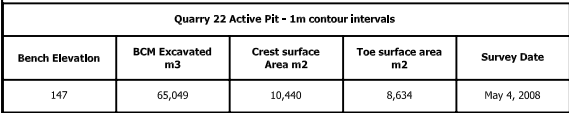
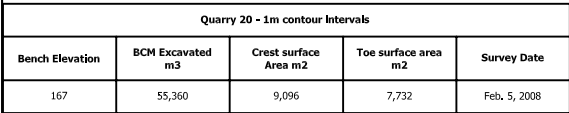
M & T SERVICES LTD.

NTS

MC

CG/HB

March 31, 2008



 R02	River crossing (crossing structure and dimension)
 120	Existing major contour (10m Topo)
	Existing minor contour (Interpreted)
 1+000	Proposed centerline of road

Legend:

- 172 Quarry original ground 2m major contour
- 1+200 Centerline of road with 100m stations
- Quarry original ground 1m minor contour
- R20 PC-1 River crossing-culvert 600mm/1200mm dia
- Crest boundary of quarry limit at original ground
- R02 River Crossing-12m/30m bridges
- Toe boundary of quarry excavation at bench grade

Quarry Data Summarized in Table 1
100m stations are referenced to 0+000 N 7135821.224 E 646026.187

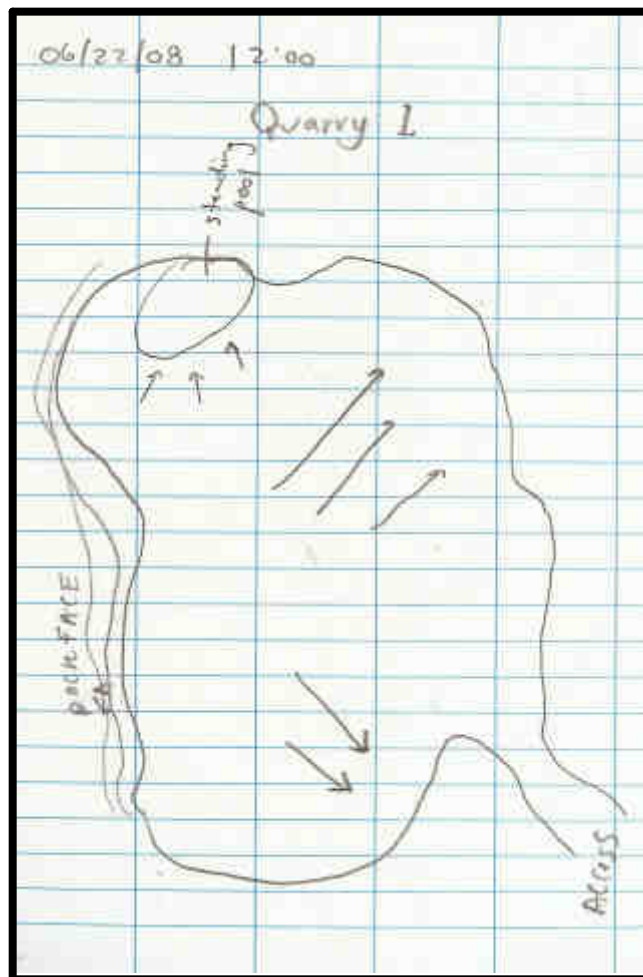
Quarry 21 to Quarry 22			
Scale	Drawn by	Checked by	Date
NTS	MC	CG/HB	May 4, 2008

Appendix B

Drainage Conditions: All Weather Private Access Road Quarries, June 2008

Name of the site : Quarry # 1
 Coordinate : N64 21.450 W96 00.033

Date : June 22nd 2008
 Photographer : R. Vanengen



Pool on west corner near face(currently contained). Sloping toward face on west side, Sloping toward N otherwise. Note : may require larger bank to retain pool

Drainage contained ? : yes



Meadowbank Division

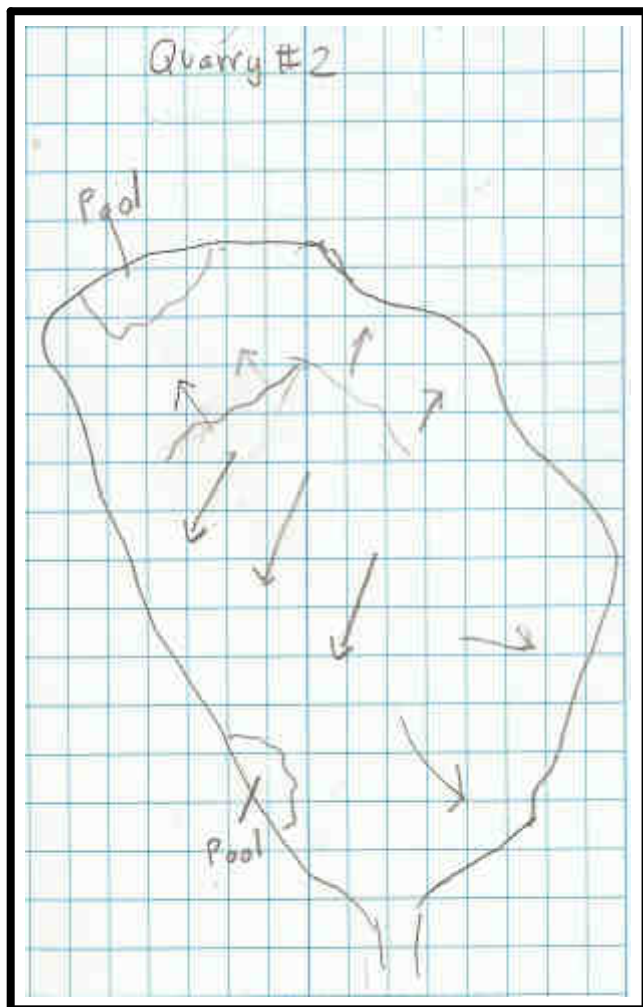
Environment Department

Name of the site : Quarry # 2

Date : June 22nd 2008

Coordinate : N64 25.465 W96 02.939

Photographer : R. Vanengen



Pool at foot of face on NW and S face, H₂O contained inside quarry (snow present)

Drainage contained ? : yes



Meadowbank Division

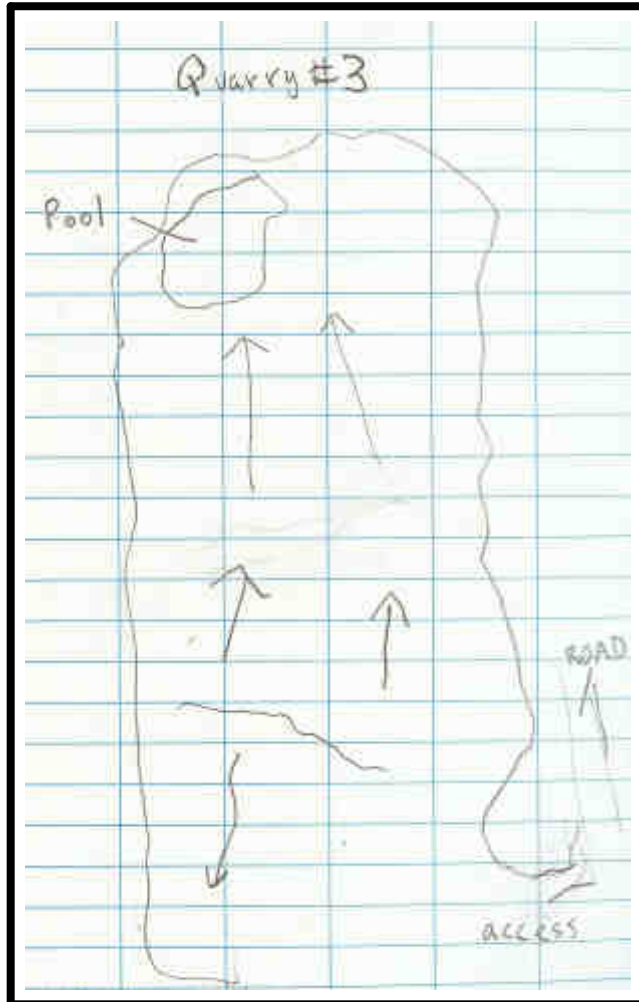
Environment Department

Name of the site : Quarry # 3

Date : June 22nd 2008

Coordinate : N64 28.844 W96 05.891

Photographer : R. Vanengen



H2O contained inside quarry (snow present), Quarry two slopes to S H2O contained

Drainage contained ? : yes



Meadowbank Division

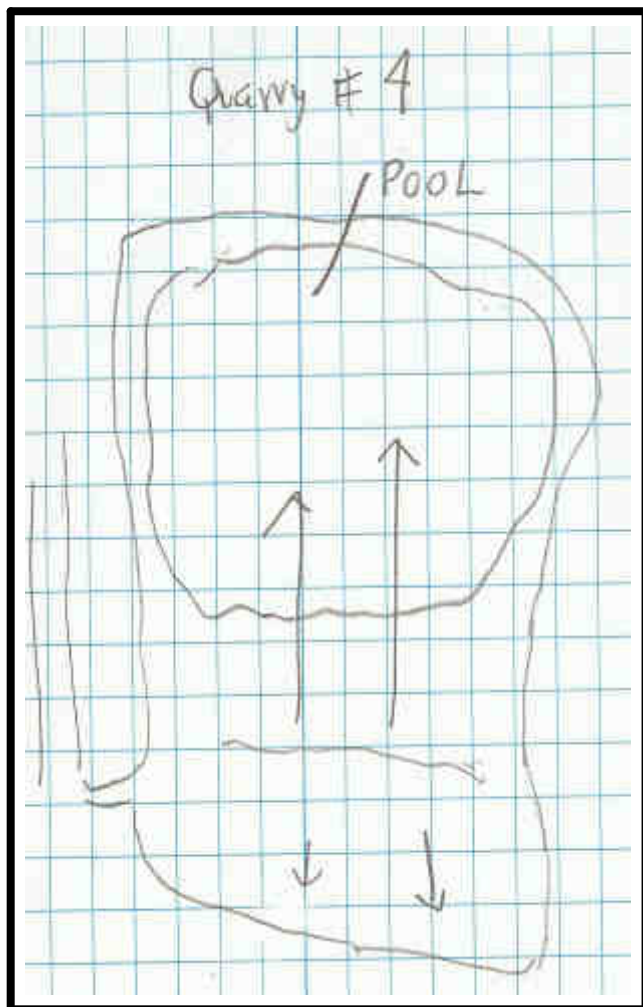
Environment Department

Name of the site : Quarry # 4

Date : June 22nd 2008

Coordinate : N64 33.692 W96 12.299

Photographer : R. Vanengen



Pooling throughout, Steep banks; containing water

Drainage contained ? : yes



Meadowbank Division

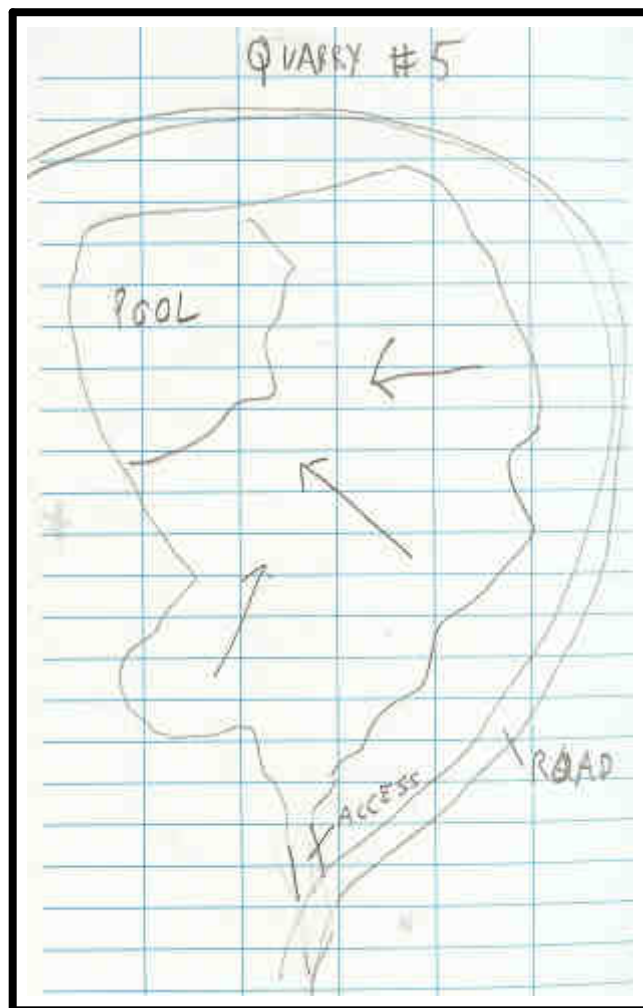
Environment Department

Name of the site : Quarry # 5

Date : June 22nd 2008

Coordinate : N64 34.228 W96 14.560

Photographer : R. Vanengen



Face on N side; pooling throughout, Potential seepage/ discharge on South West side

Drainage contained ? : yes



Meadowbank Division

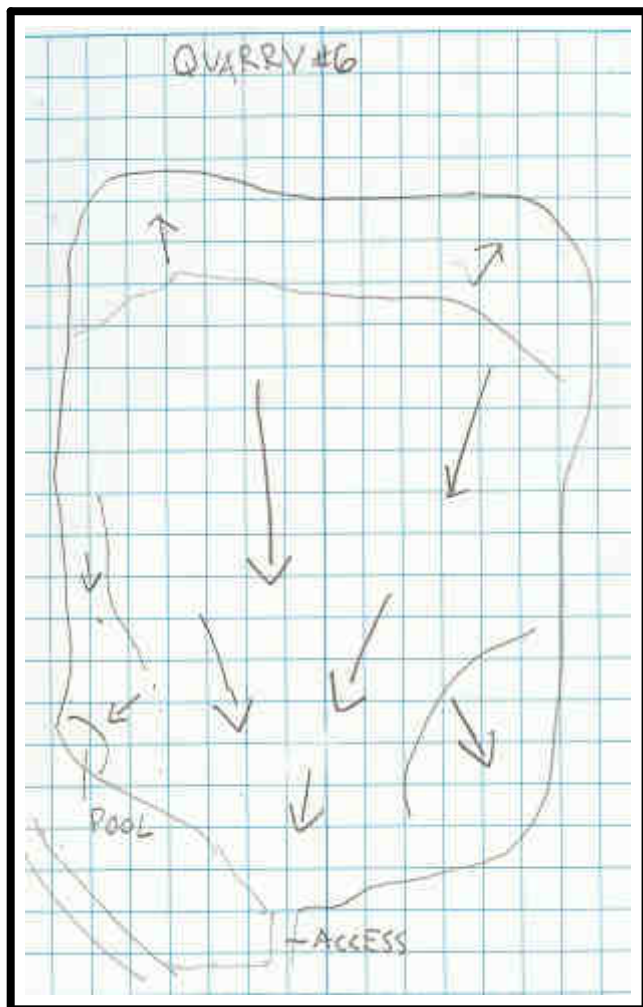
Environment Department

Name of the site : Quarry # 6

Date : June 22nd 2008

Coordinate :

Photographer : R. Vanengen



Slopes towards access, Small pool on SE face. Nuna's contaminated soil storage

Drainage contained ? : no



Meadowbank Division

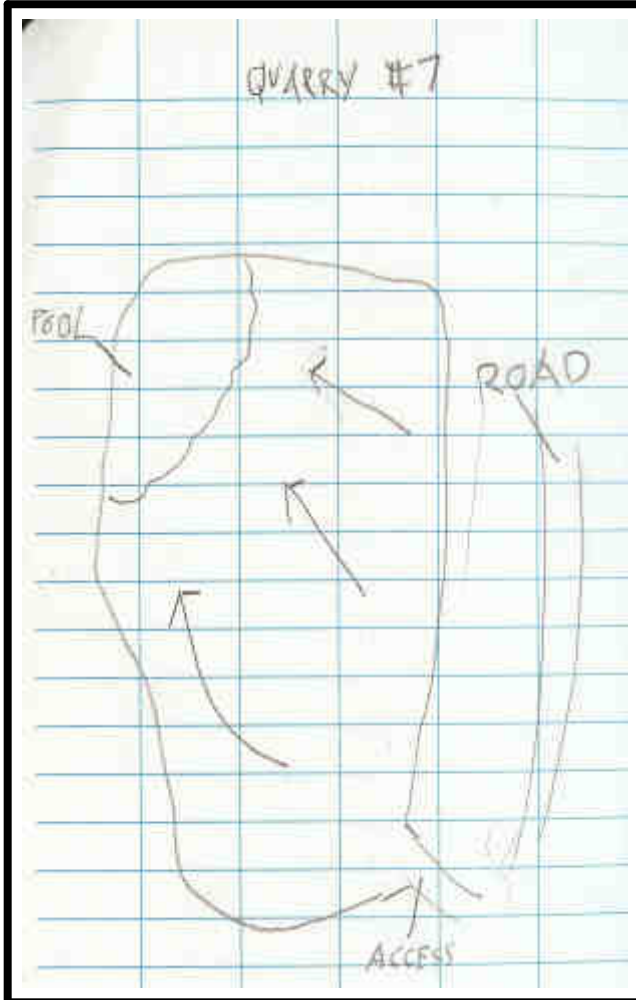
Environment Department

Name of the site : Quarry # 7

Date : June 22nd 2008

Coordinate : N64 21.450 W96 00.033

Photographer : R. Vanengen



Small quarry with pool, appears contained. May be seeping from south side; slopes inwards

Drainage contained ? : yes



Meadowbank Division

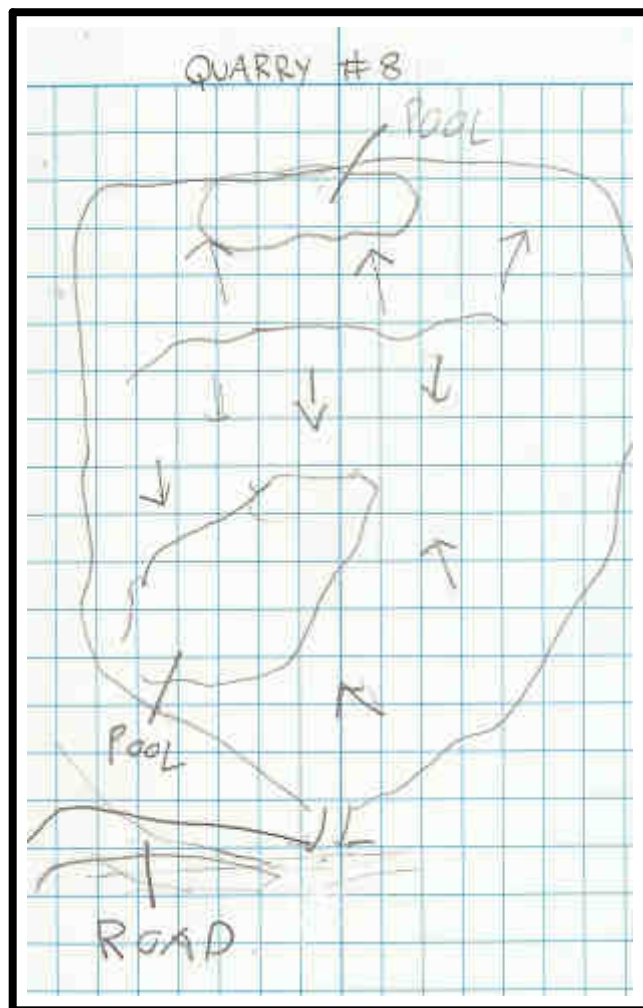
Environment Department

Name of the site : Quarry # 8

Date : June 22nd 2008

Coordinate : N64 38.044 W96 18.149

Photographer : R. Vanengen



Slopes towards access; crowned H₂O held by road. Pooling on NE and SW (face) sides

Drainage contained ? : yes



Meadowbank Division

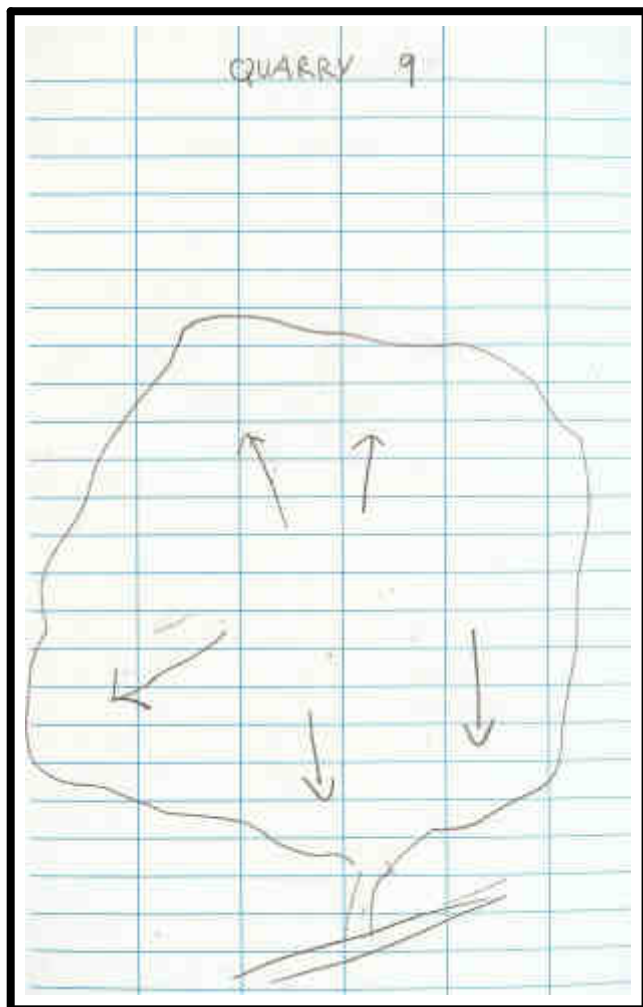
Environment Department

Name of the site : Quarry # 9

Date : June 22nd 2008

Coordinate : N64 38.820 W96 18.537

Photographer : R. Vanengen



Slopes N. towards face; slight crown with sloping SW.

Drainage contained ? : yes



Meadowbank Division

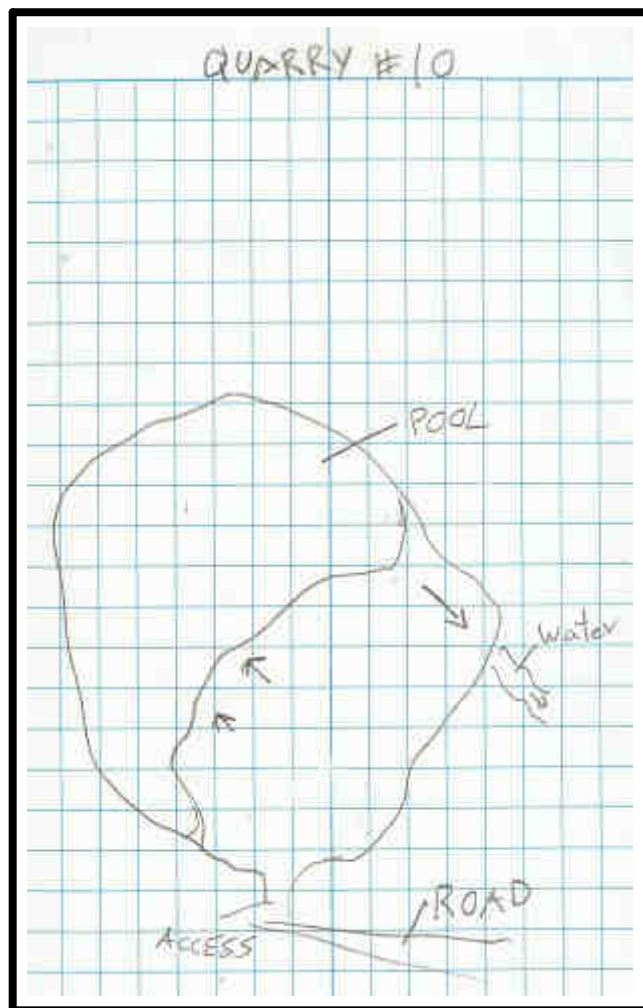
Environment Department

Name of the site : Quarry # 10

Date : June 22nd 2008

Coordinate : N64 40.155 W96 22.129

Photographer : R. Vanengen



Sloping towards access; seepage towards access and outside of quarry footprint

Drainage contained ? : no



Meadowbank Division

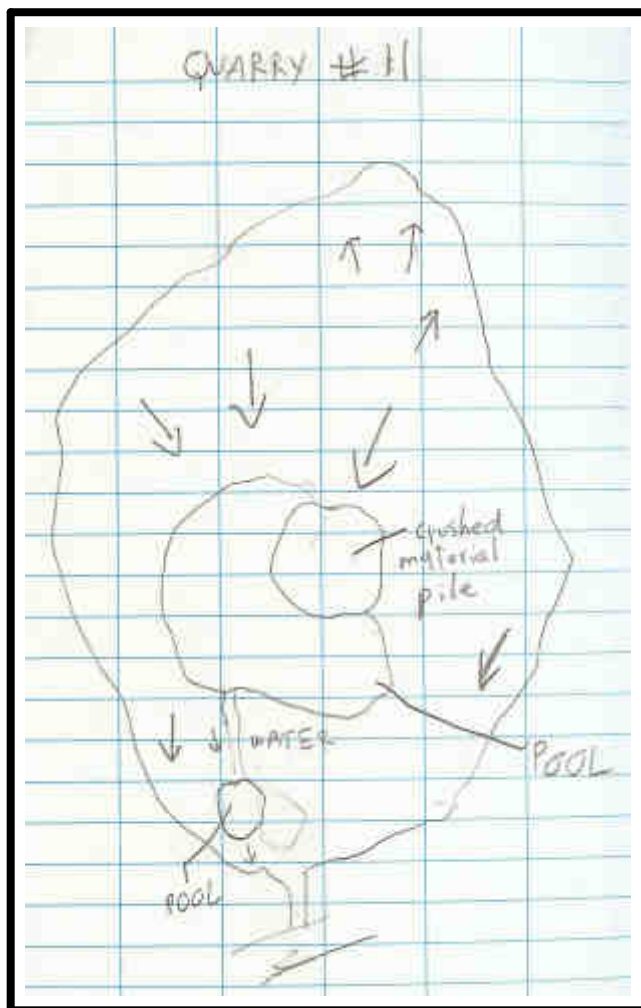
Environment Department

Name of the site : Quarry # 11

Date : June 22nd 2008

Coordinate : N64 42.577 W96 22.220

Photographer : R. Vanengen



Sloping S. towards access (aggregate storage). Seepage/ pools outside quarry footprint.

Drainage contained ? : no



Meadowbank Division

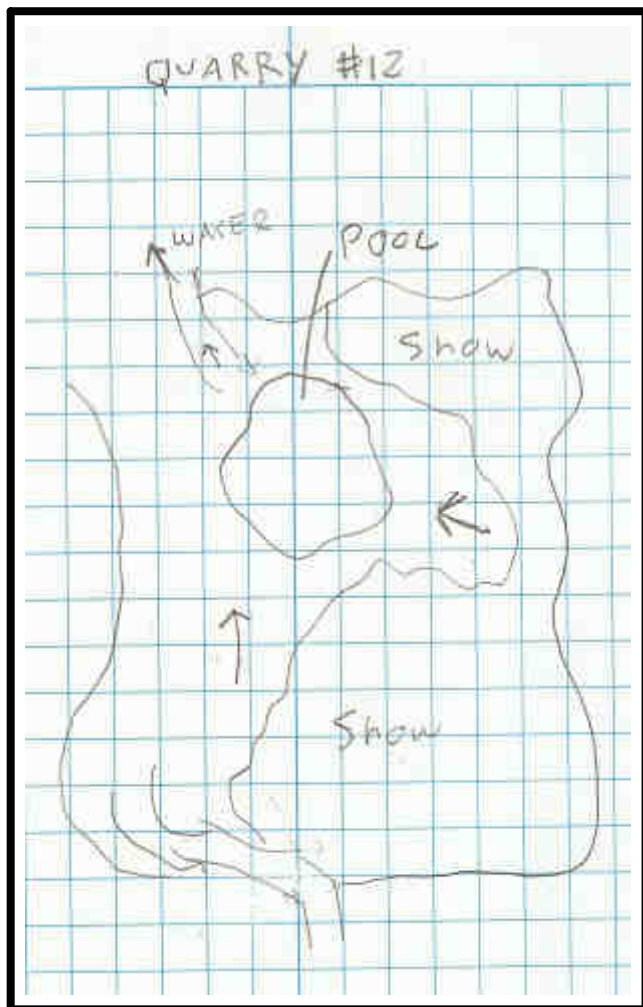
Environment Department

Name of the site : Quarry # 12

Date : June 22nd 2008

Coordinate : N64 44.473 W96 21.329

Photographer : R. Vanengen



Sloping East outside of quarry footprint.

Drainage contained ? : no



Meadowbank Division

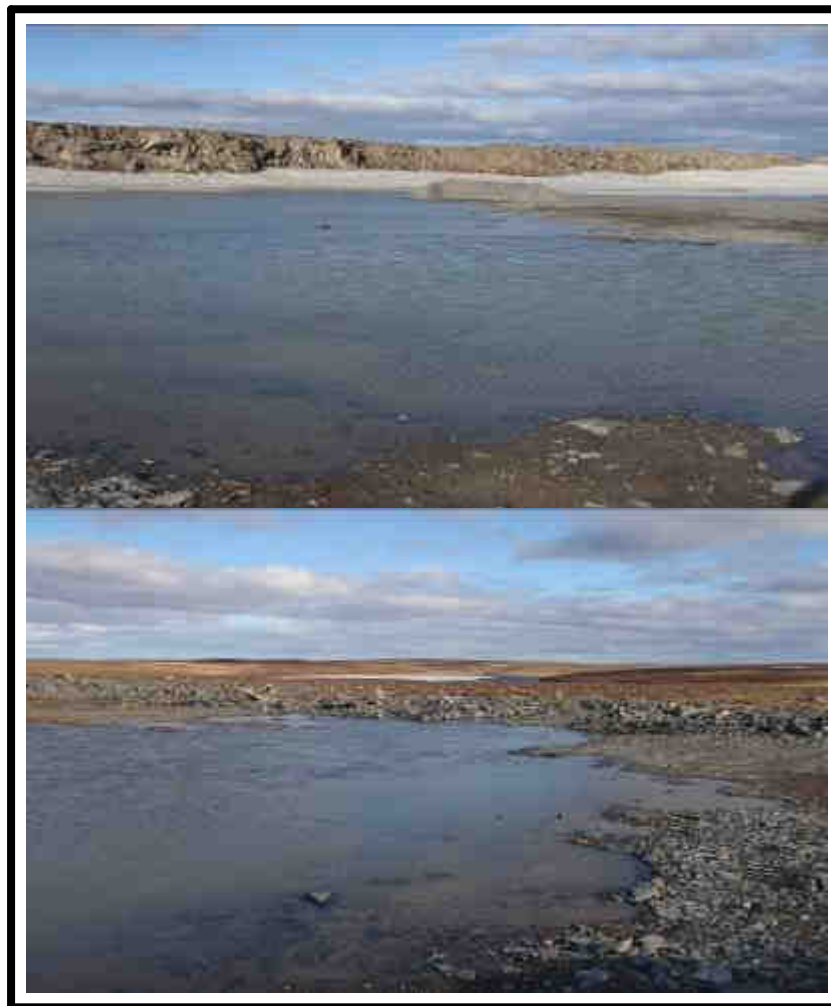
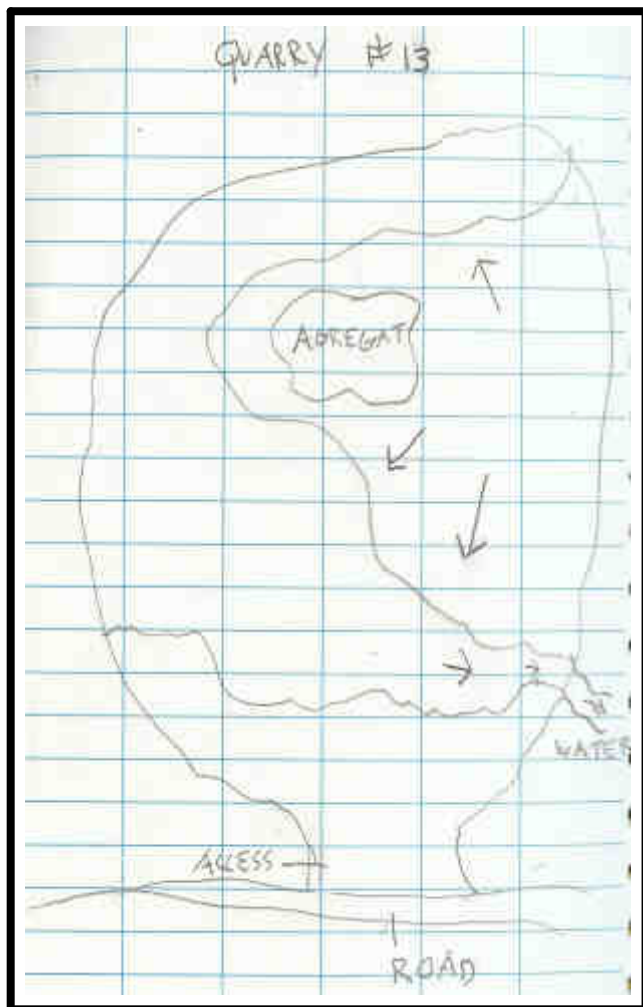
Environment Department

Name of the site : Quarry # 13

Date : June 22nd 2008

Coordinate : N64 46.397 W96 20.520

Photographer : R. Vanengen



Sloping towards access (south) seeping outside footprint. Snow accumulation along well small aggregate pile.

Drainage contained ? : no



Meadowbank Division

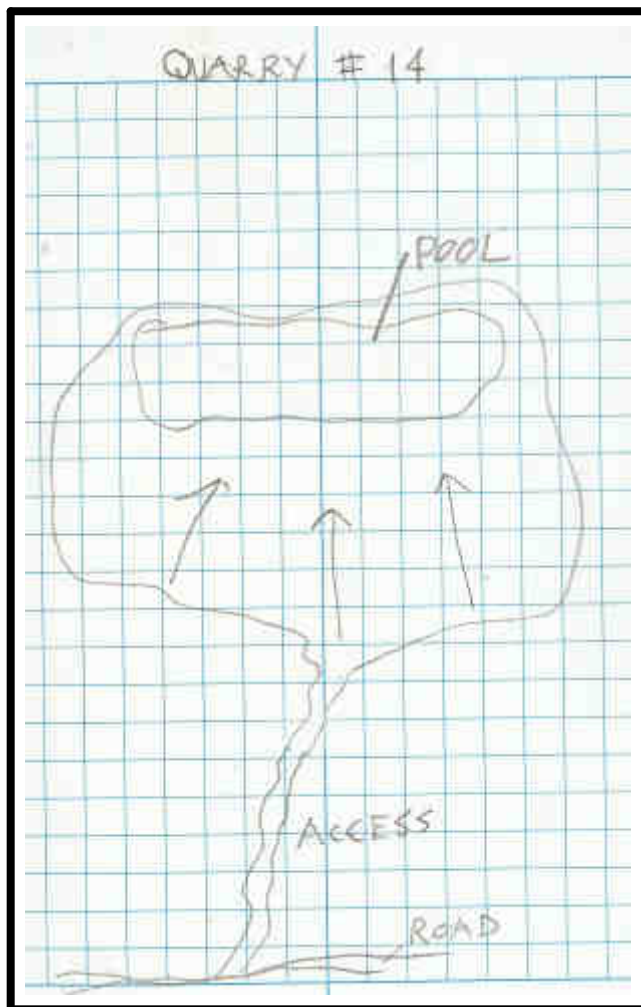
Environment Department

Name of the site : Quarry # 14

Date : June 22nd 2008

Coordinate : N64 48.188 W96 20.519

Photographer : R. Vanengen



Snow and water accumulation along within footprint. Pooling along NW face.

Drainage contained ? : yes



Meadowbank Division

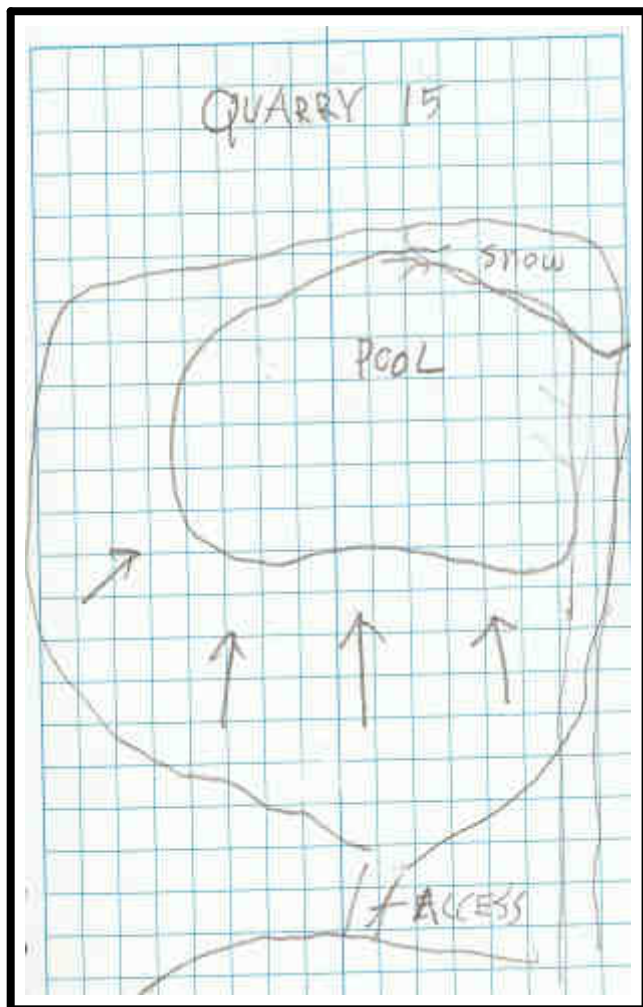
Environment Department

Name of the site : Quarry # 15

Date : June 24th 2008

Coordinate : N64 49.003 W96 19.613

Photographer : J. Kataluk



Small quarry with pool, appears contained

Drainage contained ? : yes



Meadowbank Division

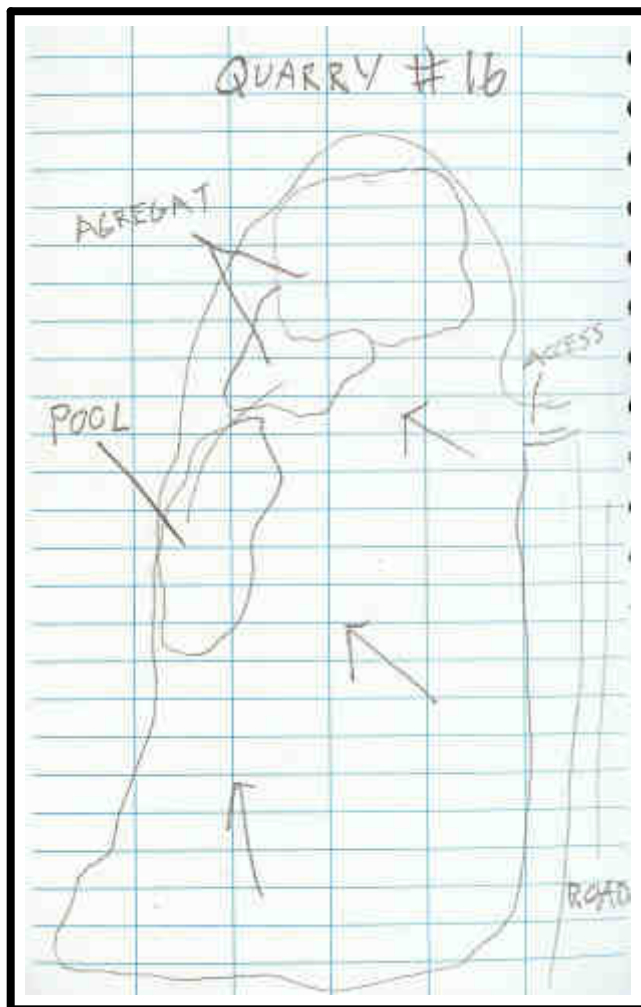
Environment Department

Name of the site : Quarry # 16

Date : June 24th 2008

Coordinate : N64 50.341 W96 19.016

Photographer : J. Kataluk



Deep pool near the entrance

Drainage contained ? : yes



Meadowbank Division

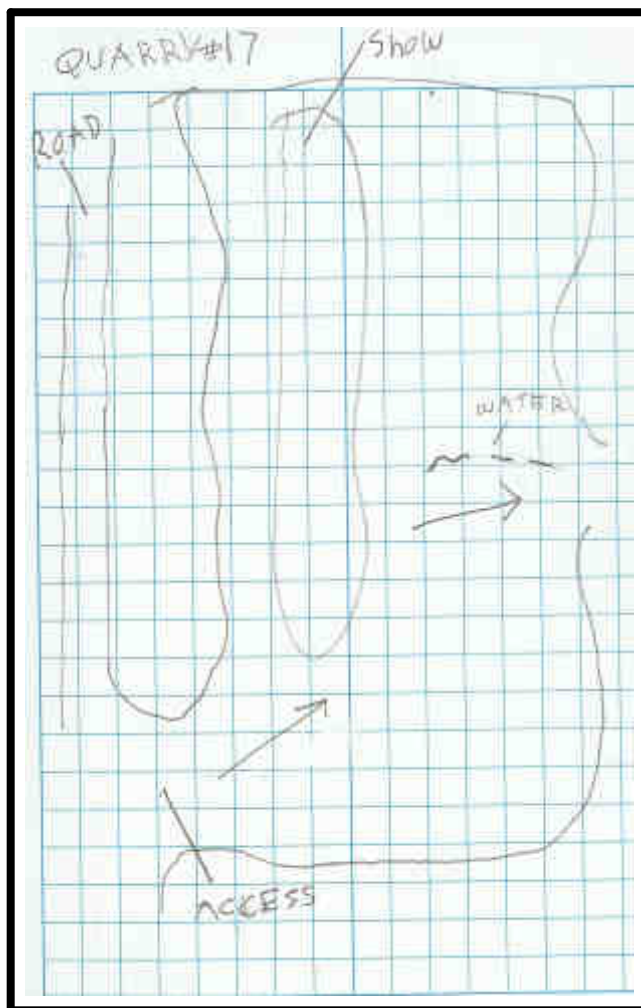
Environment Department

Name of the site : Quarry # 17

Date : June 24th 2008

Coordinate : N64 51.608 W96 19.470

Photographer : J. Kataluk



Sloping towards lake SE No pool.

Drainage contained ? : no



Meadowbank Division

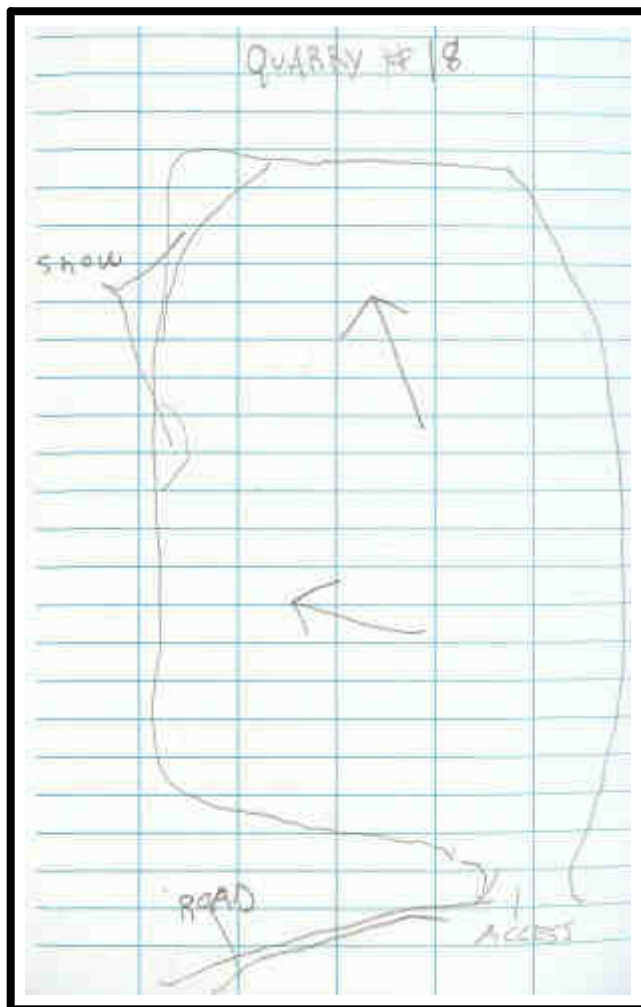
Environment Department

Name of the site : Quarry # 18

Date : June 24th 2008

Coordinate : N64 55.104 W96 18.285

Photographer : J. Kataluk



No H₂O accumulation. Sloping toward face

Drainage contained ? : yes



Meadowbank Division

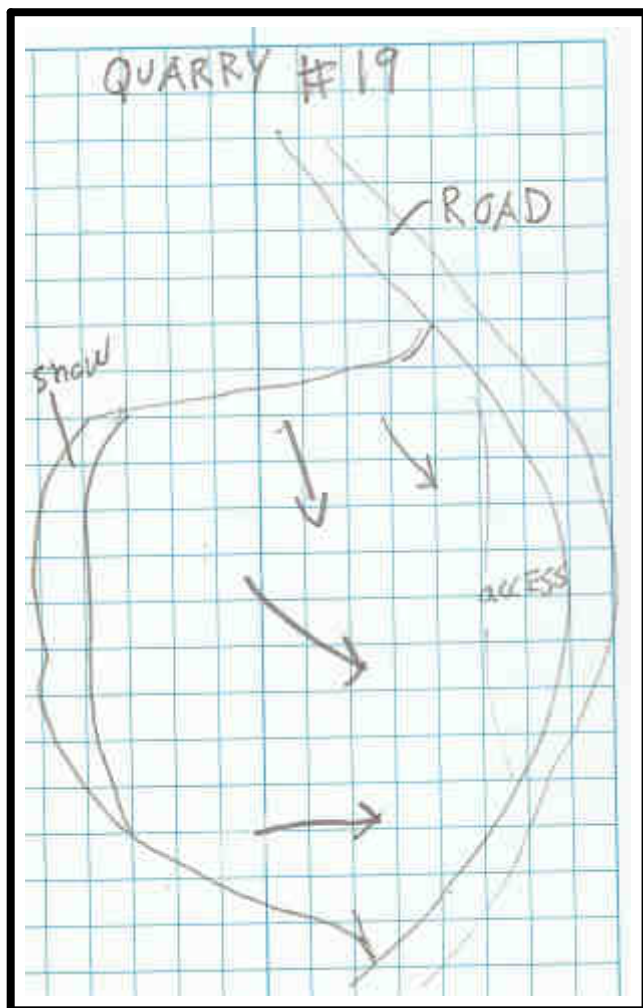
Environment Department

Name of the site : Quarry # 19

Date : June 24th 2008

Coordinate : N64 56.236 W96 16.526

Photographer : J. Kataluk



Sloping towards AWPAR No H₂O accumulation

Drainage contained ? : no



Meadowbank Division

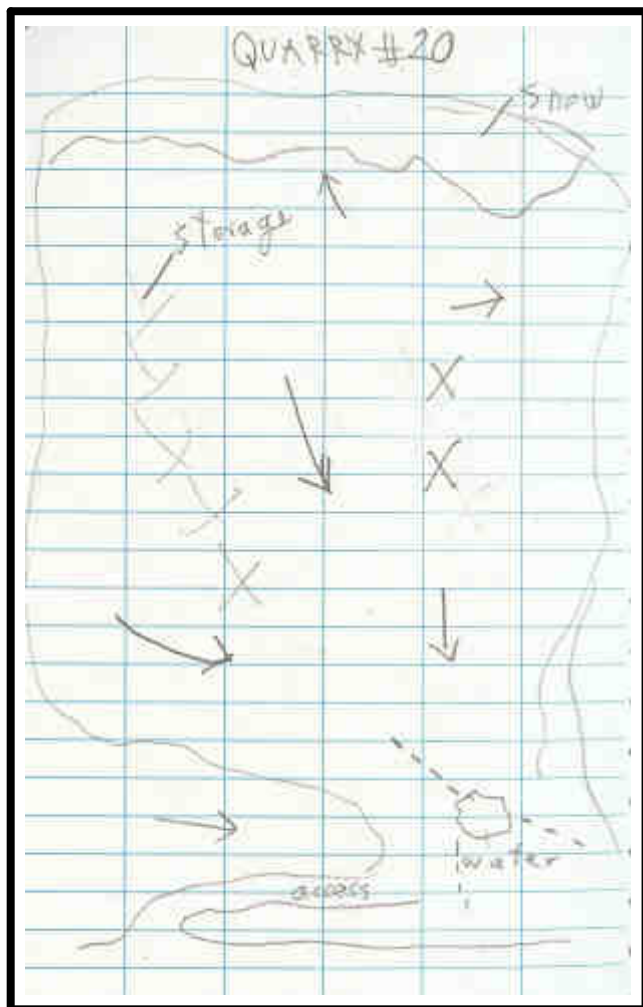
Environment Department

Name of the site : Quarry # 20

Date : June 24th 2008

Coordinate :

Photographer : J. Kataluk



Sloping towards AWPAR small H₂O accumulation

Drainage contained ? : yes



Meadowbank Division

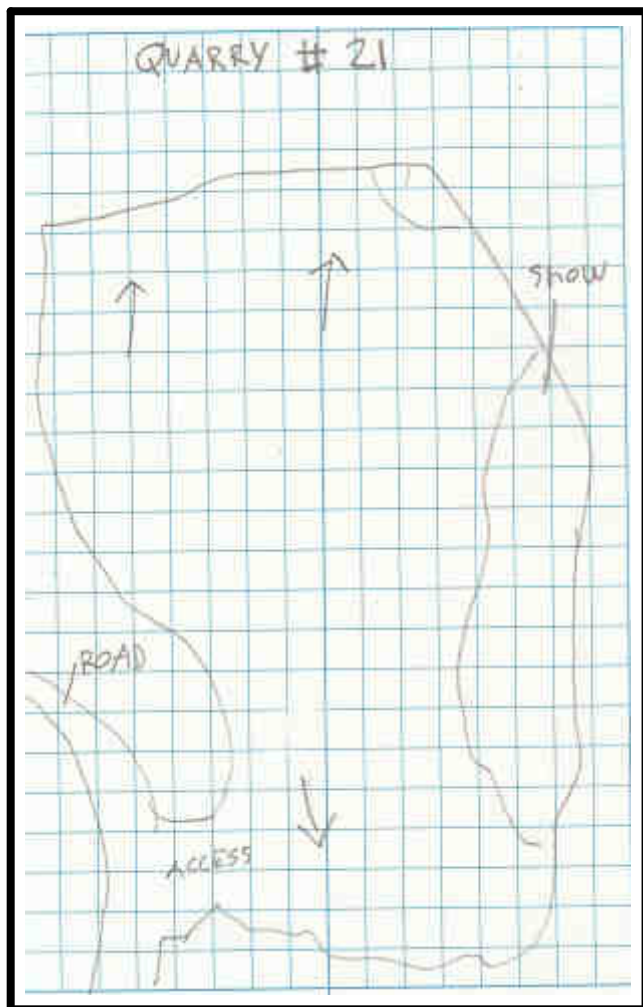
Environment Department

Name of the site : Quarry # 21

Date : June 24th 2008

Coordinate : N65 00.255 W96 13.393

Photographer : J. Kataluk



Snow on the west side, no water

Drainage contained ? : no



Meadowbank Division

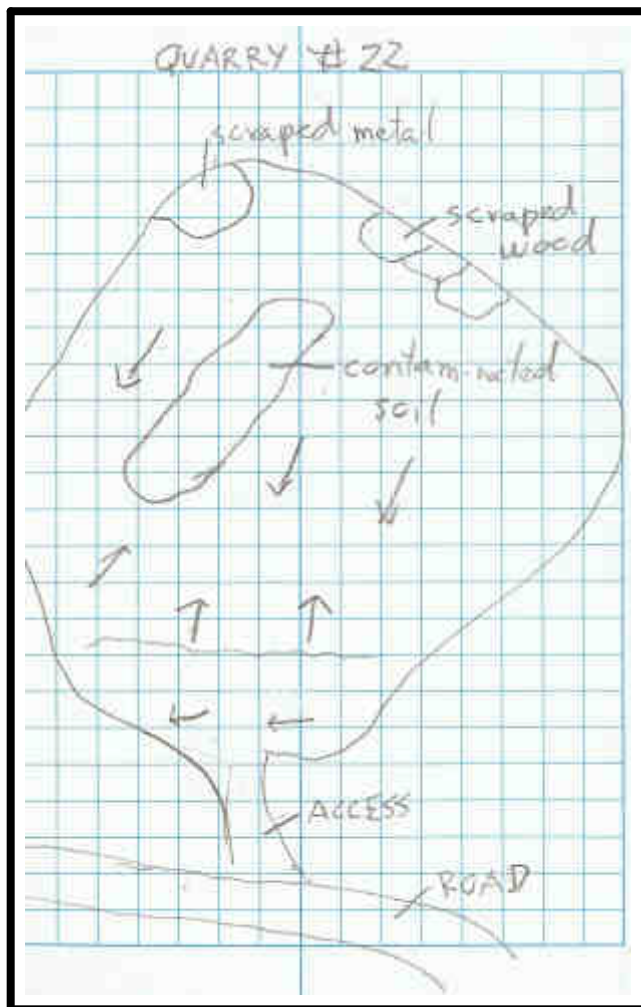
Environment Department

Name of the site : Quarry # 22

Date : June 24th 2008

Coordinate : N65 02.561 W96 09.200

Photographer : J. Kataluk/N. Saucier



Contaminated Soil storage; appears contained.

Drainage contained ? : yes

Appendix C

Laboratory Certificates of Analysis

Maxxam Analytics Laboratory Certificates

Your Project #: MINESITE

Attention: Ryan VanEngen

Agnico-Eagle Mines Ltd.
Kivalliq district
Baker Lake, NU
CANADA X0C 0A0

Report Date: 2008/07/15

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A827191

Received: 2008/07/03, 11:00

Sample Matrix: SURFACE WATER

Samples Received: 22

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sample rec'd - no analysis requested	1	N/A	2008/07/03		
Anions	10	2008/07/08	2008/07/09	STL SOP-00014/5	Ion Chromatography
Anions	11	2008/07/08	2008/07/14	STL SOP-00014/5	Ion Chromatography
Conductivity	21	2008/07/08	2008/07/08	STL SOP-00038/5; STL SOP-00012/2	Conductivity
Disposal Charges	21	N/A	2008/07/03		
Fluoride	21	2008/07/08	2008/07/09	STL SOP-00011/1, STL SOP-00004/2	Ion Spec. Electrode
Hardness	21	2008/07/07	2008/07/08	STL SOP-00006/7	ICP
Mercury by Cold Vapour AA	21	2008/07/08	2008/07/09	STL SOP-00042/6	Cold Vapor AA
Total Suspended Solids	18	2008/07/04	2008/07/08	STL SOP-00015/3	Gravimetric
Metals by ICP-MS	21	2008/07/07	2008/07/08	STL SOP-00006/7	ICP-MS
Ammonia Nitrogen	21	2008/07/04	2008/07/04	STL SOP-00040/3	Colorimetry
Mineral Oil and Grease	19	2008/07/04	2008/07/06	STL SOP-00151/11	Gravimetric
pH	21	2008/07/03	2008/07/03	STL SOP-00016/5; STL SOP-00038/5,	pH meter

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

GENEVIEVE BERTHIAUME, Project manager
Email: genevieve.berthiaume@maxxamanalytics.com
Phone# (514) 448-9001

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00711	F00711	F00712	F00712		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	ASP2	ASP2 Lab-Dup	AS2	AS2 Lab-Dup	RDL	QC Batch

METALS							
Mercury (Hg)	mg/L	<0.0001	N/A	<0.0001	N/A	0.0001	527726
Calcium (Ca)	mg/L	24	23	3	3	1	527222
Magnesium (Mg)	mg/L	3	3	<1	<1	1	527222
Total Hardness (CaCO3)	mg/L	74	72	8	7	1	527222
METALS ICP-MS							
Aluminum (Al)	ug/L	3300	2900	28	32	1.0	527221
Antimony (Sb)	ug/L	2.5	<1.0	<1.0	<1.0	1.0	527221
Silver (Ag)	ug/L	<0.10	0.20	<0.10	<0.10	0.10	527221
Arsenic (As)	ug/L	2.9	2.5	<1.0	<1.0	1.0	527221
Barium (Ba)	ug/L	57	54	4.1	4.1	2.0	527221
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	527221
Chromium (Cr)	ug/L	11	9.8	<0.50	<0.50	0.50	527221
Cobalt (Co)	ug/L	1.7	1.6	<0.50	<0.50	0.50	527221
Copper (Cu)	ug/L	3.2	4.2	<0.50	<0.50	0.50	527221
Manganese (Mn)	ug/L	80	75	4.0	3.5	0.40	527221
Molybdenum (Mo)	ug/L	0.91	0.79	<0.50	<0.50	0.50	527221
Nickel (Ni)	ug/L	7.7	6.1	<1.0	<1.0	1.0	527221
Sodium (Na)	ug/L	1700	1700	620	590	30	527221
Zinc (Zn)	ug/L	9.5	6.9	<1.0	<1.0	1.0	527221
Selenium (Se)	ug/L	2.3	2.7	2.1	3.0	1.0	527221
Lead (Pb)	ug/L	3.1	2.6	<0.10	<0.10	0.10	527221
Thallium (Tl)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	527221
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00716	F00718	F00719	F00720		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	QP1	AS-D1	ASP4	ASD2	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	527226
Calcium (Ca)	mg/L	27	23	31	10	1	527222
Magnesium (Mg)	mg/L	7	6	7	3	1	527222
Total Hardness (CaCO3)	mg/L	99	79	100	38	1	527222
METALS ICP-MS							
Aluminum (Al)	ug/L	2600	5300	6000	3200	1.0	527221
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	527221
Silver (Ag)	ug/L	<0.10	0.12	0.21	<0.10	0.10	527221
Arsenic (As)	ug/L	6.5	2.5	5.7	1.9	1.0	527221
Barium (Ba)	ug/L	92	120	91	55	2.0	527221
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	527221
Chromium (Cr)	ug/L	10	19	16	10	0.50	527221
Cobalt (Co)	ug/L	4.0	5.9	4.1	2.9	0.50	527221
Copper (Cu)	ug/L	12	18	17	6.5	0.50	527221
Manganese (Mn)	ug/L	310	360	220	110	0.40	527221
Molybdenum (Mo)	ug/L	0.96	<0.50	2.6	<0.50	0.50	527221
Nickel (Ni)	ug/L	11	18	<1.0	8.9	1.0	527221
Sodium (Na)	ug/L	3800	1400	4000	820	30	527221
Zinc (Zn)	ug/L	13	32	25	17	1.0	527221
Selenium (Se)	ug/L	<1.0	1.8	<1.0	2.9	1.0	527221
Lead (Pb)	ug/L	8.4	19	24	9.4	0.10	527221
Thallium (Tl)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	527221
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00721	F00722	F00722	F00723		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	MP5	MP1	MP1 Lab-Dup	MTPL-1C	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	527726
Calcium (Ca)	mg/L	160	50	N/A	18	1	527222
Magnesium (Mg)	mg/L	26	11	N/A	3	1	527222
Total Hardness (CaCO ₃)	mg/L	500	170	N/A	58	1	527222
METALS ICP-MS							
Aluminum (Al)	ug/L	800	3100	N/A	240	1.0	527221
Antimony (Sb)	ug/L	<1.0	<1.0	N/A	<1.0	1.0	527221
Silver (Ag)	ug/L	<0.10	<0.10	N/A	<0.10	0.10	527221
Arsenic (As)	ug/L	2.2	6.6	N/A	<1.0	1.0	527221
Barium (Ba)	ug/L	300	100	N/A	22	2.0	527221
Cadmium (Cd)	ug/L	<0.20	<0.20	N/A	<0.20	0.20	527221
Chromium (Cr)	ug/L	2.7	10	N/A	<0.50	0.50	527221
Cobalt (Co)	ug/L	1.7	4.2	N/A	<0.50	0.50	527221
Copper (Cu)	ug/L	1.1	12	N/A	11	0.50	527221
Manganese (Mn)	ug/L	2300	980	N/A	5.2	0.40	527221
Molybdenum (Mo)	ug/L	7.5	1.8	N/A	<0.50	0.50	527221
Nickel (Ni)	ug/L	5.1	11	N/A	<1.0	1.0	527221
Sodium (Na)	ug/L	20000	12000	N/A	3100	30	527221
Zinc (Zn)	ug/L	2.5	14	N/A	13	1.0	527221
Selenium (Se)	ug/L	<1.0	<1.0	N/A	1.6	1.0	527221
Lead (Pb)	ug/L	1.8	11	N/A	0.62	0.10	527221
Thallium (Tl)	ug/L	<2.0	<2.0	N/A	<2.0	2.0	527221
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00724	F00725	F00726	F00728		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	MTPL-1B	MTPL-1	ATT-1	ATT-2	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	527726
Calcium (Ca)	mg/L	15	19	8	8	1	527222
Magnesium (Mg)	mg/L	2	3	1	1	1	527222
Total Hardness (CaCO3)	mg/L	47	59	27	27	1	527222
METALS ICP-MS							
Aluminum (Al)	ug/L	110	12	190	240	1.0	527221
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	527221
Silver (Ag)	ug/L	0.10	<0.10	<0.10	<0.10	0.10	527221
Arsenic (As)	ug/L	1.5	<1.0	<1.0	<1.0	1.0	527221
Barium (Ba)	ug/L	43	16	9.5	11	2.0	527221
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	527221
Chromium (Cr)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	527221
Cobalt (Co)	ug/L	11	<0.50	<0.50	<0.50	0.50	527221
Copper (Cu)	ug/L	1.6	<0.50	<0.50	<0.50	0.50	527221
Manganese (Mn)	ug/L	2400	1.2	10	17	0.40	527221
Molybdenum (Mo)	ug/L	0.87	<0.50	<0.50	<0.50	0.50	527221
Nickel (Ni)	ug/L	37	2.6	<1.0	80	1.0	527221
Sodium (Na)	ug/L	23000	4700	1100	850	30	527221
Zinc (Zn)	ug/L	19	2.6	<1.0	<1.0	1.0	527221
Selenium (Se)	ug/L	3.1	3.3	2.3	3.0	1.0	527221
Lead (Pb)	ug/L	0.16	<0.10	<0.10	<0.10	0.10	527221
Thallium (Tl)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	527221
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00729	F00730	F00730	F00757		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	WC-US	WC-DS	WC-DS Lab-Dup	MP-6	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	527726
Calcium (Ca)	mg/L	2	2	N/A	22	1	527222
Magnesium (Mg)	mg/L	<1	<1	N/A	6	1	527222
Total Hardness (CaCO ₃)	mg/L	4	4	N/A	80	1	527222
METALS ICP-MS							
Aluminum (Al)	ug/L	28	72	N/A	2400	1.0	527221
Antimony (Sb)	ug/L	<1.0	<1.0	N/A	<1.0	1.0	527221
Silver (Ag)	ug/L	<0.10	<0.10	N/A	<0.10	0.10	527221
Arsenic (As)	ug/L	<1.0	<1.0	N/A	1.5	1.0	527221
Barium (Ba)	ug/L	3.2	3.4	N/A	48	2.0	527221
Cadmium (Cd)	ug/L	<0.20	<0.20	N/A	<0.20	0.20	527221
Chromium (Cr)	ug/L	<0.50	<0.50	N/A	4.5	0.50	527221
Cobalt (Co)	ug/L	<0.50	<0.50	N/A	1.9	0.50	527221
Copper (Cu)	ug/L	<0.50	<0.50	N/A	1.2	0.50	527221
Manganese (Mn)	ug/L	3.4	3.6	N/A	130	0.40	527221
Molybdenum (Mo)	ug/L	<0.50	<0.50	N/A	1.3	0.50	527221
Nickel (Ni)	ug/L	<1.0	<1.0	N/A	6.6	1.0	527221
Sodium (Na)	ug/L	460	480	N/A	3500	30	527221
Zinc (Zn)	ug/L	<1.0	<1.0	N/A	6.3	1.0	527221
Selenium (Se)	ug/L	2.3	3.4	N/A	2.3	1.0	527221
Lead (Pb)	ug/L	<0.10	<0.10	N/A	3.2	0.10	527221
Thallium (Tl)	ug/L	<2.0	<2.0	N/A	<2.0	2.0	527221
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00758	F00760		F00761	F00762		
Sampling Date		2008/06/21	2008/06/21		2008/06/21	2008/06/21		
	Units	MP-4	MP-3	QC Batch	DUP-1	MP-2	RDL	QC Batch
METALS								
Mercury (Hg)	mg/L	<0.0001	<0.0001	527726	<0.0001	<0.0001	0.0001	527728
Calcium (Ca)	mg/L	25	39	527222	39	84	1	527222
Magnesium (Mg)	mg/L	6	10	527222	10	16	1	527222
Total Hardness (CaCO ₃)	mg/L	89	140	527222	140	270	1	527222
METALS ICP-MS								
Aluminum (Al)	ug/L	1600	1000	527221	1200	2600	1.0	527221
Antimony (Sb)	ug/L	<1.0	<1.0	527221	<1.0	1.2	1.0	527221
Silver (Ag)	ug/L	<0.10	<0.10	527221	<0.10	0.19	0.10	527221
Arsenic (As)	ug/L	1.2	1.5	527221	1.6	5.2	1.0	527221
Barium (Ba)	ug/L	48	51	527221	52	140	2.0	527221
Cadmium (Cd)	ug/L	<0.20	<0.20	527221	<0.20	<0.20	0.20	527221
Chromium (Cr)	ug/L	<0.50	<0.50	527221	1.0	15	0.50	527221
Cobalt (Co)	ug/L	1.3	2.1	527221	2.1	5.8	0.50	527221
Copper (Cu)	ug/L	0.94	7.5	527221	2.6	23	0.50	527221
Manganese (Mn)	ug/L	130	290	527221	280	740	0.40	527221
Molybdenum (Mo)	ug/L	2.2	4.6	527221	4.6	20	0.50	527221
Nickel (Ni)	ug/L	<1.0	3.1	527221	3.6	8.9	1.0	527221
Sodium (Na)	ug/L	4100	7600	527221	7500	26000	30	527221
Zinc (Zn)	ug/L	6.2	6.6	527221	4.0	10	1.0	527221
Selenium (Se)	ug/L	2.2	1.6	527221	<1.0	<1.0	1.0	527221
Lead (Pb)	ug/L	2.5	5.5	527221	5.3	10	0.10	527221
Thallium (Tl)	ug/L	<2.0	<2.0	527221	<2.0	<2.0	2.0	527221
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

METALS (SURFACE WATER)

Maxxam ID		F00763		
Sampling Date		2008/06/21		
	Units	MTPL-3	RDL	QC Batch

METALS				
Mercury (Hg)	mg/L	<0.0001	0.0001	527728
Calcium (Ca)	mg/L	3	1	527222
Magnesium (Mg)	mg/L	<1	1	527222
Total Hardness (CaCO ₃)	mg/L	7	1	527222
METALS ICP-MS				
Aluminum (Al)	ug/L	<1.0	1.0	527221
Antimony (Sb)	ug/L	<1.0	1.0	527221
Silver (Ag)	ug/L	<0.10	0.10	527221
Arsenic (As)	ug/L	<1.0	1.0	527221
Barium (Ba)	ug/L	4.5	2.0	527221
Cadmium (Cd)	ug/L	<0.20	0.20	527221
Chromium (Cr)	ug/L	<0.50	0.50	527221
Cobalt (Co)	ug/L	<0.50	0.50	527221
Copper (Cu)	ug/L	<0.50	0.50	527221
Manganese (Mn)	ug/L	7.0	0.40	527221
Molybdenum (Mo)	ug/L	<0.50	0.50	527221
Nickel (Ni)	ug/L	<1.0	1.0	527221
Sodium (Na)	ug/L	610	30	527221
Zinc (Zn)	ug/L	<1.0	1.0	527221
Selenium (Se)	ug/L	3.1	1.0	527221
Lead (Pb)	ug/L	<0.10	0.10	527221
Thallium (Tl)	ug/L	<2.0	2.0	527221
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F00711	F00711	F00712		
Sampling Date		2008/06/21	2008/06/21	2008/06/21		
	Units	ASP2	ASP2 Lab-Dup	AS2	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.16	0.16	0.035	0.001	527697
Fluoride (F)	mg/L	0.1	0.1	<0.1	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	0.04	0.04	0.04	0.02	527015
pH	pH	7.6	N/A	7.7	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	2.2	2.0	0.16	0.02	527698
Sulfates (SO4)	mg/L	5.7	5.3	1.9	0.1	527698
Total suspended solids (TSS)	mg/L	12	16	<2	2	526743

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F00716		F00718	F00719		
Sampling Date		2008/06/21		2008/06/21	2008/06/21		
	Units	QP1	RDL	AS-D1	ASP4	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.27	0.001	0.15	0.22	0.001	527697
Fluoride (F)	mg/L	0.4	0.1	0.3	0.4	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	2.9	0.2	0.41	0.14	0.02	527015
pH	pH	7.7	N/A	7.5	7.9	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	11	0.1	1.1	2.0	0.02	527698
Sulfates (SO4)	mg/L	7.4	0.1	5.8	5.2	0.1	527698
Total suspended solids (TSS)	mg/L	32	2	28	12	2	526743

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F00719	F00720		F00721		
Sampling Date		2008/06/21	2008/06/21		2008/06/21		
	Units	ASP4 Lab-Dup	ASD2	RDL	MP5	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.22	0.067	0.001	2.3	0.001	527697
Fluoride (F)	mg/L	0.4	<0.1	0.1	0.5	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	N/A	0.35	0.02	89	2	527015
pH	pH	N/A	7.5	N/A	7.3	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	N/A	0.44	0.02	260	4	527698
Sulfates (SO4)	mg/L	N/A	2.0	0.1	18	0.1	527698
Total suspended solids (TSS)	mg/L	N/A	210	2	14	2	526743

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F00722		F00723	F00723		
Sampling Date		2008/06/21		2008/06/21	2008/06/21		
	Units	MP1	RDL	MTPL-1C	MTPL-1C Lab-Dup	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.53	0.001	0.17	N/A	0.001	527697
Fluoride (F)	mg/L	0.1	0.1	<0.1	N/A	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	8.4	0.2	1.3	N/A	0.02	527015
pH	pH	7.1	N/A	7.3	7.4	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	21	0.1	4.8	N/A	0.04	527698
Sulfates (SO4)	mg/L	37	0.1	9.4	N/A	0.1	527698
Total suspended solids (TSS)	mg/L	120	2	N/A	N/A	N/A	526743

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F00724	F00725		F00726		
Sampling Date		2008/06/21	2008/06/21		2008/06/21		
	Units	MTPL-1B	MTPL-1	QC Batch	ATT-1	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.25	0.17	527697	0.066	0.001	527697
Fluoride (F)	mg/L	<0.1	<0.1	527708	<0.1	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	1.0	0.29	527015	0.11	0.02	527015
pH	pH	6.9	7.7	526716	7.4	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	0.03	4.2	527698	0.11	0.02	527699
Sulfates (SO4)	mg/L	11	10	527698	6.9	0.1	527699
Total suspended solids (TSS)	mg/L	6	<2	526743	<2	2	526743

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F00728	F00729	F00730		
Sampling Date		2008/06/21	2008/06/21	2008/06/21		
	Units	ATT-2	WC-US	WC-DS	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.062	0.017	0.017	0.001	527697
Fluoride (F)	mg/L	<0.1	<0.1	<0.1	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	0.06	<0.02	0.02	0.02	527015
pH	pH	7.7	7.6	7.4	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	0.04	<0.02	0.02	0.02	527699
Sulfates (SO4)	mg/L	3.2	1.6	1.5	0.1	527699
Total suspended solids (TSS)	mg/L	3	<2	4	2	526743

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F00757	F00758		F00760		
Sampling Date		2008/06/21	2008/06/21		2008/06/21		
	Units	MP-6	MP-4	RDL	MP-3	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.20	0.24	0.001	0.39	0.001	527697
Fluoride (F)	mg/L	0.2	0.2	0.1	0.4	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	0.57	1.0	0.02	2.4	0.2	527015
pH	pH	7.3	7.5	N/A	7.3	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	5.0	6.9	0.04	14	0.1	527699
Sulfates (SO4)	mg/L	14	14	0.1	23	0.1	527699
Total suspended solids (TSS)	mg/L	18	10	2	N/A	2	526743

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F00761		F00762		
Sampling Date		2008/06/21		2008/06/21		
	Units	DUP-1	RDL	MP-2	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.39	0.001	1.0	0.001	527697
Fluoride (F)	mg/L	0.5	0.1	0.7	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	2.5	0.2	14	0.4	527015
pH	pH	7.5	N/A	7.5	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	13	0.1	66	0.4	527699
Sulfates (SO4)	mg/L	25	0.1	120	0.5	527699
Total suspended solids (TSS)	mg/L	18	2	N/A	N/A	526743

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F00763	F00763		
Sampling Date		2008/06/21	2008/06/21		
	Units	MTPL-3	MTPL-3 Lab-Dup	RDL	QC Batch

CONVENTIONALS					
Conductivity	mmhos/cm	0.027	N/A	0.001	527697
Fluoride (F)	mg/L	<0.1	N/A	0.1	527708
Nitrogen ammonia (N-NH3)	mg/L	0.07	0.04	0.02	527015
pH	pH	7.6	N/A	N/A	526716
Nitrate (N) and Nitrite(N)	mg/L	0.05	N/A	0.02	527699
Sulfates (SO4)	mg/L	1.7	N/A	0.1	527699
Total suspended solids (TSS)	mg/L	<2	N/A	2	526743

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

HEAVY HYDROCARBONS (SURFACE WATER)

Maxxam ID		F00711	F00712	F00716	F00719	F00721		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	ASP2	AS2	QP1	ASP4	MP5	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	526869
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F00722	F00723	F00724	F00725	F00726		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	MP1	MTPL-1C	MTPL-1B	MTPL-1	ATT-1	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	526869
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F00728	F00729	F00730	F00757	F00758		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	ATT-2	WC-US	WC-DS	MP-6	MP-4	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	526869
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F00760	F00761	F00762	F00763		
Sampling Date		2008/06/21	2008/06/21	2008/06/21	2008/06/21		
	Units	MP-3	DUP-1	MP-2	MTPL-3	RDL	QC Batch

OIL & GREASE							
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	3	526869
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A827191
Report Date: 2008/07/15

Agnico-Eagle Mines Ltd.
Client Project #: MINESITE

Sampler Initials: RV

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:

Mercury by Cold Vapour AA: Arrived unpreserved, preserved upon reception at the laboratory.: F00711, F00712, F00716, F00718, F00719, F00720, F00721, F00722, F00723, F00724, F00725, F00726, F00728, F00729, F00730, F00757, F00758, F00760, F00761, F00762, F00763

pH: Holding time already past.: F00711, F00712, F00716, F00718, F00719, F00720, F00721, F00722, F00723, F00724, F00725, F00726, F00728, F00729, F00730, F00757, F00758, F00760, F00761, F00763

METALS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.

CONVENTIONAL PARAMETERS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.
Reported detection limits are multiplied by dilution factors used for sample analysis.

HEAVY HYDROCARBONS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the method blank.

Results relate only to the items tested.

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: MINESITE
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: A827191

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
526716 TMD	QC STANDARD	pH	2008/07/03		100	%
	SPIKE	pH	2008/07/03		100	%
526743 HM1	SPIKE	Total suspended solids (TSS)	2008/07/08		95	%
	SPIKE DUP	Total suspended solids (TSS)	2008/07/08		98	%
	METHOD BLANK	Total suspended solids (TSS)	2008/07/08	<2		mg/L
526869 VG1	SPIKE	Mineral Oil and Grease	2008/07/06		57	%
	SPIKE DUP	Mineral Oil and Grease	2008/07/06		58	%
		Mineral Oil and Grease	2008/07/06		59	%
		Mineral Oil and Grease	2008/07/06		54	%
	METHOD BLANK	Mineral Oil and Grease	2008/07/06	<3		mg/L
527015 DKH	QC STANDARD	Nitrogen ammonia (N-NH3)	2008/07/04		90	%
	SPIKE	Nitrogen ammonia (N-NH3)	2008/07/04		95	%
	METHOD BLANK	Nitrogen ammonia (N-NH3)	2008/07/04	0.04, RDL=0.02		mg/L
527221 SC5	SPIKE	Aluminum (Al)	2008/07/08		95	%
		Antimony (Sb)	2008/07/08		101	%
		Silver (Ag)	2008/07/08		70	%
		Arsenic (As)	2008/07/08		107	%
		Barium (Ba)	2008/07/08		99	%
		Cadmium (Cd)	2008/07/08		95	%
		Chromium (Cr)	2008/07/08		110	%
		Cobalt (Co)	2008/07/08		109	%
		Copper (Cu)	2008/07/08		98	%
		Manganese (Mn)	2008/07/08		108	%
		Molybdenum (Mo)	2008/07/08		106	%
		Nickel (Ni)	2008/07/08		104	%
		Sodium (Na)	2008/07/08		93	%
		Zinc (Zn)	2008/07/08		97	%
		Selenium (Se)	2008/07/08		106	%
		Lead (Pb)	2008/07/08		106	%
		Thallium (Tl)	2008/07/08		95	%
	METHOD BLANK	Aluminum (Al)	2008/07/08	<1.0		ug/L
		Antimony (Sb)	2008/07/08	<1.0		ug/L
		Silver (Ag)	2008/07/08	<0.10		ug/L
		Arsenic (As)	2008/07/08	<1.0		ug/L
		Barium (Ba)	2008/07/08	<2.0		ug/L
		Cadmium (Cd)	2008/07/08	<0.20		ug/L
		Chromium (Cr)	2008/07/08	1.6, RDL=0.50		ug/L
		Cobalt (Co)	2008/07/08	<0.50		ug/L
		Copper (Cu)	2008/07/08	5.6, RDL=0.50		ug/L
		Manganese (Mn)	2008/07/08	<0.40		ug/L
		Molybdenum (Mo)	2008/07/08	<0.50		ug/L
		Nickel (Ni)	2008/07/08	<1.0		ug/L
		Sodium (Na)	2008/07/08	<30		ug/L
		Zinc (Zn)	2008/07/08	<1.0		ug/L
		Selenium (Se)	2008/07/08	<1.0		ug/L
		Lead (Pb)	2008/07/08	0.29, RDL=0.10		ug/L
		Thallium (Tl)	2008/07/08	<2.0		ug/L
527222 SC5	METHOD BLANK	Calcium (Ca)	2008/07/08	<1		mg/L
		Magnesium (Mg)	2008/07/08	<1		mg/L
		Total Hardness (CaCO3)	2008/07/08	<1		mg/L
527697 JL1	QC STANDARD	Conductivity	2008/07/08		98	%
	SPIKE	Conductivity	2008/07/08		100	%
	METHOD BLANK	Conductivity	2008/07/08	<0.001		mmhos/cm
527698 AK3	SPIKE	Nitrate (N) and Nitrite(N)	2008/07/14		104	%
		Sulfates (SO4)	2008/07/14		96	%

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: MINESITE
P.O. #:
Project name:

Quality Assurance Report (Continued)

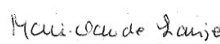
Maxxam Job Number: A827191

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
527698 AK3	METHOD BLANK	Nitrate (N) and Nitrite(N)	2008/07/14	<0.02		mg/L
		Sulfates (SO4)	2008/07/14	<0.1		mg/L
527699 FS	SPIKE	Nitrate (N) and Nitrite(N)	2008/07/09		103	%
		Sulfates (SO4)	2008/07/09		98	%
	METHOD BLANK	Nitrate (N) and Nitrite(N)	2008/07/09	<0.02		mg/L
		Sulfates (SO4)	2008/07/09	<0.1		mg/L
527708 AK3	QC STANDARD	Fluoride (F)	2008/07/09		104	%
	SPIKE	Fluoride (F)	2008/07/09		102	%
	METHOD BLANK	Fluoride (F)	2008/07/09	<0.1		mg/L
527726 MR4	QC STANDARD	Mercury (Hg)	2008/07/09		95	%
	SPIKE	Mercury (Hg)	2008/07/09		103	%
	METHOD BLANK	Mercury (Hg)	2008/07/09	<0.0001		mg/L
527728 MR4	QC STANDARD	Mercury (Hg)	2008/07/09		95	%
	SPIKE	Mercury (Hg)	2008/07/09		103	%
	METHOD BLANK	Mercury (Hg)	2008/07/09	<0.0001		mg/L
RDL = Reportable Detection Limit QC Standard = Quality Control Standard SPIKE = Fortified sample						

Validation Signature Page

Maxxam Job #: A827191

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



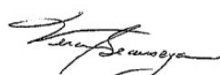

MARIE-CLAUDE LAUZIER, B.Sc., Chemist, Analyst 2




NOUREDDINE CHAFIAAI, B.Sc., Chemist, Analyst 2




STELIANA CALESTRU, B.Sc. Chemist, Analyst 2




VERONIC BEAUSEJOUR, B.Sc., Chemist, Supervisor

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

[illegible]

Client: Agnico-Eagle Meadowbank Project		Te: 867-793-4167 x 6728	
Address: Meadowbank Camp Baker Lake Nunavut, X0X 0A0		Fax:	
Sampler: NS and RV		Project #: AWPAP	
Project Manager: Ryan Vanengen Sylvain Doire			

N°	Sample identification	N° labo MAXXAM	Matrix				Sampling		Date	
			Potable w.	Ground w.	Surf. W.	Soils	Sediments	Others*		# containers
12	ATT-1				X			5		06/21/2008
13	ATT-2				X			5		06/21/2008
14	WC-US				X			5		06/21/2008
15	WC-DS				X			5		06/21/2008
16	MP-6				X			5		06/21/2008
17	MP-4				X			5		06/21/2008
18	MP-3				X			5		06/21/2008
19	DUP-1				X			5		06/21/2008
20	MP-2				X			5		06/21/2008
21	MTPL-3				X			5		06/21/2008
22										

BTEX (P&T / GC-MS)	
Hydrocarbons C10-C50	X
O&G mineral (gravimetric)	X
O&G total (gravimetric)	
PCB	
MAH VOC(624)	
PAH	

Metals Legend:
 ** Metals 13 elements (Ag, As, Ba, Cd, Co, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn)
 *** Metals 16 elements (Al, Sb, Ag, As, Ba, Cd, Cr, Co, Cu, Mn, Mo, Ni, Pb, Se, Ni)

Maxxam quote #:

Turnaround time:
☐ 10 working days
☐ 5 working days
☐ 72 hours
☐ 48 hours
☐ 24 hours

Site: Meadowbank Site
PO #:
Others:

Detection limits require CCME for Surface Water

Special instructions:
 Please provide 200 st

LEGEND:
 C = Canisters
 W = Waste
 O = Oil
 T = Tubes ou Cartridges

Delivered by sampler: Ryan Vanengen	Date ##
Delivered by messenger:	Date
Delivered by:	Date

ANALYSIS REQUIRED														
Phenol (color) (GC-MS)														
TPH (GC-FID)														
Metals (Cd, Cr, Cu, Ni, Pb, Zn)														
Arsenic Selenium														
Mercury														
Lead														
Metals ICP -13 ele-soil** 16 ele-water***														
NH4 TKN														
NH3, SO4, F														
NO2+NO3 X O-PO4														
Cl F SO4														
TSS														
Cyanide														
General: pH, Conductivity, Hardness														

Page 21 of 21

3, Zn)

red / contamination level:
ter (Federal)

ation bottles ASAP (as discussed)

Time	Received by:
Time	Received by:
Time	Received by Maxxam:

Your Project #: MINE SITE
Site: MEADOWBANK SITE

Attention: Ryan VanEngen

Agnico-Eagle Mines Ltd.
Kivalliq district
Baker Lake, NU
CANADA X0C 0A0

Report Date: 2008/07/28

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A830539

Received: 2008/07/18, 11:30

Sample Matrix: SURFACE WATER

Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Anions	15	2008/07/23	2008/07/24	STL SOP-00014/5	Ion Chromatography
Conductivity	15	2008/07/22	2008/07/22	STL SOP-00038/5; STL SOP-00012/2	Conductivity
Disposal Charges	15	N/A	2008/07/18		
Fluoride	15	2008/07/22	2008/07/23	STL SOP-00011/1, STL SOP-00004/2	Ion Spec. Electrode
Hardness	15	2008/07/22	2008/07/23	STL SOP-00006/7	ICP
Mercury by Cold Vapour AA	15	2008/07/23	2008/07/23	STL SOP-00042/6	Cold Vapor AA
Total Suspended Solids	15	2008/07/19	2008/07/22	STL SOP-00015/3	Gravimetric
Metals by ICP-MS	15	2008/07/22	2008/07/23	STL SOP-00006/7	ICP-MS
Ammonia Nitrogen	15	2008/07/21	2008/07/22	STL SOP-00040/3	Colorimetry
Mineral Oil and Grease	15	2008/07/18	2008/07/21	STL SOP-00151/11	Gravimetric
pH	15	2008/07/18	2008/07/19	STL SOP-00016/5; STL SOP-00038/5,	pH meter

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

GENEVIEVE BERTHIAUME, Project manager
Email: genevieve.berthiaume@maxxamanalytics.com
Phone# (514) 448-9001

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

METALS (SURFACE WATER)

Maxxam ID		F15940	F15940	F15941	F15944		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	QP-1	QP-1 Lab-Dup	DUP-1	MP-2	RDL	QC Batch

METALS							
Mercury (Hg)	mg/L	<0.0001	N/A	<0.0001	<0.0001	0.0001	533001
Calcium (Ca)	mg/L	31	33	32	61	1	532721
Magnesium (Mg)	mg/L	8	8	8	14	1	532721
Total Hardness (CaCO3)	mg/L	110	120	110	210	1	532721
METALS ICP-MS							
Aluminum (Al)	ug/L	1500	1500	1600	790	1.0	532720
Antimony (Sb)	ug/L	1.1	<1.0	<1.0	<1.0	1.0	532720
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	532720
Arsenic (As)	ug/L	5.6	5.7	5.6	9.3	1.0	532720
Barium (Ba)	ug/L	76	75	78	76	2.0	532720
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	532720
Chromium (Cr)	ug/L	7.7	8.0	7.8	13	0.50	532720
Cobalt (Co)	ug/L	2.4	2.5	2.3	3.0	0.50	532720
Copper (Cu)	ug/L	9.0	9.5	10	11	0.50	532720
Manganese (Mn)	ug/L	230	240	230	240	0.40	532720
Molybdenum (Mo)	ug/L	2.7	2.5	2.8	17	0.50	532720
Nickel (Ni)	ug/L	6.2	6.2	6.2	4.6	1.0	532720
Sodium (Na)	ug/L	4500	4600	4600	18000	30	532720
Zinc (Zn)	ug/L	9.9	11	9.2	8.9	1.0	532720
Selenium (Se)	ug/L	4.8	4.4	4.4	3.2	1.0	532720
Lead (Pb)	ug/L	3.7	4.2	3.9	7.7	0.10	532720
Thallium (Tl)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	532720
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

METALS (SURFACE WATER)

Maxxam ID		F15945	F15946	F15947	F15948		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	DUP-2	ATT-2	WC-US	WC-DS	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	533001
Calcium (Ca)	mg/L	62	86	1	1	1	532721
Magnesium (Mg)	mg/L	14	19	<1	<1	1	532721
Total Hardness (CaCO3)	mg/L	210	290	3	3	1	532721
METALS ICP-MS							
Aluminum (Al)	ug/L	820	700	45	6.9	1.0	532720
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	532720
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	532720
Arsenic (As)	ug/L	9.0	4.7	<1.0	<1.0	1.0	532720
Barium (Ba)	ug/L	76	180	2.8	2.2	2.0	532720
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	532720
Chromium (Cr)	ug/L	13	1.9	<0.50	<0.50	0.50	532720
Cobalt (Co)	ug/L	3.2	5.5	<0.50	<0.50	0.50	532720
Copper (Cu)	ug/L	18	20	2.6	1.4	0.50	532720
Manganese (Mn)	ug/L	260	970	2.3	1.3	0.40	532720
Molybdenum (Mo)	ug/L	17	3.8	<0.50	<0.50	0.50	532720
Nickel (Ni)	ug/L	4.1	4.9	<1.0	<1.0	1.0	532720
Sodium (Na)	ug/L	19000	14000	370	360	30	532720
Zinc (Zn)	ug/L	13	5.1	7.9	1.4	1.0	532720
Selenium (Se)	ug/L	3.1	2.9	8.7	7.3	1.0	532720
Lead (Pb)	ug/L	8.5	2.7	<0.10	<0.10	0.10	532720
Thallium (Tl)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	532720
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

METALS (SURFACE WATER)

Maxxam ID		F15949	F15950	F15950	F15951		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	ATT-1	AS-2	AS-2 Lab-Dup	ASP-3	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	533001
Calcium (Ca)	mg/L	77	4	N/A	22	1	532721
Magnesium (Mg)	mg/L	19	1	N/A	4	1	532721
Total Hardness (CaCO ₃)	mg/L	270	15	N/A	70	1	532721
METALS ICP-MS							
Aluminum (Al)	ug/L	970	32	N/A	1100	1.0	532720
Antimony (Sb)	ug/L	<1.0	<1.0	N/A	<1.0	1.0	532720
Silver (Ag)	ug/L	<0.10	<0.10	N/A	<0.10	0.10	532720
Arsenic (As)	ug/L	2.6	<1.0	N/A	1.3	1.0	532720
Barium (Ba)	ug/L	150	4.6	N/A	28	2.0	532720
Cadmium (Cd)	ug/L	<0.20	<0.20	N/A	<0.20	0.20	532720
Chromium (Cr)	ug/L	<0.50	<0.50	N/A	<0.50	0.50	532720
Cobalt (Co)	ug/L	4.4	<0.50	N/A	0.58	0.50	532720
Copper (Cu)	ug/L	11	1.0	N/A	5.4	0.50	532720
Manganese (Mn)	ug/L	590	2.3	N/A	34	0.40	532720
Molybdenum (Mo)	ug/L	3.1	<0.50	N/A	1.1	0.50	532720
Nickel (Ni)	ug/L	4.2	<1.0	N/A	2.9	1.0	532720
Sodium (Na)	ug/L	13000	750	N/A	3000	30	532720
Zinc (Zn)	ug/L	6.3	6.5	N/A	8.0	1.0	532720
Selenium (Se)	ug/L	2.7	6.7	N/A	7.8	1.0	532720
Lead (Pb)	ug/L	1.9	<0.10	N/A	1.1	0.10	532720
Thallium (Tl)	ug/L	<2.0	<2.0	N/A	<2.0	2.0	532720
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

METALS (SURFACE WATER)

Maxxam ID		F15952	F15953	F15954	F15955		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	ASD-1	MP-1	MTPL-1	MTPL-3	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	533001
Calcium (Ca)	mg/L	35	77	3	2	1	532721
Magnesium (Mg)	mg/L	7	18	<1	<1	1	532721
Total Hardness (CaCO3)	mg/L	120	270	8	4	1	532721
METALS ICP-MS							
Aluminum (Al)	ug/L	1900	650	8.1	13	1.0	532720
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	532720
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	532720
Arsenic (As)	ug/L	2.4	1.7	<1.0	<1.0	1.0	532720
Barium (Ba)	ug/L	58	120	4.0	2.7	2.0	532720
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	532720
Chromium (Cr)	ug/L	5.3	<0.50	<0.50	<0.50	0.50	532720
Cobalt (Co)	ug/L	1.9	4.3	<0.50	<0.50	0.50	532720
Copper (Cu)	ug/L	9.9	6.3	1.1	1.8	0.50	532720
Manganese (Mn)	ug/L	260	290	3.0	2.0	0.40	532720
Molybdenum (Mo)	ug/L	1.2	4.0	<0.50	<0.50	0.50	532720
Nickel (Ni)	ug/L	8.0	5.4	<1.0	1.0	1.0	532720
Sodium (Na)	ug/L	3700	12000	800	400	30	532720
Zinc (Zn)	ug/L	11	2.7	4.0	4.6	1.0	532720
Selenium (Se)	ug/L	6.5	2.2	6.2	5.6	1.0	532720
Lead (Pb)	ug/L	4.9	1.0	0.33	<0.10	0.10	532720
Thallium (Tl)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	532720
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

METALS (SURFACE WATER)

Maxxam ID		F15956		
Sampling Date		2008/07/13		
	Units	MP-4	RDL	QC Batch

METALS				
Mercury (Hg)	mg/L	<0.0001	0.0001	533001
Calcium (Ca)	mg/L	46	1	532721
Magnesium (Mg)	mg/L	17	1	532721
Total Hardness (CaCO ₃)	mg/L	190	1	532721
METALS ICP-MS				
Aluminum (Al)	ug/L	1100	1.0	532720
Antimony (Sb)	ug/L	<1.0	1.0	532720
Silver (Ag)	ug/L	<0.10	0.10	532720
Arsenic (As)	ug/L	1.2	1.0	532720
Barium (Ba)	ug/L	60	2.0	532720
Cadmium (Cd)	ug/L	<0.20	0.20	532720
Chromium (Cr)	ug/L	<0.50	0.50	532720
Cobalt (Co)	ug/L	2.9	0.50	532720
Copper (Cu)	ug/L	8.5	0.50	532720
Manganese (Mn)	ug/L	330	0.40	532720
Molybdenum (Mo)	ug/L	4.0	0.50	532720
Nickel (Ni)	ug/L	3.9	1.0	532720
Sodium (Na)	ug/L	12000	30	532720
Zinc (Zn)	ug/L	6.3	1.0	532720
Selenium (Se)	ug/L	2.9	1.0	532720
Lead (Pb)	ug/L	1.7	0.10	532720
Thallium (Tl)	ug/L	<2.0	2.0	532720
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F15940	F15940	F15941		
Sampling Date		2008/07/13	2008/07/13	2008/07/13		
	Units	QP-1	QP-1 Lab-Dup	DUP-1	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.35	0.35	0.35	0.001	532502
Fluoride (F)	mg/L	0.5	N/A	0.5	0.1	532680
Nitrogen ammonia (N-NH3)	mg/L	4.1	4.1	4.0	0.1	532207
pH	pH	7.9	N/A	7.8	N/A	531891
Nitrate (N) and Nitrite(N)	mg/L	13	N/A	14	0.1	533113
Sulfates (SO4)	mg/L	9.6	N/A	9.7	0.1	533113
Total suspended solids (TSS)	mg/L	14	N/A	8	2	531926

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F15944	F15945		F15946		
Sampling Date		2008/07/13	2008/07/13		2008/07/13		
	Units	MP-2	DUP-2	RDL	ATT-2	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.76	0.76	0.001	1.3	0.001	532502
Fluoride (F)	mg/L	0.7	0.7	0.1	0.3	0.1	532680
Nitrogen ammonia (N-NH3)	mg/L	5.6	5.5	0.1	36	1	532207
pH	pH	7.7	7.8	N/A	7.3	N/A	531891
Nitrate (N) and Nitrite(N)	mg/L	42	39	0.2	99	0.4	533113
Sulfates (SO4)	mg/L	94	100	0.5	25	0.1	533113
Total suspended solids (TSS)	mg/L	15	13	2	12	2	531926

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F15947	F15948		F15949		
Sampling Date		2008/07/13	2008/07/13		2008/07/13		
	Units	WC-US	WC-DS	RDL	ATT-1	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.013	0.013	0.001	1.0	0.001	532502
Fluoride (F)	mg/L	<0.1	<0.1	0.1	0.3	0.1	532680
Nitrogen ammonia (N-NH3)	mg/L	0.06	0.04	0.02	28	0.5	532207
pH	pH	7.9	7.9	N/A	7.6	N/A	531891
Nitrate (N) and Nitrite(N)	mg/L	0.06	<0.02	0.02	79	0.4	533113
Sulfates (SO4)	mg/L	1.3	1.1	0.1	33	0.1	533113
Total suspended solids (TSS)	mg/L	<2	10	2	<2	2	531926
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam ID		F15950		F15951	F15952		
Sampling Date		2008/07/13		2008/07/13	2008/07/13		
	Units	AS-2	QC Batch	ASP-3	ASD-1	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.043	532687	0.19	0.29	0.001	532502
Fluoride (F)	mg/L	<0.1	532680	0.2	0.4	0.1	532680
Nitrogen ammonia (N-NH3)	mg/L	0.05	532207	0.05	0.09	0.02	532207
pH	pH	7.2	531891	8.1	8.0	N/A	531891
Nitrate (N) and Nitrite(N)	mg/L	0.31	533113	1.5	1.7	0.02	533113
Sulfates (SO4)	mg/L	1.8	533113	9.4	16	0.1	533113
Total suspended solids (TSS)	mg/L	<2	531926	9	25	2	531926
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F15952		F15953		
Sampling Date		2008/07/13		2008/07/13		
	Units	ASD-1 Lab-Dup	RDL	MP-1	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	N/A	0.001	0.98	0.001	532502
Fluoride (F)	mg/L	N/A	0.1	0.2	0.1	532680
Nitrogen ammonia (N-NH3)	mg/L	N/A	0.02	21	0.5	532207
pH	pH	7.9	N/A	7.2	N/A	531891
Nitrate (N) and Nitrite(N)	mg/L	N/A	0.02	79	0.4	533113
Sulfates (SO4)	mg/L	N/A	0.1	32	0.1	533113
Total suspended solids (TSS)	mg/L	N/A	2	10	2	531926

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F15954	F15955		F15956		
Sampling Date		2008/07/13	2008/07/13		2008/07/13		
	Units	MTPL-1	MTPL-3	RDL	MP-4	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.028	0.016	0.001	0.54	0.001	532502
Fluoride (F)	mg/L	<0.1	<0.1	0.1	0.7	0.1	532680
Nitrogen ammonia (N-NH3)	mg/L	0.05	0.05	0.02	2.2	0.04	532207
pH	pH	7.5	6.4	N/A	7.9	N/A	531891
Nitrate (N) and Nitrite(N)	mg/L	0.70	0.03	0.02	16	0.1	533113
Sulfates (SO4)	mg/L	1.6	1.2	0.1	54	0.2	533113
Total suspended solids (TSS)	mg/L	3	<2	2	24	2	531926

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F15956		
Sampling Date		2008/07/13		
	Units	MP-4 Lab-Dup	RDL	QC Batch

CONVENTIONALS				
Nitrate (N) and Nitrite(N)	mg/L	18	0.1	533113
Sulfates (SO4)	mg/L	63	0.2	533113
Total suspended solids (TSS)	mg/L	27	2	531926
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

HEAVY HYDROCARBONS (SURFACE WATER)

Maxxam ID		F15940	F15941	F15944	F15945	F15946		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	QP-1	DUP-1	MP-2	DUP-2	ATT-2	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	531882
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F15947	F15948	F15949	F15950	F15951		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	WC-US	WC-DS	ATT-1	AS-2	ASP-3	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	531882
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F15952	F15953	F15954	F15955	F15956		
Sampling Date		2008/07/13	2008/07/13	2008/07/13	2008/07/13	2008/07/13		
	Units	ASD-1	MP-1	MTPL-1	MTPL-3	MP-4	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	531882
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam Job #: A830539
Report Date: 2008/07/28

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: JK

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:

Mercury by Cold Vapour AA: Arrived unpreserved, preserved upon reception at the laboratory.: F15940, F15941, F15944, F15945, F15946, F15947, F15948, F15949, F15950, F15951, F15952, F15953, F15954, F15955, F15956

METALS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.

CONVENTIONAL PARAMETERS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank. Reported detection limits are multiplied by dilution factors used for sample analysis.

HEAVY HYDROCARBONS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the method blank.

Results relate only to the items tested.

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: MINE SITE
P.O. #:
Project name: MEADOWBANK SITE

Quality Assurance Report

Maxxam Job Number: A830539

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
531882 AF3	SPIKE	Mineral Oil and Grease	2008/07/21		72	%
	SPIKE DUP	Mineral Oil and Grease	2008/07/21		84	%
		Mineral Oil and Grease	2008/07/21		64	%
		Mineral Oil and Grease	2008/07/21		50	%
	METHOD BLANK	Mineral Oil and Grease	2008/07/21	<3		mg/L
531891 TMD	QC STANDARD	pH	2008/07/19		101	%
	SPIKE	pH	2008/07/19		100	%
531926 JM6	SPIKE	Total suspended solids (TSS)	2008/07/22		96	%
	SPIKE DUP	Total suspended solids (TSS)	2008/07/22		96	%
	METHOD BLANK	Total suspended solids (TSS)	2008/07/22	<2		mg/L
532207 DKH	QC STANDARD	Nitrogen ammonia (N-NH3)	2008/07/22		91	%
	SPIKE	Nitrogen ammonia (N-NH3)	2008/07/22		101	%
	METHOD BLANK	Nitrogen ammonia (N-NH3)	2008/07/22	<0.02		mg/L
532502 AK3	QC STANDARD	Conductivity	2008/07/22		101	%
	SPIKE	Conductivity	2008/07/22		97	%
	METHOD BLANK	Conductivity	2008/07/22	<0.001		mmhos/cm
532680 AK3	QC STANDARD	Fluoride (F)	2008/07/23		102	%
	SPIKE	Fluoride (F)	2008/07/23		101	%
	METHOD BLANK	Fluoride (F)	2008/07/23	<0.1		mg/L
532687 JL1	QC STANDARD	Conductivity	2008/07/22		99	%
	SPIKE	Conductivity	2008/07/22		97	%
	METHOD BLANK	Conductivity	2008/07/22	<0.001		mmhos/cm
532720 SC5	SPIKE	Aluminum (Al)	2008/07/23		88	%
		Antimony (Sb)	2008/07/23		106	%
		Silver (Ag)	2008/07/23		82	%
		Arsenic (As)	2008/07/23		100	%
		Barium (Ba)	2008/07/23		100	%
		Cadmium (Cd)	2008/07/23		98	%
		Chromium (Cr)	2008/07/23		109	%
		Cobalt (Co)	2008/07/23		105	%
		Copper (Cu)	2008/07/23		91	%
		Manganese (Mn)	2008/07/23		97	%
		Molybdenum (Mo)	2008/07/23		103	%
		Nickel (Ni)	2008/07/23		101	%
		Sodium (Na)	2008/07/23		92	%
		Zinc (Zn)	2008/07/23		94	%
		Selenium (Se)	2008/07/23		79	%
		Lead (Pb)	2008/07/23		110	%
		Thallium (Tl)	2008/07/23		108	%
	METHOD BLANK	Aluminum (Al)	2008/07/23	<1.0		ug/L
		Antimony (Sb)	2008/07/23	<1.0		ug/L
		Silver (Ag)	2008/07/23	<0.10		ug/L
		Arsenic (As)	2008/07/23	<1.0		ug/L
		Barium (Ba)	2008/07/23	<2.0		ug/L
		Cadmium (Cd)	2008/07/23	<0.20		ug/L
		Chromium (Cr)	2008/07/23	<0.50		ug/L
		Cobalt (Co)	2008/07/23	<0.50		ug/L
		Copper (Cu)	2008/07/23	<0.50		ug/L
		Manganese (Mn)	2008/07/23	<0.40		ug/L
		Molybdenum (Mo)	2008/07/23	<0.50		ug/L
		Nickel (Ni)	2008/07/23	1.1, RDL=1.0		ug/L
		Sodium (Na)	2008/07/23	35, RDL=30		ug/L
		Zinc (Zn)	2008/07/23	2.4, RDL=1.0		ug/L
		Selenium (Se)	2008/07/23	<1.0		ug/L
		Lead (Pb)	2008/07/23	0.18, RDL=0.10		ug/L

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: MINE SITE
P.O. #:
Project name: MEADOWBANK SITE

Quality Assurance Report (Continued)

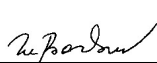
Maxxam Job Number: A830539

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
532720 SC5	METHOD BLANK	Thallium (Tl)	2008/07/23	<2.0		ug/L
532721 SC5	METHOD BLANK	Calcium (Ca)	2008/07/23	<1		mg/L
		Magnesium (Mg)	2008/07/23	<1		mg/L
		Total Hardness (CaCO3)	2008/07/23	<1		mg/L
533001 KQ	QC STANDARD	Mercury (Hg)	2008/07/23		98	%
	SPIKE	Mercury (Hg)	2008/07/23		104	%
	METHOD BLANK	Mercury (Hg)	2008/07/23	<0.0001		mg/L
533113 DKH	SPIKE	Nitrate (N) and Nitrite(N)	2008/07/24		94	%
		Sulfates (SO4)	2008/07/24		101	%
	METHOD BLANK	Nitrate (N) and Nitrite(N)	2008/07/24	<0.02		mg/L
		Sulfates (SO4)	2008/07/24	<0.1		mg/L
RDL = Reportable Detection Limit QC Standard = Quality Control Standard SPIKE = Fortified sample						

Validation Signature Page

Maxxam Job #: A830539

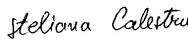
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



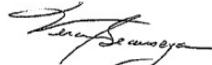

DELIA BARBUL, B.Sc., Chemist, Analyst 2




MICHEL POULIN, B.Sc., Chemist, Analyst 2




STELIANA CALESTRU, B.Sc. Chemist, Analyst 2




VERONIC BEAUSEJOUR, B.Sc., Chemist, Supervisor

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

4803:11

Matrix	Sampling
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CCME for Surface Water

Date

2008/07/28 16:39

Page 2 2

[illegible]

red / contamination level:
ter (Federal)

Time	Received by:
Time	Received by:
Time	Received by Maxxam:

Your Project #: #MINE SITE
Site: MEADOWBANK SITE

Attention: Ryan VanEngen

Agnico-Eagle Mines Ltd.
Kivalliq district
Baker Lake, NU
CANADA X0C 0A0

Report Date: 2008/08/29

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A836156

Received: 2008/08/20, 17:00

Sample Matrix: SURFACE WATER

Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Anions	17	2008/08/27	2008/08/28	STL SOP-00014/5	Ion Chromatography
Conductivity	17	2008/08/26	2008/08/27	STL SOP-00038/5; STL SOP-00012/2	Conductivity
Disposal Charges	17	N/A	2008/08/25		
Fluoride	17	2008/08/27	2008/08/29	STL SOP-00011/1, STL SOP-00004/2	Ion Spec. Electrode
Hardness	17	2008/08/28	2008/08/29	STL SOP-00006/7	ICP
Mercury by Cold Vapour AA	17	2008/08/28	2008/08/28	STL SOP-00042/6	Cold Vapor AA
Total Suspended Solids	17	2008/08/26	2008/08/28	STL SOP-00015/3	Gravimetric
Metals by ICP-MS	17	2008/08/28	2008/08/29	STL SOP-00006/7	ICP-MS
Ammonia Nitrogen	17	2008/08/26	2008/08/27	STL SOP-00040/3	Colorimetry
Mineral Oil and Grease	14	2008/08/26	2008/08/28	STL SOP-00151/11	Gravimetric
pH	17	2008/08/26	2008/08/26	STL SOP-00016/5; STL SOP-00038/5,	pH meter

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

GENEVIEVE BERTHIAUME, Project manager
Email: genevieve.berthiaume@maxxamanalytics.com
Phone# (514) 448-9001

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

METALS (SURFACE WATER)

Maxxam ID		F41435	F41435	F41436	F41437		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	MP-1	MP-1 Lab-Dup	MP-2	MP-3	RDL	QC Batch
METALS							
Mercury (Hg)	mg/L	<0.0001	N/A	<0.0001	<0.0001	0.0001	544029
Calcium (Ca)	mg/L	46	44	39	50	1	544070
Magnesium (Mg)	mg/L	8	8	10	13	1	544070
Total Hardness (CaCO ₃)	mg/L	150	150	140	180	1	544070
METALS ICP-MS							
Aluminum (Al)	ug/L	510	580	1600	1300	1.0	544069
Antimony (Sb)	ug/L	2.2	<1.0	<1.0	<1.0	1.0	544069
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.21	0.10	544069
Arsenic (As)	ug/L	1.7	1.7	2.5	1.6	1.0	544069
Barium (Ba)	ug/L	67	65	60	99	2.0	544069
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	544069
Chromium (Cr)	ug/L	1.8	1.6	6.5	0.85	0.50	544069
Cobalt (Co)	ug/L	1.4	1.4	1.7	2.4	0.50	544069
Copper (Cu)	ug/L	6.9	7.1	10	7.6	0.50	544069
Manganese (Mn)	ug/L	540	520	120	620	0.40	544069
Molybdenum (Mo)	ug/L	2.7	2.5	4.5	2.1	0.50	544069
Nickel (Ni)	ug/L	2.7	2.6	4.1	3.1	1.0	544069
Sodium (Na)	ug/L	13000	13000	10000	11000	30	544069
Zinc (Zn)	ug/L	1.5	1.8	7.8	7.9	1.0	544069
Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	544069
Lead (Pb)	ug/L	1.4	1.2	2.0	2.8	0.10	544069
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

METALS (SURFACE WATER)

Maxxam ID		F41438	F41439	F41440	F41441		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	MP-4	ATT-1	ST-27	ASD-2	RDL	QC Batch

METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	544029
Calcium (Ca)	mg/L	49	23	18	35	1	544070
Magnesium (Mg)	mg/L	21	4	3	7	1	544070
Total Hardness (CaCO3)	mg/L	210	72	57	120	1	544070
METALS ICP-MS							
Aluminum (Al)	ug/L	780	99	70	270	1.0	544069
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	544069
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	544069
Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	544069
Barium (Ba)	ug/L	54	38	19	34	2.0	544069
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	544069
Chromium (Cr)	ug/L	<0.50	<0.50	6.7	<0.50	0.50	544069
Cobalt (Co)	ug/L	0.98	0.51	<0.50	0.54	0.50	544069
Copper (Cu)	ug/L	7.1	2.2	5.0	3.9	0.50	544069
Manganese (Mn)	ug/L	300	540	15	77	0.40	544069
Molybdenum (Mo)	ug/L	3.8	0.50	<0.50	0.86	0.50	544069
Nickel (Ni)	ug/L	<1.0	1.2	<1.0	<1.0	1.0	544069
Sodium (Na)	ug/L	15000	9500	4200	4400	30	544069
Zinc (Zn)	ug/L	4.9	7.5	4.8	4.2	1.0	544069
Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	544069
Lead (Pb)	ug/L	1.3	0.17	0.20	0.31	0.10	544069
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

METALS (SURFACE WATER)

Maxxam ID		F41442	F41443	F41444	F41445		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	QP-1	ASP-3	AS-2	MTPL-1	RDL	QC Batch

METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	544029
Calcium (Ca)	mg/L	43	32	17	4	1	544070
Magnesium (Mg)	mg/L	11	6	4	<1	1	544070
Total Hardness (CaCO3)	mg/L	150	100	57	9	1	544070
METALS ICP-MS							
Aluminum (Al)	ug/L	960	2300	110	32	1.0	544069
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	544069
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	544069
Arsenic (As)	ug/L	2.4	1.7	<1.0	<1.0	1.0	544069
Barium (Ba)	ug/L	92	55	21	4.7	2.0	544069
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	544069
Chromium (Cr)	ug/L	3.8	9.7	<0.50	<0.50	0.50	544069
Cobalt (Co)	ug/L	1.6	1.8	<0.50	<0.50	0.50	544069
Copper (Cu)	ug/L	10	9.3	3.6	1.1	0.50	544069
Manganese (Mn)	ug/L	170	80	5.6	8.9	0.40	544069
Molybdenum (Mo)	ug/L	4.4	<0.50	<0.50	<0.50	0.50	544069
Nickel (Ni)	ug/L	2.0	27	<1.0	<1.0	1.0	544069
Sodium (Na)	ug/L	9800	2400	2600	1800	30	544069
Zinc (Zn)	ug/L	6.8	8.9	<1.0	4.4	1.0	544069
Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	544069
Lead (Pb)	ug/L	2.1	2.8	<0.10	<0.10	0.10	544069
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

METALS (SURFACE WATER)

Maxxam ID		F41446	F41446	F41447	F41448		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	MTPL-3	MTPL-3 Lab-Dup	WCUS	WCDS	RDL	QC Batch

METALS							
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	544029
Calcium (Ca)	mg/L	4	N/A	1	1	1	544070
Magnesium (Mg)	mg/L	<1	N/A	<1	<1	1	544070
Total Hardness (CaCO3)	mg/L	11	N/A	3	3	1	544070
METALS ICP-MS							
Aluminum (Al)	ug/L	15	N/A	16	14	1.0	544069
Antimony (Sb)	ug/L	<1.0	N/A	<1.0	<1.0	1.0	544069
Silver (Ag)	ug/L	<0.10	N/A	<0.10	<0.10	0.10	544069
Arsenic (As)	ug/L	<1.0	N/A	<1.0	<1.0	1.0	544069
Barium (Ba)	ug/L	5.9	N/A	2.7	2.5	2.0	544069
Cadmium (Cd)	ug/L	<0.20	N/A	<0.20	<0.20	0.20	544069
Chromium (Cr)	ug/L	<0.50	N/A	<0.50	<0.50	0.50	544069
Cobalt (Co)	ug/L	<0.50	N/A	<0.50	<0.50	0.50	544069
Copper (Cu)	ug/L	0.88	N/A	1.0	5.8	0.50	544069
Manganese (Mn)	ug/L	4.9	N/A	1.5	1.8	0.40	544069
Molybdenum (Mo)	ug/L	<0.50	N/A	<0.50	<0.50	0.50	544069
Nickel (Ni)	ug/L	<1.0	N/A	<1.0	<1.0	1.0	544069
Sodium (Na)	ug/L	820	N/A	340	<30	30	544069
Zinc (Zn)	ug/L	3.8	N/A	<1.0	4.5	1.0	544069
Selenium (Se)	ug/L	<1.0	N/A	<1.0	<1.0	1.0	544069
Lead (Pb)	ug/L	<0.10	N/A	<0.10	0.27	0.10	544069

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

METALS (SURFACE WATER)

Maxxam ID		F41449	F41455	F41456		
Sampling Date		2008/08/19	2008/08/19	2008/08/19		
	Units	MSPL-2	DUP-1	DUP-2	RDL	QC Batch
METALS						
Mercury (Hg)	mg/L	<0.0001	<0.0001	<0.0001	0.0001	544029
Calcium (Ca)	mg/L	2	41	18	1	544070
Magnesium (Mg)	mg/L	<1	11	3	1	544070
Total Hardness (CaCO3)	mg/L	4	150	57	1	544070
METALS ICP-MS						
Aluminum (Al)	ug/L	45	820	59	1.0	544069
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0	544069
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.10	544069
Arsenic (As)	ug/L	<1.0	2.0	<1.0	1.0	544069
Barium (Ba)	ug/L	2.8	87	18	2.0	544069
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	0.20	544069
Chromium (Cr)	ug/L	<0.50	4.6	1.3	0.50	544069
Cobalt (Co)	ug/L	<0.50	1.5	<0.50	0.50	544069
Copper (Cu)	ug/L	2.1	8.1	1.9	0.50	544069
Manganese (Mn)	ug/L	2.0	170	14	0.40	544069
Molybdenum (Mo)	ug/L	<0.50	4.2	<0.50	0.50	544069
Nickel (Ni)	ug/L	<1.0	1.7	<1.0	1.0	544069
Sodium (Na)	ug/L	360	9700	4200	30	544069
Zinc (Zn)	ug/L	3.5	6.0	1.2	1.0	544069
Selenium (Se)	ug/L	<1.0	<1.0	<1.0	1.0	544069
Lead (Pb)	ug/L	<0.10	1.9	0.10	0.10	544069
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F41435	F41435		F41436		
Sampling Date		2008/08/19	2008/08/19		2008/08/19		
	Units	MP-1	MP-1 Lab-Dup	RDL	MP-2	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.47	N/A	0.001	0.43	0.001	543262
Fluoride (F)	mg/L	0.2	N/A	0.1	0.5	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	3.9	N/A	0.2	1.2	0.02	542852
pH	pH	7.4	7.5	N/A	7.8	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	14	N/A	0.2	15	0.2	543842
Sulfates (SO4)	mg/L	22	N/A	1	52	0.2	543842
Total suspended solids (TSS)	mg/L	19	20	2	33	2	543261

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F41436		F41437		
Sampling Date		2008/08/19		2008/08/19		
	Units	MP-2 Lab-Dup	RDL	MP-3	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.43	0.001	0.66	0.001	543262
Fluoride (F)	mg/L	0.5	0.1	0.2	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	N/A	0.02	9.6	0.2	542852
pH	pH	N/A	N/A	7.3	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	N/A	0.2	31	0.4	543842
Sulfates (SO4)	mg/L	N/A	0.2	37	0.1	543842
Total suspended solids (TSS)	mg/L	N/A	2	24	2	543261

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F41438		F41439	F41440		
Sampling Date		2008/08/19		2008/08/19	2008/08/19		
	Units	MP-4	RDL	ATT-1	ST-27	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.57	0.001	0.23	0.18	0.001	543262
Fluoride (F)	mg/L	0.7	0.1	<0.1	0.1	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	0.57	0.02	0.06	0.10	0.02	542852
pH	pH	8.0	N/A	7.3	7.3	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	7.7	0.04	0.54	3.4	0.02	543842
Sulfates (SO4)	mg/L	76	0.2	10	9.5	0.1	543842
Total suspended solids (TSS)	mg/L	15	2	13	4	2	543261

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F41441		F41442		
Sampling Date		2008/08/19		2008/08/19		
	Units	ASD-2	RDL	QP-1	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.30	0.001	0.44	0.001	543262
Fluoride (F)	mg/L	0.2	0.1	0.4	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	0.35	0.02	1.4	0.02	542852
pH	pH	7.4	N/A	7.8	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	2.3	0.02	19	0.4	543842
Sulfates (SO4)	mg/L	4.3	0.1	13	0.1	543842
Total suspended solids (TSS)	mg/L	5	2	30	2	543261

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F41443	F41443		
Sampling Date		2008/08/19	2008/08/19		
	Units	ASP-3	ASP-3 Lab-Dup	RDL	QC Batch

CONVENTIONALS					
Conductivity	mmhos/cm	0.23	0.23	0.001	543262
Fluoride (F)	mg/L	0.2	N/A	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	0.06	0.06	0.02	542852
pH	pH	7.9	N/A	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	0.75	N/A	0.02	543842
Sulfates (SO4)	mg/L	8.2	N/A	0.1	543842
Total suspended solids (TSS)	mg/L	11	N/A	2	543261

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F41444		F41445	F41446		
Sampling Date		2008/08/19		2008/08/19	2008/08/19		
	Units	AS-2	RDL	MTPL-1	MTPL-3	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.18	0.001	0.044	0.043	0.001	543262
Fluoride (F)	mg/L	<0.1	0.1	<0.1	<0.1	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	0.14	0.02	0.05	0.09	0.02	542852
pH	pH	7.7	N/A	7.6	7.5	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	6.5	0.04	0.29	0.19	0.02	543851
Sulfates (SO4)	mg/L	8.2	0.1	2.1	1.9	0.1	543851
Total suspended solids (TSS)	mg/L	<2	2	14	<2	2	543261

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F41447	F41448	F41449		
Sampling Date		2008/08/19	2008/08/19	2008/08/19		
	Units	WCUS	WCDS	MSPL-2	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.015	0.015	0.017	0.001	543262
Fluoride (F)	mg/L	<0.1	<0.1	<0.1	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	0.03	0.05	0.05	0.02	542852
pH	pH	7.7	7.6	7.5	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	<0.02	0.08	0.06	0.02	543851
Sulfates (SO4)	mg/L	1.6	1.6	1.7	0.1	543851
Total suspended solids (TSS)	mg/L	<2	<2	<2	2	543261

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F41455		F41456		
Sampling Date		2008/08/19		2008/08/19		
	Units	DUP-1	RDL	DUP-2	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.44	0.001	0.18	0.001	543262
Fluoride (F)	mg/L	0.4	0.1	<0.1	0.1	543530
Nitrogen ammonia (N-NH3)	mg/L	1.4	0.02	0.14	0.02	542852
pH	pH	7.8	N/A	7.8	N/A	543329
Nitrate (N) and Nitrite(N)	mg/L	19	0.4	3.4	0.02	543851
Sulfates (SO4)	mg/L	12	0.1	9.2	0.1	543851
Total suspended solids (TSS)	mg/L	44	2	3	2	543261

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

HEAVY HYDROCARBONS (SURFACE WATER)

Maxxam ID		F41435	F41436	F41437	F41438	F41439		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	MP-1	MP-2	MP-3	MP-4	ATT-1	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	543233
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F41440	F41441	F41443	F41444	F41445		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	ST-27	ASD-2	ASP-3	AS-2	MTPL-1	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	543233
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F41446	F41447	F41449	F41455		
Sampling Date		2008/08/19	2008/08/19	2008/08/19	2008/08/19		
	Units	MTPL-3	WCUS	MSPL-2	DUP-1	RDL	QC Batch

OIL & GREASE							
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	3	543233
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

Maxxam Job #: A836156
Report Date: 2008/08/29

Agnico-Eagle Mines Ltd.
Client Project #: #MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SS

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:

pH: Holding time already past.: F41435, F41436, F41437, F41438, F41439, F41440, F41441, F41442, F41443, F41444, F41445, F41446, F41447, F41448, F41449, F41455, F41456

METALS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.

CONVENTIONAL PARAMETERS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.
Reported detection limits are multiplied by dilution factors used for sample analysis.

HEAVY HYDROCARBONS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the method blank.

Results relate only to the items tested.

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: #MINE SITE
P.O. #:
Project name: MEADOWBANK SITE

Quality Assurance Report

Maxxam Job Number: A836156

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
542852 DKH	QC STANDARD	Nitrogen ammonia (N-NH3)	2008/08/27		97	%
	SPIKE	Nitrogen ammonia (N-NH3)	2008/08/27		101	%
	METHOD BLANK	Nitrogen ammonia (N-NH3)	2008/08/27	<0.02		mg/L
543233 VG1	SPIKE	Mineral Oil and Grease	2008/08/28		97	%
	SPIKE DUP	Mineral Oil and Grease	2008/08/28		96	%
		Mineral Oil and Grease	2008/08/28		95	%
	METHOD BLANK	Mineral Oil and Grease	2008/08/28	<3		mg/L
543261 HM1	SPIKE	Total suspended solids (TSS)	2008/08/28		93	%
	SPIKE DUP	Total suspended solids (TSS)	2008/08/28		95	%
	METHOD BLANK	Total suspended solids (TSS)	2008/08/28	<2		mg/L
543262 AK3	QC STANDARD	Conductivity	2008/08/27		107	%
	SPIKE	Conductivity	2008/08/27		106	%
	METHOD BLANK	Conductivity	2008/08/27	<0.001		mmhos/cm
543329 JM6	Calibration Check	pH	2008/08/26		101	%
	QC STANDARD	pH	2008/08/26		101	%
	SPIKE	pH	2008/08/26		100	%
543530 AK3	QC STANDARD	Fluoride (F)	2008/08/29		99	%
	SPIKE	Fluoride (F)	2008/08/29		101	%
	METHOD BLANK	Fluoride (F)	2008/08/29	<0.1		mg/L
543842 FS	SPIKE	Nitrate (N) and Nitrite(N)	2008/08/28		100	%
		Sulfates (SO4)	2008/08/28		103	%
	METHOD BLANK	Nitrate (N) and Nitrite(N)	2008/08/28	<0.02		mg/L
		Sulfates (SO4)	2008/08/28	<0.1		mg/L
543851 FS	SPIKE	Nitrate (N) and Nitrite(N)	2008/08/28		102	%
		Sulfates (SO4)	2008/08/28		96	%
	METHOD BLANK	Nitrate (N) and Nitrite(N)	2008/08/28	<0.02		mg/L
		Sulfates (SO4)	2008/08/28	<0.1		mg/L
544029 MR4	QC STANDARD	Mercury (Hg)	2008/08/28		96	%
	SPIKE	Mercury (Hg)	2008/08/28		100	%
	METHOD BLANK	Mercury (Hg)	2008/08/28	<0.0001		mg/L
544069 SC5	SPIKE	Aluminum (Al)	2008/08/29		97	%
		Antimony (Sb)	2008/08/29		69	%
		Silver (Ag)	2008/08/29		75	%
		Arsenic (As)	2008/08/29		99	%
		Barium (Ba)	2008/08/29		102	%
		Cadmium (Cd)	2008/08/29		104	%
		Chromium (Cr)	2008/08/29		94	%
		Cobalt (Co)	2008/08/29		90	%
		Copper (Cu)	2008/08/29		93	%
		Manganese (Mn)	2008/08/29		93	%
		Molybdenum (Mo)	2008/08/29		92	%
		Nickel (Ni)	2008/08/29		85	%
		Sodium (Na)	2008/08/29		97	%
		Zinc (Zn)	2008/08/29		93	%
		Selenium (Se)	2008/08/29		90	%
		Lead (Pb)	2008/08/29		103	%
	METHOD BLANK	Aluminum (Al)	2008/08/29	<1.0		ug/L
		Antimony (Sb)	2008/08/29	<1.0		ug/L
		Silver (Ag)	2008/08/29	<0.10		ug/L
		Arsenic (As)	2008/08/29	<1.0		ug/L
		Barium (Ba)	2008/08/29	<2.0		ug/L
		Cadmium (Cd)	2008/08/29	<0.20		ug/L
		Chromium (Cr)	2008/08/29	<0.50		ug/L
		Cobalt (Co)	2008/08/29	<0.50		ug/L
		Copper (Cu)	2008/08/29	<0.50		ug/L

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: #MINE SITE
P.O. #:
Project name: MEADOWBANK SITE

Quality Assurance Report (Continued)

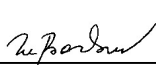
Maxxam Job Number: A836156

QA/QC Batch				Date Analyzed			
Num Init	QC Type	Parameter		yyyy/mm/dd	Value	Recovery	Units
544069 SC5	METHOD BLANK	Manganese (Mn)		2008/08/29	<0.40		ug/L
		Molybdenum (Mo)		2008/08/29	<0.50		ug/L
		Nickel (Ni)		2008/08/29	<1.0		ug/L
		Sodium (Na)		2008/08/29	<30		ug/L
		Zinc (Zn)		2008/08/29	<1.0		ug/L
		Selenium (Se)		2008/08/29	1.4, RDL=1.0		ug/L
		Lead (Pb)		2008/08/29	<0.10		ug/L
544070 SC5	SPIKE	Calcium (Ca)		2008/08/29		93	%
		Magnesium (Mg)		2008/08/29		97	%
	METHOD BLANK	Calcium (Ca)		2008/08/29	<1		mg/L
		Magnesium (Mg)		2008/08/29	<1		mg/L
		Total Hardness (CaCO3)		2008/08/29	<1		mg/L
RDL = Reportable Detection Limit QC Standard = Quality Control Standard SPIKE = Fortified sample							

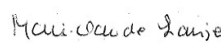
Validation Signature Page

Maxxam Job #: A836156

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

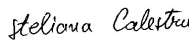
DELIA BARBUL, B.Sc., Chemist, Analyst 2

MARIE-CLAUDE LAUZIER, B.Sc., Chemist, Analyst 2

MÉLANIE SANTERRE, B.Sc, Supervisor

STELIANA CALESTRU, B.Sc. Chemist, Analyst 2

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Client: Agnico-Eagle Meadowbank Project										Te 867-793-4167 x 6728										ANALYSIS REQUIRED															
Address Meadowbank Camp Baker Lake Nunavut, X0X 0A0										Fax:										Project # Mine site															
Sampler Sannon McFadyen Steve Gaudreault										Project Manager: Ryan Vanengen Sylvain Doire																									
N°	Sample identification	N° labo MAXXAM	Matrix							Sampling		Date	BTEX (P&T / GC-MS)	Hydrocarbons C10-C50	O&G mineral (gravimetric)	O&G total (gravimetric)	PCB	MAH VOC(624)	PAH	Phenol (color.) (GC-MS)	TPH (GC-FID)	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Arsenic Sélénium	Mercury	Lead	Metals ICP -13 ele.-soil ** 16 ele.-water***	NH4 TKN	NH3, SO4, F	NO2+NO3 X O-PO4	Cl F SO4	TSS	Cyanide	General: pH, Conductivity, Hardness		
			Potable w.	Waste w.	Ground w.	Surf. W.	Soils	Sediments	Others*	# containers	To filter (yes/no)																								
1	MP-1					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
2	MP-2					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
3	MP-3					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
4	MP-4					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
5	ATT-1					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
6	ST-27					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
7	ASD-2					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
8	QP-1					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
9	ASP-3					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
10	AS-2					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			
11	MTPL-1					X				6		08/19/2008	X	X	X									X	X	X	X	X	X	X	X	X			

Metals Legend:
** Metals 13 elements(Ag, As, Ba, Cd, Co, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn)
*** Metals 16 elements(Al, Sb, Ag, As, Ba, Cd, Cr, Co, Cu, Mn, Mo, Ni, Pb, Se, Na, Zn)

Turnaround time:
☐ 10 working days
☐ 5 working days
☐ 72 hours
☐ 48 hours
☐ 24 hours

Maxxam quote #:
Site: Meadowbank Site
PO #:
Others:

Detection limits required / contamination level:
CCME for Surface Water (Federal)

Special instructions:
Please note that:
18° 18° 19° / 19° 19° 20° / 19° 20° 21°

LEGEND:
* C = Canisters
* W = Waste
* O = Oil
* T = Tubes ou Cartridges

Delivered by sampler: Shannon and Steve
Delivered by messenger:
Delivered by:

Date: 19/08/2008
Date: 08/08/20
Date: 08/08/20

Time:
Time: 584
Time:

Received by:
Received by: 2008/08/29 16:44
Received by Maxxam: TS

Genevieve Berthiaume

From: Steve Gaudreault [steve.gaudreault@agnico-eagle.com]
Sent: Tuesday, August 19, 2008 10:07 PM
To: Genevieve Berthiaume
Cc: Sylvain Doire; Ryan Vanengen; Nicolas Saucier; Shannon McFadyen; Russell Toolooktook; Jamie Kataluk
Subject: Chain of custody for mine site sample
Attachments: image001.png; 2008-08-19 AEM Meadowbank Chain of Custody Mine site.xls

Bonjour Geneviève, voici la liste d'échantillon pour les échantillons de "Mine site". Ne pas tenir compte de la date sur la bouteille (c'est inscrit le 18 mais c'est bel et bien le 19 qu'ils ont été pris)

Hello Genevieve, here is the chain of custody for the mine site sampling. The date on bottles are wrong (date on bottles is 18 but the samples have been taken the 19)

Thanks and have a good day!
 Merci et bonne journée !



Steve Gaudreault

Environmental technician / Technicien en environnement
 Division Meadow Bank, Nunavut,
 (867) 793-4610 X6747
steve.gaudreault@agnico-eagle.com



Save our tree... please don't print this e-mail unless you really need to

~*~

Your Project #: MINE SITE
Site: MEADOWBANK SITE

Attention: Ryan VanEngen

Agnico-Eagle Mines Ltd.
Kivalliq district
Baker Lake, NU
CANADA X0C 0A0

Report Date: 2008/09/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A840651

Received: 2008/09/13, 9:20

Sample Matrix: SURFACE WATER

Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Anions	7	2008/09/16	2008/09/19	STL SOP-00014/5	Ion Chromatography
Conductivity	7	2008/09/16	2008/09/17	STL SOP-00038/5; STL SOP-00012/2	Conductivity
Disposal Charges	7	N/A	2008/09/15		
Fluoride	7	2008/09/16	2008/09/17	STL SOP-00011/1, STL SOP-00004/2	Ion Spec. Electrode
Hardness	7	2008/09/17	2008/09/18	STL SOP-00006/7	ICP
Mercury by Cold Vapour AA	1	2008/09/17	2008/09/17	STL SOP-00042/6	Cold Vapor AA
Total Suspended Solids	7	2008/09/16	2008/09/16	STL SOP-00015/3	Gravimetric
Metals by ICP-MS	7	2008/09/17	2008/09/18	STL SOP-00006/7	ICP-MS
Ammonia Nitrogen	7	2008/09/18	2008/09/18	STL SOP-00040/3	Colorimetry
Mineral Oil and Grease	7	2008/09/16	2008/09/19	STL SOP-00151/11	Gravimetric
pH	7	2008/09/15	2008/09/15	STL SOP-00016/5; STL SOP-00038/5,	pH meter

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

GENEVIEVE BERTHIAUME, Technical Sales Rep
Email: genevieve.berthiaume@maxxamalytics.com
Phone# (514) 448-9001

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Maxxam Job #: A840651
Report Date: 2008/09/19

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SM

METALS (SURFACE WATER)

Maxxam ID		F62430	F62441	F62442	F62443		
Sampling Date		2008/09/08	2008/09/08	2008/09/08	2008/09/08		
	Units	ATT	ST-27	DUP-1	AS-2	RDL	QC Batch

METALS							
Calcium (Ca)	mg/L	36	20	20	22	1	548916
Magnesium (Mg)	mg/L	8	3	3	6	1	548916
Total Hardness (CaCO3)	mg/L	120	63	62	78	1	548916
METALS ICP-MS							
Aluminum (Al)	ug/L	6000	66	92	36	1.0	550237
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	550237
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	<0.10	0.10	550237
Arsenic (As)	ug/L	4.9	<1.0	<1.0	<1.0	1.0	550237
Barium (Ba)	ug/L	140	16	20	25	2.0	550237
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	550237
Chromium (Cr)	ug/L	13	<0.50	<0.50	<0.50	0.50	550237
Cobalt (Co)	ug/L	6.5	<0.50	<0.50	<0.50	0.50	550237
Copper (Cu)	ug/L	20	1.8	2.1	2.5	0.50	550237
Manganese (Mn)	ug/L	1000	12	17	11	0.40	550237
Molybdenum (Mo)	ug/L	<0.50	<0.50	<0.50	0.74	0.50	550237
Nickel (Ni)	ug/L	17	6.4	1.2	1.3	1.0	550237
Sodium (Na)	ug/L	6000	5200	5100	4500	30	550237
Zinc (Zn)	ug/L	33	<1.0	3.3	5.4	1.0	550237
Selenium (Se)	ug/L	<1.0	<1.0	<1.0	<1.0	1.0	550237
Lead (Pb)	ug/L	12	<0.10	<0.10	<0.10	0.10	550237

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A840651
Report Date: 2008/09/19

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SM

METALS (SURFACE WATER)

Maxxam ID		F62444	F62446	F62447		
Sampling Date		2008/09/08	2008/09/08	2008/09/08		
	Units	MTPL-3	WCUS	WCDS	RDL	QC Batch

METALS						
Mercury (Hg)	mg/L	N/A	<0.00001	N/A	0.00001	550085
Calcium (Ca)	mg/L	2	2	2	1	548916
Magnesium (Mg)	mg/L	<1	<1	<1	1	548916
Total Hardness (CaCO3)	mg/L	6	5	5	1	548916
METALS ICP-MS						
Aluminum (Al)	ug/L	27	88	120	1.0	550237
Antimony (Sb)	ug/L	<1.0	<1.0	<1.0	1.0	550237
Silver (Ag)	ug/L	<0.10	<0.10	<0.10	0.10	550237
Arsenic (As)	ug/L	<1.0	<1.0	<1.0	1.0	550237
Barium (Ba)	ug/L	2.8	3.5	4.7	2.0	550237
Cadmium (Cd)	ug/L	<0.20	<0.20	<0.20	0.20	550237
Chromium (Cr)	ug/L	<0.50	<0.50	<0.50	0.50	550237
Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	0.50	550237
Copper (Cu)	ug/L	2.2	1.1	5.0	0.50	550237
Manganese (Mn)	ug/L	2.7	6.6	7.1	0.40	550237
Molybdenum (Mo)	ug/L	<0.50	<0.50	<0.50	0.50	550237
Nickel (Ni)	ug/L	<1.0	<1.0	5.9	1.0	550237
Sodium (Na)	ug/L	660	490	510	30	550237
Zinc (Zn)	ug/L	<1.0	3.1	2.8	1.0	550237
Selenium (Se)	ug/L	<1.0	<1.0	<1.0	1.0	550237
Lead (Pb)	ug/L	<0.10	<0.10	<0.10	0.10	550237
N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

Maxxam Job #: A840651
Report Date: 2008/09/19

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SM

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F62430	F62441	F62442		
Sampling Date		2008/09/08	2008/09/08	2008/09/08		
	Units	ATT	ST-27	DUP-1	RDL	QC Batch

CONVENTIONALS						
Conductivity	mmhos/cm	0.24	0.16	0.16	0.001	549594
Fluoride (F)	mg/L	0.1	<0.1	<0.1	0.1	549575
Nitrogen ammonia (N-NH3)	mg/L	0.09	0.08	0.08	0.02	550514
pH	pH	7.0	8.1	8.0	N/A	549452
Nitrate (N) and Nitrite(N)	mg/L	<0.02	2.4	2.5	0.02	549898
Sulfates (SO4)	mg/L	5.0	8.0	8.2	0.1	549898
Total suspended solids (TSS)	mg/L	250	<2	<2	2	549528

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		F62443		F62444	F62446		
Sampling Date		2008/09/08		2008/09/08	2008/09/08		
	Units	AS-2	RDL	MTPL-3	WCUS	RDL	QC Batch

CONVENTIONALS							
Conductivity	mmhos/cm	0.20	0.001	0.023	0.018	0.001	549594
Fluoride (F)	mg/L	<0.1	0.1	<0.1	<0.1	0.1	549575
Nitrogen ammonia (N-NH3)	mg/L	0.85	0.02	0.05	0.05	0.02	550514
pH	pH	7.7	N/A	7.8	8.0	N/A	549452
Nitrate (N) and Nitrite(N)	mg/L	8.7	0.1	0.28	0.05	0.02	549898
Sulfates (SO4)	mg/L	6.9	0.1	1.6	1.3	0.1	549898
Total suspended solids (TSS)	mg/L	<2	2	<2	<2	2	549528

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A840651
Report Date: 2008/09/19

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SM

CONVENTIONAL PARAMETERS (SURFACE WATER)

Maxxam ID		F62447		
Sampling Date		2008/09/08		
	Units	WCDS	RDL	QC Batch

CONVENTIONALS				
Conductivity	mmhos/cm	0.019	0.001	549594
Fluoride (F)	mg/L	<0.1	0.1	549575
Nitrogen ammonia (N-NH3)	mg/L	0.05	0.02	550514
pH	pH	7.9	N/A	549452
Nitrate (N) and Nitrite(N)	mg/L	0.07	0.02	549898
Sulfates (SO4)	mg/L	1.4	0.1	549898
Total suspended solids (TSS)	mg/L	3	2	549528

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A840651
Report Date: 2008/09/19

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SM

HEAVY HYDROCARBONS (SURFACE WATER)

Maxxam ID		F62430	F62441	F62442	F62443	F62444		
Sampling Date		2008/09/08	2008/09/08	2008/09/08	2008/09/08	2008/09/08		
	Units	ATT	ST-27	DUP-1	AS-2	MTPL-3	RDL	QC Batch

OIL & GREASE								
Mineral Oil and Grease	mg/L	<3	<3	<3	<3	<3	3	549633
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

Maxxam ID		F62446	F62447		
Sampling Date		2008/09/08	2008/09/08		
	Units	WCUS	WCDS	RDL	QC Batch

OIL & GREASE					
Mineral Oil and Grease	mg/L	<3	<3	3	549633
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

Maxxam Job #: A840651
Report Date: 2008/09/19

Agnico-Eagle Mines Ltd.
Client Project #: MINE SITE
Project name: MEADOWBANK SITE
Sampler Initials: SM

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:

pH: Holding time already past.: F62430, F62441, F62442, F62443, F62444, F62446, F62447

METALS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.

CONVENTIONAL PARAMETERS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the blank.
Reported detection limits are multiplied by dilution factors used for sample analysis.

HEAVY HYDROCARBONS (SURFACE WATER)

Please note that the results have not been corrected for QC recoveries. Please note that the results have been corrected for the method blank.

Results relate only to the items tested.

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: MINE SITE
P.O. #:
Project name: MEADOWBANK SITE

Quality Assurance Report

Maxxam Job Number: A840651

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
548916 HC	SPIKE	Calcium (Ca)	2008/09/18		105	%
		Magnesium (Mg)	2008/09/18		104	%
	METHOD BLANK	Calcium (Ca)	2008/09/18	<1		mg/L
		Magnesium (Mg)	2008/09/18	<1		mg/L
		Total Hardness (CaCO3)	2008/09/18	<1		mg/L
549452 JM6	Calibration Check	pH	2008/09/15		100	%
	QC STANDARD	pH	2008/09/15		100	%
	SPIKE	pH	2008/09/15		101	%
549528 FSI	SPIKE	Total suspended solids (TSS)	2008/09/16		96	%
	SPIKE DUP	Total suspended solids (TSS)	2008/09/16		97	%
	METHOD BLANK	Total suspended solids (TSS)	2008/09/16	<2		mg/L
549575 AK3	QC STANDARD	Fluoride (F)	2008/09/17		94	%
	SPIKE	Fluoride (F)	2008/09/17		100	%
	METHOD BLANK	Fluoride (F)	2008/09/17	<0.1		mg/L
549594 JL1	QC STANDARD	Conductivity	2008/09/17		101	%
	SPIKE	Conductivity	2008/09/17		100	%
	METHOD BLANK	Conductivity	2008/09/17	<0.001		mmhos/cm
549633 HD	SPIKE	Mineral Oil and Grease	2008/09/19		72	%
	METHOD BLANK	Mineral Oil and Grease	2008/09/19	<3		mg/L
549898 AK3	SPIKE	Nitrate (N) and Nitrite(N)	2008/09/19		98	%
		Sulfates (SO4)	2008/09/19		101	%
	METHOD BLANK	Nitrate (N) and Nitrite(N)	2008/09/19	<0.02		mg/L
		Sulfates (SO4)	2008/09/19	<0.1		mg/L
550085 MR4	QC STANDARD	Mercury (Hg)	2008/09/17		99	%
	SPIKE	Mercury (Hg)	2008/09/17		105	%
	METHOD BLANK	Mercury (Hg)	2008/09/17	<0.00001		mg/L
550237 HC	SPIKE	Aluminum (Al)	2008/09/18		99	%
		Antimony (Sb)	2008/09/18		106	%
		Silver (Ag)	2008/09/18		70	%
		Arsenic (As)	2008/09/18		112	%
		Barium (Ba)	2008/09/18		108	%
		Cadmium (Cd)	2008/09/18		103	%
		Chromium (Cr)	2008/09/18		106	%
		Cobalt (Co)	2008/09/18		106	%
		Copper (Cu)	2008/09/18		103	%
		Manganese (Mn)	2008/09/18		107	%
		Molybdenum (Mo)	2008/09/18		107	%
		Nickel (Ni)	2008/09/18		104	%
		Sodium (Na)	2008/09/18		106	%
		Zinc (Zn)	2008/09/18		105	%
		Selenium (Se)	2008/09/18		90	%
		Lead (Pb)	2008/09/18		108	%
	METHOD BLANK	Aluminum (Al)	2008/09/18	<1.0		ug/L
		Antimony (Sb)	2008/09/18	<1.0		ug/L
		Silver (Ag)	2008/09/18	<0.10		ug/L
		Arsenic (As)	2008/09/18	<1.0		ug/L
		Barium (Ba)	2008/09/18	<2.0		ug/L
		Cadmium (Cd)	2008/09/18	<0.20		ug/L
		Chromium (Cr)	2008/09/18	<0.50		ug/L
		Cobalt (Co)	2008/09/18	<0.50		ug/L
		Copper (Cu)	2008/09/18	<0.50		ug/L
		Manganese (Mn)	2008/09/18	<0.40		ug/L
		Molybdenum (Mo)	2008/09/18	<0.50		ug/L
		Nickel (Ni)	2008/09/18	<1.0		ug/L
		Sodium (Na)	2008/09/18	<30		ug/L

Agnico-Eagle Mines Ltd.
Attention: Ryan VanEngen
Client Project #: MINE SITE
P.O. #:
Project name: MEADOWBANK SITE

Quality Assurance Report (Continued)

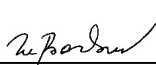
Maxxam Job Number: A840651

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
550237 HC	METHOD BLANK	Zinc (Zn)	2008/09/18	<1.0		ug/L
		Selenium (Se)	2008/09/18	<1.0		ug/L
		Lead (Pb)	2008/09/18	<0.10		ug/L
550514 DKH	QC STANDARD	Nitrogen ammonia (N-NH3)	2008/09/18		88	%
	SPIKE	Nitrogen ammonia (N-NH3)	2008/09/18		103	%
	METHOD BLANK	Nitrogen ammonia (N-NH3)	2008/09/18	<0.02		mg/L
QC Standard = Quality Control Standard SPIKE = Fortified sample						

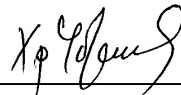
Validation Signature Page

Maxxam Job #: A840651

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

DELIA BARBUL, B.Sc., Chemist, Analyst 2

HHRISTINA CHORBADZHIEVA, B.Sc. Chemist, Analyst 2

MICHEL POULIN, B.Sc., Chemist, Analyst 2

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Maxxam Analytique Inc

889 Montée de Liesse
St-Laurent, Québec, H4T 1P5
Web site: www.maxxam.ca

CHAIN OF CUSTODY

Page 1 2

Client: Agnico-Eagle
Meadowbank Project

Tel 867-793-4167 x 6728

Address Meadowbank Camp
Baker Lake Nunavut,
X0X 0A0

Fax:
Project # MineSite

Sampler SM AND JK

Project Manager: Ryan Vanengen
Sylvain Doire

ANALYSIS REQUIRED

N°	Sample identification	N° labo MAXXAM	Matrix						Sampling			Sylvain Doire																									
			Potable w.	Waste w.	Ground w.	Surf. W.	Soils	Sediments	Others*	# containers	To filter (yes/no)	Date	BTEX (P&T / GC-MS)	Hydrocarbons C10-C50	O&G mineral (gravimetric)	O&G total (gravimetric)	PCB	MAH VOC(624)	PAH	Phenol (color.)	TPH (GC-FID)	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Arsenic	Sélénium	Mercury	Lead	Metals ICP -13 ele.-soil	NH4 TKN	NH3, SO4, F	NO2+NO3 X O-PO4	Cl F SO4	TSS	Cyanide	General: pH, Conductivity, Hardness			
1	ATT					X				5		08/09/2008		X																							
2	ST-27					X				5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
3	DUP-1					X				5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
4	AS-2					X				5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
5	MTPL-3					X				5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
6	WCUS					X				5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
7	WCDS					X				5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
8										5		08/09/2008		X											X	X	X	X	X	X	X	X	X	X	X	X	
9																																					
10																																					
11																																					

Metals Legend:

** Metals 13 elements(Ag, As, Ba, Cd, Co, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn)

*** Metals 16 elements(Ag, As, Ba, Cd, Co, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn, Se, V)

Metals Legend:

** Metals 13 elements (Ag, As, Ba, Cd, Co, Cr, Cu, Sn, Mn, Mo, Ni, Pb, Zn)

*** Metals 16 elements (Al, Sb, Ag, As, Ba, Cd, Cr, Co, Cu, Mn, Mo, Ni, Pb, Se, Na, Zn)

Turnaround time:

- ☐ 10 working days
☐ 5 working days
☐ 72 hours
☐ 48 hours
☐ 24 hours

Maxxam quote #:

Site: Meadowbank Site

PO #:

Others:

Detection limits required / contamination level:
CCME for Surface Water (Federal)

Special instructions:

13/09/08

9:20 AM
9, 12, 13

LEGEND:

- * C = Canisters
* W = Waste
* O = Oil
* T = Tubes ou Cartridges

Delivered by sampler: Shannon and jamie

Delivered by messenger:

Delivered by:

Page 11 of 11

Date ## Time

Date Time

Date Time

Received by:

Received by:

Received by:

2008/09/19 17:23

Cantest Ltd. Laboratory Certificates

Agnico Eagle Mines Ltd. - Meadowbank, 28-Aug-08

Page 1 of 5

Table 1: ABA Test Results for 22 Meadowbank Samples - October 2008

S. No:	Sample ID	Paste pH	CO2 (Wt.%)	CaCO3 Equiv. (Kg CaCO3/Tonne)	Total Sulphur (Wt.%)	Mod. ABA NP	Fizz Rating
						Neutralization Potential (Kg CaCO3/tonne)	
1	Q1 202045	9.3	0.4	9.1	0.10	20.5	Slight
2	Q2 202046	9.5	0.6	13.4	<0.02	23.3	Moderate
3	Q3 202047	9.4	0.9	21.4	0.04	37.9	Strong
4	Q4 202048	7.6	0.0	0.9	0.17	1.0	Slight
5	Q6 202049	9.1	0.1	1.6	<0.02	6.4	None
6	Q7 202050	6.4	0.0	0.5	0.63	0.1	None
7	Q8 202051	8.9	5.8	132.0	0.03	125.6	Strong
8	Q9 202052	9.1	0.4	9.8	0.06	32.9	Strong
9	Q10 202053	9.4	0.5	11.4	0.09	19.8	Moderate
10	Q11 202054	9.3	1.1	23.9	0.12	28.0	Strong
11	Q12 202055	9.3	0.1	2.5	0.10	6.9	Slight
12	Q13 202056	9.2	1.6	35.5	0.03	33.9	Strong
13	Q14 202057	9.0	0.2	3.9	0.06	5.2	None
14	Q15 202058	9.3	0.3	6.4	0.09	17.1	Moderate
15	Q16 202059	8.7	<0.02	<0.5	0.04	5.4	None
16	Q17 202060	9.1	0.0	0.7	0.05	1.2	None
17	Q18 202061	6.4	0.0	0.9	2.44	1.2	None
18	Q19 202062	9.1	0.0	0.9	<0.02	1.5	None
19	Q20 202063	9.2	<0.02	<0.5	<0.02	1.6	None
20	Q21 202064	9.4	0.1	2.7	<0.02	1.7	None
21	Q22 202065	9.1	0.7	16.8	0.10	18.8	Strong
22	Q5 202087	9.3	0.9	21.1	<0.02	33.4	Strong
Detection Limits		0.1	0.02	0.5	0.02		
CANTEST SOP Number		7160	LECO	Calculation	LECO	7150	7150

Notes:

Sulphate sulphur was not requested

CO2 and total Sulphur by LECO furnace

Reference for Mod ABA NP method (SOP No. 7150): MEND Acid Rock Drainage Prediction Manual, MEND Project 1.16.1b (pages 6.2-11 to 17), March 1991.

Agnico Eagle Mines Ltd. - Meadowbank, 28-Aug-08

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Table 2a: QA/QC for Paste pH & NP Determination - October 2008
(for 22 Meadowbank Samples)

Sample ID	Paste pH (pH Units)	
<i>Duplicates - Paste pH</i>		
Q11 202054	9.3	9.3
Q21 202064	9.4	9.4
Sample ID	Neutralization Potential (KgCaCO ₃ /tonne)	
<i>Duplicates - Modified ABA NP</i>		
Q11 202054	28.0	27.7
Q21 202064	1.7	1.6
KZK-1 Reference (NP = 59.0)	55.7	

Table 2b: QA/QC for Total Sulphur

Sample ID	Total Sulphur (Wt.%)	
<i>QAQC- Total Sulphur</i>		
CANTEST Ref. (0.11% S)	0.12	
STD OREAS76A (18.00% S)	17.50	
STD CSC (4.19% S)	4.41	

Table 2c: QA/QC for CO₂ Determination

Sample ID	CO ₂ (Wt.%)	
<i>Duplicates - CO₂</i>		
Q 12 202055	0.11	0.13
STD CSC (1.50% CO ₂)	1.48	

Table 3: Trace Metals Using 4-Acid Digestion with ICP-MS Finish on 22 Meadowbank Samples - October 2008

S. No:	Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Hg ug/g	
1	Q1 202045	3.1	22.1	8.4	123	<0.1	26.1	26	911	6.22	3	1.6	<0.1	10.6	802	0.3	0.4	<0.1	161	4.59	0.369	92.5	52	2.35	794	0.657	8.91	3.068	1.72	0.6	105.9	204	2.0	28.1	7.0	0.2	2	18	40.6	0.1	64.1	2.4	0.002	
2	Q2 202046	4.9	9.6	10.1	68	<0.1	13.1	10.8	536	3.05	2	0.6	<0.1	3.0	644	0.3	0.2	<0.1	70	2.92	0.072	21.6	69	0.97	582	0.249	7.63	3.662	1.09	0.4	51.0	44	0.6	6.4	3.4	<0.1	1	6	12.4	<0.1	24.9	1.4	< 0.001	
3	Q3 202047	1.8	19.2	9.1	112	<0.1	88.3	32.4	1168	6.79	2	0.7	<0.1	1.0	893	0.4	0.6	<0.1	172	5.91	0.133	25.9	182	3.50	230	0.527	9.03	3.595	0.53	0.4	17.0	61	1.1	17.0	3.6	0.1	<1	23	19.7	<0.1	10.6	0.8	< 0.001	
4	Q4 202048	6.9	22	3	8	<0.1	10.5	8.3	28	0.56	2	1.8	<0.1	4.0	23	0.1	0.4	0.3	9	0.04	0.005	11.2	65	0.07	234	0.026	1.98	0.041	0.42	0.2	73.5	22	0.5	4.0	0.9	<0.1	<1	1	1.5	0.1	18.5	1.9	< 0.001	
5	Q6 202049	0.9	152.7	2.9	110	<0.1	87.6	55.3	1350	9.33	1	2.3	<0.1	6.8	90	0.2	0.2	<0.1	251	2.53	0.087	18.1	17	3.85	221	0.651	8.31	4.445	0.39	0.4	136.8	42	1.3	21.5	6.5	0.4	<1	34	26.4	<0.1	4.6	4.0	< 0.001	
6	Q7 202050	10.4	23.9	4.4	8	<0.1	22	13.6	169	1.14	17	3.9	<0.1	4.6	27	0.2	1.4	0.2	10	0.03	0.007	10.2	144	0.09	71	0.013	1.32	0.060	0.36	0.2	89.7	20	0.4	4.3	0.4	<0.1	<1	1	5.6	0.6	11.6	2.4	0.002	
7	Q8 202051	1.3	103.8	2.3	77	<0.1	137.7	48.5	1461	7.39	12	0.4	<0.1	0.3	126	<0.1	0.6	<0.1	252	6.24	0.026	2.7	185	2.78	122	0.474	8.19	2.121	0.66	0.5	17.6	7	0.4	14.7	2.1	0.1	<1	33	27.5	<0.1	19.8	0.6	< 0.001	
8	Q9 202052	1.9	33.2	10.2	82	<0.1	22.8	21.1	953	5.18	3	1.9	<0.1	6.1	461	0.1	2.5	<0.1	157	3.04	0.068	27.1	53	1.91	362	0.417	7.76	3.297	0.34	0.6	110.0	48	1.1	13.4	4.8	0.3	1	17	29.7	<0.1	5.7	3.0	< 0.001	
9	Q10 202053	6.3	16.4	32.7	48	0.2	11.1	7.2	166	2.07	14	3.3	<0.1	11.4	273	0.2	1.3	0.2	46	0.76	0.027	30.7	55	0.56	828	0.149	7.19	2.755	2.45	1.1	74.1	50	0.6	6.5	4.4	0.3	<1	4	8.7	0.1	69.5	2.1	< 0.001	
10	Q11 202054	3.9	24.6	21.3	51	<0.1	17.9	7.4	455	2.69	13	3.0	<0.1	11.5	435	0.1	0.9	0.2	67	1.57	0.051	33.4	58	0.90	665	0.223	7.35	3.430	1.79	0.8	95.1	57	0.9	9.0	5.2	0.3	<1	7	20.0	0.1	62.6	2.6	< 0.001	
11	Q12 202055	5	27.4	13.1	56	<0.1	23.8	12.2	503	2.95	5	3.3	<0.1	11.5	412	<0.1	0.6	0.2	76	1.73	0.055	37.5	79	1.00	690	0.247	7.59	3.412	1.95	0.5	104.2	63	1.0	9.8	5.4	0.3	<1	7	12.0	0.1	50.9	2.9	< 0.001	
12	Q13 202056	3.9	22.4	15.9	40	<0.1	22.3	10.6	378	2.78	<1	2.6	<0.1	10.6	269	<0.1	0.1	0.2	70	1.43	0.054	36.6	61	0.95	739	0.21	7.58	3.213	2.00	1.1	108.5	64	1.2	8.2	5.3	0.3	<1	8	23.7	<0.1	60.2	3.0	< 0.001	
13	Q14 202057	3.9	38.5	18.8	95	<0.1	49.5	18.6	638	4.24	<1	5.1	<0.1	13.8	565	0.1	<0.1	0.2	105	1.48	0.068	39.8	88	1.70	822	0.322	9.40	3.061	2.38	1.2	109.6	71	1.0	13.2	8.5	0.5	2	11	26.2	<0.1	74.6	3.0	< 0.001	
14	Q15 202058	6.8	23	48.2	293	<0.1	21.8	10.6	486	2.73	<1	3.0	<0.1	10.5	405	0.9	0.1	0.1	68	2.49	0.05	31.2	94	1.02	729	0.237	7.51	2.034	1.84	0.6	108.2	57	1.0	9.0	5.4	0.4	<1	7	61.8	<0.1	57.8	2.9	< 0.001	
15	Q16 202059	4.3	27.1	15.9	80	<0.1	38.9	16.7	503	3.77	<1	3.4	<0.1	8.3	354	0.2	<0.1	0.2	90	0.84	0.054	30.1	102	1.39	735	0.294	7.76	4.103	1.75	0.5	97.9	51	1.3	10.3	7.5	0.5	2	11	21.5	<0.1	50.9	2.4	< 0.001	
16	Q17 202060	5.8	2.5	21.9	43	<0.1	3	2.2	186	1.23	<1	2.7	<0.1	17.1	334	0.1	<0.1	0.2	17	0.52	0.026	42.7	57	0.32	1142	0.111	6.90	2.850	4.40	0.3	187.6	76	0.8	4.9	3.3	0.1	2	2	8.0	<0.1	163.9	4.9	< 0.001	
17	Q18 202061	11.1	73.6	25.3	49	0.4	13.3	2.6	322	15.81	<1	0.5	<0.1	0.2	3	0.2	0.1	0.5	<1	0.12	0.033	1.2	142	0.22	20	0.003	0.11	0.024	0.03	0.2	2.4	2	0.5	2.6	0.2	<0.1	<1	<1	1.8	2.4	1.1	<0.1	< 0.001	
18	Q19 202062	6	2.3	26.9	21	<0.1	2.1	1.6	284	1.16	<1	6.5	<0.1	34.1	169	0.1	<0.1	<0.1	10	0.56	0.014	58.6	48	0.22	604	0.112	6.66	2.643	4.35	0.3	102.9	96	1.6	13.2	13.0	1.1	3	2	15.0	<0.1	158.7	3.2	< 0.001	
19	Q20 202063	7.5	2.1	30.4	22	<0.1	2.9	1.8	257	0.72	<1	15.5	<0.1	17.7	91	<0.1	<0.1	0.1	6	0.24	0.019	28.8	50	0.28	490	0.086	6.17	2.682	4.40	0.1	76.1	47	0.9	5.9	8.3	0.6	2	2	4.9	<0.1	125.1	2.6	< 0.001	
20	Q21 202064	6.7	2	28.6	11	<0.1	1.1	0.3	247	0.53	<1	9.5	<0.1	29.8	7	<0.1	<0.1	0.2	<1	0.19	0.001	19.1	38	0.12	14	0.046	6.33	2.890	4.14	0.3	85.8	35	0.9	11.2	16.2	0.7	2	2	4.6	<0.1	167.6	3.6	< 0.001	
21	Q22 202065	4.2	25.1	5.7	41	<0.1	10.6	7.3	281	1.97	<1	0.9	<0.1	3.5	343	<0.1	0.2	<0.1	67	1.96	0.058	19.3	50	0.50	513	0.319	7.92	3.142	1.61	0.4	104.3	38	0.9	8.0	5.2	0.3	<1	6	16.1	0.1	43.1	2.4	< 0.001	
22	Q5 202087	1.7	4.9	3.8	61	<0.1	32.2	14.2	582	3.93	<1	0.3	<0.1	1.1	436	<0.1	0.2	0.1	98	2.21	0.111	15.0	57	1.63	331	0.336	9.58	6.196	0.60	0.3	47.9	31	0.8	9.1	2.9	<0.1	<1	9	20.4	<0.1	8.1	1.1	< 0.001	
QA/QC (Duplicate)																																												
13	Q14 202057	3.7	35.8	18.2	84	<0.1	45.3	17.8	599	4.18	<1	5.1	<0.1	14.2	553	<0.1	<0.1	0.2	102	1.48	0.067	40.1	87	1.66	808	0.310	9.49	3.091	2.29	1.0	111.1	71	1.4	12.7	8.0	0.5	2	11	25.1	<0.1	73.0	3.1		
STD DST6		11.9	120.2	37.5	152.0	0.3	31.0	12.9	934.0	3.9	22.0	8.3	<0.1	7.7	305.0	6.4	6.0	5.6	98.0	2.1	0.1	26.8	234.0	1.0	623.0	0.4	6.9	1.8	1.4	7.6	60.2	50.0	5.8	14.8	10.0	0.5	4.0	11	26.3	<0.1	58.9	1.7		
STD DST6		11.8	123.1	35.5	159.0	0.3	30.1	13.2	944.0	3.8	24.0	8.9	<0.1	7.0	309.0	6.4	5.1	4.9	110.0	2.2	0.1	24.1	220.0	1.0	645.0	0.4	6.6	1.7	1.5	7.6	58.2	51.0	6.5	15.0	9.5	0.5	2.0	11	26	<0.1	54.9	1.7		
True Value STD DST6		12.4	127.8	34.1	177.0	0.4	29.0	13.0	966.0	4.1	26.0	7.4	-0.1	7.0	307.0	5.3	5.4	4.7	115.0	2.3	0.1	25.4	230.0	1.0	700.0	0.4	6.9	1.6	1.4	7.4	48.8	51.0	6.3	15.5	8.1	0.5	2.7	12	24.3	-0.1	55.3	1.8		
Percent Difference		-4.8	-3.7	4.1	-10.2	-25.0	3.8	1.5	-2.3	-8.3	-7.7	20.3	0.0	0.0	0.7	20.8	-5.6	4.3	-4.3	-6.1	-1.0	-5.1	-4.3	4.1	-7.9	0.0	-4.3	5.4	6.5	2.7	19.3	0.0	3.2	-3.2	17.3	0.0	-25.9	-8.3	7.0	0.0	-0.7	-5.6		
Detection Limits		0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	1	1	0.1	0.1	0.1	0.1	0.001		
Method		1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX										

Analysis done at Acme Labs
Method: Group 1EX - 0.25g of pulp sample is digested with HClO4-HNO3-HCl-HF to 10mL. (>) Concentration exceeds upper limits.



Agnico Eagle Mines Ltd. - Meadowbank, 28-Aug-08

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Table 4: Sample list

S. No.	Sample ID	Tag No.	Sample Wt. (Kg)	Sample Type & Condition
1	Q1	202045	2.0	Dry Rock
2	Q2	202046	1.7	Dry Rock
3	Q3	202047	1.6	Dry Rock
4	Q4	202048	1.2	Dry Rock
5	Q6	202049	1.2	Dry Rock
6	Q7	202050	1.6	Dry Rock
7	Q8	202051	1.4	Dry Rock
8	Q9	202052	1.9	Dry Rock
9	Q10	202053	1.3	Dry Rock
10	Q11	202054	1.5	Dry Rock
11	Q12	202055	1.5	Dry Rock
12	Q13	202056	1.8	Dry Rock
13	Q14	202056	1.1	Dry Rock
14	Q15	202058	1.4	Dry Rock
15	Q16	202059	1.6	Dry Rock
16	Q17	202060	1.5	Dry Rock
17	Q18	202061	1.8	Dry Rock
18	Q19	202062	1.6	Dry Rock
19	Q20	202063	2.2	Dry Rock
20	Q21	202064	1.3	Dry Rock
21	Q22	202065	1.2	Dry Rock
22	Q5	202087	0.9	Dry Rock

Note:

From: Graham Long

Sent: Tuesday, September 02, 2008 9:10 AM
To: Larry Connell; Eric Ramsay
Cc: Bruno Perron
Subject: RE: 22 Meadowbank samples rec'd today
Hi Larry,
Sample #202087 comes from quarry #5.
Cheers, Graham

From: Larry Connell
Sent: Tuesday, September 02, 2008 10:03 AM
To: Eric Ramsay; Graham Long
Cc: Bruno Perron
Subject: FW: 22 Meadowbank samples rec'd today

Eric/Graham: Can you confirm where Sample Tag 202087 comes from
Thanks
Larry Connell, P.Eng.
Regional Manager: Environment, Social and Government Affairs
Agnico Eagle Mines Ltd.
#375 - 555 Burrard Street
Two Bentall Centre
Vancouver, BC
V7X 1M4
Phone (604) 608-2557 ext 7222
Direct Line (604) 622-6530
Cell (604) 765-5504
lconnell@agnico-eagle.com
FAX (604) 608-2559

From: Ivy Rajan [<mailto:irajan@cantest.com>]
Sent: Friday, August 29, 2008 11:21 AM
To: Larry Connell
Subject: 22 Meadowbank samples rec'd today

Hi Larry,
does not have an ID on the bag but all 22 samples have a tag no.
do you want me to go with the tag nos? Please let me know asap.
Regards
[Ivy Rajan \(IRajan@cantest.com\)](mailto:IRajan@cantest.com)

Sample Summary: Agnico Eagle Mines Ltd. - Meadowbank, 28-Aug-08
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Date Samples Received: 28-Aug-08
Date Instructions Received: 12-Aug-08 (e-mail from Eric Ramsay; Instructions for analyses from Larry Connell)
Sample Prep: ABA & Metals: Cone crushed, split & pulverized (<80% <200 mesh)
Date of Analysis: ABA: 5-Sep-08

Name of Client:	Agnico Eagle Mines Ltd.
Client Project Name:	Meadowbank
Client PO No:	OP-61135
Contact Person:	Larry Connell, Eric Ramsay, Graham Long and Bruno Perron
E-mail Address:	lconnel@agnico-eagle.com eramsay@agnico-eagle.com glong@agnico-eagle.com bperron@agnico-eagle.com
Address:	#375-555 Burrard Street, Two Bentall Centre, Vancouver, BC, Canada V7X 1M4
Contact No:	604-608-2557
Fax No:	604-608-2559

Sign:	
Report Released by:	Ivy Rajan
Position:	Lab Manager, ARD Division, CANTEST Ltd.
Report Verified by:	John Chiang
Position:	Senior Analyst, ARD Division, CANTEST Ltd.
Report Validated by:	Tim O'Hearn
Position:	Director, ARD Division, CANTEST Ltd.
CANTEST Project No:	2-21-900
Contact No:	604-734-7276 x 5029; Direct: 604-638-5029 (Ivy Rajan)
Contact No:	604-734-7276 x2219 (John Chiang)
Contact No:	604-734-7276 x 5031; Direct: 604-638-5031 (Tim O'Hearn)

[illegible]

Extraction Method Used: Bottle: Using Rotary Extractor for 24h.

Liquid:Solid Ratio Used = 3:1; 750 mL DI H₂O:250g cone crushed sample (<9.5 mm).

Sample Summary: Agnico Eagle Mines Ltd. - Meadowbank, 28-Aug-08
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Date Samples Received: 28-Aug-08
Date Instructions Received: 17-Oct-08 (from Larry Connell)
Sample Prep: SPLP: Used cone crushed material (<9.5 mm).
Date of Analysis: SPLP: 30-Oct-08

Name of Client:	Agnico Eagle Mines Ltd.
Client Project Name/No:	Meadowbank (PO No. OP-61484)
Contact Person:	Larry Connell, Eric Ramsay, Graham Long and Bruno Perron
E-mail Address:	lconnel@agnico-eagle.com eramsay@agnico-eagle.com glong@agnico-eagle.com bperron@agnico-eagle.com
Address:	#375-555 Burrard Street, Two Bentall Centre, Vancouver, BC, Canada V7X 1M4
Contact No:	604-608-2557
Fax No:	604-608-2559

Sign:	
Report Released by:	Ivy Rajan
Position:	Lab Manager, ARD Division, CANTEST Ltd.
Report Verified by:	John Chiang
Position:	Senior Analyst
Report Validated by:	Tim O'Hearn
Position:	Director, ARD Division, CANTEST Ltd.
CANTEST Project No:	2-21-900
Contact No:	604-734-7276 x 5029; Direct: 604-638-5029 (Ivy Rajan)
Contact No:	604-734-7276 x 5031; Direct: 604-638-5031 (Tim O'Hearn)

Sample list:

S. No.	Sample ID	Tag No.	Dry Sample Wt. (Kg)	Sample Type & Condition
1	Q1	202045	2.0	Dry Rock
2	Q2	202046	1.7	Dry Rock
3	Q3	202047	1.6	Dry Rock
4	Q4	202048	1.2	Dry Rock
5	Q6	202049	1.2	Dry Rock
6	Q7	202050	1.6	Dry Rock
7	Q8	202051	1.4	Dry Rock
8	Q9	202052	1.9	Dry Rock
9	Q10	202053	1.3	Dry Rock
10	Q11	202054	1.5	Dry Rock
11	Q12	202055	1.5	Dry Rock
12	Q13	202056	1.8	Dry Rock
13	Q14	202056	1.1	Dry Rock
14	Q15	202058	1.4	Dry Rock
15	Q16	202059	1.6	Dry Rock
16	Q17	202060	1.5	Dry Rock
17	Q18	202061	1.8	Dry Rock
18	Q19	202062	1.6	Dry Rock
19	Q20	202063	2.2	Dry Rock
20	Q21	202064	1.3	Dry Rock
21	Q22	202065	1.2	Dry Rock
22	Q5	202087	0.9	Dry Rock

Agnico Eagle Mines Ltd. - Meadowbank, 30-Oct-08

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Table 1: ABA Test Results for 10 Meadowbank Quarry Samples - December 2008

S. No:	Sample ID	Paste pH	CO ₂ (Wt.%)	CaCO ₃ Equiv. (Kg CaCO ₃ /Tonne)	Total Sulphur (Wt.%)	Mod. ABA NP	Fizz Rating
						Neutralization Potential (Kg CaCO ₃ /tonne)	
1	202088	8.8	0.89	20.2	0.03	20.3	Strong
2	202089	9.0	0.03	0.7	0.02	1.6	None
3	202090	8.7	<0.02	<0.5	0.07	1.9	None
4	202091	8.8	0.06	1.4	<0.02	2.1	None
5	202092	8.7	<0.02	<0.5	<0.02	2.0	None
6	202093	8.6	0.32	7.3	<0.02	11.3	Slight
7	202094	8.7	<0.02	<0.5	0.02	3.2	None
8	202095	9.1	0.33	7.5	0.02	10.1	Slight
9	202096	8.8	0.77	17.5	0.04	22.5	Strong
10	202097	8.6	<0.02	<0.5	<0.02	4.9	None
<i>Detection Limits</i>		0.5	0.02	0.5	0.02		
CANTEST SOP Number		7160	LECO	Calculation	LECO	7150	7150

Notes:

Sulphate sulphur not requested.

Carbonate carbon (CO₂-HCl method) and total sulphur done by LECO furnace (at Acme Labs).

Reference for Mod ABA NP method (SOP No. 7150): MEND Acid Rock Drainage Prediction Manual, MEND Project 1.16.1b (pages 6.2-11 to 17), March 1991.

Agnico Eagle Mines Ltd. - Meadowbank, 30-Oct-08
 Page 2 of 5

Table 2a: QA/QC for Paste pH & NP Determination - December 2008
(for 10 Meadowbank Quarry Samples)

Sample ID	Paste pH (pH Units)	
Duplicates - Paste pH		
202097	8.6	8.6
Sample ID	Neutralization Potential (KgCaCO3/tonne)	
Duplicates - Modified ABA NP		
202097	4.9	5.1
KZK-1 Reference (NP = 59.0)	58.2	

Table 2b: QA/QC for Total Sulphur

Sample ID	Total Sulphur (Wt.%)	
Duplicates - Total Sulphur		
202092	<0.02	<0.02
CANTEST Ref. (0.11% S)	0.12	
STD OREAS76A (18.00% S)	17.24	
STD CSC (4.19% S)	4.22	

Table 2c: QA/QC for CO2 Determination

Sample ID	CO2 (Wt.%)	
Duplicates - CO2		
202092	<0.02	0.02
STD CSC (1.50% CO2)	1.54	

Table 3: Trace Metals Using 4-Acid Digestion with ICP-MS Finish on 10 Meadowbank Quarry Samples - December 2008

S. No:	Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	Al %	Na %	K %	W ppm	Zr ppm	Ce ppm	Sn ppm	Y ppm	Nb ppm	Ta ppm	Be ppm	Sc ppm	Li ppm	S %	Rb ppm	Hf ppm	Hg µg/g		
1	202088	15.5	39.1	23.7	43	<0.1	3.6	2.7	225	1.13	<1	1.9	<0.1	15.5	303	0.1	0.1	0.2	19	0.82	0.026	34.4	73	0.39	1277	0.124	6.30	2.532	3.43	0.3	181.0	62	0.9	7.1	4.4	0.2	2	1	9.6	<0.1	140.3	4.8	0.004		
2	202089	6.0	15.8	26.9	48	<0.1	3.3	2.7	184	1.31	<1	2.6	<0.1	18.1	491	0.2	<0.1	0.2	15	0.65	0.033	50.9	64	0.38	1491	0.139	7.83	2.815	3.35	0.3	220.4	93	1.3	5.3	4.1	0.1	2	1	7.7	<0.1	159.8	5.7	0.002		
3	202090	7.3	5.2	24.2	38	<0.1	2.2	1.8	142	1.14	<1	3.9	<0.1	23.6	323	0.2	0.1	0.3	11	0.29	0.021	42.2	76	0.33	1429	0.103	6.74	2.740	3.35	0.2	195.9	79	1.0	4.5	3.8	0.1	1	1	9.1	<0.1	150.7	5.2	0.002		
4	202091	6.4	8.0	20.6	46	<0.1	4.0	2.8	159	1.23	<1	2.0	<0.1	14.5	423	0.2	0.2	<0.1	22	0.29	0.035	31.9	73	0.36	1432	0.145	6.70	2.959	4.01	0.4	201.8	60	1.3	6.1	3.9	0.2	2	1	9.7	<0.1	122.2	5.1	0.002		
5	202092	7.0	7.4	22.3	41	<0.1	1.9	1.9	181	1.16	<1	2.6	<0.1	20.3	247	0.2	0.2	0.1	11	0.35	0.027	51.2	70	0.22	1546	0.136	6.76	2.765	3.56	0.2	213.4	90	1.1	4.3	4.1	<0.1	2	2	7.2	<0.1	146.6	5.4	0.002		
6	202093	1.4	13.2	2.3	110	<0.1	100.0	63.1	1488	9.55	3	1.6	<0.1	5.5	96	0.2	0.2	<0.1	226	2.31	0.046	13.9	24	4.18	420	0.707	7.93	2.710	1.20	0.3	142.9	29	1.0	19.6	6.9	0.4	<1	35	37.6	<0.1	11.4	3.7	0.009		
7	202094	1.3	84.1	4.5	83	<0.1	83.9	56.9	1359	7.99	4	1.4	<0.1	5.0	111	0.1	0.3	<0.1	199	3.36	0.049	16.0	18	2.82	267	0.550	7.69	3.998	1.16	0.3	98.5	33	0.9	17.8	5.9	0.3	<1	30	8.3	<0.1	19.6	2.6	0.005		
8	202095	1.5	137.5	6.4	78	<0.1	81.8	47.1	1396	7.85	<1	1.6	<0.1	5.2	359	<0.1	0.3	<0.1	209	4.21	0.048	17.3	20	2.91	397	0.597	7.73	3.337	1.46	0.3	98.6	34	1.0	17.9	5.5	0.3	<1	29	10.0	<0.1	28.9	2.4	0.005		
9	202096	0.4	129.4	3.3	112	<0.1	85.7	62.4	1652	9.55	1	1.5	<0.1	5.6	135	0.1	0.2	<0.1	233	3.21	0.053	14.9	10	4.25	413	0.655	8.11	2.816	1.34	0.5	121.5	29	0.6	17.1	6.2	0.4	1	30	20.4	<0.1	17.7	3.2	0.007		
10	202097	0.4	89.7	2.8	101	<0.1	90.6	54.0	1335	8.22	1	1.6	<0.1	5.3	101	0.1	0.1	<0.1	221	2.35	0.057	19.2	10	3.91	209	0.651	8.22	3.804	0.45	0.2	123.6	37	0.9	19.3	6.2	0.3	<1	31	22.1	<0.1	4.6	3.2	0.006		
QA/QC (Duplicate)																																													
5	202092	7.0	7.4	22.3	41	<0.1	1.9	1.9	181	1.16	<1	2.6	<0.1	20.3	247	0.2	0.2	0.1	11	0.35	0.027	51.2	70	0.22	1546	0.136	6.76	2.765	3.56	0.2	213.4	90	1.1	4.3	4.1	<0.1	2	2	7.2	<0.1	146.6	5.4			
Reference Material																																													
STD OREAS24P		1.5	52.1	3.1	122	0.1	145.7	50.5	1129	7.97	<1	0.7	<0.1	2.8	388	0.3	<0.1	-0.1	166	5.94	0.149	19.4	195	4.21	305	1.15	8.15	2.372	0.71	0.4	144.4	38	1.8	22.7	21.9	1.1	1	21	8.3	<0.1	24.2	3.7			
STD OREAS45P		2.1	726.4	23.8	152	0.3	395.1	130.0	1270	19.69	13	2.6	<0.1	10.4	37	0.3	1.0	0.3	251	0.29	0.048	26.7	1062	0.23	304	1.12	7.28	0.086	0.38	1.1	157.2	51	2.5	13.9	21.5	1.2	<1	68	15.9	<0.1	27.0	4.2			
True Value STD OREAS24P		1.5	52	2.9	114	0.06	141	44	1100	8.0	2	0.8	#N/A	2.9	403.0	0.2	0.1	#N/A	183	6.1	0.14	17.4	221	4.13	285	1.10	7.66	2.310	0.70	0.5	141.0	37.6	1.6	22.9	21.0	1.3	#N/A	20	8.7	<0.1	24.2	3.7			
True Value STD OREAS45P		1.9	749	22.0	141	0.3	385	120	1270	19.2	13	2.4	0.1	9.8	32.6	0.2	0.9	0.2	267	0.3	0.05	24.8	1140	0.22	281	1.18	6.82	0.081	0.35	1.1	154.0	48.9	2.4	13.0	24.0	1.3	#N/A	67	14.7	<0.1	27.0	4.2			
Percent Difference (STD OREAS24P)		0.0	0.2	6.9	7.0	66.7	3.3	14.8	2.6	0.0	<150	-6.7	#N/A	-1.8	-3.7	100.0	-171.4	#N/A	-9.3	-2.1	9.6	11.5	-11.8	1.9	7.0	4.4	6.4	3	1.4	-20.0	2.4	1.1	12.5	-0.9	4.3	-15.4	#N/A	5.0	-4.6	0.0	0.0	0.0			
Percent Difference (STD OREAS45P)		10.5	-3.0	8.2	7.8	-6.3	2.6	8.3	0.0	2.4	-3.0	8.3	<282	6.1	13.5	50.0	8.7	42.9	-6.0	-3.3	2.1	7.7	-6.8	4.5	8.2	-4.7	6.7	6.2	8.6	0.0	2.1	4.3	4.2	6.9	-10.4	-9.8	#N/A	1.5	8.2	0.0	0.0	0.0			
Detection Limits		0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001	0.1	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1	0.1	0.001		
Method		1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	1EX	CVAF

Analysis done at Acme Labs
Method: Group 1EX - 0.25g of pulp sample is digested with HClO4-HNO3-HCl-HF to 10mL. (>) Concentration exceeds upper limits.

Sample Summary: Agnico Eagle Mines Ltd. - Meadowbank, 30-Oct-08
Page 5 of 5

Date Samples Received: 30-Oct-08
Date Instructions Received: 17-Oct-08 from Larry Connell
Sample Prep: ABA & Metals: Cone crushed, split & pulverized to <80% <200 mesh.
Date of Analysis: ABA: 19-Dec-08

Name of Client: Agnico Eagle Mines Ltd.
Client Project Name: Meadowbank
Client PO No: OP-61476

Contact Person: Larry Connell, Eric Ramsay, Graham Long and Bruno Perron

E-mail Address: lconnel@agnico-eagle.com
eramsay@agnico-eagle.com
glong@agnico-eagle.com
bperron@agnico-eagle.com

Address: #375-555 Burrard Street, Two Bentall Centre, Vancouver, BC, Canada V7X 1M4

Contact No: 604-608-2557

Fax No: 604-608-2559

Sign:

Report Released by: Ivy Rajan
Position: Lab Manager, ARD Division, CANTEST Ltd.
Report Verified by: John Chiang
Position: Senior Analyst, ARD Division, CANTEST Ltd.
Report Validated by: Tim O'Hearn
Position: Director, ARD Division, CANTEST Ltd.

CANTEST Project No: 2-21-900

Contact No: 604-734-7276 x 5029; Direct: 604-638-5029 (Ivy Rajan)
Contact No: 604-734-7276 x2219 (John Chiang)
Contact No: 604-734-7276 x 5031; Direct: 604-638-5031 (Tim O'Hearn)

Sample list

S. No.	Sample ID	Dry Sample Wt. (Kg)	Sample Type & Condition
1	202088	6.5	Dry Rock
2	202089	1.5	Dry Rock
3	202090	1.7	Dry Rock
4	202091	3.0	Dry Rock
5	202092	2.0	Dry Rock
6	202093	1.3	Dry Rock
7	202094	3.2	Dry Rock
8	202095	3.8	Dry Rock
9	202096	1.7	Dry Rock
10	202097	3.4	Dry Rock

Notes:

Note 1: Please send a paper copy of report to: Agnico Eagle Mines Ltd., Attn: Mr. Larry Connell, #375 - 555 Burrard Street, Two Bentall Centre, Vancouver, BC V7X 1M4.

Note 2: Send Invoice to: Agnico Eagle Mines Ltd., Meadowbank Division, Suite 375 - 555 Burrard Street, Vancouver BC V7X 1M8. Phone No: 604-608-2557; Fax No: 604-608-2559.

Cantest Ltd. Laboratory Certificates

CERTIFICAT D'ANALYSE

Client **Meadowbank**
Agnico Eagle (Monsieur Stéphane Robert)
Division Laronde

Date de réception 14 mars 2008
Projet 87960

Téléphone : (819) 759-3700
Télécopieur : (819) 759-3663

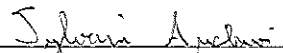
Échantillon #	% Stotal % S	% Sulfate % S	% Sulfure % S	Pthéo kg CaCO3/t	Cneut kg CaCO3/t	pH	Critère 1 S <> 0.3%	Critère 2 Cneut - Pthéo <> 20	Critère 3 Cneut / Pthéo <> 3	Génération acide Oui / Non
NQ-01	<0.05	<0.05	<0.05	<1.6	79.3	9.62	<0.3	> 20	> 3	Non
NQ-03	0.06	<0.05	0.06	1.9	71.0	9.73	<0.3	> 20	> 3	Non
NQ-04	<0.05	<0.05	<0.05	<1.6	71.9	9.70	<0.3	> 20	> 3	Non
NQ-05	<0.05	<0.05	<0.05	<1.6	76.3	9.69	<0.3	> 20	> 3	Non
NQ-06	<0.05	<0.05	<0.05	<1.6	108.0	9.58	<0.3	> 20	> 3	Non
NQ-07	<0.05	<0.05	<0.05	<1.6	88.2	9.64	<0.3	> 20	> 3	Non
NQ-08	<0.05	<0.05	<0.05	<1.6	108.0	9.46	<0.3	> 20	> 3	Non
NQ-09	<0.05	<0.05	<0.05	<1.6	116.0	9.53	<0.3	> 20	> 3	Non
NQ-10	<0.05	<0.05	<0.05	<1.6	107.0	9.47	<0.3	> 20	> 3	Non
NQ-11	0.06	<0.05	0.06	1.9	112.0	9.59	<0.3	> 20	> 3	Non
NQ-12	<0.05	<0.05	<0.05	<1.6	78.4	9.34	<0.3	> 20	> 3	Non
NQ-07 (DUP)	<0.05	<0.05	<0.05	<1.6	87.9	9.63	<0.3	> 20	> 3	Non
PD-1	8.76	4.32								
KZK-1					60.9					

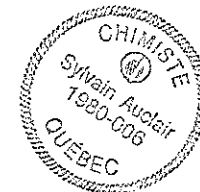
Méthode: T-STOT-18 (Méthode Sobek modifiée, ou *Modified Acid/Base Accounting*)

Les résultats des échantillons ci-dessus sont certifiés

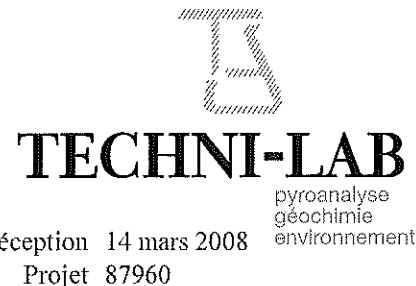
Date : 2008-03-27

par :


Sylvain Auclair, B. Sc.
Chimiste, 1980-006



CERTIFICAT D'ANALYSE



À l'attention de Monsieur Stéphane Robert

Date de réception 14 mars 2008
Projet 87960

Client Agnico-Eagle
Division Laronde
C.P. 400
Cadillac (Québec)
JOY 1C0

Échantillon #	Au ppb	Ag g/t	Cu ppm	Zn ppm
NQ-01	<5	<0.5	84	68
NQ-03	<5	<0.5	28	48
NQ-04	<5	<0.5	76	68
NQ-05	<5	<0.5	24	48
NQ-06	<5	<0.5	82	60
NQ-07	<5	<0.5	56	66
NQ-08	<5	<0.5	62	132
NQ-09	<5	<0.5	24	50
NQ-10	<5	<0.5	44	50
NQ-11	<5	<0.5	56	60
NQ-12	<5	<0.5	38	48
NQ-05-Double		<0.5	26	46
NQ-08-Double	<5			
STD SH 35	1278			
STD CCU-1C		129.4	274600	39921
STD CZN-3		43.8	6526	509198

Les résultats des échantillons ci-dessus sont certifiés

Date : 2008-03-27

par : Sylvain Auclair
Sylvain Auclair, B. Sc.
Chimiste, 1980-006

