

January 31, 2012

Yukon Zinc Corporation
701 - 475 Howe Street
Vancouver, British Columbia
V6C 2B3

Mr. Don Strickland
Mine General Manager

Dear Mr. Strickland:

Wolverine Mine
Waste Rock Storage Pad

This report presents the construction record of the Rock Pad Storage Facility for the above project. The rock pad will be used to temporarily store mine rock prior to use as backfill for the underground workings. The rock pad is lined with an impervious geomembrane and will store up to 170,000 tonnes of potentially acid generating mine waste rock. Runoff from the rock pad will be collected in a sump and directed to the tailings storage facility where it will be reclaimed for use in the mill, or treated and discharged to the environment.

If you require further details please contact the undersigned.

Yours truly,

KLOHN CRIPPEN BERGER LTD.



Harvey McLeod, P.Eng. (YT)
Senior Geotechnical Engineer

TABLE OF CONTENTS

	PAGE
1. INTRODUCTION	1
2. ROCK PAD CONSTRUCTION.....	2
2.1 Surface Water Diversion.....	2
2.2 Foundation Preparation and Liner Base Design	2
2.3 Liner Underdrain.....	3
2.4 Liner	3
2.5 Water Collection Sump.....	3
3. OUTSTANDING WORK.....	5
4. SUMMARY	6

APPENDICIES

Appendix I	Selected Photos (From Yukon Zinc Corp.)
Appendix II	Geomembrane QC/QA (From Layfield Environmental Systems, Ltd.)
Appendix III	Daily Reports (From Yukon Zinc Corp.)

DRAWINGS

D-WR-001	Waste Rock Storage Area, General Arrangement - Plan
D-WR-002	Waste Rock Storage Area, Details

1. INTRODUCTION

In 2011 construction on the Wolverine Project Waste Rock Storage Pad (WRSP) was substantially completed. The work was performed by Arctic Construction Ltd. and monitored by Yukon Zinc Corporation (YZC) construction manager. Construction activities included:

- Construction of surface water Diversion Ditch C;
- Clearing and grubbing of WRSP footprint;
- Grading and proofrolling of WRSP foundation;
- Installation of WRSP underdrains;
- Construction of a contact water containments berm;
- Installation of 30 mil LLDPE geomembrane; and
- Installation of a pipe through the containment berm and liner to transmit contact water to the tailings storage facility.

This report documents the civil works construction for the WRSP and related infrastructure for the YZC Wolverine Project. See Drawing D-WR-001 for the WRSP general arrangement.

Photos of the WRSP construction work are shown in Appendix I.

2. ROCK PAD CONSTRUCTION

2.1 Surface Water Diversion

Runoff from the catchment area upstream of the rock pad is diverted to the west, via a new diversion designated Diversion Ditch C, for eventual discharge into Go Creek. The ditch was excavated and the work was monitored by YZC construction manager. Diversion Ditch C is shown on Drawing D-WR-001.

The diversion ditch will transition to a culvert under the main access road. The culvert should be a minimum of 800 mm diameter, or equivalent, and is still to be installed.

2.2 Foundation Preparation and Liner Base Design

Site preparation and placement of materials was carried out with the following sequence, under the supervision of YZC construction manager:

- Foundation Preparation: The pad area was cleared and grubbed and soft or loose soils were removed. Organic soils were stockpiled for future reclamation purposes;
- Site Grading: The site was graded with a cut and fill operation. With surplus material borrowed from the west side of the pad area and dozed into the basin to form a smooth regular base pad to form the main foundation. Graded material was compacted with a large drum vibratory roller; and
- The liner base was graded to allow positive drainage of infiltration water towards the downstream water collection sump.

The final liner foundation was inspected and approved by Layfield prior to placement of the liner, as show in Appendix II.

2.3 Liner Underdrain

A system of French drains was installed under the supervision of YZC construction manager, as shown on Drawing D-WR-001, to direct any water that bypasses Diversion Ditch C under the pad area. The drain consists of approximately 1 m² area of drain gravel enclosed in a geotextile fabric and reports to the natural drainage downstream of the WRSP.

2.4 Liner

The main components of the liner system included the following:

- **Liner Base Preparation:** As described in Section 2.2 above. Where the foundation was too rough, as assessed by a Layfield representative onsite, a 12oz. geotextile filter fabric, Layfield LP16 textile was placed to provide additional protection for the geomembrane;
- **Geomembrane Liner Placement:** The liner was a 30 mil. LLDPE geomembrane, Layfield Enviro Liner 4030. The liner was placed over the entire pad, perimeter berms, and collection sump areas;
- **Overliner Protection:** The overliner protection consisted of a 12oz. geotextile filter fabric, Layfield LP16 textile; and
- **Fill Protection:** A 500 mm thick protection layer of silty glacial till was placed over the geotextile. The layer was carefully spread in one lift with a small dozer.

The placement of the geomembrane was monitored by Layfield. Layfield's quality control / quality assurance report is included in Appendix II.

2.5 Water Collection Sump

A water collection sump is formed at the downhill side of the pad to temporarily store water prior to piping to the tailings storage facility (TSF). The sump is capable of storing

the equivalent water volume of 40 mm of precipitation over the entire rock pad and sump areas (4 ha), which is equivalent to approximately 1600 m³ of required storage capacity. A valved pipe outlet was installed. This pipeline will be extended to the TSF in 2012, to allow gravity flow of collected water.

3. OUTSTANDING WORK

Two activities will be completed in 2012:

- Installation of a minimum 800 mm diameter culvert to transmit flows from Diversion Ditch C to below the Mine Access road; and
- Extension of 150 mm diameter HDPE pipeline from WRSP sump to TSF.

January 31, 2012

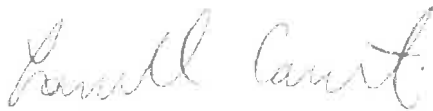
4. SUMMARY

This letter report presents the construction record for the WRSP for the Wolverine Project. This report is an instrument of service of Klohn Crippen Berger. The report has been prepared for the exclusive use of Yukon Zinc Corp. for the specific application to the Wolverine Project. In this report, Klohn Crippen Berger has endeavoured to comply with generally accepted geotechnical practice common to the local area. Klohn Crippen Berger makes no warranty, express or implied.

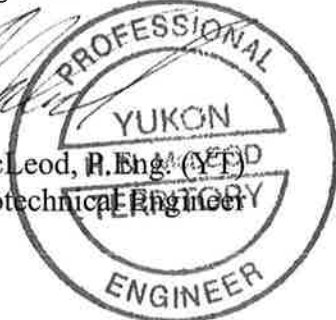
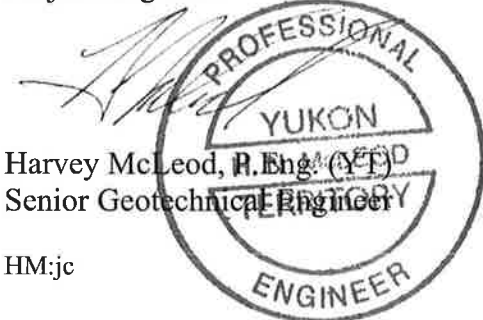
This report was prepared by Klohn Crippen Berger Ltd. for the account of Yukon Zinc Corporation. The material in it reflects Klohn Crippen Berger's best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Klohn Crippen Berger Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Yours truly,

KLOHN CRIPPEN BERGER LTD.



Lowell Constable, EIT
Project Engineer



Harvey McLeod, P. Eng. (Y.T.)
Senior Geotechnical Engineer

HM:jc

APPENDIX I

Selected Photos (From Yukon Zinc Corp)



Photo 1 Waste Rock Storage Pad Liner Foundation



Photo 2 Waste Rock Storage Pad Liner Foundation

FOR ADDITIONAL PHOTOS SEE APPENDIX III – DAILY REPORTS

APPENDIX II

Geomembrane QC/QA Report (From Layfield Environmental Systems Ltd.)



LAYFIELD

Environmental Systems

Project Completion QA/QC Package
for

Yukon Zinc Corp.
c/o Arctic Construction Ltd.

Waste Rock Storage Area Liner

Wolverine Mine Site, Yukon

Supply and Install of Enviro Liner 4030

Prepared By: Michael Cerilli

Reviewed By: Fred Cross

Date Submitted: January 3, 2012



Layfield Environmental Systems Ltd.

Table of Contents

for

**Yukon Zinc Corp.
c/o Arctic Construction Ltd.**

Waste Rock Storage Area Liner

Wolverine Mine Site, Yukon

1. Waste Rock Storage Area

1) Certificate of Acceptance of Soil Subgrade Surface	1 pg.
2) Geomembrane Deployment Log	12 pgs.
3) Geomembrane Trial Seam Log	3 pgs.
4) Geomembrane Seam Log	11 pgs.
5) Geomembrane Defect/Repair Log	12 pgs.
6) Geomembrane Vacuum/Air Lance Test Log	12 pgs.
7) Geomembrane Destructive Test Report	5 pgs.
8) Enviro Liner 4030 As-built	1 pg.
9) Certificate of Final Inspection and Acceptance	1 pg.

2. Other Documents

1) Fabrication QC	7 pgs.
2) Enviro Liner 4030 Mill Certificates	5 pgs.
3) LP16 Mill Certificates	4 pgs.

3. Installation Warranty

1) Installation Warranty	1 pg.
--------------------------	-------



CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE SURFACE

PROJECT NAME: Waste Rock storage area
PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

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: The subgrade within the waste rock storage area. (Subgrade has irregularities and rocks due to ~~the~~ constant snow removal.)

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: oct 30/11
Signature: [Signature]
Name: Martin Audet
Title: supervisor

OWNERS REPRESENTATIVE:

Date: Oct 30 2011
Signature: [Signature]
Name: MAT KAWEL
Title: Environment Superintendent
Company: YZC.



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE _____ SECONDARY PRIMARY CLOSURE _____ OTHER _____

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

REMARKS: _____

DATE: oct 30/11
SHEET NUMBER: _____

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>1</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/3</u>		
DEPLOYMENT LENGTH	<u>30 X 39.6 m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>2</u> 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= _____

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: MA
DATE: oct 30/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Oct 31/11

SHEET NUMBER: 2

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>2</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel B/2</u>		
DEPLOYMENT LENGTH	<u>30 x 44m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= <u>1</u> 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= _____

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: MA
DATE: Oct 31/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146

PROJECT TITLE: Rock Storage

OWNER: Yukon Zinc

CONTRACTOR: _____

LOCATION: Wolverine Mine

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 01/11

SHEET NUMBER: 3

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>3</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel B/3</u>		
DEPLOYMENT LENGTH	<u>30 X 51.8 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= _____ E= _____ W= <u>2</u>	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>4</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel B/2</u>		
DEPLOYMENT LENGTH	<u>3 X 14 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= _____ E= _____ W= <u>2</u>	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>5</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel B/1</u>		
DEPLOYMENT LENGTH	<u>30 X 51.8 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= _____ E= _____ W= <u>3</u>	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: MA

DATE: Nov-01/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Whispering Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE _____ SECONDARY _____ PRIMARY _____ CLOSURE _____ OTHER _____

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

REMARKS: _____

DATE: Nov 03/11

SHEET NUMBER: 4

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>6</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel D/6</u>		
DEPLOYMENT LENGTH	<u>100 x 10.6m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>5</u> E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>7</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel B/2</u>		
DEPLOYMENT LENGTH	<u>2 x 15m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= <u>6</u> 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: MA

DATE: Nov 03/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yuban Zinc
LOCATION: Colverino Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 04/11
SHEET NUMBER: 5

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>8</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel D/1</u>		
DEPLOYMENT LENGTH	<u>100 X 10.6 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>6</u> 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= _____

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: MA
DATE: Nov 04/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146

OWNER: Yukon Zinc

LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage

CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 05/11

SHEET NUMBER: 6

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>9</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel D/3</u>		
DEPLOYMENT LENGTH	<u>100 X 10.6m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= S= <u>8</u> E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>10</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel D/2</u>		
DEPLOYMENT LENGTH	<u>100 X 10.6m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= S= <u>9</u> 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: MA

DATE: Nov 05/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE _____ SECONDARY _____ PRIMARY _____ CLOSURE _____ OTHER _____

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

REMARKS: _____

DATE: nov 06/11
SHEET NUMBER: 7

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>11</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel D/4</u>		
DEPLOYMENT LENGTH	<u>100 x 10.6m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>10</u> E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>12</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel D/5</u>		
DEPLOYMENT LENGTH	<u>100 x 10.6m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>11</u> 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: MA
DATE: nov 06/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: nov 07/11

SHEET NUMBER: 8

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>13</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/6</u>		
DEPLOYMENT LENGTH	<u>14 x 28 m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>3</u> E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>14</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/6</u>		
DEPLOYMENT LENGTH	<u>16 x 39 m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>13</u> E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>15</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel B/4</u>		
DEPLOYMENT LENGTH	<u>30 x 51 m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>1</u> 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: MA

DATE: nov 07/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 08/11

SHEET NUMBER: 9

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>16</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel C/2</u>		
DEPLOYMENT LENGTH	<u>30 X 57.9m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= S= <u>17</u> E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>17</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/6</u>		
DEPLOYMENT LENGTH	<u>19 X 16m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= S= <u>12</u> 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: MA

DATE: Nov 08/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 09/11
SHEET NUMBER: 10

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>18</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel C/1</u>		
DEPLOYMENT LENGTH	<u>30 x 57.9m</u>		
AMBIENT AIR TEMP.			
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= <u>16</u> 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= _____

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: MA
DATE: Nov 09/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 10/11
SHEET NUMBER: 11

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>19</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel G</u>		
DEPLOYMENT LENGTH	<u>65 X 32 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= _____ E= _____ W= <u>15</u>	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>20</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/5</u>		
DEPLOYMENT LENGTH	<u>30 X 39 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= _____ E= _____ W= <u>19</u>	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>21</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel G</u>		
DEPLOYMENT LENGTH	<u>10 X 18 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= _____ S= _____ E= _____ W= <u>20</u>	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>22</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/5</u>		
DEPLOYMENT LENGTH	<u>10 X 10 m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= <u>19</u> S= <u>20</u> E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

SUBMITTED BY: MA
DATE: Nov 10/11



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 12C-146

PROJECT TITLE: Rock Storage

OWNER: Yukon Zinc

CONTRACTOR: _____

LOCATION: Dolverine Mine

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

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

REMARKS: _____

DATE: Nov 12/11

SHEET NUMBER: 12

DEPLOYMENT EQUIPMENT: _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>23</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/2</u>		
DEPLOYMENT LENGTH	<u>30x39m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= S= A E= W=	N= S= E= W=	N= S= E= W=

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>24</u>	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER	<u>Panel A/1</u>		
DEPLOYMENT LENGTH	<u>30x39m</u>		
AMBIENT AIR TEMP.	<u>-</u>		
VISUAL OBSERVATION	<u>OK</u>		
OBSERVED OVERLAP	<u>6"</u>		
CHECKED BY	<u>MA</u>		
ADJACENT PANEL	N= S= 15 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: MA

DATE: Nov 12/11

**LAYFIELD****GEOMEMBRANE TRIAL SEAM LOG**PROJECT NUMBER: 12C-146PROJECT TITLE: Rock StorageOWNER: Yukon Zinc

CONTRACTOR: _____

LOCATION: Wolverine MineSHEET 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			
TF-1	10/31 11:40	10PW	JG	-	50%		700°	59/ 54/ 57 51/ 54/ 56 58/ 52/ 56/ 53/	54/ 51/ 53/ 56/ 53/	68 / 69 /	P	MA	
TF-2	11/01 11:00	10PW	JG	-	45%		700°	54/ 56/ 57 51/ 54/ 53 54/ 59/ 56/ 56/	51/ 51/ 53/ 56/ 56/	70 / 69 /	P	MA	
TF-3	11/03 16:00	10PW	JG	-	45%		700°	56/ 51/ 51 49/ 52/ 55 58/ 51/ 53/ 53/ 59/	49/ 52/ 55/ 53/ 59/	64 / 67 /	P	MA	
TF-4	11/04 12:30	31PW	JG	-	45%		700°	55/ 58/ 52 57/ 52/ 52 54/ 55/ 50/ 56/	52/ 52/ 52 50/ 56/	66 / 71 /	P	MA	
TF-5	11/05 12:40	31PW	JG	-	45%		700°	51/ 51/ 54 50/ 58/ 61 57/ 56/ 59/ 53/	50/ 58/ 61 59/ 53/	74 / 67 /	P	MA	
TF-6	11/06 11:00	10PW	JG	-	45%		700°	47/ 48/ 56 58/ 51/ 55 48/ 53/ 61/ 54/	58/ 51/ 55/ 61/ 54/	72 / 70 /	P	MA	
TF-7	11/07 10:00	31PW	JG	-	50%		700°	60/ 58/ 56 58/ 57/ 54 56/ 55/ 50/ 51/	57/ 57/ 54 50/ 51/	64 / 65 /	P	MA	
TF-8	11/07 13:45	31PW	JG	-	50%		700°	57/ 56/ 61 61/ 50/ 54/ 56 55/ 52/ 60/ 59/	50/ 54/ 56 60/ 59/	68 / 71 /	P	MA	
TF-9	11/08 14:00	31PW	JG	-	50%		700°	51/ 57/ 60 56/ 54/ 53 58/ 58/ 59/ 57/	56/ 54/ 53 59/ 57/	73 / 64 /	P	MA	
TF-10	11/09 12:30	31PW	JG	-	50%		700°	54/ 56/ 57 49/ 58/ 52 51/ 50/ 55/ 55/	49/ 58/ 52 55/ 55/	71 / 65 /	P	MA	
TF-11	11/10 9:00	31PW	JG	-	50%		700°	50/ 53/ 61 52/ 52/ 51 57/ 58/ 56/ 53/	52/ 52/ 51 56/ 53/	72 / 66 /	P	MA	

LS FORM 3

LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: MA
DATE: Nov 10/11

**LAYFIELD****GEOMEMBRANE TRIAL SEAM LOG**

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuhan Zinc CONTRACTOR:
LOCATION: Wolverine Mine SHEET NUMBER: 2

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			
TX-1	11/01 12:30	09CX	RC	-	420°	440°		58/ 61/ 54/ 52/ 57/	/ / / / /	68 / 71 /	P	MA	
TX-2	11/02 12:30	09CX	RC	-	420°	440°		52/ 55/ 58/ 49/ 53/	/ / / / /	64 / 68 /	P	MA	
TX-3	11/04 13:00	09CX	RC	-	420°	440°		49/ 48/ 52/ 53/ 50/	/ / / / /	66 / 72 /	P	MA	
TX-4	11/05 13:30	09CX	RC	-	420°	440°		51/ 49/ 49/ 57/ 55/	/ / / / /	77 / 66 /	P	MA	
TX-5	11/07 13:00	09CX	RC	-	420°	440°		58/ 52/ 54/ 57/ 57/	/ / / / /	68 / 66 /	P	MA	
TX-6	11/08 9:00	09CX	RC	-	420°	440°		51/ 54/ 54/ 53/ 57/	/ / / / /	75 / 68 /	P	MA	
TX-7	11/09 9:15	09CX	RC	-	420°	440°		56/ 59/ 60/ 53/ 52/	/ / / / /	64 / 69 /	P	MA	
TX-8	11/10 13:00	09CX	RC	-	420°	440°		61/ 63/ 58/ 59/ 54/	/ / / / /	75 / 67 /	P	MA	
TX-9	11/11 8:30	09CX	RC	-	420°	440°		61/ 55/ 54/ 54/ 57/	/ / / / /	64 / 66 /	P	MA	
TX-10	11/12 14:00	09CX	RC	-	420°	440°		51/ 51/ 58/ 56/ 53/	/ / / / /	67 / 73 /	P	MA	
TX-11	11/13 8:30	09CX	RC	-	420°	440°		56/ 53/ 59/ 59/ 61/	/ / / / /	64 / 67 /	P	MA	

LS FORM 3

LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: MA
DATE: Nov-13/11



Rock Storage

12C-146

Rock Storage

Yukon Zinc

CONTRACTOR:

SHEET NUMBER: 3

TX-# = EXTRUSION

TS-#-SOLVENT

LS FORM 3

SUBMITTED BY: MA
DATE: mar 2/11



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 17C-146 PROJECT TITLE: Rock Storage
OWNER: Guben Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine

PASSING TRIAL SEAMS

☒ FUSION	NO.	TIME	TECH ID
☐ EXTRUSION	TF-1	11:40	JG
☐ SOLVENT			

SHEET NUMBER: 1
DATE: Oct 31/11

SEAM NUMBER	SEAM SECTION * START POINT	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
							DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
112	WEOS	EEOS	12:40	-	JG	50%	700°	-	29		MA		10/31	MA
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
/	-						-	-						
DAILY TOTAL														

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

SUBMITTED BY: MA
DATE: Oct 31/11



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage

OWNER: Yukon Zinc CONTRACTOR: _____

LOCATION: Wolverine Mine

PASSING TRIAL SEAMS

✓ FUSION SHEET NUMBER: 2

EXTRUSION DATE: Nov 01/11

SOLVENT _____

NO.	TIME	TECH ID
TF-2	11:00	JG

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
314	NEGS-SEOS	11:15	-	JG	45%	700°	-	14		MA		11/01	MA
214	SEOS-NEGS	11:35	-	JG	45%	700°	-	14		MA		11/01	MA
213	SEOS-NEGS	11:55	-	JG	45%	700°	-	15		MA		11/01	MA
315	SEOS-NEGS	14:50	-	JG	45%	700°	-	29		MA		11/02	MA
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
DAILY TOTAL								72m					

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

SUBMITTED BY: MA
DATE: Nov 01/11

LAYFIELD ENVIRONMENTAL SYSTEMS



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuban Zinc CONTRACTOR: _____
LOCATION: Webbview Mine

PASSING TRIAL SEAMS

☒ FUSION	NO.	TIME	TECH ID
☐ EXTRUSION	TF-3	16:00	56
☐ SOLVENT			

SHEET NUMBER: 3
DATE: nov 03/11

SEAM NUMBER	SEAM SECTION * START POINT	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
							DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
317	EEOS	WEOS	16:20	-	56	45%	700°	-	15		MA		11/04	MA
too low	EEOS	WEOS	17:00	-	56	45%	700°	-	100	DT#1	MA		11/04	MA
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
DAILY TOTAL									115					

SUBMITTED BY: MA
DATE: nov 03/11

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



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage

OWNER: Urban Zinc CONTRACTOR: _____

LOCATION: Valeriano Mine

PASSING TRIAL SEAMS

✓ FUSION

 EXTRUSION

 SOLVENT

NO.	TIME	TECH ID
TF-4	12:30	JG

SHEET NUMBER: 4

DATE: Nov 04/11

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
618	EEOS WEOS	13:00	-	JG	45%	700°	-	100		MA		11/04	MA
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
DAILY TOTAL													

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

SUBMITTED BY: MA

DATE: Nov 04/11

LAYFIELD ENVIRONMENTAL SYSTEMS



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Guban Zinc CONTRACTOR: _____
LOCATION: Walverine Mine

PASSING TRIAL SEAMS

	NO.	TIME		TECH ID
		TIME	TECH ID	
☒ FUSION	TF-5	12:40	JG	
EXTRUSION				
SOLVENT				

SHEET NUMBER: 5
DATE: Nov 05/11

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
8/9	EEOS -WEGS	13:10	-	JG	45% 700°	-	-	100		MA		11/05	MA
9/10	EEOS -WEGS	15:15	-	JG	45% 700°	-	-	100	DT#2	MA		11/05	MA
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
DAILY TOTAL								200					

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

SUBMITTED BY: MA
DATE: Nov 05/11



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146

PROJECT TITLE: Rock Storage

OWNER: Yukon Zinc

CONTRACTOR:

LOCATION: Wolvareine Mine

PASSING TRIAL SEAMS

☒ FUSION SHEET NUMBER: 6

☐ EXTRUSION DATE: Nov 06/11

☐ SOLVENT

NO.	TIME	TECH ID
TF-6	11:00	JG

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
10/11	EEOS - WEOS	11:35	-	JG	45%	700°	-	100		MA		11/06	MA
11/12	EEOS - WEOS	13:00	-	JG	45%	700°	-	100		MA		11/06	MA
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
DAILY TOTAL								200					

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

SUBMITTED BY: MA
DATE: Nov 06/11



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yukon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine

PASSING TRIAL SEAMS

☒ FUSION	NO.	TIME	TECH ID
	TF-7	10:00	JG
EXTRUSION	TF-8	13:45	JG
SOLVENT			

SHEET NUMBER: 7
DATE: nov 07/11

SEAM NUMBER	SEAM SECTION * START POINT	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
							DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
* tie in	SEGS	-NEOS	10:30	-	JG	50%	700°	-	60		MA		11/07	MA
13/14	EEOS	-NEOS	10:10	-	JG	50%	700°	-	13m	DT#3	MA		11/07	MA
tie in	NEOS	-SEGS	11:45	-	JG	50%	700°	-	65		MA		11/07	MA
11/15	EEOS	-NEOS	15:20	-	JG	50%	700°	-	30		MA		11/07	MA
14/15	SEGS	-NEOS	16:00	-	JG	50%	700°	-	12		MA		11/07	MA
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
/	-	-					-	-						
DAILY TOTAL										180m				

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

SUBMITTED BY: MA
DATE: nov 07/11

LAYFIELD ENVIRONMENTAL SYSTEMS

LS FORM 4
X (tie in = P13,14/1,2,3)
□ (tie in = P13,14/7 to 12)



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuban Zinc CONTRACTOR: _____
LOCATION: Walverine Mine

PASSING TRIAL SEAMS

✓ FUSION _____ SHEET NUMBER: 8
EXTRUSION _____ DATE: nov 08/11
SOLVENT _____

NO.	TIME	TECH ID
TF-9	14:00	JG

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
16117	WEOS -EEOS	14:30	-	JG	50%	700°	-	17		MA		11/09	MA
12117	EEOS -WEOS	14:50	-	JG	50%	700°	-	19		MA		11/09	MA
16112	EEOS -WEOS	15:00	-	JG	50%	700°	-	19		MA		11/09	MA
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
DAILY TOTAL													
									55m				

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

SUBMITTED BY: MA
DATE: nov 08/11



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____

PASSING TRIAL SEAMS

✓ FUSION SHEET NUMBER: 9
____ EXTRUSION DATE: Nov 09/11
____ SOLVENT

NO.	TIME	TECH ID
TF-10	12:30	JG

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL				TEST DATE	CHECKED BY
16/18	EOS - EOS	13:20	-	JG	50%	700°	-	30	MA		11/09	MA
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
DAILY TOTAL												

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR, OR A POINT LOCATION ON THE SEAM.
SUBMITTED BY: MA
DATE: Nov 09/11



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Guban Zinc CONTRACTOR: _____
LOCATION: Wahweine Mine

PASSING TRIAL SEAMS

NO. TIME TECH ID
TF-11 9:00 JG
SHEET NUMBER: 10
DATE: Nov 10/11

✓ FUSION		
EXTRUSION		
SOLVENT		

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	CHKD BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL				TEST DATE	CHECKED BY
15/19	SEOS - NEOS	9:20	-	JG	50%	700°	-	39	MA		11/10	MA
20/22	EEOS - WEOS	10:10	-	JG	50%	700°	-	10	MA		11/10	MA
20/21	SEOS - NEOS	10:25	-	JG	50%	700°	-	10	MA		11/10	MA
19 20/22	SEOS - NEOS	10:45	-	JG	50%	700°	-	49	MA		11/10	MA
tie/in	EEOS - WEOS	11:40	-	JG	50%	700°	-	73	MA		11/10	MA
tie/in	NEOS - SEOS	13:00	-	JG	50%	700°	-	98	MA		11/10	MA
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
/	-					-	-					
DAILY TOTAL									279m			

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

SUBMITTED BY: MA
DATE: Nov 10/11

LAYFIELD ENVIRONMENTAL SYSTEMS

LS FORM 4

* (tie-in = P12,14/19,20,21)

□ (tie-in = P16,18/19,20,21,22)



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuban Zinc CONTRACTOR: _____
LOCATION: Woburn Mine

PASSING TRIAL SEAMS

✓ FUSION SHEET NUMBER: 11
EXTRUSION DATE: nov 12/11
SOLVENT

NO.	TIME	TECH ID
TF-12	13:15	JG

SEAM NUMBER	SEAM SECTION * START POINT FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES		APPROX. LENGTH WELDED	DESTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
						DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
23 18,19	EEGS - WEGS	13:20	-	JG	45% 700°	-	-	44		MA		11/12	MA
15 24	EEGS - WEGS	14:00	-	JG	45% 700°	-	-	30		MA		11/12	MA
24 23,19	NEGS - SEGS	14:50	-	JG	45% 700°	-	-	40	DT#5	MA		11/12	MA
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
/	-					-	-						
DAILY TOTAL								114					

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

SUBMITTED BY: MA
DATE: nov 12/11



GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rack Storage
OWNER: Yukon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine 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							
1A	11/01	2/3	3m from SEOS	T	GW	RC	11/01		11/01	MA
1B	11/01	2/3	6m from SEOS	T	GW	RC	11/01		11/01	MA
1C	11/01	2/3	9m from SEOS	T	GW	RC	11/01		11/01	MA
1D	11/01	2/4	SEOS	T	P	RC	11/01		11/01	MA
1E	11/01	2/4	3m from SEOS	T	GW	RC	11/01		11/01	MA
1F	11/01	2/4	6m from SEOS	T	GW	RC	11/01		11/01	MA
1G	11/01	2/4	9m from SEOS	T	GW	RC	11/01		11/01	MA
1H	11/01	2/4	12m from SEOS	T	GW	RC	11/01		11/01	MA
1I	11/01	2/4	15m from SEOS	T	GW	RC	11/01		11/01	MA
1J	11/01	3/4	3m from NEOS	T	GW	RC	11/01		11/01	MA
1K	11/02	3/5	3m from NEOS	IO	P	RC	11/02		11/02	MA
1L	11/02	3/5	10m from NEOS	FS	GW	RC	11/02	2'	11/02	MA
1M	11/02	3/5	SEOS	WS	GW	RC	11/02		11/02	MA
1N	11/04	4/3	FEOS	T	GW	RC	11/04		11/04	MA
1O	11/04	7/3	every 3 M	T	GW	RC	11/04		11/04	MA
1P	11/04	3/6	every 3 M	T	GW	RC	11/04		11/04	MA
1Q	11/04	3/5	NEOS	T	GW	RC	11/04		11/04	MA
1R	11/04	6/8	4m from FEOS	FM	GW	RC	11/04		11/04	MA
1S	11/04	6/8	7m from FEOS	FM	GW	RC	11/04		11/04	MA
1T	11/04	6/8	10m from FEOS	FM	GW	RC	11/04		11/04	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-1	11/01 12:30	RC
TX-2	11/02 12:30	RC
TX-3	11/04 13:00	RC

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOTSKIRT FROM FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS# - DESTRUCTIVE TEST NUMBER
REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD
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: _____

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7
LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: MA
DATE: Nov 04/11



LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuban Zinc CONTRACTOR:
LOCATION: Walbreath Mine 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							
2A	11/04	6/8	16m from EOS	FM	GW	RC	11/04		11/04	MA
2B	11/04	6/8	21m from EOS	FM	GW	RC	11/04		11/04	
2C	11/04	6/8	6m from WEOS	WR	P	RC	11/04		11/04	
2D	11/04	6/8	10m from WEOS	FM	GW	RC	11/04		11/04	
2E	11/05	8/9	18m from WEOS	WR	GW	RC	11/05		11/05	
2F	11/05	8/9	42m from WEOS	WR	GW	RC	11/05		11/05	
2G	11/05	8/9	57m from WEOS	FM	GW	RC	11/05		11/05	
2H	11/05	8/9	74m from WEOS	FM	GW	RC	11/05		11/05	
2I	11/05	8/9	80m from WEOS	FM	GW	RC	11/05		11/05	
2J	11/05	8/9	83m from WEOS	FM	GW	RC	11/05		11/05	
2K	11/05	8/9	11m from EOS	WR	GW	RC	11/05		11/05	
2L	11/05	9/10	12m from EOS	FM	GW	RC	11/05		11/05	
2M	11/05	5/6	every 3m	T	GW	RC	11/05		11/05	
2N	11/07	12/14	3m from NEOS	T	GW	RC	11/07		11/07	
2O	11/07	12/14	6m from NEOS	T	GW	RC	11/07		11/07	
2P	11/07	12/14	9m from NEOS	T	GW	RC	11/07		11/07	
2Q	11/07	11/12	WEOS	T	GW	RC	11/07		11/07	
2R	11/07	11/14	2m from NEOS	T	GW	RC	11/07		11/07	
2S	11/07	11/14	5m from NEOS	T	GW	RC	11/07		11/07	
2T	11/07	11/14	8m from NEOS	T	GW	RC	11/07		11/07	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-4	11/05 13:30	RC
TX-5	11/07 13:00	RC

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

EB - 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:

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

SUBMITTED BY: MA
DATE: NOV-07-11



LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage

OWNER: Yukan Zinc CONTRACTOR: _____

LOCATION: Wolverine Mine SHEET NUMBER: 3

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							
3A	11/07	11/14	10m from NEOS WEOS	WR	P	RC	11/07		11/07	MA
3B		10/11		T	GW					
3C		10/14	1m from NEOS	T	GW					
3D		10/14	3m from NEOS	T	GW					
3E		10/14	6m from NEOS	T	GW					
3F		10/14	9m from NEOS	T	GW					
3G		9/10	WEOS	T	GW					
3H		13/14	FEOS	T	GW					
3I		9/13	1m from NEOS	WR	P					
3J		9/13	3m from NEOS	T	GW					
3K		9/13	4m from NEOS	T	GW					
3L		9/13	6m from NEOS	T	GW					
3M		8/19	WEOS	T	GW					
3N		8/13	3m from NEOS	T	GW					
3O		8/13	6m from NEOS	T	GW					
3P		8/13	8m from NEOS	FM	GW					
3Q		8/16	1WEOS	T	GW					
3R		8/13	1m from NEOS	WR	P					
3S		8/13	3m from NEOS	T	GW					
3T	11/07	8/13	4m from NEOS	T	GW	RC	11/07		11/07	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-5	11/07 13:00	RC

SUBMITTED BY: MA

DATE: Nov 07/11

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

LPL FORM 7

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE
B - EXTENSION
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FROM FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS# - DESTRUCTIVE TEST NUMBER
REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD

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
OTHER: _____

PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRRIGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART



GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146
OWNER: Yuban Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____
SHEET NUMBER: 4

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							
4A	11/07	8/13	6m from NEOS	WR	P	RC	11/07		11/07	MA
4B		8/13	8m from NEOS	WR	P					
4C		8/13	9m from NEOS	T	GW					
4D		8/13	10m from NEOS	T	GW					
4E		6/7	W EOS	T	GW					
4F		7/13	SEOS	WS	GW					
4G		8/13	1m from EOS	T	GW					
4H		3/13	4m from EOS	T	GW					
4I		3/13	7m from EOS	T	GW					
4J		3/13	10m from EOS	T	GW					
4K		3/14	NEOS	T	GW					
4L		2/13	SEOS	T	GW					
4M		2/13	every 3M	T	GW					
4N		1/13	every 3M	T	GW					
4O	11/07	1/14	every 3M	T	GW					
4P	11/08	1/15	FEOS	T	GW		11/07		11/07	
4Q	11/08	1/15	1m from WEOS	WS	P		11/08		11/08	
4R	11/08	14/15	every 3M	T	GW		11/08		11/08	
4S	11/09	12/16	2m from WEOS	FM	GW		11/08		11/08	
4T	11/09	12/16	4m from WEOS	T	GW		11/09		11/09	

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

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 - MANUFACTURE/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: _____

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-5	11/07 13:00	RC
TX-6	11/08 4:00	RC
TX-7	11/09 9:15	RC

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

SUBMITTED BY: MA
DATE: Nov-09/11



GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rack Storage
OWNER: Yuban Zinc CONTRACTOR: _____
LOCATION: Woburn Mine SHEET NUMBER: 5

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							
SA	11/09	12/16	8m from WEOS	T	G-W	RC	11/09		11/09	MA
SB		12/16	13m from WEOS	T	G-W					
SC		12/16	17m from WEOS	T	G-W					
SD		16/17	WEOS	T	G-W					
SE		16/17	4m from WEOS	T	G-W					
SF		16/17	7m from WEOS	FM	G-W					
SG		12/17	8m from WEOS	FM	G-W					
SH		12/17	12m from WEOS	T	G-W					
SI		12/17	15m from WEOS	T	G-W					
SJ		12/17	1m from WEOS	T	G-W					
SK		16/18	13m from WEOS	T	G-W					
SL	11/09	16/18	18m from WEOS	T	G-W					
SM	11/10	15/19	SEOS	T	G-W	RC	11/09		11/09	
SN		15/19	severy 3M	T	G-W		11/10		11/10	
SO		14/19	2m from WEOS	WR	G-W					
SP		14/19	3m from WEOS	T	G-W					
SG		14/19	6m from WEOS	T	G-W					
SR		14/19	9m from WEOS	T	G-W					
SS		14/19	12m from WEOS	T	G-W					
ST	11/10	12/14	NEOS	T	G-W	RC	11/10		11/10	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-7	4:07	RC
TX-8	13:00	RC

SUBMITTED BY: MA
DATE: nov 10/11

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

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
REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD
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 - MANUFACTURE/DELIVERY DAMAGE
OTHER _____
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



GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yukon Zinc CONTRACTOR:
LOCATION: Wolverine Mine SHEET NUMBER: 6

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							
6A	11/10	12/19	1m from WEOS	WR	GW	RC	11/10		11/10	MA
6B		12/19	2m from WEOS	T	GW					
6C		12/19	6m from WEOS	T	GW					
6D		12/19	9m from WEOS	WR	GW					
6E		12/19	10m from WEOS	T	GW					
6F		12/19	13m from WEOS	WR	GW					
6G		12/19	14m from WEOS	FM	GW					
6H		12/19	18m from WEOS	T	GW					
6I		12/20	SEOS	T	GW					
6J		19/20	2m from SEOS	T	GW					
6K		19/20	5m from SEOS	T	GW					
6L		19/20	7m from SEOS	WR	GW					
6M		19/20	8m from SEOS	T	GW					
6N		19/20	12m from SEOS	T	GW					
6O		19/20	15m from SEOS	T	GW					
6P		19/20	18m from SEOS	T	GW					
6Q		19/20	22m from SEOS	T	GW					
6R		19/20	25m from SEOS	T	GW					
6S		19/20	28m from SEOS	T	GW					
6T	11/10	19/20	31m from SEOS	T	GW	RC	11/10		11/10	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-8	11/10 13:00	RC

SUBMITTED BY: MA
DATE: Nov 10/11

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE
B - UNDERSERVED 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
REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, GRW - GRIND/WELD
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
PTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAP (UNDER SPEC.)
MD - MANUFACTURE/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: _____

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7
LAYFIELD ENVIRONMENTAL SYSTEMS



LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146
OWNER: Yubon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____
SHEET NUMBER: 7

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							
7A	11/10	19/22	SEOS	T	GW	RC	11/10		11/10	MA
7B	11/10	19/22	2m from SEOS	T	GW		11/10		11/10	
7C	11/10	19/22	5m from SEOS	T	GW		11/10		11/10	
7D	11/10	19/22	8m from SEOS	T	GW		11/10		11/10	
7E	11/10	19/22	NEOS	T	GW		11/10		11/10	
7F	11/11	12/20	1m from WEOS	WR	P		11/11		11/10	
7G		12/20	4m from WEOS	T	GW				11/11	
7H		12/20	16m from WEOS	T	GW					
7I		20/21	SEOS	T	GW					
7J		12/21	3m from WEOS	T	GW					
7K		12/21	2m from FEOS	T	GW					
7L		12/21	FEOS	T	GW					
7M		20/21	3m from SEOS	T	GW					
7N		20/21	6m from SEOS	T	GW					
7O		20/21	1m from NEOS	T	GW					
7P		16/21	3m from SEOS	T	GW					
7Q		16/21	6m from SEOS	T	GW					
7R		16/21	9m from SEOS	T	GW					
7S		16/21	12m from SEOS	T	GW					
7T	11/11	16/21	1m from NEOS	T	GW	RC	11/11		11/11	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-8	11/10 13:00	RC
TX-9	11/11 8:30	RC

SUBMITTED BY: MA
DATE: Nov 11/11

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRINDWELD

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 _____

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

B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FROM FVIL PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS# - DESTRUCTIVE TEST NUMBER



LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rack Storage
CONTRACTOR: _____
SHEET NUMBER: 3

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							
8A	11/11	20/21	NEGS	T	GW	RC	11/11		11/11	MA
8B		16/20	0.5m from SEOS	T	GW					
8C		16/20	2m from SEOS	T	GW					
8D		16/20	3m from SEOS	T	GW					
8E		16/20	6m from SEOS	T	GW					
8F		16/20	9m from SEOS	T	GW					
8G		16/20	10m from SEOS	FM	GW					
8H		16/20	13m from SEOS	T	GW					
8I		16/20	5m from SEOS	T	GW					
8J		16/20	14m from SEOS	T	GW					
8K		16/20	17m from SEOS	T	GW					
8L		16/20	18m from SEOS	T	GW					
8M		16/20	20m from SEOS	T	GW					
8N		16/20	22m from SEOS	T	GW					
8O		16/20	23m from SEOS	T	GW					
8P		16/20	25m from SEOS	T	GW					
8Q		16/18	WEOS	T	GW					
8R		18/20	1m from SEOS	T	GW					
8S	✓	18/20	4m from SEOS	T	GW	✓	✓		✓	
8T	11/11	18/20	6m from SEOS	FM	GW	RC	11/11		11/11	MA

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE

BE - EARTHWORK EQUIPMENT DAMAGE

PT - PRESSURE TEST CUT

SI - SOIL SURFACE IRREGULARITY

EXT - EXTENSION

FM - FISHMOUTH

IO - INSUFFICIENT OVERLAP UNDER SPEC.)

MD - MANUFACTURER/DELIVERY DAMAGE

FS - FAILED SEAM LENGTH

FTS - FIELD TEST STRIP

HT - HEAT TACK BURN

IO - INSUFFICIENT OVERLAP UNDER SPEC.)

VL - VACUUM TEST LEAK

WR - WRINKLE

WS - WELDER RESTART

OTHER

CR - CREASE

D - INSTALLATION DAMAGE

DS# - DESTRUCTIVE TEST NUMBER

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

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-9	11/11 8:30	RC

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

SUBMITTED BY: MA
DATE: Nov 11/11



LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage

OWNER: Yukan Zinc CONTRACTOR: _____

LOCATION: Woharine Mine SHEET NUMBER: 9

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							
QA	11/11	18/20	7m from SEOS	T	G-W	RC	11/11		11/11	MA
QB		20/22	FEOS	T	G-W					
QC		18/22	0.5m from SEOS	FM	G-W					
QD		18/22	2m from SEOS	T	G-W					
QE		18/22	3m from SEOS	T	G-W					
QF		18/22	5m from SEOS	T	G-W					
QG		18/22	7m from SEOS	T	G-W					
QH		18/22	8m from SEOS	T	G-W					
QI		18/22	9m from SEOS	WR	G-W					
QJ		18/22	11m from SEOS	T	G-W					
QK		18/19	3m from SEOS	T	G-W					
QL		18/19	5m from SEOS	T	G-W					
QM		18/19	6m from SEOS	T	G-W					
QN		18/19	7m from SEOS	T	G-W					
QO		18/19	12m from SEOS	T	G-W					
QP		18/19	13m from SEOS	T	G-W					
QQ		18/19	15m from SEOS	T	G-W					
QR		18/19	18m from SEOS	T	G-W					
QS		18/19	22m from SEOS	T	G-W					
QT	11/11	18/19	23m from SEOS	T	G-W	RC	11/11		11/11	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-9	11/11 8:30	RC

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
REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRINDWELD

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: _____

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

SUBMITTED BY: MA
DATE: Nov 11/11



LAYFIELD

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146

OWNER: Yukon Zinc

LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage

CONTRACTOR:

SHEET NUMBER: 10

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							
10 A	11/11	18/19	25m from SEOS	T	G-W	RC	11/11		11/11	MA
10 B	11/11	18/19	27m from SEOS	T	G-W		11/11		11/11	
10 C	11/11	18/19	28m from SEOS	T	G-W		11/11		11/11	
10 D	11/12	15/24	WEOS	WS	G-W		11/12		11/12	
10 E	11/12	15/24	7m from WEOS	FS	G-W		11/12	3m long	11/12	
10 F	11/12	15/24	11m from WEOS	FS	G-W		11/12	2m long	11/12	
10 G	11/12	15/24	7m from FEOS	FS	G-W		11/12	1m long	11/12	
10 H	11/12	15/24	FEOS	WS	P		11/12		11/12	
10 I	11/13	24/19	3m from SEOS	T	G-W		11/13		11/13	
10 J		24/19	10m from SEOS	T	G-W					
10 K		24/19	9m from SEOS	T	G-W					
10 L		24/19	11m from SEOS	FM	G-W					
10 M		24/19	3m from NEOS	T	G-W					
10 N		24/19	NEOS	WS	P					
10 O		23/24	0.5m from SEOS	T	G-W					
10 P		23/24	3m from SEOS	T	G-W					
10 Q		23/24	4m from SEOS	WR	G-W					
10 R		23/24	7m from SEOS	T	G-W					
10 S	↓	23/24	10m from SEOS	T	G-W	↓	↓		↓	
10 T	11/13	23/24	11m from SEOS	T	G-W	RC	11/13		11/13	MA

DEFECT TYPE: AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FROM FUEL PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS4 - DESTRUCTIVE TEST NUMBER
REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRINDWELD
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

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-9	11/11 8:30	RC
TX-10	11/12 14:00	RC
TX-11	11/13 8:33	RC

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7

SUBMITTED BY: MA
DATE: Nov 13/11



GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine
PROJECT TITLE: Rock Storage
CONTRACTOR:
SHEET NUMBER: 11

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							
11A	11/13	23/24	13m from SEOS	T	G-W	RC	11/13		11/13	MA
11B		23/24	16m from SEOS	T	G-W					
11C		23/24	1m from NEOS	T	G-W					
11D		23/24	2m from NEOS	T	G-W					
11E		23/24	4m from NEOS	WR	G-W					
11F		23/24	6m from NEOS	FS	G-W			1m long		
11G		23/24	8m from NEOS	T	G-W					
11H		19/23	2m from WEOS	T	G-W					
11I		19/23	4m from WEOS	T	G-W					
11J		19/23	7m from WEOS	T	G-W					
11K		19/23	10m from WEOS	T	G-W					
11L		19/23	13m from WEOS	T	G-W					
11M		19/23	14m from WEOS	T	G-W					
11N		18/23	1m from EEOS	T	G-W					
11O		18/23	7m from EEOS	T	G-W					
11P		18/23	14m from EEOS	T	G-W					
11Q		18/23	16m from EEOS	FM	G-W					
11R		18/23	17m from EEOS	FM	G-W					
11S		18/23	19m from EEOS	T	G-W					
11T	11/13	18/23	26m from EEOS	T	G-W	RC	11/13		11/13	MA

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-11	11/13 8:30	RC

SUBMITTED BY: MA
DATE: NOV-13/11

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

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
LPL FORM 7
LAYFIELD ENVIRONMENTAL SYSTEMS



LAYFIELD

12C-146

Yukon Zone

Wahneema Lubiano

Rock Storage

CONTRACTOR:

SHEET NUMBER: 12

[illegible]

PASSING TRIAL SEAMS		
NO.	TIME	TECH ID.
TX-11	11/13 8:30	RC

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND/WELD
MD - MANUFACTURER/DELIVERY DAMAGE
OTHER:

** COLUMNS TO BE USED BY THE PROJECT SUPERVISOR OR LEAD TECHNICIAN ONLY.
 LPL FORM 7
 LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: MA
DATE: mar 13/11



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146

OWNER: Yukon Zinc

LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage

CONTRACTOR:

DATE: oct/nov 2011

VACUUM BOX ☒

AIR LANCE ☒

SHEET NUMBER: 1

SEAMS										REPAIRS					
SEAM NUMBER	SEAM SECTION * FROM	SEAM SECTION * 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 **	
1/2	WEOS - EEOS		10/31	RC		☒	MA		A	11/01	RC		MA		
3/4	SEOS - NEOS		11/01	JG		☒	MA		B	11/01	RC				
2/4	SEOS - NEOS		11/01	JG		☒	MA		C	11/01	RC				
2/3	SEOS - NEOS		11/01	JG		☒	MA		D	11/01	RC				
3/5	SEOS - NEOS		11/02	RC		☒	MA		E	11/01	RC				
3/7	EEOS - WEOS		11/04	JG		☒	MA		F	11/01	RC				
3/6	EEOS - WEOS		11/04	JG		☒	MA		G	11/01	RC				
5/6	EEOS - WEOS		11/04	JG		☒	MA		H	11/01	RC				
6/7	EEOS - WEOS		11/04	JG		☒	MA		I	11/01	RC				
6/8	EEOS - WEOS		11/04	MJ		☒	MA		J	11/01	RC				
8/9	EEOS - WEOS		11/05	MA		☒	MA		K	11/01	RC				
9/10	EEOS - WEOS		11/05	MA		☒	MA		L	11/02	JG				
10/11	EEOS - WEOS		11/06	RC		☒	MA		M	11/02	JG				
11/12	EEOS - WEOS		11/06	JG		☒	MA		N	11/02	JG				
Two-in	NEOS - SEOS		11/07	MJ		☒	MA		O	11/04	MJ				
13/14	EEOS - WEOS		11/07	MJ		☒	MA		P	11/04	MJ				
Two-in	NEOS - SEOS		11/07	MJ		☒	MA		Q	11/04	MJ				
11/15	WEOS - EEOS		11/07	JG		☒	MA		R	11/04	MJ				
14/15	SEOS - NEOS		11/07	JG		☒	MA		S	11/04	MJ				
						☒			T	11/04	MJ		V		
						☒				11/04	MJ		MA		

* DEFECTS NOT CORRECTED

* 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

X (Two-in = PB, 14/1, 2, 3)

□ (Two-in = PB, 14/7 to 12)

LS FORM 6

LAYFIELD ENVIRONMENTAL SYSTEMS

SUBMITTED BY: MA
DATE: Nov 07/11



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Mine
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____
DATE: Nov 2011

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 **	
	-							2A	11/04	MS		MA		
	-							2B	11/04	MS				
	-							2C	11/04	MS				
	-							2D	11/04	MS				
	-							2E	11/05	MA				
	-							2F	11/05	MA				
	-							2G	11/05	MA				
	-							2H	11/05	MA				
	-							2I	11/05	MA				
	-							2J	11/05	MA				
	-							2K	11/05	MA				
	-							2L	11/05	MA				
	-							2M	11/05	MA				
	-							2N	11/07	MA				
	-							2O	11/07	MA				
	-							2P	11/07	MA				
	-							2Q	11/07	MA				
	-							2R	11/07	MA				
	-							2S	11/07	MA				
	-							2T	11/07	MA		MA		

* 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



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yubon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine DATE: Nov 2011

VACUUM BOX ☒ AIR LANCE _____ SHEET NUMBER: 3

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 **	
	-							3A	11/07	JG		MA		
	-							3B						
	-							3C						
	-							3D						
	-							3E						
	-							3F						
	-							3G						
	-							3H						
	-							3I						
	-							3J						
	-							3K						
	-							3L						
	-							3M						
	-							3N						
	-							3O						
	-							3P						
	-							3Q						
	-							3R						
	-							3S						
	-							3T	11/07	JG		MA		

* 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



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yukon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine DATE: Nov 2011

VACUUM BOX ☒ AIR LANCE ☒ SHEET NUMBER: 4

SEAM NUMBER	SEAM SECTION * FROM TO	TEST DATE	TECH ID	SEAMS		SEAM COMPLETE NO YES	CHK'D BY	REMARKS **	REPAIRS			
				DEFECTS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **		
12/16	EEOS - WEOS	11/09	JG		4A	11/07	JG		MA			
12/17	EEOS - WEOS	11/09	JG		4B				MA			
16/17	EEOS - WEOS	11/09	JG		4C				MA			
16/18	EEOS - WEOS	11/09	JG		4D				MA			
15/19	NEOS - SEOS	11/10	MJ		4E				MA			
19/20	WEOS - EEOS	11/10	MJ		4F				MA			
20/21	SEOS - NEOS	11/10	MJ		4G				MA			
20/22	EEOS - WEOS	11/10	MJ		4H				MA			
20/23	SEOS - NEOS	11/10	MJ		4I				MA			
23/18	EEOS - WEOS	11/12	MJ		4J				MA			
15/24	EEOS - WEOS	11/12	MJ		4K				MA			
24/23	SEOS - NEOS	11/12	MJ		4L				MA			
					4M				MA			
					4N				MA			
					4O	11/07	JG		MA			
					4P	11/08	RC		MA			
					4Q	11/08	RC		MA			
					4R	11/08	RC		MA			
					4S	11/09	JG		MA			
					4T	11/09	JG		MA			

* 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
* (two-in = P12, 14/19, 20, 21)
□ (two-in = P16, 18/19, 20, 21, 22)

SUBMITTED BY: MA
DATE: Nov 12/11



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146
OWNER: Yuban Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____
DATE: nov 2011

VACUUM BOX ☒ AIR LANCE _____ SHEET NUMBER: 5

SEAMS													REPAIRS				
SEAM NUMBER	SEAM SECTION *		TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE		CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	CHK'D BY	REMARKS **		
	-	-				NO	YES			SA	11/09	JG		MA			
	-	-								SB							
	-	-								SC							
	-	-								SD							
	-	-								SE							
	-	-								SF							
	-	-								SG							
	-	-								SH							
	-	-								SI							
	-	-								SJ							
	-	-								SK		↓					
	-	-								SL	11/09	JG					
	-	-								SM	11/10	MS					
	-	-								SN							
	-	-								SO							
	-	-								SP							
	-	-								SG							
	-	-								SR							
	-	-								SS	↓	↓					
	-	-								ST	11/10	MS		MA			

* 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



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146
OWNER: Yuban Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____
DATE: Nov 2011

VACUUM BOX ✓ AIR LANCE _____ SHEET NUMBER: 6

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 **	
	-							60A	11/10	MS		MA		
	-							60B						
	-							60C						
	-							60D						
	-							60E						
	-							60F						
	-							60G						
	-							60H						
	-							60I						
	-							60J						
	-							60K						
	-							60L						
	-							60M						
	-							60N						
	-							60O						
	-							60P						
	-							60Q						
	-							60R						
	-							60S						
	-							60T	11/10	MS		MA		

* 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



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

PROJECT TITLE: Rock Storage
CONTRACTOR: _____
DATE: Nov 2011

VACUUM BOX V AIR LANCE _____ SHEET NUMBER: 7

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 **
	-							7A	11/10	MS		MA	
	-							7B	11/10	MS			
	-							7C	11/10	MS			
	-							7D	11/10	MS			
	-							7E	11/10	MS			
	-							7F	11/11	JG			
	-							7G					
	-							7H					
	-							7I					
	-							7J					
	-							7K					
	-							7L					
	-							7M					
	-							7N					
	-							7O					
	-							7P					
	-							7Q					
	-							7R					
	-							7S					
	-							7T	11/11	JG		MA	

* 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: MA
DATE: Nov 11/11



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yukon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine DATE: _____

VACUUM BOX ☒ AIR LANCE _____ SHEET NUMBER: 8

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 **		
	-							8A	11/11 JG			MA			
	-							8B							
	-							8C							
	-							8D							
	-							8E							
	-							8F							
	-							8G							
	-							8H							
	-							8I							
	-							8J							
	-							8K							
	-							8L							
	-							8M							
	-							8N							
	-							8O							
	-							8P							
	-							8Q							
	-							8R							
	-							8S							
	-							8T							
	-								11/11 JG			MA			

* 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: MA
DATE: Nov 11/11



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuhon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine DATE: Nov 2011

VACUUM BOX ☒ AIR LANCE _____ SHEET NUMBER: 9

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 **			
	-							9A	11/11/15G			MA				
	-							9B								
	-							9C								
	-							9D								
	-							9E								
	-							9F								
	-							9G								
	-							9H								
	-							9I								
	-							9J								
	-							9K								
	-							9L								
	-							9M								
	-							9N								
	-							9O								
	-							9P								
	-							9Q								
	-							9R								
	-							9S								
	-							9T								
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															
	-															

* 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: MA
DATE: Nov 11/11



GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 12C-146 PROJECT TITLE: Rock Storage
OWNER: Yuhon Zinc CONTRACTOR: _____
LOCATION: Wahweine Mine DATE: Nov 2011

VACUUM BOX ✓ AIR LANCE _____ SHEET NUMBER: 10

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 **
	-							10 A	11/11	JG		MA	
	-							10 B	11/11	JG		MA	
	-							10 C	11/11	JG		MA	
	-							10 D	11/12	MS			
	-							10 E	11/12	MS			
	-							10 F	11/12	MS			
	-							10 G	11/12	MS			
	-							10 H	11/12	MS			
	-							10 I	11/13	JG			
	-							10 J					
	-							10 K					
	-							10 L					
	-							10 M					
	-							10 N					
	-							10 O					
	-							10 P					
	-							10 Q					
	-							10 R					
	-							10 S					
	-							10 T	11/13	JG		MA	

* 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



LAYFIELD

GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: 126-146 PROJECT TITLE: Rock Storage
OWNER: Yukon Zinc CONTRACTOR: _____
LOCATION: Wolverine Mine DATE: mar 2011

VACUUM BOX ☒ AIR LANCE _____ SHEET NUMBER: 11

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 **						
	-							11A	11/13	JG		MA							
	-							11B											
	-							11C											
	-							11D											
	-							11E											
	-							11F											
	-							11G											
	-							11H											
	-							11I											
	-							11J											
	-							11K											
	-							11L											
	-							11M											
	-							11N											
	-							11O											
	-							11P											
	-							11Q											
	-							11R											
	-							11S											
	-							11T	11/13	JG		MA							

* 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



LAYFIELD

PROJECT NUMBER: 12C-1416

OWNER: Yukon Zinc

LOCATION: Waberin Mine

AIR LANCE

SHEET NUMBER: 12

[illegible]

* 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: MA
DATE: Nov 13/11

**LAYFIELD**

GEOMEMBRANE DESTRUCTIVE TEST REPORT

PROJECT NUMBER: 17C-146OWNER: Yuhon ZincLOCATION: Walverine MinePROJECT TITLE: Rach Storage

CONTRACTOR: _____

SHEET NUMBER: 1DESTRUCTIVE TEST NUMBER*: DT#1SEAM NUMBER: 6/7SAMPLE LOCATION: WEOSDATE SEAMED / SAMPLED: nov 03/11TYPE OF SEAM: fusionTEST DATE: nov 04/11ARCHIVE (LAYFIELD) OWNER _____ ENGINEER _____

3RD PARTY YES _____ NO _____ WHO? _____

DATE FORWARDED TO LAB _____

DATE LAB TEST RESULTS REC'D _____

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

SHEAR STRENGTH			PEEL ADHESION			
SPECIMEN NUMBER	SEAM STRENGTH	** LOCUS OF BREAK CODE	INSIDE SEAM		OUTSIDE SEAM	
			ADHESION STRENGTH	LOCUS OF BREAK CODE	ADHESION STRENGTH	** LOCUS OF BREAK CODE
1	61		48	SE1	53	SE1
3	64		48	SE1	57	SE1
5	62		53	SE1	56	SE1
7	60		56	SE1	55	SE1
9	58		50	SE1	55	SE1
11						

* 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.

NOTES: _____

LPL: PASS ☒ FAIL _____

3RD PARTY / LAB: PASS _____ FAIL _____

CHECKED BY: MADATE: nov 04/11



LAYFIELD

GEOMEMBRANE DESTRUCTIVE TEST REPORT

PROJECT NUMBER: 12C-146
OWNER: Yuban Zinc
LOCATION: Waburne Mine
PROJECT TITLE: Rock Storage
CONTRACTOR: _____
SHEET NUMBER: 2

DESTRUCTIVE TEST NUMBER*: DT #2
SEAM NUMBER: 9/10
SAMPLE LOCATION: WEOS
DATE SEAMED / SAMPLED: nov 05/11
TYPE OF SEAM: fusion
TEST DATE: nov 05/11
ARCHIVE (LAYFIELD) OWNER _____ ENGINEER _____
3RD PARTY _____ YES _____ NO _____ WHO? _____
DATE FORWARDED TO LAB _____
DATE LAB TEST RESULTS REC'D _____

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

SHEAR STRENGTH			PEEL ADHESION			
SPECIMEN NUMBER	SEAM STRENGTH	** LOCUS OF BREAK CODE	SPECIMEN NUMBER	INSIDE SEAM		OUTSIDE SEAM
				ADHESION STRENGTH	LOCUS OF BREAK CODE	ADHESION STRENGTH ** LOCUS OF BREAK CODE
1	71		2	51	SE1	58 SE1
3	65		4	55	SE1	60 SE1
5	73		6	48	SE1	55 SE1
7	70		8	50	SE1	57 SE1
9	68		10	51	SE1	53 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.

NOTES: _____

LPL: PASS ☒ FAIL _____

3RD PARTY / LAB: PASS _____ FAIL _____

CHECKED BY: MA
DATE: nov 05/11



GEOMEMBRANE DESTRUCTIVE TEST REPORT

PROJECT NUMBER: 17C-146
OWNER: Yukon Zinc
LOCATION: Whitewater Mine
PROJECT TITLE: Rock Storage
CONTRACTOR: _____
SHEET NUMBER: 3

DESTRUCTIVE TEST NUMBER*: DT#3
SEAM NUMBER: 13/14
SAMPLE LOCATION: ELOS
DATE SEAMED / SAMPLED: nov 07/11
TYPE OF SEAM: fusion
TEST DATE: nov 08/11
ARCHIVE: LAYFIELD OWNER: _____ ENGINEER: _____
3RD PARTY: _____ YES _____ NO _____ WHO?: _____
DATE FORWARDED TO LAB: _____
DATE LAB TEST RESULTS REC'D: _____

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

SHEAR STRENGTH			PEEL ADHESION			
SPECIMEN NUMBER	SEAM STRENGTH	** LOCUS OF BREAK CODE	INSIDE SEAM		OUTSIDE SEAM	
			ADHESION STRENGTH	LOCUS OF BREAK CODE	ADHESION STRENGTH	** LOCUS OF BREAK CODE
1	64		55	SE1	57	SE1
3	67		51	SE1	52	SE1
5	68		56	SE1	54	SE1
7	62		56	SE1	59	SE1
9	60		55	SE1	52	SE1
11						

* 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.

NOTES: _____

LPL: PASS ☒ FAIL _____

3RD PARTY / LAB: PASS _____ FAIL _____

CHECKED BY: MA
DATE: nov 08/11

**LAYFIELD****GEOMEMBRANE DESTRUCTIVE TEST REPORT**

PROJECT NUMBER: 12C-146
OWNER: Yukon Zinc
LOCATION: Ubberville Mine
PROJECT TITLE: Rock Storage
CONTRACTOR:
SHEET NUMBER: 4

DESTRUCTIVE TEST NUMBER*: DT #4
SEAM NUMBER: 18/19
SAMPLE LOCATION: NEGS
DATE SEAMED / SAMPLED: nov 10/11
TYPE OF SEAM: fusion
TEST DATE: nov 11/11
ARCHIVE: LAYFIELD OWNER: NO ENGINEER: WHO?
3RD PARTY: YES
DATE FORWARDED TO LAB:
DATE LAB TEST RESULTS REC'D:

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

SHEAR STRENGTH			PEEL ADHESION			
SPECIMEN NUMBER	SEAM STRENGTH	** LOCUS OF BREAK CODE	INSIDE SEAM		OUTSIDE SEAM	
			ADHESION STRENGTH	LOCUS OF BREAK CODE	ADHESION STRENGTH	** LOCUS OF BREAK CODE
1	71		54	SE1	57	SE1
3	64		48	SE1	53	SE1
5	66		51	SE1	58	SE1
7	69		52	SE1	52	SE1
9	69		56	SE1	55	SE1
11						

* 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.

NOTES:

LPL: PASS ✓ FAIL

3RD PARTY / LAB: PASS FAIL

CHECKED BY: MA
DATE: nov 11/11

**LAYFIELD****GEOMEMBRANE DESTRUCTIVE TEST REPORT**

PROJECT NUMBER: 12C-146
OWNER: Yuban Zinc
LOCATION: Woburn Mine
PROJECT TITLE: Rach Storage
CONTRACTOR: _____
SHEET NUMBER: 5

DESTRUCTIVE TEST NUMBER*: DT#5
SEAM NUMBER: 23/24
SAMPLE LOCATION: NEOS
DATE SEAMED / SAMPLED: Nov 12/11
TYPE OF SEAM: fusion
TEST DATE: Nov 13/11
ARCHIVE: LAYFIELD OWNER: _____ ENGINEER: _____
3RD PARTY: _____ YES _____ NO _____ WHO? _____
DATE FORWARDED TO LAB: _____
DATE LAB TEST RESULTS REC'D: _____

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

SHEAR STRENGTH			PEEL ADHESION			
SPECIMEN NUMBER	SEAM STRENGTH	** LOCUS OF BREAK CODE	INSIDE SEAM		OUTSIDE SEAM	
			ADHESION STRENGTH	LOCUS OF BREAK CODE	ADHESION STRENGTH	** LOCUS OF BREAK CODE
1	71		51	SE1	56	SE1
3	68		48	SE1	53	SE7
5	74		53	SE1	53	SE7
7	70		51	SE1	50	SE1
9	69		52	SE1	49	SE1
11						

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

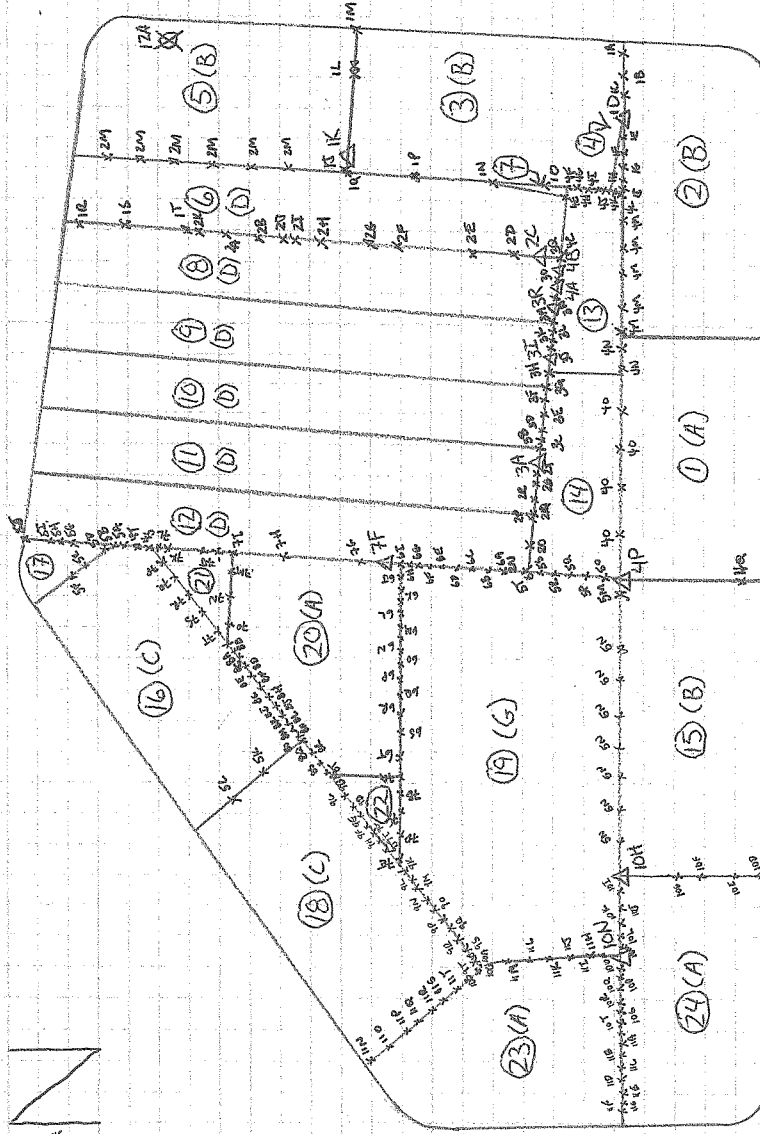
** REFER TO LOCUS OF BREAK CODE DIRECTORIES PROVIDED FOR UNSUPPORTED AND SUPPORTED MATERIALS.

NOTES: _____

LPL: PASS ☒ FAIL _____

3RD PARTY / LAB: PASS _____ FAIL _____

CHECKED BY: MA
DATE: Nov 13/11



underlay: LPI6 textile

liner: EL 4030

overlay: LPI6 textile

(T welds all extruded)

Δ = patch

✕ = pipe boot

nov 13/11
NA

PROJECT NAME
Yukon Zinc
Rock Storage

MATERIAL TYPE
EL 4030



DATE	PROJECT No.
DATE	17L-146
DATE	OF
DATE	SCALE
DATE	APPD.
DATE	REVISION

LEGEND	
---	EXTENT OF LINER
---	TOE OF SLOPE
---	LINER FIELD SEAM
---	EXTRUSION WELDING
---	PATCH
---	PIPE NUMBER
---	REPAIR NUMBER

CERTIFICATE OF FINAL INSPECTION AND ACCEPTANCE

PROJECT NAME: Yukon Zinc Rock Storage
PROJECT NUMBER: 12C-146 DATE: Nov 13/11
OWNER: Yukon Zinc
LOCATION: Wolverine Mine

SCOPE OF INSTALLATION(S): THE WORK

Installed an underlay of textile, a layer of 4030 Enviro Liner, and an overlay of textile within the Rock Storage area. Tested all seams and repairs. Installed a pipe boot on the south slope.

Part 1 – LAYFIELD ENVIRONMENTAL SYSTEMS LTD.

I, Martin Audet, 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: Martin Audet
Title: supervisor
Date: Nov 13/11 Signature: MA

Part 2 – OWNER (or Representative)

I, MATT LAWEI, a duly appointed representative of YEC, 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: MATT LAWEI
Title: Env Superintendent
Company: YEC
Date: Nov 13 2011 Signature: [Signature]

Comments: Very happy with the work & professionalism of the foreman (Martin) in the way they did the work & conducted themselves.

[Signature]



LAYFIELD

Special Fabrication Instructions

1 G-03-QF-004 24-May-11

Description of Operations/Procedures

Job Desc: Wolverine Project Waste Rock Storage Area - Panel A

Customer:	Yukon Zinc Corp.
-----------	------------------

Sales Person:	MC	Date:	28-Sep-11
---------------	----	-------	-----------

Material Type:	EL 4030 Black 30 mil 124" wide
----------------	--------------------------------

Prod Code:	12C-146	0	58017
------------	---------	---	-------

Fab Code:	03LMLL30
-----------	----------

Length	98.43	Width	130.0
--------	-------	-------	-------

Length	98.43	Width	130.0
--------	-------	-------	-------

Docket / Lot #	#	Roll #	Liner# / Panels	Quantity	Repairs
46518	# 27347	4030-019	1/13.		#2 splice 97' from the start P.
46518	# 27347	4030-019	211797' + 31		#2 splice 351' from the start P.
46518	# 27347	4030-171	213517' + 051	4080051	
46518	# 27347	4030-17	211797' + 12		
46518	# 27347	4030-13	211797' + 5		
46518	# 27347	4030-008	3/6-13		
46518	# 27347	4030-009	41112		
46518	# 27347	4030-009	51113		
46518	# 27347	4030-004	2-4/12-175		

	Seam #	Shear (Seam #)	Peel (Seam #)	Tech/Date (Seam #)
ASIM D6392	46511	E-27344	4830	WJL 6-12

[illegible]

Inspections	#1	#2	#3	Final
	10/2/2014	10/2/2014	10/2/2014	10/2/2014

Final *Honors*

39.2034
R074



SHOP Q

LG-03-QF-004 24-May-11

Job Desc.	Wolverine Project Waste Rock Storage Area - Panel B
-----------	---

Customer:	Yukon Zinc Corp.
-----------	------------------

Sales Person:	MC	Date:	28-Sep-11
---------------	----	-------	-----------

Material Type:	EL 4030 Black 30 mil 124" wide
----------------	--------------------------------

Prod Code:	12C-146	0	55078
------------	---------	---	-------

Fab Code:	03LMLL30
-----------	----------

Length	98.43	Width
--------	-------	-------

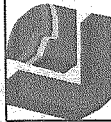
0.071

Docket / Lot #	#	Roll #	Liner# / Panels	Quantity	Repairs
46518	E27347	4030-005	L1 P1-P6 + 45'		L1 P7 45' from the end Voc Test P7.8 OK
46518	E27347	4030-007	55' + P8 - P13 + 17		
46518	E27347	4030-007	P1-P3		
46518	E27347	4030-009	~~P1~~ -		L-4 GROSS SEAM IN L17 91' from panel V-T 2
46518	E27347	4030-009	L1NER 2 / 4 PANELS		
46518	E27347	4030-009	L1NER 3 / 2 PANELS		
46518	E27347	4030-018	L1NER 3 / 13 PANELS + 70'		
46518	E27347	0030-004	L1NER 3 / 2843 + 1		46516 (E27347) 4030-004 Pn 14, 15, 16 + 8' Panel 17
46518	E27347	4030-004	L1NER 444 / Pn 1-13 + 9' Panel 12		

[illegible]

Inspections	#1	#2	#3	Final
	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

TRACEABILITY REQUIRED



LAYFIELD

SHOP QC

LG-03-QF-004 24-May-11

Job Desc. Wolverline Project Waste Rock Storage Area - Panel C

Customer: Yukon Zinc Corp.

Sales Person: MC Date: 28-Sep-11

Material Type: EL 4030 Black 30 mil 124" wide

Prod Code: 12C-146 0 58519

Fab Code: 031MLL30

Length 98.43 Width 190.0

Special Fabrication Instructions

Description of Operations/Procedures

In-Process Inspection

#1 #2 #3 Completed

Docket / Lot #

#

Roll #

Liner# / Panels

Quantity

Repairs

46519 E27347 4030-002 1 4 + 40'

46519 E27347 4030-005 1 58'43' + 5' + 48'

46520 E27347 4030-001 2 20' + P11-19

46518 E27347 4030-018 2 26' P1

46520 E27347 4030-001 2 P1 73' + 2-9

46519 E27347 4030-018 2 P10, 11 + 18'

46520 4030-001 2 16' 61'

CROSS SPICE ON PANEL 3
 LINDER #1 VAC TEST VERY GOOD S/S.
 CROSS SPICE L2/P1 26' from end V/T OK. RP.
 CROSS SPICE ON PANEL 19
 32' from the Start. VAC.
 TEST GOOD.

Mach:

PFS

Speed:

Temp:

Splice:

ASTM D6392

Shear (Seam #)

Peel (Seam #)

1 L R 10 L R 18 L R

Liner # 1 56 63 69

2 56 61 59

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

0 0 0 0 0 0 0 0

Inspections

#1

#2 16ry

#3

Final

Oct 04/2011
 #2

TRACEABILITY REQUIRED



SHOP QC

LG-03-QF-004 24-May-11

Job Desc:	Wolverine Project Waste Rock Storage Area - Panel D		
Customer:	Yukon Zinc Corp.		
Sales Person:	MC	Date:	29-Sep-11
Material Type:	EL 4030 Black 30 mil 124" wide		
Prod Code:	12C-146	0	58016
Fab Code:	03LMILL30		
Length	328.1	Width	35.0

Docket / Lot #	#	Roll #	Liner# / Panels	Quantity	Repairs
46518	E27347	4030-014	L2/P.3.5		
46518	E27347	4030-004	L2/P.1		
46518	E27347	4030-004	L2/P.1		
46518	E27347	4030-014	L2/P.1		
46518	E27347	4030-014	L2/P.5		
46518	E27347	4030-004	L3/P.1		
46518	E27347	4030-014	L3/P.1		
46518	E27347	4030-004	L3/P.1.5		
46518	E27347	4030-002	L4/P.1-2		

L16 P.2 Splice 20' from the start. UAC TEST GOOD.

14 550 860
11 999 860

Mach: 100S Speed 600 Temp: 860 Splice:

ASTM D6392				Shear (Seam #)			Peel (Seam #)										Tech/Date (Seam #)					
Liner #	1	2	3	1L	R	2L	R	3L	R	L	R	L	R	1	2	3						
24320	1	69	65	76	52	51	54	51	54	51				RB	RB	RB						
24320	2	50	60	63	47	52	50	55	53	54				TH	TH	TH						
24320	3	68	63	62	54	59	56	56	57	52				TH	TH	TH						
24320	4	64	67	65	50	52	52	55	52	57				RB	RB	RB						
24320	5	69	65	55	51	55	53	51	50	52				RB	RB	TH						
24320	6	59	56	57	54	52	50	54	47	43				AL	AL	TH						
0																						
0																						
0																						
0																						

Inspections	#1	#2	#3	Final
	Barry	2011/10/20/11		

More in back page

AL
OCT 11/2/2011
AL



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: millicerts@LayfieldGroup.com

Customer Layfield Geosynthetics and Industrial Fabrics Ltd.

Address 11603-180 Street NW

Edmonton

Alberta

T5S 2H6

Canada

Customer PO#

E27347

Layfield Job #

46518

Values (US/Metric)

US

Enviro Liner 4030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 10	Roll 19
Thickness	ASTM D5199	US mil	30	✓ 31.0	✓ 31.2	✓ 30.1
Tensile Strength MD	D638	lb/in	114	✓ 184.6	✓ 175.0	✓ 182.1
Elongation MD	D638	%	800	✓ 1557	✓ 1635	✓ 1686
Tensile Strength TD	D638	lb/in	114	✓ 180.1	✓ 166.1	✓ 179.2
Elongation TD	D638	%	800	✓ 1577	✓ 1712	✓ 1751
Tear Strength MD	D1004	lbs	16	✓ 19.9	✓ 19.9	✓ 19.1
Tear Strength TD	D1004	lbs	16	✓ 19.9	✓ 19.9	✓ 18.9
Puncture Strength	D4833	lbs	42	✓ 58.5	✓ 58.5	✓ 61.5
Dim. Stab. MD (max)		%	1.5	✓ 0.4	✓ 0.0	
Dim. Stab. TD (max)		%	1.5	✓ 0.0	✓ 2.3	
Carbon Black Content	D1603	%	2	✓ 2.3	✓ 1.0	
Carbon Black Dispersion	D5596	1 or 2	2	✓ 1.0	✓ 0.928	
Specific Gravity (max)	D1505	g/cc	0.939	✓ 0.928	✓ **	
Oxidative Induction Time	D3895	min	100	✓	✓	

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

December 30, 2011

Date

Authorized Signature



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: millicerts@LayfieldGroup.com

Customer Layfield Geosynthetics and Industrial Fabrics Ltd.

Address 11603-180 Street NW

Edmonton

Alberta

T5S 2H6

Canada

Customer PO# E27347

Layfield Job #
Values (US/Metric)

46519
US

Enviro Liner 4030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 10	Roll 19
Thickness	ASTM D5199	US mil	30	✓ 31.2	✓ 30.8	✓ 32.1
Tensile Strength MD	D638	lb/in	114	✓ 204.0	✓ 189.8	✓ 190.1
Elongation MD	D638	%	800	✓ 1710	✓ 1727	✓ 1672
Tensile Strength TD	D638	lb/in	114	✓ 177.5	✓ 174.2	✓ 163.9
Elongation TD	D638	%	800	✓ 1622	✓ 1702	✓ 1505
Tear Strength MD	D1004	lbs	16	✓ 18.6	✓ 19.0	✓ 19.7
Tear Strength TD	D1004	lbs	16	✓ 19.1	✓ 19.7	✓ 19.7
Puncture Strength	D4833	lbs	42	✓ 59.0	✓ 58.4	✓ 58.4
Dim. Stab. MD (max)		%	1.5	✓ 0.0	✓ 0.0	✓ 0.0
Dim. Stab. TD (max)		%	1.5	✓ 0.0	✓ 0.0	✓ 0.0
Carbon Black Content	D1603	%	2	✓ 2.2	✓ 2.2	✓ 2.2
Carbon Black Dispersion	D5596	1 or 2	2	✓ 1.0	✓ 1.0	✓ 1.0
Specific Gravity (max)	D1505	g/cc	0.939	✓ 0.926	✓ 0.926	✓ 0.926
Oxidative Induction Time	D3895	min	100	✓ **	✓ **	✓ **

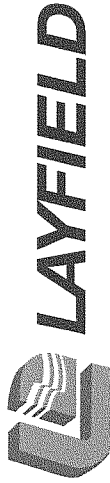
We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.

**Formulation Tested Previously Successfully

December 30, 2011
Date

Authorized Signature



Geomembrane Certificate of Analysis

LAYFIELD POLY FILMS LTD.

Phone: (604) 275-5588

Web: www.geomembranes.com

11120 Silversmith Place, Richmond, BC, V7A 5E4

Fax: (604) 275-7867

E-Mail: millcerts@LayfieldGroup.com

Customer **Layfield Geosynthetics and Industrial Fabrics Ltd.**

Address 11603-180 Street NW

Edmonton

Alberta

T5S 2H6

Canada

Customer PO#

E27347

Layfield Job #

46516

Values (US/Metric)

US

Enviro Liner 4030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll	Roll
Thickness	ASTM	US		1	10
Tensile Strength MD	D5199	mil	30	✓	31.6
Elongation MD	D638	lb/in	114	✓	179.4
Tensile Strength TD	D638	%	800	✓	1556
Elongation TD	D638	lb/in	114	✓	171.7
Tear Strength MD	D638	%	800	✓	1547
Tear Strength TD	D1004	lbs	16	✓	19.4
Puncture Strength	D1004	lbs	16	✓	19.2
Dim. Stab. MD (max)	D4833	lbs	42	✓	58.7
Dim. Stab. TD (max)		%	1.5	✓	0.4
Carbon Black Content		%	1.5	✓	0.0
Carbon Black Dispersion	D1603	%	2	✓	2.2
Specific Gravity (max)	D596	1 or 2	2	✓	
Oxidative Induction Time	D1505	g/cc	0.939	✓	0.928
	D3895	min	100	✓	**

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

December 30, 2011
Date

Authorized Signature



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: millicerts@LayfieldGroup.com

Customer Layfield Geosynthetics and Industrial Fabrics Ltd.

Address 11603-180 Street NW

Edmonton

Alberta

T5S 2H6

Canada

Customer PO# E27347

Layfield Job #
Values (US/Metric)

46520

US

Enviro Liner 4030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 10	Roll 19
Thickness	ASTM D5199	US mil	30	✓ 32.5	✓ 30.1	✓ 31.5
Tensile Strength MD	D638	lb/in	114	✓ 171.3	✓ 180.7	✓ 176.0
Elongation MD	D638	%	800	✓ 1517	✓ 1767	✓ 1732
Tensile Strength TD	D638	lb/in	114	✓ 179.9	✓ 179.3	✓ 207.2
Elongation TD	D638	%	800	✓ 1637	✓ 1806	✓ 4270
Tear Strength MD	D1004	lbs	16	✓ 20.7	✓ 20.2	✓ 20.2
Tear Strength TD	D1004	lbs	16	✓ 20.9	✓ 19.6	✓ 19.6
Puncture Strength	D4833	lbs	42	✓ 59.7	✓ 60.8	✓ 60.8
Dim. Stab. MD (max)		%	1.5	✓ 0.0		
Dim. Stab. TD (max)		%	1.5	✓ 0.0		
Carbon Black Content	D1603	%	2	✓ 2.2		
Carbon Black Dispersion	D5596	1 or 2	2	✓ 1.0		
Specific Gravity (max)	D1505	g/cc	0.939	✓ 0.930		
Oxidative Induction Time	D3895	min	100	✓ **		

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

December 30, 2011
Date

Authorized Signature



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#

E27347

Layfield Job #

46517

Values (US/Metric)

US

Enviro Liner 4030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 2	Roll 10	Roll 19
Thickness	D5199	US	30	✓	30.6	30.7
Tensile Strength MD	D638	lb/in	114	✓	180.8	160.6
Elongation MD	D638	%	800	✓	1523	1301
Tensile Strength TD	D638	lb/in	114	✓	176.4	164.2
Elongation TD	D638	%	800	✓	1444	1396
Tear Strength MD	D1004	lbs	16	✓	20.1	19.1
Tear Strength TD	D1004	lbs	16	✓	20.9	19.7
Puncture Strength	D4833	lbs	42	✓	59.9	59.9
Dim. Stab. MD (max)		%	1.5	✓	0.0	
Dim. Stab. TD (max)		%	1.5	✓	0.0	
Carbon Black Content	D1603	%	2	✓	2.5	
Carbon Black Dispersion	D5596	1 or 2	2	✓		
Specific Gravity (max)	D1505	g/cc	0.939	✓	0.932	
Oxidative Induction Time	D3895	min	100	✓	**	

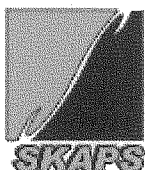
We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.

**Formulation Tested Previously Successfully

December 30, 2011
Date

Authorized Signature



SKAPS Industries (Nonwoven Division)
335, Athena Drive
Athens, GA 30601 (U.S.A.)
Phone (706) 354-3700 Fax (706) 354-3737
E-mail: info@skaps.com

Sales Office:
Engineered Synthetic Product Inc.
Phone: (770)564-1857
Fax: (770)564-1818

October 17, 2011
Layfield Environmental
11603-180 Street NW
Edmonton, AB, T5S 2H6
PO : A10774
BOL : 27054

Dear Sir/Madam:

This is to certify that SKAPS GT116 (Layfield LP16) is a high quality needle-punched nonwoven geotextile made of 100% polypropylene staple fibers, randomly networked to form a high strength dimensionally stable fabric. SKAPS GT116 (Layfield LP16) resists ultraviolet deterioration, rotting, biological degradation. The fabric is inert to commonly encountered soil chemicals. Polypropylene is stable within a pH range of 2 to 13. SKAPS GT116 (Layfield LP16) conforms to the property values listed below:

PROPERTY	TEST METHOD	UNITS	M.A.R.V. Minimum Average Roll Value
Weight(Typical)	ASTM D 5261	oz/sy (g/m ²)	16.00 (543)
Grab Tensile	ASTM D 4632	lbs (kN)	380 (1.69)
Grab Elongation	ASTM D 4632	%	50
Trapezoidal Tear	ASTM D 4533	lbs (kN)	145 (0.64)
Puncture Resistance	ASTM D 4833	lbs (kN)	240 (1.07)
Permittivity*	ASTM D 4491	sec ⁻¹	0.70
Water Flow*	ASTM D 4491	gpm/ft ² (l/min/m ²)	50 (2037)
AOS*	ASTM D 4751	US Sieve (mm)	100 (0.15)
UV Resistance	ASTM D 4355	%/hrs	70/500

Notes:

* At the time of manufacturing. Handling may change these properties.

ANURAG SHAH
QUALITY CONTROL MANAGER

Product : GT116-180 (Layfield LP16)

ROLL # ASTM METHOD UNITS TARGET	WEIGHT* D5261 oz/sq yd 16.00	MD TENSILE D4632 lbs. 380	MD ELONG D4632 % 50	XMD TENSILE D4632 lbs 390	XMD ELONG D4632 % 50	MD TRAP D4533 lbs. 145	XMD TRAP D4533 lbs 145	PUNCTURE D4833 lbs. 240	AOS D4751 US Sieve 100	WATER FLOW D4491 gpm/ft ² 50	PERMITTIVITY D4491 sec ⁻¹ 0.70
030352633	16.21	388	73	419	76	151	166	247	120	62	0.83
030352634	16.21	388	73	419	76	151	166	247	120	62	0.83
030352635	16.03	381	66	410	74	151	166	247	120	62	0.83
030352636	16.03	381	66	410	74	151	166	247	120	62	0.83
030352637	16.03	381	66	410	74	151	166	247	120	62	0.83
030352638	16.03	381	66	410	74	151	166	247	120	62	0.83
030352639	16.03	381	66	410	74	151	166	247	120	62	0.83
030352640	16.38	386	77	417	80	146	162	250	120	62	0.83
030352641	16.38	386	77	417	80	146	162	250	120	62	0.83
030352642	16.38	386	77	417	80	146	162	250	120	62	0.83
030352643	16.38	386	77	417	80	146	162	250	120	62	0.83
030352644	16.38	386	77	417	80	146	162	250	120	62	0.83
030352645	16.07	383	70	412	72	146	162	250	120	62	0.83
030352646	16.07	383	70	412	72	146	162	250	120	62	0.83
030352647	16.07	383	70	412	72	146	162	250	120	62	0.83
030352648	16.07	383	70	412	72	146	162	250	120	62	0.83
030352649	16.07	383	70	412	72	146	162	250	120	62	0.83
030352651	16.23	390	75	420	78	153	168	245	120	62	0.83
030352652	16.23	390	75	420	78	153	168	245	120	62	0.83
030352653	16.23	390	75	420	78	153	168	245	120	62	0.83
030352654	16.23	390	75	420	78	153	168	245	120	62	0.83
030352655	16.11	385	68	414	70	153	168	245	120	62	0.83
030352656	16.11	385	68	414	70	153	168	245	120	62	0.83
030352657	16.11	385	68	414	70	153	168	245	120	62	0.83
030352658	16.11	385	68	414	70	153	168	245	120	62	0.83
030352659	16.11	385	68	414	70	153	168	245	120	62	0.83
030352670	16.36	387	78	416	80	148	164	249	120	62	0.83
030352671	16.36	387	78	416	80	148	164	249	120	62	0.83
030352673	16.36	387	78	416	80	148	164	249	120	62	0.83
030352674	16.36	387	78	416	80	148	164	249	120	62	0.83
030352675	16.15	380	65	411	73	148	164	249	120	62	0.83
030352676	16.15	380	65	411	73	148	164	249	120	62	0.83
030352677	16.15	380	65	411	73	148	164	249	120	62	0.83
030352678	16.15	380	65	411	73	148	164	249	120	62	0.83
030352681	16.25	389	74	418	77	155	170	246	120	62	0.83
030352683	16.25	389	74	418	77	155	170	246	120	62	0.83

*Weight is typical. All other values are MARV.

Product : GT116-180 (Layfield LP16)

ROLL # ASTM METHOD UNITS TARGET	WEIGHT* D5261 oz/sq yd 16.00	MD TENSILE D4632 lbs. 380	MD ELONG D4632 % 50	XMD TENSILE D4632 lbs 380	XMD ELONG D4632 % 50	MD TRAP D4533 lbs. 145	XMD TRAP D4533 lbs 145	PUNCTURE D4833 lbs. 240	AOS D4751 US Sieve 100	WATER FLOW D4491 gpm/ft ² 50	PERMITTIVITY D4491 sec ⁻¹ 0.70
030352684	16.25	389	74	418	77	155	170	246	120	62	0.83
030352685	16.19	384	68	415	71	155	170	246	120	62	0.83
030352686	16.19	384	68	415	71	155	170	246	120	62	0.83
030352687	16.19	384	68	415	71	155	170	246	120	62	0.83
030352688	16.19	384	68	415	71	155	170	246	120	62	0.83
030352689	16.19	384	68	415	71	155	170	246	120	62	0.83
030352690	16.34	386	76	420	79	150	161	250	120	62	0.83
030352691	16.34	386	76	420	79	150	161	250	120	62	0.83
030352692	16.34	386	76	420	79	150	161	250	120	62	0.83
030352693	16.34	386	76	420	79	150	161	250	120	62	0.83
030352694	16.34	386	76	420	79	150	161	250	120	62	0.83
030352695	16.00	382	70	413	75	150	161	250	120	62	0.83
030352696	16.00	382	70	413	75	150	161	250	120	62	0.83
030352697	16.00	382	70	413	75	150	161	250	120	62	0.83
030352698	16.00	382	70	413	75	150	161	250	120	62	0.83
030352699	16.00	382	70	413	75	150	161	250	120	62	0.83
030352700	16.27	390	72	416	77	152	167	248	120	58	0.78
030352701	16.27	390	72	416	77	152	167	248	120	58	0.78
030352702	16.27	390	72	416	77	152	167	248	120	58	0.78
030352703	16.27	390	72	416	77	152	167	248	120	58	0.78
030352704	16.27	390	72	416	77	152	167	248	120	58	0.78
030352705	16.04	385	65	410	70	152	167	248	120	58	0.78
030352708	16.04	385	65	410	70	152	167	248	120	58	0.78
030352712	16.32	388	74	418	76	145	163	250	120	58	0.78
030352713	16.32	388	74	418	76	145	163	250	120	58	0.78
030352714	16.32	388	74	418	76	145	163	250	120	58	0.78
030352723	16.08	381	71	413	73	154	169	247	120	58	0.78
030352724	16.08	381	71	413	73	154	169	247	120	58	0.78
030352726	16.29	390	76	420	78	154	169	247	120	58	0.78
030352958	16.12	384	66	411	71	147	165	249	120	64	0.86
030352959	16.12	384	66	411	71	147	165	249	120	64	0.86
030352962	16.31	387	78	417	80	151	167	245	120	64	0.86
030352966	16.16	380	70	414	74	151	167	245	120	64	0.86
030352967	16.16	380	70	414	74	151	167	245	120	64	0.86
030352969	16.16	380	70	414	74	151	167	245	120	64	0.86
030352973	16.28	389	73	420	76	149	160	250	120	64	0.86

*Weight is typical. All other values are MARV.

Product : GT116-180 (Layfield LP16)

ROLL # ASTM METHOD UNITS TARGET	WEIGHT* D5261 oz/sq yd 16.00	MD TENSILE D4632 lbs. 380	MD ELONG D4632 % 50	XMD TENSILE D4632 lbs 380	XMD ELONG D4632 % 50	MD TRAP D4533 lbs. 145	XMD TRAP D4533 lbs 145	PUNCTURE D4833 lbs. 240	AOS D4751 US Sieve 100	WATER FLOW D4491 gpm/ft ² 50	PERMITTIVITY D4491 sec ⁻¹ 0.70
030352977	16.20	383	68	412	72	149	160	250	120	64	0.86
030352978	16.20	383	68	412	72	149	160	250	120	64	0.86
030352979	16.20	383	68	412	72	149	160	250	120	64	0.86
030352980	16.33	385	75	418	78	154	165	247	120	64	0.86
030352981	16.33	385	75	418	78	154	165	247	120	64	0.86
030352982	16.33	385	75	418	78	154	165	247	120	64	0.86
030352983	16.33	385	75	418	78	154	165	247	120	64	0.86
030352984	16.33	385	75	418	78	154	165	247	120	64	0.86
030352985	16.01	380	65	415	70	154	165	247	120	64	0.86
030352986	16.01	380	65	415	70	154	165	247	120	64	0.86
030352987	16.01	380	65	415	70	154	165	247	120	64	0.86
030352988	16.01	380	65	415	70	154	165	247	120	64	0.86
030352989	16.01	380	65	415	70	154	165	247	120	64	0.86
030352990	16.22	390	72	420	76	146	162	245	120	64	0.86
030352991	16.22	390	72	420	76	146	162	245	120	64	0.86
030352992	16.22	390	72	420	76	146	162	245	120	64	0.86
030352993	16.22	390	72	420	76	146	162	245	120	64	0.86
030352994	16.22	390	72	420	76	146	162	245	120	64	0.86
030352995	16.05	384	67	410	73	146	162	245	120	64	0.86
030352996	16.05	384	67	410	73	146	162	245	120	64	0.86
030352997	16.05	384	67	410	73	146	162	245	120	64	0.86
030352998	16.05	384	67	410	73	146	162	245	120	64	0.86
030352999	16.05	384	67	410	73	146	162	245	120	64	0.86
030353000	16.35	386	77	416	79	151	170	250	120	56	0.75
030353001	16.35	386	77	416	79	151	170	250	120	56	0.75
030353002	16.35	386	77	416	79	151	170	250	120	56	0.75
030353003	16.35	386	77	416	79	151	170	250	120	56	0.75
030353006	16.09	382	73	413	75	151	170	250	120	56	0.75
030353007	16.09	382	73	413	75	151	170	250	120	56	0.75
030353009	16.09	382	73	413	75	151	170	250	120	56	0.75
030353010	16.24	388	75	419	77	148	164	245	120	56	0.75
030353011	16.24	388	75	419	77	148	164	245	120	56	0.75
030353012	16.24	388	75	419	77	148	164	245	120	56	0.75
030353013	16.24	388	75	419	77	148	164	245	120	56	0.75
030353015	16.13	385	69	410	71	148	164	245	120	56	0.75

*Weight is typical. All other values are MARV.

INSTALLATION WARRANTY

Layfield Reference No. : (Job #) 12C-146

LAYFIELD ENVIRONMENTAL SYSTEMS LTD. (LAYFIELD) hereby warrants to Yukon Zinc Corp.; (the Customer) that the work performed by LAYFIELD on the Installation described as Waste Rock Storage Area / Enviro Liner 4030 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 (November 13, 2011), for a period of one 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. 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
- g. 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.



Greg Van Petten, Director of Construction Operations

APPENDIX III

Daily Reports (From Yukon Zinc Corp)

Wolverine Project

Environmental Inspection Form – Photos

Site Name: Waste Rock Pad – Day 2	Date: October 30, 2011
	
Photo 1 (11/10/30): Looking southeast – 1 st geo-membrane protective cloth laid with the ends tugged in and over the anchor trench along the southwest berm.	Photo 2 (11/10/30): Looking east - G-panel liner rolled over the 1 st layer of geo-membrane cloth.
	
Photo 3 (11/10/30): Looking southwest – Spreading the G-panel liner over the 1 st geo-membrane cloth. Bags of sand used to hold the cloth in place.	Photo 4 (11/10/30): Looking southeast – G-panel fully spread over the 1 st geo-membrane cloth.

Wolverine Project

Environmental Inspection Form – Photos

Site Name: Waste Rock Pad – Day 2	Date: October 30, 2011
	
Photo 5 (11/10/30): Looking north – laying 2 nd LP16 geo-membrane cloth over the G-panel.	Photo 6 (11/10/30): .Looking southeast – G-panel completed. Anchor trench backfilled with materials.



Photo 7 (11/10/30): .Looking west – installing geo-membrane cloth and G-panel liner along the southwest wall; snow removal within the pad and trenching the anchor trench along the perimeter of the pad.

Wolverine Project

Environmental Inspection Form – Photos

Site Name: Waste Rock Pad – Day 3	Date: October 31, 2011
	
Photo 1 (11/10/31): Looking southeast – 1 st geo-membrane protective cloth laid with the ends tugged in and over the anchor trench along the southwest berm.	Photo 2 (11/10/31): Looking east - A-panel liner rolled over the 1 st layer of geo-membrane cloth.
	
Photo 3 (11/10/31): Looking southwest – Spreading the A-panel liner over the 1 st geo-membrane cloth.	Photo 4 (11/10/31): Looking southeast – G-panel fully spread over the 1 st geo-membrane cloth.

Wolverine Project Environmental Inspection Form – Photos



Photo 5 (11/10/31): Looking north – installing A-panel liner along the southeast wall.



Photo 6 (11/10/31): Looking west – installing geo-membrane cloth and A-panel liner along the southwest wall; completed trenching of anchor trench along the southeast and northeast perimeter of the pad.

Wolverine Project

Environmental Inspection Form – Photos

Site Name: Waste Rock Pad – Day 4	Date: November 1, 2011
	
Photo 1 (11/11/01): Looking west – midmorning 3 rd liner panel and geomembrane protective cloth laid with the ends tugged in and over the anchor trench along the southeast berm.	Photo 2 (11/11/01): Looking west – midmorning 3 rd liner panel anchored with sand bags.
	
Photo 3 (11/11/01): mid afternoon - looking west – 4 th liner panel installed. Steady southeast winds & snow.	Photo 4 (11/11/01): mid afternoon - looking west – 5 th liner panel installed. Steady southeast winds & snow.

Wolverine Project

Environmental Inspection Form – Photos

Site Name: Waste Rock Pad – Day 4	Date: November 1, 2011
 Photo 5 (11/11/01): mid afternoon - looking west – 4th liner panel installed. Steady southeast winds & snow.	 Photo 6 (11/11/01): Looking north – 5th liner panel installed. Lone spectator on the northeast berm.



Photo 7 (11/11/01): .Looking west – Midmorning 3rd liner panel installed along the southwest wall; snow removal within the pad and trenching the anchor trench along the perimeter of the pad.

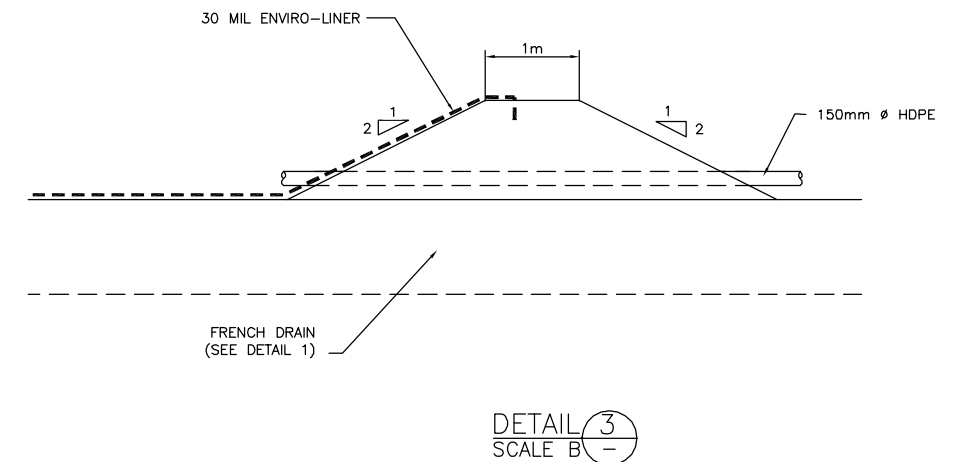
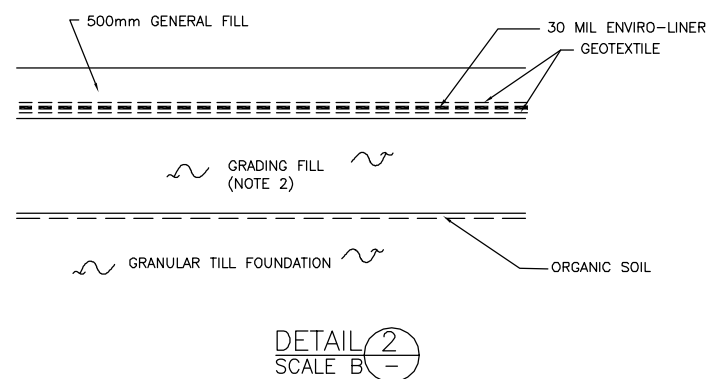
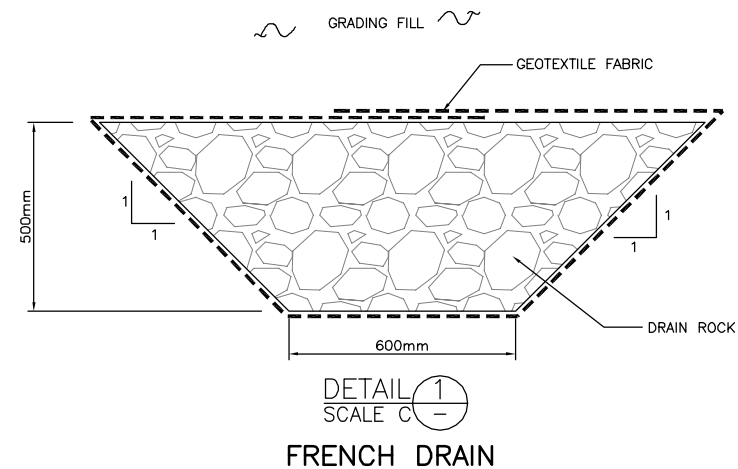
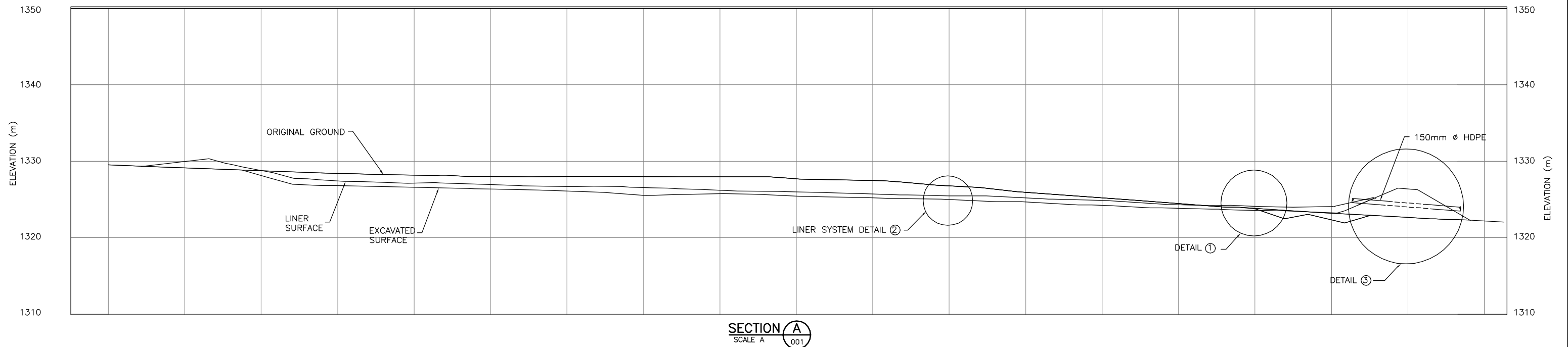
Wolverine Project Environmental Inspection Form – Photos



Photo 7 (11/11/01): Mid afternoon - looking west – 4th & 5th liner panels installed. The 2nd geomembrane cloth cover is yet to be placed over the main liner. Steady southeast winds and snow. Sand bags placed onto the liner.

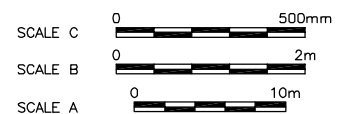
DRAWINGS

D-WR-001	Waste Rock Storage Area, General Arrangement - Plan
D-WR-002	Waste Rock Storage Area, Details



NOTES

1. FOUNDATION PREPARATION CONSISTED OF CLEARING, GRUBBING AND REGRADING.
2. GRADING FILL MATERIAL EXCAVATED FROM THE SLOPES. EXCAVATED MATERIAL SPREAD TO FORM A SMOOTH UNIFORM SURFACE SLOPED TOWARDS THE DOWNSTREAM SIDE OF THE PAD. THE SURFACE WAS PROOF ROLLED WITH A SMOOTH DRUM VIBRATORY COMPACTOR AND AREAS WITH SHARP ROCK AND PROTRUSIONS WERE REMOVED TO FORM A SURFACE FOR PLACEMENT OF THE GEOMEMBRANE.

[illegible]