Layfield Environmental Systems Ltd.

Project Completion QA/QC Package

for

Yukon Zinc

Wolverine Phase I Waste Rock Pad

Whitehorse, Yukon

Supply and Installation of Enviro Liner 6030

Prepared By: Lyndon Payne

Reviewed By: Greg Van Patten

Date Submitted: August 29, 2005

LAYFIELD

Layfield Environmental Systems Ltd.

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for

Yukon Zinc

Wolverine Phase I – Waste Rock Pad

Whitehorse, Yukon

LAYFIELD

LAYFIELD

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Yukon Zinc Wolverine Phase I waste rock pad
PROJECT NUMBER: 05C-051
OWNER: Yukon Zinc
LOCATION: Yukon - Wolverine.

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 form 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: waste rock pad

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: 22/8/05
Signature: Jumea Marshall
Name: Jume Marshall
Title: Supervisor

OWNERS REPRESENTATIVE:

Date: Aug 22/05
Signature: R Goodwin
Name: Richard Goodwin
Title: VP Mining
Company: Yukon Zinc Corp

LAYFIELD

CERTIFICATE OF FINAL INSPECTION AND ACCEPTANCE

PROJECT NAME: Yukon Zinc - Wolverine Phase 1 waste rock Pad
PROJECT NUMBER: 05C-051 DATE: _____
OWNER: Yukon Zinc
LOCATION: Yukon - Wolverine

Scope of Installation(s): THE WORK
Install geotextile Top + bottom of EL 30
geomembrane Liner.
Install weld + repair of 9 panels of EL 30

Part 1 - LAYFIELD ENVIRONMENTAL SYSTEMS LTD.

I, James Marshall, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the installations (as outlined above), and have found the Work to be complete and free of defects and declare that the Work was completed in accordance with the project specifications, Layfield Environmental Systems' QC program and the terms and conditions of the contract.

Layfield Environmental Systems Representative:

Name: James Marshall
Title: Supervisor
Date: _____ Signature: James Marshall

Part 2 - OWNER (or Representative)

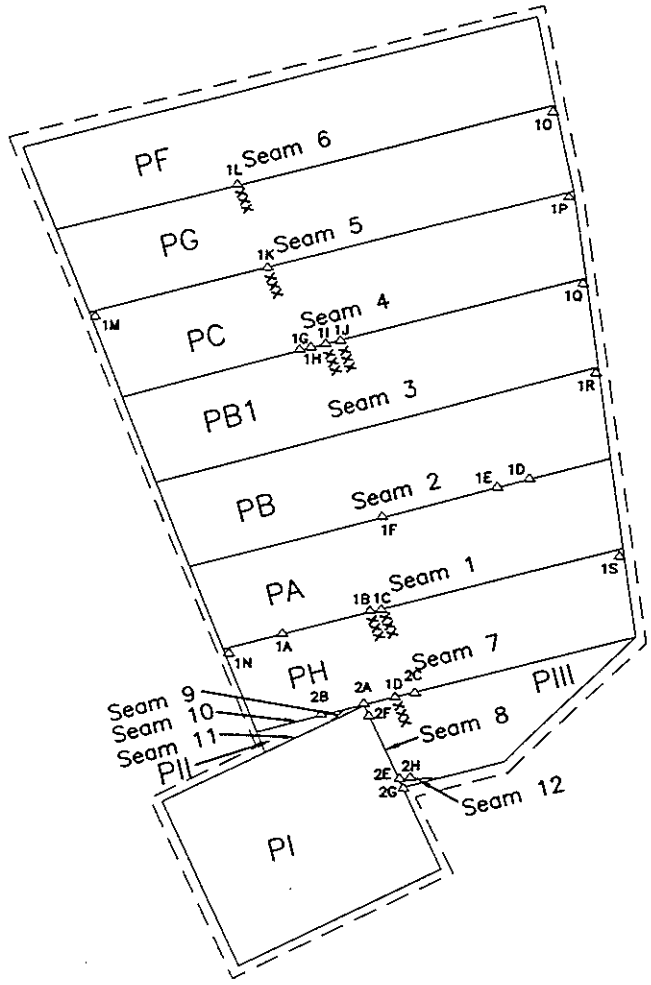
I, RICHARD GOODWIN, a duly appointed representative of YUKON ZINC CORP., _____, do hereby take over and accept the installation(s) described above, and confirm that the work has been completed in accordance with the project specifications and the terms of the conditions of the contract.

I have evaluated and measured the work together with the Layfield Environmental Systems representative, and agree that the measurements shown are both true and correct, and that the installation has met our approval.

Owners Representative:

Name: RICHARD GOODWIN
Title: VP MINING
Company: YUKON ZINC CORP.
Date: Aug 22-05 Signature: R. Goodwin

Comments: _____



NOTES

1. PANEL TO PANEL TIE-INS EXAGGERATED FOR CLARITY.

LEGEND

- ANCHOR TRENCH
- LINER FIELD SEAM
- 1A REPAIR NUMBER
- P1 PANEL NUMBER
- △ PATCH
- X EXTRUSION BEAD (OR WELD)

LAYFIELD ENVIRONMENTAL SYSTEMS LTD.

YUKON ZINC

WASTE ROCK PAD

WOLVERINE PHASE I

AS BUILT LINER LAYOUT

YUKON, CANADA

SCALE : N.T.S.		PROJECT No. 05C-051
DWG: 1 OF 1		
DWN: LP	CHKD: GVP	APP'D.
DATE : AUGUST 29, 2005		

LAYFIELD GEOSYNTHETICS INVENTORY LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc - Wolverine Phase 1
OWNER: Yukon Zinc
CONTRACTOR: Ragmac Environmental Service
LOCATION: Yukon ~~Zinc~~
SHEET NUMBER: 1

MATERIAL TYPE: GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL:
DATE OF INVENTORY: 20/7/5
UNLOADING METHOD: Helicopter
INVENTORY BY: J Marshall
PRODUCT TYPE: 30mil EL
CONDITION IN TRUCK:
MATERIAL MANUFACTURER: Layfield

Panel / Roll Number	Material Dimensions: Thickness or Weight	Material Dimensions: Length	Material Dimensions: Width	QC Certificate Available	Conf Sample Removed	Other	Remarks
Panel A	30mil	58.1m	12.19m				
B_1	"	65.5m	12.19m				
B_2	"	65.5m	12.19m				
C	"	71.5m	12.19m				
D	"	43.3m	12.19m				
E	"	20.0m	12.19m				
F	"	24.3m	12.19m				
G	"	22.9m	12.19m				
H	"	54.5m	12.19m				
I	"	46.3m	12.19m				
J	"	29.3m	6.1m				
Panel 1	"	100'	80'				

SUBMITTED BY: J Marshall
DATE: Aug 10/05

LAYFIELD GEOSYNTHETICS INVENTORY LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc - Wolverine PH-1
OWNER: Yukon Zinc
CONTRACTOR: Raymac Environmental
LOCATION: Yukon
SHEET NUMBER: 2

MATERIAL TYPE: GEOMEMBRANE
GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL:
DATE OF INVENTORY: 20/8/5
UNLOADING METHOD: Helicopter
INVENTORY BY: J Marshall
PRODUCT TYPE: LP8
CONDITION IN TRUCK:
MATERIAL MANUFACTURER: Layfield

Panel / Roll Number	Material Dimensions			QC Certificate Available	Conf Sample Removed	Other	Remarks
	Thickness or Weight	Length	Width				
524.74	LP8	300'	180"				
" .15	"	"	"				
" .25	"	"	"				
" .38	"	"	"				
" .46	"	"	"				
695.61	"	"	"				
524.7	"	"	"				
524.16	"	"	"				
524.46	"	"	"				
524.8	"	"	"				
524.13	"	"	"				
695.26	"	"	"				
524.20	"	"	"				
524.4	"	"	"				
14624.73	"	"	"				
524.27	"	"	"				
524.48	"	"	"				
524.9	"	"	"				
524.19	"	"	"				
524.64	"	"	"				
524.31	"	"	"				
360.54	"	"	"				
360.42	"	"	"				
524.24	"	"	"				

SUBMITTED BY: J Marshall
DATE: Aug 10/05

LAYFIELD GEOSYNTHETICS INVENTORY LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: YukonZinc-Wolverine PH-1
OWNER: Yukon Zinc
CONTRACTOR: Raymac Enviromental
LOCATION: Yukon
SHEET NUMBER: 3
MATERIAL TYPE: GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL:
DATE OF INVENTORY: 20/7/5
UNLOADING METHOD: Helicopter
INVENTORY BY: J Marshall
PRODUCT TYPE: LP8
CONDITION IN TRUCK:
MATERIAL MANUFACTURER: Layfield

Panel / Roll Number	Material Dimensions: Thickness or Weight	Length	Width	QC Certificate Available	Conf Sample Removed	Other	Remarks
524-14	LP8	300'	180"				
524-23		"	"				
unknown		"	"				
"		"	"				
"		"	"				
"		"	"				
"		"	"				
"		"	"				
"		"	"				
"		"	"				
"		"	"				
"		"	"				

SUBMITTED BY: J Marshall
DATE: Aug10/05

LAYFIELD GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc - Wolverine PH
OWNER: Yukon Zinc
CONTRACTOR: Raymac Environmental
LOCATION: Yukon - Wolverine
GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER
SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):
REMARKS:
DATE: 21/2/05
SHEET NUMBER: 1
DEPLOYMENT EQUIPMENT:

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER	Panel H	Panel A	Panel B
DEPLOYMENT LENGTH	54.5 m x 12.19m	58.6 m x 12.19m	65.5 m x 12.19m
AMBIENT AIR TEMP.	14°	14°	12°
VISUAL OBSERVATION	1.5'	1.5'	1.5'
OBSERVED OVERLAP	1 m		
CHECKED BY			
ADJACENT PANEL	N= A S= H E= W=	N= B S= H E= W=	N= B1 S= A E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER	Panel B1	Panel C	Panel G
DEPLOYMENT LENGTH	65.5 m x 12.19m	71.5 m x 12.19m	72.9 m x 12.19m
AMBIENT AIR TEMP.	12°	12°	12°
VISUAL OBSERVATION	1.5'	1.5'	1.5'
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= C S= B E= W=	N= G S= B1 E= W=	N= F S= C E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER	Panel F		
DEPLOYMENT LENGTH	59.3 m x 12.19m		
AMBIENT AIR TEMP.	12°		
VISUAL OBSERVATION	1.5'		
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= S= G 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: J Marshall
DATE: Aug 10/05

LAYFIELD

GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 05C-051

PROJECT TITLE: Yukon Zinc-Wolverine

OWNER: Yukon Zinc

CONTRACTOR: Raymac Enviro. PH 1

LOCATION: Yukon - Wolverine

[✓ GEOMEMBRANE] SECONDARY PRIMARY CLOSURE OTHER

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

REMARKS:

DATE: 22/7/5

SHEET NUMBER: 2

DEPLOYMENT EQUIPMENT:

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER	PANEL LOCATION REFERENCE NUMBER
PANEL/ROLL NUMBER	Panel 1	Sump Panel	
DEPLOYMENT LENGTH	48.5 m X 12.19m	100 x 80'	
AMBIENT AIR TEMP.	14°	14°	
VISUAL OBSERVATION			
OBSERVED OVERLAP	1'	1'	
CHECKED BY			
ADJACENT PANEL	N= N S= Sump E= W=	N= 1 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: J Marshall

DATE: Aug 10/05

LAYFIELD

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc Wolverine Phase 1
OWNER: Yukon Zinc
CONTACTOR: Raymac Environmental
LOCATION: Yukon
SHEET NUMBER: 1

/ TF - # FUSION / TX - # = EXTRUSION _____ TS - # = SOLVENT

SAMPLE NUMBER	APPROX. TIME & DATE	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS			PASS OR RETEST	CHECKED BY	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	WEDGE TEMP.	INSIDE PEEL MODE / STRENGTH	OUTSIDE PEEL MODE / STRENGTH	SHEAR MODE / STRENGTH			
1	14:00 21/7/5	Dentech	Jm	14°	50%	✓	860°	50 154 152 / 48 162 151	56 147 155 / 48 152 154	551 / 158	P	✓	
2	08:00 22/7/5	XL	CB	12°	✓	440° 430°	✓	451 146 / 431 144	1 1 / 1 1	511 / 149	P	✓	
3	05:00 23/7/5	Dentech	Jm	14°	50%		860°	471 481 44 / 491 511 53	44 146 148 / 471 441 50	561 / 148	P	Jm	
4	11:00 23/7/5	XL	CB	14°	✓	440° 430°		461 144 / 411 40	1 1 / 1 1	441 / 147	P	Jm	
								/ / / /	/ / / /	/ /			
								/ / / /	/ / / /	/ /			
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SUBMITTED BY: J Marshall
DATE: Aug 10/05

LAYFIELD

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc Wolverine Phase 1
OWNER: Yukon Zinc
CONTACTOR: Raymac Environmental
LOCATION: Yukon

PASSING TRIAL SEAMS

/ FUSION
_____ EXTRUSION
_____ SOLVENT

NO.	TIME	TECH ID
1	14:00	JM

SHEET NUMBER: 1
DATE: 21/7/5

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 DIGITAL SET WEDGE OR BARREL	APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE TEST DATE	NON-DESTRUCTIVE CHECKED BY
011	weds	-Eos	15:00	14°	JM	50%	460°F	-	50m	—	JM		21/7/5	JM
012	weds	-Eos	16:30	14°	JM	50%	11	-	52m					
013	weds	-Eos	17:45	12°	JM	50%	11	-	58m					
014	weds	-Eos	19:00	12°	JM	50%	11	-	60m					
015	weds	-Eos	20:30	11°	JM	50%	11	-	63m					
016	weds	-Eos	21:30	10°	JM	50%	11	-	63m					
017	weds	-Eos	22:15	10°	JM	50%	11	-	66m					
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
								DAILY TOTAL						

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

SUBMITTED BY: J Marshall
DATE: Aug 10/05

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LAYFIELD ENVIRONMENTAL SYSTEMS

LAYFIELD

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc - Wolverine Phase 1
OWNER: Yukon Zinc
CONTACTOR: Raymac Environmental
LOCATION: Yukon - Wolverine

PASSING TRIAL SEAMS

/ FUSION
_____ EXTRUSION
_____ SOLVENT

NO.	TIME	TECH ID
3	08.00	JM

SHEET NUMBER: 2
DATE: 23/7/15

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 DIGITAL SET WEDGE OR BARREL	APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE TEST DATE	NON-DESTRUCTIVE CHECKED BY
017	WEOS	EEOS	12:00	14°	CB	50%	860°	-	43m				23/7/15	JM
018	WEOS	EEOS	08:30	14°	CB	50%	860°	-	60'					
019	WEOS	EEOS	09:00	14°	CB	50%	860°	-	30'					
110	WEOS	EEOS	09:30	14°	JM	50%	860°	-	12'					
111	WEOS	EEOS	09:45	14°	JM	50%	860°	-	14'					
112	WEOS	EEOS	10:15	14°	JM	50%	860°	-	25'					
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
								DAILY TOTAL						

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

SUBMITTED BY: J Marshall
DATE: _____

LAYFIELD

GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 05C-051 PROJECT TITLE: Yukon Zinc Wolverine Phase 1

OWNER: Yukon Zinc CONTRACTOR: Raymac Environmental

LOCATION: Yukon DATE: 22/7/05

VACUUM BOX ✓ AIR LANCE ✓ SHEET NUMBER: 1

SEAMS								REPAIRS					
SEAM NUMBER	SEAM SECTION * FROM TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO YES	CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **
1	Eeos - weos	22/7/5	Jm	4	✓	Jm		1 A	22/7/5	Jm		Jm	
2	Eeos - weos	↓	↓	3	✓	Jm		1 B	↓	↓		↓	
3	Eeos - weos			3	✓	Jm		1 C					
4	Eeos - weos			5	✓	Jm		1 D					
5	Eeos - weos			2	✓	Jm		1 E					
6	Eeos - weos	↓	↓	2	✓	Jm		1 F					
7	Eeos - weos	22/7/5	Jm	2	/			1 G					
8	weos - seos	↓	↓	2	/			1 H					
9	Eeos - weos			1	/			1 I					
10	Eeos - weos			1	/			1 J					
11	Eeos - weos			1	/			1 K					
12	Eeos - weos	↓	↓	1	/	↓		1 L					
	-							1 M					
	-							1 N					
	-							1 O					
	-							1 P					
	-							1 Q					
	-							1 R					
	-							1 S	↓	↓		↓	
	-							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

SUBMITTED BY: J Marshall

DATE: Aug 10/05

LAYFIELD

GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 05C-051
PROJECT TITLE: Yukon Zinc Wolverine PH 1
OWNER: Yukon Zinc
CONTRACTOR: Raymac Environment
LOCATION: Yukon Wolverine
DATE: 23/7/5

VACUUM BOX _____ AIR LANCE ✓ SHEET NUMBER: 2

SEAMS								REPAIRS					
SEAM NUMBER	SEAM SECTION * FROM TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO YES	CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **
	-							2 A	23/7/5	Jm		Jm	
	-							2 B	↓	↓		↓	
	-							2 C					
	-							2 D					
	-							2 E					
	-							2 F					
	-							2 G					
	-							2 H					
	-							2					
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* 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: J Marshall
DATE: Aug 10/05

LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 05C-051 **PROJECT TITLE:** Yukon Zinc Wolverine Phase 1

OWNER: Yukon Zinc **CONTRACTOR:** Ray Mac Environmental

LOCATION: Yukon **SHEET NUMBER:** 1

DEFECT CODE	LOG DATE	DEFECT LOCATION: SEAM OR PANEL NO.	DEFECT LOCATION: DESCRIPTION	DEFECT TYPE	REPAIR TYPE	WELD TECH.	REPAIR DATE	REMARKS **	TEST DATE	CHECKED BY
1 A	22/7/5	Seam 1	30' From Wegs	P	BO	Jm	22/7/5		12/7/5	Jm
1 B		"	60' East of 1 A	P	BO	CB				
1 C		"	5' East of 1 B	P	WR					
1 D		Seam 2	60' from Wegs	P	BO					
1 E		"	25' West of 1 D	P	BO					
1 F		"	50' west of 1 E	P	WR					
1 G		Seam 4	90' from Wegs	P	BO					
1 H		"	4' East of 1 G	P	WR					
1 I			10' East of 1 H	P	BO					
1 J			20' East of 1 I	P	WR					
1 K		Seam 5	100' From Wegs	P	WR					
1 L		Seam 6	100' From Wegs	P	WR					
1 M		Seam 6	Wegs	P	BO					
1 N		Seam 1	Wegs	P	BO					
1 O		Seam 6	Eegs	P	BO					
1 P		Seam 5	Eegs	P	BO					
1 Q		Seam 4	Eegs	P	BO					
1 R		Seam 3	Eegs	P	BO					
1 S		Seam 1	Eegs	P	BO					
1 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; 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.
2	08:00	CB

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

SUBMITTED BY: J Marshall

DATE: Aug 10/05

LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 05C-051

PROJECT TITLE: Yukon Zinc Wolverine Ph 1

OWNER: Yukon Zinc

CONTRACTOR: Raymac Environmental

LOCATION: Yukon - Wolverine

SHEET NUMBER: 2

DEFECT CODE	LOG DATE	DEFECT LOCATION: SEAM OR PANEL NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	REPAIR TYPE	WELD TECH.	REPAIR DATE	REMARKS **	TEST DATE	CHECKED BY
2 A	23/7/05	Seam 7	40' From W EOS	WR	P	CB	23/7/05		23/7/05	JM
2 B		Seam 7	10' From W EOS	BO	P					
2 C		Int Seams 7-8+9	T bt Seam 7&9	T	P					
2 D		Int Seams 9 10 11	Int Seams 9 10 11	T	P					
2 E		Int Seams 8-12	Int Seams 8-12	T	P					
2 F		Seam 8	15' From W EOS	BO	P					
2 G		Seam 8	S EOS	BO	P					
2 H		Seam 12	10' From W EOS	BO	P					
2 I										
2 J										
2 K										
2 L										
2 M										
2 N										
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; 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.
4	11:00	CB

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

SUBMITTED BY: J Marshall

DATE: Aug 10/05

c8792 s

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc - Collection Sump		
Customer:	Raymac Environmental		
Sales Person:	gvp	Date:	24-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil		
Prod Code:	0		
Fab Code:	03LE1030		
Length	100	Width	80.0

Special Fabrication Instructions
Description of Operations/Procedures

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity
31545	E9854	9	(1) - 8	

Repairs

Mach: PFS Speed: Temp: Splice:

Shear (Seam #)

Liner #		1	6	7		
0	1	59	62	61		
0						
0						
0						
0						
0						
0						
0						
0						

Peel (Seam #)

1 L	R	6 L	R	7 L	R	L	R	L	R
51	54	51	52	53	54				

Tech/Date (Seam #)

1	6	7		
MO	MO	MO		

Inspections	#1 MO	#2	#3	Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel A		
Customer:	Raymac		
Sales Person:	TF	Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil		
Prod Code:	0		
Fab Code:	03LE1030		
Length	**190.6**	Width	**40.0**

Special Fabrication Instructions
Description of Operations/Procedures
TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity
31545	E19854	5	1 / 4	

Repairs

Mach: PFS Speed: Temp: Splice:

Shear (Seam #)

Liner #		1	3			
05C-051A	1	74	71			
05C-051A						
05C-051A						
05C-051A						
05C-051A						
05C-051A						
05C-051A						
05C-051A						
05C-051A						
05C-051A						

Peel (Seam #)

1 L	R	3 L	R	L	R	L	R	L	R
53	52	56	57						

Tech/Date (Seam #)

1	3			
PG	PG			

Inspections	#1 Pascia	#2	#3	Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel E		
Customer:	Raymac		
Sales Person:	TF	Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mi		
Prod Code:	0		
Fab Code:	03LE1030		
Length	214.9	Width	40.0

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity
	31545	35	1 + 65'	
	31545	46	159' + 2	
	31545	46	(2) -4	

Repairs

Mach: PFS Speed: Temp: Splice:

Liner #		Shear (Seam #) 1	3	Peel (Seam #) 1L	R	3L	R	L	R	L	R	L	R	Tech/Date (Seam #) 1	3
05C-051B	1	58	63	50	55	54	51								
05C-051B	2	62	64	50	52	53	49								
05C-051B															
05C-051B															
05C-051B															
05C-051B															
05C-051B															
05C-051B															
05C-051B															
05C-051B															

Inspections	#1	#2	#3	Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel C
Customer:	Raymac
Sales Person:	TF
Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil
Prod Code:	0
Fab Code:	03LE1030
Length	234.6
Width	40.0

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity	Repairs
31345		35	① - 4		

Mach: PFS Speed: Temp: Splice:

Liner #		Shear (Seam #) 1	3				Peel (Seam #) 1 L	R	3 L	R	L	R	L	R	L	R	Tech/Date (Seam #) 1	3			
05C-051C	1	55	63				49	46	53	50							CF	CF			
05C-051C																					
05C-051C																					
05C-051C																					
05C-051C																					
05C-051C																					
05C-051C																					
05C-051C																					
05C-051C																					
05C-051C																					

Inspections	#1 Chris Flagg	#2	#3	Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel D
Customer:	Raymac
Sales Person:	TF
Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mi
Prod Code:	0
Fab Code:	03LE1030
Length	142.1
Width	40.0

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection	#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity
31545		33	50	50
31545		25	92 +1	3276
31545		04	-2	3814

Repairs: panel #1 spliced 92' from start

Mach: PFS Speed: Temp: Splice:

Shear (Seam #) / Peel (Seam #) / Tech/Date (Seam #)

Liner #		Shear 1	Shear 3	Peel 1L	Peel R	Peel 3L	Peel R	Peel L	Peel R	Peel L	Peel R	Peel L	Peel R	Tech/Date 1	Tech/Date 3
05C-051D	1	62	60	49	51	51	52							MW	MW
05C-051D															
05C-051D															
05C-051D															
05C-051D															
05C-051D															
05C-051D															
05C-051D															
05C-051D															
05C-051D															

Inspections	#1	#2	#3	Final
	OLS	MW		

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel E		
Customer:	Raymac		
Sales Person:	TF	Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil		
Prod Code:	0		
Fab Code:	03LE1030		
Length	**260.2**	Width	**40.0**

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection	#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity	Repairs
31545	E19854	24	1 4		

Mach:	PFS	Speed:	Temp:		Splice:

Liner #		Shear (Seam #) 1	3				Peel (Seam #) 1 L	R	3 L	R	L	R	L	R	L	R	Tech/Date (Seam #) 1	3			
05C-051E	1	70	71				55	52	50	49							PG	PG			
05C-051E																					
05C-051E																					
05C-051E																					
05C-051E																					
05C-051E																					
05C-051E																					
05C-051E																					
05C-051E																					
05C-051E																					

Inspections	#1	#2	#3	Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel F		
Customer:	Raymac		
Sales Person:	TF	Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil		
Prod Code:	0		
Fab Code:	03LE1030		
Length	239.2	Width	40.0

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity
31545	E19854	24	1 1 1/2	
31545	E19854	21	1 2 1/2	

Repairs

Mach: | PFS | Speed: | Temp: | | Splice:

Shear (Seam #)

Liner #		1	3			
05C-051F	1	60	61			
05C-051F						
05C-051F						
05C-051F						
05C-051F						
05C-051F						
05C-051F						
05C-051F						
05C-051F						
05C-051F						

Peel (Seam #)

1 L	R	3 L	R	L	R	L	R	L	R
51	50	50	49						

Tech/Date (Seam #)

1	3			
PG	PG			

Inspections | #1 Paula | #2 | #3 | Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel C
Customer:	Raymac
Sales Person:	TF
Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mi
Prod Code:	0
Fab Code:	03LE1030
Length	178.8
Width	40.0

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity	Repairs
31545	E19554	5			

Mach: PFS Speed: Temp: Splice:

Shear (Seam #)

Liner #		1	3			
05C-051G	1	6.2	6.8			
05C-051G						
05C-051G						
05C-051G						
05C-051G						
05C-051G						
05C-051G						
05C-051G						
05C-051G						
05C-051G						

Peel (Seam #)

1 L	R	3 L	R	L	R	L	R	L	R
5.2	5.3	5.3	5.3						

Tech/Date (Seam #)

1	3			
PG	PG			

Inspections #1 Panda #2 #3 Final

LAYFIELD

SHOP QC

Job Desc.	Yukon Zinc Wolverine - Panel H		
Customer:	Raymac		
Sales Person:	TF	Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil		
Prod Code:	0		
Fab Code:	03LE1030		
Length	159.9	Width	40.0

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

June 23

Roll Tag #	#	Piece #	Liner# / Panels	Quantity
31545		46	50	
31545		33	1099+3	

Repairs: Panel #1 spliced 1099' from start

Mach: PFS Speed: Temp: Splice:

Liner #		Shear (Seam #) 1	3	Peel (Seam #) 1 L	R	3 L	R	L	R	L	R	L	R	Tech/Date (Seam #) 1	3
05C-051H	1	60	65	48	50	48	52							23	23
05C-051H															
05C-051H															
05C-051H															
05C-051H															
05C-051H															
05C-051H															
05C-051H															
05C-051H															
05C-051H															

Inspections	#1	#2	#3	Final
	Louis			

LAYFIELD

SHOP QC

Job Desc.	Ykon Zinc Wolverine - Panel I		
Customer:	Raymac		
Sales Person:	TF	Date:	23-Jun-05
Material Type:	EL 6030 Black 124" wide 30 mil		
Prod Code:	0		
Fab Code:	03LE1030		
Length	**96.78**	Width	**20.0**

Special Fabrication Instructions

Description of Operations/Procedures

TRACEABILITY REQUIRED

In-Process Inspection			
#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity	Repairs
31545	E19854	21	1 2		

Mach: PFS Speed: Temp: Splice:

Liner #	Shear (Seam #) 1	Peel (Seam #) 1 L	R	L	R	L	R	L	R	L	R	Tech/Date (Seam #) 1
05C-051I	1 68	49	51									PG
05C-051I												
05C-051I												
05C-051I												
05C-051I												
05C-051I												
05C-051I												
05C-051I												
05C-051I												
05C-051I												

Inspections	#1 Paula	#2	#3	Final

LAYFIELD

Geomembrane Certificate of Analysis

LAYFIELD POLY FILMS LTD.
11120 Silversmith Place, Richmond, BC, V7A 5E4
Phone: (604) 275-5588
Fax: (604) 275-7867
Web: www.geomembranes.com
E-Mail: millcerts@LayfieldGroup.com

Customer Layfield Geosynthetics and Industrial Fabrics Ltd.

Address 11603-180 Street NW
Edmonton
Alberta
T5S 2H6
Canada

Customer PO# E19854

Layfield Job # 31545
Values (US/Metric) US

Enviro Liner 30

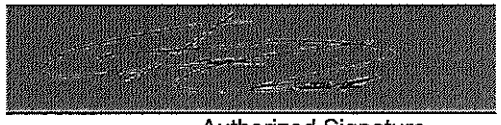
Manufacturing Test Results

Property	Method* ASTM	Units US	Spec		Roll 1	Roll 10
Thickness	D5199	mil	30	✓	30.6	30.8
Tensile Strength MD	D638	lbs	115	✓	140.9	139.5
Elongation MD	D638	%	800	✓	1304	1291
Tensile Strength TD	D638	lbs	115	✓	136.4	134.3
Elongation TD	D638	%	800	✓	1283	1281
Tear Strength MD	D1004	lbs	16	✓	22.5	22.7
Tear Strength TD	D1004	lbs	16	✓	22.9	22.9
Puncture Strength	D4833	lbs	42	✓	55.1	54.5
Dim. Stab. MD (max)		%	1.5	✓	0.8	
Dim. Stab. TD (max)		%	1.5	✓	0.7	
Carbon Black Content	D1603	%	2	✓	2.70	
Carbon Black Dispersion	D5596	1 or 2	2	✓	1	
Specific Gravity (max)	D1505	g/cc	0.939	✓	0.936	
HP OIT	D5885	min	2000	✓	**	

We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.
**Formulation Tested Previously Successfully

August 29, 2005
Date



Authorized Signature

LAYFIELD

LAYFIELD ENVIRONMENTAL SYSTEMS LTD.
11603 – 180 Street Edmonton, Alberta T5S 2H6 Canada
. Phone: (780) 453-6731
. Fax: (780) 452-9495
. Toll Free: 1 800 840-2884
. Web: www.layfieldgroup.com
. E-Mail: edm@layfieldgroup.com

INSTALLATION WARRANTY

LAYFIELD ENVIRONMENTAL SYSTEMS LTD. (LAYFIELD) hereby warrants to Yukon Zinc ; (the Customer) that the work performed by LAYFIELD on the Installation described as Wolverine Phase I will:

1. Meet the field seam specifications set out in the contract between LAYFIELD and the Customer (as amended by LAYFIELD's quotation), all workmanship to meet the requirements of LAYFIELD's Field Installation Quality Assurance program, and be free of defects at the time of completion of the Installation; and

2. Be free of installation defects from the date of the completion of the Installation (July 23 , 2005) for a period of 1 year so long as the completed Installation is used for the purposes and in the manner for which the Installation was designed.

Should damage or defects within the scope of the aforesaid warranties occur, LAYFIELD shall repair the damage or defects, PROVIDED THAT the area to be repaired must first be made ready by the Customer and be in a clean, dry, unencumbered condition, free from all water, soil, sludge, residuals, and liquids of any kind.

To enable LAYFIELD to investigate and determine the cause of any alleged damage or defect, notice and details of any claim hereunder must be presented in writing to LAYFIELD within thirty (30) days after the alleged damage or defect was first noticed or observed. Failure to provide such notice and details shall invalidate all warranties provided hereunder.

The liability of LAYFIELD under the aforesaid warranties are subject to the following conditions:

a. LAYFIELD's only obligation shall be to repair or replace any defective workmanship and in no event shall LAYFIELD be liable for any amount in excess of the cost of the Installation;

b. No allowance will be made for repairs, replacements or alterations made by the Customer unless with the prior written consent of LAYFIELD;

c. The warranties hereunder extend only to the Customer and are not transferable;

d. The warranties hereunder shall not apply to any damage or defects resulting from misuse, mechanical abuse by machinery, equipment or persons, excessive pressures or stresses, exposure of the completed Installation of harmful chemicals, unusual weather conditions, casualty catastrophe such as (but not limited to) earthquake, flood, hail, tornado, or any other act of God;

e. Under no circumstances shall LAYFIELD be liable for any special, direct, indirect, or consequential damages including the loss of use of the Installation howsoever caused;

f. All liner materials provided for the Installation are covered by a separate warranty provided by Serrot Corporation, and LAYFIELD shall not be liable for material failure claims hereunder;

g. The warranties hereunder are given in lieu of all other warranties, express, implied, statutory, or otherwise, and the Customer expressly waives all other warranties and claims whatsoever except those specifically given herein, and the Customer acknowledges that the warranties hereunder are accepted in preference to and to the exclusion of any or all other warranties; and

h. An Installation Warranty will not be provided for lining projects unless the installation is completed by LAYFIELD personnel or designated Layfield subcontractors.

LAYFIELD ENVIRONMENTAL SYSTEMS LTD.

James Teppan, General Manager