



**DITCHES A, B, & C  
CONSTRUCTION REPORT  
EAGLE GOLD PROJECT  
MAYO, YUKON**



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**Effective Date: May 31, 2019  
Report Date: May 31, 2018**

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**Prepared by:  
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Vancouver, BC V6C 2W2**

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**Prepared for:  
VICTORIA GOLD CORP.  
Suite 1000, 1050 West Pender St.  
Vancouver, BC V6E 3S7**



## Table of Contents

<b>1</b>	<b>Ditch Construction Scope and Responsibilities.....</b>	<b>1</b>
1.1	Field Engineering & Engineer or Record (EOR).....	1
1.2	Construction.....	1
1.3	Quality Surveillance .....	1
<b>2</b>	<b>Ditch Construction Summary .....</b>	<b>2</b>
2.1	Ditch A Summary .....	2
2.2	Ditch A Contact Water Sump and Pipeline Summary .....	2
2.3	Ditch B Summary .....	3
2.4	Ditch C Summary.....	3
<b>3</b>	<b>Construction Progress Photos.....</b>	<b>4</b>
3.1	Ditch A .....	4
3.2	Ditch B .....	9
3.3	Ditch C .....	12

# 1 Ditch Construction Scope and Responsibilities

## 1.1 Field Engineering & Engineer of Record (EOR)

JDS Field Engineers finalized the ditch alignments based on site conditions and constructability. The alignments were provided to Tetrattech's Mauricio Herrera, who is the Engineer of Record (EOR) for these water management structures, for his review and approval.

The EOR provided recommendations on alignments, specified the class of riprap, and sized the culverts.

JDS Field Engineers updated the design information based on EOR recommendations and the design information was provided to various contractors for construction.

## 1.2 Construction

Underhill Geomatics Ltd. (Underhill) performed all survey and layout work for Ditch A and Ditch C using the design information provided by the JDS field engineers.

Ditch A & Ditch C earthworks were performed by Ewing Transport Ltd. (Ewing). This included excavation and ditch shaping, installation of the non-woven geotextile, culvert installation, and riprap installation.

The collection sump at the inlet to Ditch A was shaped and prepared for the installation of impervious liner by Ewing. Layfield Canada Inc. (Layfield) performed the installation of the impervious liner (consisting of HDPE liner between two layers of non-woven geotextile), and this work included sealing of the downstream liner to the 28" HDPE contact water pipe inlet.

The Ditch A 28" contact water pipeline was supplied by Sandale Inc. Ewing performed the direct burying of the 28" pipeline under the Crusher Access road.

Ditch B earthworks was performed in its entirety by Pelly Construction Ltd. (Pelly) including the excavation and ditch shaping, installation of the non-woven geotextile, riprap installation, and surveying work.

All aggregate production, including riprap, was performed by Nuway Crushing Ltd. (Nuway), who was deployed for site wide aggregate production. Riprap was procedurally generated as a by-product of screening activities performed for other works.

All work was performed under the supervision of JDS Earthworks Superintendents.

## 1.3 Quality Surveillance

The JDS Field Engineering Manager and JDS Earthworks Superintendents performed quality surveillance. The EOR attended site on two occasions to perform surveillance of the work, and after being provided with as-built survey data and multiple construction progress pictures, provided his stamp on the record drawings for the work that was performed.

In addition to the stamped record drawings confirming that the ditches are built to design, the following QC documents are included in Appendices in this report:

- Layfield QC report of the Ditch A sump
- Materials certificates for the 28" pipe Ditch A Contact water pipeline
- Specifications of the HDPE fusing machine
- Training certificates for the fusing crew
- C1 Culvert (Ditch C) Installation report from Tetrattech

## 2 Ditch Construction Summary

### 2.1 Ditch A Summary

Ditch A begins west of the proposed Eagle Pit and at the base of Platinum Gulch Waste Rock Storage Area (WRSA) and extends parallel to the Crusher Access Road for ~1,630m to discharge into the east end of Lower Dublin South Pond (LDSP).

Ditch A was shaped from the native soils using a 1m minimum depth and 2:1 side slopes with excavators. A cut to fill construction methodology was utilized for STN 0+000 to STN 0+600 where the 1<sup>st</sup> switchback of the Crusher Access Road is located. From STN 0+600 to STN 1+400 the ditch was shaped into the toe of the Crusher Access Road. From STN 1+400 to STN 1+630 the ditch was shaped into the hillside, and then routed east where it deposits into the east end of the LDSP fore bay. In the fore bay, an energy dissipater was installed with boulders and riprap.

Ditch A is lined with non-woven geotextile and covered with riprap over its entire length. Riprap class varies based on ditch grade in accordance with the design specifications provided by the EOR; the steeper sections received a higher class of riprap. Minimum thickness of the riprap is 450mm and class of riprap is noted below.

- STN 0+000 – 0+500 – Class 10 Kg
- STN 0+500 – 1+000 – Class 25 Kg
- STN 1+000 – 1+500 – Class 10 Kg
- STN 1+500 – 1+630 – Class 50 Kg

Ditch A includes the installation of one 1000mm diameter culvert crossing at STN 0+600 and under the first switchback of the Crusher Access Road.

### 2.2 Ditch A Contact Water Sump and Pipeline Summary

At the beginning of Ditch A, an impervious lined sump is constructed that collects all contact water from the Platinum WRSA and directs it into a 28" diameter DR17 HDPE pipeline that follows the full length of the Ditch A.

At the Crusher Access Road, the 28" pipeline is direct buried under the road.

At STN 1+150 a 28" to 18" wye is installed and capped. The 18" connection is installed to accept the future 12" pipeline from the 90 day Ore storage pile.

The pipeline was fused and installed by Certified Fusing Technicians using a McElroy Trackstar No.T900 Track Fusion Machine.

It should be noted that the original location for the contact water sump is located ~200m east (uphill) of the current location. Excavation of the sump at this location immediately filled with water and quickly glaciated making installation of a sump at this location impractical. A field decision was made to install the sump further downstream (its current location) as it provides a ditched and riprapped area uphill of the sump that allows glaciation to form uphill before freezing the sump and pipeline inlet.

An impervious liner system for the sump was installed by Layfield and a quality turnover package is included in Appendix A.

The non-woven geotextile liner for the remainder of the ditch was installed by Ewing.

Ewing placed the riprap for both the sump area and the ditch.

The HDPE pipe was fused by certified JDS employees. Fusing tickets and fusing logs for the pipeline can be found in Appendix B.

All construction was overseen directly by JDS superintendents.

### **2.3 Ditch B Summary**

Ditch B is primarily intended to capture seepage and runoff from the future Eagle Pup (EP) WRSA. Current mine planning indicates that use of the EP WRSA will not commence until year 2 of active mining thus only the portion of Ditch B required to manage runoff from upgradient construction areas is currently constructed. Ditch B is currently operational from STN 0+075 to STN 0+314 at the LDSP fore bay. A field fit extension from STN 0+000 to STN 0+075 was constructed to capture any runoff from Suttles Gulch and ensure that it entered Ditch B for conveyance to the LDSP.

The ditch was cut into native soils using excavators. The ditch was cut to a minimum 1m depth with a 2m wide base and 2:1 side slopes. The ditch is covered by a layer of non-woven geotextile for the entire length. A minimum cover of 450mm of 25kg Class Riprap was placed on the geotextile. The final ~50 meters is covered with 50kg Class Riprap and an energy dissipater with large boulders. Riprap is also constructed in the LSDP fore bay to accept any incoming flows.

The final extension of Ditch B to the east will be completed prior to the Eagle WRSF becoming active. Similar to Ditch A, it will also have a contact water sump and pipeline installed near the toe of the WRSF.

### **2.4 Ditch C Summary**

Ditch C begins west of the Lower Dublin South Pond weir outlet and continues for 565m to join Haggart Creek. Ditch C conveys both site runoff and LDSP discharge (when the LDSP discharge criteria are met).

Excavators constructed the ditch by cutting into native soils and gravels creating a 2m wide ditch bottom, a minimum of 1m deep, and 2:1 side slopes. Competent fill was imported from stockpiles on site to STN 0+200 and STN 0+300 to bring the area up to grade. These fills were shaped with excavators to the design profile.

The ditch is lined for its entire length with non-woven geotextile. In the fill area, STN 0+200 to STN 0+300, a shingled HDPE liner was installed.

A 450mm minimum of 10kg Class Riprap was placed along the entire alignment with the exception of STN 0+200 and STN 0+300; 25kg Class Riprap was placed in these areas to compensation for the steeper slopes.

The Ditch C contains 3 road crossings where culverts are installed:

- STN 0+000 – Single 1200mm x 28.1 long is installed under the ADR Access Road.
- STN 0+200 – Dual 1200mm x 17.1m long are installed under the Site Services Area Access Road.
- STN 0+475 – Dual 1200mm x 26.1m long culverts are installed under the Lower Road.

### 3 Construction Progress Photos

Select photos of the construction activities are embedded within this report. Appendix C contains all available construction progress photos.

#### 3.1 Ditch A



Figure 1. Ditch A Shaping near STN 0+450 Looking Upstream



**Figure 2. Ditch A Non-Woven Geotextile Lining near STN 0+375 Looking Upstream**



**Figure 3. Ditch A Riprap Placement near STN 0+800 Looking upstream**



**Figure 4. Fusing Machine and Temporary Placement of Contact Water Pipeline near STN 0+550**



**Figure 5. Ditch A Sump Before during Shaping and Before Lining**





**Figure 6. Ditch A Sump After lining and Riprap Installed**



**Figure 7. Placement and Compaction of 1000mm Diameter Culvert C8 Under Crusher Access Road**



**Figure 8. Placement of Final Riprap on Ditch A near STN 0+550**

### 3.2 Ditch B



9. Ditch B Shaping near STN 0+260 Looking Downstream



10. Ditch B Shaping near STN 0+160 Looking Upstream

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DITCHES A, B, & C CONSTRUCTION REPORT



**11. Ditch B Non-Woven Geotextile Lining Placement near STN 0+280 Looking Downstream**



**12. Ditch B Non-Woven Geotextile Lining Placement near STN 0+000 Looking Upstream**



**13. Ditch B Riprap Placement at Energy Dissipater in the LDSP Fore Bay**



**14. Ditch B Suttles Gulch Capture Completion**

### 3.3 Ditch C



Figure 15. Ditch C Shaping near STN 0+300 Looking Downstream



Figure 16. Ditch C Ripping for Culvert Placement near STN 0+200



**Figure 17. Ditch C Shaping near STN 0+100 Looking Upstream**



**Figure 18. Ditch C Dual 1200mm Culvert Compaction and Placement near STN 0+460 Looking Upstream**



Figure 19. Ditch C Dual 1200mm Culverts near STN 0+200



Figure 20. Ditch C Shaping near STN 0+350





**Figure 21. Ditch C Liner Placement near STN 0+500**



**Figure 22. Ditch C Riprap Placement near STN 0+400 Looking Downstream**



**Figure 23. Ditch C Completion of Dual Culverts near STN 0+460**



**Figure 24. Ditch C Completion near STN 0+550 Looking Downstream**

## **List of Appendices**

<b>Appendix A .....</b>	<b>Layfield Quality Turnover Package</b>
<b>Appendix B .....</b>	<b>Ditch A HDPE Pipe Fusing Tickets &amp; Logs</b>
<b>Appendix C .....</b>	<b>Construction Progress Photos</b>
<b>Appendix D .....</b>	<b>Ditch EOR Drawings</b>
<b>Appendix E .....</b>	<b>Ditch A HDPE Pipe Specifications</b>

Appendix A  
Layfield Quality Turnover Package



**LAYFIELD**

Canada

Project Completion QA/QC Package  
for

**Victoria Gold Corp**

**c/o JDS Energy and Mining**

**Eagle Gold mine Ditch A Collection Sump  
Dublin Gulch, Yukon**

**Supply and Install 80 mil LLDPE**

Prepared By: Jason Wheeler

Reviewed By: Jason Wheeler

Date Revised: June 5, 2019



# Layfield Canada Ltd.

## Table of Contents

for

### Victoria Gold Corp Ditch 1A Collection Sump

#### Eagle Gold Facility

##### **Ditch A**

1) Certificate of Inspection of Soil Subgrade	1 pg.
2) Geomembrane Deployment Log	2 pgs.
3) Geomembrane Seam & Test Log	2 pgs.
4) Geomembrane Detail & Test Log	1 pg.
5) As-built	1 pg.
6) Certificate of final Inspection and Acceptance	1 pg.

##### **Other Documents**

1) Geomembrane Mill Certificates	6 pgs.
2) Installation Warranty	1 pg.



# Ditch A

# CERTIFICATE OF INSPECTION OF SOIL SUBGRADE SURFACE

PROJECT NAME: Gold Eagle ditch pond  
PROJECT NUMBER: CT001143  
OWNER/CONTRACTOR: Victoria Gold / JDS Mining  
LOCATION: Eagle Gold, YK

I, the undersigned, a duly appointed representative of Layfield Canada Ltd. (Layfield), have visually observed the soil subgrade surface described below, and:

- found it to be an acceptable surface on which to install geomembrane; OR  
 found it to be an Unacceptable surface on which to install geomembrane

Area Inspected ( Partial or  Complete): \_\_\_\_\_  
Dimensions of Subgrade Inspection: 16m x 35m  
Anchor Trench Dimensions: 0.5m by -0.5m  
Comments: \_\_\_\_\_

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

*The soil subgrade inspected 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 and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.*

## LAYFIELD REPRESENTATIVE:

Date: 2019-04-15  
Signature: [Signature]  
Name: BRADLEY MCLEOD  
Title: QC Technician

## OWNERS REPRESENTATIVE:

*I, the undersigned, a duly appointed representative of the Owner, hereby understand the soil subgrade surface inspection described above and authorize Layfield to proceed with deployment of geosynthetics on the subgrade provided.*

Date: April 16, 2019  
Signature: [Signature]  
Name: S. H. Dethlefs  
Title: QA  
Company: Victa Tech















# GEOMEMBRANE DESTRUCT LOG

PROJECT NUMBER CT001143

AREA / LAYER Primary

PROJECT TITLE Ditch Pond

3RD PARTY

ARCHIVE  LAYFIELD  OWNER  ENGINEER

DESTRUCT SAMPLE NUMBER	TYPE OF SEAM	PANEL NUMBERS	TEST DATE YYYY-MM-DD	TEST TEMP °C	INITIALS			INSIDE PEEL STRENGTH (PPI)	OUTSIDE PEEL STRENGTH (PPI)	SHEAR STRENGTH (PPI)
					3RD PARTY	PRESENT LAYFIELD	PASS 3RD PARTY			
SAMPLE LOCATION					LOCUS OF BREAK			LOCUS OF BREAK		
DS-										
DS-										
DS-										
DS-										
DS-										
DS-										
DS-										

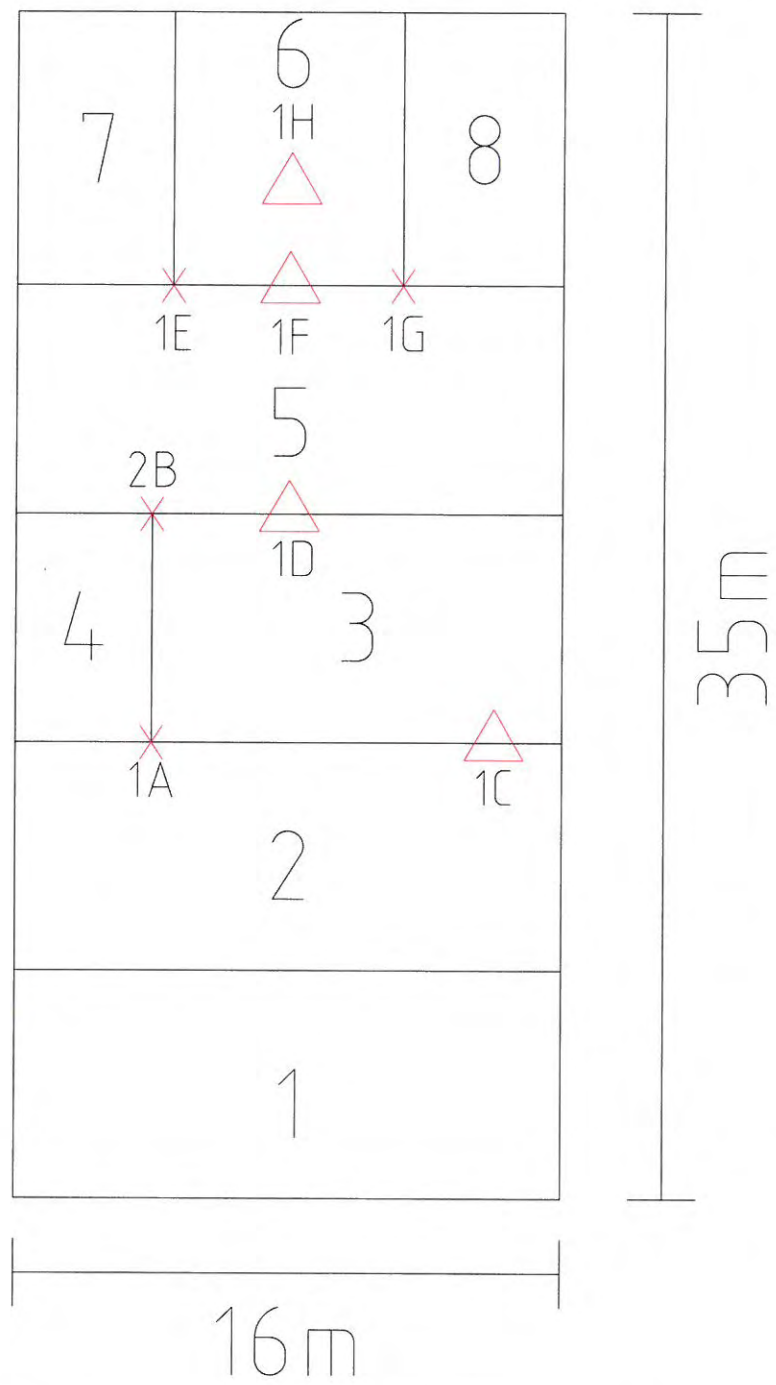
TYPE OF SEAM:  SPF - SPLIT FUSION  SOF - SOLID FUSION  SLV - SOLVENT  
 EXT - EXTRUSION  HAF - HOT AIR FUSION

QC TECH Dave Burgos  
SUBMITTED BY Javier Patino  
SUBMISSION DATE \_\_\_\_\_  
SHEET NUMBER 1 of 1

www.layfieldcontainment.com

LS-10-QF-008

# CT001143 Ditch Pond



## LEGEND

- Field Seam
- - - - Toe Slope
- xxxx Extrusion Welding
- △ Patch
- 2 Panel Number
- 3b Defect Number
- Cap

LAYFIELD  
CANADA LTD

Quote No \_\_\_\_\_ Project No CT001143  
 DWG: \_\_\_\_\_ SCALE: NTS  
 DWN: BM  
 APPD: \_\_\_\_\_ CMKD: \_\_\_\_\_  
 DATE: 2019-04-11 REV: 1



## CERTIFICATE OF FINAL INSPECTION AND ACCEPTANCE


**PROJECT NAME:** Eagle Gold Mine Ditch-A Liner  
**PROJECT NUMBER:** CT001143 **DATE:** 2019/4/17  
**OWNER:** JDS Mining Victoria Gold.  
**LOCATION:** Eagle Gold Mine, YT

**Scope of Installation(s):** **THE WORK**  
**Area/Layer:** Primary **Area Inspected:**  Partial or  Complete  
**Dimensions:** 16m X 35m  
Layfield installed a 12oz geotextile underlay, 80mil LLDPE liner in the Ditch-A area. A 12oz geotextile overlay also installed. One pipe Penetration Completed.  
All QC testing and Documentation completed, Layfields scope of work completed.

**Part 1 – LAYFIELD CANADA LTD.**

I, Chad Messervey, a duly appointed representative of Layfield Canada Ltd. (Layfield), 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’s QC program and the terms and conditions of the contract.

**Layfield Representative:**


**Name:** Chad Messervey  
**Title:** Project Supervisor  
**Date:** 2019/4/17 **Signature:** 

**Part 2 – OWNER (or Representative)**

I, Michael Bussan, a duly appointed representative of JDS ENERGY AND MINING INC., do hereby accept and receive the installation(s) described above, and confirm that the work has been completed in accordance with the project specifications and the terms and conditions of the contract.

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

**Owners Representative:**

**Name:** MICHAEL BUSSAN  
**Title:** LEACHWORKS SUPERINTENDENT.  
**Company:** JDS ENERGY AND MINING INC.  
**Date:** JUNE 5, 2019. **Signature:** 

**Comments:** N/A.

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# Other Documents



SOLMAX

# LIST OF GEOMEMBRANE ROLLS

Solmax, 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7  
Tél.: 1-450-929-1234 • Fax.: 1-450-929-2547 • www.solmax.com



Project Name : Eagle Gold Heap Leach

Reference Number : 112017

Project Number : E30754

Packing Slip Number : 225824

Roll Number	Product Code	Resin Lot Number	Manufactured Date	Resin Melt Index 190/2.16 g/10 min D1238	Resin Density g/cc D1505	OIT Spec Result min D3895	HPOIT Spec Result min D5885	ESCR SP-NCTL Spec Roll Tested hours D5397
<u>LLDPE 2.00 mm Black Textured</u>								
5-37965	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37966	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37967	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37968	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37969	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37970	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37971	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37972	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37973	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37974	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37975	1011709	CJE810060	31-Jul-18	0.38	0.918	100 > 120		N/A
5-37976	1011709	CJE811730	31-Jul-18	0.35	0.919	100 > 120		N/A
5-37977	1011709	CJE811730	31-Jul-18	0.35	0.919	100 > 120		N/A
5-37978	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37979	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37980	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37981	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37982	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A

Quantity (rolls) :

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

Project Name : Eagle Gold Heap Leach

Reference Number : 112017

Project Number : E30754

Packing Slip Number : 225824



Product : 1011709

LLDPE 2.00 mm Black Textured

CE Certificate = LL-80-TT-BB

Properties	Thickness ave / min.	Geo- membrane Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension. Stability	Asperity Height in / out
					Yield Strength	Elong.	Break Strength	Break Elong.				
Unit	mm	g/cc	%	Cat. 1 and 2	kN/m	%	kN/m	%	N	N	%	mm
Test Method	D5994	D1505/D792	D4218 / D1603	D5596	D6693				D1004	D4833	D1204	D7466
Frequency	Each roll		1/2 ro	1/10 ro	1/2 ro				1/5 ro	1/5 ro	Certied	Each Roll
Specification	1.90 / 1.70	≤ 0.939	2.0 - 3.0	Cat. 1 / Cat. 2			31	400	220	500	± 2	0.40
<b>5-37965</b>	MD XD 1.92 / 1.84	0.935	2.52	10 /10 Views			48.2 42.4	579 567	254 251	631		0.47 / 0.45
<b>5-37966</b>	MD XD 1.90 / 1.81	0.934	2.46	10 /10 Views			48.7 43.7	559 578	258 258	658		0.51 / 0.47
<b>5-37967</b>	MD XD 1.92 / 1.85	0.934	2.46	10 /10 Views			48.7 43.8	559 578	258 258	658		0.52 / 0.47
<b>5-37968</b>	MD XD 1.93 / 1.85	0.934	2.58	10 /10 Views			45.2 44.4	546 584	258 258	658		0.54 / 0.45
<b>5-37969</b>	MD XD 1.92 / 1.86	0.934	2.58	10 /10 Views			45.2 44.5	546 584	258 258	658		0.52 / 0.49
<b>5-37970</b>	MD XD 1.90 / 1.85	0.934	2.65	10 /10 Views			45.0 43.2	576 568	258 258	658		0.53 / 0.47
<b>5-37971</b>	MD XD 1.93 / 1.88	0.934	2.65	10 /10 Views			45.0 43.3	576 568	231 245	645		0.55 / 0.52
<b>5-37972</b>	MD XD 1.90 / 1.79	0.934	2.64	10 /10 Views			44.5 41.6	574 549	231 245	645		0.53 / 0.47
<b>5-37973</b>	MD XD 1.93 / 1.79	0.934	2.64	10 /10 Views			44.5 41.7	574 549	231 245	645		0.48 / 0.52
<b>5-37974</b>	MD XD 1.90 / 1.81	0.934	2.29	10 /10 Views			42.3 39.8	549 533	231 245	645		0.54 / 0.51
<b>5-37975</b>	MD XD 1.91 / 1.78	0.934	2.29	10 /10 Views			42.4 39.8	549 533	231 245	645		0.48 / 0.49
<b>5-37976</b>	MD XD 1.91 / 1.83	0.933	2.53	10 /10 Views			46.3 41.8	597 559	236 252	625		0.46 / 0.45
<b>5-37977</b>	MD XD 1.90 / 1.80	0.933	2.53	10 /10 Views			46.4 41.7	597 559	236 252	625		0.46 / 0.48
<b>5-37978</b>	MD XD 1.90 / 1.81	0.933	2.55	10 /10 Views			45.4 43.6	582 585	236 252	625		0.46 / 0.48
<b>5-37979</b>	MD XD 1.90 / 1.86	0.933	2.55	10 /10 Views			45.5 43.6	582 585	236 252	625		0.48 / 0.48
<b>5-37980</b>	MD XD 1.92 / 1.84	0.933	2.58	10 /10 Views			44.0 41.9	567 561	236 252	625		0.45 / 0.46
<b>5-37981</b>	MD XD 1.90 / 1.84	0.933	2.58	10 /10 Views			44.0 41.9	567 561	233 246	634		0.45 / 0.46

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Properties	Thickness ave / min.	Geo- membrane Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension. Stability	Asperity Height in / out
					Yield Strength	Elong.	Break Strength	Elong.				
Unit	mm	g/cc	%	Cat. 1 and 2	kN/m	%	kN/m	%	N	N	%	mm
Test Method	D5994	D1505/D792	D4218 / D1603	D5596	D6693				D1004	D4833	D1204	D7466
Frequency	Each roll		1/2 ro	1/10 ro	1/2 ro				1/5 ro	1/5 ro	Certied	Each Roll
Specification	1.90 / 1.70	≤ 0.939	2.0 - 3.0	Cat. 1 / Cat. 2			31	400	220	500	± 2	0.40
<b>5-37982</b>	MD XD 1.93 / 1.86	0.933	2.64	10 /10 Views			45.4 40.2	590 538	233 246	634		0.47 / 0.45

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SOLMAX

# LIST OF GEOMEMBRANE ROLLS

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Project Name : Eagle Gold Heap Leach

Reference Number : 112017

Project Number : E30754

Packing Slip Number : 225866

Roll Number	Product Code	Resin Lot Number	Manufactured Date	Resin Melt Index 190/2.16 g/10 min D1238	Resin Density g/cc D1505	OIT Spec Result min D3895	HPOIT Spec Result min D5885	ESCR SP-NCTL Spec Roll Tested hours D5397
<u>LLDPE 2.00 mm Black Textured</u>								
5-37911	1011709	CJE810060	28-Jul-18	0.38	0.918	100 > 120		N/A
5-37912	1011709	CJE810060	28-Jul-18	0.38	0.918	100 > 120		N/A
5-37930	1011709	CJE810060	29-Jul-18	0.38	0.918	100 > 120		N/A
5-37931	1011709	CJE810060	29-Jul-18	0.38	0.918	100 > 120		N/A
5-37983	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37984	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37985	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37986	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37995	1011709	CJE811730	01-Aug-18	0.35	0.919	100 > 120		N/A
5-37996	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-37997	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38001	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38002	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38003	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38004	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38005	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38007	1011709	CJE811730	02-Aug-18	0.35	0.919	100 > 120		N/A
5-38026	1011709	CJE811730	03-Aug-18	0.35	0.919	100 > 120		N/A

Quantity (rolls) :

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

Project Name : Eagle Gold Heap Leach

Reference Number : 112017

Project Number : E30754

Packing Slip Number : 225866



Product : 1011709

LLDPE 2.00 mm Black Textured

CE Certificate = LL-80-TT-BB

Properties	Thickness ave / min.	Geo- membrane Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension. Stability	Asperity Height in / out
					Yield Strength	Elong.	Break Strength	Break Elong.				
Unit	mm	g/cc	%	Cat. 1 and 2	kN/m	%	kN/m	%	N	N	%	mm
Test Method	D5994	D1505/D792	D4218 / D1603	D5596	D6693				D1004	D4833	D1204	D7466
Frequency	Each roll		1/2 ro	1/10 ro	1/2 ro				1/5 ro	1/5 ro	Certied	Each Roll
Specification	1.90 / 1.70	≤ 0.939	2.0 - 3.0	Cat. 1 / Cat. 2			31	400	220	500	± 2	0.40
<b>5-37911</b>	MD XD 1.90 / 1.83	0.938	2.57	10 /10 Views			46.8 43.6	612 591	257 261	648		0.52 / 0.49
<b>5-37912</b>	MD XD 1.91 / 1.73	0.938	2.57	10 /10 Views			46.8 43.6	612 591	257 261	648		0.49 / 0.50
<b>5-37930</b>	MD XD 1.91 / 1.80	0.938	2.41	10 /10 Views			44.1 43.9	570 584	253 252	652		0.55 / 0.47
<b>5-37931</b>	MD XD 1.91 / 1.81	0.938	2.41	10 /10 Views			44.1 44.0	570 584	253 252	652		0.59 / 0.46
<b>5-37983</b>	MD XD 1.94 / 1.80	0.933	2.64	10 /10 Views			45.4 40.3	590 538	233 246	634		0.50 / 0.45
<b>5-37984</b>	MD XD 1.92 / 1.85	0.938	2.60	10 /10 Views			43.8 38.2	571 517	234 250	645		0.52 / 0.47
<b>5-37985</b>	MD XD 1.92 / 1.87	0.938	2.60	10 /10 Views			43.8 38.2	571 517	234 250	645		0.51 / 0.52
<b>5-37986</b>	MD XD 1.90 / 1.79	0.938	2.52	10 /10 Views			44.5 41.4	582 564	234 250	645		0.57 / 0.53
<b>5-37995</b>	MD XD 1.94 / 1.89	0.937	2.67	10 /10 Views			42.7 43.8	543 577	275 256	661		0.56 / 0.47
<b>5-37996</b>	MD XD 1.93 / 1.86	0.937	2.58	10 /10 Views			46.4 43.7	592 581	275 256	661		0.56 / 0.46
<b>5-37997</b>	MD XD 1.90 / 1.78	0.937	2.58	10 /10 Views			46.4 43.8	592 581	275 256	661		0.52 / 0.50
<b>5-38001</b>	MD XD 1.92 / 1.84	0.937	2.57	10 /10 Views			44.6 39.6	573 536	258 263	635		0.55 / 0.54
<b>5-38002</b>	MD XD 1.93 / 1.83	0.937	2.57	10 /10 Views			44.7 39.6	573 536	258 263	635		0.54 / 0.49
<b>5-38003</b>	MD XD 1.91 / 1.76	0.935	2.67	10 /10 Views			43.1 42.9	560 578	254 258	632		0.54 / 0.51
<b>5-38004</b>	MD XD 1.90 / 1.80	0.935	2.67	10 /10 Views			43.1 42.9	560 578	254 258	632		0.53 / 0.54
<b>5-38005</b>	MD XD 1.92 / 1.76	0.935	2.65	10 /10 Views			43.4 39.1	562 524	254 258	632		0.48 / 0.47
<b>5-38007</b>	MD XD 1.92 / 1.79	0.935	2.39	10 /10 Views			43.3 39.1	549 525	254 258	632		0.56 / 0.51

Solmax, 2801 Boul. Marie-Victorin, Varennes, Qc, Canada, J3X 1P7  
 Tél.: 1-450-929-1234 • Fax.: 1-450-929-2547 • www.solmax.com

Project Name : Eagle Gold Heap Leach

Reference Number : 112017

Project Number : E30754

Packing Slip Number : 225866



Product : 1011709

LLDPE 2.00 mm Black Textured

CE Certificate = LL-80-TT-BB

Properties	Thickness ave / min.	Geo- membrane Density	Carbon Black Content	Carbon Black Dispersion	Tensile				Tear Resist.	Puncture Resist.	Dimension. Stability	Asperity Height in / out
					Yield Strength	Elong.	Break Strength	Elong.				
Unit	mm	g/cc	%	Cat. 1 and 2	kN/m	%	kN/m	%	N	N	%	mm
Test Method	D5994	D1505/D792	D4218 / D1603	D5596	D6693				D1004	D4833	D1204	D7466
Frequency	Each roll		1/2 ro	1/10 ro	1/2 ro				1/5 ro	1/5 ro	Certied	Each Roll
Specification	1.90 / 1.70	≤ 0.939	2.0 - 3.0	Cat. 1 / Cat. 2			31	400	220	500	± 2	0.40
<b>5-38026</b>	MD XD 1.90 / 1.80	0.935	2.57	10 /10 Views			46.4 43.5	594 586	242 248	654		0.51 / 0.48

Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

### INSTALLATION WARRANTY

Layfield Reference No. : (Job #) CT001143

LAYFIELD CANADA LTD. (LAYFIELD) hereby warrants to Victoria Gold Corp (the Customer) that the work performed by LAYFIELD on the Installation described as the Ditch A collection sump will:

1. Meet the field seam specifications set out in the contract between LAYFIELD and JDS Energy and Mining, all workmanship to meet the requirements of LAYFIELD's Geomembrane 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 April 12, 2019 for a period of one (1) year so long as the completed Installation is used for the purposes and in the manner for which the Installation was designed.

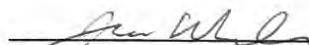
Should damage or defects within the scope of the aforesaid warranties occur, LAYFIELD shall repair the damage or defects, PROVIDED THAT the area to be repaired must first be made ready by the Customer and be in a clean, dry, unencumbered condition, free from all water, soil, sludge, residuals, and liquids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

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

The liabilities 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 CANADA LTD.

  
\_\_\_\_\_  
Jason Wheeler, Project Manager

LAYFIELD CANADA LTD.

  
\_\_\_\_\_  
Greg Van Petten, Estimating Manager



Appendix B  
Ditch A HDPE Pipe Fusing Tickets & Logs



**SANDALE**  
UTILITY PRODUCTS

HDPE Fusion  
Operator  
Qualification

## Clinton Abel

has successfully completed procedures to ASTM F2620 and operations on equipment and other categories as noted below. See reverse for categories.

**MID**

**LARGE**

Date: **April 18, 2018**

Expiry: **April 17, 2020**

A handwritten signature in black ink, appearing to read 'Mason Smith'.

-----  
Certified Trainer









# HDPE Fusion Log

Date: Feb 18/19

Start Time	Fusion #	Fusion Pressure	Interfacial Pressure	Drag Pressure	Heater Plate Temperature	Heat Soak Time	Cooling Time	Misc. Comments
8:40	14	<del>447</del> 447	75	125	420-435	8:26.0	18	
9:38	15	<del>447</del> 447	75	100	420-435	8:05.7	18	
10:24	16	<del>447</del> 447	75	100	420-435	8:04.2	18	
11:10	17	377	75	30	420-435	8:17.8	18	
11:53	18	377	75	30	420-435	8:29.9	18	
12:40	19	377	75	30	420-435	9:25.7	18	
1:29	20	<del>447</del> 447	75	150	420-435	8:19.7	18	
2:37	21	527	75	180	420-435	8:43.6	18	
3:25	22	547	75	200	420-435	8:10.5	18	
4:10	23	377	75	30	420-435	9:00.8	18	
5:07	24	377	75	30	420-435	8:38.5	18	
5:56	25	377	75	30	420-435	9:01.5	18	

Note: All Pressure Ratings are in PSI. Temperature is measured in Fahrenheit. Time is in Minutes.











# HDPE Fusion Log

Date: Feb 22/19

Start Time	Fusion #	Fusion Pressure	Interfacial Pressure	Drag Pressure	Heater Plate Temperature	Heat Soak Time	Cooling Time	Misc. Comments
9:00	57	397	75	50	420-435	7:40	20	Chain hook
10:30	58	397	76	50	420-435	7:39	18	came off
11:25	59	447	75	100	420-435	7:36	18	
<del>11:25</del> 12:10	60	377	75	30	420-435	7:39	18	
<del>12:10</del> 12:55	61	447	75	100	420-435	7:33	18	
1:55	62	497	75	150	420-435	7:30	18	
2:40	63	447	75	100	420-435	7:28	18	
3:25	64	567	75	200	420-435	7:40	18	
4:22	65	597	75	250	420-435	4:42	18.06	
5:05	66	597	75	250	420-435	7:50	18.06	
5:50	67	497	75	150	420-435	7:28	All Night	

Note: All Pressure Ratings are in PSI. Temperature is measured in Fahrenheit. Time is in Minutes.





# HDPE Fusion Log

Date: Feb. 24/19

Start Time	Fusion #	Fusion Pressure	Interfacial Pressure	Drag Pressure	Heater Plate Temperature	Heat Soak Time	Cooling Time	Misc. Comments
9:20	78	447	75	100	420-435	7:34	18	
10:15	79	397	75	<del>50</del> 50	<del>420-435</del> 420-435	7:33	18	
10:55	80	397	75	50	420-435	7:48	19	
12:00	81	397	75	50	420-435	7:26	18	
12:40	82	397	75	50	420-435	7:28	20	
1:30	83	397	75	50	420-435	7:30	18	
2:10	84	397	75	50	420-435	8:24	18	
3:00	85	377	75	<del>30</del> 30	420-435	7:29	18	
3:42	86	397	75	50	420-435	8:01	18	
4:25	87	377	75	30	420-435	7:30	18	
5:10	88	377	75	30	420-435	7:29	18	
5:50	89	377	75	30	420-435	<del>8:32</del> 8:32		

Note: All Pressure Ratings are in PSI. Temperature is measured in Fahrenheit. Time is in Minutes.



# HDPE Fusion Log

Date: Feb. 25/19 Sheet #1

Start Time	Fusion #	Fusion Pressure	Interfacial Pressure	Drag Pressure	Heater Plate Temperature	Heat Soak Time	Cooling Time	Misc. Comments
8:05	90	377	75	30	420-435	7:30	18:06	
8:45	91	377	75	30	420-435	7:32	18:06	
9:27	92	377	75	30	420-435	7:29	18:06	
10:05	93	447	75	100	420-435	7:30	18:30	
10:50	94	377	75	30	420-435	7:28	18:06	
11:32	95	377	75	30	420-435	7:29	18:06	
12:10	96	377	75	30	420-435	14:30	23:00	
1:00	97	377	75	30	420-435	7:34	18:06	
1:54	98	377	75	30	420-435	7:44	18:06	
2:30	99	377	75	30	420-435	7:28	19:00	
3:10	100	377	75	30	420-435	7:28.6	18:06	
3:55	101	447	75	100	420-435	7:28	20:00	
4:45	102	377	75	30	420-435	7:38	18:06	

Note: All Pressure Ratings are in PSI. Temperature is measured in Fahrenheit. Time is in Minutes.





## HDPE Fusion Log

Date: Feb. 26/19

Start Time	Fusion #	Fusion Pressure	Interfacial Pressure	Drag Pressure	Heater Plate Temperature	Heat Soak Time	Cooling Time	Misc. Comments
9:50	104	397	75	50	420-435	7:28	18:06	Started new line.
10:35	105	377	75	30	420-435	7:29	19:00	
11:25	106	377	75	30	420-435	7:27	22:00	
12:25	107	377	75	30	420-435	7:26	20:00	
1:10	108	377	75	30	420-435	7:25	18:06	
1:50	109	377	75	30	420-435	7:40	18:06	
2:45	110	397	75	50	420-435	9:20	19:20	
3:30	111	377	75	30	420-435	7:31	18:06	
4:15	112	377	75	30	420-435	7:36	18:06	
5:00	113	377	75	30	420-435	7:39	18:06	
5:40	114	377	75	30	420-435	7:35	18:06	

Note: All Pressure Ratings are in PSI. Temperature is measured in Fahrenheit. Time is in Minutes.



# HDPE Fusion Log

Date: Feb. 27/19

28" Ditch A

Start Time	Fusion #	Fusion Pressure	Interfacial Pressure	Drag Pressure	Heater Plate Temperature	Heat Soak Time	Cooling Time	Misc. Comments
8:15	115	447	75	100	420-435	7:32	18:06	
9:00	116	447	75	100	420-435	7:36	18:10	
10:20	117	377	75	30	420-435	7:28	19:10	
11:05	118	447	75	100	420-435	7:30	18:03	
11:55	119	377	75	30	420-435	7:56	18:03	
12:45	120	377	75	30	420-435	7:30	18:07	
2:00	121	377	75	30	420-435	7:30	18:08	
2:40	122	377	75	30	420-435	7:30	18:00	
3:20	123	377	75	30	420-435	7:38	18:00	
4:11	124	377	75	30	420-435	7:30	18:10	
5:00	125	377	75	30	420-435	7:30	18:00	
6:30	126	377	75	30	420-435	7:25	18:15	
7:15	127	377	75	30	420-435	7:30	18:00	

Note: All Pressure Ratings are in PSI. Temperature is measured in Fahrenheit. Time is in Minutes.







# Appendix C

## Construction Progress Photos

## Ditch A Pictures



*Photo 1 - 18.12.13 - Ditch A station 0+100*



*Photo 2 - 18.12.13 - Ditch A station 0+700*

## Ditch A Pictures



*Photo 3 - 18.12.13 -Ditch A station 0+800*



*Photo 4 - 18.12.13 -Ditch A station 0+900 - Finished Cut*



*Photo 5 - 18.12.14 - Ditch A south end*

## Ditch A Pictures



*Photo 6 - 19.02.20 - Fusing 28 Inch Pipe for Ditch A*



*Photo 7 - 19.03.09 - Ditch A Rip Rap*

## Ditch A Pictures



*Photo 8 - 19.03.13 - Ditch A and B Inlets to Control Pond*



*Photo 9 - 19.03.19 - Fusing pipe for Ditch A*

## Ditch A Pictures



*Photo 10 - 19.03.28 -Ditch A Final Rip Rap Placement*



*Photo 11 - 19.03.28 -Ditch A Final Rip Rap Placement*



## Ditch A Pictures



*Photo 12 - 19.04.06 - Ditch A Collection Sump*



*Photo 13 - 20181202*

Ditch A Pictures



Photo 14 - 20190127



Photo 15 - 20190127

Ditch A Pictures



*Photo 16 - 20190127*



*Photo 17 - 20190127*

Ditch A Pictures



Photo 18 - 20190127



Photo 19 - 20190131

Ditch A Pictures



Photo 20 - 20190217

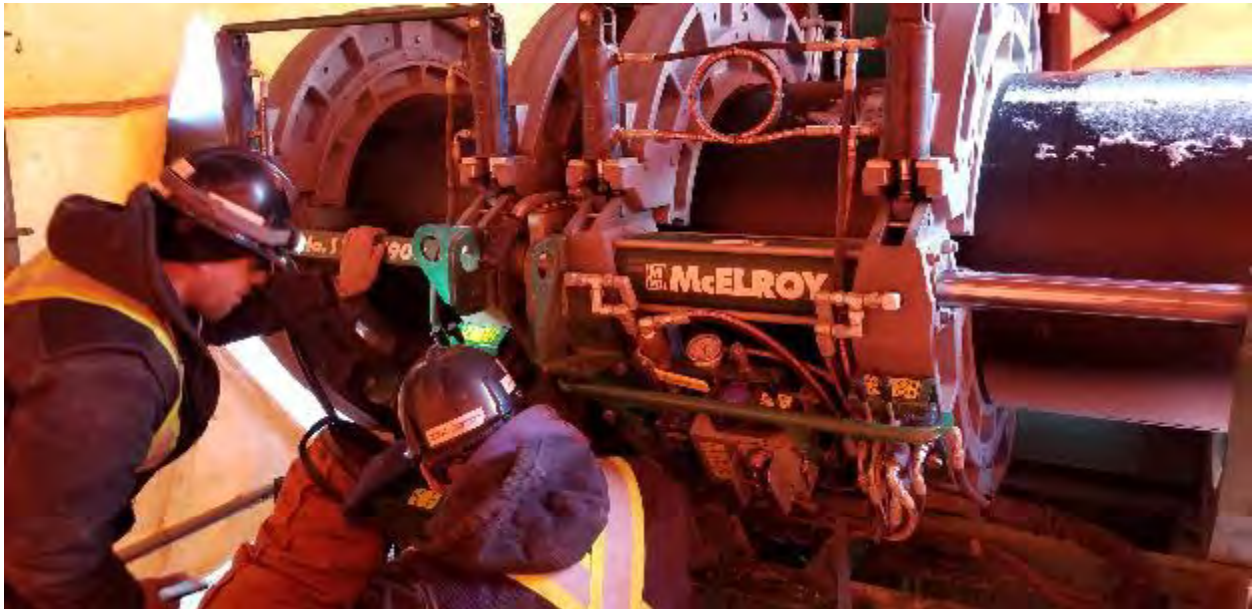


Photo 21 - 20190217

Ditch A Pictures



Photo 22 - 20190217



Photo 23 - 20190217

Ditch A Pictures



Photo 24 - 20190218



Photo 25 - 20190306

Ditch A Pictures



*Photo 26 - 20190309*



*Photo 27 - 20190309*



## Ditch A Pictures



Photo 28 - 20190309



Photo 29 - 20190313

Ditch A Pictures



Photo 30 - 20190328



Photo 31 - 20190328

Ditch A Pictures



Photo 32 - 20190403



Photo 33 - 20190406

Ditch A Pictures



Photo 34 - 20190408



Photo 35 - 20190410

## Ditch A Pictures



*Photo 36 - 20190419*



*Photo 37 - Ditch A Clearing and Ground prep*

## Ditch A Pictures



*Photo 38 - 20190419 Ditch A Collection Sump Complete*



*Photo 39 - Ditch A Culvert Placement*

## Ditch A Pictures



*Photo 40 - 20181124 Ditch A Earthworks*



*Photo 41 - 20181124 Ditch A Earthworks*

## Ditch A Pictures



*Photo 42 - 20181125 Ditch A Earthworks*



*Photo 43 - 20181201 Ditch A Earthworks*



## Ditch A Pictures



*Photo 44 - 20190127 Ditch A Riprap Placement*



*Photo 45 - 20181121 Ditch A Riprap Placement*

Ditch A Pictures



Photo 46 - 20181124 Ditch A Riprap Placement



Photo 47- 20190315

Ditch A Pictures



Photo 48 - 20190315 Inlet routing

Ditch A Pictures



Photo 49 - 20190315 Inlet routing

Ditch A Pictures



Photo 50 - 20190316 Inlet routing

Ditch B Pictures



Photo 51 - 20181213



Photo 52 - 20181214

## Ditch B Pictures



*Photo 53 - 20181214 Ditch B*



*Photo 54 - 20181215 Ditch B*

## Ditch B Pictures



*Photo 55 - 190216 - Ditch B Excavation to Control Pond Forebay*



*Photo 56 - 190219 - Ditch B Excavation to Control Pond Forebay*



## Ditch B Pictures



*Photo 57 - 20190226 Ditch B Liner Installation to Control Pond*



*Photo 58 - 20190419 Suttles to Ditch B Diversion Complete*

## Ditch B Pictures



*Photo 59 - 20181214*



*Photo 60 - 20181217*

## Ditch B Pictures



*Photo 61 - 20190225*



*Photo 62 - 20190225*

## Ditch B Pictures



Photo 63 - 20190226



Photo 64 - 20190226

## Ditch B Pictures



Photo 65 - 20190226



Photo 66 - 20190226

## Ditch B Pictures



*Photo 67 - 20190227*



*Photo 68 - 20190227*

## Ditch B Pictures



*Photo 69 - 20190228*



*Photo 70 - 20190228*

## Ditch B Pictures



*Photo 71 - 20190301*



*Photo 72 - 20190301*



Ditch B Pictures



*Photo 73 - 20190302*



*Photo 74 - 20190309*

Ditch B Pictures



*Photo 75 - 20190408*

## Ditch C Pictures



*Photo 76 - 190303 Ditch C Stripping and Grubbing*



*Photo 77 - 20190308 Ditch C Construction*

## Ditch C Pictures



*Photo 78 - 20190309 Ditch C Construction*



*Photo 79 - 20190311 Ditch C Construction*

## Ditch C Pictures



*Photo 80 - 20190312 Ditch C Construction*



*Photo 81 - 190312 - Ditch C Ripping and Excavating for Shop Road Culvert Crossings*

## Ditch C Pictures



*Photo 82 - 20190312 Ditch C Ripping and Excavating for Shop Road Culvert Crossings*



*Photo 83 - 190316 Ditch C Culvert Install on Shop Road*

## Ditch C Pictures



*Photo 84 - 20190317 Ditch C Rip Rap Install*



*Photo 85 - 20190317 Ditch C Rip Rap Install*

## Ditch C Pictures



*Photo 86 - 20190330 Ditch C Prep for Rip Rap*



*Photo 87 - 20190305*



## Ditch C Pictures



Photo 88 - 20190305



Photo 89 - 20190306

## Ditch C Pictures



Photo 90 - 20190306



Photo 91 - 20190316

Ditch C Pictures



Photo 92 - 20190330



Photo 93 - 20190311

Ditch C Pictures



Photo 94 - 20190312



Photo 95 - 20190315

Ditch C Pictures



Photo 96 - 20190315

Ditch C Pictures



Photo 97 - 20190316

Ditch C Pictures



Photo 98 - 20190316

Ditch C Pictures



Photo 99 - 20190318



Ditch C Pictures



Photo 100 - 20190320



Photo 101 - 20190325

# Ditch C Pictures



Photo 102 - 20190329



Photo 103 - 20190331

Ditch C Pictures



Photo 104 - 20190401

## Eagle Offset Ditch Pictures



*Photo 105 - 20190401 New 900mm Culvert for Eagle Offset*



*Photo 106 - 20190424 Eagle Offset Diversion Ditch*

## Eagle Offset Ditch Pictures



*Photo 107 - 20190422*



*Photo 108 - 20190423*

## Eagle Offset Ditch Pictures



*Photo 109 - 20190423*



*Photo 110 - 20190511*

## Rip Rap Pictures



*Photo 111 - 20181014*



*Photo 112 - 20181129*

## Rip Rap Pictures



*Photo 113 - 20190205*

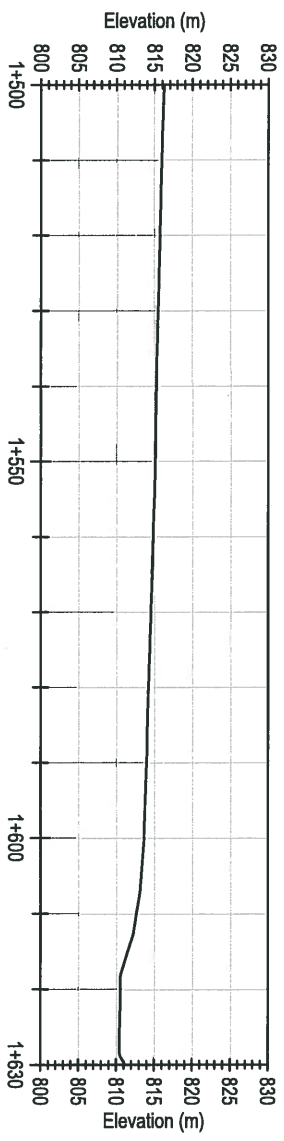
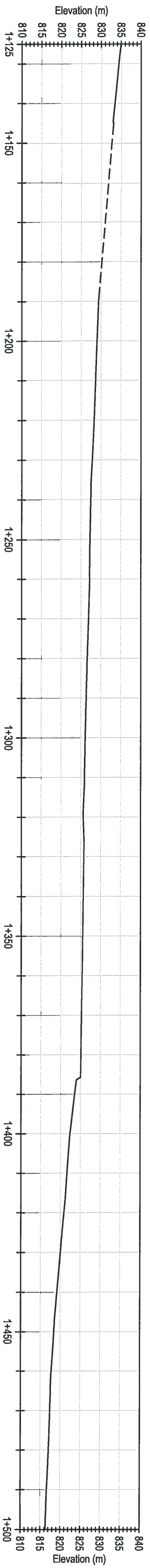
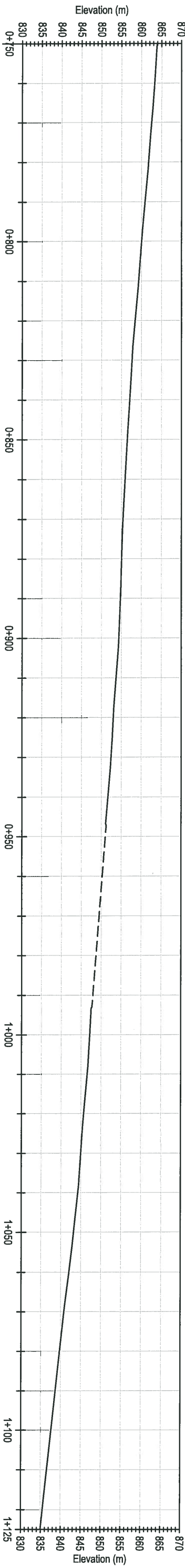
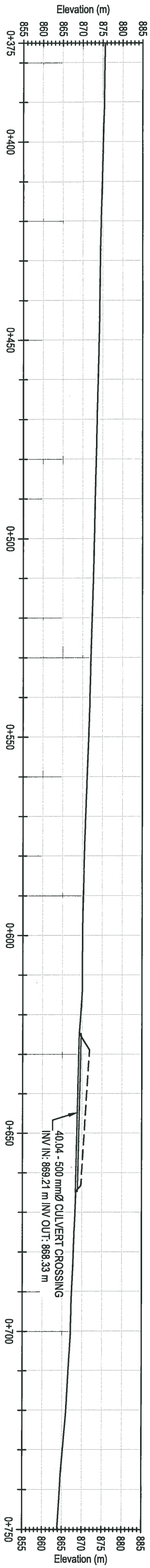
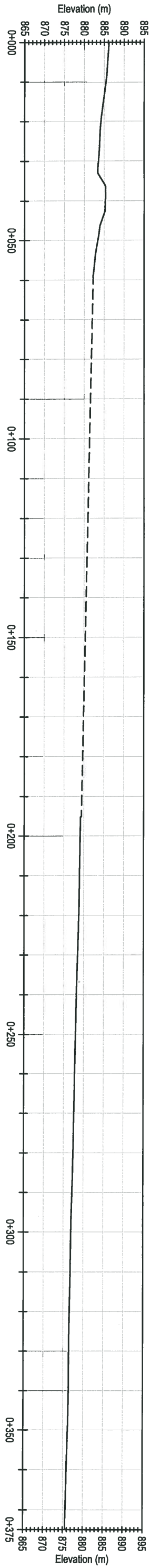


*Photo 114 - 20190205*



Appendix D  
Ditch EOR Drawings





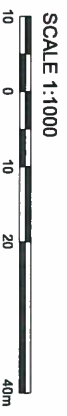
**A** DITCH PROFILE  
SCALE: 1:1000

**LEGEND**

- As Built Profile
- - - - Inferred Profile (See Note 2)

**NOTES**

1. As Built survey completed on April 14, 2019.
2. Ditch profile is inferred due to ice presence at time of survey.

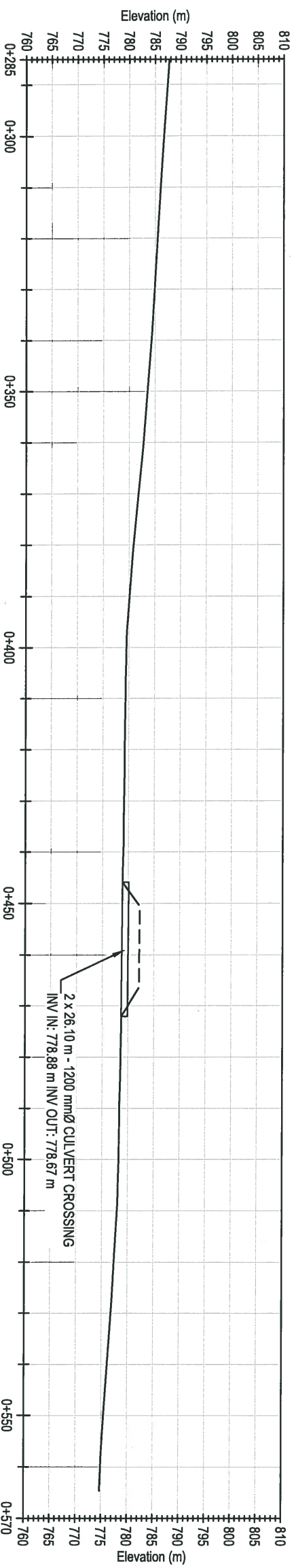
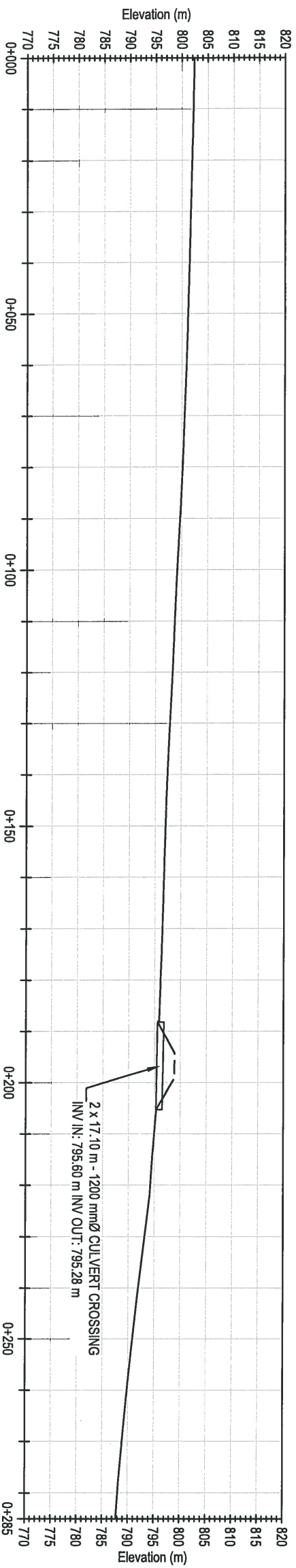
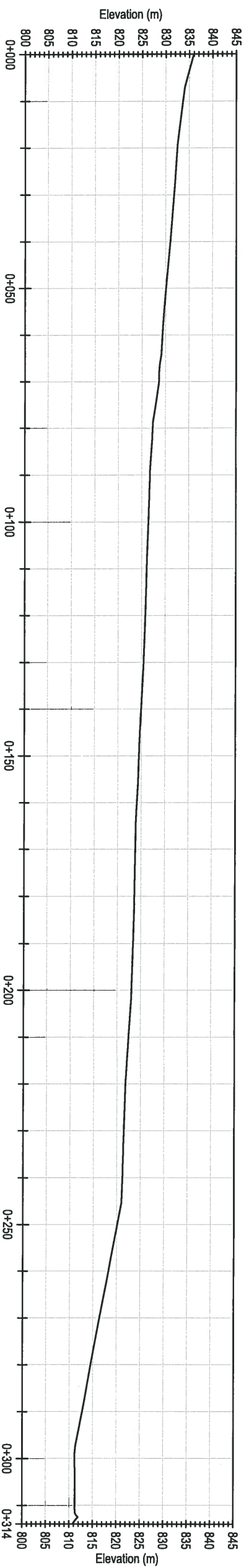


**RECORD DRAWING**

NUM	DATE	BY	CHK	APP	DESCRIPTION
0	5/17/19	JDM	MH	MH	RECORD DRAWING



<b>PROJECT NO.</b>		<b>OFFICE</b>		<b>DES</b>		<b>CHK</b>		<b>REV</b>	
WTRM03037-01		VAN/C		MH		MH		0	
<b>DATE</b>		<b>SHEET No.</b>		<b>DWN</b>		<b>APP</b>		<b>STATUS</b>	
May 17, 2019		of		JDM		MH		REC	
<b>DITCH PROFILES</b>									
<b>WATER MANAGEMENT PLAN</b>									
<b>NELPOO EAGLE GOLD MINE, YT</b>									
<b>DRAWING C1.01</b>									



**LEGEND**

— As Built Profile

- - - Inferred Profile (See Note 2)



- NOTES**
1. As Built survey completed on April 14, 2019.
  2. Ditch profile is inferred due to ice presence at time of survey.

**RECORD DRAWING**

NUM	DATE	BY	CHK	APP	DESCRIPTION
0	5/17/19	JDM	MH	MH	RECORD DRAWING



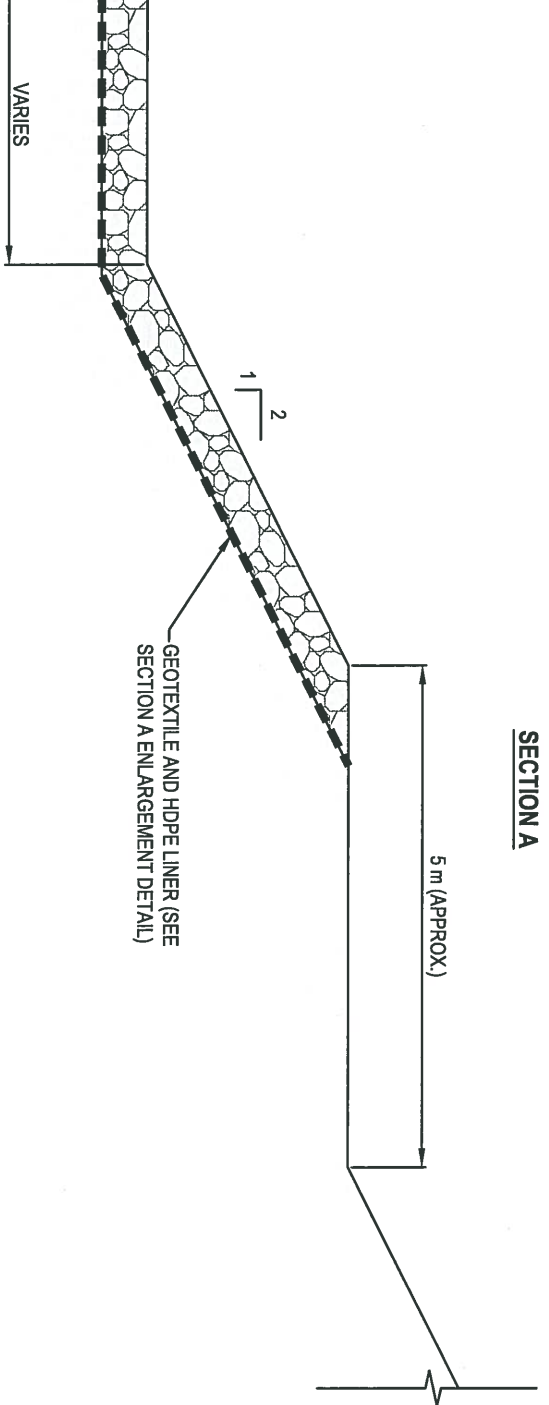
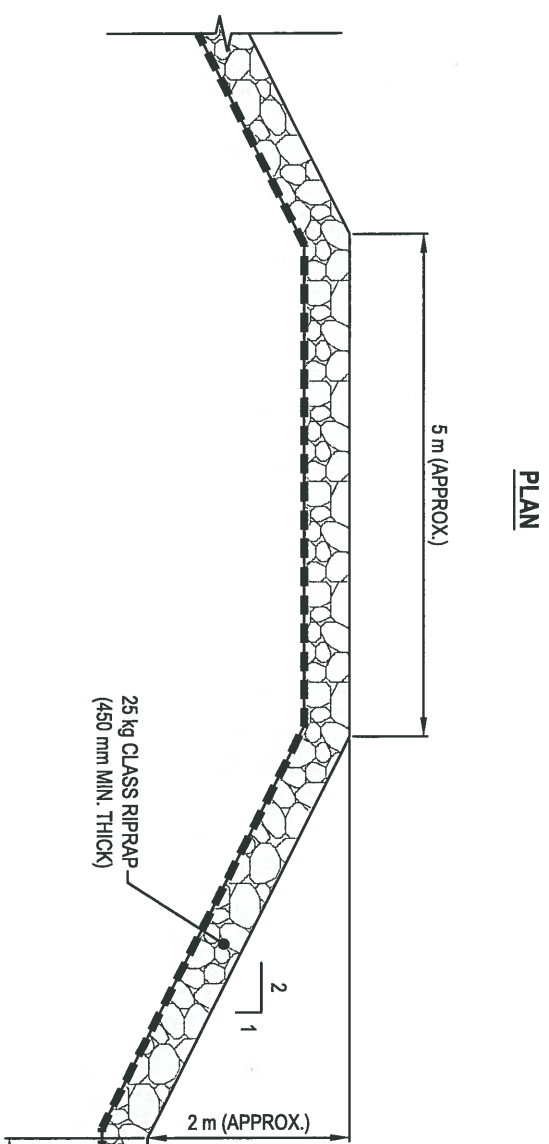
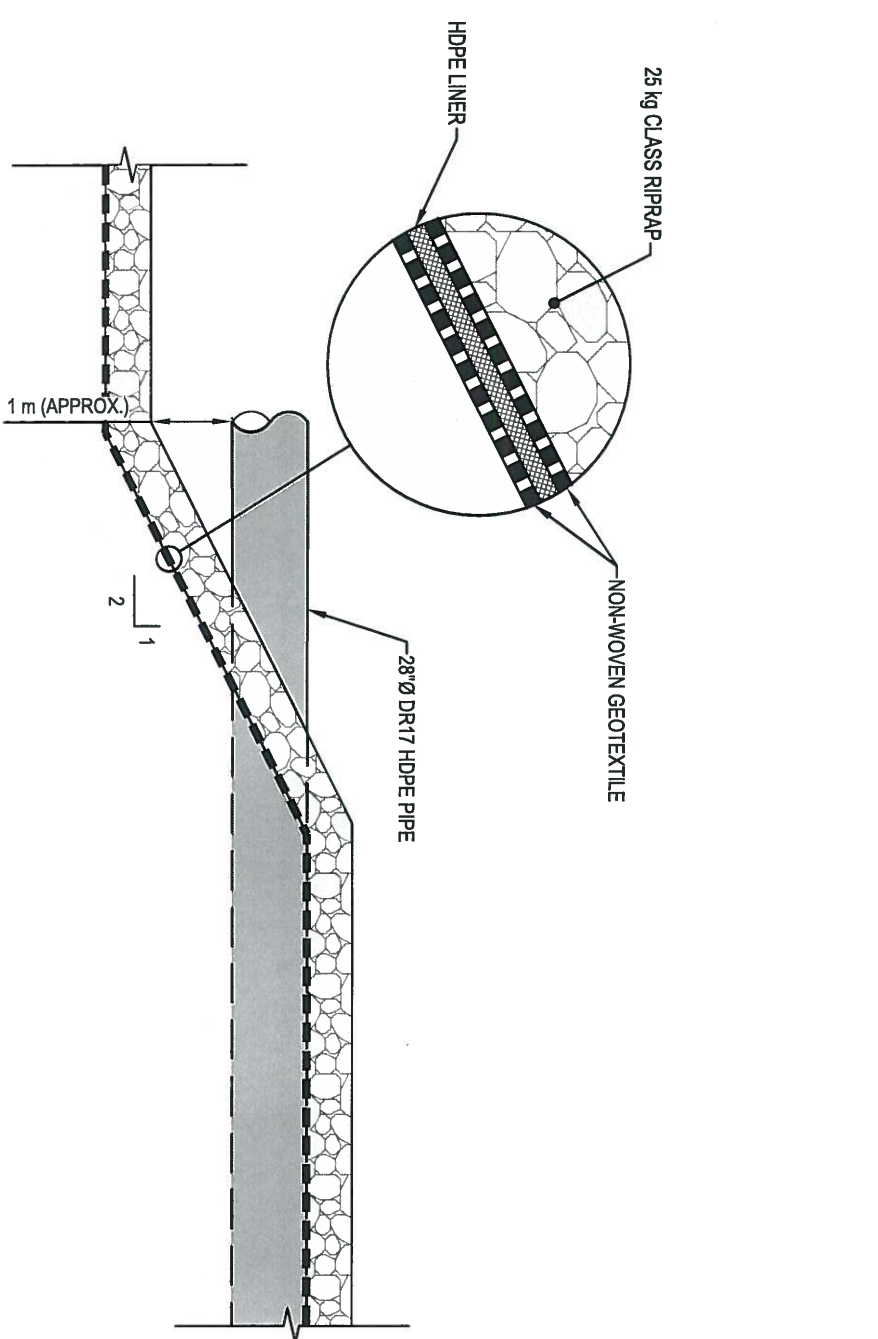
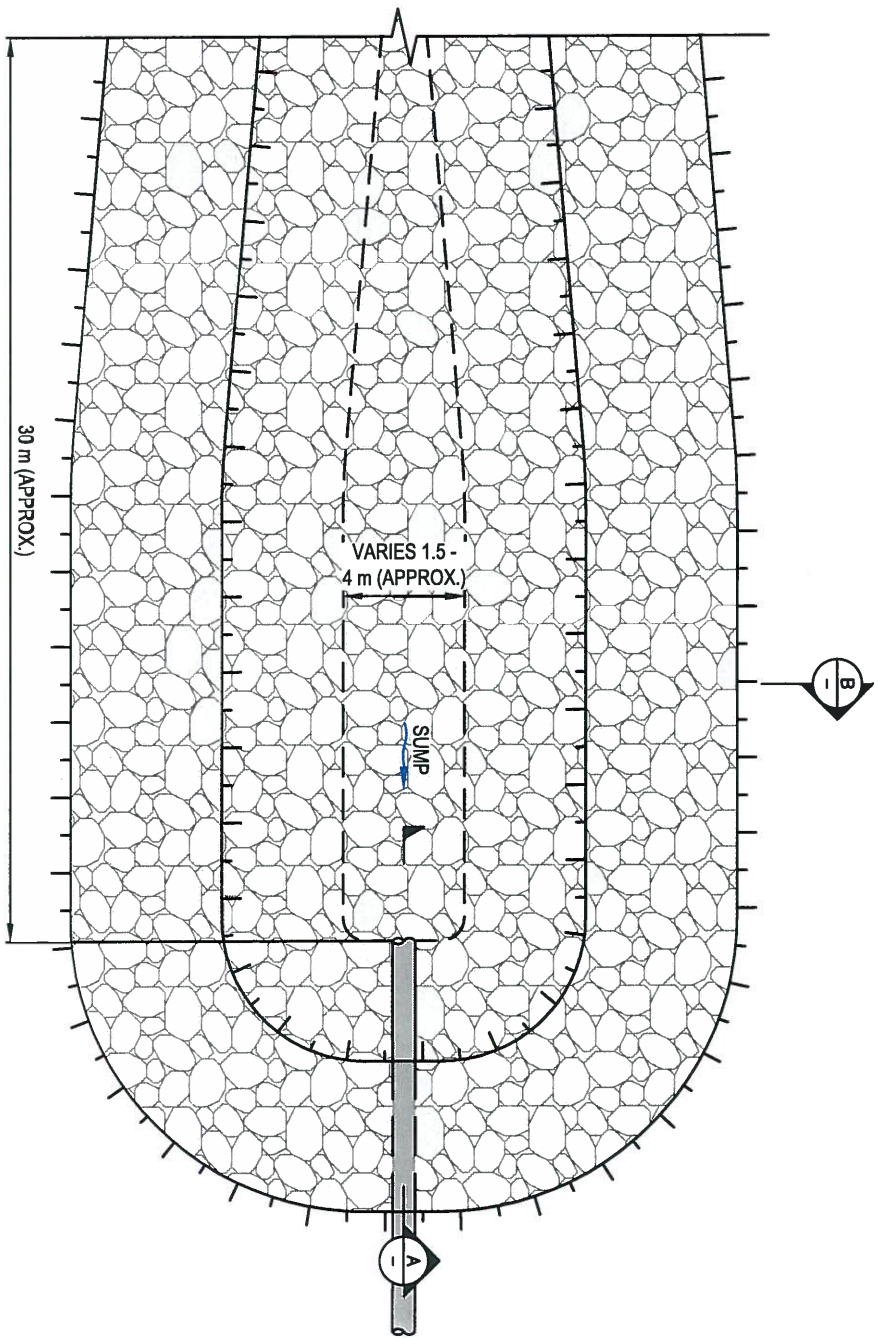
**WATER MANAGEMENT PLAN**  
**NELPECO EAGLE GOLD MINE, YT**

**DITCH PROFILES**

PROJECT NO.	WTRM03037-01	OFFICE	VANC	DES	MH	CHK	MH	REV	0
DATE	May 17, 2019	SHEET No.	d	BY	JDM	APP	MH	STATUS	REC

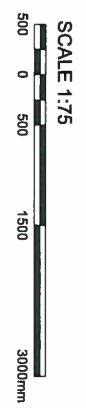
DRAWING: **C1.02**





1 SUMP DETAIL  
C1.04 / SCALE: NTS

LEGEND NOTES



RECORD DRAWING

NUM	DATE	DMN	CHK	APP	REV	DESCRIPTION
0	5/17/19	JDM	MH	MH	0	RECORD DRAWING

PROFESSIONAL  
YUKON TERRITORY  
MAURICIO HERRERA  
ENGINEER  
5/17/19

StrataGold Corporation  
TETRA TECH

WATER MANAGEMENT PLAN  
NELPCO EAGLE GOLD MINE, YT

PROJECT NO.	OFFICE	DES	CHK	REV	DRAWING
WTRM03037-01	VANC	MH	MH	0	C1.04

DATE	SHEET No.	DMN	APP	STATUS
May 17, 2019	of	JDM	MH	REC

Appendix E  
Ditch A HDPE Pipe Specifications

Specifications for HDPE

All fittings for HDPE pipe meet or exceed the following specifications.

- ASTM F714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on outside diameter.
- ASTM D3350 Standard Specification for Polyethylene Plastic Pipe and Filling Material
- ASTM D3035 Standard Specifications for Polyethylene (PE) Plastic Pipe (SDR-PR). Based on Controlled Outside Diameter.
- ASTM D2837 Standard Specification for Hydrostatic Design Basis

**DISCLAIMER - PLEASE READ**

- 1) *All dimensions approximate, subject to change without notice*
  - Angle tolerance is +/- 2 degrees
  - All other dimensions to +/- 1"
- 2) *This drawing only applicable if a copy is referenced at time of order.*
  - Without a copy of drawing, fitting construction may differ from that shown.
- 3) *Subject to Specified Fittings Standard Terms and Conditions.*

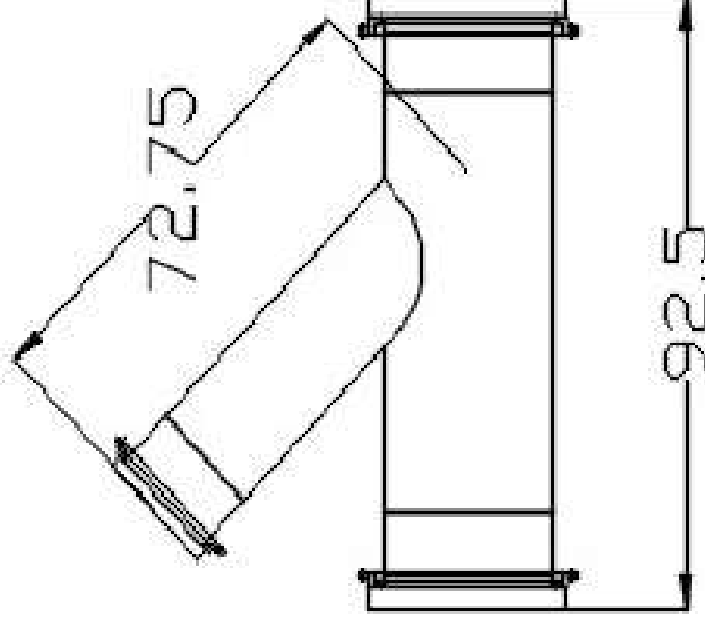
4/5/2019

Description: WYE

Material: HDPE 4710-FULLY RATED FOR DR17

Size: 28" IPS X 18" IPS

Configuration: ALL ENDS FLANGED



SALES	MT
CAD TECH	DE





# Certificate of Test Results

Location : Edmonton

**CUSTOMER:** Sandale **MATERIAL:** PE TUB 121NTW **RUN DETAILS:**  
**SIZE:** 28" **Material Grade:** PE4710 **CRTS:** 37 to 48  
**SDR:** 17 **1st LOT #** C180822V03 **CRTS:** 49 to 60  
**LINE #:** 5 **2nd LOT #** C180817V02 **CRTS:**          to         

**MANUFACTURE DATE:** 16 January, 2019 **TO** 10 February, 2019

<u>Reel/ Crate/ Coil</u>	37	40	43	45	49	52	55	58
<b>SAMPLE TYPE</b>	Start of Run	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test
<b>MELT FLOW</b>   21								
:on <u>TUB 121NTW</u>	8.06	8.06	8.06	8.06	8.41	8.41	8.41	8.41
:on <u>Finished Product</u>	8.47	9.01	9.03	8.78	8.98	8.87	8.92	9.42
<b>ASTM D1238</b>								
<b>DENSITY</b> : g/cc								
:on <u>TUB 121NTW</u>	0.949	0.949	0.949	0.949	0.949	0.949	0.949	0.949
:on <u>Finished Product</u>	0.960	0.962	0.961	0.962	0.962	0.962	0.960	0.961
<b>ASTM D1505</b>								
<b>Quick Burst (Psi)</b> ASTM D1599	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>OR</b> <b>Hoop Tensile (MPa)</b> ASTM D2290	25.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Elongation at Break(%)</b> ASTM D638	724.22	743.23	731.98	735.24	742.96	728.81	712.13	746.64
<b>OR</b> <b>BEND BACK</b>	P	P	P	P	P	P	P	P
(AWWA C901/906); *P = No sign of crazing or cracking; F = Cracking and/or crazing is observed								
<b>Carbon Black Content (%)</b> <b>ASTM D4218</b>	2.43	2.43	2.35	2.59	2.63	2.73	2.12	2.29

This certificate verifies that the above results were obtained using the appropriate ASTM standards, and that they satisfy NSF/ ANSI/AWWA C906 requirements.

*mcastillo*

Quality Control Team Leader

Polytubes 2009 INC  
 16221-123 Ave.  
 Edmonton, AB T5V 1N9  
 Ph:780-453-2211  
 Fax:780-452-9376

March 08, 2016  
 Revision 02



# Certificate of Test Results

Location : Edmonton

**CUSTOMER:** Sandale      **MATERIAL:** PE TUB 121NTW      **RUN DETAILS:**  
**SIZE:** 28"      **Material Grade:** PE4710      **CRTS:** 61 to 73  
**SDR:** 17      **2nd LOT #** C180817V02      **CRTS:** 74 to 83  
**LINE #:** 5      **3rd LOT #** C180922V02      **CRTS:**        to       

**MANUFACTURE DATE:** 16 January, 2019      **TO**      10 February, 2019

<u>Reel/ Crate/ Coil</u>	61	64	67	70	73	76	78	81
<b>SAMPLE TYPE</b>	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test
<b>MELT FLOW</b>   21								
:on <u>TUB 121NTW</u>	8.41	8.41	8.41	8.41	8.41	8.89	8.89	8.89
:on <u>Finished Product</u>	9.37	8.69	8.87	8.96	9.05	9.32	9.40	9.28
<b>ASTM D1238</b>								
<b>DENSITY</b> : g/cc								
:on <u>TUB 121NTW</u>	0.949	0.949	0.949	0.949	0.949	0.948	0.948	0.949
:on <u>Finished Product</u>	0.962	0.960	0.961	0.961	0.961	0.961	0.962	0.962
<b>ASTM D1505</b>								
<b>Quick Burst (Psi)</b> ASTM D1599	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>OR</b> <b>Hoop Tensile (MPa)</b> ASTM D2290	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Elongation at Break(%)</b> ASTM D638	718.60	735.50	712.05	711.47	731.04	747.20	725.14	704.94
<b>OR</b> <b>BEND BACK</b>	P	P	P	P	P	P	P	P
(AWWA C901/906); *P = No sign of crazing or cracking; F = Cracking and/or crazing is observed								
<b>Carbon Black Content (%)</b> <b>ASTM D4218</b>	2.76	2.14	2.42	2.30	2.29	2.35	2.48	2.62

This certificate verifies that the above results were obtained using the appropriate ASTM standards, and that they satisfy NSF/ ANSI/AWWA C906 requirements.

*mcastillo*

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 Fax:780-452-9376

March 08, 2016  
 Revision 02

Page 2

QC-002



# Certificate of Test Results

Location : Edmonton

**CUSTOMER:** Sandale **MATERIAL:** Ineos PE TUB 121NTW **RUN DETAILS:**  
**SIZE:** 28" **Material Grade:** PE4710 **CRTS:** 84 to 107  
**SDR:** 17 **3rd LOT #** C180922V02 **CRTS:**        to         
**LINE #:** 5 **4th LOT #**        **CRTS:**        to       

**MANUFACTURE DATE:** 16 January, 2019 **TO** 10 February, 2019

<u>Reel/ Crate/ Coil</u>	84	87	90	93	96	99	102	105
<b>SAMPLE TYPE</b>	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test	Daily Test
<b>MELT FLOW</b>   21								
:on <u>TUB 121NTW</u>	8.89	8.89	8.89	8.89	8.89	8.89	8.89	8.89
:on <u>Finished Product</u>	9.36	9.74	9.97	9.86	9.78	10.09	10.04	9.96
<b>ASTM D1238</b>								
<b>DENSITY</b> : g/cc								
:on <u>TUB 121NTW</u>	0.948	0.948	0.948	0.948	0.948	0.948	0.948	0.948
:on <u>Finished Product</u>	0.961	0.962	0.961	0.960	0.961	0.962	0.962	0.961
<b>ASTM D1505</b>								
<b>Quick Burst (Psi)</b> ASTM D1599	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>OR</b> <b>Hoop Tensile (MPa)</b> ASTM D2290	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Elongation at Break(%)</b> ASTM D638	721.74	704.94	705.85	704.94	733.84	721.05	709.21	755.06
<b>OR</b> <b>BEND BACK</b>	P	P	P	P	P	P	P	P
(AWWA C901/906); *P = No sign of crazing or cracking; F = Cracking and/or crazing is observed								
<b>Carbon Black Content (%)</b> <b>ASTM D4218</b>	2.34	2.55	2.36	2.17	2.47	2.52	2.46	2.34

This certificate verifies that the above results were obtained using the appropriate ASTM standards, and that they satisfy NSF/ ANSI/AWWA C906 requirements.

*mcastillo*

Quality Control Team Leader

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 Edmonton, AB T5V 1N9  
 Ph:780-453-2211  
 Fax:780-452-9376

March 08, 2016  
 Revision 02

Page 3

QC-002



# Certificate of Test Results

Location : Edmonton

**CUSTOMER:** Sandale      **MATERIAL:** Ineos PE TUB 121NTW      **RUN DETAILS:**  
**SIZE:** 28"      **Material Grade:** PE4710      **CRTS:** 108 to 114  
**SDR:** 17      **3rd LOT #** C180922V02      **CRTS:**        to         
**LINE #:** 5      **4th LOT #**             **CRTS:**        to       

**MANUFACTURE DATE:** 16 January, 2019      **TO**      10 February, 2019

<b>Reel/ Crate/ Coil</b>	108	114						
<b>SAMPLE TYPE</b>	Daily Test	End of Run						
<b>MELT FLOW</b> I 21								
:on <u>TUB 121NTW</u>	8.89	8.89						
:on <u>Finished Product</u>	9.92	9.84						
<b>ASTM D1238</b>								
<b>DENSITY</b> : g/cc								
:on <u>TUB 121NTW</u>	0.948	0.948						
:on <u>Finished Product</u>	0.960	0.962						
<b>ASTM D1505</b>								
<b>Quick Burst (Psi)</b> ASTM D1599	N/A	N/A						
<b>OR</b>								
<b>Hoop Tensile (MPa)</b> ASTM D2290	N/A	N/A						
<b>Elongation at Break(%)</b> ASTM D638	710.98	750.44						
<b>OR</b>								
<b>BEND BACK</b>	P	P						
(AWWA C901/906); *P = No sign of crazing or cracking; F = Cracking and/or crazing is observed								
<b>Carbon Black Content (%)</b> <b>ASTM D4218</b>	2.06	2.52						

This certificate verifies that the above results were obtained using the appropriate ASTM standards, and that they satisfy **NSF/ ANSI/AWWA C906** requirements.

*mcastillo*

Quality Control Team Leader

Polytubes 2009 INC  
 16221-123 Ave.  
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 Ph:780-453-2211  
 Fax:780-452-9376

March 08, 2016  
 Revision 02



# Specified Fittings, LLC

164 West Smith Road • PO Box 28157 • Bellingham, WA 98228-0157 | Email: sales@specfit.com

Bellingham: 360-398-7700 | 360-398-7051 Fax  
Stevensville: 406-777-3466 | 406-777-7181 Fax  
Mexico (Toll Free): 800-429-1705 | 800-574-1075 Fax

Re: HDPE Fittings

To whom it may concern:

Specified Fittings certifies the fittings it provides are fabricated from materials conforming to:

ASTM D3350 Standard Specification for Polyethylene Plastic Pipe and Fittings Material  
Material shall be PE4710.

And

ASTM F714 Standard specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on  
Outside Diameter

Or

ASTM D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR). Based on  
Controlled Outside Diameter

With Molded fittings conforming to:

ASTM D3261 Standard Specification for Butt Heat Fusion PE Plastic Fittings for Polyethylene  
Plastic Pipe and Tubing

And all fittings conforming to the following as specified per Purchase Order

ASTM F2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene  
(Fabricated Fittings Only)

AWWA C906 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. Through 65 In. (100 mm  
Through 1,650 mm), for Waterworks

FM1613 Polyethylene (PE) Pipe and Fittings for Underground Fire Protection Service  
Listed as FM150, FM200, FM250, FM267 or FM335

All fittings are suitable for installation using the methods described in ASTM F2620. All fittings  
are fabricated from NSF listed materials for potable water systems

If you have any questions or require more information, please contact me.

Sincerely,

Brad Sukolsky  
Specified Fittings