


MIQUELON METER SERVICES LTD. WORK ORDER NO. 18020

9720 -54 AVENUE
EDMONTON, ALBERTA
T6E 0A9, CANADA
PHONE: (780) 434-3411
FAX: (780) 435-0334

SB # - 13237			CUSTOMER- Ace					
MAKE	STYLE	SIZE	ANSI	SCH	TRIM	AGA	VANE	LENGTH
	(2) Spools	4"	600	80	SOUR	2000 Edition 14.3	CPA 50E	34" 29"

RADIOGRAPHY	✓	100%
STRESS RELIEVE (P.W.H.T.)	✓	
SANDBLAST	✓	
CHEMICAL ANALYSIS		
HARDNESS TEST		
WELDING	✓	
MACHINING	✓	
CALIBRATION	✓	
HYDROTEST	✓	
LOW TEMP. UNIT		

- IF UNIT IS STANDARD SERVICE, CUSTOMER MUST SPECIFY IF STRESS RELIEVING (P.W.H.T.) AND RADIOGRAPHY ARE NECESSARY.
- ALL SOUR SERVICE UNITS ARE RADIOGRAPHED AND STRESS RELIEVED.
- ALL UNITS HAVE BEEN COMPLETELY DISASSEMBLED AND PARTS HAVE BEEN CHECKED TO MEET OR EXCEED NEW QUALITY. IF PARTS ARE INCAPABLE OF MEETING THESE STANDARDS, THEY ARE DISCARDED AND NEW PARTS MUST BE USED.
- ALL UNITS ARE MACHINED AND WELDED TO CUSTOMER SPECS.
- ALL SINGLE/DUAL CHAMBER UNITS ARE CALIBRATED.
- ALL DUAL CHAMBER UNITS ARE HYDROTESTED.
- ALL REPORTS ARE PROVIDED WITH THIS WORK ORDER.

Q.C. SIGNATURE	
DATE	November 14, 2017

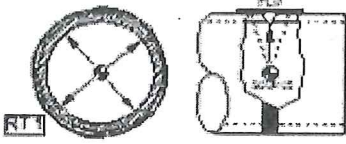
Miquelon Meter Services Ltd

9720- 54 Avenue
Edmonton, Alberta
Canada T6E 0A9
PH: 780-434-3411
FAX: 780-435-0334

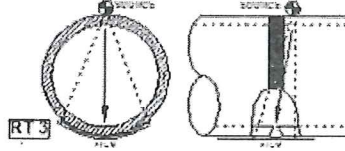
<u>Fabricator:</u> MMS		<u>Customer:</u> Ace	
<u>Spool Number:</u> 13237		<u>Date:</u> NOV 13 2017	
<u>Pipe Size:</u> 4"	<u>Schedule:</u> 80	<u>ANSI:</u> 600	
<u>Material:</u>			
<u>Dimension Sketch and Weld Map:</u>			
<u>Inspected By:</u>		<u>Signature:</u> <i>Andres Mad...</i>	

RADIOGRAPHIC EXAMINATION TECHNIQUE REFERENCE SHEET

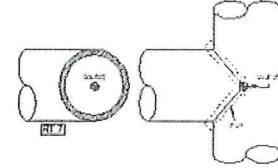
ALL CAN INSPECTION SERVICES (2011) INC. RT TECHNIQUES
 ALL CAN INSPECTION SERVICES (2011) INC. GENERAL RT PROCEDURE
 Important Note: Always check the QA/Procedures Manual for the most current Procedure Revision status.



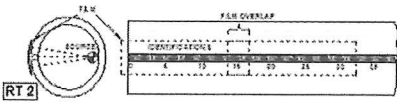
Tech #RT-1: Vessel Circumferential Weld
 1 Exposure: QA Subsection 15.12.1



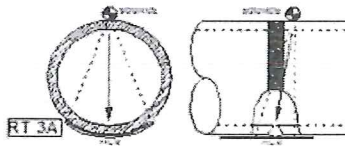
Tech #RT-3: Circ. Weld - Contact - Light Wall
 3 Exposures@120° Spacing: QA Subsection 15.12.6



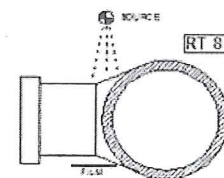
Tech #RT-7: Mitered "I" Joint - Single Wall - Source centered Exposures as required: QA Subsection 15.12.11



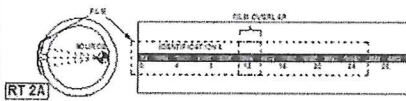
Tech #RT-2: Long. Weld - Light Wall - Source Inside
 1 Exposure/15 inches: QA Subsection 15.12.2



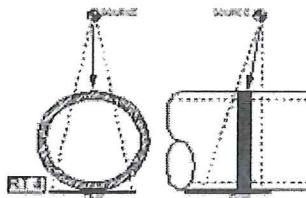
Tech #RT-3A: Circ. Weld - Contact - Heavy Wall
 4 Exposures@90° Spacing: QA Subsection 15.12.7



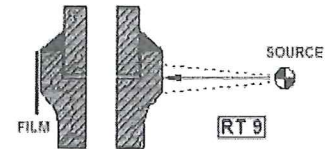
Tech #RT-8:Category "D" Weld
 Exposures as required: QA Subsection 15.12.12



Tech #RT-2A: Long. Weld - Heavy Wall - Source Inside
 1 Exposure/12 inches: QA Subsection 15.12.3



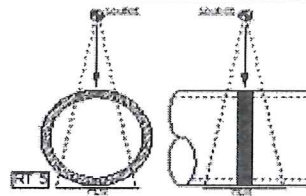
Tech #RT-4: Circ. Weld - Dbl Wall - Ellipse
 2 Exposures@90° Spacing: QA Subsection 15.12.8



Tech #RT-9: Gap Check
 1 Exposure: QA Subsection 15.12.13



Tech #RT-2B: Long. Weld - Light Wall - Source Outside
 1 Exposure/15 inches: QA Subsection 15.12.4

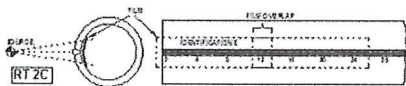


Tech #RT-5: Circ. Weld - Double Wall - Superimposed
 3 Exposures@60° Spacing: QA Subsection 15.12.9

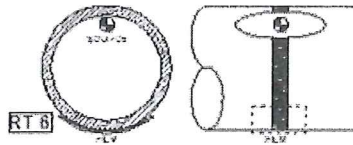
Penetrameter (IQI) Reference

1. ASTM A
2. ASTM B
3. ASTM C
4. FEEN/EN-462

5. DIN/EN-462 Set/Size 1 (Wire range 1 - 7)
6. DIN/EN 462 Set/Size 6 (Wire range 6 - 12)
7. DIN/EN-462 Set/Size 10 (Wire range 10 - 16)
8. DIN/EN-462 Set/Size 13 (Wire range 13 - 19)
9. Hole Type: Indicate IQI Designation Number



Tech #RT-2C: Long. Weld - Heavy Wall - Source Outside
 1 Exposure/12 inches: QA Subsection 15.12.5



Tech #RT-6: Circumferential Weld - Source not Centered
 Exposures as required: QA Subsection 15.12.10

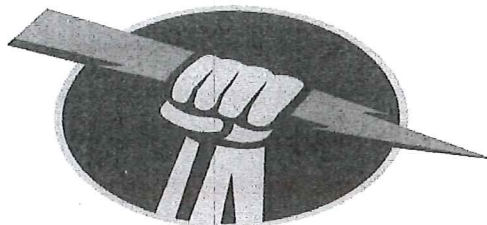
IMPORTANT INFORMATION:

Scope of Services & Limits of Liability:

All Can Inspection Services (2011) Inc. does not warranty or imply warranty of services stated herein and shall not be held liable for services rendered as per established service agreements. At no time shall liability be placed upon All Can Inspection Services (2011) Inc. of which exceeds the amount paid for said services.

All Can Inspection Services shall utilize appropriate quality assurance measures, technical training, and safety parameters to assure services are provided to meet or exceed established NDE procedures, Practices and industry expectations and at no time shall warranty excess NDE services except those established in writing beyond those established prior to the services provided herein.

Letter Of Compliance



ICONIC HEAT TREATING LTD

Date: 11/13/2017

Customer: MIQUELON METER

Customer PO# 4422 **Iconic HT WO#** 1674

Customer WO# N/A **Heat Cycle:**

Part Description: METER RUN

JOB#: 13237 13238

Quantity: 2

Hardness Tested: N/A

Customer Specifications:
TO HEAT TREAT AS PER CUSTOMER INSTRUCTION

Iconic HT addition information:

Approved By:

A large, stylized handwritten signature in black ink, written over a horizontal line. The signature is cursive and appears to be the name of the person approving the document.

MIQUELON METER SERVICES LTD.

9720 - 54 Avenue
Edmonton, Alberta
T6E 0A9 Canada
Phone: (780) 434-3411
Fax: (780) 435-0334

HEAT TREATMENT RECORD

Information

P.O. No. 4422 Customer Iconic H.T.

Date NOV 10 2017 Job No(s). 13237
13238

Wall Thickness under 1" Material _____

Mics. Thickness _____ Material _____

Type of Treatment P.W.H.T.

1 Misc Raw fit.

INSTRUCTION

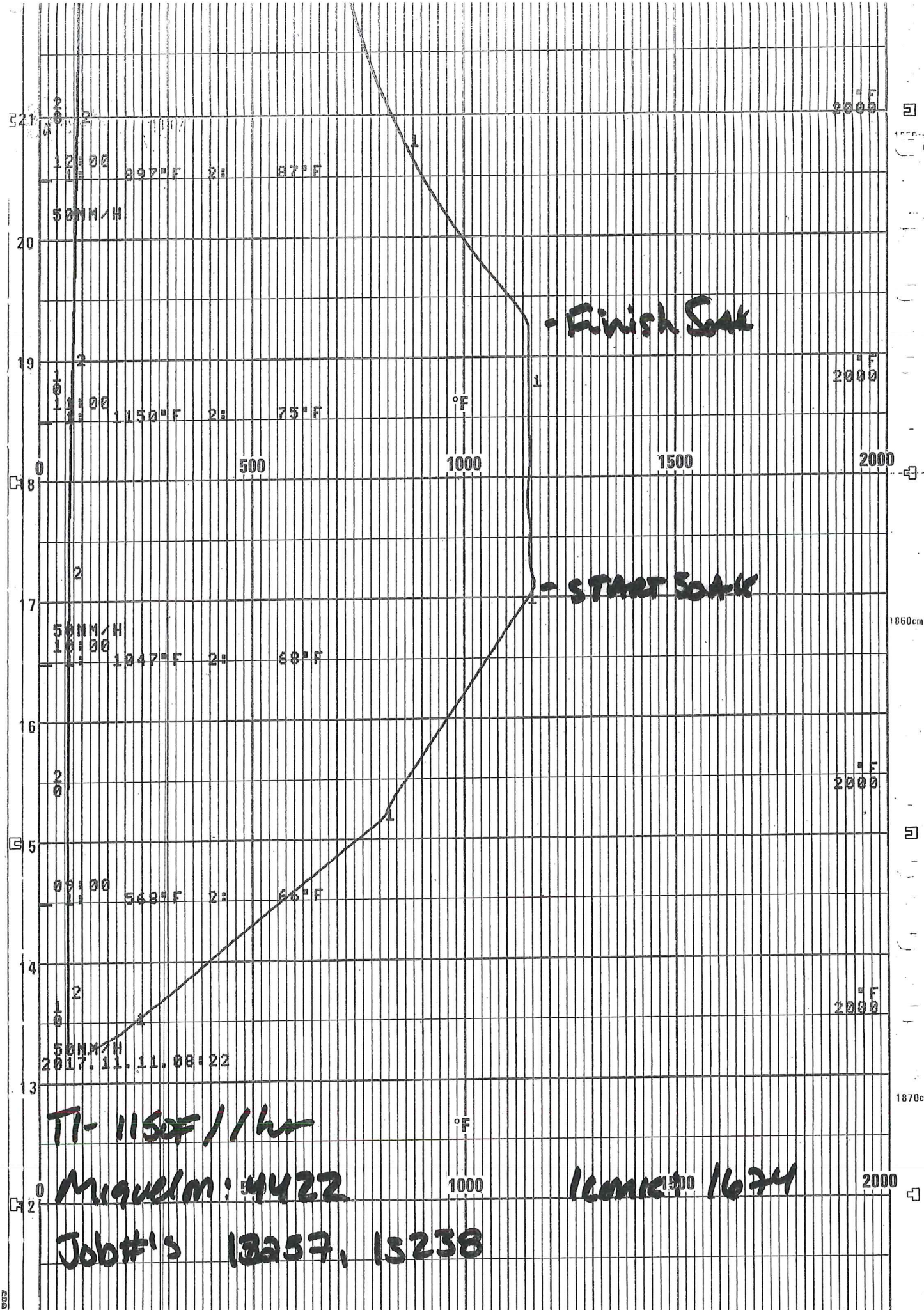
1. Temperature to be raised ambient °F to 800 °F at a set rate per hour.
Note: Must not exceed 400°F per hour.
2. Temperature to be held at 1150 °F for 60 minutes.
3. Temperature to be lowered from 1150 °F to 800 °F at a rate of 500 °F per hour.
Note: Must not exceed a drop of 500°F per hour.
4. Additional requirements:

Signature: [Signature]

Chart No. 11074

Operator Signature [Signature]

Date 11/13/17



September 5, 2017

HEAT: a08m5 CCTF Sku: 7581059 4 600 RF WN FLG XH A350LF2 Invoice: 2252625-00 PO: 21446 9/1/2017 11:20:05 AM

CLIENTE / Customer / Client
CCTF CORPORATION (EDMONTON)
 5407 - 53 AVENUE NW
 EDMONTON, AB T6B 3G2
 CANADA

CERTIFICADO DE INSPECCION
 Inspection Certificate - Certificat de Réception

UNE EN 10204:06 / 3.1
 ISO 10474:15 / 3.1



ULMA FORJA, S.COOP.

188598

13/07/2017

188598

Page: 2

PRODUCTO
 Article - Produit

FLANGES

SU PEDIDO N.º

4899776-00

DE

cl. de

17/04/2017

NORMAS APLICABLES
 Requirements - Normes Applicables

ASME B16.5-13

MATERIAL CORRESPONDIENTE
 Material Correspondent - Matière

ASTM A350LF2CL1-2-15

MODO DE FUSION (*)
 Steel Making - Elaboration de l'acier

NACE MR0175/ISO15156-02/03-15 & MR0103/ISO17495-15

E = Elec. Y = Oxígeno básico

Clause 7.2.1.4, Annex A.2 and SSC Region 3.
 CSA-Z245.12-13 GR248 CAT II-SS (WN & BLIND FLANGES ONLY).

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	LOTE	OBSERVACIONES Remarks Observations	COADA N.º Heat No N.º Coudée	TENSILIDAD T. Strength Résist Rupt	LONGITUDINAL Elongation Allongement	ESTRACCION Red. Area Striction	RESILIENCIA Impact test Résistance	CHARPY V 10x10mm	DUREZA Hardness Dureté			
												Y Strength 0.2 % N/mm2	%	%
15 7581058	1	WN 4 600LB XS180 RF A350LF2	01L17	NE	ADAMS	534	29.20	51.20	76	83	82	-50	182	165

COADA N.º Heat No N.º Coudée	COMPOSICION QUIMICA - STEEL MAKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE													
	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	CEq %
ADAMS	0,180	0,240	1,240	0,011	0,004	0,050	0,080	0,014	0,003	0,068	0,170	0,035	0,000	0,43

- Les dimensions y la condición superficial se hallaron satisfactorias.
- Dimension and surface condition were found acceptable.
- Les dimensions et états de surface sont satisfaisants.
- Los materiales citados cumplen las normas aplicables.
- Manufacturing requirements are satisfied.
- Les normes applicables sont respectées.

EL INSPECTOR
 Works Inspector - L'inspecteur



ULMA FORJA, S.COOP.
 Dpto. de Garantía de calidad
 Quality Assurance Dept.

(*) OBSERVACIONES:
 Remarks
 Observations

FULLY KILLED & FINE GRAIN PRACTICE.
 Tensile & Impact: Transverse specimens A370.
 N_NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR.

September 21, 2011
CERTIFIED MILL TEST REPORT

B® The Best Value
 Price, Quality, Service
 All The Time.

1/2" TOL

LOG NO. F00000000097987

Page 2 of 5

BONNEY FORGE CORPORATION
 P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330
 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
 www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

DATE 07/26/2017

CUSTOMER

BONNEY ORDER NO. B000225600

ORDER NO.: 4900133-00

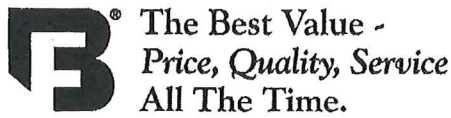
SHIP TO: CCTF CORPORATION (EDMONTON)
 5407 - 53RD AVE.
 EDMONTON AB T6B 3G2
 Canada

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.	CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS:
3	200	59213	8-3 X 1/2 3M LF2 THRD T	SA/A350 LF2 CL1
'692050			Al 0.024 C 0.210 Co 0.005 Cr 0.040 Cu 0.070 Mn 1.050 Mo 0.006 N 0.003 Nb 0.015 Ni 0.030 P 0.004 S 0.016 Si 0.220 V 0.004 CE(Long Formula) = 0.40 T/S(PSI) 74,069 Y/S(PSI) 50,651 EL(%) 34.65 RA(%) 64.94 Brinell 132 BHN 135 BHN Charpy -50 F 28/63/37 (Ft-Lbs) Average 42.70	
4	750	50085	5-4 X 1 3000 LF2 THRD T	SA/A350 LF2 CL1
'69201			Al 0.028 C 0.190 Co 0.003 Cr 0.050 Cu 0.070 Mn 0.970 Mo 0.011 Nb 0.014 Ni 0.040 P 0.010 S 0.018 Si 0.240 V 0.003 CE(Long Formula) = 0.37 T/S(PSI) 72,500 Y/S(PSI) 49,800 EL(%) 33.00 RA(%) 69.00 Brinell 143 BHN 147 BHN Charpy -50 F 57/81/72 (Ft-Lbs) Average 70.00	
5	100	59935	10-6 X 1 3000 LF2 THRD T	SA/A350 LF2 CL1
'693037			Al 0.028 C 0.200 Co 0.004 Cr 0.060 Cu 0.100 Mn 0.980 Mo 0.011 Nb 0.012 Ni 0.040 P 0.006 S 0.017 Si 0.220 V 0.003 CE(Long Formula) = 0.39 T/S(PSI) 72,373 Y/S(PSI) 48,076 EL(%) 35.20 RA(%) 63.66 Brinell 132 BHN 132 BHN Charpy -50 F 40/39/47 (Ft-Lbs) Average 42.00	

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

by Billie Jo Clemens
 Billie Jo Clemens
 QUALITY PROCESS MANAGER

CERTIFIED MILL TEST REPORT



LOG NO. F0000000091636 Page 2 of 4
 BONNEY FORGE CORPORATION
 P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330
 (814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906
 www.bonneyforge.com

CUSTOMER: CCTF CORPORATION

DATE 02/02/2017

CUSTOMER ORDER NO.: 4899452-00

BONNEY ORDER NO. B000217122

SHIP TO: CCTF CORPORATION (EDMONTON)
 5407 - 53RD AVE.
 EDMONTON AB T6B 3G2
 Canada

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO.
6	125	59783	36-11/2X3/4 3M LF2 FLEX T SA/A350 LF2 CL1
7690107			Al 0.020 C 0.220 Co 0.004 Cr 0.040 Cu 0.070 Mn 1.060 Mo 0.009 Nb 0.012 Ni 0.030 P 0.008 S 0.015 Si 0.190 V 0.004 CE(Long Formula) = 0.41 T/S(PSI) 77,778 Y/S(PSI) 55,737 EL(%) 36.00 RA(%) 62.65 Brinell 139 BHN 139 BHN Charpy -50 F 81/37/32 (Ft-Lbs) Average 50.00
7	50	59889	31/2-3 X 1 3000 LF2 THRD T SA/A350 LF2 CL1
7692070			Al 0.023 C 0.210 Co 0.004 Cr 0.040 Cu 0.070 Mn 1.030 Mo 0.006 Nb 0.012 Ni 0.030 P 0.006 S 0.015 Si 0.230 V 0.003 CE(Long Formula) = 0.40 T/S(PSI) 71,500 Y/S(PSI) 44,400 EL(%) 33.00 RA(%) 67.00 Brinell 143 BHN 143 BHN Charpy -50 F 81/27/17 (Ft-Lbs) Average 41.70
8	750	50077	5 -4 X 1 3000 LF2 THRD T SA/A350 LF2 CL1
7690201			Al 0.029 C 0.200 Co 0.003 Cr 0.040 Cu 0.090 Mn 1.000 Mo 0.015 Nb 0.011 Ni 0.040 P 0.010 S 0.022 Si 0.230 V 0.004 CE(Long Formula) = 0.39 T/S(PSI) 77,000 Y/S(PSI) 53,500 EL(%) 31.00 RA(%) 66.00 Brinell 157 BHN 154 BHN Charpy -50 F 46/31/44 (Ft-Lbs) Average 40.30

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

by Kylee Ruiz
 Kylee Ruiz
 QUALITY PROCESS MANAGER

AUG 15 2016



ISO 9001:2008
DE-39 5997 QM
Test Certificate
EN 10204 Type 2.1

Licensed under
API Spec 5L and SCT
5L - 0319
SCT - 0419

MATERIAL TEST CERTIFICATE
SEAMLESS TUBE
1855336
COROGECA
A pipe

ArcelorMittal South Africa Limited
Tubular Products
273 Genl. Hertzog Rd,
Peachhaven Vereeniging 1939
P O Box 48 Vereeniging 1930
South Africa

Telephone +27 (0)16 450 4220
Fax +27 (0)16 423 4906

Customer: Texas Pipe & Supply Company, LTD
Order No: 4000019559
Certificate Reference No: 040061459356
Product: FULLY KILLED HOT FINISHED CARBON STEEL SEAMLESS TUBES
Specification: ISO3183-2012/API 5L-2012 L360/X52 FSL1 ASTM A333-13 GR6 A999-14 ASME SA333-13 ASTM A106B-14 ASME SA106B-13
Product Marking: ARCELORMITTAL SA ISO3183/Spec 5L-4319 MONOGRAM 08-14 ASTM/ASME A5A333 GR6 BFS LT M50C 114.300 13.490 11.800 L360/X52 FSL1 SMLS TESTED 20.7 MPa CAST NO: 185536 PROD/O NO: R0841835310 NDE MADE IN SOUTH AFRICA ASTM/ASME A/SA106B

Customer Order/Contract No: SUS8 148664 STOCK
Material No: 1000039851
Cast/Heat No: 18B5336
Page 1 of 2

General Information

Quantity	Mass	Dimensions			Total Length
		Tube OD	Thickness	Length	
54	21,568,880(kg)	114.300(mm)	15.490(mm)	637.200(m)	

Steel making process
Electric Arc

Final Rolling Operation
Normalised
Normalised rolled with finishing above 860°C and cooled in still air

Chemical Composition

Element(%)	C	Si	Mn	S	P	Cr	Ni	Mo	Cu	V	Al	Ti	Sn	Cs	N	B	Nb	CE	FCM	RO5	R22	R24	
Minimum	0.230	0.10	0.29				0.029																
Maximum	0.230	1.30	0.010	0.025																			
Heat	0.129	0.29	1.28	0.004	0.008	0.05	0.06	0.041	0.100	0.055	0.043	0.001	0.011	0.0023	0.0063	0.0005	0.0020	0.38	0.72	0.31	0.06	0.057	
Product	0.1290	0.2900	1.2800	0.0040	0.0080	0.0500	0.0600	0.0410	0.1000	0.0550	0.0430	0.0009	0.0110	0.0023	0.0063	0.0003	0.0020	0.3822	0.7209	0.3060	0.0579	0.0570	
Product (ADD)	0.1290	0.2900	1.2800	0.0040	0.0080	0.0500	0.0600	0.0410	0.1000	0.0550	0.0430	0.0009	0.0110	0.0023	0.0063	0.0003	0.0020	0.3822	0.7209	0.3060	0.0579	0.0570	

Mechanical Properties

Specification Limits	UTS (Rm)		Yield (0.5%)		% EL 50mm
	MPa	psi	MPa	psi	
Minimum	455		359		25.0
Maximum					
(1) Actual	551		413		37.0
(2) Actual	554		416		39.0
(3) Actual					
(4) Actual					

Category	Result	OTHER TESTS		
			Flattening	Hydrostatic
Flattening	Passed			
Hydrostatic	20700 kPa for 5 Sec			
NDI: EMI	PASS - ASTM E570 - 12.5% NOTCH			
NDI: UT	UT not required			
HV 10 Kg	174 176 177			

Remarks:

Material in accordance with NACE MR0175-2009/ISO15156-3:2009, MR0103:2012, Dimensions to ASME B36.10M-2010.
The material conform to the hot yield strength requirements as per ASME, Sect II, Pt D, Table Y-1, 2013
All the material conform to the visual and dimensional requirements and is made to a suitable fine grain practice.

Quality Assurance Manager: PJ Venter

Date of Release: 2014.08.18

Certified by: 410

Weld 2032010/010
410 S170 R22 50% HONED PIPE
HT: 18B5336

We hereby certify that the material was manufactured, tested and inspected to and fully comply with the requirements of referenced specifications. No changes, amendments or additions may be made to this document. Any changes which are effected shall invalidate this certificate.

MIQUELON METER SERVICES LTD.

9720 - 54 Avenue
Edmonton, Alberta
T6E 0A9 Canada
Ph: (780) 434-3411
Fax: (780) 435-0334

SINGLE CHAMBER METER RUN HYDRO-TEST

SIZE: 4" 1/2 pools, 600 psi 80, 2000, 13237
SERIAL#: N/A WO#: 180 20 DATE: Nov 15, 2017

COMPLETE UNIT

PRESSURE: 2220 psi START TIME: 11:30 AM END TIME: 1:30 PM TIME HELD: 2

VISUAL INSPECTION FOR LEAKS

FITTING: N/A DRAIN PLUGS: N/A VANE: N/A WELDS: ✓ SEALING BAR: N/A

TESTED BY: Marsch

Bolting: B7/2H B7M/2HM ^{N/A} L7 L7M

Heat# A08175

Seal Ring: N.S. 14.3 Teflon
N.S. 14.3 HNBR ^{N/A}
N.S. 14.3 Nitrile
O.S Teflon
O.S. Nitrile

N/A " I.D orifice plate

MIQUELON METER SERVICES LTD.

9720 - 54 Avenue
Edmonton, Alberta
T6E 0A9 Canada
Ph: (780) 434-3411
Fax: (780) 435-0334

SINGLE CHAMBER METER RUN HYDRO-TEST

SIZE: 4"ools, 600 yhr 80, Sour, 13237
SERIAL#: N/A WO#: 18020 DATE: Nov 15, 2017

COMPLETE UNIT

PRESSURE: 2220psi START TIME: 12:30pm END TIME: 2:30pm TIME HELD: 2

VISUAL INSPECTION FOR LEAKS

FITTING: N/A DRAIN PLUGS: N/A VANE: N/A WELDS: SEALING BAR: N/A

TESTED BY: Marek

Bolting: B7/2H B7M/2HM ^{N/A} L7 L7M

Heat# A08175

Seal Ring: N.S. 14.3 Teflon
N.S. 14.3 HNBR
N.S. 14.3 Nitrile ^{N/A}
O.S. Teflon
O.S. Nitrile

N/A " I.D orifice plate