

## **Appendix F2**

---

### **Underground Fuel Line Report of Actions**

---



## AGNICO EAGLE

September 21<sup>th</sup>, 2015

Mr. Luis Manzo  
Director of Lands  
Kivalliq Inuit Association  
P.O. Box 340  
Rankin Inlet, NU  
X0C 0G0  
Phone: (867) 645-5731

**Subject: Meadowbank Mine underground fuel line between fuel farm and power plant**

Mr. Manzo,

Please find attached the report of actions taken during summer 2015 regarding the Meadowbank Mine underground fuel line between fuel farm and power plant. As mentioned in three quarterly reports sent to KIA in 2014 and 2015 (section 4.1 Q3 2014, Q4 2014 and Q1 2015) and also during a phone conversation on September 17th, 2014 between Luis Manzo and Ryan Vanengen, hydrostatic tests, conducted on September 15th, 2014 on the fuel line between Meadowbank tank farm and the power house, did not pass the specifications. The underground fuel line was immediately decommissioned. An above ground fuel line was constructed to replace the underground line and you were advised at the time that AEM would undertake an investigation in 2015 during the summer months to assess the possibility of any leakage.

Please note the following actions in response to the above concern.

Should you have any questions please do not hesitate to contact the undersigned.

Regards,

Kevin Buck  
[Kevin.buck@agnicoeagle.com](mailto:Kevin.buck@agnicoeagle.com)  
819-759-3555 x6838  
Environment Superintendent Nunavut



# AGNICO EAGLE

## **Meadowbank Mine Underground Fuel Line Between Fuel Farm and Power Plant**

### **Description of the Event and Immediate Actions Taken**

On September 14<sup>th</sup>, 2014, Agnico Eagle Mines, Meadowbank (AEM) emptied the fuel line between the fuel tank and the power house in preparation for the annual hydrostatic testing. Figure 1 presents the approximate location of the underground fuel line. On September 18<sup>th</sup>, 2013 a contractor came to the Meadowbank site and performed a hydrostatic test on the fuel line; the test performed met the specifications. On September 15<sup>th</sup>, 2014, the annual hydrostatic test was performed and did not meet the specifications. The result indicated that the line is not conforming to the Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products Section 6.2.11 (1).

KIA (Luiz Manzo) was informed of the situation by Ryan Vanengen (Environment Superintendent at AEM Meadowbank at the time) by phone conversation on September 17<sup>th</sup>, 2014.

Since September 14<sup>th</sup>, 2014, when the fuel was removed from the line for the hydrostatic testing, the underground fuel line at Meadowbank has not been in used. Although there was no evidence of a possible fuel leak or spill from the line, it was decided to decommission the line following the failed hydrostatic test. It was then decided that a new, above ground, fuel line would be installed between the power house and the fuel farm. The construction and installation of this new above ground fuel line was started on September 27<sup>th</sup>, 2014 and completed on January 12<sup>th</sup>, 2015. Fuel trucks were carrying fuel to the power house and no fuel was in the underground line from September 14<sup>th</sup>, 2014 to January 12<sup>th</sup>, 2015. Since January 12<sup>th</sup> 2015, the fuel is being transferred from the fuel farm to the power house through the new above ground line.

As the hydrostatic test failure on the underground fuel line occurred in the fall and because the line was emptied and not in use, it was decided that the investigation would commence during summer 2015, when the ground would be unfrozen and suitable for excavation. Investigation actions described in the section below were to determine the location of any possible leak and its magnitude. Work to eliminate all residual fuel in the underground pipe was completed in December 2014.

### **Investigation Actions**

Investigation work to determine the location of possible leakage started in July and completed in August 2015. Air pressure testing and soil testing were performed.

#### **Pressure tests performed on the underground line:**

- A section of the pipe was excavated in the area between the Power House and the Fuel Farm (see location on Figure 1- Test Pit #1).
- The underground line was cut and closed with flanges.



## AGNICO EAGLE

- A first pressure test was performed with an air compressor between the Test Pit #1 and the Power House. The pressure (30 pounds) was maintained for 12 hours. Pressure was monitored every 4 hours. No pressure loss was recorded.
- A second pressure test was performed with an air compressor between the Test Pit #1 and the Fuel Farm. The pressure (40 pounds) was maintained for 24 hours. Pressure was monitored every 4 hours. No pressure loss was recorded.

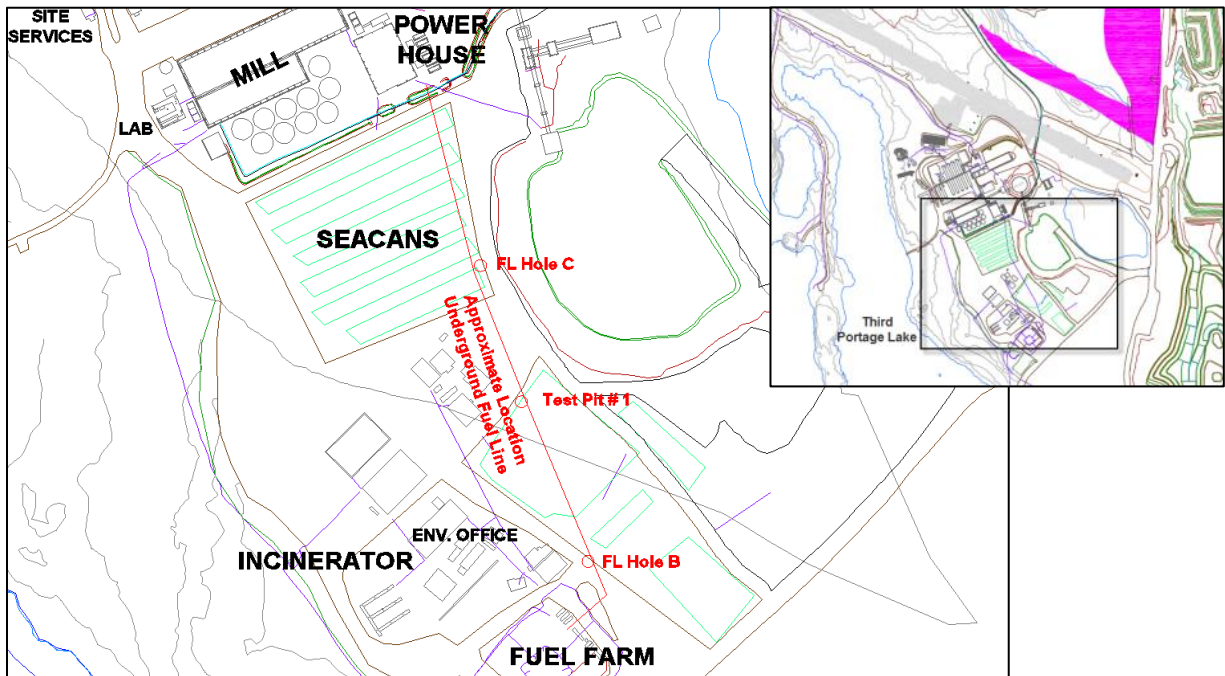
### Soil testing for hydrocarbons

Soil testing for hydrocarbons was performed on site and also by an accredited lab (Multilab, Val d'Or). Excavation of three test pits along the lines was completed (Test Pit #1, Fuel Line Hole B, Fuel Line Hole C). The location of the test pits are presented on Figure 1. Soil samples were taken in these three test pits. The sample results are presented in Table 1. Photos 1 to 4 show the excavation of two test pits.

The testing on site was performed with a handheld meter (RAE Systems: PGM-7300, MiniRAE Lite: Portable Handheld VOC Monitor) by an AEM environmental technician or coordinator. For the three tests performed on site, all the results for hydrocarbons indicated 0 ppm. The field observations for the three test pits revealed no hydrocarbon type odors or any visual appearance of hydrocarbons.

For two of the three test pits, soil samples were also sent to Multilab (performed by subcontractor Maxxam Analytics) for hydrocarbons analysis. Results for both samples indicate no trace of hydrocarbons, as presented in Table 1.

**Figure 1- Approximate Location of the Fuel Line and Test Pits Excavation Location**





**Table 1 – Soil Testing Results**

Date	Time of Sampling	Sample # (Waypoint)	On Site Testing			Multilab Testing				
			Field Results (Mini RAE) (ppm)	Field Observation	Sampler	Hydrocarbures (Fraction F1 (C6-C10))	Petroleum Hydrocarbons F4 (C34-C50) (mg/Kg)	Petroleum Hydrocarbons F3 (C16-C34) (mg/Kg)	Petroleum Hydrocarbons F2 (C10-C16) (mg/Kg)	% of humidity
26/07/2015	-	Testpit #1 14W 0638242 7213638	0 PPM	No smell, no gaz reading	MT	-	-	-	-	-
01/08/2015	16:15	Fuel Line Hole B (14 W 0638297 7213504)	0 PPM	NO smell in the holes. NO readings on the meter. Fairly deep hole >6feet to permafrost	JP	<0.06	<50	<50	<10	6.86
01/08/2015	16:38	Fuel Line Hole C (14 W 0638208 7213751)	0 PPM	NO smell in the holes. NO readings on the meter. This hole was fairly shallow - 4 feet but hit permafrost	JP	<0.06	<50	<50	<10	9.47

**Photos 1 and 2 – Excavation Fuel Line Hole B**





### **Photos 3 and 4 – Excavation Fuel Line Hole C**



### **Conclusion**

Following the investigation actions conducted in July and August 2015, with the results obtained from the air pressure tests and the soil testing, it is concluded that there was no evidence of any defect in the underground line nor any evidence of a leakage or spill. The result of the hydrostatic test conducted on September 14<sup>th</sup>, 2014 was likely caused by a false reading or a defect in the equipment used.

The underground fuel line will remain inactive and empty of fuel until the end of the mine operations at Meadowbank. The fuel will be transfer from the fuel farm to the power house by the above ground live completed in January 2015.

The underground fuel line will be excavated and removed during the closure activities following the end of mining operations. Additional inspection and soil testing will be performed during closure to ensure there is no hydrocarbon contamination in the ground surrounding the fuel line.

### **Closure**

AEM trusts that the above details described appropriately the event of the Meadowbank Mine underground fuel line between fuel farm and power plant reported to the KIA, as well as the mitigation and investigation actions following the event. Please contact the undersigned should you have any questions.



## AGNICO EAGLE

Erika Voyer  
[erika.voyer@agnicoeagle.com](mailto:erika.voyer@agnicoeagle.com)  
819-759-3555 x6980  
Environment Coordinator Meadowbank

Kevin Buck  
[Kevin.buck@agnicoeagle.com](mailto:Kevin.buck@agnicoeagle.com)  
819-759-3555 x6838  
Environment Superintendent Nunavut

## Analytical Report

Company: **Agnico Eagle Division Meadowbank**

Client: M. Stephane Robert  
Address: General Delivery  
Baker Lake Nunavut X0C 0A0  
Phone: (604) 677-0689 (--)  
Fax: (604) 677-0687

**Lab number:** V-46532

Sampling location: 14W 0638178 7213504

Sampling date: August 01, 2015

Sample name: Fuel Line Test Pit B

Sampling hour: 18:00

Sampled by: Jeff Pratt

Date received: August 04, 2015

Matrix: Sediment

Drinking water distribution:

Reported on: August 12, 2015

Unless otherwise stated, all samples were received in acceptable condition.

Results relate only to the sample tested.

All samples will be disposed of after 30 days following analysis.

---

Sauf indication contraire, tous les échantillons ont été reçus en bon état.  
This report shall not be reproduced except in full without the written authority of the laboratory.



# Analytical Report

**Lab number:** V-46532

**Sample name:** Fuel Line Test Pit B

**Sampling date:** August 01, 2015

**Sampling location:** 14W 0638178 7213504

**Sampling hour:** 18:00

Parameter	Result	Method name	Analysis date
Hydrocarbures (Fraction F1 (C6-C10))	<0.06 mg/Kg	M-COV-1.0	August 05, 2015
Hydrocarbures (Fraction F2 - F4))		Sous-traitance\Maxxam Analytics Inc	
- Petroleum Hydrocarbons F4 (C34-C50)	<50 mg/Kg	Sous-traitance\Maxxam Analytics Inc	August 11, 2015
- Petroleum Hydrocarbons F3 (C16-C34)	<50 mg/Kg	Sous-traitance\Maxxam Analytics Inc	August 11, 2015
- Petroleum Hydrocarbons F2 (C10-C16)	<10 mg/Kg	Sous-traitance\Maxxam Analytics Inc	August 11, 2015
% of humidity	6.86 %	M-HUM-1.0	August 05, 2015

Sauf indication contraire, tous les échantillons ont été reçus en bon état.  
This report shall not be reproduced except in full without the written authority of the laboratory.

## Additional information

**Lab number:** V-46532

**Sample name:** Fuel Line Test Pit B

**Sampling location:** 14W 0638178 7213504

**Sampling date:** August 01, 2015

**Sampling hour:** 18:00

**Use 452511 for P.O number**

Lab method	Method reference
------------	------------------

M-COV-1.0	MA.400-COV 1.1
-----------	----------------

Sauf indication contraire, tous les échantillons ont été reçus en bon état.

This report shall not be reproduced except in full without the written authority of the laboratory.

## Analytical Report

Company: **Agnico Eagle Division Meadowbank**

Client: M. Stephane Robert  
Address: General Delivery  
Baker Lake Nunavut X0C 0A0  
Phone: (604) 677-0689 (--)  
Fax: (604) 677-0687

**Lab number:** V-46533

Sampling location: 14W 0638208 7213751

Sampling date: August 01, 2015

Sample name: Fuel Line Test Pit C

Sampling hour: 18:30

Sampled by: Jeff Pratt

Date received: August 04, 2015

Matrix: Sediment

Drinking water distribution:

Reported on: August 12, 2015

Unless otherwise stated, all samples were received in acceptable condition.

Results relate only to the sample tested.

All samples will be disposed of after 30 days following analysis.

---

Sauf indication contraire, tous les échantillons ont été reçus en bon état.  
This report shall not be reproduced except in full without the written authority of the laboratory.

## Analytical Report

**Lab number:** V-46533

**Sample name:** Fuel Line Test Pit C

**Sampling date:** August 01, 2015

**Sampling location:** 14W 0638208 7213751

**Sampling hour:** 18:30

Parameter	Result	Method name	Analysis date
Hydrocarbures (Fraction F1 (C6-C10))	<0.06 mg/Kg	M-COV-1.0	August 05, 2015
Hydrocarbures (Fraction F2 - F4))		Sous-traitance\Maxxam Analytics Inc	
- Petroleum Hydrocarbons F4 (C34-C50)	<50 mg/Kg	Sous-traitance\Maxxam Analytics Inc	August 11, 2015
- Petroleum Hydrocarbons F3 (C16-C34)	<50 mg/Kg	Sous-traitance\Maxxam Analytics Inc	August 11, 2015
- Petroleum Hydrocarbons F2 (C10-C16)	<10 mg/Kg	Sous-traitance\Maxxam Analytics Inc	August 11, 2015
% of humidity	9.47 %	M-HUM-1.0	August 05, 2015

Sauf indication contraire, tous les échantillons ont été reçus en bon état.  
This report shall not be reproduced except in full without the written authority of the laboratory.

## Additional information

**Lab number:** V-46533

**Sample name:** Fuel Line Test Pit C

**Sampling location:** 14W 0638208 7213751

**Sampling date:** August 01, 2015

**Sampling hour:** 18:30

**Use 452511 for P.O number**

Lab method	Method reference
------------	------------------

M-COV-1.0	MA.400-COV 1.1
-----------	----------------

Sauf indication contraire, tous les échantillons ont été reçus en bon état.

This report shall not be reproduced except in full without the written authority of the laboratory.