Baffinland Iron Mines Corporation
Mary River Project

Construction Summary Report: Construction Summary Report: Milne Port Off-Spec Sewage Effluent Pond (PWSP)

2013-12-19	0	Approved For Use	S. Potter	S. Hassan	S. Perry	O. Curran
DATE	REV.	STATUS	PREPARED BY	CHECKED BY	APPROVED BY	APPROVED BY
			HATCH			CLIENT

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1. Facility Description

1.1 Purpose and Design Basis

The off-spec effluent pond has been constructed to store the off-spec effluent from the Milne Port Sewage Treatment Plant (STP). During normal operation, the treated effluent from the STP will be directed to the permitted discharge point(s) at Milne Inlet. In the event that the treated effluent does not meet discharge requirements, the off-spec effluent will be pumped to the pond. Once the problem in the STP is corrected, the off-spec effluent from the pond will be transported via vacuum truck and re-processed through the STP before dierctly discharing to Milne Inlet.

The design basis for the pond's storage capacity is as following:

- Total bed/population during operation = 120 nos
- Sewage generation rate = 300 lpd
- Required 30 days off-spec effluent storage volume during operation = 1,080 m^3 with 0.3m free board
- Designed pond volume = 2,230 m^3 with 0.3m free board (the designed volume represents working capacity for early construction and startup based on 120 people's 62 days storage or 248 people's 30 days storage).

1.2 Location and Base Elevations

The pond is located at south side of the fuel tank farm and west side of power generators with northing between N7,976,020 and N7,976,060 and easting between E503,590 and E503,670. Pond bottom elevation is EL. 12.80 m and berm top elevation is EL. 14.28 m.

1.3 Geometry and Access

The pond has been constructed as rectangular shape to optimize the earthworks materials (granular fills and liner). The pond berms have side slope not steeper than 3H:1V and the berm top width is 3.0 m to meet the access and liner anchoring requirements. The pond also has a 6 m wide 6% grade access ramp with a 6 m x 10 m landing pad at the end of the access ramp for provideing vacuum truck access to pump off-spec water out the pond and it has sloped surface toward to the pond.

There is a 14 m x 6 m anex area at east side of the landing pad to accomodate a sattelite shed pad.

1.4 Earthworks Materials Details

The pond has been constructed with raised earthworks on top of the laydown pad B1-B2-B3. It has been sealed with exposed liner material for storing the off-spec effluent without any leakage. The pond materials are listed below:

- Type 8 (150 mm minus) as main/core material of berm

- Type 5 (32 mm minus) for covering the core material on top and inside surface of the berm
- Type 6 / Type 9 (9.5 mm minus) for liner bedding and anchoring
- Type 4 Geomembrane (Enviro liner 6060 HD)
- Non-woven geotextile (Layfield LP7) for protection of the liner material
- Jersey barrier for truck safety.

1.5 Issue for Construction (IFC) Drawings

Two IFC drawings have been issued that include plan, sections and details which are as follows:

- H349000-2735-10-035-0001: Minle Port Off-Spec Effluent Pond – Plan
- H349000-2735-10-035-0002: Minle Port Off-Spec Effluent Pond – Sections & Details.

As part of the engineering design process, a 3D earthworks model of the pond including the berm, access ramp, landing and satellite shed pad were prepared, the drawings went through internal and client reviews and finally issued with the P.Eng.

2. Construction Activity Summary

Based on the design drawings:

- The area was cleared and graded to prepare the subbase for the effluent pond.
- 100mm of Type 8 (150 mm minus) was placed for the construction of the berm, but RFI-008 was issued to address the size of aggregate being produced from Run of Quarry (ROQ). Material with a range of 100-300mm was approved by the field engineer. Refer to Section 5 for details of the field instruction.
- Another layer of 100mm Type 9 (9.5 minus) or Type 6 (4.75 minus) was placed on top.
- A non-woven geotextile was added with the liner as the final phase of the components of the effluent pond. Refer to Appendix A for details of QA/QC of liner installation.

The quality assurance and quality control (QA/QC) conducted by Layfield, documents the preparation of the subgrade, installation and testing of the geomembrane with a final inspection of the completed liner.

- A certificate of acceptance of the soil subgrade for installation of the liner was verified and signed by the NUNA project coordinator and Layfield Environmental supervisor.
- A geomembrane deployment log describes the location, size, temperature when placed, visually observed and initialled that the panel had been checked.

- A geomembrane trial seam log tested the welding before the entire installation proceeded. Connection of the trial panels checked and signed off.
- An air lance test log had been completed for each seam and signed off.
- A layout drawings shows all of the panel numbers, as described in the log documents.
- A certificate of final inspection and acceptance was signed by Layfield and Nuna representatives.

See Appendix A – Liner Data

2.1 Photographic Records

Figure 1: Before – Sub-grade Prepared

Figure 2: Before – Levelling

Figure 3: During - Liner Installed

Figure 4: During – Grading of Final Layer

Figure 5: Completed – Earthworks

Figure 6: Completed – Operational

3. As-Built Drawings

The as-built drawings were signed on December 17, 2013 by Bradford Watkin representing NUNA. The drawing states that “this drawing accurately reflects the as-built field condition in conjunction with the survey as-built data”. Please refer to Appendix B – As built Drawings.

Table 3-1: 'As-Built' Drawing List

Drawing Number	Title	Revision
H349000-2735-10-035-0001 1 S ABMU01-YX001	OFF-SPEC EFFLUENT POND (PSWP) - PLAN	1
H349000-2735-10-035-0001 2 S ABMU01-YX001	OFF-SPEC EFFLUENT POND (PSWP) – SECTIONS AND DETAILS	2
H349000-2735-10-015-0001-0-S-ABMU01-YX001	MILNE PORT LAYDOWN AREA, CAMP & SERVICES BUILDINGS RUN OF QUARRY FILL AREAS	0

4. Unanticipated Observations

Not applicable.

5. Field Decisions

- The as-built design of the effluent pond had a size variation from the material specified in the issued for construction design drawings. The design indicated 150mm minus material for base material and berms.
- Request for information (NE-RFI-008) was submitted on June 2nd, 2013 for the use of ROQ material produced from blasting in the range of 100-300mm.
- The corrective action was to allow the base material and berms to be built with the ROQ material produced. The material would be selected specifically and approved by the client representative before being placed.
- Refer to appendix for field instruction NE-RFI-008 (See Appendix C).

6. Vibration Monitoring

No vibration monitoring was conducted during the construction of the Milne Port Off-Spec Effluent Pond (PWSP) as it was not deemed necessary based on scope of activities required for construction.

A geotechnical inspection was conducted in 2013 by a 3rd party, independent, Nunavut certified engineer that was inclusive of all containment structures at the Mary River Mine Site and Milne Port site including the Milne Port Off-Spec Effluent Pond (PWSP). As noted in Section 4.09 of Appendix D, the inspection found "no sign of weakness in any of the construction" of the Milne Port Off-Spec Effluent Pond (PWSP).

Control for quarrying activity was conducted as per the quarry specific management plans. For the Milne Port Off-Spec Effluent Pond (PWSP), the quarry in closest proximity and used for aggregate material supply was Quarry Q1. Please see Quarry Management Plan, Milne Inlet Quarry (Q1) (H349000-1000-07-126-0013) for detailed information of quarrying activity controls. It should be noted however this quarry is not in close proximity to fish bearing water.

7. Environmental Monitoring

Environmental monitoring at Milne Port during the construction Milne Port Off-Spec Effluent Pond (PWSP) was conducted as per the 2013 Comprehensive Environmental Monitoring Plan (March 2013).

The risks to the water quality at Milne Port as a result of construction of the Milne Port Off-Spec Effluent Pond (PWSP) would originate from following sources based on construction methodology:

- Spills from equipment
- Increase in sediment load in the water.

There were no recorded spills from equipment used in the construction of the PWSP and the water monitoring results show that the Total Suspended Solids (TSS) levels were below the required thresholds. As such, the environmental mitigation strategies were effective in maintaining runoff water quality. See internal and external surface water monitoring results for Milne Port in Appendix E.

8. Fuel Storage System

Not applicable.

9. Earthworks Data

9.1 Survey Data

Based on the design drawings provided, a survey was conducted on each material required to build the effluent pond. NUNA East Ltd, provided a completion of construction document, Hatch document E349000-YX00100-124-0005 Sub01 contains the survey data in Section 4 which has been extracted as reference and can be seen in Appendix F.

9.2 Geotechnical Data

Not applicable.

10. Performance Evaluation

Not applicable.

11. Surface Monitoring

None conducted.

12. Required Maintenance

None conducted.

13. Adaptive Management

Based on monitoring results indicating no adverse significant environmental impacts, no specific adaptive management practices were implemented as a result of construction of the Milne Port Off-Spec Effluent Pond (PWSP).

For discussion of adaptive management principles and practices applied during the Construction Phase of the Project and their overall effectiveness please refer to the 2013 Annual Report to the Nunavut Impact Review Board (to be submitted in March 2014).

Appendix A
Liner Data

NUNA EAST LTD

Section 8

Liner Data

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: 146-091
PROJECT NUMBER: Baffinland MRP Milne Port Fuel Upgrade Phase 2 - "Effluent Pond"
OWNER: Nuna logistics
LOCATION: Baffinland NU

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

This certification is based on observations of the surface of the subgrade only. No subterranean inspections or tests have been performed by Layfield Environmental Systems, and LESL makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Layfield Environmental Systems accepts no responsibility for conformance of the subgrade to this project's specifications.

The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: Sand on the surface with minor repairs to do along the pond other and that Grand surface to install liner.

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 19-July 2013
Signature:
Name: Yonatan Espindola
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: 19/July/2013
Signature:
Name: Mike Price
Title: Project Coordinator
Company: Nuna East.

LAYFIELD GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 14c-091 **PROJECT TITLE:** Effluent Pond

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

GEOMEMBRANE **SECONDARY** **PRIMARY** **CLOSURE** **OTHER**

SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):

REMARKS: Installation of LP12 Geotextile under lay and EL 60-60

DATE: 20-Jul-13

SHEET NUMBER: 1

DEPLOYMENT EQUIPMENT: Spreader Bar and Crane

	PANEL LOCATION REFERENCE NUMBER 1	PANEL LOCATION REFERENCE NUMBER 2	PANEL LOCATION REFERENCE NUMBER 3
PANEL/ROLL NUMBER	005759995	005759995	005759995
DEPLOYMENT LENGTH	48.76 mts	9.11 X 4.8 mts	4.8 X 4.26 mts
AMBIENT AIR TEMP.	2 C	2C	2C
VISUAL OBSERVATION	Good	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= TRENCH S= TRENCH E= TIE-IN W= P14	N= TRENCH S= P4 E= P3 W= P1	N= TRENCH S= P5 E= P5 W= P2

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 4	PANEL LOCATION REFERENCE NUMBER 5	PANEL LOCATION REFERENCE NUMBER 6
PANEL/ROLL NUMBER	005759995	005759995	005759995
DEPLOYMENT LENGTH	9.69 X 4.8 mts	4.57 X 3.5 mts	9.6 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Good	Good	Damage
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= P2, P3, P5 S= P6 E= TRENCH W= P1	N= P3 S= P4 E= TRENCH W= P2, P3	N= P4 S= P7 E= TRENCH W= P1

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 7	PANEL LOCATION REFERENCE NUMBER 8	PANEL LOCATION REFERENCE NUMBER 9
PANEL/ROLL NUMBER	005759995	005759995	005759995
DEPLOYMENT LENGTH	9.6 mts	9.6 mts	9.6 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Damage	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= P6 S= P8 E= TRENCH W= P1	N= P7 S= P9 E= TRENCH W= P1	N= P8 S= P10 E= TRENCH W= P1

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 10	PANEL LOCATION REFERENCE NUMBER 11	PANEL LOCATION REFERENCE NUMBER 12
PANEL/ROLL NUMBER	005759995	005759995	005759995
DEPLOYMENT LENGTH	9.6 mts	9.6 mts	9.6 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Good	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= P9 S= P11 E= TRENCH W= P1	N= P10 S= P12 E= TRENCH W= P1	N= P11 S= P13 E= TRENCH W= P1

SUBMITTED BY: PH

DATE: 20-Jul-13

LAYFIELD GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 14c-091 **PROJECT TITLE:** Effluent Pond

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

GEOMEMBRANE **SECONDARY** **PRIMARY** **CLOSURE** **OTHER** _____

SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):

REMARKS: Installation of LP12 Geotextile under lay and EL 60-60

DATE: 20-Jul-13

SHEET NUMBER: 2

DEPLOYMENT EQUIPMENT: Spreader Bar and Crane

	PANEL LOCATION REFERENCE NUMBER 13	PANEL LOCATION REFERENCE NUMBER 14	PANEL LOCATION REFERENCE NUMBER 15
PANEL/ROLL NUMBER	005759995	005759995	005759995
DEPLOYMENT LENGTH	9.6 mts	48.76 mts	23.31 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Good	Good	Damage
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= P12 S= TRENCH E= TRENCH W= P1	N= TRENCH S= TRENCH E= P1 W= P15, P16	N= P16 S= TRENCH E= P14 W= P17

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 16	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER	005760583		
DEPLOYMENT LENGTH	34.44 mts		
AMBIENT AIR TEMP.	2 C		
VISUAL OBSERVATION	Damage		
OBSERVED OVERLAP	6"		
CHECKED BY	PH		
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

SUBMITTED BY: PH

DATE: 20-Jul-13

LAYFIELD GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 14c-091 **PROJECT TITLE:** Effluent Pond

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

GEOMEMBRANE **SECONDARY** **PRIMARY** **CLOSURE** **OTHER**

SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):

REMARKS: Installation of LP12 Geotextile under lay and EL 60-60

DATE: 21-Jul-13

SHEET NUMBER: 3

DEPLOYMENT EQUIPMENT: Spreader Bar and Crane

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 17	PANEL LOCATION REFERENCE NUMBER 18	PANEL LOCATION REFERENCE NUMBER 19
PANEL/ROLL NUMBER	005760583	005760583	005760583
DEPLOYMENT LENGTH	57.30 mts	48.78 mts	48.76 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Good	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= TRENCH S= TRENCH E= P15, P16 W= P18	N= TRENCH S= TRENCH E= P17 W= P19	N= TRENCH S= TRENCH E= P18 W= TIE-IN

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 20	PANEL LOCATION REFERENCE NUMBER 21	PANEL LOCATION REFERENCE NUMBER 22
PANEL/ROLL NUMBER	005760583	005760583	005760583
DEPLOYMENT LENGTH	10.82 mts	10.82 mts	10.82 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Good	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= TRENCH S= P21 E= P19 W= TRENCH	N= P20 S= P22 E= P19 W= TRENCH	N= P21 S= P23 E= P19 W= TRENCH

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 23	PANEL LOCATION REFERENCE NUMBER 24	PANEL LOCATION REFERENCE NUMBER 25
PANEL/ROLL NUMBER	005901040	005901040	005901040
DEPLOYMENT LENGTH	10.66 mts	10.63 mts	10.57 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Delivery Damage	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= P22 S= P24 E= P19 W= TRENCH	N= P23 S= P25 E= P19 W= TRENCH	N= P24 S= P26 E= P19 W= TRENCH

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER 26	PANEL LOCATION REFERENCE NUMBER 27	PANEL LOCATION REFERENCE NUMBER 28
PANEL/ROLL NUMBER	005901040	005901040	005901040
DEPLOYMENT LENGTH	10.57 mts	10.66 mts	10.45 mts
AMBIENT AIR TEMP.	2 C	2 C	2 C
VISUAL OBSERVATION	Good	Good	Good
OBSERVED OVERLAP	6"	6"	6"
CHECKED BY	PH	PH	PH
ADJACENT PANEL	N= P25 S= P27 E= P19 W= TRENCH	N= P26 S= P28 E= P19 W= TRENCH	N= P27 S= P29 E= P19 W= TRENCH

SUBMITTED BY: PH

DATE: 20-Jul-13

LAYFIELD GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 14c-091 **PROJECT TITLE:** Effluent Pond

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

GEOMEMBRANE **SECONDARY** **PRIMARY** **CLOSURE** **OTHER**

SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):

REMARKS: Installation of LP12 Geotextile under lay and EL 60-60 **DATE:** 21-Jul-13

SHEET NUMBER: 4

DEPLOYMENT EQUIPMENT: Spreader Bar and Crane

	PANEL LOCATION REFERENCE NUMBER 29	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER	005901040		
DEPLOYMENT LENGTH	10.21 mts		
AMBIENT AIR TEMP.	2 C		
VISUAL OBSERVATION	Good		
OBSERVED OVERLAP	6"		
CHECKED BY	PH		
ADJACENT PANEL	N= P28 S= TRENCH E= P19 W= TRENCH	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= E= W=	N= S= E= W=	N= S= E= W=

SUBMITTED BY:

DATE:

LAYFIELD

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinlan NU **SHEET NUMBER:** 1

X **TF - # FUSION** _____ **TX - # = EXTRUSION** **TS - # = SOLVENT**

SAMPLE NUMBER	APPROX. TIME & DATE	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS												PASS OR RE-TEST	CH'KD BY	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	WEDGE TEMP. Deg F	INSIDE PEEL MODE STRENGTH					OUTSIDE PEEL MODE STRENGTH					SHEAR MODE STRENGTH				
TF-1	13:55 20-Jul-13	ESL 27 PW	PH	3C	50%		830	109	109	107	103	106	105	105	99	101	102	118	116	PASS	PH	
TF-2	8:18 21-Jul-13	ESL 27 PW	PH	3C	45%		830	113	109	107	109	108	104	102	105	103	104	125	119	PASS	PH	

LS FORM 3

LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: _____

DATE: _____

LAYFIELD

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinlan NU **SHEET NUMBER:** 1

X **TF - # FUSION** _____ **TX - # = EXTRUSION** **TS - # = SOLVENT**

SAMPLE NUMBER	APPROX. TIME & DATE	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS										PASS OR RE-TEST	CH'KD BY	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	WEDGE TEMP. Deg F	INSIDE PEEL MODE STRENGTH					OUTSIDE PEEL MODE STRENGTH					SHEAR MODE STRENGTH				
TX-1	14:18 21-Jul-13	ESL 24 PX	RR	3C	460	480		109	132	101	134							114	127	PASS	PH	

LS FORM 3

LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: _____

DATE: _____

LAYFIELD

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna logistics

LOCATION: Baffinlan NU

PASSING TRIAL SEAMS

	NO.	TIME	TECH ID
X FUSION	TF-1	13:55 HRS	PH
EXTRUSION			
SOLVENT			

SHEET NUMBER: 1

DATE: 20-Jul-13

SEAM NUMBER	SEAM SECTION * START POINT	SEAM SECTION * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL	APPROX. LENGTH WELDED (M)	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE TEST DATE	NON-DESTRUCTIVE CHECKED BY
2 / 3	SEOS TO NEOS		14:09	3C	PH	50%	830	830	4.8		PH		20-Jul-13	
4 / 5	EEOS TO WEOS		14:14	3C	PH	50%	830	830	4.6		PH		20-Jul-13	
4 / 6	EEOS TO WEOS		14:18	3C	PH	50%	830	830	9.7		PH		20-Jul-13	
6 / 7	EEOS TO WEOS		14:27	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
2,3 / 4,5	EEOS TO WEOS		14:36	3C	PH	50%	830	830	11.8		PH		20-Jul-13	
7 / 8	EEOS TO WEOS		14:46	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
8 / 9	EEOS TO WEOS		14:51	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
9 / 10	EEOS TO WEOS		15:48	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
10 / 11	EEOS TO WEOS		15:55	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
11 / 12	EEOS TO WEOS		16:09	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
12 / 13	EEOS TO WEOS		16:06	3C	PH	50%	830	830	9.6		PH		20-Jul-13	
								DAILY TOTAL	98.0					

** REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR, OR A POINT LOCATION ON THE SEAM.*

SUBMITTED BY: _____

DATE: _____

LAYFIELD

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna logistics

LOCATION: Baffinlan NU

PASSING TRIAL SEAMS

	NO.	TIME	TECH ID
X FUSION	TF-1	13:55 HRS	PH
EXTRUSION			
SOLVENT			

SHEET NUMBER: 2

DATE: 20-Jul-13

SEAM NUMBER	SEAM SECTION * START POINT	SEAM SECTION * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL	APPROX. LENGTH WELDED (M)	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE TEST DATE	NON-DESTRUCTIVE CHECKED BY
1 / 14	SEOS TO NEOS		16:41	3C	PH	50%	830	830	48.8		PH		20-Jul-13	
1 / TIE-IN	SEOS TO NEOS		17:17	3C	PH	50%	830	830	48.8	DT-1	PH	TIE-IN	20-Jul-13	
15 / 16	EEOS TO WEOS		18:04	3C	PH	50%	830	830	4.8		PH		20-Jul-13	
14 / 15,16	SEOS TO NEOS		18:09	3C	PH	50%	830	830	48.8		PH		20-Jul-13	
/														
/														
/														
/														
/														
/														
/														
								DAILY TOTAL	249.1					

* *REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR, OR A POINT LOCATION ON THE SEAM.*

SUBMITTED BY: PH

DATE: 20-Jul-13

LAYFIELD

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna logistics

LOCATION: Baffinlan NU

PASSING TRIAL SEAMS

	NO.	TIME	TECH ID
X FUSION	TF-2	08:18 HRS	PH
EXTRUSION			
SOLVENT			

SHEET NUMBER: 3

DATE: 21-Jul-13

SEAM NUMBER	SEAM SECTION * START POINT	SEAM SECTION * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL	APPROX. LENGTH WELDED (M)	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE TEST DATE	NON-DESTRUCTIVE CHECKED BY
15,16 / 17	SEOS TO NEOS		9:03	3C	PH	45%	830	830	57.3	DT-2	PH		21-Jul-13	
17 / 18	SEOS TO NEOS		9:30	3C	PH	45%	830	830	48.8		PH		21-Jul-13	
18 / 19	SEOS TO NEOS		10:56	3C	PH	45%	830	830	48.8		PH		21-Jul-13	
20 / 21	EEOS TO WEOS		12:09	3C	PH	45%	830	830	10.8		PH		21-Jul-13	
21 / 22	EEOS TO WEOS		12:15	3C	PH	45%	830	830	10.8		PH		21-Jul-13	
22 / 23	EEOS TO WEOS		12:25	3C	PH	45%	830	830	10.8		PH		21-Jul-13	
23 / 24	EEOS TO WEOS		12:32	3C	PH	45%	830	830	10.7		PH		21-Jul-13	
24 / 25	EEOS TO WEOS		12:53	3C	PH	45%	830	830	10.6	DT-3	PH		21-Jul-13	
25 / 26	EEOS TO WEOS		12:58	3C	PH	45%	830	830	10.6		PH		21-Jul-13	
26 / 27	EEOS TO WEOS		13:03	3C	PH	45%	830	830	10.6		PH		21-Jul-13	
27 / 28	EEOS TO WEOS		13:09	3C	PH	45%	830	830	10.6		PH		21-Jul-13	
								DAILY TOTAL	240.2					

** REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR, OR A POINT LOCATION ON THE SEAM.*

SUBMITTED BY: PH

DATE: 21-Jul-13

LAYFIELD

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna logistics

LOCATION: Baffinlan NU

PASSING TRIAL SEAMS

	NO.	TIME	TECH ID
X FUSION	TF-2	08:18 HRS	PH
EXTRUSION			
SOLVENT			

SHEET NUMBER: 4

DATE: 21-Jul-13

SEAM NUMBER	SEAM SECTION * START POINT	SEAM SECTION * FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL	APPROX. LENGTH WELDED (M)	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE TEST DATE	NON-DESTRUCTIVE CHECKED BY
28 / 29	WEOS TO EEOS		13:15	3C	PH	45%	830	830	57.3		PH		21-Jul-13	
19 / TIE-IN	NEOS TO SEOS		13:28	3C	PH	45%	830	830	48.8		PH		21-Jul-13	
/														
/														
/														
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/														
							DAILY TOTAL		346.3					

* *REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR, OR A POINT LOCATION ON THE SEAM.*

SUBMITTED BY: PH

DATE: 21-Jul-13

LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 14C - 091
PROJECT TITLE: Baffinland MRP Milne Port Fuel Upgrade
OWNER: Nuna Logistics
CONTRACTOR: Nuna Logistcis
LOCATION: Baffinland NU
SHEET NUMBER: 1

DEFECT CODE	LOG DATE	DEFECT LOCATION		DEFECT TYPE	REPAIR TYPE	WELD TECH.		REPAIR DATE	REMARKS **	TEST DATE	CHECKED BY
		SEAM OR PANEL NO.	DEFECT LOCATION DESCRIPTION								
1 A	20-Jul-13	2,3 / 4,5	4.8 mts Seam 2-3 NEOS TO SEOS	T	G & W	RR		21-Jul-13		21-Jul-13	YE
1 B	20-Jul-13	1 / 2,4	9.11 mts Seam 1-Tie-In NEOS TO SEOS	T	G & W	RR		21-Jul-13			
1 C	20-Jul-13	6 /	2.13 mts Seam 4-6 WEOS TO EEOS 0.3 m S	MD	G & W	RR		21-Jul-13			
1 D	20-Jul-13	1 / 6,7	4.7 mts S from 1B	T	G & W	RR		21-Jul-13			
1 E	20-Jul-13	7 /	1.37 mts S from 1D	MD	G & W	RR		21-Jul-13			
1 F	20-Jul-13	7 /	2.44mts S, 1.22 mts E from 1D	MD	G & W	RR		21-Jul-13			
1 G	20-Jul-13	1 / 7,8	4.7 mts S from 1D	T	G & W	RR		21-Jul-13			
1 H	20-Jul-13	1 / 8,9	4.7 mts S from 1G	T	G & W	RR		21-Jul-13			
1 I	20-Jul-13	1 / 9,10	4.7 mts S from 1H	T	G & W	RR		21-Jul-13			
1 J	20-Jul-13	1 / 10, 11	4.7 mts S from 1I	T	G & W	RR		21-Jul-13			
1 K	20-Jul-13	1 / 11,12	4.7 mts S from 1J	T	G & W	RR		21-Jul-13			
1 L	20-Jul-13	1 / 12,13	4.7 mts S from 1K	T	P, G & W	RR		21-Jul-13			
1 M	20-Jul-13	14 / 15,16	34.44 mts Seam 14-15,16 NEOS TO SEOS	T	G & W	RR		21-Jul-13			
1 N	20-Jul-13	15 /	2.41 mts E from 1Q	MD	G & W	RR		21-Jul-13			
1 O	20-Jul-13	16 /	2.13 mts E, 0.45 mts N from 1Q	MD	G & W	RR		21-Jul-13			
1 P	20-Jul-13	16 /	1.85 mts E, 0.18 mts N from 1Q	MD	G & W	RR		21-Jul-13			
1 Q	21-Jul-13	17 / 15,16	34.44 mts Seam 17-15,16 NEOS TO SEOS	T	G & W	RR		21-Jul-13			
1 R	20-Jul-13	16 /	7.49 mts N, 0.15 mts W from 1M	MD	G & W	RR		21-Jul-13			
1 S	20-Jul-13	16 /	9.65 mts N, 0.15 mts W from 1M	MD	G & W	RR		21-Jul-13			
1 T	20-Jul-13	16 /	18.49 mts N, 0.55 mts W from 1M	MD	G & W	RR		21-Jul-13			

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE; B - UNDISPERSED RESIN BEAD; BO - FUSION WELDER BURN; BS - BOOT/SKIRT FROM FML PENETRATION; CO - CHANGE OF OVERLAP; CR - CREASE; D - INSTALLATION DAMAGE; DS-# - DESTRUCTIVE TEST NUMBER; EE - EARTHWORK EQUIPMENT DAMAGE; EXT - EXTENSION; FM - FISHMOUTH; FS - FAILED SEAM LENGTH; FTS - FIELD TEST STRIP; HT - HEAT TACK BURN; IO - INSUFFICIENT OVERLAP (UNDER SPEC.); MD - MANUFACTURER/DELIVERY DAMAGE; PT - PRESSURE TEST CUT; SI - SOIL SURFACE IRREGULARITY; SL - SLAG ON TEXTURED SHEET; T - THREE PANEL INTERSECTION; VL - VACUUM TEST LEAK; WR - WRINKLE; WS - WELDER RESTART; OTHER:

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-1	12:18	RR

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.

SUBMITTED BY: PH
DATE: 21-Jul-13

LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 14C - 091
PROJECT TITLE: Baffinland MRP Milne Port Fuel Upgrade
OWNER: Nuna Logistics
CONTRACTOR: Nuna Logistcis
LOCATION: Baffinland NU
SHEET NUMBER: 2

DEFECT CODE	LOG DATE	DEFECT LOCATION		DEFECT TYPE	REPAIR TYPE	WELD TECH.		REPAIR DATE	REMARKS **	TEST DATE	CHECKED BY
		SEAM OR PANEL NO.	DEFECT LOCATION DESCRIPTION								
2 A	20-Jul-13	16 /	20.30 mts N 0.28 mts E from 1Q	MD	G & W	RR		21-Jul-13		21-Jul-13	YE
2 B	20-Jul-13	16 /	9.60 mts N 0.40 mts E from 1Q	MD	G & W	RR		21-Jul-13			
2 C	21-Jul-13	19 / 20, 21	4.8 mts NEOS TO SEOS Seam 19-Tie In	T	G & W	RR		21-Jul-13			
2 D	21-Jul-13	19 / 21,22	4.7 mts S from 2C	T	G & W	RR		21-Jul-13			
2 E	21-Jul-13	19 / 22,23	4.7 mts S from 2D	T	G & W	RR		21-Jul-13			
2 F	21-Jul-13	23 /	1.11 mts S, 1.06 mts W from 2E	MD	G & W	RR		21-Jul-13			
2 G	21-Jul-13	23 /	1.29 mts S from 2F	MD	G & W	RR		21-Jul-13			
2 H	21-Jul-13	19 / 23,24	4.7 mts S from 2E	T	G & W	RR		21-Jul-13			
2 I	21-Jul-13	19 / 24,25	4.7 mts S from 2H	T	G & W	RR		21-Jul-13			
2 J	21-Jul-13	19 / 25,26	4.7 mts S from 2I	T	G & W	RR		21-Jul-13			
2 K	21-Jul-13	19 / 26,27	4.7 mts S from 2J	T	G & W	RR		21-Jul-13			
2 L	21-Jul-13	19 / 27,28	4.7 mts S from 2K	T	G & W	RR		21-Jul-13			
2 M	21-Jul-13	19 / 28,29	4.7 mts S from 2L	T	G & W	RR		21-Jul-13			
2 N	21-Jul-13	23 /	2.21 mts W from 2F	MD	G & W	RR		21-Jul-13			
2 O		/									
2 P		/									
2 Q		/									
2 R		/									
2 S		/									
2 T		/									

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE; B - UNDISPERSED RESIN BEAD; BO - FUSION WELDER BURN; BS - BOOT/SKIRT FROM FML PENETRATION; CO - CHANGE OF OVERLAP; CR - CREASE; D - INSTALLATION DAMAGE; DS# - DESTRUCTIVE TEST NUMBER; EM - EARTHWORK EQUIPMENT DAMAGE; EXT - EXTENSION; FM - FISHMOUTH; FS - FAILED SEAM LENGTH; FTS - FIELD TEST STRIP; HT - HEAT TACK BURN; IO - INSUFFICIENT OVERLAP (UNDER SPEC.); MD - MANUFACTURER/DELIVERY DAMAGE; PT - PRESSURE TEST CUT; SI - SOIL SURFACE IRREGULARITY; SL - SLAG ON TEXTURED SHEET; T - THREE PANEL INTERSECTION; VL - VACUUM TEST LEAK; WR - WRINKLE; WS - WELDER RESTART; OTHER:

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-1	12:18	RR

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.

SUBMITTED BY: PH
DATE: 21-Jul-13

LAYFIELD GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

VACUUM BOX _____ **AIR LANCE** X **SHEET NUMBER:** 1

SEAMS									REPAIRS					
SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	COMPLETE NO YES	CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **
2 / 3	SEOS	NEOS	21-Jul-13	PH					1 A					
4 / 5	EEOS	WEOS	21-Jul-13	PH					1 B					
4 / 6	EEOS	WEOS	21-Jul-13	PH					1 C					
6 / 7	EEOS	WEOS	21-Jul-13	PH					1 D					
2,3 / 4,5	NEEOS	SWEOS	21-Jul-13	PH					1 E					
7 / 8	EEOS	WEOS	21-Jul-13	PH					1 F					
8 / 9	EEOS	WEOS	21-Jul-13	PH					1 G					
9 / 10	EEOS	WEOS	21-Jul-13	PH					1 H					
10 / 11	EEOS	WEOS	21-Jul-13	PH					1 I					
11 / 12	EEOS	WEOS	21-Jul-13	PH					1 J					
12 / 13	EEOS	WEOS	21-Jul-13	PH					1 K					
1 / TIE	SEOS	NEOS	21-Jul-13	PH					1 L					
1 / 14	SEOS	NEOS	21-Jul-13	PH					1 M					
15 / 16	EEOS	WEOS	21-Jul-13	PH					1 N					
14 / 15,1	SEOS	NEOS	21-Jul-13	PH					1 O					
15,16 / 17	SEOS	NEOS	21-Jul-13	PH					1 P					
17 / 18	SEOS	NEOS	21-Jul-13	PH					1 Q					
18 / 19	SEOS	NEOS	21-Jul-13	PH					1 R					
20 / 21	EEOS	WEOS	21-Jul-13	PH					1 S					
21 / 22	EEOS	WEOS	21-Jul-13	PH					1 T					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS

LS FORM 6

LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: _____

DATE: _____

LAYFIELD CRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 14C - 091 **PROJECT TITLE:** Baffinland MRP Milne Port Fuel Upgrade

OWNER: Nuna Logistics **CONTRACTOR:** Nuna Logistics

LOCATION: Baffinland NU

VACUUM BOX _____ **AIR LANCE** X **SHEET NUMBER:** 2

SEAMS									REPAIRS					
SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	COMPLETE NO YES	CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **
22 / 23	EEOS -	WEOS	21-Jul-13	PH					2 A					
23 / 24	EEOS -	WEOS	21-Jul-13	PH					2 B					
24 / 25	EEOS -	WEOS	21-Jul-13	PH					2 C					
25 / 26	EEOS -	WEOS	21-Jul-13	PH					2 D					
26 / 27	EEOS -	WEOS	21-Jul-13	PH					2 E					
27 / 28	EEOS -	WEOS	21-Jul-13	PH					2 F					
28 / 29	WEOS -	EEOS	21-Jul-13	PH					2 G					
19 / TIE-	NEOS -	SEOS	21-Jul-13	PH					2 H					
/	-								2 I					
/	-								2 J					
/	-								2 K					
/	-								2 L					
/	-								2 M					
/	-								2 N					
/	-								2 O					
/	-								2 P					
/	-								2 Q					
/	-								2 R					
/	-								2 S					
/	-								2 T					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER. OR A POINT LOCATION ON THE SEAM

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS

SUBMITTED BY: _____

DATE: _____

LAYFIELD

GEOMEMBRANE DESTRUCTIVE TEST REPORT

PROJECT NUMBER: 14C - 091
PROJECT TITLE: Baffinland MRP Miln Port Fuel Upgrade
OWNER: Nuna Logistics
CONTRACTOR: Nuna Logistics
LOCATION: Baffinland NU
SHEET NUMBER:

DESTRUCTIVE TEST NUMBER*: DT-1
TEST DATE: 22-Jul-13
SEAM NUMBER: 1-2
ARCHIVE _____ **LAYFIELD** _____ **OWNER** _____ **ENGINEER**
SAMPLE LOCATION: 48.76 mts NEOS TIE-IN
3RD PARTY _____ **YES** _____ **NO** _____ **WHO?**
DATE SEAMED / SAMPLED: 20-Jul-13 -
DATE FORWARDED TO LAB _____
TYPE OF SEAM: Fusion
DATE LAB TEST RESULTS REC'D _____

FIELD TEST RESULTS (units = lbf. / in. width = ppi)

SHEAR STRENGTH			PEEL ADHESION				
				INSIDE SEAM		OUTSIDE SEAM	
SPECIMEN NUMBER	SEAM STRENGTH	** LOCUS OF BREAK CODE	SPECIMEN NUMBER	ADHESION STRENGTH	LOCUS OF BREAK CODE	ADHESION STRENGTH	** LOCUS OF BREAK CODE
1	126	SE1	2	110	SE1	112	SE1
3	123	SE1	4	119	SE1	107	SE1
5	124	SE1	6	108	SE1	105	SE1
7	126	SE1	8	110	SE1	102	SE1
9	129	SE1	10	110	SE1	105	SE1
11			12				

* DESTRUCTIVE TEST NUMBERS SHOULD BE SEQUENTIAL AND ARE TO BE PREFIXED BY EITHER DT (FUSION), DX (EXTRUSION) OR DS (SOLVENT).

** REFER TO LOCUS OF BREAK CODE DIRECTORIES PROVIDED FOR UNSUPPORTED AND SUPPORTED MATERIALS.

LPL: PASS _____ FAIL _____

3RD PARTY / LAB: PASS _____ FAIL _____

NOTES: _____

CHECKED BY: PH

DATE: 22-Jul-13

LS FORM 8 (OPTIONAL)

LAYFIELD ENVIRONMENTAL SYSTEMS