

December 23, 2009

Via Email and Xpresspost

Mr. Richard Dwyer
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Phone: (867) 360-6338
licensingadmin@nunavutwaterboard.org

Dear Mr. Dwyer,

Re: Water License 2AM-MEA0815: Baker Lake Marshalling Area Bulk Fuel Storage Facility As-Built Report

In accordance with Water License 2AM-MEA0815, Part D, Item 26: *'The Licensee shall submit a Construction Summary Report to the Board, within ninety (90) days following the completion of each structure designed to contain, withhold, divert or retain Waters or Wastes. The Construction Summary Report shall be prepared by a qualified Engineer(s) in accordance with Schedule D, Item 1.'*, please find a copy of the as-built report for the Baker Lake Marshalling Area Bulk Fuel Storage Facility entitled, *"Baker Lake Fuel Storage Installations – Final Report Following Construction of Phase 2-B (2009)"*.

Should you require any further information, please contact me directly at 819-763-0229 or via email at stephane.robert@agnico-eagle.com.

Regards,



Stéphane Robert
Environment Superintendent

Encl (1)

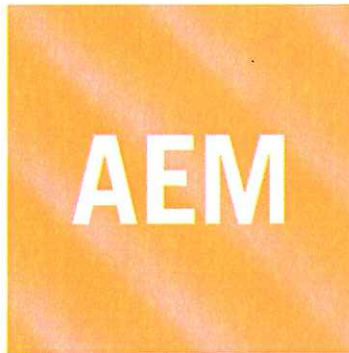
cc: *Ian Rumbolt, INAC - Ian.Rumbolt@inac-ainc.gc.ca*
David Abernethy, INAC – David.Abernethy@inac-ainc.gc.ca



**AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION**

BAKER LAKE FUEL STORAGE INSTALLATIONS

**FINAL REPORT
FOLLOWING THE CONSTRUCTION
OF
PHASE 2-B (2009)**



**AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION**

BAKER LAKE FUEL STORAGE INSTALLATIONS

**FINAL REPORT
FOLLOWING THE CONSTRUCTION
OF
PHASE 2-B (2009)**

PREPARED BY :

Patrick Giard, P.Eng., CCE

2009-12-07



**AGNICO-EAGLE MINES LTD
MEADOWBANK DIVISION**

BAKER LAKE FUEL STORAGE INSTALLATIONS

FINAL REPORT

FOLLOWING THE CONSTRUCTION

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APPENDIX 1 : AS-BUILT DRAWINGS

VD2259-BKL-001 (revision 2), VD2259-BKL-008 (revision 3)

APPENDIX 2

QUALITY CONTROL DOCS : HDPE welding log and instrument qualification

1.0 EXECUTIVE SUMMARY

Agnico-Eagle Mines Limited has undertaken construction of a gold mining project in the Kivalliq region of Nunavut, about 70 km north of Baker Lake.

The yearly operations of this mining operation requires the storage of a minimum of forty million (40 000 000) liters of diesel fuel, which represents four (4) bulk fuel storage tanks, each with a nominal capacity of ten million (10 000 000) liters.

PHASE 1 (2007)

During the summer of 2007, Agnico-Eagle Mines Limited has built the first two (2) bulk fuel tanks, with a combined capacity twenty million (20 000 000) liters of diesel fuel. An impervious enclosure was built around it in order to provide secondary containment around the fuel tanks. These first two (2) bulk fuel tanks were then in condition to be filled.

PHASE 2-A (2008)

During the summer of 2008, Agnico-Eagle Mines Limited has built another two (2) bulk fuel tanks, for a total combined capacity of forty million (40 000 000) liters of diesel fuel. Only a portion of the enclosure was built around it, with the final purpose being to provide secondary containment around the fuel tanks. These other two (2) bulk fuel tanks were completed in late October 2008, and they have remained empty during the winter of 2008-09.

PHASE 2-B (2009)

During 2009, Agnico-Eagle Mines Limited has completed the installation of an impermeable HDPE membrane, which provides adequate secondary containment around the fuel tanks. This has allowed to fill up all four (4) bulk fuel tanks in the summer of 2009, with the piping installation towards tanks 3 and 4 being completed.

PHASE 3

Consideration is currently being given to an expansion project for the fuel storage facilities in Baker Lake. The scale of the project has been defined in a set of drawings and technical specifications, which will be used for the permitting process.

2.0 SECONDARY CONTAINMENT BERMS

2.1 Final completion of berm enclosure

During the construction of fuel tanks 3 and 4 there was a small part of the secondary containment enclosure built in 2008 had been left open to provide easy access.

The granular material and rock fill that was used for civil works was taken from an approved quarry, which has been demonstrated not to produce Acid Rock Drainage and to be non-Metal Leaching.

Given that these fuel tanks were to be filled up in August 2009, the berm enclosure was fully completed in July 2009, exactly as shown on the construction drawings and at a minimal crest elevation of 34.20 m.

2.2 Breach in middle berm

Once the berm enclosure was fully completed, a breach was made in the middle berm between fuel tanks 2 and 3. At that moment, fuel tanks 1 and 2 had been fully drawn with truck tankers, and were totally empty. Meanwhile, the mine operations relied on the fuel tanks located at the Meadowbank site.

The breach section in this middle berm was capped with an HDPE membrane at the 33.00 m elevation mark, which is the same as the tank rim elevation. This HDPE membrane was welded to the existing ones on the berm crests, thus ensuring an impermeable transition from one side to the other of both secondary containment areas. An access ramp was built over this breach to provide vehicle access inside the secondary containment area around fuel tanks 3 and 4.

3.0 HDPE MEMBRANE WELDING

A specialized crew from Saskatchewan was mobilized to Baker Lake for the completion of the HDPE membrane installation. The contractor was Enviroline Services inc.

During July 2008, or prior to the construction of fuel tanks 3 and 4, some HDPE panels were laid out under the fuel tanks. The edges of this HDPE membrane had been protected with plywood sheets and covered with a layer of screened sand.

The work that took place in 2009 was to weld some HDPE membrane rolls to those existing panels, and extend all those HDPE membrane rolls right up to the berm crest. The membrane was anchored into a trench, as indicated on the construction drawings.

Detailed reports of wedge welder seam logs and qualification tests, as well as logs for extrusion welder and qualification tests are enclosed herein, in Appendix 1.

4.0 GEOTEXTILE INSTALLATION

As indicated on the construction drawings, a geotextile was placed directly under and over the HDPE membrane, as a means to reduce the risk of puncturing this membrane.

5.0 SCREENED SAND COVER

As indicated on the construction drawings, a layer of screened sand was placed directly under and over the geotextile, as an additional means to reduce the risk of puncturing the HDPE membrane. This sand was screened at the Blueberry Hill pit and hauled to the worksite by local truckers.

6.0 WELDING OF PIPELINE

A crew from the ABF Mines contractor, composed of a qualified welder and a pipefitter, have completed the extension of the barge discharge pipeline towards tanks 3 and 4.

Also, some additional piping was installed from the tank 3 and 4 towards the fuel dispensing module, thus allowing to draw fuel from these tanks, after barge delivery.

Some pressure release valves were installed on each of these pipelines, with a discharge pressure set at 75 psi and piped back into the fuel tanks. This constitutes a protection feature against the effects of thermal expansion of fuel which was indicated on the construction drawings.

Another feature of the modifications implemented in 2009 is the installation of some swing check valves at the N₂ nipple outlets of all fuel tanks. This will most likely help the fuel dispensing pump keeps its prime when the fuel levels get low in the tanks.

The only exception to the complete compliance of these installations with the piping drawings is that the containment sump for the fuel sea hose connection shown on section A of drawing 017202-1000-46D4-1004 from SNC-Lavalin has not been installed.

The flanges and gaskets that were use for mechanical joints are rated for 150 psi.

7.0 PRESSURE TESTING OF PIPELINE

7.1 Selection of test method and suitable air pressure for testing

The purpose of the leak detection program is to proof the fuel delivery system in a non-destructive manner. Fuel pipelines were pressure tested with a non-inert gas, given that no petroleum product had ever entered the pipelines prior to testing.

Section 6.2 of CCME PN_1326 states that the testing pressure must be greater than 350 kPa (50.8 psi), but without exceeding the manufacturer specifications for flanges and gaskets of 1034 kPa (150 psi). For that purpose, an evaluation was made of the maximum operating pressure at the fuel sea hose connection of the barge discharge pipeline. The results are as follows :

Expected discharge flow rate : 0.090 m³/s

Maximum operating pressure = static pressure + velocity pressure + friction loss

Maximum operating pressure = 29.64 m + 1.24 m + 35.80 m = **94.7 psi**

Whereas static pressure = elevation of (tank overflow - pump intake) x 0.8396
static pressure = (44.90 m - 9.60 m) x diesel fuel density @ 2°C

Whereas friction loss was evaluated to be :

Pressure Loss (psi): 50.95 psi **Head Loss (ft):** 139.83 ft of diesel fuel

for the barge discharge pipeline

Fluid: diesel fuel

Pipe/Tubing ID (in): 6" or 150 mm

Flow Rate (USGPM): 1426.5 USGPM or 0.090 m³/s

Dynamic Viscosity of diesel fuel (cP): 5.0 cP

Specific Gravity (water=1): 0.8396 at 35°F

Temperature (F): 35°F or 2°C

Pipe Roughness (ft): 0.00015

Fluid Velocity (ft/sec): 16.19 ft/s or 4.93 m/s

Friction Factor: 0.019

Piping Length (ft): 900

Pressure Loss (psi): 50.84 psi

Head Loss (ft): 139.88 ft or 42.64 m of diesel fuel @ 0.8396

7.2 Results of air pressure testing of fuel piping

The test pressure has been set at 690 kPa (100 psi), and the stabilization of pressure due to ambient temperature was noted after pressurization at 100 psi was achieved for testing. The piping system was not considered to be leaking due to a pressure variation occurrence of less than 2% within at least two (2) hours, after noted stabilization of air pressure. Detailed results are stated hereunder.

TESTING DAY ONE

Section of piping tested	100 mm pipe	from TANK 3 to TANK 4	
DATE OF TESTING :	2009-07-24	Air temperature :	N/A
TEST STARTED AT :	07:55 AM	TEST WAS ENDED AT :	02:57 PM
INITIAL PRESSURE	99 PSI	FINAL PRESSURE READING	102 PSI

Section of piping tested	150 mm pipe	from TANK 3 to TANK 4	
DATE OF TESTING :	2009-07-24	Air temperature :	N/A
TEST STARTED AT :	10:25 AM	TEST WAS ENDED AT :	02:55 PM
INITIAL PRESSURE	99 PSI	FINAL PRESSURE READING	102 PSI

TESTING DAY TWO

Section of piping tested	100 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-25	Air temperature :	18°C
TEST STARTED AT :	01:08 PM	TEST WAS ENDED AT :	VOID TEST
INITIAL PRESSURE	100 PSI	FINAL PRESSURE READING	NIL

The cause of air pressure drop was located (missing gasket) and testing resumed.

Section of piping tested	100 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-25	Air temperature :	18°C
TEST STARTED AT :	02:12 PM	TEST WAS ENDED AT :	06:15 PM
INITIAL PRESSURE	100 PSI	FINAL PRESSURE READING	100 PSI

TESTING DAY THREE

Section of piping tested	150 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-26	Air temperature :	15°C
TEST STARTED AT :	09:30 AM	TEST WAS ENDED AT :	VOID TEST
INITIAL PRESSURE	100 PSI	FINAL PRESSURE READING	80 PSI

The cause of air pressure drop was located (tightening bolts) and testing resumed.

Section of piping tested	100 mm pipe	from TANK 2 to TANK 3	
DATE OF TESTING :	2009-07-26	Air temperature :	18°C
TEST STARTED AT :	11:45 AM	TEST WAS ENDED AT :	04:25 PM
INITIAL PRESSURE	100 PSI	FINAL PRESSURE READING	101 PSI

AGNICO EAGLE MINES LTD
MEADOWBANK DIVISION
PROJECT REF. VD2415-000


BAKER LAKE: TANK FARM

IMPERMEABLE ENCLOSURE AROUND TANKS #3 AND #4

CONTRACTOR: ENVIROLINE SERVICES INC.

- Contents
- 1) AS BUILT
 - 2) WEDGE WELDER SEAM LOG
 - 3) WEDGE WELDER QUALIFICATIONS
 - 4) EXTRUSION LOG
 - 5) EXTRUSION WELDER QUALIFICATIONS

Enviroline Services Supervisor


DEREK PROVOST

JULY 08, 2009
ENVIROLINE

 2009/07/08
PATRICK GIARD, P.Eng.

July 1 - 8 2009

—E

BAKER LAKE: TANK FARM

AN

ENVIKOLINE

08/07/09

60 mil / geotextile x2

400°C @ 35%

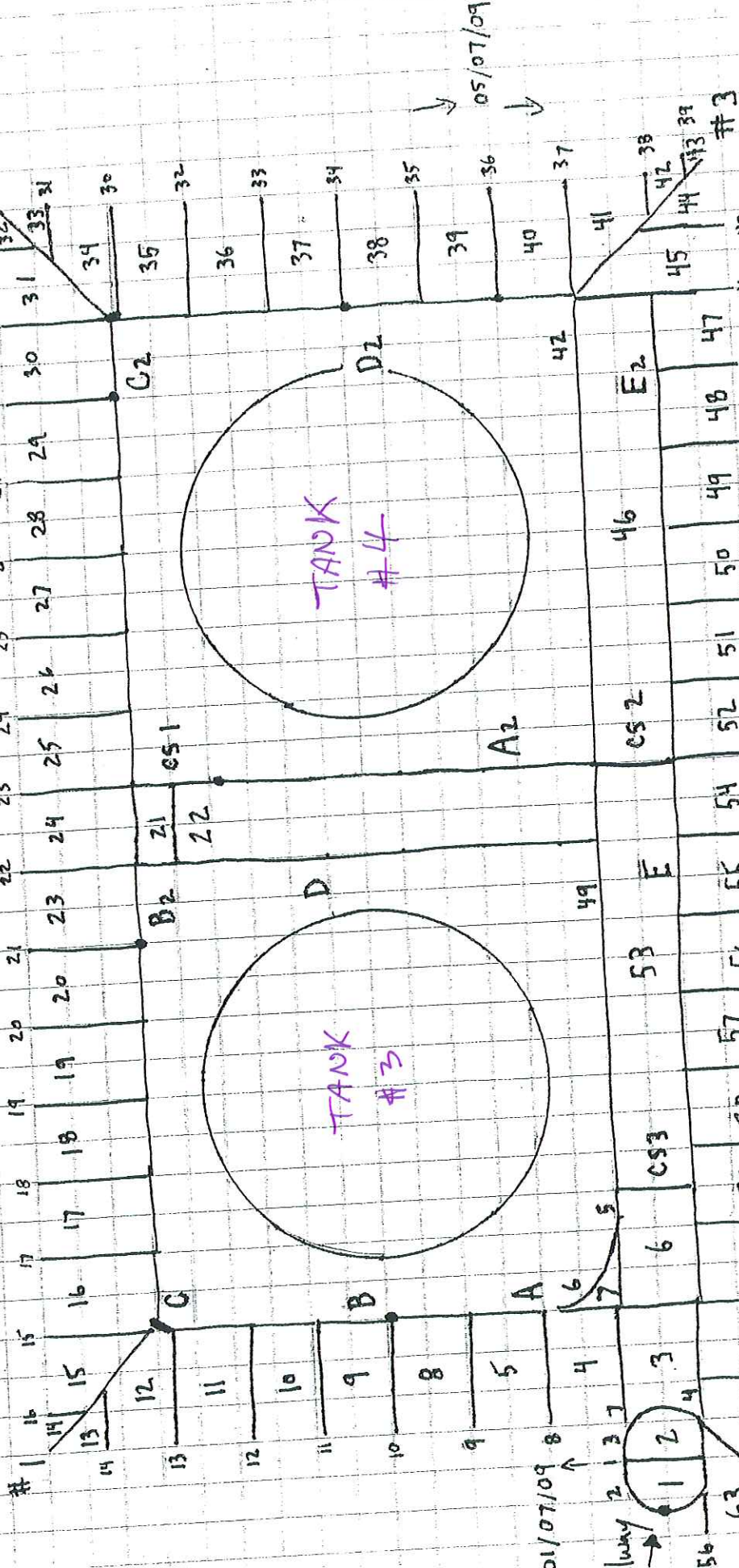
DAP C4

ATP @ 60psi / MP

→ 04/07/09 →

→ 03/07/09 →

→ 02/07/09 →



* Seams are highlighted

• = patch

A-E + A2 - E2 - Tie in seams

#1234 corners

07/07/09

End.

avioline services inc.
 7539 Sackton, Sx 57K 414 Tel 386 242 8836 Fax 386 249 6721 Email: aviar@avioline.com

Edge Welder Seam Log

Project	TANK FARM	QC Tech.	MD	Drive Pressure	60
Location	BAKER LAKE	Wedge Temp.	400°C	Dwell Pressure	
Material	60 mil	Wedge Gap		Comments	

Fusion Information				Testing Information						Date		Comments		
HDPE Weld		Air Test		Peel Test		60 psi		Date	Date					
HDPE Weld	Temp	Speed	Vise Grip	Start	Finish	Start	Finish	Start	Finish	Welded	Tested			
1	DAR	400	35%	✓	✓	121	114	6:35	6:40	60	60	01	02	July 2009
2			✓	✓	✓	109	115	5:30	5:35			01	02	
3			✓	✓	✓	115	117	5:55	6:00			01	02	
4			✓	✓	✓	117	116	6:40	6:45			01	02	
5			✓	✓	✓	118	119	6:29	6:34			01	02	
6			✓	✓	✓	119	112	1:05	1:11			01	02	
7			✓	✓	✓	119	114	1:12	1:17			01	02	
8			✓	✓	✓	112	112	11:42	11:47			02	03	
9			✓	✓	✓	120	113	11:49	11:54			02	03	
10			✓	✓	✓	113	114	11:56	12:01			02	03	
11			✓	✓	✓	117	116	10:00	10:05			02	03	
12			✓	✓	✓	118	114	10:06	10:11			02	03	
13			✓	✓	✓	114	115	10:12	10:17			02	03	
14			✓	✓	✓	121	112	10:18	10:23			02	03	
15			✓	✓	✓	122	112	10:24	10:29			02	03	
16			✓	✓	✓	109	121	8:45	8:50			03	04	
17			✓	✓	✓	118	116	8:51	8:56			03	04	
18			✓	✓	✓	114	117	8:57	9:02			03	04	
19			✓	✓	✓	116	119	9:30	9:35			03	04	
20			✓	✓	✓	120	118	9:03	9:08	✓	✓	03	04	

Edge Welder Seam Log

Project	TANK FARM	QC Tech.	MD	Drive Pressure	60
Location	BAKER LAKE	Wedge Temp.	400°C	Dwell Pressure	
Serial	60 mil	Wedge Gap		Comments	

Fusion Information				Testing Information						Date		Comments	
										6/07/09			
mm #	Tech.	HDPE Temp	Weld Speed	Peel Test		Air Test		60 psi Start	60 psi Finish	Date Welded	Date Tested		
				Inside	Outside	Start	Finish						
1	DAP	400	35%	✓	116	121	8:16	8:21	60	60	04	05	July 2009
2				✓	117	123	8:22	8:27			05	05	
3				✓	112	119	2:25	2:30			05	05	
4				✓	108	117	2:31	2:36			05	05	
5				✓	114	119	2:37	2:42			05	05	
6				✓	115	121	2:49	2:54			05	05	
7				✓	110	120	2:55	3:00			05	06	
8				✓	113	118	6:10	6:15			05	06	
9				✓	117	114	6:16	6:21			05	06	
10				✓	117	113	6:22	6:27			05	06	
11				✓	116	117	6:28	6:33			05	06	
12				✓	112	119	6:15	6:20			06	06	
13				✓	113	121	6:21	6:26			06	06	
14				✓	115	120	6:27	6:32			06	06	
15				✓	117	116	6:33	6:38			06	06	
16				✓	114	115	6:39	6:44			06	06	
17				✓	112	117	6:45	6:50			06	06	
18				✓	118	120	6:51	6:56			06	07	
19				✓	113	114	6:57	7:02			06	07	
20				✓	113	118	7:03	7:08	✓	✓	06	07	

Welder Seam Log

TANK FARM	QC Tech.	M7	Drive Pressure	60
BAKER LAKE	Wedge Temp.	400°C	Dwell Pressure	
60 mil	Wedge Gap		Comments	

Testing Information

HDPE Weld		Peel Test		Air Test		60 psi		Date	Date	Comments				
Tech.	Temp	Speed	Weld	Vis	Grip	Inside	Outside	Start	Finish	Start	Finish	Welded	Tested	
DAP	400	35%	✓	✓		109	114	6:09	7:14	60	60	06	06	July 2009
			✓	✓		114	118	2:30	2:35			06	06	
			✓	✓		115	116	2:36	2:41			06	06	
			✓	✓		114	118	2:42	2:47			06	06	
			✓	✓		113	112	2:48	2:53			06	06	
			✓	✓		112	111	3:00	3:05			06	06	
			✓	✓		113	113	3:06	3:11			06	06	
			✓	✓		110	115	3:12	3:17			06	06	
			✓	✓		116	117	6:20	6:25			06	08	
			✓	✓		118	118	6:26	6:31			06	08	
			✓	✓		112	116	6:32	6:37			07	08	
			✓	✓		114	117	6:38	6:43			07	08	
			✓	✓		119	118	6:44	6:49			07	08	
			✓	✓		117	116	6:50	6:55			07	08	
			✓	✓		115	118	6:56	7:01			07	08	
			✓	✓		114	115	7:06	7:11			07	08	
			✓	✓		112	118	7:12	7:17			07	08	
			✓	✓		109	119	7:18	7:23			07	08	
			✓	✓		111	114	7:24	7:29			07	08	
			✓	✓		115	117	7:30	7:35	✓	✓	07	08	

Welder Seam Log

	QC Tech.	Drive Pressure
TANK FARM	NY	60
BAKER LAKE	400 °C	Dwell Pressure
	Wedge Gap	Comments

on Information				Testing Information						Date		Comments
HDPE Weld		Peel Test		Air Test		psi		Date Welded	Date Tested			
Tech.	Temp	Speed	Vise Grip	Inside	Outside	Start	Finish	Start	Finish			
DAP	400°C	35%	✓	116	117	11:30	11:35	60	60	02	02	July 2009
			✓	114	112	11:36	11:41			02	02	
			✓	114	114	11:42	11:47			02	02	
			✓	117	116	1:24	1:29			03	04	
			✓	113	119	1:30	1:35			04	04	
			✓	109	121	6:55	7:00			04	04	
			✓	111	109	7:00	7:05			05	05	
			✓	112	112	7:12	7:17			05	05	
			✓	118	117	7:18	7:23			05	05	
			✓	115	121	2:24	7:29			05	05	
			✓	112	119	11:42	11:47			02	02	
			✓	118	117	11:00	11:05			03	03	
			✓	116	112	1:10	1:15			06	07	
			✓	117	119	1:25	1:30			07	07	
			✓	116	114	2:31	2:36			03	03	
			✓	112	121	1:30	1:35			07	07	
			✓	119	117	8:00	8:05			07	08	

enviroline Services Inc.

P O Box 7539 Saskatoon, SK. S7K 4L4 Tel 306 242 8836 Fax 306 249 6721 Email: dybarnes@home.com

Wedge Welder Qualification Data

Date	July 1, 2009	Wedge Welder #	04
Project	Tank Farm	Travel Speed	35%
Work Area	Baker Lake	Drive Pressure	* 60
Material	60 mil	Dwell Pressure	*
QC tech.	MD	Wedge Setting	*
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	*
Test Location	ON SITE	Testing Temp.	14°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
118	0	117	0	P
104	0	107	0	P
116	0	116	0	P
102	0	122	0	P
107	0	104	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
181	*	P
172	*	P

enviroline Services Inc.

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Wedge Welder Qualification Data

Date	July 2, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	40%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	R.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	13°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
114	0	107	0	P
116	0	109	0	P
111	0	112	0	P
114	0	114	0	P
115	0	114	0	P

107 - 117

Seam Tensile		
Lb/Inch	% Elongation	Comments
179		P
188		P

enviroline Services Inc.

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Wedge Welder Qualification Data

Date	July 02, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	P.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	18°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
113	0	116	0	P
112	0	115	0	P
114	0	114	0	P
110	0	111	0	P
119	0	113	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
181		P
185		P

enviroline Services Inc.

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Wedge Welder Qualification Data

Date	July 03, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	13°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	% Separation	Lb/Inch	% Separation	
112	0	109	0	P
114	0	111	0	P
115	0	107	0	P
113	0	109	0	P
114	0	110	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
183		P
185		P

enviroline Services Inc.

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Wedge Welder Qualification Data

Date	July 04, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	12°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
116	0	118	0	P
120	0	117	0	P
121	0	119	0	P
114	0	112	0	P
114	0	119	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
191		P
180		P

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Wedge Welder Qualification Data

Date	July 02, 2009	Wedge Welder #	04
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	P.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	18°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	% Separation	Lb/Inch	% Separation	
119	0	113	0	P
116	0	119	0	P
118	0	115	0	P
112	0	114	0	P
113	0	116	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
177	200	P
181	200	P

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Wedge Welder Qualification Data

Date	July 05, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MP	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	14°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
116	0	118	0	P
113	0	112	0	P
117	0	110	0	P
119	0	116	0	P
118	0	115	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
184	200	P
180	200	P

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Wedge Welder Qualification Data

Date	July 06, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	14°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	% Separation	Lb/Inch	% Separation	
116	0	115	0	P
113	0	115	0	P
112	0	119	0	P
119	0	121	0	P
117	0	113	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
185	200	P
189	200	P

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Wedge Welder Qualification Data

Date	July 07, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MD	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	A.M.	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	12°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
112	0	119	0	P
119	0	116	0	P
116	0	111	0	P
117	0	117	0	P
114	0	113	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
180	200	P
184	200	P

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Wedge Welder Qualification Data

Date	July 07, 2009	Wedge Welder #	C4
Project	Baker Lake	Travel Speed	35%
Work Area	Tank Farm	Drive Pressure	60
Material	60 mil	Dwell Pressure	
QC tech.	MP	Wedge Setting	
Welder/Operator	DAP	Wedge Temp.	400°C
Test Identification	P.M	Sheet Temp.	
Test Location	ON SITE	Testing Temp.	16°C

Destructive Testing Results

Vice Grip Peel	
Outside Track	Inside Track
✓	✓
✓	✓

Tensometer Peel				
Outside Track		Inside Track		Comments
Lb/Inch	%Separation	Lb/Inch	% Separation	
112	0	112	0	P
117	0	111	0	P
114	0	116	0	P
116	0	121	0	P
115	0	112	0	P

Seam Tensile		
Lb/Inch	% Elongation	Comments
181	200	P
182	200	P

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Extrusion Welding Log

Extrusion Welding Log

QC Tech. MD

Material: 60 mil HDPE

Project: BAKER LAKE

Work Area: TANK FARM

Comments

QC

Pik Test

Vac Test

Test Date

Operator

Weld Date

Location

Type

Extrusion #

S 2

Patch

1

S 10

2

corner #1

3

S 21

4

S 23

5

S 28

6

corner #2

7

S 34

8

S 36

9

S 55

10

corner #4

11

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Extrusion Welding Qualification Data

Date	July 1, 09	Extruder#	X2-Z
Project	Baker Lase	Operator	DAP
QC Tech:	MD	Preheat Temp.	280°C
Material	60 mil	Barrel Temp.	245°C
Test Identification	P.M.	Shoe Height	1/4"
Temp.	20	Weld Type	Flat

Destructive Testing Results

Vice Grip Peel	
Type of failure	Comments

Tensometer Peel		
Lb/Inch	% Separation	Comments

106	0	P
115	0	P
115	0	P
107	0	P
114	0	P

Seam Tensile		
Lb/inch	% Elongation	Comments

181	200	P
172	200	P

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Extrusion Welding Qualification Data

Date	July 2, 2009	Extruder#	X2-2
Project	Baker Lake	Operator	DAP
QC Tech:	MP	Preheat Temp.	280°C
Material	60 mil	Barrel Temp.	245°C
Test Identification	A.M.	Shoe Height	1/4"
Temp.	8°C	Weld Type	Flat

Destructive Testing Results

Vice Grip Peel

Type of failure	Comments

Tensometer Peel

Lb/Inch	% Separation	Comments
113	0	P
117	0	P
116	0	P
115	0	P
116	0	P

Seam Tensile

Lb/inch	% Elongation	Comments
179	200	P
178	200	P

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Extrusion Welding Qualification Data

Date	July 03, 2009	Extruder#	XZ-2
Project	Baker Lake	Operator	DAP
QC Tech:	MD	Preheat Temp.	280°C
Material	60 mil	Barrel Temp.	230°C
Test Identification	A.M.	Shoe Height	1/4"
Temp.	10°	Weld Type	Flat

Destructive Testing Results

Vice Grip Peel

Type of failure	Comments

Tensometer Peel

Lb/Inch	% Separation	Comments
	0	P
117	0	P
114	0	P
112	0	P
112	0	P
118	0	P

Seam Tensile

Lb/inch	% Elongation	Comments
		P
183	200	P
177	200	

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Extrusion Welding Qualification Data

Date	July 4 2009	Extruder#	X2-Z
Project	Baker Lake	Operator	DAP
QC Tech:	MD	Preheat Temp.	280°C
Material	60 mil	Barrel Temp.	245°C
Test Identification	AM	Shoe Height	1/4"
Temp.	14°C	Weld Type	flat

Destructive Testing Results

Vice Grip Peel

Type of failure	Comments

Tensometer Peel

Lb/Inch	% Separation	Comments
117	0	P
114	0	P
116	0	P
112	0	P
113	0	P

Seam Tensile

Lb/inch	% Elongation	Comments
183	200	P
177	200	P

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Extrusion Welding Qualification Data

Date	July 5 2009	Extruder#	X2-2
Project	Baker Lake	Operator	DAP
QC Tech:	MP	Preheat Temp.	270°C
Material	60 mil	Barrel Temp.	235°C
Test Identification	A.M.	Shoe Height	1/4"
Temp.	7°	Weld Type	Flat

Destructive Testing Results

Vice Grip Peel

Type of failure	Comments

Tensometer Peel

Lb/Inch	% Separation	Comments
	0	P
110	0	P
117	0	P
109	0	P
111	0	P
118	0	P

Seam Tensile

Lb/inch	% Elongation	Comments
	200	P
178	200	P
173		

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Extrusion Welding Qualification Data

Date	July 6, 2009	Extruder#	X2-2
Project	Baker Lake	Operator	DAP
QC Tech:	MD	Preheat Temp.	272°C
Material	60 mil	Barrel Temp.	238°C
Test Identification	A.M.	Shoe Height	1/4"
Temp.	11°C	Weld Type	Flat

Destructive Testing Results

Vice Grip Peel

Type of failure	Comments

Tensometer Peel

Lb/Inch	% Separation	Comments
114	0	P
115	0	P
118	0	P
112	0	P
117	0	P

Seam Tensile

Lb/inch	% Elongation	Comments
181	200	P
176	200	P

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Extrusion Welding Qualification Data

Date	July 2, 09	Extruder#	X2-2
Project	Baker Lake	Operator	DAP
QC Tech:	MP	Preheat Temp.	270°C
Material	60 mil	Barrel Temp.	239°C
Test Identification	A.M.	Shoe Height	1/4"
Temp.	7°C	Weld Type	Flat

Destructive Testing Results

Vice Grip Peel

Type of failure	Comments

Tensometer Peel

Lb/Inch	% Separation	Comments
114	0	P
115	0	P
115	0	P
119	0	P
114	0	P

Seam Tensile

Lb/inch	% Elongation	Comments
183	200	P
188	200	P