

COMMENTS

Test meets all conditions for test validity. Final Report – Updated to include latest Reference Toxicant data.

TEST AUTHORIZATION AND VERIFICATION

Analyst(s): K. Marks & J. Fraser

Verified by: S. Elliot

Date: Oct. 09 2020

Signed:



REFERENCES

Tidepool Scientific Software, 2001 - 2014. Comprehensive Environmental Toxicity Information System – CETIS v1.8.7.20
Environment Canada, 2017. Biological Test Method: Reference Method for Determining Acute Lethality Using Threespine Stickleback.
Environment and Climate Change Canada, Ottawa, Ontario, Report EPS 1/RM/10, 2nd Edition December 2017.

Accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA Inc.).

The test included in this report is within the scope of this accreditation.

Results apply to the sample as received. The results reported apply only to the sample tested. Results are based on nominal concentrations.



Your P.O. #: OL-891917
 Site#: 62 48' 01.99" 92 06' 00.05"
 Site Location: MELIADINE
 Your C.O.C. #: na

Attention: Reporting

Agnico-Eagle
 Meliadine
 Meliadine Mine
 Rankin Inlet, NU
 CANADA X0C 0G0

Report Date: 2020/09/30
 Report #: R6351786
 Version: 3 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C006825

Received: 2020/09/22, 10:40

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity (1)	1	N/A	2020/09/25	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide (1)	1	N/A	2020/09/29	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry (1)	1	N/A	2020/09/24	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity (1)	1	N/A	2020/09/25	CAM SOP-00414	SM 23 2510 m
Free (WAD) Cyanide (1)	1	N/A	2020/09/24	CAM SOP-00457	OMOE E3015 m
Total Cyanide (1)	1	2020/09/23	2020/09/24	CAM SOP-00457	OMOE E3015 5 m
Dissolved Organic Carbon (DOC) (1, 5)	1	N/A	2020/09/24	CAM SOP-00446	SM 23 5310 B m
Dissolved Oxygen (1)	1	2020/09/23	2020/09/23	CAM SOP-00427	SM 23 4500 O G m
Fluoride (1)	1	2020/09/23	2020/09/25	CAM SOP-00449	SM 23 4500-F C m
Dissolved Mercury (low level) (1)	1	2020/09/29	2020/09/29	CAM SOP-00453	EPA 7470 m
Mercury (low level) (1)	1	2020/09/29	2020/09/29	CAM SOP-00453	EPA 7470 m
Chloride & Sulphate by Auto Colorimetry (2)	1	N/A	2020/09/28	AB SOP-00020 / AB SOP-00018	SM23 4500-CL/SO4-E m
Cyanide (Free) (2)	1	2020/09/25	2020/09/25	CAL SOP-00266	EPA 9016d R0 m
Conductivity @25C (2)	1	N/A	2020/09/26	AB SOP-00005	SM 23 2510 B m
Hardness Total (calculated as CaCO3) (3, 6)	1	N/A	2020/09/25	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3) (3)	1	N/A	2020/09/25	BBY WI-00033	Auto Calc
Elements by ICP-Dissolved-Lab Filtered (2)	1	N/A	2020/09/28	AB SOP-00042	EPA 6010d R5 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.) (3)	1	N/A	2020/09/25	BBY7SOP-00002	EPA 6020B R2 m
Elements by CRC ICPMS (dissolved) (3)	1	N/A	2020/09/25	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (total) (3)	1	2020/09/23	2020/09/25	BBY7SOP-00002	EPA 6020B R2 m
Elements by CRC ICPMS (total) (3)	1	2020/09/25	2020/09/25	BBY7SOP-00003/02	EPA 6020B R2 m
pH @25°C (2, 7)	1	N/A	2020/09/26	AB SOP-00005	SM 23 4500-H+B m
Sodium Adsorption Ratio (2)	1	N/A	2020/09/28		Auto Calc
Silica (Reactive) (2)	1	N/A	2020/09/28	AB SOP-00011	EPA370.1 R1978 m
Total Dissolved Solids (Calc. from EC) (2)	1	N/A	2020/09/26		Auto Calc
Total Ammonia-N (1)	1	N/A	2020/09/24	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (1, 8)	1	N/A	2020/09/24	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH (1)	1	2020/09/23	2020/09/25	CAM SOP-00413	SM 4500H+ B m
Orthophosphate (1)	1	N/A	2020/09/24	CAM SOP-00461	EPA 365.1 m



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BV LABS JOB #: C006825

Received: 2020/09/22, 10:40

Sample Matrix: Water
 # Samples Received: 1

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Radium-226 Low Level (4, 9)	1	N/A	2020/09/29	BQL SOP-00006 BQL SOP-00017 BQL SOP-00032	Alpha Spectrometry
Sulphate by Automated Colourimetry (1)	1	N/A	2020/09/24	CAM SOP-00464	EPA 375.4 m
Calculated Total Dissolved Solids (1)	1	N/A	2020/09/29		Auto Calc
Total Dissolved Solids (1)	1	2020/09/23	2020/09/24	CAM SOP-00428	SM 23 2540C m
Total Kjeldahl Nitrogen in Water (1)	1	2020/09/23	2020/09/25	CAM SOP-00938	OMOE E3516 m
Total Organic Carbon (TOC) (1, 10)	1	N/A	2020/09/24	CAM SOP-00446	SM 23 5310B m
Total Phosphorus (Colourimetric) (1)	1	2020/09/24	2020/09/24	CAM SOP-00407	SM 23 4500 P B H m
Low Level Total Suspended Solids (1)	1	2020/09/23	2020/09/24	CAM SOP-00428	SM 23 2540D m
Turbidity (1)	1	N/A	2020/09/24	CAM SOP-00417	SM 23 2130 B m
Low Level Volatile Suspended Solids (1)	1	2020/09/23	2020/09/24	CAM SOP-00428	SM 23 2540

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



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- (1) This test was performed by Bureau Veritas Laboratories Mississauga
- (2) This test was performed by BVLabs Calgary via Mississauga
- (3) This test was performed by BVLabs Burnaby via Mississauga
- (4) This test was performed by Bureau Veritas Laboratories Kitimat
- (5) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
- (6) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
- (7) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.
- (8) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
- (9) Radium-226 results have not been corrected for blanks.
- (10) Total Organic Carbon (TOC) present in the sample should be considered as non-purgeable TOC.

Encryption Key

Katherine Szozda

Katherine Szozda
Project Manager
30 Sep 2020 16:39:29

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

Katherine Szozda, Project Manager

Email: Katherine.Szozda@bvlabs.com

Phone# (613)274-0573 Ext:7063633

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C006825

Report Date: 2020/09/30

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

SALINITY IN WATER (WATER)

BV Labs ID		NRU877		
Sampling Date		2020/09/16 06:25		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Calculated Parameters				
Sodium Adsorption Ratio	N/A	31	0.10	6970145
Total dissolved solids (calc., EC)	mg/L	28000	10	6970146
ELEMENTS				
Dissolved Calcium (Ca)	mg/L	780 (1)	6.0	6970143
Dissolved Magnesium (Mg)	mg/L	540 (1)	4.0	6970143
Dissolved Potassium (K)	mg/L	190	0.30	6970143
Dissolved Sodium (Na)	mg/L	4600 (1)	10	6970143
Inorganics				
Dissolved Chloride (Cl-)	mg/L	9400 (1)	50	6970141
Conductivity	uS/cm	28000	2.0	6970142
pH	pH	7.55	N/A	6970144
Dissolved Sulphate (SO4)	mg/L	1100 (1)	10	6970141
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Detection limits raised due to dilution to bring analyte within the calibrated range.				



BV Labs Job #: C006825
Report Date: 2020/09/30

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

DISS. ICPMS METALS FOR FEDERAL INT. GWQG (WATER)

BV Labs ID		NRU877		
Sampling Date		2020/09/16 06:25		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Calculated Parameters				
Dissolved Hardness (CaCO ₃)	mg/L	4090	0.50	6966612
Metals				
Dissolved Aluminum (Al)	ug/L	74	30	6966614
Dissolved Antimony (Sb)	ug/L	<5.0	5.0	6966614
Dissolved Arsenic (As)	ug/L	3.7	1.0	6966614
Dissolved Barium (Ba)	ug/L	154	10	6966614
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	6966614
Dissolved Bismuth (Bi)	ug/L	<10	10	6966614
Dissolved Boron (B)	ug/L	972	500	6966614
Dissolved Cadmium (Cd)	ug/L	<0.10	0.10	6966614
Dissolved Chromium (Cr)	ug/L	<10	10	6966614
Dissolved Cobalt (Co)	ug/L	3.8	2.0	6966614
Dissolved Copper (Cu)	ug/L	3.1	2.0	6966614
Dissolved Iron (Fe)	ug/L	<50	50	6966614
Dissolved Lead (Pb)	ug/L	<2.0	2.0	6966614
Dissolved Lithium (Li)	ug/L	163	20	6966614
Dissolved Manganese (Mn)	ug/L	231	10	6966614
Dissolved Molybdenum (Mo)	ug/L	17	10	6966614
Dissolved Nickel (Ni)	ug/L	27	10	6966614
Dissolved Selenium (Se)	ug/L	1.4	1.0	6966614
Dissolved Silicon (Si)	ug/L	1360	1000	6966614
Dissolved Silver (Ag)	ug/L	<0.20	0.20	6966614
Dissolved Strontium (Sr)	ug/L	16800	10	6966614
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	6966614
Dissolved Tin (Sn)	ug/L	<50	50	6966614
Dissolved Titanium (Ti)	ug/L	<50	50	6966614
Dissolved Uranium (U)	ug/L	2.2	1.0	6966614
Dissolved Vanadium (V)	ug/L	<50	50	6966614
Dissolved Zinc (Zn)	ug/L	<50	50	6966614
Dissolved Zirconium (Zr)	ug/L	<1.0	1.0	6966614
Dissolved Calcium (Ca)	mg/L	755	0.50	6966613
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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Agnico-Eagle
Site Location: MELIADINE
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Sampler Initials: RS

DISS. ICPMS METALS FOR FEDERAL INT. GWQG (WATER)

BV Labs ID		NRU877		
Sampling Date		2020/09/16 06:25		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	535	0.50	6966613
Dissolved Potassium (K)	mg/L	180	0.50	6966613
Dissolved Sodium (Na)	mg/L	4560	0.50	6966613
Dissolved Sulphur (S)	mg/L	406	30	6966613
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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BV Labs Job #: C006825
Report Date: 2020/09/30

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TOTAL ICPMS METALS FOR CCME CEQG FOR SW (WATER)

BV Labs ID		NRU877		
Sampling Date		2020/09/16 06:25		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Metals				
Total Aluminum (Al)	ug/L	948	30	6966611
Total Antimony (Sb)	ug/L	<5.0	5.0	6966611
Total Arsenic (As)	ug/L	6.2	1.0	6966611
Total Barium (Ba)	ug/L	155	10	6966611
Total Beryllium (Be)	ug/L	<1.0	1.0	6966611
Total Bismuth (Bi)	ug/L	<10	10	6966611
Total Boron (B)	ug/L	967	500	6966611
Total Cadmium (Cd)	ug/L	<0.10	0.10	6966611
Total Chromium (Cr)	ug/L	<10	10	6966611
Total Cobalt (Co)	ug/L	4.5	2.0	6966611
Total Copper (Cu)	ug/L	<5.0	5.0	6966611
Total Iron (Fe)	ug/L	1200	100	6966611
Total Lead (Pb)	ug/L	<2.0	2.0	6966611
Total Lithium (Li)	ug/L	167	20	6966611
Total Manganese (Mn)	ug/L	252	10	6966611
Total Molybdenum (Mo)	ug/L	16	10	6966611
Total Nickel (Ni)	ug/L	28	10	6966611
Total Selenium (Se)	ug/L	1.3	1.0	6966611
Total Silicon (Si)	ug/L	2110	1000	6966611
Total Silver (Ag)	ug/L	<0.20	0.20	6966611
Total Strontium (Sr)	ug/L	16900	10	6966611
Total Thallium (Tl)	ug/L	<0.10	0.10	6966611
Total Tin (Sn)	ug/L	<50	50	6966611
Total Titanium (Ti)	ug/L	<50	50	6966611
Total Uranium (U)	ug/L	2.2	1.0	6966611
Total Vanadium (V)	ug/L	<50	50	6966611
Total Zinc (Zn)	ug/L	<50	50	6966611
Total Zirconium (Zr)	ug/L	<1.0	1.0	6966611
Total Calcium (Ca)	ug/L	747000	500	6966610
Total Magnesium (Mg)	ug/L	530000	500	6966610
Total Potassium (K)	ug/L	181000	500	6966610
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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Agnico-Eagle
Site Location: MELIADINE
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Sampler Initials: RS

TOTAL ICPMS METALS FOR CCME CEQG FOR SW (WATER)

BV Labs ID		NRU877		
Sampling Date		2020/09/16 06:25		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Total Sodium (Na)	ug/L	4620000	500	6966610
Total Sulphur (S)	ug/L	416000	30000	6966610
Calculated Parameters				
Total Hardness (CaCO3)	ug/L	4050000	500	6966609
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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BV Labs Job #: C006825

Report Date: 2020/09/30

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

RESULTS OF ANALYSES OF WATER

BV Labs ID		NRU877			NRU877		
Sampling Date		2020/09/16 06:25			2020/09/16 06:25		
COC Number		na			na		
	UNITS	MEL-26	RDL	QC Batch	MEL-26 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	52	1.0	6959797			
Calculated TDS	mg/L	16000	1.0	6959798			
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	<1.0	1.0	6959797			
Inorganics							
Total Ammonia-N	mg/L	37	0.25	6960783			
Conductivity	umho/cm	29000	1.0	6960365	29000	1.0	6960365
Free Cyanide (CN)	ug/L	26	1.0	6970147			
Total Dissolved Solids	mg/L	18400	20	6961068			
Fluoride (F-)	mg/L	<0.10	0.10	6960357	<0.10	0.10	6960357
Total Kjeldahl Nitrogen (TKN)	mg/L	36	2.0	6960963			
Dissolved Organic Carbon	mg/L	9.6	0.40	6960796			
Total Organic Carbon (TOC)	mg/L	10	0.40	6960967	10	0.40	6960967
Orthophosphate (P)	mg/L	<0.010	0.010	6961292	<0.010	0.010	6961292
Dissolved Oxygen	mg/L	9.37		6960964	9.36		6960964
pH	pH	7.30		6960368	7.35		6960368
Total Phosphorus	mg/L	0.052	0.020	6962155			
Reactive Silica (SiO ₂)	mg/L	2.9 (1)	0.25	6970140			
Total Suspended Solids	mg/L	30	1	6960448	36	1	6960448
Dissolved Sulphate (SO ₄)	mg/L	1100	5.0	6961301	1100	5.0	6961301
Total Cyanide (CN)	mg/L	0.085	0.0050	6961031	0.084	0.0050	6961031
Turbidity	NTU	1.1	0.1	6960450			
Volatile Suspended Solids	mg/L	6	2	6960515	6	2	6960515
WAD Cyanide (Free)	mg/L	0.020	0.0010	6961034	0.019	0.0010	6961034
Alkalinity (Total as CaCO ₃)	mg/L	53	1.0	6960363	51	1.0	6960363
Dissolved Chloride (Cl-)	mg/L	8900	100	6961284	8400	100	6961284
Nitrite (N)	mg/L	1.14	0.010	6960340			
Nitrate (N)	mg/L	50.1	0.50	6960340			
Nitrate + Nitrite (N)	mg/L	51.2	0.50	6960340			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.							



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BV Labs Job #: C006825
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Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

RESULTS OF ANALYSES OF WATER

BV Labs ID		NRU877			NRU877		
Sampling Date		2020/09/16 06:25			2020/09/16 06:25		
COC Number		na			na		
	UNITS	MEL-26	RDL	QC Batch	MEL-26 Lab-Dup	RDL	QC Batch
RADIONUCLIDE							
Radium-226	Bq/L	0.29	0.0050	6959502			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID		NRU877		
Sampling Date		2020/09/16 06:25		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Metals				
Mercury (Hg)	mg/L	<0.00001	0.00001	6970585
Dissolved Mercury (Hg)	mg/L	<0.00001	0.00001	6970610
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BV Labs Job #: C006825
Report Date: 2020/09/30

Agnico-Eagle
Site Location: MELIADINE
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Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NRU877
Sample ID: MEL-26
Matrix: Water

Collected: 2020/09/16
Shipped:
Received: 2020/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	6960363	N/A	2020/09/25	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	6959797	N/A	2020/09/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	6961284	N/A	2020/09/24	Deonarine Ramnarine
Conductivity	AT	6960365	N/A	2020/09/25	Yogesh Patel
Free (WAD) Cyanide	SKAL/CN	6961034	N/A	2020/09/24	Gnana Thomas
Total Cyanide	SKAL/CN	6961031	2020/09/23	2020/09/24	Gnana Thomas
Dissolved Organic Carbon (DOC)	TOCV/NDIR	6960796	N/A	2020/09/24	Nimarta Singh
Dissolved Oxygen	DO	6960964	2020/09/23	2020/09/23	Navjot Kaur Gill
Fluoride	ISE	6960357	2020/09/23	2020/09/25	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	6970610	2020/09/29	2020/09/29	Medhat Nasr
Mercury (low level)	CV/AA	6970585	2020/09/29	2020/09/29	Medhat Nasr
Chloride & Sulphate by Auto Colorimetry	KONE	6970141	N/A	2020/09/28	Serena Tian
Cyanide (Free)	SPEC	6970147	2020/09/25	2020/09/25	Taylor Mullings
Conductivity @25C	COND	6970142	N/A	2020/09/26	Tracy (Jing) Ling
Hardness Total (calculated as CaCO ₃)	CALC	6966609	N/A	2020/09/25	Automated Statchk
Hardness (calculated as CaCO ₃)	CALC	6966612	N/A	2020/09/25	Automated Statchk
Elements by ICP-Dissolved-Lab Filtered	ICP	6970143	N/A	2020/09/28	Mary Anne Dela Cruz
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	ICP	6966613	N/A	2020/09/25	Automated Statchk
Elements by CRC ICPMS (dissolved)	ICP/MS	6966614	N/A	2020/09/25	Andrew An
Na, K, Ca, Mg, S by CRC ICPMS (total)	ICP	6966610	2020/09/25	2020/09/25	Automated Statchk
Elements by CRC ICPMS (total)	ICP/MS	6966611	2020/09/25	2020/09/25	Andrew An
pH @25°C	AT/PH	6970144	N/A	2020/09/26	Tracy (Jing) Ling
Sodium Adsorption Ratio	CALC	6970145	N/A	2020/09/28	Automated Statchk
Silica (Reactive)	KONE	6970140	N/A	2020/09/28	Marjolen Busslinger
Total Dissolved Solids (Calc. from EC)	CALC	6970146	N/A	2020/09/26	Automated Statchk
Total Ammonia-N	LACH/NH ₄	6960783	N/A	2020/09/24	Alina Dobreanu
Nitrate (NO ₃) and Nitrite (NO ₂) in Water	LACH	6960340	N/A	2020/09/24	Amanpreet Sappal
pH	AT	6960368	2020/09/23	2020/09/25	Yogesh Patel
Orthophosphate	KONE	6961292	N/A	2020/09/24	Alina Dobreanu
Radium-226 Low Level	AS	6959502	N/A	2020/09/29	Blake Barber
Sulphate by Automated Colourimetry	KONE	6961301	N/A	2020/09/24	Deonarine Ramnarine
Calculated Total Dissolved Solids	CALC	6959798	N/A	2020/09/29	Automated Statchk
Total Dissolved Solids	BAL	6961068	2020/09/23	2020/09/24	Shivani Desai
Total Kjeldahl Nitrogen in Water	SKAL	6960963	2020/09/23	2020/09/25	Rajni Tyagi
Total Organic Carbon (TOC)	TOCV/NDIR	6960967	N/A	2020/09/24	Nimarta Singh
Total Phosphorus (Colourimetric)	LACH/P	6962155	2020/09/24	2020/09/24	Shivani Shivani
Low Level Total Suspended Solids	BAL	6960448	2020/09/23	2020/09/24	Margesh Majmunda
Turbidity	AT	6960450	N/A	2020/09/24	Viorica Rotaru
Low Level Volatile Suspended Solids	BAL	6960515	2020/09/23	2020/09/24	Margesh Majmunda



BUREAU
VERITAS

BV Labs Job #: C006825

Report Date: 2020/09/30

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NRU877 Dup

Sample ID: MEL-26

Matrix: Water

Collected: 2020/09/16

Shipped:

Received: 2020/09/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	6960363	N/A	2020/09/25	Yogesh Patel
Chloride by Automated Colourimetry	KONE	6961284	N/A	2020/09/24	Deonarine Ramnarine
Conductivity	AT	6960365	N/A	2020/09/25	Yogesh Patel
Free (WAD) Cyanide	SKAL/CN	6961034	N/A	2020/09/24	Gnana Thomas
Total Cyanide	SKAL/CN	6961031	2020/09/23	2020/09/24	Gnana Thomas
Dissolved Oxygen	DO	6960964	2020/09/23	2020/09/23	Navjot Kaur Gill
Fluoride	ISE	6960357	2020/09/23	2020/09/25	Yogesh Patel
pH	AT	6960368	2020/09/23	2020/09/25	Yogesh Patel
Orthophosphate	KONE	6961292	N/A	2020/09/24	Alina Dobreanu
Sulphate by Automated Colourimetry	KONE	6961301	N/A	2020/09/24	Deonarine Ramnarine
Total Organic Carbon (TOC)	TOCV/NDIR	6960967	N/A	2020/09/24	Nimarta Singh
Low Level Total Suspended Solids	BAL	6960448	2020/09/23	2020/09/24	Margesh Majmunda
Low Level Volatile Suspended Solids	BAL	6960515	2020/09/23	2020/09/24	Margesh Majmunda



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Sample NRU877 [MEL-26] : As per clients request double washes done than regular washes .

TKN < Ammonia: Both values fall within the method uncertainty for duplicates and are likely equivalent. Interference checks not performed at the time of sampling. The lab cannot guarantee that interferences were not present at the time of sampling and that there is no low bias in results

Sample was not submitted in an appropriate container for free cyanide analysis. Results may have a high bias due to decomposition of hexacyanoferrate and some other metal-cyanide complexes to free cyanide

Sample pH <12, preservation incomplete. Due to volatility of analyte, a low bias in the results is likely.

DISS. ICPMS METALS FOR FEDERAL INT. GWQG (WATER)

Sample NRU877 [MEL-26] Elements by CRC ICPMS (dissolved): RDL raised due to concentration over linear range, sample dilution required.

TOTAL ICPMS METALS FOR CCME CEQG FOR SW (WATER)

Sample NRU877 [MEL-26] Elements by CRC ICPMS (total): RDL raised due to concentration over linear range, sample dilution required.

Results relate only to the items tested.

BUREAU
VERITASBV Labs Job #: C006825
Report Date: 2020/09/30

QUALITY ASSURANCE REPORT

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6959502	Radium-226	2020/09/29			102	85 - 115	<0.0050	Bq/L	NC	N/A		
6960340	Nitrate (N)	2020/09/24	NC	80 - 120	99	80 - 120	<0.10	mg/L	1.1	20		
6960340	Nitrite (N)	2020/09/24	93	80 - 120	102	80 - 120	<0.010	mg/L	0	20		
6960357	Fluoride (F-)	2020/09/25	71 (1)	80 - 120	105	80 - 120	<0.10	mg/L	NC	20		
6960363	Alkalinity (Total as CaCO3)	2020/09/25			95	85 - 115	<1.0	mg/L	2.6	20		
6960365	Conductivity	2020/09/25			101	85 - 115	<1.0	umho/cm	0	25		
6960368	pH	2020/09/25			102	98 - 103			0.76	N/A		
6960448	Total Suspended Solids	2020/09/24					<1	mg/L	17	25	101	85 - 115
6960450	Turbidity	2020/09/24			110	85 - 115	<0.1	NTU	NC	20		
6960515	Volatile Suspended Solids	2020/09/24					<1	mg/L	0	25		
6960783	Total Ammonia-N	2020/09/24	97	75 - 125	100	80 - 120	<0.050	mg/L	4.8	20		
6960796	Dissolved Organic Carbon	2020/09/24	95	80 - 120	98	80 - 120	<0.40	mg/L	1.3	20		
6960963	Total Kjeldahl Nitrogen (TKN)	2020/09/25	94	80 - 120	101	80 - 120	<0.10	mg/L	8.6	20	102	80 - 120
6960967	Total Organic Carbon (TOC)	2020/09/24	95	80 - 120	97	80 - 120	<0.40	mg/L	0.59	20		
6961031	Total Cyanide (CN)	2020/09/24	94	80 - 120	100	80 - 120	<0.0050	mg/L	1.8	20		
6961034	WAD Cyanide (Free)	2020/09/24	96	80 - 120	98	80 - 120	<0.0010	mg/L	2.5	20		
6961068	Total Dissolved Solids	2020/09/24					<10	mg/L	2.7	25	97	90 - 110
6961284	Dissolved Chloride (Cl-)	2020/09/24	NC	80 - 120	105	80 - 120	<1.0	mg/L	5.4	20		
6961292	Orthophosphate (P)	2020/09/24	105	75 - 125	100	80 - 120	<0.010	mg/L	NC	25		
6961301	Dissolved Sulphate (SO4)	2020/09/24	NC	75 - 125	102	80 - 120	<1.0	mg/L	2.9	20		
6962155	Total Phosphorus	2020/09/24	96	80 - 120	97	80 - 120	<0.020	mg/L	4.4	20	94	80 - 120
6966611	Total Aluminum (Al)	2020/09/25	103	80 - 120	104	80 - 120	<3.0	ug/L				
6966611	Total Antimony (Sb)	2020/09/25	104	80 - 120	103	80 - 120	<0.50	ug/L				
6966611	Total Arsenic (As)	2020/09/25	103	80 - 120	99	80 - 120	<0.10	ug/L				
6966611	Total Barium (Ba)	2020/09/25	NC	80 - 120	101	80 - 120	<1.0	ug/L				
6966611	Total Beryllium (Be)	2020/09/25	101	80 - 120	102	80 - 120	<0.10	ug/L				
6966611	Total Bismuth (Bi)	2020/09/25	95	80 - 120	98	80 - 120	<1.0	ug/L				
6966611	Total Boron (B)	2020/09/25	102	80 - 120	103	80 - 120	<50	ug/L				
6966611	Total Cadmium (Cd)	2020/09/25	102	80 - 120	103	80 - 120	<0.010	ug/L				
6966611	Total Chromium (Cr)	2020/09/25	97	80 - 120	99	80 - 120	<1.0	ug/L				
6966611	Total Cobalt (Co)	2020/09/25	97	80 - 120	100	80 - 120	<0.20	ug/L				

BUREAU
VERITASBV Labs Job #: C006825
Report Date: 2020/09/30

QUALITY ASSURANCE REPORT(CONT'D)

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6966611	Total Copper (Cu)	2020/09/25	93	80 - 120	98	80 - 120	<0.50	ug/L				
6966611	Total Iron (Fe)	2020/09/25	102	80 - 120	99	80 - 120	<10	ug/L				
6966611	Total Lead (Pb)	2020/09/25	102	80 - 120	101	80 - 120	<0.20	ug/L				
6966611	Total Lithium (Li)	2020/09/25	101	80 - 120	104	80 - 120	<2.0	ug/L				
6966611	Total Manganese (Mn)	2020/09/25	100	80 - 120	103	80 - 120	<1.0	ug/L				
6966611	Total Molybdenum (Mo)	2020/09/25	110	80 - 120	104	80 - 120	<1.0	ug/L				
6966611	Total Nickel (Ni)	2020/09/25	96	80 - 120	100	80 - 120	<1.0	ug/L				
6966611	Total Selenium (Se)	2020/09/25	103	80 - 120	98	80 - 120	<0.10	ug/L				
6966611	Total Silicon (Si)	2020/09/25	NC	80 - 120	105	80 - 120	<100	ug/L				
6966611	Total Silver (Ag)	2020/09/25	99	80 - 120	98	80 - 120	<0.020	ug/L				
6966611	Total Strontium (Sr)	2020/09/25	NC	80 - 120	99	80 - 120	<1.0	ug/L				
6966611	Total Thallium (Tl)	2020/09/25	101	80 - 120	100	80 - 120	<0.010	ug/L				
6966611	Total Tin (Sn)	2020/09/25	102	80 - 120	101	80 - 120	<5.0	ug/L				
6966611	Total Titanium (Ti)	2020/09/25	104	80 - 120	103	80 - 120	<5.0	ug/L				
6966611	Total Uranium (U)	2020/09/25	108	80 - 120	105	80 - 120	<0.10	ug/L				
6966611	Total Vanadium (V)	2020/09/25	102	80 - 120	100	80 - 120	<5.0	ug/L				
6966611	Total Zinc (Zn)	2020/09/25	99	80 - 120	103	80 - 120	<5.0	ug/L				
6966611	Total Zirconium (Zr)	2020/09/25	110	80 - 120	103	80 - 120	<0.10	ug/L				
6966614	Dissolved Aluminum (Al)	2020/09/25	103	80 - 120	105	80 - 120	<3.0	ug/L				
6966614	Dissolved Antimony (Sb)	2020/09/25	107	80 - 120	105	80 - 120	<0.50	ug/L				
6966614	Dissolved Arsenic (As)	2020/09/25	102	80 - 120	101	80 - 120	<0.10	ug/L				
6966614	Dissolved Barium (Ba)	2020/09/25	103	80 - 120	101	80 - 120	<1.0	ug/L				
6966614	Dissolved Beryllium (Be)	2020/09/25	104	80 - 120	102	80 - 120	<0.10	ug/L				
6966614	Dissolved Bismuth (Bi)	2020/09/25	99	80 - 120	101	80 - 120	<1.0	ug/L				
6966614	Dissolved Boron (B)	2020/09/25	104	80 - 120	106	80 - 120	<50	ug/L				
6966614	Dissolved Cadmium (Cd)	2020/09/25	105	80 - 120	105	80 - 120	<0.010	ug/L				
6966614	Dissolved Chromium (Cr)	2020/09/25	101	80 - 120	102	80 - 120	<1.0	ug/L				
6966614	Dissolved Cobalt (Co)	2020/09/25	101	80 - 120	102	80 - 120	<0.20	ug/L				
6966614	Dissolved Copper (Cu)	2020/09/25	98	80 - 120	102	80 - 120	<0.20	ug/L				
6966614	Dissolved Iron (Fe)	2020/09/25	103	80 - 120	103	80 - 120	<5.0	ug/L				
6966614	Dissolved Lead (Pb)	2020/09/25	104	80 - 120	104	80 - 120	<0.20	ug/L				
6966614	Dissolved Lithium (Li)	2020/09/25	103	80 - 120	102	80 - 120	<2.0	ug/L				



BUREAU
VERITAS

BV Labs Job #: C006825
Report Date: 2020/09/30

QUALITY ASSURANCE REPORT(CONT'D)

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6966614	Dissolved Manganese (Mn)	2020/09/25	103	80 - 120	105	80 - 120	<1.0	ug/L				
6966614	Dissolved Molybdenum (Mo)	2020/09/25	107	80 - 120	106	80 - 120	<1.0	ug/L				
6966614	Dissolved Nickel (Ni)	2020/09/25	101	80 - 120	104	80 - 120	<1.0	ug/L				
6966614	Dissolved Selenium (Se)	2020/09/25	101	80 - 120	98	80 - 120	<0.10	ug/L				
6966614	Dissolved Silicon (Si)	2020/09/25	104	80 - 120	103	80 - 120	<100	ug/L				
6966614	Dissolved Silver (Ag)	2020/09/25	102	80 - 120	102	80 - 120	<0.020	ug/L				
6966614	Dissolved Strontium (Sr)	2020/09/25	NC	80 - 120	101	80 - 120	<1.0	ug/L				
6966614	Dissolved Thallium (Tl)	2020/09/25	101	80 - 120	102	80 - 120	<0.010	ug/L				
6966614	Dissolved Tin (Sn)	2020/09/25	103	80 - 120	102	80 - 120	<5.0	ug/L				
6966614	Dissolved Titanium (Ti)	2020/09/25	104	80 - 120	105	80 - 120	<5.0	ug/L				
6966614	Dissolved Uranium (U)	2020/09/25	109	80 - 120	106	80 - 120	<0.10	ug/L				
6966614	Dissolved Vanadium (V)	2020/09/25	102	80 - 120	103	80 - 120	<5.0	ug/L				
6966614	Dissolved Zinc (Zn)	2020/09/25	106	80 - 120	108	80 - 120	<5.0	ug/L				
6966614	Dissolved Zirconium (Zr)	2020/09/25	106	80 - 120	106	80 - 120	<0.10	ug/L				
6970140	Reactive Silica (SiO ₂)	2020/09/28	115	80 - 120	110	80 - 120	<0.050	mg/L				
6970141	Dissolved Chloride (Cl ⁻)	2020/09/28	106	80 - 120	104	80 - 120	<1.0	mg/L				
6970141	Dissolved Sulphate (SO ₄)	2020/09/28	111	80 - 120	104	80 - 120	<1.0	mg/L				
6970142	Conductivity	2020/09/26			103	90 - 110	<2.0	uS/cm				
6970143	Dissolved Calcium (Ca)	2020/09/28	92	80 - 120	101	80 - 120	<0.30	mg/L				
6970143	Dissolved Magnesium (Mg)	2020/09/28	95	80 - 120	99	80 - 120	<0.20	mg/L				
6970143	Dissolved Potassium (K)	2020/09/28	102	80 - 120	104	80 - 120	<0.30	mg/L				
6970143	Dissolved Sodium (Na)	2020/09/28	94	80 - 120	96	80 - 120	<0.50	mg/L				
6970144	pH	2020/09/26			100	97 - 103						
6970147	Free Cyanide (CN)	2020/09/25	91	80 - 120	99	80 - 120	<1.0	ug/L				
6970585	Mercury (Hg)	2020/09/29	97	75 - 125	102	80 - 120	<0.00001	mg/L	NC	20		



BUREAU
VERITAS

BV Labs Job #: C006825
Report Date: 2020/09/30

QUALITY ASSURANCE REPORT(CONT'D)

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6970610	Dissolved Mercury (Hg)	2020/09/29	101	75 - 125	102	80 - 120	<0.00001	mg/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BUREAU
VERITAS

BV Labs Job #: C006825

Report Date: 2020/09/30

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

David Huang, BBY Scientific Specialist

Harry (Peng) Liang, Senior Analyst



Steven Simpson, Lab Director

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: C006825

Report Date: 2020/09/30

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

Exceedance Summary Table – Metal Mining Effluent Reg
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Your P.O. #: OL-891917
 Site#: 62 48' 10.99" 92 06' 00.05"
 Site Location: MELIADINE
 Your C.O.C. #: na

Attention: Reporting

Agnico-Eagle
 Meliadine
 Meliadine Mine
 Rankin Inlet, NU
 CANADA X0C 0G0

Report Date: 2020/10/07
 Report #: R6360913
 Version: 5 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: COP2827

Received: 2020/09/28, 11:10

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity (1)	1	N/A	2020/09/30	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide (1)	1	N/A	2020/10/07	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry (1)	1	N/A	2020/10/01	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity (1)	1	N/A	2020/09/30	CAM SOP-00414	SM 23 2510 m
Free (WAD) Cyanide (1)	1	N/A	2020/09/29	CAM SOP-00457	OMOE E3015 m
Total Cyanide (1)	1	2020/09/29	2020/09/29	CAM SOP-00457	OMOE E3015 5 m
Dissolved Organic Carbon (DOC) (1, 5)	1	N/A	2020/10/01	CAM SOP-00446	SM 23 5310 B m
Dissolved Oxygen (1)	1	2020/09/29	2020/09/29	CAM SOP-00427	SM 23 4500 O G m
Fluoride (1)	1	2020/09/29	2020/09/30	CAM SOP-00449	SM 23 4500-F C m
Dissolved Mercury (low level) (1)	1	2020/10/02	2020/10/02	CAM SOP-00453	EPA 7470 m
Mercury (low level) (1)	1	2020/10/02	2020/10/02	CAM SOP-00453	EPA 7470 m
Chloride & Sulphate by Auto Colorimetry (2)	1	N/A	2020/10/01	AB SOP-00020 / AB SOP-00018	SM23 4500-CL/SO4-E m
Cyanide (Free) (2)	1	2020/10/01	2020/10/01	CAL SOP-00266	EPA 9016d R0 m
Conductivity @25C (2)	1	N/A	2020/10/01	AB SOP-00005	SM 23 2510 B m
Hardness Total (calculated as CaCO3) (3, 6)	1	N/A	2020/10/01	BBY WI-00033	Auto Calc
Hardness (calculated as CaCO3) (3)	1	N/A	2020/10/06	BBY WI-00033	Auto Calc
Elements by ICP-Dissolved-Lab Filtered (2)	1	N/A	2020/10/01	AB SOP-00042	EPA 6010d R5 m
Na, K, Ca, Mg, S by CRC ICPMS (diss.) (3)	1	N/A	2020/10/06	BBY7SOP-00002	EPA 6020B R2 m
Elements by CRC ICPMS (dissolved) (3)	1	N/A	2020/10/06	BBY7SOP-00002	EPA 6020B R2 m
Na, K, Ca, Mg, S by CRC ICPMS (total) (3)	1	2020/09/29	2020/10/01	BBY7SOP-00002	EPA 6020B R2 m
Elements by CRC ICPMS (total) (3)	1	2020/10/01	2020/10/01	BBY7SOP-00003/02	EPA 6020B R2 m
pH @25°C (2, 7)	1	N/A	2020/10/01	AB SOP-00005	SM 23 4500-H+B m
Sodium Adsorption Ratio (2)	1	N/A	2020/10/01		Auto Calc
Silica (Reactive) (2)	1	N/A	2020/10/01	AB SOP-00011	EPA370.1 R1978 m
Total Dissolved Solids (Calc. from EC) (2)	1	N/A	2020/10/01		Auto Calc
Total Ammonia-N (1)	1	N/A	2020/09/30	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (1, 8)	1	N/A	2020/10/01	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH (1)	1	2020/09/29	2020/09/30	CAM SOP-00413	SM 4500H+ B m
Orthophosphate (1)	1	N/A	2020/10/02	CAM SOP-00461	EPA 365.1 m



Your P.O. #: OL-891917
 Site#: 62 48' 10.99" 92 06' 00.05"
 Site Location: MELIADINE
 Your C.O.C. #: na

Attention: Reporting

Agnico-Eagle
 Meliadine
 Meliadine Mine
 Rankin Inlet, NU
 CANADA X0C 0G0

Report Date: 2020/10/07
 Report #: R6360913
 Version: 5 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: COP2827

Received: 2020/09/28, 11:10

Sample Matrix: Water
 # Samples Received: 1

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Radium-226 Low Level (4, 9)	1	N/A	2020/10/05	BQL SOP-00006 BQL SOP-00017 BQL SOP-00032	Alpha Spectrometry
Sulphate by Automated Colourimetry (1)	1	N/A	2020/10/01	CAM SOP-00464	EPA 375.4 m
Calculated Total Dissolved Solids (1)	1	N/A	2020/10/07		Auto Calc
Total Dissolved Solids (1)	1	2020/09/29	2020/09/30	CAM SOP-00428	SM 23 2540C m
Total Kjeldahl Nitrogen in Water (1)	1	2020/09/29	2020/09/30	CAM SOP-00938	OMOE E3516 m
Total Organic Carbon (TOC) (1, 10)	1	N/A	2020/09/30	CAM SOP-00446	SM 23 5310B m
Total Phosphorus (Colourimetric) (1)	1	2020/09/29	2020/09/30	CAM SOP-00407	SM 23 4500 P B H m
Low Level Total Suspended Solids (1)	1	2020/09/29	2020/09/30	CAM SOP-00428	SM 23 2540D m
Turbidity (1)	1	N/A	2020/09/30	CAM SOP-00417	SM 23 2130 B m
Low Level Volatile Suspended Solids (1)	1	2020/09/29	2020/09/30	CAM SOP-00428	SM 23 2540

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your P.O. #: OL-891917
Site#: 62 48' 10.99" 92 06' 00.05"
Site Location: MELIADINE
Your C.O.C. #: na

Attention: Reporting

Agnico-Eagle
Meliadine
Meliadine Mine
Rankin Inlet, NU
CANADA X0C 0G0

Report Date: 2020/10/07
Report #: R6360913
Version: 5 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: COP2827

Received: 2020/09/28, 11:10

- (1) This test was performed by Bureau Veritas Laboratories Mississauga
- (2) This test was performed by BVLabs Calgary via Mississauga
- (3) This test was performed by BVLabs Burnaby via Mississauga
- (4) This test was performed by Bureau Veritas Laboratories Kitimat
- (5) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
- (6) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).
- (7) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.
- (8) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
- (9) Radium-226 results have not been corrected for blanks.
- (10) Total Organic Carbon (TOC) present in the sample should be considered as non-purgeable TOC.

Encryption Key

Katherine Szozda
Project Manager
07 Oct 2020 12:23:09

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

Katherine Szozda, Project Manager

Email: Katherine.Szozda@bvlabs.com

Phone# (613)274-0573 Ext:7063633

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

SALINITY IN WATER (WATER)

BV Labs ID		NTD138		
Sampling Date		2020/09/23 15:46		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Calculated Parameters				
Sodium Adsorption Ratio	N/A	31	0.10	6985711
Total dissolved solids (calc., EC)	mg/L	27000	10	6985712
ELEMENTS				
Dissolved Calcium (Ca)	mg/L	750 (1)	3.0	6980514
Dissolved Magnesium (Mg)	mg/L	490	0.20	6980514
Dissolved Potassium (K)	mg/L	180	0.30	6980514
Dissolved Sodium (Na)	mg/L	4400 (1)	5.0	6980514
Inorganics				
Dissolved Chloride (Cl-)	mg/L	9200 (1)	50	6985708
Conductivity	uS/cm	27000	2.0	6985709
pH	pH	7.57	N/A	6985710
Dissolved Sulphate (SO4)	mg/L	1100 (1)	10	6985708
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) Detection limits raised due to dilution to bring analyte within the calibrated range.				



BUREAU
VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

DISS. ICPMS METALS FOR FEDERAL INT. GWQG (WATER)

BV Labs ID		NTD138		
Sampling Date		2020/09/23 15:46		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Calculated Parameters				
Dissolved Hardness (CaCO ₃)	mg/L	4000	0.50	6986715
Metals				
Dissolved Aluminum (Al)	ug/L	153	60	6986717
Dissolved Antimony (Sb)	ug/L	<10	10	6986717
Dissolved Arsenic (As)	ug/L	5.9	2.0	6986717
Dissolved Barium (Ba)	ug/L	146	20	6986717
Dissolved Beryllium (Be)	ug/L	<2.0	2.0	6986717
Dissolved Bismuth (Bi)	ug/L	<20	20	6986717
Dissolved Boron (B)	ug/L	1120	1000	6986717
Dissolved Cadmium (Cd)	ug/L	<0.20	0.20	6986717
Dissolved Chromium (Cr)	ug/L	<20	20	6986717
Dissolved Cobalt (Co)	ug/L	4.5	4.0	6986717
Dissolved Copper (Cu)	ug/L	4.2	4.0	6986717
Dissolved Iron (Fe)	ug/L	<100	100	6986717
Dissolved Lead (Pb)	ug/L	<4.0	4.0	6986717
Dissolved Lithium (Li)	ug/L	163	40	6986717
Dissolved Manganese (Mn)	ug/L	235	20	6986717
Dissolved Molybdenum (Mo)	ug/L	27	20	6986717
Dissolved Nickel (Ni)	ug/L	30	20	6986717
Dissolved Selenium (Se)	ug/L	2.0	2.0	6986717
Dissolved Silicon (Si)	ug/L	<2000	2000	6986717
Dissolved Silver (Ag)	ug/L	<0.40	0.40	6986717
Dissolved Strontium (Sr)	ug/L	15500	20	6986717
Dissolved Thallium (Tl)	ug/L	<0.20	0.20	6986717
Dissolved Tin (Sn)	ug/L	<100	100	6986717
Dissolved Titanium (Ti)	ug/L	<100	100	6986717
Dissolved Uranium (U)	ug/L	2.3	2.0	6986717
Dissolved Vanadium (V)	ug/L	<100	100	6986717
Dissolved Zinc (Zn)	ug/L	<100	100	6986717
Dissolved Zirconium (Zr)	ug/L	<2.0	2.0	6986717
Dissolved Calcium (Ca)	mg/L	729	1.0	6986716
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU
VERITAS

BV Labs Job #: COP2827
Report Date: 2020/10/07

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

DISS. ICPMS METALS FOR FEDERAL INT. GWQG (WATER)

BV Labs ID		NTD138		
Sampling Date		2020/09/23 15:46		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Dissolved Magnesium (Mg)	mg/L	529	1.0	6986716
Dissolved Potassium (K)	mg/L	181	1.0	6986716
Dissolved Sodium (Na)	mg/L	4530	1.0	6986716
Dissolved Sulphur (S)	mg/L	395	60	6986716
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU
VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

TOTAL ICPMS METALS FOR CCME CEQG FOR SW (WATER)

BV Labs ID		NTD138		
Sampling Date		2020/09/23 15:46		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Metals				
Total Aluminum (Al)	ug/L	329	60	6978055
Total Antimony (Sb)	ug/L	<10	10	6978055
Total Arsenic (As)	ug/L	5.6	2.0	6978055
Total Barium (Ba)	ug/L	145	20	6978055
Total Beryllium (Be)	ug/L	<2.0	2.0	6978055
Total Bismuth (Bi)	ug/L	<20	20	6978055
Total Boron (B)	ug/L	1020	1000	6978055
Total Cadmium (Cd)	ug/L	<0.20	0.20	6978055
Total Chromium (Cr)	ug/L	<20	20	6978055
Total Cobalt (Co)	ug/L	<4.0	4.0	6978055
Total Copper (Cu)	ug/L	<10	10	6978055
Total Iron (Fe)	ug/L	<200	200	6978055
Total Lead (Pb)	ug/L	<4.0	4.0	6978055
Total Lithium (Li)	ug/L	160	40	6978055
Total Manganese (Mn)	ug/L	212	20	6978055
Total Molybdenum (Mo)	ug/L	<20	20	6978055
Total Nickel (Ni)	ug/L	27	20	6978055
Total Selenium (Se)	ug/L	<2.0	2.0	6978055
Total Silicon (Si)	ug/L	<2000	2000	6978055
Total Silver (Ag)	ug/L	<0.40	0.40	6978055
Total Strontium (Sr)	ug/L	15600	20	6978055
Total Thallium (Tl)	ug/L	<0.20	0.20	6978055
Total Tin (Sn)	ug/L	<100	100	6978055
Total Titanium (Ti)	ug/L	<100	100	6978055
Total Uranium (U)	ug/L	2.1	2.0	6978055
Total Vanadium (V)	ug/L	<100	100	6978055
Total Zinc (Zn)	ug/L	<100	100	6978055
Total Zirconium (Zr)	ug/L	<2.0	2.0	6978055
Total Calcium (Ca)	ug/L	696000	1000	6978054
Total Magnesium (Mg)	ug/L	498000	1000	6978054
Total Potassium (K)	ug/L	178000	1000	6978054
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU
VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

TOTAL ICPMS METALS FOR CCME CEQG FOR SW (WATER)

BV Labs ID		NTD138		
Sampling Date		2020/09/23 15:46		
COC Number		na		
	UNITS	MEL-26	RDL	QC Batch
Total Sodium (Na)	ug/L	4360000	1000	6978054
Total Sulphur (S)	ug/L	396000	60000	6978054
Calculated Parameters				
Total Hardness (CaCO3)	ug/L	3790000	500	6986714
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU
VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

RESULTS OF ANALYSES OF WATER

BV Labs ID		NTD138			NTD138		
Sampling Date		2020/09/23 15:46			2020/09/23 15:46		
COC Number		na			na		
	UNITS	MEL-26	RDL	QC Batch	MEL-26 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO ₃)	mg/L	51	1.0	6970845			
Calculated TDS	mg/L	16000	1.0	6970846			
Carb. Alkalinity (calc. as CaCO ₃)	mg/L	<1.0	1.0	6970845			
Inorganics							
Total Ammonia-N	mg/L	35	0.25	6971152			
Conductivity	umho/cm	27000	1.0	6972045			
Free Cyanide (CN)	ug/L	20 (1)	1.0	6985713			
Total Dissolved Solids	mg/L	16900	20	6972296			
Fluoride (F-)	mg/L	<0.10	0.10	6972023			
Total Kjeldahl Nitrogen (TKN)	mg/L	38	2.0	6971161			
Dissolved Organic Carbon	mg/L	11	0.40	6972514			
Total Organic Carbon (TOC)	mg/L	10	0.40	6971182	11	0.40	6971182
Orthophosphate (P)	mg/L	<0.010	0.010	6971897			
Dissolved Oxygen	mg/L	9.15		6972758	9.18		6972758
pH	pH	7.49		6972085			
Total Phosphorus	mg/L	0.083	0.020	6971227			
Reactive Silica (SiO ₂)	mg/L	2.7 (2)	0.50	6985707	2.8	0.50	6985707
Total Suspended Solids	mg/L	4	1	6967427			
Dissolved Sulphate (SO ₄)	mg/L	1000	5.0	6971894			
Total Cyanide (CN)	mg/L	0.076	0.0050	6969935			
Turbidity	NTU	0.5	0.1	6971821			
Volatile Suspended Solids	mg/L	3	1	6971505			
WAD Cyanide (Free)	mg/L	0.0046	0.0010	6971366	0.0051	0.0010	6971366
Alkalinity (Total as CaCO ₃)	mg/L	52	1.0	6972036			
Dissolved Chloride (Cl-)	mg/L	9000	120	6971884			
Nitrite (N)	mg/L	1.10	0.010	6972125			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate (1) See general comments for notes regarding CNFREE-W (2) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly. Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.							



BUREAU
VERITAS

BV Labs Job #: COP2827
Report Date: 2020/10/07

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

RESULTS OF ANALYSES OF WATER

BV Labs ID		NTD138			NTD138		
Sampling Date		2020/09/23 15:46			2020/09/23 15:46		
COC Number		na			na		
	UNITS	MEL-26	RDL	QC Batch	MEL-26 Lab-Dup	RDL	QC Batch
Nitrate (N)	mg/L	56.1	0.50	6972125			
Nitrate + Nitrite (N)	mg/L	57.2	0.50	6972125			
RADIONUCLIDE							
Radium-226	Bq/L	0.13	0.0050	6970636			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



BUREAU
VERITAS

BV Labs Job #: COP2827
Report Date: 2020/10/07

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID		NTD138			NTD138		
Sampling Date		2020/09/23 15:46			2020/09/23 15:46		
COC Number		na			na		
	UNITS	MEL-26	RDL	QC Batch	MEL-26 Lab-Dup	RDL	QC Batch
Metals							
Mercury (Hg)	mg/L	<0.00001	0.00001	6979386	<0.00001	0.00001	6979386
Dissolved Mercury (Hg)	mg/L	<0.00001	0.00001	6979381			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



BV Labs Job #: COP2827
Report Date: 2020/10/07

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NTD138
Sample ID: MEL-26
Matrix: Water

Collected: 2020/09/23
Shipped:
Received: 2020/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	6972036	N/A	2020/09/30	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	6970845	N/A	2020/10/07	Automated Statchk
Chloride by Automated Colourimetry	KONE	6971884	N/A	2020/10/01	Deonarine Ramnarine
Conductivity	AT	6972045	N/A	2020/09/30	Yogesh Patel
Free (WAD) Cyanide	SKAL/CN	6971366	N/A	2020/09/29	Gnana Thomas
Total Cyanide	SKAL/CN	6969935	2020/09/29	2020/09/29	Gnana Thomas
Dissolved Organic Carbon (DOC)	TOCV/NDIR	6972514	N/A	2020/10/01	Nimarta Singh
Dissolved Oxygen	DO	6972758	2020/09/29	2020/09/29	Frank Zhang
Fluoride	ISE	6972023	2020/09/29	2020/09/30	Yogesh Patel
Dissolved Mercury (low level)	CV/AA	6979381	2020/10/02	2020/10/02	Medhat Nasr
Mercury (low level)	CV/AA	6979386	2020/10/02	2020/10/02	Medhat Nasr
Chloride & Sulphate by Auto Colorimetry	KONE	6985708	N/A	2020/10/01	Fadia Mostafa
Cyanide (Free)	SPEC	6985713	2020/10/01	2020/10/01	Taylor Mullings
Conductivity @25C	COND	6985709	N/A	2020/10/01	Tracy (Jing) Ling
Hardness Total (calculated as CaCO3)	CALC	6986714	N/A	2020/10/01	Automated Statchk
Hardness (calculated as CaCO3)	CALC	6986715	N/A	2020/10/06	Automated Statchk
Elements by ICP-Dissolved-Lab Filtered	ICP	6980514	N/A	2020/10/01	Mary Anne Dela Cruz
Na, K, Ca, Mg, S by CRC ICPMS (diss.)	ICP	6986716	N/A	2020/10/06	Automated Statchk
Elements by CRC ICPMS (dissolved)	ICP/MS	6986717	N/A	2020/10/06	Andrew An
Na, K, Ca, Mg, S by CRC ICPMS (total)	ICP	6978054	2020/10/01	2020/10/01	Automated Statchk
Elements by CRC ICPMS (total)	ICP/MS	6978055	2020/10/01	2020/10/01	Andrew An
pH @25°C	AT/PH	6985710	N/A	2020/10/01	Tracy (Jing) Ling
Sodium Adsorption Ratio	CALC	6985711	N/A	2020/10/01	Automated Statchk
Silica (Reactive)	KONE	6985707	N/A	2020/10/01	Fadia Mostafa
Total Dissolved Solids (Calc. from EC)	CALC	6985712	N/A	2020/10/01	Automated Statchk
Total Ammonia-N	LACH/NH4	6971152	N/A	2020/09/30	Alina Dobreanu
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	6972125	N/A	2020/10/01	Amanpreet Sappal
pH	AT	6972085	2020/09/29	2020/09/30	Yogesh Patel
Orthophosphate	KONE	6971897	N/A	2020/10/02	Alina Dobreanu
Radium-226 Low Level	AS	6970636	N/A	2020/10/05	Blake Barber
Sulphate by Automated Colourimetry	KONE	6971894	N/A	2020/10/01	Deonarine Ramnarine
Calculated Total Dissolved Solids	CALC	6970846	N/A	2020/10/07	Automated Statchk
Total Dissolved Solids	BAL	6972296	2020/09/29	2020/09/30	Shivani Desai
Total Kjeldahl Nitrogen in Water	SKAL	6971161	2020/09/29	2020/09/30	Rajni Tyagi
Total Organic Carbon (TOC)	TOCV/NDIR	6971182	N/A	2020/09/30	Nimarta Singh
Total Phosphorus (Colourimetric)	LACH/P	6971227	2020/09/29	2020/09/30	Shivani Shivani
Low Level Total Suspended Solids	BAL	6967427	2020/09/29	2020/09/30	Massarat Jan
Turbidity	AT	6971821	N/A	2020/09/30	Viorica Rotaru
Low Level Volatile Suspended Solids	BAL	6971505	2020/09/29	2020/09/30	Massarat Jan



BUREAU
VERITAS

BV Labs Job #: COP2827
Report Date: 2020/10/07

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NTD138 Dup
Sample ID: MEL-26
Matrix: Water

Collected: 2020/09/23
Shipped:
Received: 2020/09/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	SKAL/CN	6971366	N/A	2020/09/29	Gnana Thomas
Dissolved Oxygen	DO	6972758	2020/09/29	2020/09/29	Frank Zhang
Mercury (low level)	CV/AA	6979386	2020/10/02	2020/10/02	Medhat Nasr
Silica (Reactive)	KONE	6985707	N/A	2020/10/01	Fadia Mostafa
Total Organic Carbon (TOC)	TOCV/NDIR	6971182	N/A	2020/09/30	Nimarta Singh



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	21.0°C
-----------	--------

Sample NTD138 [MEL-26] : As per clients request double washes done than regular washes TOC< DOC: Both values fall within the method uncertainty for duplicates and are likely equivalent. Interference checks not performed at the time of sampling. The lab cannot guarantee that interferences were not present at the time of sampling and that there is no low bias in results

Sample was not submitted in an appropriate container for CNFREE-W analysis. Results may have a high bias due to decomposition of hexacyanoferrate and some other metal-cyanide complexes to free cyanide

Sample pH <12, preservation incomplete. Due to volatility of analyte, a low bias in the results is likely.

DISS. ICPMS METALS FOR FEDERAL INT. GWQG (WATER)

Sample NTD138 [MEL-26] Elements by CRC ICPMS (dissolved): RDL raised due to concentration over linear range, sample dilution required.

TOTAL ICPMS METALS FOR CCME CEQG FOR SW (WATER)

Sample NTD138 [MEL-26] Elements by CRC ICPMS (total): RDL raised due to concentration over linear range, sample dilution required.

Results relate only to the items tested.

BUREAU
VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

QUALITY ASSURANCE REPORT

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6967427	Total Suspended Solids	2020/09/30					<1	mg/L	8.7	25	98	85 - 115
6969935	Total Cyanide (CN)	2020/09/29	95	80 - 120	100	80 - 120	<0.0050	mg/L	NC	20		
6970636	Radium-226	2020/10/05			93	85 - 115	<0.0050	Bq/L	NC	N/A		
6971152	Total Ammonia-N	2020/09/30	96	75 - 125	99	80 - 120	<0.050	mg/L	12	20		
6971161	Total Kjeldahl Nitrogen (TKN)	2020/09/29	91	80 - 120	106	80 - 120	<0.10	mg/L	1.4	20	103	80 - 120
6971182	Total Organic Carbon (TOC)	2020/09/30	92	80 - 120	94	80 - 120	<0.40	mg/L	0.67	20		
6971227	Total Phosphorus	2020/09/30	96	80 - 120	96	80 - 120	<0.020	mg/L	4.2	20	95	N/A
6971366	WAD Cyanide (Free)	2020/09/29	80	80 - 120	98	80 - 120	<0.0010	mg/L	10	20		
6971505	Volatile Suspended Solids	2020/09/30					<1	mg/L	NC	25		
6971821	Turbidity	2020/09/30			109	85 - 115	<0.1	NTU	NC	20		
6971884	Dissolved Chloride (Cl-)	2020/10/01	118	80 - 120	103	80 - 120	<1.0	mg/L	6.0	20		
6971894	Dissolved Sulphate (SO4)	2020/10/01	NC	75 - 125	103	80 - 120	<1.0	mg/L	0.59	20		
6971897	Orthophosphate (P)	2020/10/02	111	75 - 125	98	80 - 120	<0.010	mg/L	NC	25		
6972023	Fluoride (F-)	2020/09/30	106	80 - 120	102	80 - 120	<0.10	mg/L	NC	20		
6972036	Alkalinity (Total as CaCO3)	2020/09/30			95	85 - 115	<1.0	mg/L	6.7	20		
6972045	Conductivity	2020/09/30			101	85 - 115	<1.0	umho/cm	5.1	25		
6972085	pH	2020/09/30			102	98 - 103			0.50	N/A		
6972125	Nitrate (N)	2020/09/30	102	80 - 120	104	80 - 120	<0.10	mg/L	0.30	20		
6972125	Nitrite (N)	2020/09/30	99	80 - 120	100	80 - 120	<0.010	mg/L	NC	20		
6972296	Total Dissolved Solids	2020/09/30					<10	mg/L	3.3	25	102	90 - 110
6972514	Dissolved Organic Carbon	2020/10/01	97	80 - 120	102	80 - 120	<0.40	mg/L	1.6	20		
6978055	Total Aluminum (Al)	2020/10/01	105	80 - 120	104	80 - 120	<3.0	ug/L				
6978055	Total Antimony (Sb)	2020/10/01	108	80 - 120	104	80 - 120	<0.50	ug/L				
6978055	Total Arsenic (As)	2020/10/01	103	80 - 120	99	80 - 120	<0.10	ug/L				
6978055	Total Barium (Ba)	2020/10/01	102	80 - 120	99	80 - 120	<1.0	ug/L				
6978055	Total Beryllium (Be)	2020/10/01	102	80 - 120	99	80 - 120	<0.10	ug/L				
6978055	Total Bismuth (Bi)	2020/10/01	97	80 - 120	98	80 - 120	<1.0	ug/L				
6978055	Total Boron (B)	2020/10/01	105	80 - 120	102	80 - 120	<50	ug/L				
6978055	Total Cadmium (Cd)	2020/10/01	105	80 - 120	101	80 - 120	<0.010	ug/L				
6978055	Total Chromium (Cr)	2020/10/01	99	80 - 120	98	80 - 120	<1.0	ug/L				
6978055	Total Cobalt (Co)	2020/10/01	102	80 - 120	102	80 - 120	<0.20	ug/L				

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BV Labs Job #: COP2827

Report Date: 2020/10/07

QUALITY ASSURANCE REPORT(CONT'D)

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6978055	Total Copper (Cu)	2020/10/01	97	80 - 120	96	80 - 120	<0.50	ug/L				
6978055	Total Iron (Fe)	2020/10/01	106	80 - 120	101	80 - 120	<10	ug/L				
6978055	Total Lead (Pb)	2020/10/01	102	80 - 120	101	80 - 120	<0.20	ug/L				
6978055	Total Lithium (Li)	2020/10/01	104	80 - 120	103	80 - 120	<2.0	ug/L				
6978055	Total Manganese (Mn)	2020/10/01	96	80 - 120	96	80 - 120	<1.0	ug/L				
6978055	Total Molybdenum (Mo)	2020/10/01	107	80 - 120	105	80 - 120	<1.0	ug/L				
6978055	Total Nickel (Ni)	2020/10/01	99	80 - 120	98	80 - 120	<1.0	ug/L				
6978055	Total Selenium (Se)	2020/10/01	106	80 - 120	100	80 - 120	<0.10	ug/L				
6978055	Total Silicon (Si)	2020/10/01	105	80 - 120	102	80 - 120	<100	ug/L				
6978055	Total Silver (Ag)	2020/10/01	98	80 - 120	99	80 - 120	<0.020	ug/L				
6978055	Total Strontium (Sr)	2020/10/01	107	80 - 120	97	80 - 120	<1.0	ug/L				
6978055	Total Thallium (Tl)	2020/10/01	103	80 - 120	99	80 - 120	<0.010	ug/L				
6978055	Total Tin (Sn)	2020/10/01	103	80 - 120	99	80 - 120	<5.0	ug/L				
6978055	Total Titanium (Ti)	2020/10/01	103	80 - 120	102	80 - 120	<5.0	ug/L				
6978055	Total Uranium (U)	2020/10/01	107	80 - 120	103	80 - 120	<0.10	ug/L				
6978055	Total Vanadium (V)	2020/10/01	99	80 - 120	97	80 - 120	<5.0	ug/L				
6978055	Total Zinc (Zn)	2020/10/01	103	80 - 120	100	80 - 120	<5.0	ug/L				
6978055	Total Zirconium (Zr)	2020/10/01	105	80 - 120	103	80 - 120	<0.10	ug/L				
6979381	Dissolved Mercury (Hg)	2020/10/02	108	75 - 125	103	80 - 120	<0.00001	mg/L	NC	20		
6979386	Mercury (Hg)	2020/10/02	98	75 - 125	103	80 - 120	<0.00001	mg/L	NC	20		
6980514	Dissolved Calcium (Ca)	2020/10/01	100	80 - 120	102	80 - 120	<0.30	mg/L				
6980514	Dissolved Magnesium (Mg)	2020/10/01	97	80 - 120	98	80 - 120	<0.20	mg/L				
6980514	Dissolved Potassium (K)	2020/10/01	98	80 - 120	96	80 - 120	<0.30	mg/L				
6980514	Dissolved Sodium (Na)	2020/10/01	94	80 - 120	96	80 - 120	<0.50	mg/L				
6985707	Reactive Silica (SiO2)	2020/10/01	17 (1)	80 - 120	109	80 - 120	<0.050	mg/L	2.0	20		
6985708	Dissolved Chloride (Cl-)	2020/10/01	102	80 - 120	103	80 - 120	<1.0	mg/L				
6985708	Dissolved Sulphate (SO4)	2020/10/01	NC	80 - 120	106	80 - 120	<1.0	mg/L				
6985709	Conductivity	2020/10/01			102	90 - 110	<2.0	uS/cm				
6985710	pH	2020/10/01			100	97 - 103						
6985713	Free Cyanide (CN)	2020/10/01	100	80 - 120	100	80 - 120	<1.0	ug/L				
6986717	Dissolved Aluminum (Al)	2020/10/06	103	80 - 120	100	80 - 120	<3.0	ug/L				
6986717	Dissolved Antimony (Sb)	2020/10/06	107	80 - 120	102	80 - 120	<0.50	ug/L				



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BV Labs Job #: COP2827
Report Date: 2020/10/07

QUALITY ASSURANCE REPORT(CONT'D)

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6986717	Dissolved Arsenic (As)	2020/10/06	105	80 - 120	99	80 - 120	<0.10	ug/L				
6986717	Dissolved Barium (Ba)	2020/10/06	104	80 - 120	99	80 - 120	<1.0	ug/L				
6986717	Dissolved Beryllium (Be)	2020/10/06	100	80 - 120	100	80 - 120	<0.10	ug/L				
6986717	Dissolved Bismuth (Bi)	2020/10/06	95	80 - 120	95	80 - 120	<1.0	ug/L				
6986717	Dissolved Boron (B)	2020/10/06	100	80 - 120	99	80 - 120	<50	ug/L				
6986717	Dissolved Cadmium (Cd)	2020/10/06	107	80 - 120	101	80 - 120	<0.010	ug/L				
6986717	Dissolved Chromium (Cr)	2020/10/06	98	80 - 120	98	80 - 120	<1.0	ug/L				
6986717	Dissolved Cobalt (Co)	2020/10/06	98	80 - 120	97	80 - 120	<0.20	ug/L				
6986717	Dissolved Copper (Cu)	2020/10/06	95	80 - 120	96	80 - 120	<0.20	ug/L				
6986717	Dissolved Iron (Fe)	2020/10/06	NC	80 - 120	101	80 - 120	<5.0	ug/L				
6986717	Dissolved Lead (Pb)	2020/10/06	100	80 - 120	99	80 - 120	<0.20	ug/L				
6986717	Dissolved Lithium (Li)	2020/10/06	97	80 - 120	99	80 - 120	<2.0	ug/L				
6986717	Dissolved Manganese (Mn)	2020/10/06	NC	80 - 120	100	80 - 120	<1.0	ug/L				
6986717	Dissolved Molybdenum (Mo)	2020/10/06	113	80 - 120	102	80 - 120	<1.0	ug/L				
6986717	Dissolved Nickel (Ni)	2020/10/06	97	80 - 120	99	80 - 120	<1.0	ug/L				
6986717	Dissolved Selenium (Se)	2020/10/06	109	80 - 120	102	80 - 120	<0.10	ug/L				
6986717	Dissolved Silicon (Si)	2020/10/06	NC	80 - 120	99	80 - 120	<100	ug/L				
6986717	Dissolved Silver (Ag)	2020/10/06	103	80 - 120	98	80 - 120	<0.020	ug/L				
6986717	Dissolved Strontium (Sr)	2020/10/06	NC	80 - 120	98	80 - 120	<1.0	ug/L				
6986717	Dissolved Thallium (Tl)	2020/10/06	103	80 - 120	98	80 - 120	<0.010	ug/L				
6986717	Dissolved Tin (Sn)	2020/10/06	105	80 - 120	100	80 - 120	<5.0	ug/L				
6986717	Dissolved Titanium (Ti)	2020/10/06	105	80 - 120	101	80 - 120	<5.0	ug/L				
6986717	Dissolved Uranium (U)	2020/10/06	108	80 - 120	102	80 - 120	<0.10	ug/L				
6986717	Dissolved Vanadium (V)	2020/10/06	102	80 - 120	98	80 - 120	<5.0	ug/L				
6986717	Dissolved Zinc (Zn)	2020/10/06	103	80 - 120	103	80 - 120	<5.0	ug/L				



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VERITAS

BV Labs Job #: COP2827
Report Date: 2020/10/07

QUALITY ASSURANCE REPORT(CONT'D)

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6986717	Dissolved Zirconium (Zr)	2020/10/06	113	80 - 120	100	80 - 120	<0.10	ug/L				

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



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VERITAS

BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

VALIDATION SIGNATURE PAGE

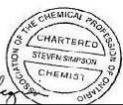
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

David Huang, BBY Scientific Specialist

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics



Steven Simpson, Lab Director

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: COP2827

Report Date: 2020/10/07

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

Exceedance Summary Table – Metal Mining Effluent Reg
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



900, 5th Avenue
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Phone: 819 874-0350
Toll Free: 1 877 326-8690
www.h2lab.ca

Certificate # : VD05738
Client # : 1353
Client Reference # : MEL-26

CERTIFICATE OF ANALYSIS

Agnico Eagle Meliadine

Meliadine
Rankin Inlet
Nunavut X0C 0A0

Received on:	2020/09/17
Sampled on:	2020/09/16
Matrix:	Surface Water
Sampling site code:	Meliadine
Customer information	Rush 24h
Order #:	OL-664692

Samples: MEL-26

Sampler : DM/RS

The sample's appreciation and conformity towards established norms, if applicable, is based and limited to analyzed parameters. This report can't be reproduced, unless in whole, without prior written authorization from the laboratory. The results are related only to samples submitted for testing.



Signataire: Rouyn-Noranda



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Certificate # : VD05738
Client # : 1353
Client Reference # : MEL-26

CERTIFICATE OF ANALYSIS

RESULTS

Laboratory ID		101816
Client ID		MEL-26
Matrix		Surface Water
Sampling site		Meliadine
Sampled on	unit	2020/09/16
Suspended Solids a 2	mg/L	31
V.S.S. 2	mg/L	3

Quality control

Parameter (method)	*LDR	Unit	Blank	Standard				Duplicate		Analyzed on
				Name	Value	Expected	Interval	#1	#2	
Suspended Solids (H2Lab-SOLI-011) a	1	mg/L	< 1	MES-220ppm -2020	232	220	[194,246]	32	31	2020-09-19
V.S.S. (H2Lab-SOLI-011) 2	1	mg/L	< 1	--	--	--	--	--	--	2020-09-23

Legend :

a : Accredited parameter

2 : analysis made by H2Lab Laboratory at Rouyn-Noranda

*LDR : Limit of detection reported



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Certificate # : VD05738
Client # : 1353
Client Reference # : MEL-26

CERTIFICATE OF ANALYSIS

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END OF CERTIFICATE



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Phone: 819 874-0350
Toll Free: 1 877 326-8690
www.h2lab.ca

Certificate # : VD05794
Client # : 1353
Client Reference # : MEL-26

CERTIFICATE OF ANALYSIS

Agnico Eagle Meliadine

Meliadine
Rankin Inlet
Nunavut X0C 0A0

Received on:	2020/09/21
Sampled on:	2020/09/18
Matrix:	Surface Water
Sampling site code:	Meliadine
Customer information	Rush 24h
Order #:	OL-664692

Samples: MEL-26

Sampler : MEB/MG/SA

The sample's appreciation and conformity towards established norms, if applicable, is based and limited to analyzed parameters. This report can't be reproduced, unless in whole, without prior written authorization from the laboratory. The results are related only to samples submitted for testing.

Signataire, Val-d'Or



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Phone: 819 874-0350
Toll Free: 1 877 326-8690
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Certificate # : VD05794
Client # : 1353
Client Reference # : MEL-26

CERTIFICATE OF ANALYSIS

RESULTS

Laboratory ID		101874
Client ID		MEL-26
Matrix		Surface Water
Sampling site		Meliadine
Sampled on	unit	2020/09/18
Suspended Solids a 2	mg/L	6
V.S.S. 2	mg/L	2

Quality control

Parameter (method)	*LDR	Unit	Blank	Standard				Duplicate		Analyzed on
				Name	Value	Expected	Interval	#1	#2	
Suspended Solids (H2Lab-SOLI-011) a	1	mg/L	< 1	DMR-0371-20 20-MES	116	128	[113,143]	9	9	2020-09-22
V.S.S. (H2Lab-SOLI-011) 2	1	mg/L	< 1	DMR-0371-20 20-MES	60	71	[55,87]	2	2	2020-09-23

Legend :

a : Accredited parameter **2** : analysis made by H2Lab Laboratory at Rouyn-Noranda *LDR : Limit of detection reported



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Certificate # : VD05794
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CERTIFICATE OF ANALYSIS

The sample's appreciation and conformity towards established norms, if applicable, is based and limited to analyzed parameters. This report can't be reproduced, unless in whole, without prior written authorization from the laboratory. The results are related only to samples submitted for testing.

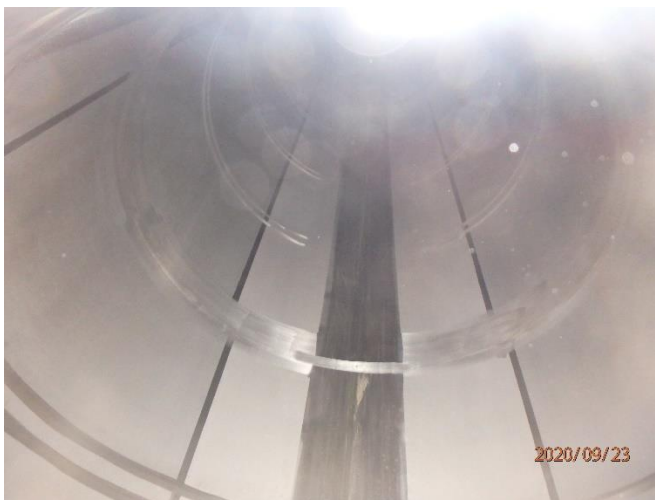
END OF CERTIFICATE

Appendix B: Inspection Log Sheet Template

Tanker Pre-filling Inspection Log

[illegible]

Tanker Inspection Photos





Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 09-23-2020		REPORT TIME 17:30		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
	B	OCCURRENCE DATE: MONTH – DAY – YEAR 09-23-2020		OCCURRENCE TIME 06:00		
C		LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01			WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MEL1631	
	D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project			REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E		LATITUDE DEGREES 63 MINUTES 2 SECONDS 22			LONGITUDE DEGREES 92 MINUTES 13 SECONDS 42	
	F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines Ltd.		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0		
G		ANY CONTRACTOR INVOLVED N/A		CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
	H	PRODUCT SPILLED Diesel		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 12,000L		U.N. NUMBER 1202
I		SECOND PRODUCT SPILLED (IF APPLICABLE) N/A		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A		U.N. NUMBER N/A
	J	SPILL SOURCE Fuel transfer system		SPILL CAUSE Mechanical failure		AREA OF CONTAMINATION IN SQUARE METRES 500
K		FACTORS AFFECTING SPILL OR RECOVERY Proximity to infrastructure		DESCRIBE ANY ASSISTANCE REQUIRED N/A		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT Potential fire hazards
	L	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS				
M		<p>At 06:00 the Environment department received a call that there was fuel observed leaking from the main camp boiler/gen-set system, on the raised pad between the camp and warehouse. The system was immediately shut down, spill pads were deployed and sumps were dug to contain the spill.</p> <p>Initial investigation suggests that the cause of the spill may have been linked to a failure of a mechanical valve or fuel level float, which would normally act as an automatic shut-off between a primary tank and a smaller secondary tank which feeds the boiler. Clean up actions are ongoing.</p> <p>No water bodies were impacted by this event. The nearest water body is 230m from the spill location. A follow-up report will be issued after a closer investigation is completed. Reported by Sean Arruda, Environment Coordinator 819-759-3555 ext. 4603996 sean.arruda@agnicoeagle.com.</p>				
	N	REPORTED TO SPILL LINE BY Sean Arruda	POSITION Env Coordinator	EMPLOYER AEM	LOCATION CALLING FROM Meliadine	TELEPHONE 8197593555
ANY ALTERNATE CONTACT Terry Ternes		POSITION Env Gen Supervisor	EMPLOYER AEM	ALTERNATE CONTACT Meliadine	ALTERNATE TELEPHONE 8197593555	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130	
	LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS		
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						



AGNICO EAGLE

Post Mortem

Meliadine Main Camp Fuel Spill

REV.	Description	Revised by	Date
A	Preliminary Investigation	John Stewart	Sep. 25, 2020
01	Final Investigation	Emmanuelle Keogh	Sep. 30, 2020

**ABSTRACT**

Intelex No.	28085
Department	Energy and Infrastructure
Potential Consequence	Moderate
Probability	Low
Risk Level	6 - Medium
Date of Occurrence	Tuesday, September 22, 2020
Time of Occurrence	9:30 PM
Date Reported	Wednesday, September 23, 2020
Time Reported	6:30 AM
Location	The location is the main camp complex emergency generator between the arctic corridor and the MSB building.
Description	A 10,000L diesel fuel spill occurred at the main camp complex emergency daily tanks which are supplied by the main camp 50,000L tank. The two (2) tanks were subjected to a solenoid valve mechanical failure which resulted in overfilling and spilling from their common vent pipe. The fuel spill was outside.
Contribution Factors	<ul style="list-style-type: none">• Lack of filtration prior to critical equipment and instrumentation• Oversight of running equipment in manual mode• Absence of high and/or high-high level alarms• Deficiency of an overflow return line



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1. TIMELINE

Pursuant to the investigation, it is determined that the fuel spill occurred as of 9:30 PM on September 22, 2020.

The spill took place at the main camp complex emergency generator (CCEG) between the arctic corridor and the multi-service building (MSB). The camp complex emergency generator's two (2) daily tanks were overfilling which resulted in spillage from their common vent line until the following morning's discovery, Wednesday September 23, 2020, at 6:15 AM. Upon discovery, the fuel feeder pumps were stopped resulting in end of the spill.

During this timeframe, an estimated 10,210L of ultra-low sulfur diesel (ULSD) was spilled. Calculation is shown on following page.

Figure 1 shows the event's timeline. Main camp complex fuel tank level in blue. The tank supplies the camp complex boiler module (CCBM) and the camp complex emergency generator (CCEG). Their energy totalizer are graphed in green and red respectively. Seven (7) points, i.e. A, B, C, D, E, F and G describe the event's timeline.

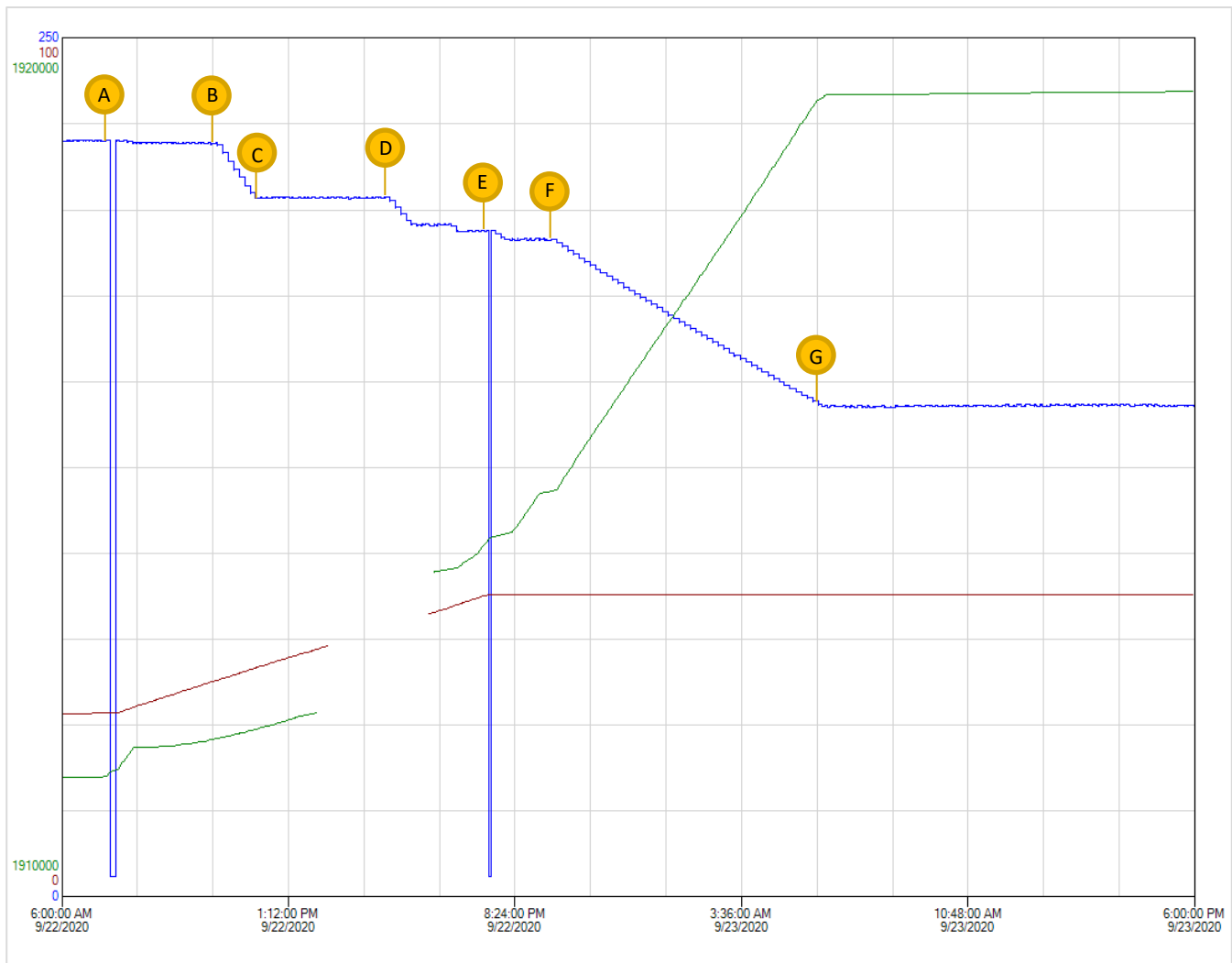


Figure 1: Main Camp Complex Fuel Tank Level (blue), CCBM Energy Totalizer (green) and CCEG Totalizer (red)

The identified points correspond to the following date and times:

- Point A: September 22 at 7:30 AM;
- Point B: September 22 at 11:00 AM;
- Point C: September 22 at 12:15 PM;
- Point D: September 22 at 4:15 PM;
- Point E: September 22 at 7:30 PM;
- Point F: September 22 at 9:30 PM; and
- Point G: September 23 at 6:15 AM.

Main events from Figure 1 are summarized below:

- The CCBM and CCEG are started at point A. Scheduled power plant electrical shutdown obliged.
- The CCEG daily tanks have likely reached 40% capacity, the solenoid valve is open, and system is starting to be supplied fuel from the main camp complex fuel tank at point B.
- The CCEG daily tanks have likely reached 85% capacity, the solenoid valve is closed, and system is stopping to be supplied fuel from the main camp complex fuel tank at point C.
- The CCEG daily tanks have likely reached 40% capacity, the solenoid valve is open, and system is starting to be supplied fuel from the main camp complex fuel tank at point D.
- The CCEG is stopped at point E.
- The CCEG daily tanks have likely reached near full capacity, the solenoid valve remains open, and the overfilling starts, which results in a spill.
- The spill is noticed and fuel feeder pumps are manually stopped. This subsequently halts the spill and shuts down the CCBM.

Data from the AEM server is summarized in Table 1 below. Main camp complex tank level is in accordance with its original equipment manufacturer (OEM) volumetric tank chart.

Table 1: Point B and Point G Operation Data

	Point B	Point G	Difference
Main Camp Complex Tank Volume [L]	46,236L	29,326L	(16,910L)
CCEG Daily Tank 1 Volume [L]	1,000L	2,500L	1,500L
CCEG Daily Tank 2 Volume [L]	1,000L	2,500L	1,500L
CCBM Energy Totalizer [kWh]	1,911,846	1,919,329	7,482
CCEG Energy Totalizer [kWh]	25,315	35,268	9,952

It is possible to estimate the CCBM and CCEG fuel consumption between point B and point G based on their theoretical specific fuel consumption. Results are summarized in Table 2 below.

Table 2: CCBM and CCEG Fuel Consumption Between Point B and Point G

	Energy [kWh]	Specific Fuel [L/kWh]	Fuel Consumed [L]
CCBM	7,482	0.122	913
CCEG	9,952	0.280	2,787

From the three (3) fuel tank levels computed in Table 1 and the two (2) assets' fuel consumption computed in Table 2, it is possible to estimate a total fuel spill of approximately 10,210L between point F and point G.



It is critical to note that point B and point G were analyzed because levels in the main camp complex tank and the CCEG daily tanks are known at these times. While the main camp complex tank level is continuously monitored in the AEM database, the CCEG daily tanks are not.

- It is a reasonable assumption that the CCEG tanks are at 40% capacity at point B. The CCEG daily tanks are being filled by the main camp complex tank from point B to point C. In normal operation, the CCEG daily tanks are supplied from 40% capacity to 85% capacity. Normal operation is presumed from point B to point C because the trend is comparable to previous data as shown in Figure 2.

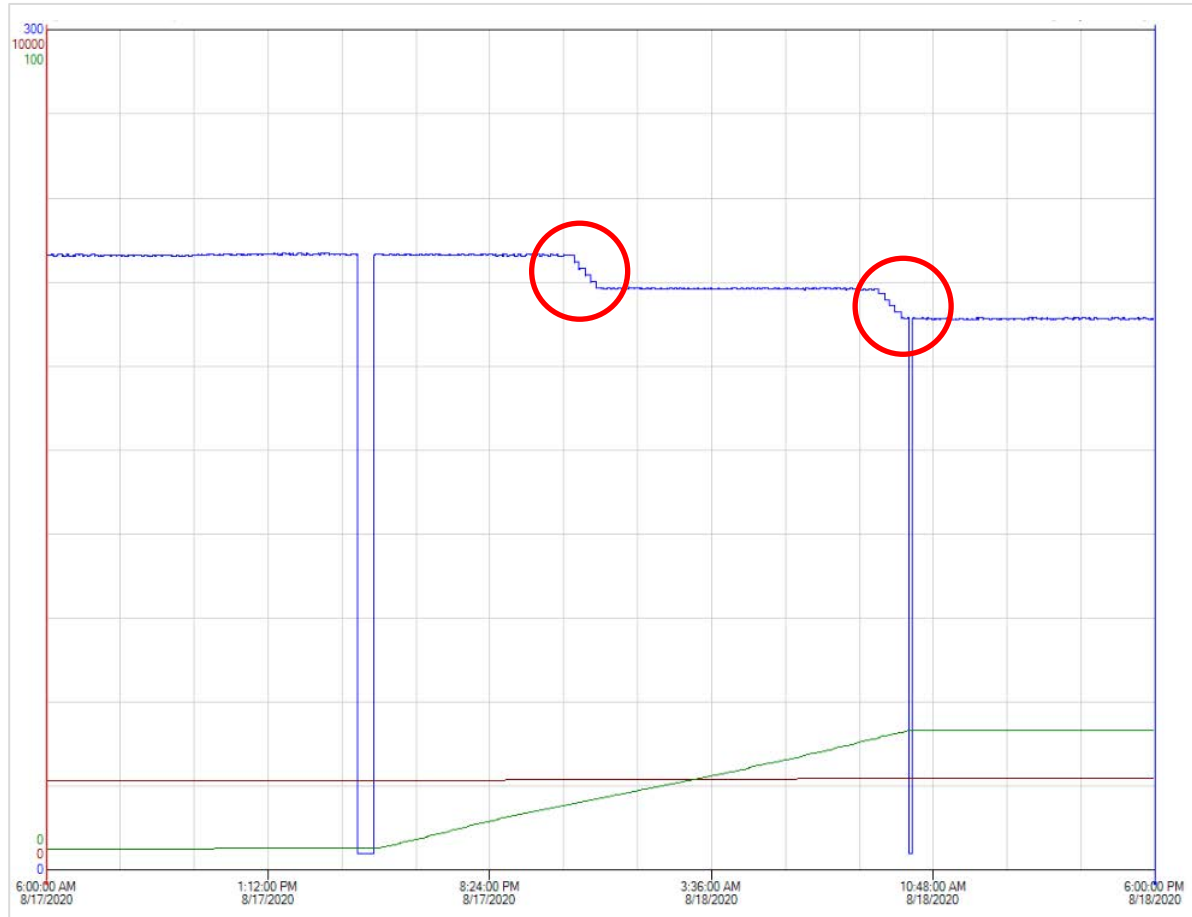


Figure 2: Main Camp Complex Fuel Tank Level (blue), CCBM Energy Totalizer (green) and CCEG Totalizer (red)

- it is a reasonable assumption that the CCEG tanks are at 100% capacity at point G. During the spill and immediately upon discovery, the CCEG must be full as the event is a result of their overflow.

2. IMMEDIATE ACTION

The immediate actions are inclusive of:

- Locking of the CCEG fuel delivery system pending permanent corrective actions;
- Installation of absorbent pads; and
- Digging of two (2) container trenches with a center excavation to obtain a rough sump for fuel drainage.

3. REMEDIATION

The environment department is responsible for evaluating short and long-term in-situ and ex-situ remediation measures inclusive of tentative permanent monitoring wells. Their work is in collaboration and in compliance with federal, territorial and local authorities.

As mentioned in section 2, two (2) initial container trenches were dug with the objective of pumping fuel into 1,000L totes. The sump level is periodically monitored by the E&I department. In date of September 29, a total of eight (8) totes have been filled to 80% capacity each. The first tote appeared to be mostly ULSD. For subsequent totes, the fuel concentration is considerably decreasingly as per visual observation. Fresh water is likely infiltrating into the excavated sumps. Samples were taken and have been sent to an external laboratory for analysis. Cetane Index test as per ASTM D4737 will be conducted for density to draw conclusions on fuel concentration.

Number of pumped totes per day is summarized in Table 3 below.

Table 3: Pumped Totes per Day

	Totes	Concentration [L/L]	Fuel [L]
September 23, 2020	1	TBC	TBD
September 24, 2020	2	TBC	TBD
September 25, 2020	1	TBC	TBD
September 26, 2020	1.5	TBC	TBD
September 27, 2020	1	TBC	TBD
September 28, 2020	0.5	TBC	TBD
September 29, 2020	1	TBC	TBD

4. INVESTIGATION

The investigation revealed the spill is a combined result of an instrumentation mechanical failure and lack of safety protection, or redundancy, on the CCEG fuel delivery system. This section presents the findings of the investigation conducted by the E&I department.

First of all, the spill is not a result of labor. The spill occurred during night shift likely between 9:30 PM on September 22 and 6:15 AM on September 23. There was no human intervention during night shift in regards to the main camp complex fuel delivery system.

Secondly, the spill was not immediately preceded by any manipulation. The system was being operated within design specifications with the exception that the fuel delivery pumps were running in manual mode as opposed to automatic. There is an additional safety interlock to shut down the fuel delivery pumps when the daily tanks reach a high-high level alarm at 95% capacity. This would have likely stopped the pumps if they had been running in automatic mode.

Thirdly, the spill is not a result of the environment. The spill was not preceded by an environmental (e.g. ambient temperature or pressure) spike or a change in weather conditions. Slight thermal contraction of fuel in the generator daily tanks could have triggered their level switch filling at 40% tank capacity. However, in normal operation, tanks would have filled up to 85% capacity without overfilling causing a spill.

Finally, it was determined the spill is a result of equipment deficiency. In fact, instrumentation failure is involved in the incident. Specifically, the critical solenoid valve which controls fuel supply to the two (2) CCEG daily tanks failed to close causing overfilling of the tanks and resulting in the spill.

The CCEG fuel delivery system is shown in piping and instrumentation diagram (P&ID) below in Figure 3.

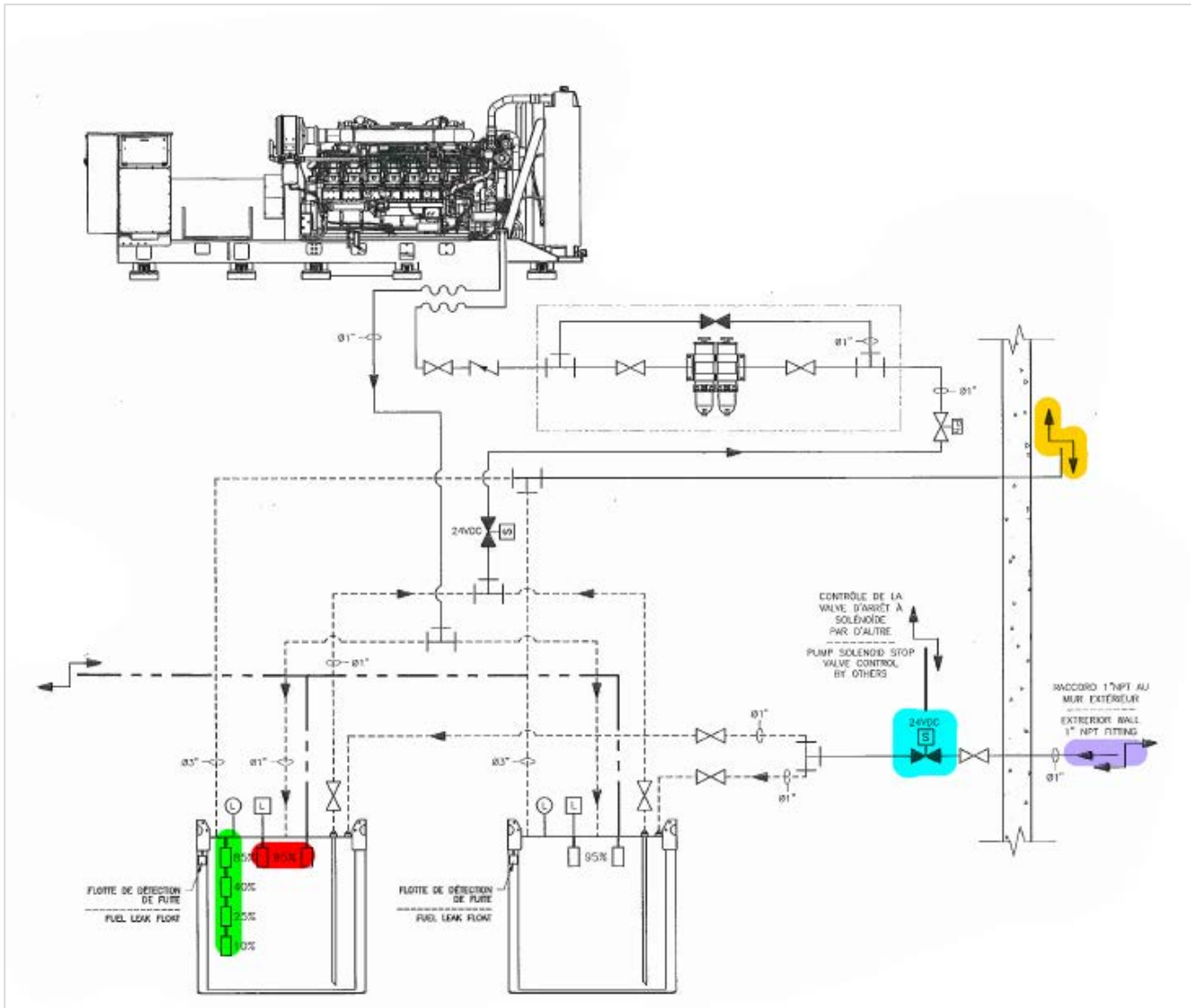


Figure 3: CCEG P&ID (Hewitt, 2018)

From Figure 3:

- In purple, the fuel supply to the CCEG daily tanks is shown.
- In blue, the solenoid valve which controls the fuel supply is shown.
- In green, the daily tank level switches are shown.
- In red, an independent high-high level is shown.
- In yellow, the required fuel vent return to the main camp complex tank is shown.

A faulty solenoid valve could be result of an electrical issue, e.g. loss of electrical signal for closure, or a mechanical issue, e.g. failed closing mechanism. It is important to understand the solenoid valve controls the fuel supply in accordance with its control line signals given by the level switches. These are inclusive of four (4) floats at 10%, 25%, 40% and 85% tank capacity. They are in the control line of the solenoid valve. The high-high 95% capacity level is in the fuel feeders' (not shown) control line. In normal operation, the solenoid valve receives a signal to open at a low level of 40%. In normal operation, the solenoid valve receives a signal to close at a high level of 85%. Pursuant to the investigation, an E&I instrumentation technician tested the functioning of the level switches. Test was conclusive and results are detailed in Appendix A.

Thus, the valve suspected of mechanical failure was dismantled for further investigation. A 30mm piece of wear metal was found stuck on the valve diaphragm assembly. The piece is likely from a fuel feeder pump's bushing. This piece of wear metal suspected to have prevented valve complete closure. Its tip is seen through the valve body in Figure 4. The complete piece is seen in Figure 5 and is measured in Figure 6.

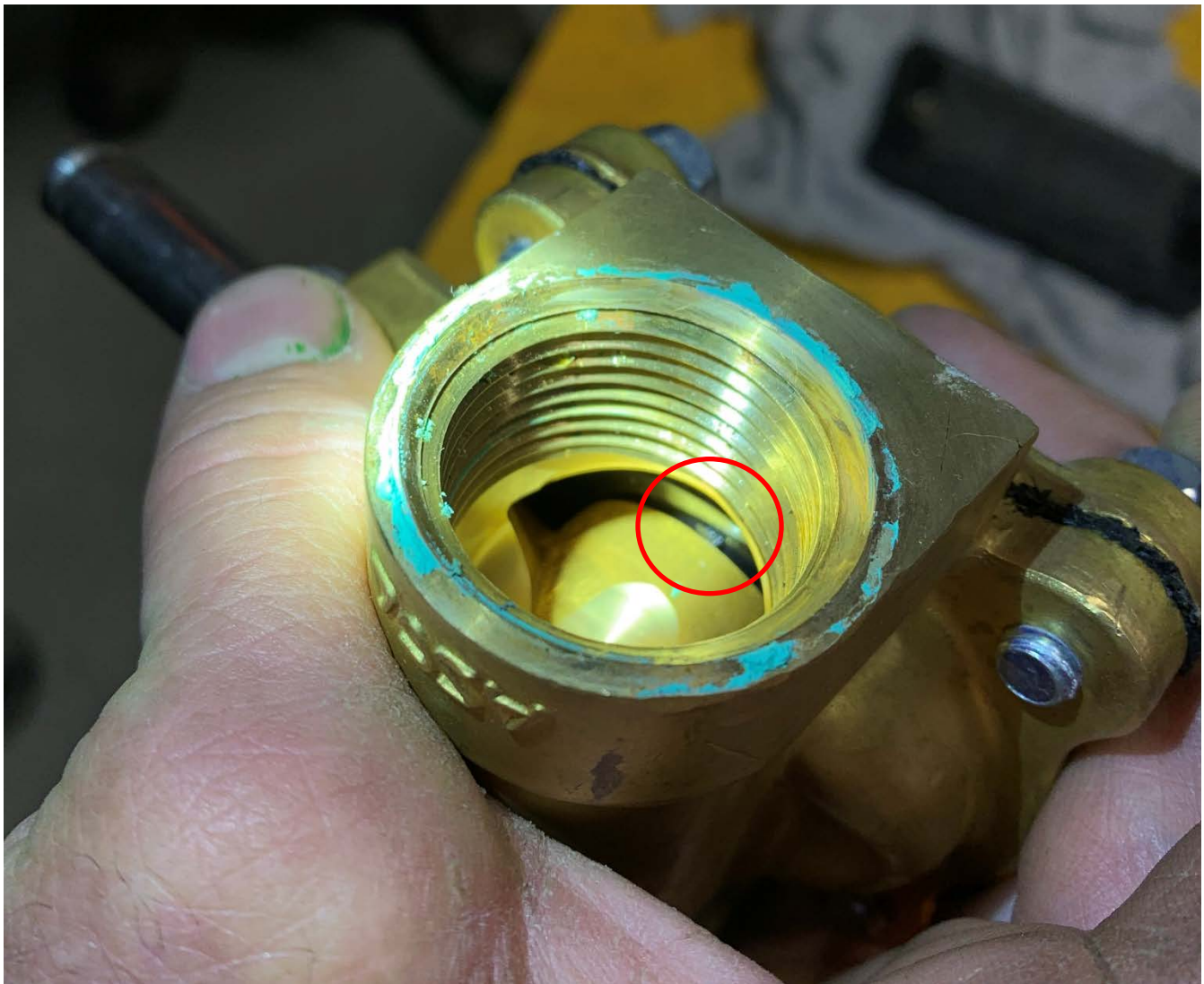


Figure 4: Piece of Metal Stuck seen Through Valve Body

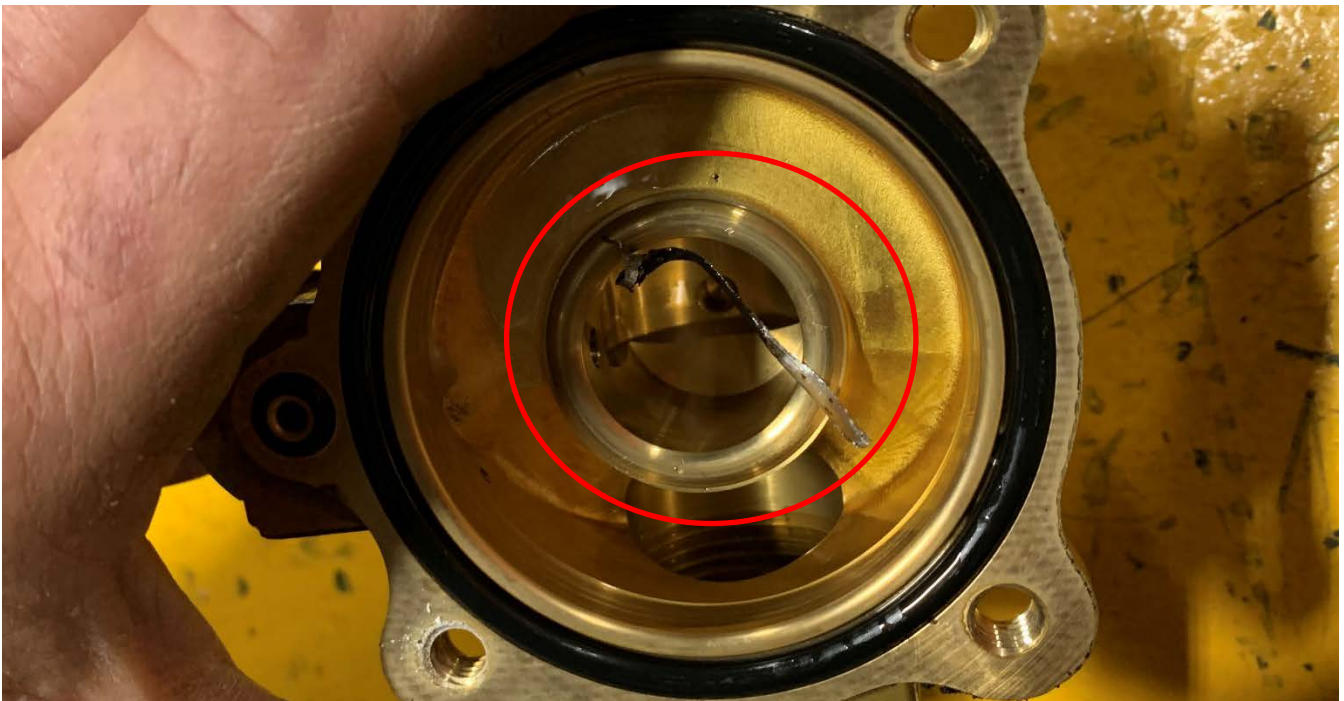


Figure 5: Piece of Metal through Body Passage

The piece is a 30mm iron (Fe) shard.

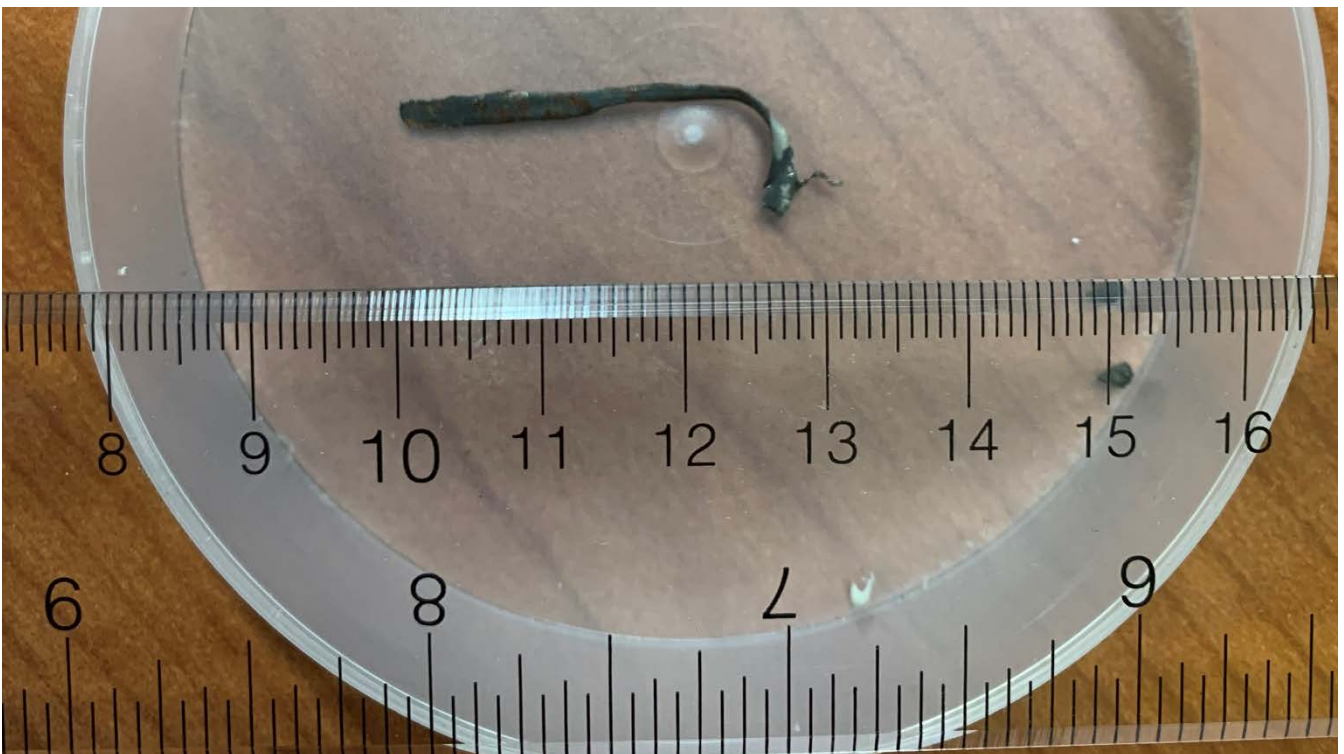


Figure 6: Measurement of Piece of Metal

In summary,

- The high 85% level switch sent a signal to the PLC to close the solenoid valve;
- Solenoid valve did not close as a result of a stuck piece of wear metal;
- The high-high 95% level switch did not send a signal to PLC to close the solenoid valve because it was not programmed to be in its control line;
- The high-high 95% level switch did not send a signal to PLC to shut the fuel feeder pumps because these had been running in manual mode as opposed to automatic;
- CCEG daily tanks overfilled;
- ULSD spilled from the common vent return line because it has not been piped back to the main camp complex tank as per the P&ID submitted for construction.

The contributing factors are inclusive of:

- Lack of filtration prior to critical equipment and instrumentation;
- Oversight of running equipment in manual mode as opposed to automatic;
- Absence of high and/or high-high level alarms; and
- Deficiency of an overflow return line.

Incident indirect immediate causes are selected in Table 4.

Table 4: Indirect Immediate Causes

Indirect Immediate Causes	
Substandard Practices	Substandard Conditions
<input type="checkbox"/> 01 Operating equipment without authority <input type="checkbox"/> 02 Improper/lack of communication <input type="checkbox"/> 03 Failure to secure/make safe <input type="checkbox"/> 04 Operating at improper speed <input type="checkbox"/> 05 Making safety devices inoperable <input type="checkbox"/> 06 Removing safety devices <input type="checkbox"/> 07 Using defective equipment <input type="checkbox"/> 08 Using equipment improperly <input type="checkbox"/> 09 Failure to use PPE properly <input type="checkbox"/> 10 Improper loading <input type="checkbox"/> 11 Improper placement <input type="checkbox"/> 12 Improper lifting <input type="checkbox"/> 13 Improper position for task <input type="checkbox"/> 14 Servicing equipment in operation <input type="checkbox"/> 15 Horseplay <input type="checkbox"/> 16 Inadequate inspection <input type="checkbox"/> 17 Not respecting rules/procedures <input type="checkbox"/> 18 Other <input checked="" type="checkbox"/> 19 N/A	<input type="checkbox"/> 20 Inadequate guards or barriers <input type="checkbox"/> 21 Inadequate ground support <input type="checkbox"/> 22 Inadequate/improper protective equipment <input checked="" type="checkbox"/> 23 Defective tools, equipment or material <input type="checkbox"/> 24 Congestion or restricted action <input checked="" type="checkbox"/> 25 Inadequate warning systems <input type="checkbox"/> 26 Fire/explosion hazard <input type="checkbox"/> 27 Substandard Housekeeping <input type="checkbox"/> 28 Hazardous environmental conditions <input type="checkbox"/> 29 Noise exposure <input type="checkbox"/> 30 Radiation exposure <input type="checkbox"/> 31 Temperature exposure <input type="checkbox"/> 32 Inadequate or excessive illumination <input type="checkbox"/> 33 Inadequate ventilation <input type="checkbox"/> 34 Ground rock conditions <input type="checkbox"/> 35 Procedure does not exist <input type="checkbox"/> 36 PPE missing <input type="checkbox"/> 37 Failure to warn <input type="checkbox"/> 38 Poor communications <input type="checkbox"/> 39 Instability of surface, slippery conditions <input type="checkbox"/> 40 Other <input type="checkbox"/> 41 NA

Incident root causes are selected in Table 5.

Table 5: Root Causes

Root Causes			
Personal Factors	Job Factors	Supervisory Performance	Management Policy
<input type="checkbox"/> 42 Physical conditions <input type="checkbox"/> 43 Mental conditions <input type="checkbox"/> 44 Lack of knowledge <input type="checkbox"/> 45 Lack of Skill <input type="checkbox"/> 46 Stress <input type="checkbox"/> 47 Improper motivation <input type="checkbox"/> 48 Abuse or misuse <input type="checkbox"/> 49 Other <input checked="" type="checkbox"/> 50 N/A	<input type="checkbox"/> 51 Supervision <input type="checkbox"/> 52 Engineering/design <input type="checkbox"/> 53 Purchasing standard <input type="checkbox"/> 54 Maintenance <input type="checkbox"/> 55 Tools/equipment <input type="checkbox"/> 56 Wear and tear <input checked="" type="checkbox"/> 57 Equipment <input type="checkbox"/> 58 Abnormal usage <input type="checkbox"/> 59 Change introduced <input type="checkbox"/> 60 Other <input type="checkbox"/> 61 N/A	<input type="checkbox"/> 62 Instruction <input type="checkbox"/> 63 Job Safety Analysis <input type="checkbox"/> 64 Rules not enforced <input type="checkbox"/> 65 Hazards not controlled <input type="checkbox"/> 66 Devices not provided <input type="checkbox"/> 67 Other <input checked="" type="checkbox"/> 68 N/A	<input type="checkbox"/> 69 Work standards <input type="checkbox"/> 70 Safety Management <input type="checkbox"/> 71 Supervision <input type="checkbox"/> 72 Training <input type="checkbox"/> 73 Other <input checked="" type="checkbox"/> 74 N/A

5. COMMUNICATION

The Nunavut Environmental Protection Act states that spills of any flammable liquid exceeding a volume of 100L must be reported within twenty-four (24) hours.

On September 23, the Environment Department gathered preliminary information and submitted a standard Nunavut Spill Report form to the twenty-four (24) hours spill line via email, and included members of Environment and Climate Change Canada (ECCC), the Nunavut Water Board (NWB), the Nunavut Impact Review Board (NIRB), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), the Government of Nunavut (GN), and the Kivalliq Inuit Association (KIA). The spill is identified in the online database as 2020-356, and was reported via email to all regulators and management via email at 17:30.

The Community Relations group is responsible for communicating with involved stakeholders.

6. RECOMMENDATION

An action plan detailing corrective and preventive measures in reference to the main camp fuel spill is summarized in Table 6 below.

Table 6: Action Plan Summary

	Type	Action Required
1	Corrective	Replace the failed solenoid valve with on-site spare.
2	Corrective	Install a return line from the CCEG daily tanks common vent to the main camp complex tank.
3	Corrective	Revise the automation commissioning of the CCBM.
4	Preventive	Implement the high-high level interlock on the solenoid valve control line.
4	Preventive	Implement the high-high level interlock on the fuel feeder pumps manual mode control line.
5	Preventive	Conduct an external verification inclusive of a risk assessment of Meliadine fuel delivery systems.
6	Preventive	Perform a survey of fuel delivery systems construction deficiencies for Meliadine.
7	Preventive	Install a filtration system before the solenoid valve.



7. APPENDIX A: LEVEL SWITCH TEST

E&I instrumentation technician conducted a test on the CCEG daily tanks switches. The objective is to determine the switches are in working condition.

The test's measure of success is confirming the level switches send signal to the PLC at applicable conditions.

The manual supply valve is closed during the emptying test. Results are in Table 7.

Table 7: E&I Test with Tank Emptying

Contact		Compliant	Notes
95% (71F-1 & 71F-2)	Opens	Yes	<ul style="list-style-type: none">Relay REL 1 OFF; andRelay REL 2 OFF
85% (71F-4)	Closes	Yes	<ul style="list-style-type: none">Voltage at TB3
40% (71F-3)	Closes	Yes	<ul style="list-style-type: none">Contact C1 ON; andSolenoid SOL 2 ON
25% (71F-2)	Closes	Yes	<ul style="list-style-type: none">Relay R1 ON;Contact C1 OFF; andCCEG low fuel level light ON
10% (71F-1)	Closes	Yes	<ul style="list-style-type: none">CCEG very low fuel level light ON

The manual supply valve is open during the filling test. Results are in Table 8.

Table 8: E&I Test with Tank Filling

Contact		Compliant	Notes
10% (71F-1)	Opens	Yes	<ul style="list-style-type: none">CCEG very low fuel level light OFF
25% (71F-2)	Opens	Yes	<ul style="list-style-type: none">CCEG low fuel level light OFF
40% (71F-3)	Opens	Yes	<ul style="list-style-type: none">Contact C1 ON
85% (71F-4)	Opens	Yes	<ul style="list-style-type: none">Contact C1 OFF; andSolenoid SOL 2 OFF

8. APPENDIX B: PICTURES



Figure 7: Aerial Spill Area



Figure 8: Spill Site



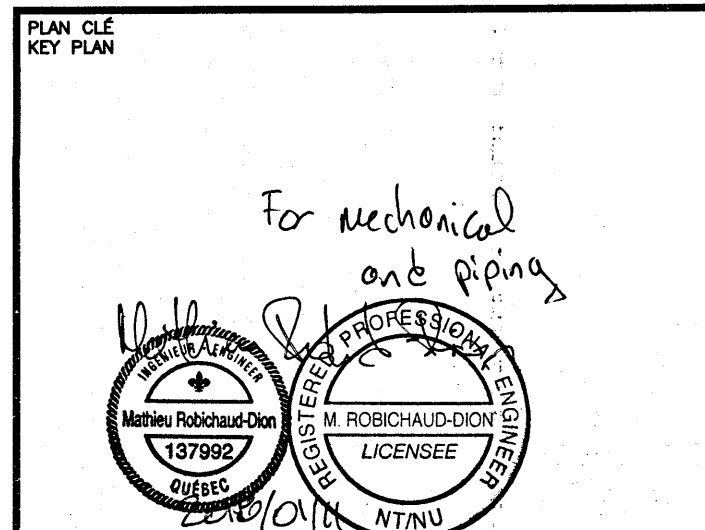
Figure 9: Digging Containment Trenches



Figure 10: Spill Site with Containment Trenches

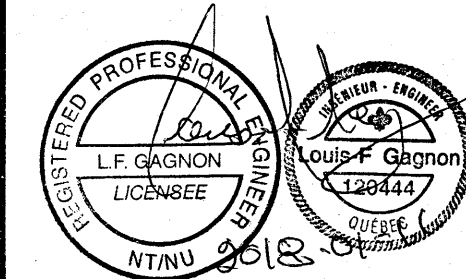


Figure 11: CCEG Daily Tanks Vent Missing Piping to Main Camp Complex Tank



NOTES GÉNÉRAL / GENERAL NOTES

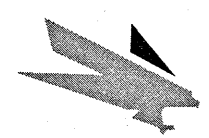
- 1-ANTI-SYPHON VALVE.
- 2- PUMP SHEETER IS INSTALLED ON COMMON BASE WITH FUEL TANK (65TNK42501).
- 3- INSTALLED DIRECTLY ON FUEL PUMP.



PERMIT TO PRACTICE
BBA INC.
Signature [Signature]
Date 2018-01-11
PERMIT NUMBER: P 858
NT/NU Association of Professional
Engineers and Geoscientists

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

[illegible]

AGNICO EAGLE

2	2018-01-11	FOR CONSTRUCTION	M.R.D.	L-F.G.	N.M.	
1	2017-08-09	FOR CONSTRUCTION	S.F.	S.F.	N.M.	
0	2017-06-22	FOR CONSTRUCTION	M.R-D.	L-F.G.	N.M.	
REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT	

REVISIONS

TITRE / TITLE
AGNICO EAGLE-MELIADINE DIVISION
425-FACILITIES CAMP COMPLEX
205-PIPING AND INSTRUMENTATION DIAGRAM
CAMP COMPLEX BOILER MODULE 2/4

DESSINÉ PAR DRAWN BY	V. DAGENAIS	DATE 2017-04-1
VÉRIFIÉ PAR CHECKED BY	S. FORTIN, P.Eng. OIQ No. 124065 NAPEG L3214	2017-04-1
APPROUVÉ PAR APPROVED BY	S. FORTIN, P.Eng. OIQ No. 124065 NAPEG L3214	2017-04-1
ÉCHELLE SCALE	N.T.S.	DATE 2016-10-24

NO. DESSIN DRAWING NO.		65-425-205-202	
NO. PROJET PROJECT NO.	6515	REVISION	FEUILLE / SHEET
		2	1 / 1

**POUR CONSTRUCTION
FOR CONSTRUCTION**

 **AGNICO EAGLE**

DATE : 2018-01-11



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 09-28-2020		REPORT TIME 16:00		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
	B	OCCURRENCE DATE: MONTH – DAY – YEAR 09-27-2020		OCCURRENCE TIME 17:00		
C		LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01			WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MEL1631	
	D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project			REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN	
E		LATITUDE DEGREES 63 MINUTES 1 SECONDS 35			LONGITUDE DEGREES 92 MINUTES 12 SECONDS 37	
	F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines Ltd.		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0		
G		ANY CONTRACTOR INVOLVED None		CONTRACTOR ADDRESS OR OFFICE LOCATION N/A		
	H	PRODUCT SPILLED Hydrex 6240 coagulant		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 500L	U.N. NUMBER 3264	
I		SECOND PRODUCT SPILLED (IF APPLICABLE) N/A		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A	U.N. NUMBER N/A	
	J	SPILL SOURCE Storage tote		SPILL CAUSE Punctured by equipment forks		AREA OF CONTAMINATION IN SQUARE METRES 200
K		FACTORS AFFECTING SPILL OR RECOVERY None		DESCRIBE ANY ASSISTANCE REQUIRED None		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT Corrosive substance
	L	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS				
M		<p>An equipment operator was attempting to transport a 3/4 full tote of coagulant from the SWTP when they accidentally punctured the bottom of the tote with the equipment forks. The operator was able to tip the tote onto its side to stop it from fully draining. The spill occurred just outside of the loading door of the SWTP.</p> <p>A backhoe was used to scrape the gravel and coagulant together to help soak it up. Contaminated material was packed into quatrex bags to be shipped south. The clean-up should be completed today. No water bodies were impacted by this spill. The nearest natural waterbody is 900m away.</p> <p>A follow-up report will be issued after a closer investigation is completed. Reported by Sean Arruda, Environment Coordinator 819-759-3555 ext. 4603996 sean.arruda@agnicoeagle.com.</p>				
	N	REPORTED TO SPILL LINE BY Sean Arruda	POSITION EnvCoordinator	EMPLOYER AEM	LOCATION CALLING FROM Meliadine	TELEPHONE 8197593555
ANY ALTERNATE CONTACT Terry Ternes		POSITION Env GeneralSuperviso	EMPLOYER AEM	ALTERNATE CONTACT Meliadine	ALTERNATE TELEPHONE 8197593555	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130	
	LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS		
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						

Follow Up Report: #20-364

September 27th, 2020 – 500 L Hydrex 6240 Spill



AGNICO EAGLE
MELIADINE

The following information refers to a spill reported by Agnico Eagle Mines Ltd. September 27th 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2AM-MEL1631 Water License, part H, item 8c
- the Government of Nunavut's, Environmental Protection Act subsection 5.1(a)

Description of Incident:

On September 27, 2020, shortly after 17:00, the Environment Department received a call requesting assistance in spill response at the SWTP. Upon arrival, the supervisor of the employee involved informed us that the equipment operating was attempting to transport a $\frac{3}{4}$ full tote of coagulant, did not use a spotter, and accidentally punctured the tote (Figure 1). The spill occurred directly outside of the SWTP loading doors (Figure 2) at the following coordinates:

63°1'35"N, 92°12'37"W



Figure 1: Punctured tote with remaining liquid inside.



Figure 2: Location of the spill on the exterior loading ramp area of the SWTP.

Spill Response & Cleanup

Upon puncturing the tote, the operator acted quickly by using the loader to tip the tote onto its side, preventing it from emptying completely (Figure 3). Spill pads and absorbent booms were deployed in an initial attempt to prevent the spill from spreading (Figure 4). The material itself was a sludge-like consistency and did not absorb deep into the compacted pad. However, the spill occurred on a sloped area, so the material spread out over a large surface area.

Workers manually began to shovel material into an empty tote, until a back-hoe arrived (Figure 4). The back-hoe was then used to scrape up a few inches of gravel/sand which helped to soak into the coagulant. The pile of contaminated gravel was then transferred into approximately 25 quatrex bags which will be shipped south as hazardous waste.



Figure 3: Initial effort to contain the spilled material from flowing away from the source.

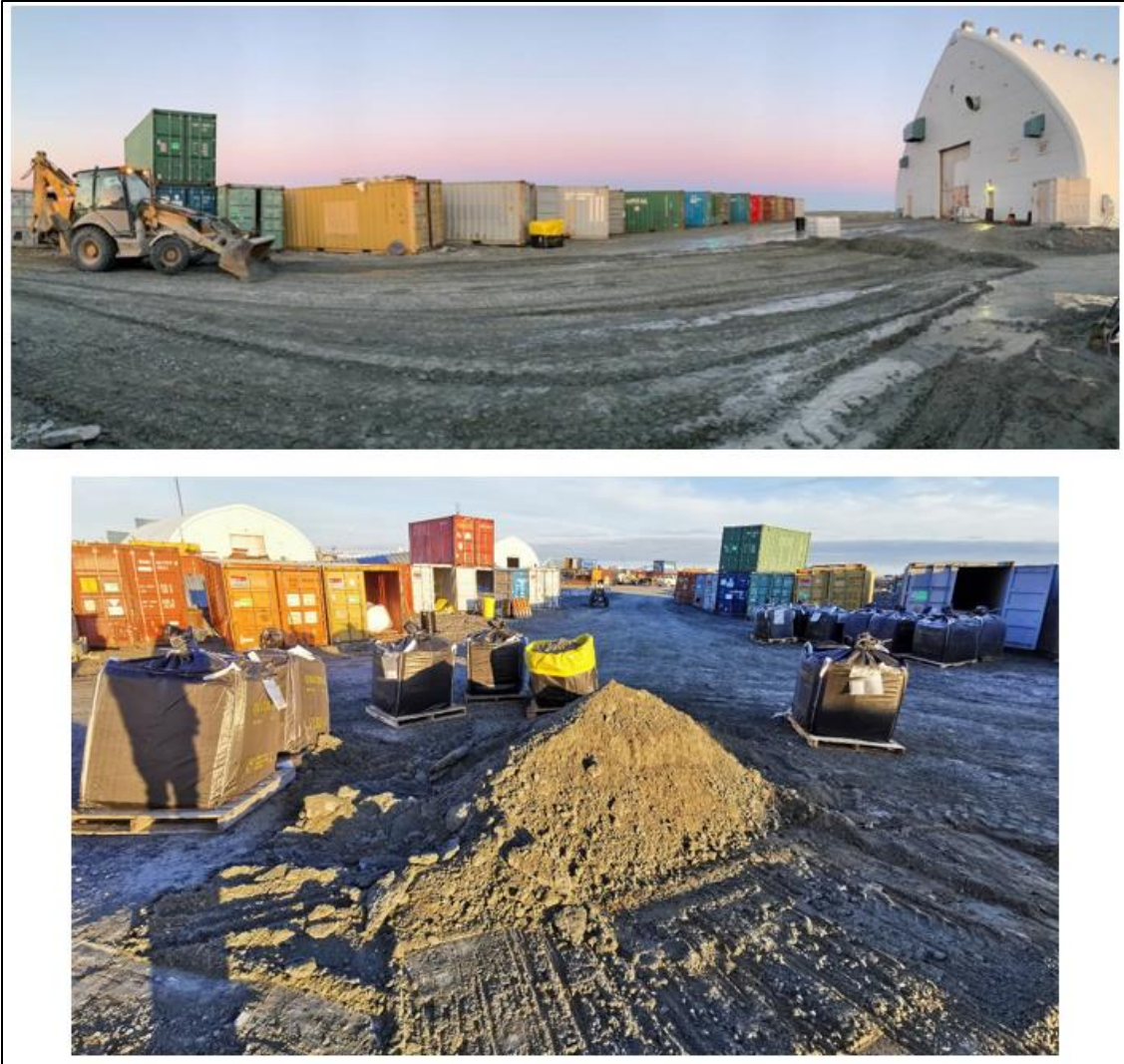






Figure 4: Spilled material and contaminated gravel removed.

Cause of Incident and Corrective Measures

The root cause of the incident was the failure of the operator to follow the procedure of using a spotter to ensure the proper alignment of the forks. In the last year Meliadine has been pushing for the all departments to ensure that a spotter is used whenever forked equipment is required to transport hazardous materials (liquids, powders, etc.). Training material has been created and communicated to workers through toolbox meetings, and a site-wide reminder has been sent out following this most recent incident. Another round of toolbox meetings will be held as an additional reminder of the importance of the use of a spotter.



Sean Arruda | Environmental Coordinator
sean.arruda@agnicoeagle.com | Direct 819.759.3555 x4603996 |
 Agnico Eagle Mines Limited - Meliadine Mine, Suite 879 - Rankin Inlet, Nunavut, Canada X0C 0G0
agnicoeagle.com    



Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 10-03-2020	REPORT TIME 15:30	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR Unknown	OCCURRENCE TIME Unknown			
C	LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01	WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MEL1631			
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 63 MINUTES 2 SECONDS 34		LONGITUDE DEGREES 92 MINUTES 15 SECONDS 26		
F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines Ltd.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0			
G	ANY CONTRACTOR INVOLVED None	CONTRACTOR ADDRESS OR OFFICE LOCATION N/A			
H	PRODUCT SPILLED Ammonium Nitrate	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 400kg	U.N. NUMBER 1942		
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A	U.N. NUMBER N/A		
I	SPILL SOURCE Seacan	SPILL CAUSE Punctured by equipment	AREA OF CONTAMINATION IN SQUARE METRES 5		
J	FACTORS AFFECTING SPILL OR RECOVERY None	DESCRIBE ANY ASSISTANCE REQUIRED None	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT None		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS A seacan containing bags of ammonium nitrate was punctured by heavy equipment causing approximately 400kg of product to be released to the ground. The damage was recently discovered and it is thought to have occurred during snow removal earlier this year. Spilled material would have been collected during snow removal, and transported to a snow storage area.				
	No water bodies were impacted by this spill. The nearest natural waterbody (B7) is 500 m away.				
	A follow-up report will be issued after a closer investigation is completed. Reported by Dan Gorton, Environment Coordinator 819-759-3555 ext. 4603996 dan.gorton@agnicoeagle.com.				
L	REPORTED TO SPILL LINE BY Dan Gorton	POSITION Env Coordinator	EMPLOYER AEM	LOCATION CALLING FROM Meliadine	TELEPHONE 8197593555
M	ANY ALTERNATE CONTACT Terry Ternes	POSITION Env GeneralSuperviso	EMPLOYER AEM	ALTERNATE CONTACT Meliadine	ALTERNATE TELEPHONE 8197593555
REPORT LINE USE ONLY					
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

Follow Up Report: #20-379

October 3rd 2020, Ammonium Nitrate Spill



The following information refers to spill 20-379 reported by Agnico Eagle Mines Ltd. October 3rd 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2AM-MEL1631 Water License, part H, item 8c
- the Government of Nunavut's, Environmental Protection Act subsection 5.1(a)

Description of Incident:

A seacan containing bags of ammonium nitrate was punctured by heavy equipment causing approximately 350 kg of product to be released to the ground. The spill was initially reported as 400 kg. However, after weighing the remaining product inside the seacan, a more accurate estimate of 350 kg was calculated. The damage was discovered October 2nd and it is thought to have occurred during snow removal earlier this year.

No water bodies were impacted by this spill. The nearest natural waterbody (B7) is 500 m away. The coordinates of the spill are 63° 2'34.15"N, 92°15'26.20"W (Figure 1).



Figure 1: Location of 350 kg Ammonium Nitrate spill and proximity to water bodies.

Spill Response & Cleanup:

Emulsion plant personnel determined that there was no risk of ignition prior to responding to the spill. The product spilled was Superprill™ Prilled Ammonium Nitrate (UN1942), which is not sensitive to mechanical impact or static discharge. Any spilled material would have likely been collected during snow removal and transported to a snow storage area. Material spilled inside the seacan was collected for use. Potentially contaminated gravel was scraped up using a bobcat and disposed of as hazmat. The damaged seacan was emptied and will no longer be used.



Figure 2: Damaged seacan containing Ammonium Nitrate.



Figure 3: Damaged Ammonium Nitrate bag and spilled product removed from seacan.

Corrective Measures

The Environment Department held a follow-up meeting with the Energy and Infrastructure Department and Dyno Nobel (Emulsion Contractor) to discuss the cause and corrective measures. Equipment operators responsible for clearing snow will be reminded of the importance of following the snow management plan and standard operating procedures prior to resuming snow removal.



Dan Gorton | Environmental Coordinator

dan.gorton@agnicoeagle.com | Direct 819.759.3555 x4603996 |

Agnico Eagle Mines Limited - Meliadine Mine, Suite 879 - Rankin Inlet, Nunavut, Canada X0C 0G0

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NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

PAGE 1 OF

Follow Up Report: #20-403

October 17th, 2020, Diesel Exhaust Fluid Spill



The following information refers to spill 20-403 reported by Agnico Eagle Mines Ltd. October 18th, 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2AM-MEL1631 Water License, part H, item 8c

Description of Incident:

A tote containing Diesel Exhaust Fluid (Urea) was punctured and approximately 800L was spilled onto a warehouse laydown pad. While moving a tote, the machine's forks were longer than the tote itself, which lead to the puncturing of an adjacent tote.

No water bodies were impacted by this spill. The nearest natural waterbody (H1) is 850 m away. The coordinates of the spill are 63° 01'51"N, 92°12'43"W (Figure 1).



Figure 1: Location of 800 L Urea Spill and Proximity to Water Bodies

Spill Response & Cleanup:

After the tote was punctured, the operator quickly flipped it upside down to stop the entire tote emptying onto the ground. As the spill occurred on an industrial pad in the middle of site, any migration of the product would be contained within the pad. According to the SDS, urea is low risk to the environment. As the risk to the environment was very low, it was determined a recovery attempt would not be made in a high traffic area.



Figure 1: Punctured Urea Tote



Figure 2: Tote Flipped to Reduce Volume of Urea Released

Cause of Incident and Corrective Measures


The root cause of the incident was the operator failing to follow the procedure, which requires the use of a spotter to ensure proper alignment of the forks. As a corrective measure, the procedure mandating a spotter for the handling of totes, drums and chemical bulk bags is being updated and re-distributed to all departments. The updated procedure will be added to forklift training provided by Meliadine's training department. Departments who have operators using forked equipment are meeting to discuss the procedure.



Bethany Hodgins | Environment Technician

bethany.hodgins@agnicoeagle.com | Direct 819.759.3555 x4603202 |

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Nunavut, Canada X0C 0G0

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Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130

FAX: (867) 873-6924

EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 10-20-2020		REPORT TIME 17:00		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
	OCCURRENCE DATE: MONTH – DAY – YEAR 10-20-2020		OCCURRENCE TIME 10:30			
C	LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01			WATER LICENCE NUMBER (IF APPLICABLE) 2BB-MEL1424		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project			REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 63 MINUTES 1 SECONDS 43			LONGITUDE DEGREES 92 MINUTES 10 SECONDS 10		
F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines Ltd.		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0			
G	ANY CONTRACTOR INVOLVED Audet & Knight		CONTRACTOR ADDRESS OR OFFICE LOCATION 140, RUE JACQUES-BIBEAU, ROUYN-NORANDA, QC			
H	PRODUCT SPILLED Treated Sewage Water		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 3000L		U.N. NUMBER N/A	
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A		U.N. NUMBER N/A	
I	SPILL SOURCE Retention Tank		SPILL CAUSE Operator Error		AREA OF CONTAMINATION IN SQUARE METRES 500	
J	FACTORS AFFECTING SPILL OR RECOVERY Location of spill		DESCRIBE ANY ASSISTANCE REQUIRED None		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT None	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS <p>At 11:00 Environment personnel responded to a call regarding a release of treated water from the sewage treatment plant retention tank at the exploration camp. The operator of the water truck failed to close the outlet valve on the truck after his previous discharge location. Upon returning to the retention tank to retrieve another load, pumping was initiated and the operator sat in the truck to wait for it to fill. Five minutes later the operator noticed the issue, and shut off the pump.</p> <p>A regular weekly sample of this water was taken the morning prior to this occurrence. Sample results from recent weeks have all been below the effluent quality limits established in Part D, Section 11 of the 2BB-MEL1424 license.</p> <p>A follow-up report will be issued after a more in depth investigation is completed.</p> <p>Reported by Sean Arruda, Environment Coordinator 819-759-3555 ext. 4603996 sean.arruda@agnicoeagle.com</p>					
L	REPORTED TO SPILL LINE BY Sean Arruda	POSITION Env Coordinator	EMPLOYER AEM	LOCATION CALLING FROM Meliadine	TELEPHONE 8197593555	
M	ANY ALTERNATE CONTACT Robin Allard	POSITION Env Gen Supervisor	EMPLOYER AEM	ALTERNATE CONTACT Meliadine LOCATION	ALTERNATE TELEPHONE 8197593555	
REPORT LINE USE ONLY						
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130	
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						

Follow Up Report: #20-405

October 20th, 2020 – 3000L Treated Sewage Water



The following information refers to a spill reported by Agnico Eagle Mines Ltd. October 20th, 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2BB-MEL1424 Water License, part H, item 4c
- Subsection 38(7) of the Fisheries Act

Description of Incident

At 11:00 am Environment personnel responded to a call regarding release of treated water from the sewage treatment plant retention tank at the exploration camp. The operator of the water truck failed to close the outlet valve on the truck after his previous discharge to CP1. Upon returning to the retention tank to retrieve another load, pumping was initiated, and the operator sat in the truck to wait for it to fill. Five minutes later, the operator noticed the issue and shut off the pump. When the Environment Department arrived, they observed that a portion of the water had made its way into Meliadine Lake. A sample of this water was taken on 2020-10-19, the results (provided in Appendix A) were below the effluent quality limits established in Part D, Section 11 of the 2BB-MEL1424 license. The coordinates of the spill were 63° 01'43"N, 92°10'10"W (Figure 1).



Figure 1: Location of Treated Water Spill

Spill Response & Cleanup

The water from the sewage treatment plant is sampled on a weekly basis (sample location MEL-7). The results from previous weeks (water chemistry and fecal coliforms) had all been below the effluent quality limits established in Part D, Section 11 of the 2BB-MEL1424 license. As this water met discharge requirements, excavating the tundra or building berms to recover a portion of the water would have caused unnecessary damage. The water was permitted to disperse naturally.



Figure 2: Treated Water Migrating Downhill

Cause of Incident and Corrective Measures

The root cause of this spill was human error, the drain valve on the water truck should have been closed before the truck was filled. The spill volume was increased due to the operator returning to the cab of the truck to warm up while the truck was filling.

To ensure this event is not repeated, multiple corrective actions are being put into place. A new procedure will be written for the task and reviewed with the workers. A heated shelter is to be installed where the operators can stand and monitor the truck loading. Finally, the pad will be extended to allow better access for trucks. The pad extension will be graded at an angle to direct any water in the area towards exploration camp and away from Meliadine lake.



Bethany Hodgins | Environment Technician

bethany.hodgins@agnicoeagle.com | Direct 819.759.3555 x4603202 |

Agnico Eagle Mines Limited - Meliadine Mine, Suite 879 - Rankin Inlet, Nunavut, Canada X0C 0G0

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Sent from Meliadine

Appendix A – Water Sample Results



900, 5th Avenue
Val-d'Or (Quebec) J9P 1B9
Phone: 819 874-0350
Toll Free: 1 877 326-8690
www.h2lab.ca

Certificate # : VD06635
Client # : 1353
Client Reference # : MEL-7

CERTIFICATE OF ANALYSIS

Agnico Eagle Meliadine
Meliadine
Rankin Inlet
Nunavut X0C 0A0

Received on:	2020/10/20
Sampled on:	2020/10/19 07:00
Matrix:	Waste Water
Sampling site code:	MEL-7
Customer information	Rush 2 JRS
Project #:	Meliadine Project
Order #:	OL-664692

Samples: MEL-7

Sampler : RS/AL

The sample's appreciation and conformity towards established norms, if applicable, is based and limited to analyzed parameters. This report can't be reproduced, unless in whole, without prior written authorization from the laboratory. The results are related only to samples submitted for testing.



Signataire: Rouyn-Noranda



900, 5th Avenue
Val-d'Or (Quebec) J9P 1B9
Phone: 819 874-0350
Toll Free: 1 877 326-8690
www.h2lab.ca

Certificate # : VD06635
Client # : 1353
Client Reference # : MEL-7

CERTIFICATE OF ANALYSIS

RESULTS

Laboratory ID		102859
Client ID		MEL-7
Matrix		Waste Water
Sampling site		MEL-7
Sampled on	unit	2020/10/19 07:00
B.H.A.A. a 2	UFC/m L	1 364
Fecal coliforms a 2	UFC/1 00 mL	2
Total coliforms a 2	UFC/1 00 mL	290
Atypical colonies 2	UFC/1 00 mL	270
E.coli a 2	UFC/1 00 mL	< 2



900, 5th Avenue
Val-d'Or (Quebec) J9P 1B9
Phone: 819 874-0350
Toll Free: 1 877 326-8690
www.h2lab.ca

Certificate # : VD06635
Client # : 1353
Client Reference # : MEL-7

CERTIFICATE OF ANALYSIS

Quality control

Parameter (method)	*LDR	Unit	Blank	Standard				Duplicate		Analyzed on
				Name	Value	Expected	Interval	#1	#2	
B.H.A.A. (M-BHAA-1.0) a	0	UFC/mL	--	--	--	--	--	--	--	2020-10-21
Fecal coliforms (M-COLI-1.0) a	0	UFC/100 mL	--	--	--	--	--	--	--	2020-10-21
E.coli (M-COLI-1.0) a	0	UFC/100 mL	--	--	--	--	--	--	--	2020-10-21
Total coliforms (M-COLI-2.0) a	0	UFC/100 mL	--	--	--	--	--	--	--	2020-10-21
Atypical colonies (M-COLI-2.0) 2	0	UFC/100 mL	--	--	--	--	--	--	--	2020-10-21

Legend :

a : Accredited parameter **UFC** : Colony forming unit **2** : analysis made by H2Lab Laboratory at Rouyn-Noranda ***LDR** : Limit of detection reported

The sample's appreciation and conformity towards established norms, if applicable, is based and limited to analyzed parameters. This report can't be reproduced, unless in whole, without prior written authorization from the laboratory. The results are related only to samples submitted for testing.

END OF CERTIFICATE



Your P.O. #: OL-891917
 Site Location: MELIADINE
 Your C.O.C. #: na

Attention: Reporting

Agnico-Eagle
 Meliadine
 Meliadine Mine
 Rankin Inlet, NU
 CANADA X0C 0G0

Report Date: 2020/10/29
 Report #: R6390439
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0R7767

Received: 2020/10/21, 13:34

Sample Matrix: Waste Water
 # Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity (1)	12	N/A	2020/10/24	CAM SOP-00448	SM 23 2320 B m
Biochemical Oxygen Demand (BOD) (1)	9	2020/10/23	2020/10/28	CAM SOP-00427	SM 23 5210B m
Chemical Oxygen Demand (1)	9	N/A	2020/10/26	CAM SOP-00416	SM 23 5220 D m
Conductivity (1)	12	N/A	2020/10/24	CAM SOP-00414	SM 23 2510 m
Total Ammonia-N (1)	8	N/A	2020/10/28	CAM SOP-00441	USGS I-2522-90 m
Total Ammonia-N (1)	1	N/A	2020/10/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (1, 2)	8	N/A	2020/10/27	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (1, 2)	1	N/A	2020/10/28	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Total Oil and Grease (1)	3	2020/10/26	2020/10/26	CAM SOP-00326	EPA1664B m, SM5520B m
pH (1)	12	2020/10/23	2020/10/24	CAM SOP-00413	SM 4500H+ B m
Total Kjeldahl Nitrogen in Water (1)	7	2020/10/26	2020/10/27	CAM SOP-00938	OMOE E3516 m
Total Kjeldahl Nitrogen in Water (1)	2	2020/10/26	2020/10/28	CAM SOP-00938	OMOE E3516 m
Total Phosphorus (Colourimetric) (1)	9	2020/10/26	2020/10/26	CAM SOP-00407	SM 23 4500 P B H m
Total Suspended Solids (1)	5	2020/10/24	2020/10/26	CAM SOP-00428	SM 23 2540D m
Low Level Total Suspended Solids (1)	7	2020/10/23	2020/10/26	CAM SOP-00428	SM 23 2540D m
Volatile Suspended Solids (1)	5	2020/10/24	2020/10/26	CAM SOP-00428	SM 23 2540 m
Low Level Volatile Suspended Solids (1)	7	2020/10/23	2020/10/26	CAM SOP-00428	SM 23 2540

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.



Your P.O. #: OL-891917
Site Location: MELIADINE
Your C.O.C. #: na

Attention: Reporting

Agnico-Eagle
Meliadine
Meliadine Mine
Rankin Inlet, NU
CANADA X0C 0G0

Report Date: 2020/10/29
Report #: R6390439
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0R7767

Received: 2020/10/21, 13:34

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Laboratories Mississauga

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

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

Katherine Szozda, Project Manager

Email: Katherine.Szozda@bvlabs.com

Phone# (613)274-0573 Ext:7063633

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: COR7767

Report Date: 2020/10/29

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

RESULTS OF ANALYSES OF WASTE WATER

BV Labs ID		NYM342			NYM342		
Sampling Date		2020/10/19 07:00			2020/10/19 07:00		
COC Number		na			na		
	UNITS	H20I-STP-FINAL	RDL	QC Batch	H20I-STP-FINAL Lab-Dup	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	0.21	0.050	7020619			
Total BOD	mg/L	<2	2	7016359	<2	2	7016359
Total Chemical Oxygen Demand (COD)	mg/L	24	4.0	7020198	22	4.0	7020198
Conductivity	umho/cm	870	1.0	7017287			
Total Kjeldahl Nitrogen (TKN)	mg/L	<2.0 (1)	2.0	7020226			
pH	pH	7.15		7017291			
Total Phosphorus	mg/L	6.4	0.020	7020043			
Total Suspended Solids	mg/L	<1	1	7016824			
Volatile Suspended Solids	mg/L	<1	1	7016831			
Alkalinity (Total as CaCO ₃)	mg/L	35	1.0	7017281			
Nitrite (N)	mg/L	0.022	0.010	7018596			
Nitrate (N)	mg/L	47.7	0.50	7018596			
Nitrate + Nitrite (N)	mg/L	47.7	0.50	7018596			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate (1) Due to a high concentration of NOX, the sample required dilution. Detection limits were adjusted accordingly.							



BUREAU
VERITAS

BV Labs Job #: COR7767

Report Date: 2020/10/29

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

RESULTS OF ANALYSES OF WASTE WATER

BV Labs ID		NYM343			NYM344		
Sampling Date		2020/10/19 07:00			2020/10/19 07:00		
COC Number		na			na		
	UNITS	H2OI-STP-FINAL DUP	RDL	QC Batch	H2OI-STP-FINAL FB	RDL	QC Batch
Inorganics							
Total Ammonia-N	mg/L	0.096	0.050	7020619	0.14	0.050	7026794
Total BOD	mg/L	<2	2	7016359	<2	2	7016359
Total Chemical Oxygen Demand (COD)	mg/L	27	4.0	7020198	<4.0	4.0	7020198
Conductivity	umho/cm	870	1.0	7017287	1.3	1.0	7017287
Total Kjeldahl Nitrogen (TKN)	mg/L	2.4	2.0	7020226	<0.10	0.10	7020226
pH	pH	7.23		7017291	5.86		7017291
Total Phosphorus	mg/L	6.4	0.020	7020043	0.044	0.020	7020043
Total Suspended Solids	mg/L	<1	1	7016824	<1	1	7016824
Volatile Suspended Solids	mg/L	<1	1	7016831	<1	1	7016831
Alkalinity (Total as CaCO ₃)	mg/L	34	1.0	7017281	<1.0	1.0	7017281
Nitrite (N)	mg/L	0.023	0.010	7018596	<0.010	0.010	7018596
Nitrate (N)	mg/L	47.8	0.50	7018596	<0.10	0.10	7018596
Nitrate + Nitrite (N)	mg/L	47.8	0.50	7018596	<0.10	0.10	7018596
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



BUREAU
VERITAS

BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

RESULTS OF ANALYSES OF WASTE WATER

BV Labs ID		NYM345	NYM346			NYM347		
Sampling Date		2020/10/19 06:25	2020/10/19 06:25			2020/10/19 06:25		
COC Number		na	na			na		
	UNITS	H2OI-STP-IN	H2OI-STP-IN DUP	RDL	QC Batch	H2OI-STP-IN FB	RDL	QC Batch
Inorganics								
Total Ammonia-N	mg/L	51	51	0.25	7020619	<0.050	0.050	7020619
Total BOD	mg/L	520	490	2	7016359	<2	2	7016359
Total Chemical Oxygen Demand (COD)	mg/L	540	620	32	7020198	<4.0	4.0	7020198
Conductivity	umho/cm	930	920	1.0	7017287	1.3	1.0	7017287
Total Kjeldahl Nitrogen (TKN)	mg/L	63	65	2.0	7020226	<0.10	0.10	7020226
pH	pH	7.43	7.44		7017291	5.82		7017291
Total Phosphorus	mg/L	9.1	9.3	0.040	7020043	0.042	0.020	7020043
Total Suspended Solids	mg/L	420	300	25	7018887	<1	1	7016824
Volatile Suspended Solids	mg/L	300	220	50	7018900	<1	1	7016831
Alkalinity (Total as CaCO3)	mg/L	260	260	1.0	7017281	1.2	1.0	7017281
Nitrite (N)	mg/L	0.016	0.011	0.010	7018596	<0.010	0.010	7018596
Nitrate (N)	mg/L	<0.10	<0.10	0.10	7018596	<0.10	0.10	7018596
Nitrate + Nitrite (N)	mg/L	<0.10	<0.10	0.10	7018596	<0.10	0.10	7018596
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



BUREAU
VERITAS

BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

RESULTS OF ANALYSES OF WASTE WATER

BV Labs ID		NYM347			NYM348	NYM349		
Sampling Date		2020/10/19 06:25			2020/10/19 07:10	2020/10/19 07:10		
COC Number		na			na	na		
	UNITS	H20I-STP-IN FB Lab-Dup	RDL	QC Batch	STP LIQUOR MIXED	STP LIQUOR MIXED DUP	RDL	QC Batch

Inorganics								
Conductivity	umho/cm				920	920	1.0	7017287
pH	pH				7.52	7.53		7017291
Total Suspended Solids	mg/L				13000	12000	100	7018887
Volatile Suspended Solids	mg/L				8000	7900	100	7018900
Alkalinity (Total as CaCO ₃)	mg/L				240	240	1.0	7017281
Nitrite (N)	mg/L	<0.010	0.010	7018596				
Nitrate (N)	mg/L	<0.10	0.10	7018596				
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7018596				

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

BV Labs ID		NYM350			NYM350		
Sampling Date		2020/10/19 07:10			2020/10/19 07:10		
COC Number		na			na		
	UNITS	STP LIQUOR MIXED FB	RDL	QC Batch	STP LIQUOR MIXED FB Lab-Dup	RDL	QC Batch

Inorganics							
Conductivity	umho/cm	1.2	1.0	7017287			
pH	pH	5.82		7017291			
Total Suspended Solids	mg/L	<10	10	7018887	<10	10	7018887
Volatile Suspended Solids	mg/L	<10	10	7018900	<10	10	7018900
Alkalinity (Total as CaCO ₃)	mg/L	1.4	1.0	7017281			

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate



BUREAU
VERITAS

BV Labs Job #: COR7767

Report Date: 2020/10/29

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

RESULTS OF ANALYSES OF WASTE WATER

BV Labs ID		NYM351		NYM352			NYM352		
Sampling Date		2020/10/19 06:58		2020/10/19 06:58			2020/10/19 06:58		
COC Number		na		na			na		
	UNITS	MEL-7	QC Batch	MEL-7 DUP	RDL	QC Batch	MEL-7 DUP Lab-Dup	RDL	QC Batch

Inorganics									
Total Ammonia-N	mg/L	12	7020619	12	0.050	7020619			
Total BOD	mg/L	6	7016359	5	2	7016359			
Total Chemical Oxygen Demand (COD)	mg/L	66	7020198	67	4.0	7020198			
Conductivity	umho/cm	510	7017287	510	1.0	7017287			
Total Kjeldahl Nitrogen (TKN)	mg/L	13	7020226	13	2.0	7020226			
pH	pH	7.48	7017291	7.50		7017291			
Total Phosphorus	mg/L	7.9	7020043	8.1	0.020	7020043			
Total Suspended Solids	mg/L	6	7016824	6	1	7016824	6	1	7016824
Volatile Suspended Solids	mg/L	6	7016831	6	1	7016831	6	1	7016831
Alkalinity (Total as CaCO ₃)	mg/L	66	7017281	66	1.0	7017281			
Nitrite (N)	mg/L	0.469	7018596	0.297	0.010	7018596			
Nitrate (N)	mg/L	10.7	7018596	11.0	0.10	7018596			
Nitrate + Nitrite (N)	mg/L	11.1	7018596	11.3	0.10	7018596			
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	0.80	7019659	0.60	0.50	7019659			
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									



BUREAU
VERITAS

BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

RESULTS OF ANALYSES OF WASTE WATER

BV Labs ID		NYM353		
Sampling Date		2020/10/19 06:58		
COC Number		na		
	UNITS	MEL-7 FB	RDL	QC Batch
Inorganics				
Total Ammonia-N	mg/L	<0.050	0.050	7020619
Total BOD	mg/L	<2	2	7016359
Total Chemical Oxygen Demand (COD)	mg/L	<4.0	4.0	7020198
Conductivity	umho/cm	1.2	1.0	7017287
Total Kjeldahl Nitrogen (TKN)	mg/L	0.38	0.10	7020226
pH	pH	5.88		7017291
Total Phosphorus	mg/L	0.054	0.020	7020043
Total Suspended Solids	mg/L	<1	1	7016824
Volatile Suspended Solids	mg/L	<1	1	7016831
Alkalinity (Total as CaCO ₃)	mg/L	<1.0	1.0	7017281
Nitrite (N)	mg/L	<0.010	0.010	7018596
Nitrate (N)	mg/L	<0.10	0.10	7018596
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7018596
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	0.90	0.50	7019659
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NYM342
Sample ID: H2OI-STP-FINAL
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM342 Dup
Sample ID: H2OI-STP-FINAL
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh

BV Labs ID: NYM343
Sample ID: H2OI-STP-FINAL DUP
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM344
Sample ID: H2OI-STP-FINAL FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh



BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NYM344
Sample ID: H2OI-STP-FINAL FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7026794	N/A	2020/10/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/28	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM345
Sample ID: H2OI-STP-IN
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Total Suspended Solids	BAL	7018887	2020/10/24	2020/10/26	Margesh Majmunda
Volatile Suspended Solids	BAL	7018900	2020/10/24	2020/10/26	Margesh Majmunda

BV Labs ID: NYM346
Sample ID: H2OI-STP-IN DUP
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Total Suspended Solids	BAL	7018887	2020/10/24	2020/10/26	Margesh Majmunda
Volatile Suspended Solids	BAL	7018900	2020/10/24	2020/10/26	Margesh Majmunda



BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NYM347
Sample ID: H2OI-STP-IN FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/28	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM347 Dup
Sample ID: H2OI-STP-IN FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal

BV Labs ID: NYM348
Sample ID: STP LIQUOR MIXED
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Suspended Solids	BAL	7018887	2020/10/24	2020/10/26	Margesh Majmunda
Volatile Suspended Solids	BAL	7018900	2020/10/24	2020/10/26	Margesh Majmunda

BV Labs ID: NYM349
Sample ID: STP LIQUOR MIXED DUP
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Suspended Solids	BAL	7018887	2020/10/24	2020/10/26	Margesh Majmunda
Volatile Suspended Solids	BAL	7018900	2020/10/24	2020/10/26	Margesh Majmunda



BV Labs Job #: COR7767
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Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NYM350
Sample ID: STP LIQUOR MIXED FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Suspended Solids	BAL	7018887	2020/10/24	2020/10/26	Margesh Majmunda
Volatile Suspended Solids	BAL	7018900	2020/10/24	2020/10/26	Margesh Majmunda

BV Labs ID: NYM350 Dup
Sample ID: STP LIQUOR MIXED FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Suspended Solids	BAL	7018887	2020/10/24	2020/10/26	Margesh Majmunda
Volatile Suspended Solids	BAL	7018900	2020/10/24	2020/10/26	Margesh Majmunda

BV Labs ID: NYM351
Sample ID: MEL-7
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
Total Oil and Grease	BAL	7019659	2020/10/26	2020/10/26	Francis Afonso
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM352
Sample ID: MEL-7 DUP
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018595	N/A	2020/10/28	Chandra Nandlal
Total Oil and Grease	BAL	7019659	2020/10/26	2020/10/26	Francis Afonso
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai



BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

TEST SUMMARY

BV Labs ID: NYM352
Sample ID: MEL-7 DUP
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM352 Dup
Sample ID: MEL-7 DUP
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan

BV Labs ID: NYM353
Sample ID: MEL-7 FB
Matrix: Waste Water

Collected: 2020/10/19
Shipped:
Received: 2020/10/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7017281	N/A	2020/10/24	Surinder Rai
Biochemical Oxygen Demand (BOD)	DO	7016359	2020/10/23	2020/10/28	Navjot Kaur Gill
Chemical Oxygen Demand	SPEC	7020198	N/A	2020/10/26	Nimarta Singh
Conductivity	AT	7017287	N/A	2020/10/24	Surinder Rai
Total Ammonia-N	LACH/NH4	7020619	N/A	2020/10/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7018596	N/A	2020/10/27	Chandra Nandlal
Total Oil and Grease	BAL	7019659	2020/10/26	2020/10/26	Francis Afonso
pH	AT	7017291	2020/10/23	2020/10/24	Surinder Rai
Total Kjeldahl Nitrogen in Water	SKAL	7020226	2020/10/26	2020/10/27	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	7020043	2020/10/26	2020/10/26	Shivani Shivani
Low Level Total Suspended Solids	BAL	7016824	2020/10/23	2020/10/26	Massarat Jan
Low Level Volatile Suspended Solids	BAL	7016831	2020/10/23	2020/10/26	Massarat Jan



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.0°C
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Sample NYM344 [H2OI-STP-FINAL FB] : TKN < Ammonia: Both values fall within the method uncertainty for duplicates and are likely equivalent.

The Ammonia results were reported by analysing sample from TKN bottle.

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: COR7767

Report Date: 2020/10/29

QUALITY ASSURANCE REPORT

Agnico-Eagle

Site Location: MELIADINE

Your P.O. #: OL-891917

Sampler Initials: RS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7016359	Total BOD	2020/10/28					<2	mg/L	NC	30	98	80 - 120
7016824	Total Suspended Solids	2020/10/26					<1	mg/L	3.3	25	100	85 - 115
7016831	Volatile Suspended Solids	2020/10/26					<1	mg/L	3.5	25		
7017281	Alkalinity (Total as CaCO ₃)	2020/10/24			97	85 - 115	<1.0	mg/L	0.29	20		
7017287	Conductivity	2020/10/24			101	85 - 115	<1.0	umho/cm	1.7	25		
7017291	pH	2020/10/24			101	98 - 103			0.67	N/A		
7018595	Nitrate (N)	2020/10/28	112	80 - 120	97	80 - 120	<0.10	mg/L	NC	20		
7018595	Nitrite (N)	2020/10/28	116	80 - 120	106	80 - 120	<0.010	mg/L	NC	20		
7018596	Nitrate (N)	2020/10/27	96	80 - 120	98	80 - 120	<0.10	mg/L	NC	20		
7018596	Nitrite (N)	2020/10/27	104	80 - 120	105	80 - 120	<0.010	mg/L	NC	20		
7018887	Total Suspended Solids	2020/10/26					<10	mg/L	NC	25	97	85 - 115
7018900	Volatile Suspended Solids	2020/10/26					<10	mg/L	NC	25		
7019659	Total Oil & Grease	2020/10/26			99	85 - 115	<0.50	mg/L	1.5	25		
7020043	Total Phosphorus	2020/10/26	98	80 - 120	101	80 - 120	<0.020	mg/L	1.9	20	95	80 - 120
7020198	Total Chemical Oxygen Demand (COD)	2020/10/26	94	80 - 120	105	80 - 120	<4.0	mg/L	8.9	20		
7020226	Total Kjeldahl Nitrogen (TKN)	2020/10/27	113	80 - 120	102	80 - 120	<0.10	mg/L	3.0	20	102	80 - 120
7020619	Total Ammonia-N	2020/10/28	100	75 - 125	101	80 - 120	<0.050	mg/L	2.2	20		
7026794	Total Ammonia-N	2020/10/29	97	75 - 125	98	80 - 120	<0.050	mg/L	NC	20		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



BUREAU
VERITAS

BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

VALIDATION SIGNATURE PAGE

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




Ewa Pranjić, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: COR7767
Report Date: 2020/10/29

Agnico-Eagle
Site Location: MELIADINE
Your P.O. #: OL-891917
Sampler Initials: RS

Exceedance Summary Table – Metal Mining Effluent Reg
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Canada

NT-NU SPILL REPORT

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EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 11-18-2020	REPORT TIME 16:00	<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR 11-17-2020	OCCURRENCE TIME 19:00			
C	LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01	WATER LICENCE NUMBER (IF APPLICABLE) 2BB-MEL1424			
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project		REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 63 MINUTES 1 SECONDS 41		LONGITUDE DEGREES 92 MINUTES 13 SECONDS 54		
F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines, Ltd.	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0			
G	ANY CONTRACTOR INVOLVED Orbit Garant Drilling	CONTRACTOR ADDRESS OR OFFICE LOCATION 3200, boulevard Jean-Jacques Cossette, Val-d'Or, Qc, J9P 7G4			
H	PRODUCT SPILLED Diesel	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES Unknown	U.N. NUMBER 1202		
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A	U.N. NUMBER N/A		
I	SPILL SOURCE Diamond Drill Pump	SPILL CAUSE Fire	AREA OF CONTAMINATION IN SQUARE METRES 50		
J	FACTORS AFFECTING SPILL OR RECOVERY Frozen ground	DESCRIBE ANY ASSISTANCE REQUIRED N/A	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS A water pump shack of a diamond drill operating on the shore of lake B7 experienced a fire during the night shift. After extinguishing the fire and moving the shack away from the area, charred material and potentially contaminated fire suppression water remained on the snow and lake ice. An investigation is underway to determine what, if any hydrocarbons were released, and efforts are underway to recover the contaminated material. A follow-up report will be issued after a closer investigation is completed. Reported by Sean Arruda, Environment Coordinator 819-759-3555 ext. 4603996 sean.arruda@agnicoeagle.com."				
L	REPORTED TO SPILL LINE BY Sean Arruda	POSITION Env. Coordinator	EMPLOYER AEM	LOCATION CALLING FROM Meliadine	TELEPHONE 819-759-3555
M	ANY ALTERNATE CONTACT Robin Allard	POSITION Env. Gen. Supervisor	EMPLOYER AEM	ALTERNATE CONTACT Meliadine LOCATION	ALTERNATE TELEPHONE 819-860-1414
REPORT LINE USE ONLY					
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS	
LEAD AGENCY					
FIRST SUPPORT AGENCY					
SECOND SUPPORT AGENCY					
THIRD SUPPORT AGENCY					

Follow Up Report: #20-440

November 17, 2020 – Surface Diamond Drill Fire

The following information refers to an incident reported by Agnico Eagle Mines Ltd. November 18, 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2BB-MEL1424 Water License, part H, item 4c
- Subsection 38(7) of the Fisheries Act

Description of Incident

At approximately 19:00 on November 17, drillers working at a surface diamond drill noticed flames inside the drill's fresh water pump shack, located on the shore area of lake B7 (Figure 1). The Emergency Response Team used the fire truck to suppress the fire with water. Snow was also packed into the shack afterwards to prevent re-ignition. Due to the nature of the shack, the interior contains oil or grease covered surfaces. The act of suppressing the fire with water led to the release of charred material onto the ground and ice, some of which was contained within the shack (Figure 2 and Figure 3).

The fire truck holds approximately 3,000L of water, and it is estimated that about 75% of the tank was used (2,250L) to suppress the fire. This would be the maximum amount of water that could have been released, assuming none of it was contained within the shack.



Figure 1: Location of the pump shack fire in proximity to lake B7.

Spill Response & Cleanup

On November 19 the Orbit Garant drilling team was able to plow all of the contaminated snow and ice into a large pile (Figure 4). This material was then brought to the Snow Cell (Figure 1) on site where it will be stored until the summer, and treated through the oil-water separator.



Figure 2: Photos of the pump shack after the fire was suppressed and the shack was towed back to the shop.



Figure 3: Fire suppression water which was not contained within the shack, absorbed into the surrounding snow and ice, and contained charred material.



Figure 4: All contaminated snow and ice was scraped into a pile and brought to the snow cell.

Cause of Incident and Corrective Measures

The root cause of this incident relates back to the cause of the fire, and the need to suppress it with water. The incident has been investigated separately by the Health and Safety team, and one of the main contributing factors was the lack of preventive maintenance and inspections on the pump. The Orbit supervisor has reviewed the incident with all crews, and highlighted the importance of completing these mandatory inspections.

After this incident, all other pump shacks were inspected to ensure they were operating safely. Regular inspections will be completed and documented by the Exploration team. The daily inspection template was updated to specifically include checks of the pump shacks.



Sean Arruda | Environment Coordinator

sean.arruda@agnicoeagle.com | Direct 819.759.3555 x4603996 |

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EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 12-15-2020		REPORT TIME 16:45		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT		REPORT NUMBER _____
B	OCCURRENCE DATE: MONTH – DAY – YEAR 12-15-2020		OCCURRENCE TIME 00:30				
C	LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01			WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MEL1631			
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project				REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES 63 MINUTES 2 SECONDS 4			LONGITUDE DEGREES 92 MINUTES 13 SECONDS 14			
F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines Ltd.		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0				
G	ANY CONTRACTOR INVOLVED N/A		CONTRACTOR ADDRESS OR OFFICE LOCATION N/A				
H	PRODUCT SPILLED Hydraulic Oil		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 280 Liters		U.N. NUMBER		
	SECOND PRODUCT SPILLED (IF APPLICABLE) N/A		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A		U.N. NUMBER N/A		
I	SPILL SOURCE Haul Truck		SPILL CAUSE Broken Hose		AREA OF CONTAMINATION IN SQUARE METRES 6 M2		
J	FACTORS AFFECTING SPILL OR RECOVERY		DESCRIBE ANY ASSISTANCE REQUIRED		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT		
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS A broken hydraulic hose on a 50T haul truck led to the release of an estimated 280L of hydraulic oil on Ore Pad 2 (OP2). The equipment was stopped and absorbent pads laid out to contain the spill. Clean-up work is underway. No water bodies were impacted by this spill. The nearest natural water-body (B7) is 500 m away. A follow-up report will be issued after a closer investigation is completed. Reported by Sean Arruda Environment Coordinator 819-759-3555 ext. 4603996 sean.arruda@agnicoeagle.com.						
L	REPORTED TO SPILL LINE BY Sean Arruda	POSITION Env. Coordinator	EMPLOYER AEM	LOCATION CALLING FROM Meliadine	TELEPHONE 819-759-3555		
M	ANY ALTERNATE CONTACT Robin Allard	POSITION Env. Gen. Supervisor	EMPLOYER AEM	ALTERNATE CONTACT Meliadine LOCATION	ALTERNATE TELEPHONE 819-860-1414		
REPORT LINE USE ONLY							
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130		
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED		
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS			
LEAD AGENCY							
FIRST SUPPORT AGENCY							
SECOND SUPPORT AGENCY							
THIRD SUPPORT AGENCY							

Follow Up Report: #20-463

December 15, 2020 – Haul Truck Hydraulic Spill

The following information refers to an incident reported by Agnico Eagle Mines Ltd. December 15, 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2AM-MEL1631 Water License, Part H, item 8c

Description of Incident

At approximately 00:30 on November 15, 2020, a 50 ton haul truck working on the Ore Pad 2 (OP2) experienced a hydraulic hose failure. The operator lost hydraulic power and noticed the oil draining onto the pad. Workers used absorbents to contain and absorb as much oil as they could, but were unable to actually stop the hydraulic tank from draining out. Approximately 280L was released onto the ore pad.

The coordinates of this spill are 63° 2'4.41"N, 92°13'16.04"W. No water bodies were impacted by this spill.



Figure 1: Location of the spill on OP2.

Spill Response & Cleanup

Operators used absorbent pads to absorb as much of the oil as possible. The spill occurred adjacent to an ore pile and some of the oil made its way under the ore. The ore pile was pushed aside with a loader, and the affected ore was processed through the mill. The pad material below was scraped up with a loader, and approximately one cubic meter of pad gravel was removed and brought to the Landfarm A for future remediation.



Figure 2: Process photos of the clean up of the contaminated ore.

Cause of Incident and Corrective Measures

The specific cause in this incident was wear and tear on the vehicle. The operator did not notice hitting any rocks or debris, but the hydraulic hose came apart from the connection. Extremely cold temperatures were also a likely factor. Mandatory vehicle inspections are completed daily before each use, and a strict preventive maintenance schedule is followed. The hydraulic system was repaired, and the truck is back in operation.



Sean Arruda | Environment Coordinator

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EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR 12-21-2020		REPORT TIME 11:00		<input checked="" type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____	
	B	OCCURRENCE DATE: MONTH – DAY – YEAR 12-20-2020		OCCURRENCE TIME 17:00			
C		LAND USE PERMIT NUMBER (IF APPLICABLE) KVPL11D01			WATER LICENCE NUMBER (IF APPLICABLE) 2AM-MEL1631		
	D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION Meliadine Gold Project			REGION <input type="checkbox"/> NWT <input checked="" type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN		
E		LATITUDE DEGREES 63 MINUTES 2 SECONDS 23			LONGITUDE DEGREES 92 MINUTES 13 SECONDS 39		
	F	RESPONSIBLE PARTY OR VESSEL NAME Agnico Eagle Mines Ltd.		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION Meliadine, Rankin Inlet, Nunavut, X0C 0G0			
G		ANY CONTRACTOR INVOLVED N/A		CONTRACTOR ADDRESS OR OFFICE LOCATION N/A			
	H	PRODUCT SPILLED Untreated Sewage		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES 60 Liters		U.N. NUMBER N/A	
I		SECOND PRODUCT SPILLED (IF APPLICABLE) N/A		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES N/A		U.N. NUMBER N/A	
	J	SPILL SOURCE P-Wing		SPILL CAUSE Failed pipe clamp		AREA OF CONTAMINATION IN SQUARE METRES 2	
K		FACTORS AFFECTING SPILL OR RECOVERY N/A		DESCRIBE ANY ASSISTANCE REQUIRED N/A		HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT N/A	
	L	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS A pipe which transports untreated sewage water from the P-Wing to the main camp lift station, experienced a victaulic clamp failure, which released 60L of untreated sewage water onto the ground. The water pooled in a depression located directly north of the P-Wing, at the toe of the pad of the main camp. The sucker truck was used to recover the pooled water, which was then deposited into the MSB lift station. No water bodies were impacted by this spill. The nearest natural water-body (G2) is 305 m away. A follow-up report will be issued at a later date. Reported by Sean Arruda Environment Coordinator 819-759-3555 ext. 4603996 sean.arruda@agnicoeagle.com.					
M		REPORTED TO SPILL LINE BY Sean Arruda		POSITION Env. Coordinator		EMPLOYER AEM	
	N	ANY ALTERNATE CONTACT Robin Allard		POSITION Env. Gen. Supervisor		EMPLOYER AEM	
LOCATION CALLING FROM Meliadine		TELEPHONE 819-759-3555		ALTERNATE CONTACT Meliadine			
ALTERNATE TELEPHONE 819-860-1414		REPORT LINE USE ONLY					
N	RECEIVED AT SPILL LINE BY		POSITION STATION OPERATOR		EMPLOYER		
	LOCATION CALLED YELLOWKNIFE, NT		REPORT LINE NUMBER (867) 920-8130		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED		
LEAD AGENCY <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC		SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED			
AGENCY		CONTACT NAME		CONTACT TIME		REMARKS	
LEAD AGENCY							
FIRST SUPPORT AGENCY							
SECOND SUPPORT AGENCY							
THIRD SUPPORT AGENCY							

Follow Up Report: #20-466

December 20, 2020 – 60 L Untreated Sewage

The following information refers to an incident reported by Agnico Eagle Mines Ltd. December 20, 2020, and is being provided in accordance with:

- the Nunavut Water Board License 2AM-MEL1631 Water License, Part H, item 8c

Description of Incident

At approximately 17:00 on December 20, 2020, the Environment Department was notified of a spill of an unknown amount of raw sewage/retention tank water. The spill was later estimated to be approximately 60 L. It occurred when a Victaulic fitting failed, which was connecting two segments of piping together. The piping transports water from the retention tank of the newly installed P-Wing to the main camp lift station.

The coordinates of this spill are 63° 2' 23"N, 92° 13' 39"W. No water bodies were impacted by this spill. The closest water body was approximately 315 m away.



Figure 1: Location of the spill beside P-Wing.

Spill Response & Cleanup

The water pooled in a depression at the toe of the pad behind P-Wing, making the recovery of the liquid straight forward. The sucker truck was used to recover the pooled water, which was later deposited into the MSB lift station.

Cause of Incident and Corrective Measures





Workers emptying the retention tank had adjusted a segment of the pipe and the fitting was loose and slipped off the pipe. Any residual water within the pipe drained out at that section. A closer inspection revealed that this was not the correct fitting for that type of pipe, and so when the pipe was adjusted it came loose. The fitting has since been replaced with a more suitable one.



Sean Arruda | Environment Coordinator

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