



Inspection and Testing Plan Shop Construction Revision 0

Foremost WO: 28978 Tag No. 002-T-08-0118 ^{1118 H}

Client: Devon

Description: 400 bbl Slop Oil Tank

Ref	Activity Description	QC Activity Required	Acceptance Criterion	Verifying Documents	FULP Req.	Duty	FULP	Client Hold Points	Client
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A. Approvals

1.	Drawing approvals	Confirm design and fabrication drawing approvals	Client Approval Stamp	Approved Drawings c/w Client Approval Stamp	D	P E 3P	S. Sept. 1/13	H RV	W
2.	Welding Procedure Approvals	Procedures as per ASME IX	Client Approval Stamp	Approved Procedures c/w Client Approval Stamp	D	P E 3P	S. Sept. 1/13	H RV	W
3.	Welder Qualifications Approvals	Welders per ASME IX	Foremost Welding Examiner signatures	WQR / WOQR (AB-76 A & B)	D	QC 3P	S. Sept. 1/13	RV	W

B. Receipt Inspection

1.	Floor, Roof and Shell Plate	Confirm thickness, Material type, and quantities	Drawings Material- Specification	MTR's and Packing Slips	D I H	QC MR	S. Nov. 19/13	R	W
2.	Pressure Boundary Fabrication Material	Confirm material per P.O.	Drawings Material- Specification	MTR's and Packing Slips	R I D	QC MR	S. Nov. 19/13	R	W

C. In Process Inspection

1.	Floor Layout	Confirm proper layout of floor plate and correct orientation of seams	Floor Layout drawing	Tank Travel Sheet and this ITP	I	QC/F	S. Nov. 19/13	R	W
2.	Floor to Shell Fit-up	Confirm proper radius and joint preparation	General Arrangement drawing	Tank Travel Sheet and this ITP	I	QC/F	S. Nov. 19/13	I	W
3.	Shell Horizontal Seam Fit-up	Confirm proper gap and acceptable alignment	General Arrangement drawing	Tank Travel Sheet and this ITP	I	QC/F	S. Nov. 26/13	I	W

Legend:

Requirements: I - Inspect
W - Witness
H - Hold Point
D - Documents Required
R - Random Inspection
RV - Review

Duty: QC - Quality Control
F - Foreman
E - Engineering
MR - Material Receiver

P - Projects
C - Contractor
3P - Third Party/Client Insp.

Ref	Activity Description	QC Activity Required	Acceptance Criterion	Verifying Documents	FULP Req.	Duty	FULP	Client Hold Points	Client
4.	Shell Vertical Seam Fit-up	Confirm proper gap and acceptable alignment, Verify Seam Orientation	General Arrangement drawing	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 06/13	I	Cf
5.	Orientation of Tank	Confirm orientations are proper & within tolerance Confirm Tank Quarter Marks are permanently marked	General Arrangement drawing	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 26/13	I	Cf
6.	Nozzle Lay-out	Confirm correct nozzle orientation and elevation, Confirm correct nozzle size and if repad req'd	General Arrangement & Nozzle drawings	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 24/13	I	Cf
7.	Nozzle Fit-up	Confirm flange face is two-holed, level & square to tank Confirm proper external & internal projection Confirm repad dimensions Confirm weld joint gap	General Arrangement & Nozzle drawings	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 24/13	I	Cf
8.	External Attachments	Confirm all attachments are in correct location/position	Component drawings	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 27/13	I	Cf
9.	Internal Attachments	Confirm all attachments are in correct location/position Confirm all sharp edges of internal attachments and nozzles have been radiused for coating application	Component drawings	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 27/13	I	Cf
10.	Internal Piping	Confirm all piping components are installed with correct gaskets and full bolting	General Arrangement & Nozzle drawings	Tank Travel Sheet and this ITP	I	QC/F	IS. Nov. 28/13	I	Cf
11.	Painting and Coating	Confirm Sub Supplier conforming to Client Specifications as they apply to their scope of work	Client Specification	Signed off ITP by Sub Supplier	D	P QC	IS. Nov.	I	Cf
12.	Insulation	Confirm Sub Supplier conforming to Client Specifications as they apply to their scope of work	Client Specification	Signed off ITP by Sub Supplier	D	P QC	IS.	I	Cf

Legend:

Requirements: I – Inspect
W – Witness
H – Hold Point
D – Documents Required
R – Random Inspection
RV – Review

Duty: QC – Quality Control
F – Foreman
E – Engineering
MR – Material Receiver

P – Projects
C – Contractor
3P – Third Party/Client Insp.

Ref	Activity Description	QC Activity Required	Acceptance Criterion	Verifying Documents	FULP Req.	Duty	FULP	Client Hold Points	Client
13.	Platform	Verify welders have valid CWB qualifications Verify correct CWB weld procedures are in use Verify correct dimensions Verify weld sizes and suitability for blasting and painting Verify proper fit-up of platform on tank	Component drawings	Tank Travel Sheet and this ITP	I	QC/F	HS. Nov. 28/14	I	GJ

D. NDE

1.	NDE Subcontractor	Confirm NDE procedures and personnel qualifications	API-650 Paragraph 8.1	Subcontractor Personnel Certifications	I	QC 3P	HS. Nov. 1/13	RV	W
2.	Vacuum Test Floor Seams	Vacuum box test floor seams	API-650 Paragraph 7.3.3	Tank Travel Sheet and Test Reports	I D	QC/F	HS. Nov. 29/13	RV	W
3.	Mag Particle Floor to Shell (first pass)	Mag Particle first pass of the internal floor to shell weld prior to welding outside	API-650 Paragraph 7.2.4.1	NDE Reports and this ITP	I D	QC/F	HS. Nov. 15/13	RV	GJ
4.	Mag Particle Floor to Shell (completed internal fillet)	Mag Particle completed internal floor to shell fillet weld for toe cracks.	API-650 Paragraph 8.2 and Devon Specification GS-3410 Paragraph 8.2.5	NDE Reports and this ITP	I D	QC/F	HS. Nov. 29/13	RV	W
5.	Mag Particle Lifting Lugs	Mag Particle completed lifting lug to shell welds	API-650 Paragraph 8.2	NDE Reports and this ITP	I D	QC/F	HS. Nov. 15/13	RV	W
6.	Mag Particle Attachment Welds	Mag Particle 2% of nozzle, repad and attachment welds by welder	API-650 Paragraph 8.2	NDE Reports and this ITP	I D	QC/F	HS. Nov. 29/13	RV	GJ
7.	RT Horizontal and Vertical Shell Seams	Spot RT of Horizontal and Vertical Shell Seams (RT to be performed as soon as possible after weld completion)	API-650 Paragraph 8.1	NDE reports	I D	QC/F	HS. Nov. 29/13	RV	W

Legend:

Requirements: I – Inspect
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Duty: QC – Quality Control
F – Foreman
E – Engineering
MR – Material Receiver

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Ref	Activity Description	QC Activity Required	Acceptance Criterion	Verifying Documents	FULP Req.	Duty	FULP	Client Hold Points	Client
8.	Air Test Nozzle Repads	Air test nozzle repads to 15 psi	API-650 Paragraph 7.3.4	Tank Travel Sheet and Test Reports	I D	QC/F	D. Nov. 29/13	RV	4
9.	Tank Testing	Air / Soap Test tank to 12 ounces	API-12F	Storage Tank Test Report and this ITP	H I D	QC/F	D. Nov. 29/13	H W	4

E. Non Conformities

1.	Closure of Non Conformities	Non-conformities that require the alteration of design or material replacement to be approved by Customer	Foremost QC Manual Section 10	Signed off non-conformance reports NCR Log signed off	H D	QC 3P	D. Nov. 29/14	H RV	4
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F. Documentation

1.	Q.C. Data Review	Review Q.C. documents to ensure all required items are present, completed and acceptable for turn over to Client	Customer and Code requirements	This ITP	H D	QC 3P	4 Nov. 29/14	H RV	4
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G. Final Inspection

1.	Mechanical Assembly Walk Through	Confirm equipment completeness Final dimensional check Confirm no Code, specification or drawing violations	API-650 Fabrication Drawings Client Specifications	Tank Travel Sheet and this ITP	H I D	QC/F 3P	D. Nov. 29/13	H I RV	4
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H. Release

1.	Release and Acceptance	Confirm Tank Release and Acceptance form has been completed and signed by Foremost and Client reps	API-650 Fabrication Drawings Client Specifications	Release and Acceptance form and this ITP	H I D	QC/F 3P	4 Nov. 29/14	H I	4
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Legend:

Requirements: I - Inspect
W - Witness
H - Hold Point
D - Documents Required
R - Random Inspection
RV - Review

Duty: QC - Quality Control
F - Foreman
E - Engineering
MR - Material Receiver

P - Projects
C - Contractor
3P - Third Party/Client Insp.



STORAGE TANK TRAVEL SHEET

Job #: 028978	Client: Devon Canada
Tank Tag #: 002-T-08-1118	Firetube Serial #: N/A
Tank Serial #: 028978-1	Construction Code: API MOD app. F

Inspection Level: 3 H – Hold, I – Inspect, D – Document, W – Witness, R – Review

	Completed By		Foreman Inspection / Hold Point	Foreman Initial and Inspection Date	QC Inspection / Hold Point	QC Initial and Inspection Date
IFC Drawings Confirmed			H	TF Nov 3/13	H	NS Nov 1/13
Weld Procedures			I	TF Nov 3/13	I	NS Nov 1/13
Welder Qualifications			H	TF Nov 3/13	I	NS Nov 1/13
Material Verification			I	TF Nov 3/13	I	NS Nov 13/13
Floor Layout	BP		I	TF Nov 12/13	I	NS Nov 18/13
Floor Weld (Top)	BP		I	TF Nov 12/13	I	NS Nov 12/13
Floor Weld (Bottom)	BP		I	TF Nov 12/13	I	NS Nov 10/13
Floor Vacuum Test c/w Report	NS		H	DP Nov 29	H/D	NS Nov 28/13
Floor to Shell Weld (Internal / External)	KJ / KJ		I	DP Nov 21	I	NS Nov 19/13
Floor To Shell Weld Test c/w Report			H		H/D	
MPI of Floor to Shell Weld (if applicable)					H/D	NS Nov 20/13
Roof Layout (All Nozzles and Attachments)	TF / KJ		I	TF Nov 6/13	I	NS Nov 7/13
Roof Welds (Internal / External)	TF		I	TF Nov 6	I	NS Nov 13/13
Roof To Shell Weld (incl runaround)	TF / KJ		I	TF Nov 6	I	NS Nov 8/13
Vertical Seams	IN	OUT				
1 st Course (Internal / External)	KJ	TF	I	DP Nov 27	I	NS Nov 27/13
2 nd Course (Internal / External)			I	DP Nov 27	I	NS Nov 26/13
3 rd Course (Internal / External)	KJ	KJ	I	TF Nov 4/13	I	NS Nov 26/13
4th Course (Internal / External)			I		I	NS Nov 26/13
Horizontal Seams	IN	OUT				
1 st Seam (Internal / External)	TF	TF	I	DP Nov 27	I	NS Nov 27/13
2 nd Seam (Internal / External)	TF	TF	I	DP Nov 27	I	NS Nov 26/13
3rd Seam (Internal / External)			I		I	



STORAGE TANK TRAVEL SHEET

Job #:	028978	Client:	Devon Canada
Tank Tag #:	002-T-08-1118	Firetube Serial #:	N/A
Tank Serial #:	028978-1	Construction Code:	API MOD app. F

	Completed By	Foreman Inspection / Hold Point	Foreman Initial and Inspection Date	QC Inspection / Hold Point	QC Initial and Inspection Date
Tank Strapping	TF	I		I	DS. Nov. 15/13
Nozzle Orientations & Elevations	TF / KJ	H	TF Nov 15/13	H	DS. Nov. 21/13
Nozzle Fit Up	TF / KJ	I	TF Nov 18/13	I	DS. Nov. 21/13
Nozzle Ratings & Schedule	TF	I	TF Nov 3/13	I	DS. Nov. 21/13
Nozzle & Repad Welds	TF / KJ / MR	I	TF Nov 20/13	I	DS. Nov. 28/13
Nozzle Repad Test c/w Report	NS	I		I / D	DS. Nov. 29/13
Firetube Installation - bolting & gasket (if applicable)					
Firetube Test Report on File (if applicable)				I / D	N/A
External Attachment Orientations & Elevations	TF	I	TF Nov 15/13	I	DS. Nov. 27/13
External Attachment Welds	TF / KJ	I	TF Nov 26/13	I	DS. Nov. 27/13
Ladder Installation	KJ / MR	I	TF Nov 20/13	I	DS. Nov. 29/13
Platform Installation	TF / KJ	I	TF Nov 14/13	I	DS. Nov. 29/13
Internal Piping & Supports Orientation and Elevations	KJ	I	TF Nov 26	I	DS. Nov. 29/13
Internal Piping Studs, Nuts, Gaskets & Support Welds	KJ	I	TF Nov 26	I	DS. Nov. 29/13
Welder I.D. Marked		I	DP Nov 29	I	DS. Nov. 29/13
Nameplate Data				I	DS. Nov. 29/13
Nameplate Installation				I	DS. Mar. 17/14
Final Visual and Completion Inspection Prior to Air Testing		H / I	DP Nov 29	H / I / D	DS. Nov. 29/13
NCR's Rectified				I / D	DS. Nov. 29/13
Heat #'s Recorded				I / D	DS. Nov. 29/13
Radiograph and NDE Reports on File (Tank and Firetube)				I / D	DS. Nov. 29/13
Air Test or Hydro Test c/w Report	TF	H / W	DP Nov 29	H / W / D	DS. Nov. 29/13
All Data Package Requirements and ITP Completed and on File.				I / D	DS. Dec.
Release Completed and Signed				H / D	DS. Mar 29/14



INSPECTION GROUP INC.

devon

2836 Ellwood Dr., Edmonton, AB, Canada, T6X 0A9, Phone: (780) 450-8883 Fax: (780) 450-8884, projects@mtlinspection.com

INSPECTION RELEASE REPORT

MTL Job No.	2899-10	Release No.	001
Devon PO#	4100001170 / FE-CPF-M005	WBS No.	01-00348.01.01.03
Project	Ferrier Central Processing Facility	Location / LSD	Ferrier - CPF LSD: 11-02-39-08 W5M
Client Project Engineer	TBA - Engineer Shane Usipuk - QA Lead Amrik Dhaliwal - Expeditor	Phone	TBA - 403-232-7497 Shane.usipuk@devn.com 403-776-6435 Amrik.dhaliwal@devn.com
Vendor	Foremost Universal - Lloydminster, AB	Vendor Job No.	28978
Vendor Primary Contact	Shane Buray	Phone	403-266-4556
Equipment	(1) 400BBL Slop Tank	Tag No.	002-T-08-1118
Carrier		Trailer No.	
Packing Slip No.		Waybill No.	

Rev #	Inspection	Shipping	Details	Date	Inspector	Vendor
0	☒	☐	(1) 400 BBL TANK w/ LADDER, SCALES, PLATFORM SHIPPED LOOSE	MAR 23/14	CP	x AL
1	☐	☐				
2	☐	☐				
3	☐	☐				

Description of Material or Equipment

(1) 400 BBL TANK w/ LADDER, SCALES, PLATFORM, CRATE OF SHIPPED LOOSE PARTS.

	Yes	No	N/A
Shop Release The Vendor Quality Control shall ensure that all Non-Conformance Reports are signed off if applicable.	X		
Shop Release The Vendor Quality Control shall ensure that all the documentation is forwarded to the site with the completed equipment.	X		
Shop Release The Client Representative shall witness equipment loading and tie down and will verify that any loose material to be installed at site is secured for transport.	X		
Shop Release The Vendor shall ensure all packaging, markings and shipping preparations are in compliance with Devon specifications, purchase order, notes and attachments.	X		

Deficiency Items if Applicable

☐ Attached ☐ N/A Comments:

CJ Prichard
Inspector

[Signature]
Signature

MAR 28/14
Date

780-220-5705
Phone

prichard@mtl.com
E-Mail

[Signature]
Vendor Quality Representative

[Signature]
Signature

MAR 28/14
Date

780-871-6171 ben.reed@foremost.ca
Phone E-Mail



INSPECTION GROUP INC.

2836 Ellwood Drive S.W. Edmonton, AB T6X 0A9
Office: (780) 450-8883 Fax: (780) 450-8884
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Page 1 OF 1
Job # 2899.9/10 Date MAR. 24/14
Client DEVON CANADA
Shop FOREMOST - LLOYD MAVORER
Shop Job # 28977 & 28978

ACTION ITEM REPORT

VENDOR REPRESENTATIVE SIGN OFF DATE

28977 & 28978

- | ACTION ITEM REPORT | VENDOR REPRESENTATIVE | SIGN OFF DATE |
|--|-----------------------|---------------|
| 1) GRATING INSTALLED INTO PLATFORMS - BOTH TANKS
↳ THE PAINT BY GATES | ✓ | MAR 28/14 |
| 2) INSTALL SS TAGS ONTO PLATFORM & LADDERS - BOTH | ✓ | MAR 28/14 |
| 3) BOSS ON MANWAY COVERS AFTER INTERVALS INSTALLED
CHECKED BY WRITER - BOTH | ✓ | MAR 28/14 |

28978

- | | | |
|---|---|-----------|
| 4) INSTALL TWO DOWNCOMERS C/W STUDS/NUTS/WASERS
F SS LADDERS | ✓ | MAR 28/14 |
| 5) INSTALL GAUGE HEAD FLOAT AND CABLES INSIDE | ✓ | MAR 28/14 |

28977

- | | | |
|--|---|-----------|
| 6) INSTALL ONE MORE U-BOLT SUPPORT ON
HEAT COIL | ✓ | MAR 28/14 |
| 7) INSTALL GAUGE HEAD FLOAT AND CABLES INSIDE | ✓ | MAR 28/14 |

MTL REPRESENTATIVE: CJ PRICHARD

DATE: MAR. 24/14

VENDOR REPRESENTATIVE: Norm Lander

DATE: MAR. 24/14

ANY OMISSION OR FAILURE ON PART OF THE INSPECTOR TO DISAPPROVE OR REJECT ANY WORK OR MATERIALS SHALL NOT BE CONSTRUED AS ACCEPTANCE OF ANY DEFECTIVE WORK OR MATERIALS

**FABRICATED BY
FOREMOST UNIVERSAL LP**

APPENDIX

APP. F

EDITION / ADDENDA

YEAR COMPLETED

2013

NOMINAL DIAMETER

12

NOMINAL HEIGHT

20

NOMINAL CAPACITY

400 BBL

FLOOR THICKNESS

.313

ROOF THICKNESS

.188

SHELL COURSE 1

.25

COURSE 2

.188

DESIGN PRESSURE

8P .5V

DESIGN TEMPERATURE

200 F

DESIGN S.G.

1

PARTIAL STRESS RELIEF

DESIGN LIQUID LEVEL

20

SERIAL NO.

28978-1

PURCHASER'S TANK NO.

002-T-08-1118

COURSE 3

.188

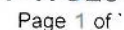
COURSE 4

N/A

COURSE 5

N/A





Job / P.O. #: 028978 IRISNDT #: 173284 Date: 29-Nov-13
Client: FOREMOST WEST
Location: LLOYDMINSTER, ALBERTA
Item Inspected: Tank 1/4" THK Material: P1

Q

Number of Radiation Barrier Warning Signs Returned: 6

IRIS Procedure: Single Wall Exposure: RT 1, 2, 2A, 6, 7 Double Wall Exposure: RT 3, 3A, 4, 5, 8	S.O.D. = Source-to-object distance (D) O.F.D. = Source-object distance (D in T-274.1)	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity	EUC - External Undercut IUC - Internal Undercut HB - Hollow Bead IP - Incomplete Penetration S - Slag	IC - Internal Concavity LF - Lack of Fusion LC - Low Cover MA - Misalignment
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Film Quantity		
1	$(4 \frac{1}{2} \times 8 \frac{1}{2})$	D5
4	$(3 \frac{1}{2} \times 8 \frac{1}{2})$	D5

Interpretation by:
ART STREET

SNT-TC-1A

(Print) _____

C.G.S.B.

(Level) _____

(Signature) _____

C.G.S.B. # 12882

Client Representative

(Print) BEN REED

I am in full agreement with report contents

(Sign) Norman Taubman

Deer Park, TX (281) 476-4444
Matrix, Houston, TX (713) 722-7177
Tulsa, OK (918) 446-8773



MAGNETIC PARTICLE INSPECTION REPORT

MT-173139-01

Page 1 of 1

Procedures: MT 2V, PROC 5.0

Code: API-650 SEC.8.2.4.

Job / P.O. #: WO# 28978

IRISNDT #: 173139

Date: 15-Nov-13

Client: FOREMOST WEST

Location: LLOYDMINSTER ; AB.

Item Inspected: SN# 028978-1

Surface Condition: Painted ☐ Sandblasted ☐ Machined ☐ As Cast ☐ As Forged ☐ Weldment ☒ Other ☐

Material: P1

Thickness: N/A

Heat Treatment: AS WELDED

Magnetizing Equipment: Yoke ☒ Coil ☐ Prod ☐Bench: Headshot ☐ Central Conductor ☐ Coil ☐

IRISNDT #: 40099

Mfg: CONTOUR PROBE

Calibration Date: 30-Oct-13

Blacklight: ☐

IRISNDT #: N/A

Mfg:

Calibration Date: --13

☐

Verification per ASME V Art 7 T.777.2

Whitelight:

Battery Powered Min. 3V
110V Power Min. 60W Bulb☒ }
☒ }Held within 30 cm (12in) of the inspection surface
provides minimum 1000 Lx (100fc)Method of Magnetization: AC ☒ DC ☐ Continuous ☒ Residual ☐Magnetic Particles: Dry ☐ Wet ☒Red ☐ Grey ☐ Black ☒ Fluorescent ☐

Batch #: 301-12

Mfg: MAGNAFLUX

Type: 7C

Background: ☒

Batch #: 1272

Mfg: ARDROX

Type: 8901W

**A MAGNETIC PARTICLE EXAMINATION WAS CARRIED OUT, AS REQUESTED, ON THE FIRST PASS OF INTERNAL FLOOR TO SHELL
FILLET WELD.****RESULTS: ACCEPTABLE TO CODE.**REQ. BEN REED @ FOREMOST WEST
CLIENT: DEVON**Inspection Limitation(s):**

Unit#: 418 Kilometers: N/C

In: 0700 Out: 0800 Hrs: 1.0

In: Out: Hrs:

Personnel:

RANDY TRADEWELL
AMANDA DEWOLFEConsumables:
MIN.Interpretation by:
RANDY TRADEWELL

SNT-TC-1A 2

(Print)

C.G.S.B. 2

(Level)

C.G.S.B. # 5357

(Signature)

Client Representative:

(Print) BEN REED

I am in full
agreement with
report contents

(Sign)

NOV 15 2013

5311 - 86 Street Edmonton, Alberta, T6E 5T8 Phone: (780) 437-2022 Fax: (780) 438-1436

Calgary
Lloydminster
Sarnhead
Nisku(403) 279-8121
(780) 875-6455
(780) 674-3018
(780) 955-7618Cold Lake
Fort McMurray
High Level
Red Deer
Medicine Hat(780) 594-1114
(780) 743-1536
(780) 956-4064
(403) 347-1742
(403) 427-6284Corpus Christi, TX
Deer Park, TX
Matrix, Houston, TX
Texas City, TX
Tulsa, OK(361) 888-4700
(281) 476-4444
(713) 722-7177
(409) 945-2262
(918) 446-8773

IRISNDT E-2003F



MAGNETIC PARTICLE INSPECTION REPORT

MT-173139-03

Page 1 of 1

Procedures: MT 2V, PROC 5.0

Code: API-650 SEC.8.2.4.

Job / P.O. #: WO# 28978

IRISNDT #: 173139

Date: 15-Nov-13

Client: FOREMOST WEST

Location: LLOYDMINSTER ; AB.

Item Inspected: SN# 028978-1

Surface Condition: Painted ☐ Sandblasted ☐ Machined ☐ As Cast ☐ As Forged ☐ Weldment ☒ Other ☐

Material: P1

Thickness: N/A

Heat Treatment: AS WELDED

Magnetizing Equipment: Yoke ☒ Coil ☐ Prod ☐

IRISNDT #: 40099

Bench: Headshot ☐ Central Conductor ☐ Coil ☐

Mfg: CONTOUR PROBE

Calibration Date: 30-Oct-13

Blacklight: ☐

IRISNDT #: N/A

Mfg:

Calibration Date: - -13

☐

Verification per ASME V Art 7 T.777.2

Whitelight:

Battery Powered Min. 3V
110V Power Min. 60W Bulb☒ }
☒ }Held within 30 cm (12in) of the inspection surface
provides minimum 1000 Lx (100fc)Method of Magnetization: AC ☒ DC ☐ Continuous ☒ Residual ☐Magnetic Particles: Dry ☐ Wet ☒

Batch #: 301-12

Red ☐ Grey ☐ Black ☒ Fluorescent ☐

Mfg: MAGNAFLUX

Type: 7C

Background: ☒

Batch #: 1272

Mfg: ARDROX

Type: 8901W

A MAGNETIC PARTICLE EXAMINATION WAS CARRIED OUT, AS REQUESTED, ON 2 ROOF LIFTING LUGS.

RESULTS: ACCEPTABLE TO CODE.

REQ. BEN REED @ FOREMOST WEST

CLIENT: DEVON

Inspection Limitation(s):

Unit#: 418

Kilometers: N/C

In: 0930 Out: 1000 Hrs: .5

In: Out: Hrs:

Personnel:

RANDY TRADEWELL
AMANDA DEWOLFEConsumables:
MIN.Interpretation by:
RANDY TRADEWELL

(Print)

(Signature)

Client Representative:

(Print) BEN REED

I am in full
agreement with
report contents

(Sign)

SNT-TC-1A 2

C.G.S.B. 2

(Level)

C.G.S.B. # 5357

NOV 15 2013

5311 - 86 Street Edmonton, Alberta, T6E 5T8 Phone: (780) 437-2022 Fax: (780) 438-1436

Calgary
Lloydminster
Barrhead
Nisku(403) 279-6121
(780) 875-8455
(780) 874-3018
(780) 955-7516Cold Lake
Fort McMurray
High Level
Red Deer
Medicine Hat(780) 594-1114
(780) 743-1536
(780) 956-4064
(403) 347-1742
(403) 427-6284Corpus Christi, TX
Deer Park, TX
Matrix, Houston, TX
Texas City, TX
Tulsa, OK(361) 888-4700
(281) 476-4444
(713) 722-7177
(409) 945-2262
(918) 446-8773

IRISNDT E-2003F



MAGNETIC PARTICLE INSPECTION REPORT

MT-173194-01

Page 1 of 1

Procedures: MT 2V (5.15.2)

Code: API 650

Job / P.O. #: SEE BELOW

IRISNDT #: 173194

Date: 20-Nov-13

Client: FOREMOST WEST

Location: LLOYDMINSTER, ALBERTA

Item Inspected: floor to shell

Surface Condition: Painted ☐ Sandblasted ☐ Machined ☐ As Cast ☐ As Forged ☐ Weldment ☒ Other ☐

Material: 38W

Thickness: STD

Heat Treatment: NA

Magnetizing Equipment: Yoke ☒ Coil ☐ Prod ☐

IRISNDT #: 40118

Bench: Headshot ☐ Central Conductor ☐ Coil ☐

Mfg: CONTOUR PROBE

Calibration Date: 01-Mar-13

Blacklight: ☐

IRISNDT #: N/A

Mfg:

Calibration Date: -Jan-11

☐

Verification per ASME V Art 7 T.777.2

Whitelight:

Battery Powered Min. 3V
110V Power Min. 60W Bulb☒ }
☐ }Held within 30 cm (12in) of the inspection surface
provides minimum 1000 Lx (100fc)Method of Magnetization: AC ☒ DC ☐ Continuous ☒ Residual ☐Magnetic Particles: Dry ☐ Wet ☒

Batch #: 1285-33

Red ☐ Grey ☐ Black ☒ Fluorescent ☐

Mfg: Magnaflux

Type: 7C

Background: ☒

Batch #: 1284

Mfg: ARDROX

Type: 8901W

A 100% wet black magnetic particle inspection was carried out on finished floor to shell fillet welds inside only

S/N: 028978-1

Welder ID: KJ

RESULTS: ACCEPTABLE TO CODE

REQ: Ben Reed

WO#028978

Client: Devon Canada

Inspection Limitation(s):

Unit#: 329 Kilometers: N/A

In: 0700 Out: 0800 Hrs: 1.0

In: Out: Hrs:

Personnel:

DANIELLE LERICHE
Amanda DeWolfeConsumables:
MINInterpretation by:
DANIELLE LERICHE

SNT-TC-1A

II

C.G.S.B.

II

(Print)

C.G.S.B. #

13551

Client Representative:

(Print)

I am in full
agreement with
report contents

(Sign)

NOV 20 2013

5311 - 86 Street Edmonton, Alberta, T6E 5T8 Phone: (780) 437-2022 Fax: (780) 438-1436

Calgary
Lloydminster
Banhead
Nisku(403) 279-6121
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(780) 674-3018
(780) 955-7616Cold Lake
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(780) 743-1536
(403) 347-1742Deer Park, TX
Matrix, Houston, TX
Tulsa, OK(281) 476-4444
(713) 722-7177
(918) 448-8773

CUSTOMER COPY

IRISNDT E-2003F



MAGNETIC PARTICLE INSPECTION REPORT

MT-173288-04
Page 1 of 1

Procedures: MT 2V PROCEDURE(5.15.2)
Code: API 650(3.2.4)

Job / P.O. #: SEE BELOW
Client: FOREMOST WEST
Location: LLOYDMINSTER, AB
Item Inspected: PERCENTAGE WELDS.

IRISNDT #: 173288

Date: 29-Nov-13

Surface Condition: Painted ☐ Sandblasted ☐ Machined ☐ As Cast ☐ As Forged ☐ Weldment ☒ Other ☒

Material: 38W

Thickness: 1/4"

Heat Treatment: N/A

Magnetizing Equipment: Yoke ☒ Coil ☐ Prod ☐ Bench: Headshot ☐ Central Conductor ☐ Coil ☐
IRISNDT #: 40118 Mfg: CONTOUR PROBE Calibration Date: 05-Sep-13

Blacklight: ☐ IRISNDT #: N/A Mfg: N/A Calibration Date: -Jan-11
☐ Verification per ASME V Art 7 T.777.2

Whitelight: Battery Powered Min. 3V ☒ } Held within 30 cm (12in) of the inspection surface
110V Power Min. 60W Bulb ☐ } provides minimum 1000 Lx (100fc)

Method of Magnetization: AC ☒ DC ☐ Continuous ☒ Residual ☐

Magnetic Particles: Dry ☐ Wet ☒ Red ☐ Grey ☐ Black ☒ Fluorescent ☐
Batch #: 1242 Mfg: MAGNAFLUX Type: 7C

Background: ☒ Batch #: 1310 Mfg: ARDROX Type: 8901W

A wet black magnetic particle inspection was carried out as requested on 2% of external attachment welds, nozzle welds and repad welds.

RESULTS: ACCEPTABLE TO CODE.

9P

W.O# 028978-1
S/N# 28978-1
DEVON

Inspection Limitation(s):

Unit#: 601 Kilometers: N/C
In: 01030 Out: 1130 Hrs: 1.0
In: Out: Hrs:

Personnel:

STEPHEN BRYAN / STEVE WOOLFREY

Consumables:
min

Interpretation by:
STEPHEN BRYAN

(Print)

(Signature)

Client Representative:

I am in full
agreement with
report contents

(Sign)

SNT-TC-1A 2
C.G.S.B. 2
(Level)
C.G.S.B. # 12459

Norm Saulnier
Norm Saulnier



FLOOR VACUUM TEST REPORT

Foremost Job #:	028978	Company:	Devon Canada
Tank Tag #:	002-T-08-1118	Location:	Foremost West
Tank Serial #:	028978-1		
Prepared by:	Norm Saulnier	Date:	Sept 18/13

TEST INSTRUCTION

DIAMETER:	12'6"		
TEST PRESSURE :	35kpa		
TESTING MEDIUM:	Air /Soap Solution	AMBIENT TEMP.:	
ADDITIONAL REQUIREMENTS:			

FINAL WELDING CHECK

All floor welds to be 100% visually checked prior to final testing.			
CONFIRMED BY:	Norm Saulnier	DATE:	Nov. 29/13

TEST RECORD

INSPECTION PRESSURE:	35kpa		
RESULT:	Pass		
TESTING MEDIUM:	Air /Soap Solution	AMBIENT TEMP.:	Ambient
PRESSURIZING UNIT USED: Vacuum Pump			
PRIMARY GAUGE SERIAL #:			
COMMENTS:	No leaks		
FOREMOST REP. (print)		DATE	
FOREMOST Q.C. (print) Norm Saulnier		DATE Nov. 29/13	
CUSTOMER REP (print) G. Pritchard		DATE Nov 29/13.	



NOZZLE REPAD TEST REPORT

W.O. # 028978SERIAL # 028978-1TANK / VESSEL TAG # 002-T-08-1118

Nozzle No. & Size (NPS)	Test Pressure (actual)	Results	Initial of Tester	Date
N1 NPS 3"	15psi	Pass	NS	Nov. 29/13
N2 NPS 3"	15psi	Pass	NS	
N3 NPS 3"	15psi	Pass		
N10 NPS 3"	15psi	Pass		
N14 NPS 3"	15psi	Pass		
N21 NPS 4"	15psi	Pass		
N22 NPS 4"	15psi	1 leak found - repaired		
N23 NPS 4"	15psi	Pass		
N24 NPS 4"	15psi	Pass		
N28 NPS 12"	15psi	Pass		
M1 2'x 3'	15psi	2 leaks found - repaired		
M2 NPS 24"	15psi	Pass		

All nozzle repads have been tested as per project requirements. Any noted repairs have been completed and retested.

Foremost Rep. (print) Norm SaulnierDate Nov. 29/13Customer Rep. (print) W. P. CHARTERDate Nov 29/13



STORAGE TANK TEST REPORT

Foremost Job #:	028978	Company:	Devon Canada
Tank Tag #:	002-T-08-1118	Location:	
Tank Serial #:	028978-1	Firetube Serial #:	N/A
Prepared by:	Norm Saulnier	Date:	Sept 18/13
TEST INSTRUCTION			
Diameter:	12'	Height:	20'
Volume:	400 Bbl		
Test Pressure :	12 oz.	Holding Time:	Duration of Test
Testing Medium:	Air/Soap Solution	Ambient Temp:	
Additional Requirements:			
FINAL DRAWING CHECK			
All nozzle and attachment projections, orientations and elevations to be checked prior to final testing. Confirmed by: <i>Norm Saulnier</i> Date: <i>Nov. 29/13</i>			
TEST RECORD			
Inspection Pressure:	12 oz	Holding Time:	Duration of Test
Inspection Result:	<i>Pass</i>		
Testing Medium:	Air/ Soap Solution	Ambient Temp:	<i>in Shop</i>
Pressurizing Unit Used:	Shop Compressor		
Primary Gauge Serial #:			
Comments:	<i>No leaks</i>		
Heat #'s: Floor -			
Shell -			
Roof -			
FOREMOST Rep:	DATE:		
Customer Rep:	<i>Q. Pichay</i>	DATE:	<i>Nov 29/13.</i>
FOREMOST QC:	<i>Norm Saulnier</i>	DATE:	<i>Nov. 29/13</i>



STORAGE TANK TRAVEL SHEET

Job #:	028978	Client:	Devon Canada
Tank Tag #:	002-T-08-1118	Firetube Serial #:	N/A
Tank Serial #:	028978-1	Construction Code:	API MOD app. F

	ITEM	THICKNESS	MATERIAL	HEAT NUMBER
1	Roof Plate	3/16"	38W	NW0918
2	3 rd Course	3/16"	38W	NT8291
3	2 nd Course	3/16"	38W	NT8291
4	1 st Course	1/4"	38W	NW2889
5	Floor Plate	5/16"	38W	NW8938
6	N1 Nozzle Pipe NPS 3"	XS	SA 333 GR6	1160495
7	N2 Nozzle Pipe NPS 3"	XS	SA 333 GR6	1160495
8	N3 Nozzle Pipe NPS 3"	XS	SA 333 GR6	1160495
9	N5 Nozzle Pipe NPS 2"	XS	SA 333 GR6	1126428V
10	N6 Nozzle Pipe NPS 4"	std	SA-106-B	1330968V
11	N7 Nozzle Pipe NPS 2"	std	SA-106-B	216844
12	N8 Nozzle Pipe NPS 3"	std	SA-106-B	1322874
13	N9 Nozzle Pipe NPS 2"	std	SA-106-B	216844
14	N10 Nozzle Pipe NPS 3"	XS	SA 333 GR6	1160495
15	N11 Nozzle Pipe NPS 4"	std	SA-106-B	1330968V
16	N12 Nozzle Pipe NPS 2"	std	SA-106-B	216844
17	N13 Nozzle Pipe NPS 2"	XS	SA 333 GR6	1126428V
18	N14 Nozzle Pipe NPS 3"	XS	SA 333 GR6	1160495
19	N15 Nozzle Pipe NPS 2"	XS	SA 106-B	1323280V
20	N16 Nozzle Pipe NPS 2"	XS	SA-106-B	1323280V
21	N17 Nozzle Pipe NPS 2"	XS	SA 333 GR6	1126428V
22	N18 Nozzle Pipe NPS 3"	std	SA-106-B	1322874
23	N19 Nozzle Pipe NPS 8"	std	SA-106-B	1231594V
24	N20 Nozzle Pipe NPS 2"	std	SA 333 GR6	1126428V
25	N21 Nozzle Pipe NPS 4"	XS	SA 333 GR6	310124
26	N22 Nozzle Pipe NPS 4"	XS	SA 333 GR6	310124
27	N23 Nozzle Pipe NPS 4"	XS	SA 333 GR6	310124
28	N24 Nozzle Pipe NPS 4"	XS	SA 333 GR6	310124
29	N26 Nozzle Pipe NPS 2"	XS	SA 333 GR6	1126428V
30	N28 Nozzle Pipe NPS 12"	XS	SA 333 GR6	302781
31	N29 Nozzle Pipe NPS 2"	std	SA-106-B	216844
32	N30 Nozzle Pipe NPS 6"	std	SA-106-B	527371
33	N31 Nozzle Pipe NPS 3"	XS	SA 333 GR6	1160495
34	N32 Nozzle Pipe NPS 2"	std	SA-106-B	216844

STORAGE TANK TRAVEL SHEET

Job #:	028978	Client:	Devon Canada
Tank Tag #:	002-T-08-1118	Firetube Serial #:	N/A
Tank Serial #:	028978-1	Construction Code:	API MOD app. F

72	N22 Repad	1/4"	38W	NW6735
73	N23 Repad	1/4"	38W	NW6735
74	N24 Repad	1/4"	38W	NW5089
75	N28 Repad	1/4"	38W	NW0293
76	M1 Repad	1/4"	38W	NW9384
77	M2 Repad	1/4"	38W	NW9384
78	M1 Plate	1/4"	38W	A3F065
79	M1 Cover Plate	1/4"	38W	NW9384
80	M2 Nozzle Pipe	1/4"	38W	NW8640
81	M2 Flange Plate	1/4"	38W	NW8640
82	Tailing Lug repad	5/8"	SA-516-70	4492M
83	Anode Support Repad	1/4"	38W	NW9403

Roof Pup Nozzle Flanges

84	N6 4"150 RFWN	std	SA-105	10983
85	N7 2"150 RFWN	std	SA-105	1131V3
86	N8 3"150 RFWN	std	SA-105	737 & 4287/12
87	N9 2"150 RFWN	std	SA-105	1131V3
88	N11 4" 150 FFWN	std	SA-105	12/35152 & 10983
89	N12 2" 150 RFWN	std	SA-105	38305 & 10003873
90	N18 3" 150 RFWN	std	SA-105	737 & 4287/12
91	N29 2" 150 RFWN	std	SA-105	1131V3
92	N30 6" 150 RFWN	std	SA-105	12/34072 & H4120
93	N32 2' 150 RFWN	std	SA-105	1131V3

Note : Pipe for roof pups is the same heat # as nozzle pipe



EVRAZ INC. NA

EVRAZ Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

HTNW0914/NW0918

REPORT OF CHEMICAL/PHYSICAL TESTS

Stock PRF 3108

CERTIFICATE NO.	DATE	PAGE
1153134	Apr 26, 2011	2
MILL ORDER NO.	DATE	
242526		
CUSTOMER ORDER NO.		
95389		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1153134	04/26/2011	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
BLUE		

ISO 9001

REGISTERED

U.S. PLATE PRODUCER

SOLD TO

UNIVERSAL INDUSTRIES
5014 65TH STREET
LLOYDMINSTER, ALBE T9V 2K2
CANADA

UNIVERSAL INDUSTRIES
5014 65TH STREET
LLOYDMINSTER, ALBE T9V 2K2
CANADA

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
STRUCTURAL QUALITY PLATE CSA G21-04 CSA G40.21-04 GRADE 38W (260W) / 44W (300W)
ASTM A36-08 MEETING MATERIAL REQUIREMENTS OF API 650. KILLED FINE GRAIN
PRACTICE.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
2	0.1875 X 96.000 X 288.000									
	8 PCS 11760 LBS	NW0914		640	780	18				
				510	720	23				
				510	705	42				
				560	710	28				
	13 PCS 19110 LBS	NW0918		645	800	22				
				464	680	29				
				570	700	30				
				492	695	26				
	33 PCS 54390 LBS TOTALS									

ASME VIII, DIVISION 1
EDITION 1
ADDENDUMUniversal
Entered Receipt
into Visual
MAY 09 2011

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	McQuill Bm Grain Size
NW0914	.14	.87	.012	.009	.23	.02	.05	.011	.005	.035	.02	.00	.002		.0050			
NW0918	.13	.85	.009	.008	.25	.01	.05	.003	.005	.037	.03	.00	.002		.0059			
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (-) WERE ROLLED IN THE USA.																		
..... END OF REPORT																		

I certify the above to be correct as contained in the records of EVRAZ INC. NA

By

QUALITY COORDINATOR

Plate 3/6 x 98' x 32' 38/44w

HT NT 8288 ; NT 8291 ; NT 8293

57015

PRY 7132

(2,3)

EVRAZ

EVRAZ INC. NA

Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

	S O L D T O	UNIVERSAL INDUSTRIES 5014 65TH STREET LLOYDMINSTER, ALBE T9V 2K2 CANADA	UNIVERSAL INDUSTRIES 5014 65TH STREET LLOYDMINSTER, ALBE T9V 2K2 CANADA
		CERTIFICATE NO. 1124841 DATE Nov 16, 2010 PAGE 1	
		MILL ORDER NO. 237941 DATE	
		CUSTOMER ORDER NO. PO-091318	
		JOB REQ NO.	
SHIPPING NO. 1124841 DATE 11/16/2010		CARRIER BURLINGTON NORTHERN	
		CANTERBOX NO. WHITE	

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
 STRUCTURAL QUALITY PLATE CSA G21-04 CSA G40.21-04 GRADE 38W (260W) / 44W (300W)
 ASTM A36-08 MEETING MATERIAL REQUIREMENTS OF API 650. KILLED FINE GRAIN PRACTICE

PHYSICAL PROPERTIES

REMARK	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
4	0.1875 X 98.000ME X 384.000 SCHEDULE B:7208.52.00.00 PT# 7132									
	8 PCS 16008 LBS	^ NT8288		471	660	28				
	7 PCS 14007 LBS	→ NT8291		476	670	28				
				489	670	29				
	7 PCS 14007 LBS	^ NT8293		505	685	29				
				540	705	32				
	22 PCS 44022 LBS TOTALS									



ASME VIII, DIVISION 1
 EDITION _____
 ADDENDA _____

**Universal
 Entered Receipt
 into Visual**

NOV 18 2010

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	REMARKS (Per Group 6.16)
NT8288	.14	.87	.011	.008	.29	.01	.94	.005	.005	.033	.02	.00	.002		.0041			
NT8291	.14	.88	.012	.009	.28	.01	.84	.009	.005	.038	.02	.00	.002		.0043			
NT8293	.14	.87	.011	.008	.31	.01	.05	.007	.005	.036	.02	.00	.002		.0059			

HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (✓) WERE ROLLED IN THE USA.

..... END OF REPORT

QUALITY COORDINATOR

I certify the above to be correct as contained in the records of EVRAZ INC. NA By _____

Test Certificate

8250 130th Street, Surrey, BC, V3W 8J9

Form TC1: Revision 1: Date 31 Oct 2000

Customer: CORLAC INDUSTRIES P.O. BOX 10050 LLOYDMINSTER AB T9V3A2	Customer P.O. No.: 112088	Mill Order No.: 41-243639-02	Shipping Manifest : ST049084
	Product Description: CSA G40.21(2004)44/300/38W;ASTM A36(04) A709(01A)36/ASME SA36(01ED) CSA G40.21(2004)260W (API PLATES)		Ship Date: 18 Jan 12 Cert Date: 18 Jan 12
	Size: 0.250 X 96.00 X 576.0 (IN)		Cert No: 011134660 (Page 1 of 1)

Tested Pieces				Tensiles						Charpy Impact Tests													
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS	UTS	%RA	Elong %		Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT	
				(PSI)	(PSI)		2in	8in			1	2	3	Avg	1	2	3	Avg				Tmp	%Shr
NW2889	A82784AA	0.250 X 96.00 (CUT)	L	57000	74000		30		T														
NW2902	A82785AA	0.250 X 96.00 (CUT)	C	52000	73000		27		T														
			L	54000	72000		28		T														
NW2904	A82783AA	0.250 X 96.00 (CUT)	C	51000	71000		33		T														
			L	59000	76000		27		T														
NW2905	A82792AA	0.250 X 96.00 (CUT)	C	54000	74000		29		T														
			L	56000	73000		29		T														
			C	56000	74000		26		T														

Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N		
NW2889	.13	.90	.012	.005	.26	.049	.01	.05	.02	.00	.005	.007	.003	.0000	.0036		CAN
NW2902	.14	.87	.013	.008	.22	.041	.02	.05	.03	.00	.005	.007	.002	.0000	.0045		CAN
NW2904	.14	.87	.011	.008	.23	.039	.02	.05	.03	.00	.005	.007	.003	.0000	.0063		CAN
NW2905	.14	.88	.010	.006	.23	.034	.02	.05	.02	.00	.005	.005	.002	.0000	.0042		CAN

FINE GRAIN, ALLOYS PER API 650 (98/05) TBL2-1

MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL

* NW2905	A82792AA	PCES: 1, WGT: 3920	* NW2904	A82783AA	PCES: 3, WGT: 11761
* NW2889	A82784AA	PCES: 3, WGT: 11761	* NW2902	A82785AA	PCES: 8, WGT: 31363



ASME VIII, DIVISION 1
 EDITION 10
 ADDENDA 11

(U) Cust Part # :

WE HEREBY CERTIFY THAT THIS MATERIAL
 WAS TESTED IN ACCORDANCE WITH THE
 APPROPRIATE SPECIFICATION

Greg Balsdon
 CHECKED BY

EVRAZ

EVRAZ INC. NA
Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203



SOLD TO

FOREMOST UNIVERSAL LP
6614 50TH AVE
LLOYDMINSTER, AB T9V 2K2
CANADA

Plate 5/16" x 8'-2" x 24' SA36
(NW8938, NW9293)

STOCK

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1318667	Jul 31, 2013	1
MILL ORDER NO.	DATE	
267280		
CUSTOMER ORDER NO.		
PO-145003		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1318667	07/31/2013	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
WHITE		

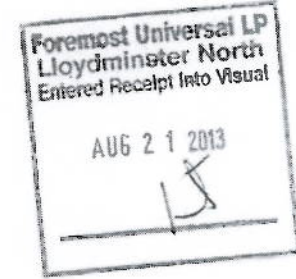
THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
STRUCTURAL QUALITY PLATE CSA G21-04 CSA G40.21-04 GRADE 260W (38W)/300W (44W)
ASTM A36-08. ASME SA36-2010/ 11ADD. MEETING MATERIAL REQUIREMENTS OF API650 GR
III. KILLED FINE GRAIN PRACTICE.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
1	0.2500 X 98.000 X 288.000 SCHEDULE B:7208.52.00.93									
	11 PCS 22011 LBS	^ NW9295		590 595	745 745	27 27				
	7 PCS 14007 LBS	^ NW9374		605	770	27				
	3 PCS 6003 LBS	^ NW9383		590	765	25				
3	0.3125 X 98.000 X 288.000 SCHEDULE B:7208.52.00.93									
	3 PCS 7503 LBS	^ NW8938		590 580	755 745	23 25				



ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11



CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cb	Al	Cr	Mo	Ti	B	N	Ca		CE	McQuaid Bhn Grain Size
NW9295	.13	1.05	.013	.007	.22	.01	.04	.017	.014	.039	.02	.00	.002		.0035				
NW9374	.14	1.07	.014	.006	.25	.01	.05	.017	.019	.047	.03	.00	.002		.0046				
NW9383	.14	1.09	.011	.009	.23	.01	.05	.015	.014	.050	.02	.00	.002		.0044				
NW8938	.14	1.04	.009	.005	.23	.01	.05	.015	.016	.039	.02	.00	.002		.0068				

HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (^) WERE ROLLED IN THE USA.

Richard Deschand
Richard Deschand Quality Coordinator

I certify the above to be correct as contained in the records of EVRAZ INC. NA By _____

STOCK



EVRAZ INC. NA

Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1318667	Jul 31, 2013	2
MILL ORDER NO.	DATE	
267280		
CUSTOMER ORDER NO.		
PO-145003		
JOB/REQ. NO.		
SHIPPING NO.	DATE	
1318667	07/31/2013	
CARRIER		
UNION PACIFIC		
CAR/TRUCK NO.		
WHITE		

ISO 9001

REGISTERED

U.S. PLATE PRODUCER

SOLD TO

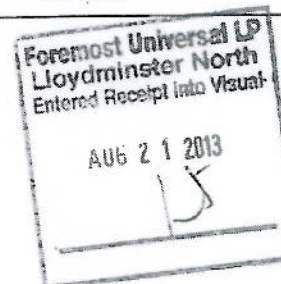
FOREMOST UNIVERSAL LP
6614 50TH AVE
LLOYDMINSTER, AB T9V 2K2
CANADA

FOREMOST UNIVERSAL
5014 65TH STREET
LLOYDMINSTER, ALBE T9V 2K2
CANADA

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
STRUCTURAL QUALITY PLATE CSA G21-04 CSA G40.21-04 GRADE 260W (38W)/300W (44W)
ASTM A36-08. ASME SA36-2010/ 11ADD. MEETING MATERIAL REQUIREMENTS OF API650 GR
III. KILLED FINE GRAIN PRACTICE.

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
3	0.3125 X 98.000 X 288.000 2 PCS 5002 LBS 26 PCS 54526 LBS TOTALS	NW9293		575	740	24				



CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Cb	Al	Cr	Mo	Ti	B	N	Ca	CE	McQuaid Bhn Grain Size
NW9293	.13	1.07	.014	.009	.23	.01	.04	.017	.013	.044	.02	.00	.002		.0029			
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (^) WERE ROLLED IN THE USA.																		
..... END OF REPORT																		

I certify the above to be correct as contained in the records of EVRAZ INC. NA

By

Richard Deschand Quality Coordinator

3" XH SEAMLESS STEEL PIPE
A333 GR 6 B.E.(S.R.L.)

P.O.# 124054 Item# 7
Heat Number: 11604951
Trans AM Piping Products Ltd. - Rev'd By: SB
Shipments/Seq #: 11 - 1744

PIPE 3" XH SA-333-GR6 HT# 11604951

Stock

Contract No.: CI-11-409

PO.NO.: CI-11-409

Name of Customer: TRANS AM PIPING PRODUCTS LTD.,

L/C NO.:

Description: PIPE

HENGYANG VALIN STEEL TUBE CO.,LTD

MILL INSPECTION CERTIFICATE

Date: JUL 13,2011

Page: 1/1

Add: 10 Dalixincun, Hengyang City, Hunan, China

Tel and Fax: +86 734 8873739 8872942

Cable: 6993

P.C. 421001

SPEC:ASTM A333 GR 6-2005/ASME SA333 GR6-2007 ,NACE MR0175-2003/ISO 15166															CERTIFICATE NO:11-1-07-34					
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE			BUNDLES		PIECES		FEETS		QUANTITY (MT)		ACTUAL WEIGHT(MT)					
1	11-A4204	11604951	B	88.9	3	X 5.49	A333 GR 6 B.E. STD													
2	11-A4205	11604951	B	88.9	3	X 7.62	A333 GR 6 B.E. XS													
NO.	DELIVERY CONDITION(≥650℃)		NONDESTRUCTIVE TEST			CHEMICAL COMPOSITION %														
			ET	UT		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Ti	B	NB	CE	
1	NORMALIZED		OK			0.17	0.34	1.28	0.019	0.004	0.01	0.01	0.03	0.01	0.02	0.001	0	0.001	0.40	
2	NORMALIZED		OK			0.17	0.34	1.28	0.019	0.004	0.01	0.01	0.03	0.01	0.02	0.001	0	0.001	0.40	
NO.	T.S. (MPA)		Y.S. (MPA)		E.L. (%)		Ak (J) IMPACT				HARDNESS BRINNEL (HB)		HYDROSTATIC TEST (MPA)		FLATTEN TEST		BEND TEST			
							Strip,L _{bo} =19mm,L _o =50mm													
							1	2	3	AVG.										
1	525/540		385/395		36.0/37.0		37/39	35/38	37/36	36/38	163/165		17.0		OK		OK			
2	525/535		380/385		38.5/38.0		38/39	40/39	41/40	40/39	166/164		17.0		OK		OK			

REMARKS: 1.We hereby certify that this certificate of quality is issued and signed by the manufacture.

2. We hereby certify that the properties described herein meet the requirement of the above spec.

3. We hereby certify that this certificate is issued accordance with EN 10204 3.1B

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")

A.For pipes ≤ 1" full length specimen were used;

B.For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3"

5.HEAT TREATMENT CONDITION FOR PIPE NORMALIZED:900°C X 10MIN

6.Impact Test :5X10X55MM AT -45°C

7.DIMENSION STANDARD:ASME B36.10

8.MANUFACTURE METHOD:HOT ROLLING

QUALITY MANAGER



ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11



Universal Industries
Entered Receipt into Visual

JUN 20 2012

LYN

PO # 147103

7, 17, 21,
24, 29,

PIPE 2" XS SA-333-6

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hongyang City, Hunan, P. R. China P. C. : 421001

Tel and Fax: +86 734 8873739

E-mail: hsiect@hysteeltube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER	CE FRANKLIN			CERTIFICATE NO	C201205053-1		
CONTRACT NO	2110002307	P O NO	PO 2895832-OR-2100-C (LOT B)	L/C NO. 2FAHDS-00038	DATE:	2012-2-15	PAGE: 1/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	N		
SPECIFICATION	SEE SPECIFICATION NOTE			HEAT TREATMENT			
GRADE	GR.6			DIMENSIONS(mm)	2" * 0.218" * 20FT		
TOTAL BUNDLES:	6	TOTAL PIECES:	224	TOTAL LENGTH:	4482 960	FT	TOTAL WEIGHT: 10 219 MT

NO.	LOT No	HEAT No.	BUNDLES	PIECES	LENGTH	WEIGHT	TENSILE TEST ASTM A370						FLATTENING TEST
					FT	MT	SAMPLE TYPE/ ORIENTATION / SIZE(mm)/GAUGE LENGTH(mm):S/L12.5/50						
						WT	TS(Psi)	YS(Psi)	Rp0.2	EL(%)	R.A. (%)	YS/TS	
1	9213W0611	1126428V	6	224	4482.960	10.219	66120/64960	48575/47850	35.5/34.5		0.73/0.74	ACCEPTABLE	

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST		
	NOTCH TYPE/ORIENTATION/TEMPERATURE/SIZE (mm) :										NACE MR0175		
	V8/1/45/3.3										HRC ≤22		
	AK1 (J)	Av. (J)	% SHEAR AREA	LE	AK2 (J)	Av. (J)	% SHEAR AREA	LE					
1	70.0/71.0/70.0	70	80/80/80	1.30/1.30/1.30							/1 0/		

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NOTES

W1--THEORETICAL WEIGHT

W2--ACTUAL WEIGHT

NR--NORMALIZING ROLLED

AK1--ABSORB ENERGY FOR THE FIRST SET

SAMPLE ORIENTATION: L--LONGITUDINAL T--TRANSVERSE

SAMPLE TYPE: S--STRIP C--CLUBBED F--FULL-SECTION

Q&T--QUENCHING AND TEMPERING

AK2--ABSORB ENERGY FOR THE SECOND SET

N--NORMALIZING

A--ANNEALING

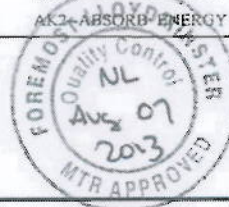
Av--AVERAGE

LE--SIDE EXPANSION

HE--HOT EXPANDED

HR--HOT ROLLED

N&T--NORMALIZING AND TEMPERING



ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11



MILL TEST REPORT

Tel and Fax: +86 734 8873739

E-mail: hsieck@hystree.tube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER		CE FRANKLIN		CERTIFICATE NO		C201205053-1																															
CONTRACT NO		2110002307		P O NO		PO.2895832-OR-2100-C (LOT B)		L/C NO: 2FAHD5-00038		DATE		2012-2-15		PAGE: 2/3																							
PRODUCT		SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE								DELIVERY CONDITION		N																									
SPECIFICATION		SEE SPECIFICATION NOTE						HEAT TREATMENT																													
GRADE		GR 6						DIMENSIONS(mm)		2" * 0.218" * 20FT																											
TOTAL BUNDLES:		6		TOTAL PIECES:		224		TOTAL LENGTH:		4482.960		FT		TOTAL WEIGHT:		10.219		MT																			
NO		HEAT No. LOT No.		Type		CHEMICAL COMPOSITION (%)																															
						*100										*1000										*10000				*100				*1000			
		P																																			
1		1126428V		H		10 26 107 5 1 6 3 13										1 2										30 32 2				30 153				10.2			
		9213W0611		P		10 24 106 3 1 4 1 10										1 2										20 30 2				29 93				10.6			
		9213W0611		P		9 24 106 3 1 4 1 10										1 2										20 30 2				28 93				11.1			
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HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dufixincun, Hengyang
City, Hunan, P. R. China P. C.: 421001
Tel and Fax: +86 734 8873739
E-mail: hstec@hysteeltube.com

CUSTOMER		CE FRANKLIN		(ACCORDING TO EN10204 3.1)		CERTIFICATE NO		C201205053-1	
CONTRACT NO		2110002307		P.O.NO		PO.2895832-OR-2100-C (LOT B)		L/C NO. 2FAHD5-00038	
PRODUCT		SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE							
SPECIFICATION		SEE SPECIFICATION NOTE		HEAT TREATMENT		DELIVERY CONDITION		DATE: 2012-2-15	
GRADE		GR.6						PAGE: 3/3	
TOTAL BUNDLES: 6		TOTAL PIECES: 224		DIMENSIONS(mm)		2" * 0.218" * 20FT			
				TOTAL LENGTH: 4482 960		FT		TOTAL WEIGHT: 10 219 MT	
		REMARK :							

SPECIFICATION NOTE		ASTM A333-6-2010, ASME SA333-6-2010, NACE MR-0175-2009 (FOR HARDNESS ONLY)	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark JOINTIME light-green coloured at the bottom of the page is stamped. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube CO., LTD, E-mail: hstec@hysteeltube.com			
CUSTOMER THIRD PARTY		Quality Manager: 胡双开  Certificate-maker: 曾黎明	

HT. 1330968V

4" std. SA106B. SMLS.

1132451

10, 15,

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang City, Hunan, P.R. China P.C.: 421001

Tel and Fax: +86 734 8873739

E-mail: hsiac@hysteeltube.com

(ACCORDING TO EN10204 3.1)

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NO.	LOT No.	HEAT No.	BUNDLES	PIECES	LENGTH	WEIGHT	TENSILE TEST ASTM A370						FLATTENING TEST
					FT	MT	SAMPLE TYPE/ ORIENTATION / SIZE(mm/GAUGE LENGTH(mm):SL/25/50						
						WT	TS(Psi)	YS(Psi)	Rt0.5	EL(%)	R.A. (%)	YS/TS	
6	32022101B	1330968V	15	144	2881.890	14.112	69600	53795	35.0		0.77	ACCEPTABLE	
7	32022101C	1330968V	11	105	2101.380	10.290	68150	52345	36.0		0.77	ACCEPTABLE	

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST		
	NOTCH TYPE/ORIENTATION/TEMPERATURE(°C)/SIZE (mm) :										NACE MR0175/ISO 15156-2 (REGION 3)/MR0103		
	///				///						HRC <22		
	AK1 (J)	Av. (J)	% SHEAR AREA	LE	AK2 (J)	Av. (J)	% SHEAR AREA	LE					
6	/				/						/1.0/		
7	/				/						/1.0/		

NOTES:

W1--THEORETICAL WEIGHT

W2--ACTUAL WEIGHT

NR--NORMALIZING ROLLED

AK1--ABSORB ENERGY FOR THE FIRST SET

SAMPLE ORIENTATION: L--LONGITUDINAL T--TRANSVERSE

SAMPLE TYPE: S--STRIP C--CLUBBED F--FULL-SECTION

Q&T--QUENCHING AND TEMPERING

AK2--ABSORB ENERGY FOR THE SECOND SET

N--NORMALIZING

A--ANNEALING

Av--AVERAGE

LE--SIDE EXPANSION

HE--HOT EXPANDED

HR--HOT ROLLED

N&T--NORMALIZING AND TEMPERING

ASME VIII, DIVISION 1
EDITION 10
ADDENDA 2

MILL TEST REPORT

Tel and Fax: +86 734 8873739

E-mail: hsiec@hysteeltube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER	CE FRANKLIN				CERTIFICATE NO.		C201310409-2	
CONTRACT NO.	2211001020-1	P.O.NO.	PO.3171963-OR-2100-B (LOT A)	L/C NO.:	3FAHD5-00159	DATE:	2013-3-26	PAGE: 2/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.					DELIVERY CONDITION	NR	
SPECIFICATION	SEE SPECIFICATION NOTE			HEAT TREATMENT				
GRADE	B,X42, GRADE 290				DIMENSIONS	4" x 0.237" x 20FT		
TOTAL BUNDLES:	26	TOTAL PIECES:	249	TOTAL LENGTH:	4983.270	FT	TOTAL WEIGHT:	24.402 MT

[illegible]

NON-DESTRUCTIVE TEST					
POSITION	PIPE BODY	PIPE END	END SURFACE(GROOVE)	BEVELLING	
NDT Type(Level)	UT/L2	UT/L2		ACCEPTABLE	
LAMINAR				VISUAL & DIMENSION	
TEST RESULT	ACCEPTABLE	ACCEPTABLE	N/A	ACCEPTABLE	
RESIDUAL MAGNETISM	≤30 GS	ACCEPTABLE		COATING	
UT THICKNESS MEASUREMENT		N/A			
HYDROSTATIC TEST	Min(psi/s)	2650/10	ACCEPTABLE	ACCEPTABLE	

NOTES:	H-HEAT ANALYSIS	P-PRODUCT ANALYSIS	CE-EQUIVALENT CARBON	R-RATIO	R1=Ca /S	R2=Al /N	R3=Mn /C
	CEIW=C+Mn/5+(Cr+Mo+V)/5+(Cu+Ni)/15	CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+Mo/15+V/10+5*B					
	SUM1=Cr+Cu+Mo+Ni+V	SUM2=Nb+V			SUM3=Nb+V+Ti		
	L4/L3/L2-ACCEPT LEVEL L4/L3/L2,NOTCH DEPTH IS 12.5%/10%/5% THE SPECIFIED WALL THICKNESS.						

HENGYANG VALIN STEEL TUBE
CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang
City, Hunan, P. R. China P. C. : 421001
Tel and Fax: +86 734 8873739
E-mail: hstec@hysteeltube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER	CE FRANKLIN		CERTIFICATE NO.		C201310409-2	
CONTRACT NO.	2211001020-1	P.O.NO.	PO 3171963-OR-2100-B (LOT A)	L/C NO.:	3FAHDS-00159	DATE: 2013-3-26
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	NR	
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT			
GRADE	B.X42, GRADE 290			DIMENSIONS	4" x 0.237" x 20FT	
TOTAL BUNDLES:	26	TOTAL PIECES:	249	TOTAL LENGTH:	4983.270 FT	TOTAL WEIGHT: 24.402 MT
HIC TEST	SEE THE ORIGINAL INSPECTION REPORTS		REMARK: 1. ALL ELEMENTS TO BE LISTED 2. ORIGIN: MADE IN CHINA			
SSC TEST						

SPECIFICATION NOTE	ASTM A53B-2012/A106B-2011, ASME SA53B/SA106B-2010, API 5LB/X42, PSL-2-44TH EDITION, NACE MR-0175-2009/ISO 15156-2-2009 (REGION 3) / MR-0103-2012/SS (CSA Z245.1 GRADE 290 CATEGORY 1-2007)	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electronic signature. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube CO., LTD. E-mail: hstec@hysteeltube.com		
CUSTOMER THIRD PARTY	Quality Manager: 宋景凌 Certificate-maker: 唐娅娜 	

PO # 144026



ASME VIII, DIVISION 1
EDITION 12
ADDENDA 11

11, 13, 16,
31, 34



ADD: JINTANG ROAD DONGLI
DISTRICT, TIANJIN, CHINA
TEL: 86-22-24801217
FAX: 86-22-24801291

TIANJIN PIPE (GROUP) CORPORATION QUALITY CERTIFICATE

Licence No.:

No.: 12010501

Contract No.		TPCO-11064E				LC No.						O.D. x W.T.		2" STD (ø60.3 x 3.91mm)				Packing		IN BUNDLES					
Order		Mc Junkin Red Man Corporation				Product		SEAMLESS STEEL LINE PIPE				Steel grade		Gr290 CAT I SS /Gr.B				Total pieces		1395					
P.O. No.		PO # S 759 094911				Port of dest.						Man. Method		HOT ROLLING SEAMLESS				Total metres							
Standard		CSA Z245.1 (2007) ASTM/ASME A/SA 106 A/SA 53 (2010)				Length range		6.10-6.70				Total Tons		50.101											
Heat No.	Lot No.	Quantity				Delivery condition	Sample No.	Tensile test (MPa)								Impact test (J)									
		Pieces	Meters	Bundles	Tons			1"	Tem. °C	T.S.	Type	Y.S.	Elong. %	Shrink. %	2"	Tem. °C	Size	AK1	Shear %	AK2	Shear %	AK3	Shear %	AVE	Shear %
216844	71	383			13.736	As rolled	71-11-1958	25	520	Rm0.5	355	34													
216844	72	396			14.237	As rolled	72-11-1959	25	540	Rm0.5	370	34													
216844	73	400			14.358	As rolled	73-11-1960	25	540	Rm0.5	370	34													
Total		1179			42.331	Note: strip, L _{bo} =19.0mm L _o =50mm																			
Heat No.	Lot No.	Sample No.	HRC	Hardness test (inside)					Hardness test (middle)					Hardness test (outside)					NDE	Bend test	Fla. test (1)	Fla. test (2)			
				1	2	3	4	AVE	1	2	3	4	AVE	1	2	3	4	AVE							
216844	71	71-11-1958	<20																	ET+UT/Ø1.4+L3	G				
216844	72	72-11-1959	<20																	ET+UT/Ø1.4+L3	G				
216844	73	73-11-1960	<20																	ET+UT/Ø1.4+L3	G				
Heat No.	Steel spec.	Chemical composition % (L: Ladle analysis P: Product analysis)																Hydro. Test							
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Al	V	Nb	Ti	B	Cu	N	H	O	CB(CSA)	CE(RW)				
4	216844	L	0.18	0.22	0.940	0.009	0.004	0.04	0.04	0.02	0.09	0.015	0.01	0.01	0.01	0.0002	0.0009				0.36	0.36	3010PSI/8s		
	16Mn41	P	0.17	0.23	0.920	0.008	0.002	0.04	0.04	0.02	0.10	0.014	0.01	0.01	<0.01	<0.0005	0.0014				0.35	0.35			
		P	0.17	0.23	0.900	0.009	0.003	0.04	0.04	0.02	0.09	0.014	0.01	0.01	<0.01	<0.0005	0.0018				0.34	0.34			
	216844	L	0.18	0.22	0.940	0.009	0.004	0.04	0.04	0.02	0.09	0.015	0.01	0.01	0.01	0.0002	0.0009				0.36	0.36	3010PSI/8s		
	16Mn41	P	0.17	0.23	0.920	0.008	0.002	0.04	0.04	0.02	0.10	0.014	0.01	0.01	<0.01	<0.0005	0.0014				0.35	0.35			
		P	0.17	0.23	0.900	0.009	0.003	0.04	0.04	0.02	0.09	0.014	0.01	0.01	<0.01	<0.0005	0.0018				0.34	0.34			
	216844	L	0.18	0.22	0.940	0.009	0.004	0.04	0.04	0.02	0.09	0.015	0.01	0.01	0.01	0.0002	0.0009				0.36	0.36	3010PSI/8s		
	16Mn41	P	0.17	0.23	0.920	0.008	0.002	0.04	0.04	0.02	0.10	0.014	0.01	0.01	<0.01	<0.0005	0.0014				0.35	0.35			
P		0.17	0.23	0.900	0.009	0.003	0.04	0.04	0.02	0.09	0.014	0.01	0.01	<0.01	<0.0005	0.0018				0.34	0.34				
5	NDE (100%)	Visual and Dimension	Hydro. Test	Pipe End NDE	Pipe End Beveling	Residual Mag. Test	SSCC	HIC	We hereby state that all pipes are manufactured and inspected according to above standards and order.																
									No.	QR-11-8.2.4-19	Date:	2012-1-9													
EN10204-3.1, NACE MR 0175 (2003) / MR 0103 (2007), CE(CSA)=C+P x (Mn/6+Si/24+Cu/15+Ni/20+ (Cr+Mo+V+Nb) / 5+5B) , CE(IW)=C+Mn/6+(Cr+Mo+V)/5+(Cu+Nb)/15, ALUMINUM KILLED STEEL, EAF-LF-CONTINUOUS CASTING EN10204-3.1, Silicon and calcium treated for inclusion morphology control in Steel Making.									Page (1)																

Remarks: dest.=destination; Tem.=Temperature; speci.= specification; Man.=Manufacturer; Fla.=Flattening; G=Good; Hydro.=Hydrostatic; Mag=Magnetic

(FOR EXPORT ONLY)

Po # 147103

Pipe 3" Std SA-106-B

(12, 22)

1131926

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang City, Hunan, P.R. China P.C.: 421001

Tel and Fax: +86 734 8873739

E-mail: hsiect@hysteeltube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER	CE FRANKLIN			CERTIFICATE NO.	C201318781-1		
CONTRACT NO.	2111000576-2	P.O NO	PO.3171963-OR-2100-B (LOT B)	L/C NO.: 3FAHD5-00159	DATE:	2013-5-27	PAGE: 1/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	HR		
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT				
GRADE	B.X42.GRADE 290			DIMENSIONS	3" x 0.216" x 20FT		
TOTAL BUNDLES:	84	TOTAL PIECES:	1567	TOTAL LENGTH:	31356.520	FT	TOTAL WEIGHT: 107.938 MT

NO	LOT No.	HEAT No.	BUNDLES	PIECES	LENGTH	WEIGHT	TENSILE TEST ASTM A370						FLATTENING TEST
					FT	WT	SAMPLE TYPE/ ORIENTATION / SIZE(mm)/GAUGE LENGTH(mm):SL1950						
						W1	TS(Psi)	YS(Psi)	Rt0.5	EL(%)	R.A. (%)	YS/TS	
1	934300917	1311619V	28	530	10605.590	36.514	69890	53360	34.0		0.76	ACCEPTABLE	
2	934300918	1322874V	27	497	9945.240	34.221	69745	53795	35.0		0.77	ACCEPTABLE	
3	934300919	1322873V	29	540	10805.690	37.203	70470	53940	34.0		0.77	ACCEPTABLE	

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST		
	NOTCH TYPE/ORIENTATION/TEMPERATURE(°C)/SIZE (mm) :										NACE MR0175/ISO 15156-2/NACE MR0103		
	///				///						HRC <22		
	AK1 (J)	Av. (J)	% SHEAR AREA	LE	AK2 (J)	Av. (J)	% SHEAR AREA	LE					
1	/				/						/1.0/		
2	/				/						/1.0/		
3	/				/						/1.0/		

NOTES:

W1-THEORETICAL WEIGHT

W2-ACTUAL WEIGHT

NR-NORMALIZING ROLLED

AK1-ABSORB ENERGY FOR THE FIRST SET

SAMPLE ORIENTATION: L-LONGITUDINAL T-TRANSVERSE

SAMPLE TYPE: S-STRIP C-CLUBBED F-FULL-SECTION

Q&T-QUENCHING AND TEMPERING

AK2-ABSORB ENERGY FOR THE SECOND SET

N-NORMALIZING

A-ANNEALING

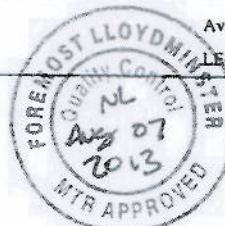
Av.-AVERAGE

LE-SIDE EXPANSION

HE-HOT EXPANDED

HR-HOT ROLLED

N&T-NORMALIZING AND TEMPERING

ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang City, Hunan, P. R. China
P. C.: 421001
Tel and Fax: +86 734 8873739
E-mail: hsiecthysteel@steel.com

CUSTOMER	CE FRANKLIN		CERTIFICATE NO.		C201318781-1	
CONTRACT NO.	2111000576-2	P.O.NO.	PO.3171963-OR-2100-B (LOT B)	L/C NO.: 3FAHDS-00159	DATE:	2013-5-27
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	HR	
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT			
GRADE	B,X42, GRADE 290			DIMENSIONS	3" x 0.216" x 20FT	
TOTAL BUNDLES:	84	TOTAL PIECES:	1567	TOTAL LENGTH:	31356.520	FT
				TOTAL WEIGHT:	107.938	MT

NO	HEAT No. LOT No.	Type	CHEMICAL COMPOSITION (%)																															
			C	Si	Mn	Cr	Mo	W	Cu	Ni	P	Al	Sn	As	Pb	Sb	Nb	Ti	Zr	N	Bi	S	V	B	Ca	CE	SUM1	SUM2	SUM3	R1	R2	R3		
			*100			*1000															*10000			*100		*1000								
		P																																
1	1311619V	H	12	33	105	70	11		91	29	12						30	13				31	39	4		32	205	33.9	46.9			8.8		
	934300917	P	10	36	106	101	17		72	29	11						34	14				20	33	1		31	222	37.3	51.3			10.6		
	934300917	P	10	37	106	101	17		72	29	12						35	14				28	32	1		31	222	38.2	52.2			10.6		
2	1322874V	H	12	39	106	88	12		74	25	10						32	15				20	34	3		32	202	35.4	50.4			8.8		
	934300918	P	14	37	106	100	17		72	30	12						34	14				23	34	2		35	222	37.4	51.4			7.6		
	934300918	P	14	37	105	100	18		72	31	12						34	14				25	34	2		35	224	37.4	51.4			7.5		
	1322873V	H	12	36	104	77	9		82	27	13						30	14				23	50	2		32	200	35	49			8.7		
3	934300919	P	13	37	106	100	17		73	31	12						34	14				20	32	1		34	224	37.2	51.2			8.2		
	934300919	P	13	36	105	99	18		71	29	11						32	14				20	31	2		34	220	35.1	49.1			8.1		
		H																																
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NON-DESTRUCTIVE TEST			
POSITION	PIPE BODY	PIPE END	END SURFACE(GROOVE)
NDT Type(Level)	UT(T&L)/L2	UT	
			BE
			ACCEPTABLE
LAMINAR			VISUAL & DIMENSION
			ACCEPTABLE
TEST RESULT	ACCEPTABLE	ACCEPTABLE	N/A
RESIDUAL MAGNETISM		N/A	COATING
UT THICKNESS MEASUREMENT		N/A	
HYDROSTATIC TEST	Min(psi/s)	3000/10	ACCEPTABLE

NOTES:	H-HEAT ANALYSIS	P-PRODUCT ANALYSIS	CE-EQUIVALENT CARBON	R-RATIO	R1=Ca /S	R2=Al /N	R3=Mn /C
	CEIHW=C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15		CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+Mo/15+V/10+5*B				
	SUM1=C+Cr+Cu+Mo+Ni+V		SUM2=Nb+V		SUM3=Nb+V+Ti		
	L4/L3/L2-ACCEPT LEVEL L4/L3/L2,NOTCH DEPTH IS 12.5% /10% /5% THE SPECIFIED WALL THICKNESS.						

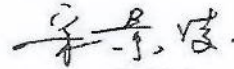
HENGYANG VALIN STEEL TUBE
CO., LTD

MILL TEST REPORT

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang
City, Hunan, P. R. China P. C.: 421001
Tel and Fax: +86 734 8873739
E-mail: hsiec@hysteeltube.com

CUSTOMER	CE FRANKLIN			CERTIFICATE NO.	C201318781-1		
CONTRACT NO.	2111000576-2	P.O. NO.	PO 3171963-OR-2100-B (LOT B)	L/C NO.: 3FAHDS-00159	DATE:	2013 5 27	PAGE: 3/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	HR		
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT				
GRADE	B,X42, GRADE 290			DIMENSIONS	3" x 0.216" x 20FT		
TOTAL BUNDLES:	84	TOTAL PIECES:	1567	TOTAL LENGTH:	31356.520 FT	TOTAL WEIGHT:	107.938 MT
				REMARK : 1:ORIGIN: MADE IN CHINA.2:ALL ELEMENTS TO BE LISTE MENTS TO BE LISTED.			

SPECIFICATION NOTE	ASTM A53B-2012/A106B-2011, ASME SA53B, SA106B-2010 API 5LB/X42, PSL-2-44TH EDITION, NACE MR-0175-2009/ISO 15156-2-2009 (REGION 3) / MR-0103-2012/SS (CSA Z245.1 GRADE 290 CATEGORY I-2007)	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electronic signature. In case the owner of the certificate would release a copy of it ,he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate ,please do not hesitate to contact Hengyang Valin Steel Tube CO.,LTD. E-mail: hsiec@hysteeltube.com CUSTOMER THIRD PARTY		
		Quality Manager:   Certificate-maker: 曾黎明

2" XH SA106B Smk SR BE-218WT
HT#1323280V
In Stock
P.O.#148848

17, 20,

1584685

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hengyang City, Hunan, P.R.China P.C.:421001

Tel and Fax: +86 734 8873739

E-mail: hsiac@hysteeltube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER	CE FRANKLIN				CERTIFICATE NO.	C201318333-1			
CONTRACT NO.	2111000674	P.O.NO.	PO 3213317-OR-2100	L/C NO.:	3FAHD5-00278	DATE:	2013-5-22	PAGE:	1/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.				DELIVERY CONDITION	HR			
SPECIFICATION	SEE SPECIFICATION NOTE			HEAT TREATMENT					
GRADE	B,X42			DIMENSIONS		2" x 0.218" x 20FT			
TOTAL BUNDLES:	27	TOTAL PIECES:	1002	TOTAL LENGTH:	20053.25	FT	TOTAL WEIGHT:	45.713	MT

NO	LOT No.	HEAT No.	BUNDLES	PIECES	LENGTH	WEIGHT	TENSILE TEST ASTM A370						COLD BENDING TEST
					FT	MT	SAMPLE TYPE/ ORIENTATION / SIZE(mm)/GAUGE LENGTH(mm):SUA1950						
						WT	TS(Psi)	YS(Psi)	Rt0.5	EL(%)	R.A. (%)	YS/TS	
1	934302903	1323281	12	452	9045.98	20.621	74240	53070		30.0		0.71	ACCEPTABLE
2	934302904	1323280V	7	251	5023.32	11.451	70180	51185		31.0		0.73	ACCEPTABLE
3	934302905	1323282	5	191	3822.53	8.714	72500	51185		32.0		0.71	ACCEPTABLE
4	935100416	1323281	3	108	2161.42	4.927	70615	51475		36.0		0.73	ACCEPTABLE

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST	
	NOTCH TYPE/ORIENTATION/TEMPERATURE (°C)/SIZE (mm):										NACE MR0175	
	///				///						HRC <22	
	AK1 (J)	Av. (J)	% SHEAR AREA	LE	AK2 (J)	Av. (J)	% SHEAR AREA	LE				
1	/				/					/1.0/		
2	/				/					/1.0/		
3	/				/					/1.0/		
4	/				/					/1.0/		

NOTES:

W1-THEORETICAL WEIGHT

W2-ACTUAL WEIGHT

NR-NORMALIZING ROLLED

AK1-ABSORB ENERGY FOR THE FIRST SET

SAMPLE ORIENTATION: L-LONGITUDINAL T-TRANSVERSE

SAMPLE TYPE: S-STRIP C-CLUBBED F-FULL-SECTION

Q&T-QUENCHING AND TEMPERING

AK2-ABSORB ENERGY FOR THE SECOND SET

N-NORMALIZING

A-ANNEALING

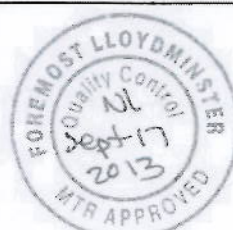
Av-AVERAGE

LE-SIDE EXPANSION

HE-HOT EXPANDED

HR-HOT ROLLED

N&T-NORMALIZING AND TEMPERING



ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang City, Hunan, P. R. China
P. C.: 421001
Tel and Fax: +86 734 8873739
E-mail: hsiect@hysteeltube.com

CUSTOMER	CE FRANKLIN		CERTIFICATE NO.	C201318333-1	
CONTRACT NO.	2111000674	P.O.NO.	PO.3213317-OR-2100	L/C NO.: 3FAHD5-00278	DATE: 2013-5-22
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	HR
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT		
GRADE	B,X42		DIMENSIONS		2" x 0.218" x 20FT
TOTAL BUNDLES:	27	TOTAL PIECES:	1002	TOTAL LENGTH:	20053.250 FT
					TOTAL WEIGHT: 45.713 MT

NO	HEAT No LOT No.	Type	CHEMICAL COMPOSITION (%)																														
			C	Si	Mn	Cr	Mo	W	Cu	Ni	P	Al	Sn	As	Pb	Sb	Nb	Ti	Zr	N	Bi	S	V	B	Ca	CE	SUM1	SUM2	SUM3	R1	R2	R3	
			*100			*1000															*10000			*100		*1000							
	P																																
1	1323281	H	19	33	94	72	18		45	23	12						2	2				33	31	4		37	161.1	5.1	7.1			4.9	
	934302903	P	19	32	86	52	23		59	42	12						1	2				45	33	2		36	179.3	4.3	6.3			4.5	
	934302903	P	19	31	86	53	22		59	41	12						1	2				43	32	2		36	178.2	4.2	6.2			4.5	
2	1323280V	H	19	34	88	68	22		42	23	14						1	2				24	30	4		36	158	4	6			4.6	
	934302904	P	18	31	88	51	20		59	42	11						1	2				37	32	1		35	175.2	4.2	6.2			4.9	
	934302904	P	18	31	86	52	21		59	42	12						1	2				45	31	1		35	177.1	4.1	6.1			4.8	
3	1323282	H	18	32	86	62	17		52	27	13						1	2				58	35	2		35	161.5	4.5	6.5			4.8	
	934302905	P	19	31	88	53	21		60	42	12						1	2				38	33	1		36	179.3	4.3	6.3			4.6	
	934302905	P	18	32	86	52	23		59	42	12						1	2				46	33	1		35	179.3	4.3	6.3			4.8	
4	1323281	H	19	33	94	72	18		45	23	12						2	2				33	31	4		37	161.1	5.1	7.1			4.9	
	935100416	P	19	32	88	65	18		50	26	13						1	2				56	35	2		36	162.5	4.5	6.5			4.6	
	935100416	P	19	32	87	64	18		50	25	13						1	2				52	36	2		36	160.6	4.6	6.6			4.6	
	H																																
	P																																
	P																																

NON-DESTRUCTIVE TEST				BE	
POSITION	PIPE BODY	PIPE END	END SURFACE(GROOVE)		
NDT Type(Level)	ET	MPI		ACCEPTABLE	
LAMINAR				VISUAL & DIMENSION	
TEST RESULT	ACCEPTABLE	ACCEPTABLE	N/A	ACCEPTABLE	
RESIDUAL MAGNETISM		N/A		COATING	
UT THICKNESS MEASUREMENT		N/A			
HYDROSTATIC TEST	Min(psi/s)	2970/6	ACCEPTABLE	ACCEPTABLE	

NOTES:	H-HEAT ANALYSIS	P-PRODUCT ANALYSIS	CE-EQUIVALENT CARBON	R-RATIO	R1=Ca /S	R2=Al /N	R3=Mn /C
	CEIHW=C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15		CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+Mo/15+V/10+5*B				
	SUM1=Cr+Cu+Mo+Ni+V		SUM2=Nb+V		SUM3=Nb+V+Ti		
	L4/L3/L2-ACCEPT LEVEL L4/L3/L2,NOTCH DEPTH IS 12.5% /10% /5% THE SPECIFIED WALL THICKNESS.						

HENGYANG VALIN STEEL
TUBE CO., LTD

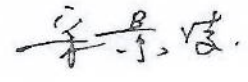
MILL TEST REPORT

Add: 10 Dalixincun, Hengyang
City, Hunan, P. R. China P. C. : 421001
Tel and Fax: +86 734 8873739
E-mail: hsiiec@hysteeltube.com

(ACCORDING TO EN10204 3.1)

CUSTOMER	CE FRANKLIN			CERTIFICATE NO	C201318333-1		
CONTRACT NO.	2111000674	P.O.NO.	PO.3213317-OR-2100	L/C NO.: 3FAHD5-00278	DATE:	2013-5-22	PAGE: 3/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE			DELIVERY CONDITION	HR		
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT				
GRADE	B,X42			DIMENSIONS	2" x 0.218" x 20FT		
TOTAL BUNDLES:	27	TOTAL PIECES:	1002	TOTAL LENGTH:	20053.250	FT	TOTAL WEIGHT: 45.713 MT

		REMARK: 1.ORIGIN:MADE IN CHINA;2.ALL ELEMENTS TO BE LISTED;

SPECIFICATION NOTE	ASTM A53B-2012/A106B-2011, ASME SA53B/SA106B-2010, API 5LB/X42, PSL1-44TH EDITION, NACE MR-0175-2009 (FOR HARDNESS ONLY)	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electronic signature. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube CO.,LTD, E-mail: hsiiec@hysteeltube.com CUSTOMER THIRD PARTY		Quality Manager:  Certificate-maker: 刘年亚



ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang City, Hunan, P. R. China P. C.: 421001

Tel and Fax: +86 734 8873739

E-mail: hsiect@hysteeltube.com

CUSTOMER	CE FRANKLIN			CERTIFICATE NO.	C201217680-1				
CONTRACT NO.	2211000157-1	P.O.NO.	PO.2946972-OR-2100-B (LOT C)	L/C NO.:	2FAHDS-00124	DATE:	2012-5-17	PAGE:	1/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	HR				
SPECIFICATION	SEE SPECIFICATION NOTE			HEAT TREATMENT					
GRADE	B,X42,GRADE 290			DIMENSIONS	8" * 0.322" * 40FT				
TOTAL BUNDLES:	32	TOTAL PIECES:	91	TOTAL LENGTH:	3642.430	FT	TOTAL WEIGHT :	47.229	MT

NO.	LOT No.	HEAT No.	BUNDLES	PIECES	LENGTH	WEIGHT	TENSILE TEST ASTM A370						FLATTENING TEST
					FT	MT	SAMPLE TYPE/ ORIENTATION / SIZE(mm)/GAUGE LENGTH(mm):SL138.1/50						
						WT	TS(Psi)	YS(Psi)	Rt0.5	EL(%)	R.A. (%)	YS/TS	
1	B41L01051	1231595V	1	3	120.080	1.557	69310	54955	47.0		0.79	ACCEPTABLE	
2	B41L01060	1231595V	4	11	440.290	5.709	62930	50025	47.0		0.79	ACCEPTABLE	
3	B41L01072	→ 1231594V	27	77	3082.060	39.963	69600	55680	48.0		0.80	ACCEPTABLE	

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST		
	NOTCH TYPE/ORIENTATION/TEMPERATURE/SIZE (mm) :										NACE MR0175/ISO 15156-2(Region 3)/NACE MR0103		
	VB/T0/6.67										HRC ≤22		
	AK1 (J)	Av. (J)	% SHEAR AREA	LE	AK2 (J)	Av. (J)	% SHEAR AREA	LE					
1	148.0/139.0/138.0	142									/1.0/	CTP	
2	128.0/138.0/142.0	136									/1.0/		
3	128.0/134.0/138.0	133									/1.0/		

NOTES:

W1-THEORETICAL WEIGHT

W2-ACTUAL WEIGHT

NR-NORMALIZING ROLLED

AK1-ABSORB ENERGY FOR THE FIRST SET

SAMPLE ORIENTATION: L-LONGITUDINAL T-TRANSVERSE

SAMPLE TYPE: S-STRIP C-CLUBBED F-FULL-SECTION

Q&T-QUENCHING AND TEMPERING

AK2-ABSORB ENERGY FOR THE SECOND SET

N-NORMALIZING

A-ANNEALING

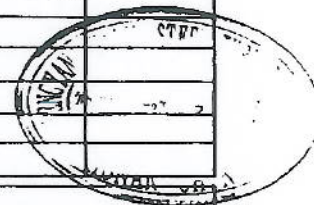
Av.-AVERAGE

LE-SIDE EXPANSION

HE-HOT EXPANDED

HR-HOT ROLLED

N&T-NORMALIZING AND TEMPERING



MILL TEST REPORT

E-mail: hsjiec@hysteeltube.com

(ACCORDING TO EN10204 3.1)

[illegible]

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang
City, Hunan, P. R. China P. C.: 421001
Tel and Fax: +86 734 8873739
E-mail: hsiac@hysteeltube.com

CUSTOMER	CE FRANKLIN			CERTIFICATE NO.	C201217680-1		
CONTRACT NO.	2211000157-1	P.O.NO.	PO.2946972-OR-2100-B (LOT C)	L/C NO.: 2FAHDS-00124	DATE:	2012-5-17	PAGE: 3/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.				DELIVERY CONDITION	HR	
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT				
GRADE	B.X42, GRADE 290			DIMENSIONS	8" * 0.322" * 40FT		
TOTAL BUNDLES:	32	TOTAL PIECES:	91	TOTAL LENGTH:	3642.430	FT	TOTAL WEIGHT: 47.229 MT
HIC TEST	SEE THE ORIGINAL INSPECTION REPORTS		REMARK :				
SSC TEST							

SPECIFICATION NOTE	ASTM A53B/A106B-2010, ASME SA53B/SA106B-2010, API 5LB/X42, PSL-2-2008, NACE MR-0175-2009/ISO 15156-2-2009(REGION 3)/MR-0103/SS (CSA Z245.1 GRADE 290 CATEGORY 1-2007)	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark JOINTIME light-green coloured at the bottom of the page is stamped. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube CO., LTD, E-mail: hsiac@hysteeltube.com CUSTOMER THIRD PARTY		
Quality Manager: 宋景凌  Certificate-maker: 倪小平		

4" XH SEAMLESS STEEL PIPE
A333 GR 6 B.E.(S.R.L.)

P.O.# 116581 Item# 15
Heat Number: 310124
Trans Am Piping Products Ltd.
Shipment/Seq #: 11 1948
Rev'd By: SB



YANTAI LUBAO STEEL PIPE CO., LTD.



ASME VIII, DIVISION 1
EDITION 19
ADDENDA 11

MILL TEST CERTIFICATE

(EN10204 3.1)

NO.185 XINGFU MIDDLE ROAD, YANTAI, CHINA
TEL: 0086 535-6843946/6854750 FAX: (0535)6842245
HTTP://WWW.LUBAOSTEEL.TUBE.COM

PAGE 1 OF 1

PURCHASER		TRANS AM PIPING PRODUCTS LTD.		DESCRIPTION OF GOODS		PIPE	
DIMENSION STANDARD		ASME B36.10		CUSTOMER'S NO.		CERTIFICATE NO. BGTYG1110040003200	
MATERIAL SPECIFICATION		ASTM A333 GR 6-2010/ASME SA333 GR6-2010 NACE MR0175-2003/ISO 15158		DATE OF DELIVERY		SUB CONTRACT NO. G1C6113492	
				P.O. NO.		DATE OF ISSUE 20111004	
				STAMP OF MILL INSPECTOR			

O.D.	114.3mm	W.T.	8.56mm	Length	5.8-6.7M	Total Length	Total Bundles	Order Quantity																									
Total Pieces		Total Weight		Delivery Condition		As-Rolled	Making Method	Hot Finished Seamless																									
No	Heat No.	Chemical Composition														Lot No.	Tensile Test G.L.=50mm				Impact Test				Hardness Brinell (HB)	Pieces	Weight MT						
		C	Si	Mn	P	S	Cu	Ni	Cr	V	Mo	Ti	B	Nb	Al		CE	Y.S.	T.S.	E.L.	EXT.	J Akv Absorb Energy											
																	Mpa	%															
																	3	4	5	6	7	1	2	3				4	5	6	7		
		0.17	0.27	1.32	0.012	0.013	0.07	0.05	0.05	0.01	0.01	0.001	0	0.001	0.010	0.41	1209197	16	380	520	38.0	1	4	5	6	7	43	44	45	44	166		
		0.18	0.28	1.32	0.012	0.012	0.06	0.05	0.05	0.01	0.01	0.001	0	0.001	0.010	0.40																	
		0.16	0.28	1.32	0.012	0.012	0.06	0.05	0.05	0.01	0.01	0.001	0	0.001	0.010	0.40																	

E.T.	E.M.I.	U.T.	M.P.I.	Visual & Dimensions	Coating	Drift Test	Hydrostatic Pressure
	GOOD			GOOD	GOOD		19.00MPa
Expansion	Ring Expansion	Ring Tensile	Flattening	Bending	Flanging	SSCC	Macrostructure
			GOOD				Duration of Time
							5s

NOTES	*1Chemical Composition:H=Heat(Ladle)Analysis P=Product Analysis;*2Sampling Position:P=Pipe Body B=Base Metal;*3Orientation:1=Longitudinal 2=Transverse;*4Size:6=StripT×25.4mmB=7.5×10×56mm;*5Temp:A=-49° F or -45°C L=18°C-25°C;*6Gauge Length:l=CharpyV;*7Shear area:l=100% CE=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15 G.L.=Gauge Length
Remark	Heat Treatment Condition For Pipe Normalized:900°CX10MIN
SURVEYOR	WE HERE CERTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED, SAMPLED, TESTED AND INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF ABOVE SPECIFICATIONS AND PURCHASE ORDER, AND MET THE REQUIREMENTS.

CHIEF OF QUALITY CONTROL DEPT.

(25, 26, 27, 28)

12" XH 4.333 gr6

STOCK

30



ADD: JINTANG ROAD DONGLI
DISTRICT, TIANJIN, CHINA
TEL: 86-22-24801139
FAX: 86-22-24801291

TIANJIN PIPE (GROUP) CORPORATION QUALITY CERTIFICATE

QR-11-8.2.4-19

Licence No.:

No.: 10051919

Contract No.		TPCO-10182E		L/C No.				O.D.×W.T.		12.750in×0.500in(323.80*12.70)		Packing		IN LOOSE	
Order		Comco Pipe&Supply Company		Product		SEAMLESS STEEL LINE PIPE		Steel grade		GR6		Total pieces		16	
P.O. No.		E1-686		Port of desti.				Manu. Method		HOT ROLLING SEAMLESS		Total metres			
Standard		ASTM A333GR6(2005)/ASME SA333GR6(2005)		Length range		11.60-13.40M		Total Tons		20.608					

Heat No.	Lot No.	Quantity				Delivery condition	Sample No.	Tensile test(MPa)								Impact test(J)										
		Pieces	Meters	Bundles	Tons			1#	Tem. °C	T.S.	Type	Y.S.	Elong. %	Shrink %	2#	Tem. °C	Size	AK1	Shear %	AK2	Shear %	AK3	Shear %	AVE	Shear %	
302781	111	16			20.608	N	111-001-1	A	20	515	Rt0.5	335	45.0			A	-45	10*10	111	40	127	50	142	60	127	50
							111-002-2	A	20	520	Rt0.5	335	47.0													
Total		16			20.608																					

Heat No.	Lot No.	Sample No.	Hardness test (inside)				Hardness test (middle)					Hardness test (outside)					NDE	Fla. test(1)	Fla. test(2)	
			1	2	3	4	1	2	3	4	AVE	1	2	3	4	AVE				
302781	111	111-001-1	151.0	154.0	153.0		153.0													
302781	111	111-002-2	159.0	161.0	159.0		160.0													

Heat No.	Steel spec.	Chemical composition % (L: Ladle analysis P: Product analysis)																Hydro. Test (mpa/s)				
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Al	V	Nb	Ti	B	Ca	N		H	O	CE(PCM)	CE(IW)
302781	L	0.1900	0.22	1.04	0.017	0.006	0.03	0.04	0.02	0.07	0.015	<0.01	<0.005	<0.01	0.0003	0.0006				0.26	0.38	11/8
16Mn4/1	P	0.1800	0.19	1.06	0.019	0.004	0.03	0.04	0.01	0.06	0.013	0.010	<0.01	<0.01	<0.005				0.25	0.37		
	P	0.1700	0.19	1.05	0.020	0.004	0.03	0.04	0.01	0.06	0.013	0.010	<0.01	<0.01	<0.005				0.24	0.36		
	L																					
	P																					
	P																					

NDE (100%)	Visual and dimension	Hydro. Test	Pipe end NDE	Pipe end bevelling	Residual stress Test	8SCC	HIC	We hereby state that all pipes are manufactured according to above standards and TPCO certification order.	
								No.	Date
G	G	G	G	G				10062006	2010-6-1

Note: ALUMINUM KILLED STEEL AND EAF-LF-CONTINUOUS CASTING;EN10204-3.1B;NACE MR0175(2003)/MR-0103(2007)/ISO 15156(2009);Normalized:950°C×30Minutes.

Remark: desti.=destination;tem.=temperature;speci.=specification;Manu.=Manufacture;G=Good;Hydro.=hydraulic

ASME VIII, DIVISION 1
EDITION 10
ADDENDA

No. 10062006

Date

(1)

2010-6-1

(FOR EXPORT ONLY)

Order#: 143851 Seq. 8 PO#: PO-105244 Heat#: 302781 Mill: TPCO
Part#: P 12 XS S3 S BT Part Desc: Pipe 12 (323.8mm O.D.) EXTRA HEAVY SMLS A/SA333-6 SRL BEVELED (TPCO)

Po # 143700



(32)

6" steel
SA-106B

ASME VIII, DIVISION 1
EDITION 19
ADDENDA 11



ADD: JINTANG ROAD DONGLI
DISTRICT, TIANJIN, CHINA
TEL: 86-22-24801139
FAX: 86-22-24801291

TIANJIN PIPE (GROUP) CORPORATION QUALITY CERTIFICATE

QR-11-8.24-19

Licence No.:

No.: 12113006

Contract No.		TPCO-12528E		L/C No.				O.D. x W.T.		6DN STD(168.30*7.11)		Packing		IN BUNDLES	
Order		Me Junkin Redman Corporation		Product		SEAMLESS STEEL LINE PIPE		Steel grade		Cat 1 Gr.290 SS /X42/Gr.B		Total pieces		416	
P.O. No.		POWS 78K 182962		Port of dest.				Mater. Method		HOT ROLLING SEAMLESS		Total metres			
Standard		CSA Z245.1-07 /API SPEC 5L-2007/ASTM A106/A53-2011/ASME SA106/SA53-2010		Length range		19FT-21FT		Total Tons		73.799					

Heat No.	Lot No.	Quantity				Delivery condition	Sample No.	Tensile test(MPa)								Impact test(J)									
		Pieces	Meters	Bundles	Tons			1°	Tem. °C	T.S.	Type	Y.S.	Elong. %	Shrink %	2°	Tem. °C	Size	AK1	Shear %	AK2	Shear %	AK3	Shear %	AVE	Shear %
527371	71	200			35.491	As rolled	71-11-0366	A	23	515	Rt0.5	355	39.0												
527371	72	200			33.464	As rolled	72-11-0367	A	23	520	Rt0.5	370	40.0												
527371	73	16			2.844	As rolled	73-11-0369	A	23	510	Rt0.5	355	38.0												
Total		416			73.799																				

Heat No.	Lot No.	Sample No.	HRC	Hardness test (inside)					Hardness test (middle)					Hardness test (outside)					NDE	Fla. test(1)	Fla. test(2)	
				1	2	3	4	AVE	1	2	3	4	AVE	1	2	3	4	AVE				
527371	71	71-11-0366	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ET+UT/Φ2.7+L3	G	G
527371	72	72-11-0367	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ET+UT/Φ2.7+L3	G	G
527371	73	73-11-0369	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	ET+UT/Φ2.7+L3	G	G

Heat No.	Steel spec.	Chemical composition % (L: Ladle analysis P: Product analysis)																		CE(CSA)	CE(MW)	Hydro. Test
		C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Al	V	Nb	Ti	B	Ca	N	H	O			
527371	L	0.1400	0.24	1.05	0.009	0.002	0.03	0.03	0.03	0.05	0.036	0.030	<0.01	<0.01	<0.0005	0.0005				0.32	0.34	2670psi/8S
14MnSV	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0020				0.32	0.34	
	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0019				0.32	0.34	
527371	L	0.1400	0.24	1.05	0.009	0.002	0.03	0.03	0.03	0.05	0.036	0.030	<0.01	<0.01	<0.0005	0.0005				0.32	0.34	2670psi/8S
	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0020				0.32	0.34	
14MnSV	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0019				0.32	0.34	
	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0019				0.32	0.34	
527371	L	0.1400	0.24	1.05	0.009	0.002	0.03	0.03	0.03	0.05	0.036	0.030	<0.01	<0.01	<0.0005	0.0005				0.32	0.34	2670psi/8S
	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0020				0.32	0.34	
14MnSV	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0019				0.32	0.34	
	P	0.1400	0.25	1.06	0.009	0.003	0.03	0.03	0.03	0.06	0.036	0.030	<0.01	<0.01	<0.0005	0.0019				0.32	0.34	

5	NDE (100%)	Visual and dimension	Hydro. Test	Pipe end NDE	Pipe end bevelling	Residual mag. Test	SSCC	HIC	We hereby state that all pipes are manufactured and inspected according to above standards and order.	Seal for certification:
	G	G	G	G	G	G				

Note:	NACE MR 0103-2010/NACE MR 0175-2009/ISO 15156-2:2009;CE(CSA)=C+Fe*(Mn/6+Si/24+Cu/15+Ni/20+(Cr+Mo+V+Nb)/5+SB); CE(IW)=C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15;ALUMINUM KILLED STEEL,EAF-LF-CONTINUOUS CASTING; EN10204-3.1;Silicon and calcium treated for inclusion morphology control in Steel Making.	No.	121203104	Date	2012-12-21
		Page	(1)		

Remark: dest.= destination; tem.= temperature; speci.= specification; Manu.= Manufacture; G=Good; Hydro.=hydraulic

(FOR EXPORT ONLY)



STORAGE TANK TRAVEL SHEET

Job #:	028978	Client:	Devon Canada
Tank Tag #:	002-T-08-1118	Firetube Serial #:	N/A
Tank Serial #:	028978-1	Construction Code:	API MOD app. F

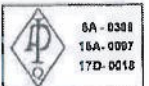
35	N1 3" 150 RFWN	XS	SA-350-LF2	H32359
36	N2 3" 150 RFWN	XS	SA-350-LF2	H32359
37	N3 3" 150 RFWN	XS	SA-350-LF2	H32359
38	N5 2" 150 RFWN	XS	SA-350-LF2	A5587/1
39	N6 4" 150 RFWN	std	SA-105	10983
40	N7 2" 150 RFWN	std	SA-105	1131V3
41	N8 3" 150 RFWN	std	SA-105	10/70945
42	N9 2" 150 RFWN	std	SA-105	10003783
43	N10 3" 150 RFWN	XS	SA-350-LF2	H32359
44	N11 4" 150 FFWN	std	SA-105	10983
45	N12 2" 150 RFWN	std	SA-105	12/30373
46	N13 2" 150 RFWN	XS	SA-350-LF2	A5587/1
47	N14 3" 150 RFWN	XS	SA-350-LF2	H32359
48	N15 2" 300 RFWN	XS	SA-105	H1249389
49	N16 2" 300 RFWN	XS	SA-105	H1249389
50	N17 2" 150 RFWN	XS	SA-350-LF2	A5587/1
51	N18 3" 150 RFWN	std	SA-105	737
52	N19 8" FBD	1/4"	38W	NW9384
53	N20 2" 150 RFWN	XS	SA-350-LF2	A5587/1
54	N21 4" 150 RFWN	XS	SA-350-LF2	A67V3
55	N22 4" 150 RFWN	XS	SA-350-LF2	A67V3
56	N23 4" 150 RFWN	XS	SA-350-LF2	A67V3
57	N24 4" 150 RFWN	XS	SA-350-LF2	A67V3
58	N26 2" 150 RFWN	XS	SA-350-LF2	A5587/1
59	N28 12" 150 RFWN	XS	SA-350-LF2	TL10006471
60	N29 2" 150 RFWN	std	SA-105	1131V3
61	N30 6" 150 RFWN	std	SA-105	H4120
62	N31 3" 150 RFWN	XS	SA-350-LF2	H32359
63	N32 2" 150 RFWN	std	SA-105	10003783
64	C1 11/2" Long CPLG	3000lb	316 S.S.	F9F0
65	C2a 11/4" Long CPLG	3000lb	316 S.S.	H9E5
66	C2b 11/4" Long CPLG	3000lb	316 S.S.	H9E5
67	N1 Repad	1/4"	38W	NT7430
68	N2 Repad	1/4"	38W	NT7430
69	N3 Repad	1/4"	38W	NT7430
70	N10 Repad	1/4"	38W	NT7430
71	N14 & N21 Common Repad	1/4"	38W	NT7430

[illegible]

35, 36, 37,
43, 47, 62

Sept. 24/13

3" 150# RFWVX14 LF2
HT# 32359/21
P.O# 149555
W.O# 28978

		OFFICINE NICOLA GALPERTI E FIGLIO S.p.A. Capitale Sociale € 3.682.500,00 interamente versato Sede Legale e Amministrativa: 23034 D21VIG (LC) - Via Enrico Ferri, 48 C.C.I.A.A. Lecco n. 00206900138 - R.E.A. 79815 - C.F. e P.IVA IT00206900138 Stabilimento - Uffici Amministrativi / Workshop - Warehouse - Office - Mailing address: 22010 QERRA LARIO (CO) - Via Trivio Fuentes, 4 - Tel. 0344-87200 - Fax 0344-87210 E-mail: galperti@nicolagalperti.com - www.galperti.com		SPETT.LE / MESSAGE MRC CANADA ULC 7072 - 112 AVE SE - 5220 51 STREET CALGARY AB, T2C 4Z1 (CDN)														
CERTIFICATO DI COLLAUDO TEST CERTIFICATE		EN 10204 EN 10204		NS. ORDINE / INTERNAL JOB 121447														
3.1		DATA / DATE 17/05/2013		VS. ORDINE / YOUR S 759 180758 REV.1														
CERTIFICATO / M.T. CERTIFICATE N. 039454/1		DATA / DATE 28/09/2012																
POS / ITEM	DESCRIZIONE / DESCRIPTION	QUANTITA' / QUANTITY	S/A	MATERIALE / MATERIAL	N° COLATA / PROVA HEAT N° / TEST N°	ACCIAIERIA STEEL MILL	#											
019/019	3" 150 WN RF XS LF2 B1 FSF4	48 S		ASTM A350/07 LF2 CL1	32359/21	RIVA ACC. SPA	A											
ANALISI CHIMICA / CHEMICAL ANALYSIS																		
#	C %	MN %	SI %	P %	S %	CR %	NI %	MO %	CU %	V %	SN %	AL %	NB %	TI %	N %	B %	CAS	
A	0,180	1,190	0,240	0,009	0,011	0,100	0,060	0,010	0,130	0,027	0,008	0,025	0,002	0,015				
A C	0,173	1,179	0,220	0,004	0,009	0,112	0,034	0,003	0,101	0,024	0,008	0,045	0,002	0,015				
A															0,4%	0,3%	FC%	FL%
A C															0,327	0,110	0,378	0,418
A C															0,274	0,115	0,369	0,406
NOTE / NOTES								C = ANALISI DI PRODOTTO / CHECK ANALYSIS										
04=Copper+Nickel+Chromium+Molybd.+Vanadium 03=Chromium + Molybdenum FC=Carbon Equivalent Short Formula FL=Carbon Equivalent Long Formula								CU+NI+CR+MO+V CR+MO C+(MN/6) C+(MN/6)+((CR+MO+V)/5)+((NI+CU)/15)										
CARATTERISTICHE MECCANICHE / MECHANICAL PROPERTIES								RESILIENZA / CHARPY TEST										
#	TIPO TYPE	DIAMETRO PROVETTA DIM. mm	SEZIONE AREA mm²	LUNGHEZZA LENGTH mm	TEMP. TEMPERATURE °C	ROTTURA TENSILE Mpa	SNERVAMENTO YIELD Mpa	ALL. ELONG %	CONTR. REDUCT %	TIPO TYPE KV	TEMP. TEMPERATURE °C	VALORI / VALUES Joule			DUREZZA HB HARDNESS (AVERAGE)			
A S		12,50	122,70	50,00	20	485	250	22,0	30,0		-46	Min. 16 Med. 20			197			
A O		12,50	122,70	50,00	20	517	314	26,8	69,6		-46	60 - 63 - 68			160			
NOTE / NOTES								O = OTTENUTE / OBTAINED S = STANDARD										
#	TRATTAMENTI TERMICI / HEAT TREATMENTS										NOTE GENERALI / GENERAL NOTES							
A	Normalized at 900 dgr.C for 1 h.-Cooling from 900 dgr. in still air										FINITURE / ROUGHNESS FSF4=Ra = 125 AARH							
A											STANDARD B1 = ASME B16.5 ED.09 Inch STD							
NOTE / NOTES																		
Material according to Technical Specification MRC-FLG-001 Rev.0 Material according to NACE MR-01-75 / ISO 15156-2 Sour service Region 3-2009 and NACE MR0103-2010.																		
MARCHIO DI FABBRICA TRADE MARK		DATA COLLAUDO INT. INT. INSPECT DATE		COLLAUDATORE INT. INT. INSPECTOR														
		17/05/2013		P. CESARE														
ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY																		
																		
																		
		Certified acc. PED 97/23/EC By L. D'OSI Register No. LRC 180212																



BEBITZ



Flanschenwerk Bebitz GmbH - Lebendorfer Str. 1 - 06420 Bebitz / GERMANY
Tel. +49 34691 40 0 - Fax +49 3469140 329 - Email: flanges@bebitz.de
Bebitz Flanges Works Pvt. Ltd. - Survey No. 140/2, Saravali Boisar - Taluka Palghar - Thane 401501 -
Maharashtra, INDIA Tel. +91-0-9049991039/42/43 - Fax +91-0-2525 274266/67 - Email: quality@bebitz.in

Abnahmeprüfzeugnis 3.1 / Inspection certificate 3.1 / Certificat de reception 3.1 nach (A02) / acc. DIN EN 10204 : 2005 Nr. (A03) / No.13-53754 Datum (Z02) / Date 6/24/2013

Zeichen des Herstellers (A04)
Manufacturer's brand



Stempel des Abnehmers (Z03)
Stamp of the testing engineer



Überprüft als Hersteller nach AD-Merkblatt W0 / TRD100 und VdTÜV Werkstoffblätter 350/3, 354, 399. / Approved as manufacturer
acc. AD-Merkblatt W0 / TRD100 and VdTÜV Material Sheets 350/3, 354, 399.
Zertifiziert nach DGR 97/23/EG durch TÜV CERT Zertifizierungsst. für Druckgeräte der TÜV NORD GmbH Co KG, Benannte Stelle
Nr. 0045. / Certified acc. to PED 97/23/EC, certifying body for pressure equipment TÜV NORD GmbH Co KG, registration no. 0045.

Besteller MRC CANADA ULC
(A06) 7072-112 AVE SE CALGARY AB,
Customer T2C 4Z1 CANADA

Bestell-Nr (A07) / Order-No S 759 183225
Auftrag (A08) / Order BFW/2298
Lieferschein / Delivery No. 2533554
Position (B07.1) / Item 15

Stück (B08) Bezeichnung (B01; B09 - B11)
Quantity Product

Schmelze/Prüflos (B07)
Heat no./Test no.

402 2 inch Welding Neck Flange 150 lbs XS raised Face

A5587/1

Material LF2 Class 1 - ASTM A 350M-07 / ASME SA-350M/GR-248 / CSA Z245.12-2009 Sour Service Cat II
(B02; B05) forged 1050-1150 °C / normalized 898-925 °C, still air

Anford. ASME B 16.5-2003
(B03) NACE MR0175-2011 / MR0103-2010 - DIN EN ISO 15156-2 : 2009
Requirements 2011a ASME Boiler & Pressure Vessel Code - Section II Part A

Schmelzenanalyse (C71 - C92) / Ladle analysis

Erschmelzung (C70) / Melting process E

C	Si	Mn	P	S	Cr	Ni	Ti	Mo	Nb	V	N	Cu	Al	CEV
0.190	0.19	1.20	0.017	0.017	0.06	0.02	0.00	0.01	0.0010	0.020	0.000	0.020	0.032	0.41

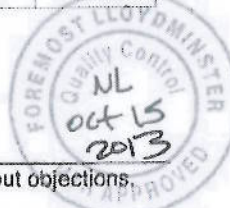
$$CEV = C + \frac{Mn}{8} + \frac{V + Mo + Cr}{5} + \frac{Ni + Cu}{15} \quad PREN = Cr + 3,3 \times Mo + 16 \times N$$

Mechanische Prüfungen / Mechanical tests

Probenlage (C02): q/t / Position of Specimen: q/t Tensile Test - ASTM A 370						$l_0 = 4 d_0$	KBV / Charpy Impact Test EN ISO 148-1 (V-notch, Position of specimen: q/t)					Härte (C32) Hardness ISO 6506-1
Temp (C03) °C	Streckgr. (C11) / Yield strength		Zugfestigk. (C12) Tensile strength N/mm²	Dehng. (C13) Elongation %	Einschnürg. Red. of area %	Temp. (C03) °C	Einzelwerte (C42) Single values J			MW (C43) Average J	HBW 10/3000	
	0,2% N/mm²	1,0% N/mm²										
20	min 250		485	22.0	30	-46	20			27	137	
	max		655								187	
20	301		508	29.0	60	-46	48	50	52	50.0	140	
20	282		503	30.4	59	-46	46	48	50	48.0	142	
20	277		497	29.6	59	-46	44	48	47	46.3	141	
20	306		502	30.6	58	-46	51	46	48	48.3	141	

2" RFWN 150# XS LF2
HT#A5587/1
P.O# 148582
Stock
Oct. 1/13

ASME VIII, DIVISION 1
EXEMPTION
RECEIVED



Besichtigung und Ausmessung ohne Beanstandungen. (D01) / Results of inspection and dimension without objections.
Die gestellten Anforderungen sind erfüllt. (Z01) / The product meets the requirements.

Ranjan Kumar Jena,
Abnahmebeauftragter des Herstellers (Z02)
Inspection Representative of the Manufacturer

F - QAC-09-04



SAN ENG STEEL FORGING CO LTD
311, Jen Hsin Road, Jen Wu District
Kaohsiung, Taiwan, R.O.C.
TEL:07-3724249 ; FAX:07-3712923
URL: www.saneng.com.tw
e-mail: saneng@ksts.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1 B(DIN50049/3.1.B)
Customer: TRANS AM PIPING PRODUCTS LTD.
Order No.: 7003948(17)-T/A

Certificate No.: SE-3948Q
Date: 12/12/2011
Page: 1 OF 1

PRODUCT		MATERIAL SPECIFICATIONS										DIMENSIONAL SPECIFICATIONS									
FORGED CARBON STEEL FLANGES		ASTM A105-10a/ASME SA105-10a										ASME B16.5-09 CSA Z245.12									
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)																	
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(*)					
1		150 WNRF STD 3" A105N		Min	0.350	0.100	0.600	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.020	-	-	-			
2		150 WNRF STD 4" A105N		Max	0.198	0.250	1.040	0.014	0.014	0.007	0.048	0.044	0.005	0.044	0.005	0.004	-	0.385			
3		600 WNRF XS 2" A105N			0.198	0.250	1.040	0.014	0.014	0.007	0.048	0.044	0.005	0.044	0.005	0.004	-	0.385			
					0.211	0.260	1.050	0.010	0.008	0.012	0.043	0.045	0.005	0.037	0.005	0.004	-	0.399			

Item No.	Heat No.	T.S.(*) (MPA)	Y.S.(*) (MPA)	E.L.(*) (%)	Hardness (HB)	R.A.(*) (%)	Impact Test: Temp: Minimum: Joule			Material Supplier	HEAT TREATMENT(*) ☒ N	REMARKS
							1	2	3			
1	10983	503.1	343.2	34.4	147/150	70.4				NTMK	880°C X3HRS CONFORMS WITH NACE MR0103-07 AND NACE MR0175/ISO15156.2 CONFORMS WITH Z245.12 CAT I GR.248 SOUR SERVICE-G5 TEST SPECIMEN ORIENTATION: TRANSVERSE	
2	10983	503.1	343.2	34.4	147/150	70.4				NTMK		
3	21381	508.0	359.9	34.2	149/147	70.4				NTMK		

*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.
 *2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved,
 A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.
 *3: C.E. Value = C + (Mn / 6) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.

Manager of Quality Assurance Dept



39
84
48

CLIENTE / Customer / Client

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

CERTIFICADO DE INSPECCION

Inspection Certificate - Certificat de Réception

ISO EN 10204 / 3.1
ISO 10474 / 3.1

FECHA:
Date:

28/07/2013

N.º
No.

159111

HOJA:
Page:

1



SGS 1922184



SGS 6000235



SGS 6000997



ULMA FORJA, S.COOP.

Certified acc. PED 97/23/EC+AD2000-WD
by TÜV Rheinland
N.º 01 202 E/Q 02 7443

8º Zubilaga, 3 - Apdo. 14
20560 ONATI (Gipuzkoa) SPAIN
Tel: 34 - 943 780552
Fax: 34 - 943 781838
E-mail: ulma@ulmapiping.com

MARCA DEL FABRICANTE
Mark of factory
Marque du fabricant



Packing List: 104058

DEPARTAMENTO QUALITY ASSURANCE
Section
Département

PRODUCTO
Article - Produit

FLANGES

SU PEDIDO N.º

Your Order No. 4810348-00/5755221470
Votre Cde. N.º

DE

of - de 18/07/2013

NORMAS APLICABLES
Requirements - Normes Applicables

ASME B16.5-13

MATERIAL CORRESPONDIENTE ASTM/ASME A105N-12

Material Correspondent - Qualité

MODO DE FUSION (*)

Steel Making - Elaboration de l'acier
E = Elec. Y = Oxígeno básico

NACE MR0175/ISO15156-2-08 & MR0103-12
Clause 7.2.1.4, Annex A.2 and SSC Region 3.
CSA-Z245.12-09 Gr.248 CAT I-SS (WN & BLIND FLANGES ONLY)

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	OBSERVACIONES Remarks Observations (*)	COLADA N.º Heat No N.º Coudée	RESISTENCIA T.Strength Résist. Rép. N/mm2	LARGO ELAST. Y.Strength 0.2 % N/mm2	ALARGAMIENTO Elongation Lo: 4 d %	ESTRICCION Red. Area Striction %	RESILIENCIA Impact test Résilience Joules	CHARPY V 10x10mm VEDA Average Moynave °C	DUREZA Hardness Dureté HBW
3 7530641	20	WN 4 600LB XXS RF A105N	NE	B04T3	514	320	29,20	55,40			154 159
20 7533967	8	WN 2 150LB STD/40 RF A105N	NE	1106V3	519	313	30,80	52,30			150 156
20 7533967	1.078	WN 2 150LB STD/40 RF A105N	NE	1131V3	520	318	29,70	50,30			151 158
21 7535732	360	BLIND 4 150LB RF A105N	NE	583A2	515	307	28,40	58,70			151 155
21 7535732	68	BLIND 4 150LB RF A105N	NE	A82T3	510	316	31,80	52,40			151 155
23 7531044	283	BLIND 2 600LB RF A105N	NE	555T2	508	305	28,40	58,60			149 154

COLADA N.º Heat No N.º Coudée	COMPOSICION QUIMICA - STEEL MAKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE															CEq %
	C %	SI %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	N %		
1106V3	0,170	0,185	1,020	0,013	0,002	0,155	0,032	0,007	0,002	0,003	0,085	0,022	0,010	0,005		0,381
1131V3	0,180	0,210	1,160	0,016	0,010	0,160	0,060	0,010	0,003	0,021	0,190	0,027	0,026	0,000		0,428
555T2	0,210	0,190	0,900	0,014	0,008	0,080	0,070	0,012	0,004	0,003	0,190	0,000	0,000	0,009		0,396
583A2	0,200	0,260	1,210	0,014	0,004	0,110	0,029	0,009	0,002	0,003	0,030	0,027	0,000	0,000		0,429
A82T3	0,200	0,190	0,900	0,012	0,011	0,070	0,130	0,020	0,008	0,001	0,280	0,000	0,000	0,000		0,396
B04T3	0,210	0,180	0,840	0,013	0,014	0,050	0,150	0,023	0,008	0,002	0,260	0,000	0,000	0,000		0,392

- Les dimensions y la condition superficielle se hallaron satisfactorias.
- Dimension and surface condition were found acceptable.
- Les dimensions et l'états de surface sont satisfaisants.

- Los materiales citados cumplen las normas aplicables.
- Manufacturing requirements are satisfied.
- Les normes applicables sont respectées.

(*) OBSERVACIONES:
Remarks
Observations

N NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR



EL INSPECTOR
Works Inspector - L'inspecteur
ULMA
ULMA FORJA, S.COOP.
Dpto. de Garantía de calidad
Quality Assurance Dept.

ASME VIII, DIVISION 1
SECTION II
ADDENDUM II

2" RFLW STD 150# SA105N
HT# 1131V3
P.048146660
Oct 1/13
Stock

40
60
85
87
91
93

3" CL 150 W/N FLANGE RF STD

Bore A105N

P.O. # 101902 169M# 2 Part # 1122
Heat Number: 10/70945
Trans Am Piping Products Ltd.
Shipment/Seq #: 11 1036ASME VIII, DIVISION 1
EDITION
ADDENDASTOCK
3" RFWN Cl. 150 STD
SA105N HT # 10/7094541
1122
METALFAR
 PRODOTTI INDUSTRIALI S.P.A.

 SEDE AMMINISTRATIVA E STABILIMENTO:
 23861 CESANA BRIANZA (LC) - Italy
 Via G. Parini, 28
 Tel. +39 031.655441
 Fax +39 031.655149
 quality.mff@armas.com

 STAMPAGGIO A CALDO DI ACCIAI COMUNI - LEGATI E INOSSIDABILI
 SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

 COMPANY WITH QUALITY MANAGEMENT
 SYSTEM CERTIFIED BY DNV
 = ISO 9001:2008 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

TRANS AM PIPING PRODUCTS LTD		Cart. N. 5248	Del/Dated 29.12.2010
8335 ENDEAVOR DRIVE S.E.		Fatture / Invoice N. 3885	Del/Dated 29.12.2010
T35 0A1 CALGARY, ALBERTA		ODT / Del Note N. 6883	Del/Dated 29.12.2010
CA		No. Ord. / Our ref. N.	Del/Dated

Pag. 2 - 6

COD. COL.	COLATA	POS.	VS. ORDINE	DESCRIZIONE								DIM. IN ACC. A								VISIVO E DIMENS.	
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	DESCRIPTION								DIM. ACCORDANCE TO								VIS. & DIMENS.	
→ 10/70945	003		666/TRANS AM	W/N 150 RF 3" STD A105								ASME/ANSI B16.5								SATISFACTORY	
MATERIALE / MATERIAL			C%	S%	Mn%	S%	P%	Cr%	N%	Mo%	Ti%	Cu%	V%	Nb%	N%	AP%	C.E.%				
ASTM A105			0,205	0,250	1,030	0,010	0,010	0,110	0,050	0,010	0,000	0,180	0,023	0,002	0,000	0,000	0,420				
PROVETTA / TEST SPECIMEN	SEZ. mm2	LONG. mm	FORMA	SNERVAMENTO		ROTTURA		ALLUNGAMENTO		CONTRAZIONE		DUREZZA		RESILIENZA / IMPACT TEST - JOULE/cm2				SNERVAMENTO			
SECT. mm2	LENGTH mm	1" O 2" O	SHAPE	YIELD POINT		TEMPLE STRENGTH		ELONGATION		REDUCTION OF AREA		HARDNESS		TPO / TYPE 1st/2nd				YIELD POINT			
125,80	50,80	1	1	N/mm2 >=0,2%		N/mm2 >=		%		%		HV		KV				N/mm2 >=0,2%			
				341,0	662,0		32,0		67,0		186,0 - 170,0		20 80 80 80				0,0				
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO				TRATTAMENTO TERMICO / HEAT TREATMENT								FORNO / FURNACE								ORIGINE / ORIGIN	
ASTM/ASME A 105/SA 105 M - 09 CSA Z245.12 GRADE 248 CAT.1				NORMALIZED AT 920 C - COOLED IN STILL AIR								ELECTRIC FURNACE								EUROPE	

COD. COL.	COLATA	POS.	VS. ORDINE	DESCRIZIONE										DIM. IN ACC. A					VISIVO E DIMENS.							
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	DESCRIPTION										DIM. ACCORDANCE TO					VIS. & DIMENS.							
10/72796			011	068/TRANS AM			W/N 300 RF 2 1/2" STD A105							ASME/ANSI B16.5					SATISFACTORY							
MATERIALE / MATERIAL				C%	S%	Mn%	S%	P%	Cr%	N%	Mo%	Ti%	Cu%	V%	Nb%	N%	AP%	C.E.%								
ASTM A105				0,180	0,240	1,160	0,009	0,013	0,080	0,060	0,020	0,023	0,180	0,003	0,002	0,000	0,029	0,398								
PROVETTA / TEST SPECIMEN	SEZ. mm2	LONG. mm	FORMA SHAPE 1" O 2" O	SNERVAMENTO YIELD POINT N/mm2 >=0,2%		ROTTURA TEMPLE STRENGTH N/mm2 >=		ALLUNGAMENTO ELONGATION %		CONTRAZIONE REDUCTION OF AREA %		DUREZZA HARDNESS HV		RESILIENZA / IMPACT TEST - JOULE/cm2				SNERVAMENTO YIELD POINT N/mm2 >=0,2%		N.B. OUR REF.						
SECT. mm2	LENGTH mm											TPO / TYPE 1st/2nd		KV												
125,80	50,80	1		339,0		646,0		33,0		68,0		184,0 - 166,0		20 80 80 80				0,0								
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO										TRATTAMENTO TERMICO / HEAT TREATMENT										FORNO / FURNACE					ORIGINE / ORIGIN	
ASTM/ASME A 105/SA 105 M - 09 CSA Z245.12 GRADE 248 CAT.1										NORMALIZED AT 920 C - COOLED IN STILL AIR										ELECTRIC FURNACE					EUROPE	

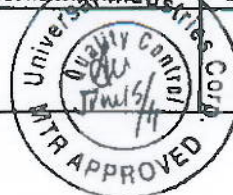
COD. COL.	COLATA	POS.	VS.ORDINE	DESCRIZIONE										DIM. IN ACC. A					VISIVO E DIMENS.	
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	DESCRIPTION										DIM. ACCORDANCE TO					VIS. & DIMENS.	
77953		026	666/TRANS AM	BLIND 150 RF 2"										A105					SATISFACTORY	
MATERIALE / MATERIAL				C%	S%	Mn%	S%	P%	Cr%	N%	Mo%	Ti%	Cu%	V%	Nb%	N%	AP%	C.E.%		
ASTM A105				0,185	0,180	0,900	0,017	0,025	0,120	0,060	0,010	0,005	0,200	0,002	0,001	0,000	0,000	0,378		
PROVETTA / TEST SPECIMEN	SEZ. mm2	LONG. mm	FORMA	SNERVAMENTO		ROTTURA		ALLUNGAMENTO		CONTRAZIONE		DUREZZA		RESILIENZA / IMPACT TEST - JOULE/cm2				SNERVAMENTO	VALUT. OTHER DESP.	
	SECT. mm2	LENGTH mm	SHAPE	YIELD POINT		TEMPLE STRENGTH		ELONGATION		REDUCTION OF AREA		HARDNESS		TPO / TYPE 1st/2nd				YIELD POINT		
	SECT. mm2	LENGTH mm	1" O 2" O	N/mm2 >=0,2%		N/mm2 >=		%		%		HV		KV				N/mm2 >=0,2%		
	126,60	50,80	1	342,0		512,0		32,0		62,0		184,0 - 166,0		20 80 80 80				0,0		
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO				TRATTAMENTO TERMICO / HEAT TREATMENT										FORNO / FURNACE					ORIGINE / ORIGIN	
ASTM/ASME A 105/SA 105 M - 09 CSA Z245.12 GRADE 248 CAT.1				NORMALIZED AT 920 C - COOLED IN STILL AIR										ELECTRIC FURNACE					EUROPE	

 NOTE MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATIONS
 NOTES MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003 ISO 15180
 MATERIAL IN ACCORDANCE WITH NACE MR-0103/2007

Universal Industries

Entered Receipt into Visual

JUN 14 2011

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTMENTENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITYMARCHIO PRODUZIONE
MANUFACTURER'S SYMBOL

MFF

TRILAD Flanges and Fittings, Inc.

30 WOODSLEE AVE.
PARIS, ON, CANADA N3L 3V1
(PHONE) 519-442-6520
(FAX) 519-442-7658
www.tri-lad.com



ISO 9001:2008

CERTIFIED MATERIAL TEST REPORT

Certificate No. **13165152**

EN 10204 3.1

Date of Report **4/03/2013**

Customer
ALLIED EDMONTON - CADS
172 TURBO DRIVE
SHERWOOD PARK AB T8H 2J6

Customer Order No.
391902

Quantity
200

Tri-Lad Order No. **566795** Line No. **1**

Specification A105N	STOCK	Heat Treatment NORMALISED
Item Description 2 150 WN STD RF A105N	(801582)	Temperature Init 1925 F 1051 C
Shop Order/Trace No.		Time N = .52HRS
Lot No.		Lot Definition
Heat Code TL10003783		
C.E. .40	Melt Practice	

Chemical Composition										
Heat Product	C .22	Mn 1.01	P .023	S .005	Si .23	Cu .02	Ni .02	Cr .06	Mo .00	V .001
Heat Product	Nb .00									
Heat Product										

Mechanical Properties							Impact Values	Shear Fracture
Yield Ksi 43 Mpa 293	Tensile Ksi 81 Mpa 559	Elongation 27 %	Reduction of Area 46 %	Hardness BHN 156 BHN 159	Impact Test Temperature			
Tensile Specimen STD RD								
Lateral Expansion	Impact Type	Impact Orientation	Starting Material	Impact Specimen				

Cr+Mo ≤ 0.32%
Cr+Cu+Mo+Ni+V ≤ 1.00%
Mn/C ≥ 3.0
CE = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15

ASTM A105N-12
ASME SA105N 2010 Edition 2011A Addenda

Notes
0.06
0.10
4.59
0.40

ASME VIII, DIVISION 1
EDITION 11
ADDENDA

CSA Z245.12-09 GR 248 CAT I SS
ANSI/NACE MR0175/ISO15156:2009(E)
NACE MR0103 LATEST ED.
NACE MR0175/ISO15156-09



Material is in accordance with the applicable Standard to which it is ordered including:
ASME Sect II, ASME B16.5, B16.9, B16.36, B16.47, CSA, MSS, AWWA C-207.

NO WELD REPAIR

Material conforms to both ASTM (A) and ASME (SA) applicable specifications.

We hereby certify that all information presented on this CMTR conforms to the above specification.

We hereby certify the results to be a true copy of the records of the company.

Les Mansfield
Les Mansfield, CET
Quality Assurance Manager

Stock
Sept. 24/13

2" STD RFWN ISO# SA105N
HT# TL10003783
P.O# 149555

45

PO# 127349

Stock



METALFAR
PRODOTTI INDUSTRIALI S.P.A.

STAMPAGGIO A CALDO DI ACCIAI COMUNI - LEGATI E INOSSIDABILI

SEDE AMMINISTRATIVA E STABILIMENTO:
23861 CESANA BRIANZA (LC) - Italy
Via G. Parini, 28
Tel. +39 031.655441
Fax +39 031.655149
quality.mf@farmas.com

COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Certif. N. 3021	Del/Dated 15.06.2012	Fattura / Invoice N.	Del/Dated
DDT / Del Note N.	Del/Dated	Ns.Ord. / Our ref. N.	Del/Dated
TRANS AM PIPING PRODUCTS LTD			
9335 ENDEAVOR DRIVE S.E.			
T3S 0A1 CALGARY, ALBERTA		CA	

Pag. 2 - 10

COD. COL.	COLATA	POS.	VS. ORDINE		Q.TA'	DESCRIZIONE		DIM. IN ACC. A										VISIVO E DIMENS.			
HEAT CODE	HEAT	ITEM	YOUR REFERENCE		Q.TY	DESCRIPTION		DIM. ACCORDANCE TO										VIS. & DIMENS.			
	12/30373				324,00	W/N 150 RF 2" STD A105N		ASME/ANSI B16.5 -2009										SATISFACTORY			
MATERIALE / MATERIAL			C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%				
ASTM A105 (LADLE)			0,200	0,230	0,970	0,010	0,008	0,090	0,040	0,010	0,018	0,090	0,002	0,002	0,000	0,028	0,391				
PROVETTA / TEST SPECIMEN	FORMA	SNERVAMENTO	ROTTURA		ALLUNGAMENTO	CONTRAZIONE		DUREZZA		RESILLENZA / IMPACT TEST - JOULE/cm2						SNERVAMENTO					
SEZ. mm2	SHAPE	YIELD POINT	TENSILE STRENGTH		ELONGATION	REDUCTION OF AREA		HARDNESS								YIELD POINT					
126,60	1=O 2=□	N/mm2 >=0,2%	N/mm2 >=		%	%		HFW		TIPO / TYPE 10x10mm °C						N/mm2 >=1,5%					
60,80	1	345,0	525,0		31,0	68,0		156,0 - 159,0		KV 20 1 82 86 88						0,0					
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO								TRATTAMENTO TERMICO / HEAT TREATMENT								FORNO / FURNACE		ORIGINE / ORIGIN			
ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010								NORMALIZED AT 920 C - COOLED IN STILL AIR								ELECTRIC FURNACE		EUROPE			
CSA Z245.12 GRADE 248 CAT.I																					

COD. COL.	COLATA	POS.	VS. ORDINE		Q.TA'	DESCRIZIONE		DIM. IN ACC. A										VISIVO E DIMENS.			
HEAT CODE	HEAT	ITEM	YOUR REFERENCE		Q.TY	DESCRIPTION		DIM. ACCORDANCE TO										VIS. & DIMENS.			
10/73802					150,00	W/N 150 RF 1.1/2" XS A105N		ASME/ANSI B16.5 -2009										SATISFACTORY			
MATERIALE / MATERIAL			C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%				
ASTM A105 (LADLE)			0,190	0,260	1,060	0,007	0,010	0,080	0,050	0,010	0,019	0,190	0,003	0,002	0,000	0,027	0,400				
PROVETTA / TEST SPECIMEN	FORMA	SNERVAMENTO		ROTTURA		ALLUNGAMENTO		CONTRAZIONE		DUREZZA		RESILLENZA / IMPACT TEST - JOULE/cm2				SNERVAMENTO		No. REF. OUR REF.			
SEZ. mm2	SHAPE	YIELD POINT		TENSILE STRENGTH		ELONGATION		REDUCTION OF AREA		HARDNESS		TIPO / TYPE 10x10mm				YIELD POINT					
126,60	1=O 2=□	N/mm2 >=0,2%		N/mm2 >=		%		%		HFW		°C				N/mm2 >=1,5%					
60,80	1	336,0		539,0		30,0		58,0		159,0 - 163,0		KV				0,0					
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO								TRATTAMENTO TERMICO / HEAT TREATMENT								FORNO / FURNACE				ORIGINE / ORIGIN	
ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010								NORMALIZED AT 920 C - COOLED IN STILL AIR								ELECTRIC FURNACE				EUROPE	
CSA Z245.12 GRADE 248 CAT.I																					



ASME VIII, DIVISION 1
EDITION 10
ADDENDA II

Universal Industries
Entered Receipt into Visual

AUG 16 2012

NOTE MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION
NOTES MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003 ISO 15156-2009
MATERIAL IN ACCORDANCE WITH NACE MR-0103/2010

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTMENT

ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY

MARCHIO PRODUZIONE
MANUFACTURER'S SYMBOL

S. Cori
Carlo Sergio



OFFICINE NICOLA GALPERTI E FIGLIO S.p.A.
 Capitale Sociale € 2.892.500,00 interamente versato
 Sede legale e Amministrazione: 33024 BIELVO (UD) - Via Enrico Fermi, 46
 C.C.I.A.A. Lecce n.00208990138 - R.E.A. 78015 - C.F. e P.IVA IT00205880138
 Stabilimento - Uffici Amministrativi / Warehouse - Others - Making address:
 32010 QERA LARIO (CO) - Via Trivio Fuentes, 4 - Tel. 0346-97200 - Fax 0346-97210
 E-mail: galperti@galperti.com - www.galperti.com

SPETT.LE / MESSRS:
MRC CANADA ULC Page 1 of 2
7072 - 112 AVE SE - 5220 51 STREET
CALGARY AB, T2C 4Z1 (CDN)

CERTIFICATO DI COLLAUDO EN 10204
TEST CERTIFICATE EN 10204
NS. ORDINE / INTERNAL JOB
121447

100 Original
3.1
DATA / DATE
07/03/2013
VS. ORDINE / YOUR
S. 759.180758 REV.1
DATA / DATE
28/09/2012

POS / ITEM
010/010
DESCRIZIONE / DESCRIPTION
2" 300 WN RF XS LF2 B1 FSF4
QUANTITA' / QUANTITY
905 S
MATERIALE / MATERIAL
ASTM A350/07 LF2 CL1
N° COLATA / PROVA
HEAT N° / TEST N°
1249389.L1/85
ACCIAIERIA
STEEL MILL
LUCCHINI PIONBI

ANALISI CHIMICA / CHEMICAL ANALYSIS

	C %	MN %	SI %	P %	S %	CR %	NI %	MO %	CU %	V %	SN %	AL %	NB %	TI %	N %	B %	H %	O %
A	0.175	1.190	0.230	0.016	0.005	0.140	0.028	0.007	0.046	0.017	0.004	0.036	0.002	0.002	0.005	0.0002	0.0003	0.001
A C	0.170	1.185	0.250	0.015	0.003	0.145	0.030	0.010	0.050	0.015	0.004	0.053	0.002	0.002	0.005	0.0002	0.0003	0.001
A	CA%														0.4%	0.3%	FC%	FL%
A	0.001														0.238	0.147	0.373	0.411
A C	0.001														0.250	0.155	0.367	0.406

NOTE / NOTES
 04=Copper+Nickel+Chromium+Molybd.+Vanadium
 03=Chromium + Molybdenum
 FC=Carbon Equivalent Short Formula
 FL=Carbon Equivalent Long Formula
 CU+NI+CR+MO+V
 CR+MO
 C+(MN/6)
 C+(MN/6)+((CR+MO+V)/5)+((NI+CU)/15)

C = ANALISI DI PRODOTTO / CHECK ANALYSIS

CARATTERISTICHE MECCANICHE / MECHANICAL PROPERTIES

TIPO TYPE	DIAMETRO PROVETTA mm	SEZIONE AREA mm²	LUNGHEZZA LENGTH mm	TRAZIONE / TENSILE				RESILIENZA / CHARPY TEST				DUREZZA HB HARDNESS (AVERAGE)
				TEMP. TEMPERATURE °C	ROTTURA TENILE Mpa	SNERVAMENTO YIELD Mpa	ALL. ELONG %	CONTR. REDUCT. %	TIPO TYPE KV	TEMP. TEMPERATURE °C	VALORI / VALUES Joule	
A S	12.50	122.70	50.00	20	485	250	22.0	30.0	-46	Min. 16 Med. 20	197	
A O	12.50	122.70	50.00	20	530	310	30.8	69.2	-46	61 64 66	155	

NOTE / NOTES
 O = OTTENUTE / OBTAINED
 S = STANDARD

TRATTAMENTI TERMICI / HEAT TREATMENTS
 Normalized at 900 dgr.C for 1 h.-Cooling from 900 dgr. in still air

NOTE GENERALI / GENERAL NOTES
 FINITURE / ROUGHNESS
 FSF4=Ra = 125 AARH
 STANDARD
 B1 = ASME 816.5 ED.09 Inch STD

NOTE / NOTES
 Material according to Technical Specification MRC-FLG-001 Rev.0.
 Material according to NACE MR-01-75 / ISO 15156-2 Sour service Region 3-2009 and NACE MR0103-2010.

MARCHIO DI FABBRICA TRADE MARK
DATA COLLAUDO INT. INSPECT DATE
07/03/2013
COLLAUDATORE INT. INSPECTOR
P. CESARE

ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY

FOREMOST LLOYD MINSTER Quality Control
ASTM VIII, DIVISION 10
EDITION 11
Sept 30 2013
MTR APPROVED

6A-0388
18A-0007
17C-0018

Certified acc. PED 97/23/EC
By LLOYD'S Register
No. LRC 188212

48,49

Sept. 24/13

2" 300# XH LF2 RFWN
 HT# 1249389
 P.O# 14855-
 W.O# 28974

51,
86,
90

NORMA (INDIA) LIMITED 48, Site IV industrial Area, Sahibabad, Ghaziabad-201010 (U.P) INDIA. Tel: 91-120-2896091, 2895404 Fax: 91-120-2895930 E-mail: norma.india@gmail.com				Works Test Certificate			
NORMA/LAB NO-3428/11-12				INVOICE NO. E-344		DATE:-19-12-11	
P. Order. No: 62271		Customer:-		SILBO IND. INC.		Forging specification	
Component 3"-150# WNRF STD FLG.				U.S.A		ASME SA105 -09 ASTM A105 -09	
Drawing No.						Steel Supplier	
Machining STD		Quantity:-		504Nos.		R.I.N.L	
ANSI B16.5- 2009						Mill Heat No.	
ASME B16.5- 2009						110587	
TEST RESULTS				NORMA HEAT NO-737			
CHEMICAL COMPOSITION				MECHANICAL PROPERTIES.			
Elements %	Specified Composition	Actual		PROPERTIES	SPECIFIED	OBTAINED	Specified carbon as per Purchase Order 0.25max.
		NORMA LAB	MILL T.C.				
Carbon	0.35max.	0.21	0.20	Yield Strength (mpa)	250.00 min.	356.50	Serrated face as per MSS-SP-6 With in limits of 125-250AARH
Manganese	0.60-1.05	0.88	0.86				
Silicon	0.10-0.35	0.22	0.20	Tensile Strength (mpa)	485.00 min.	529.16	H.T- Normalised at temp 920°C
Sulphur	0.040max.	0.025	0.027				
Phosphorous	0.035max.	0.020	0.022	%Elongation in 50mm / 4D	22.00 min	34.92	CARBON EQUIVALENT (CE) CE = C + $\frac{Mn}{6}$ + $\frac{Cr+Mo+V}{5}$ + $\frac{Ni+Cu}{15}$
Chromium	0.30max.	0.008	---	Hardness HB.	187. max.	153-156	
Nickel	0.40max.	0.003	---	% Reduction of Area	30.00 min.	63.03	MARKING AS PER MSS-SP-25-1978 3"-150 STD SA105 N737 B16.5 NORMA INDIA.
Copper	0.40max.	0.002	---				
Molybdenum	0.12max.	0.001	---	Remarks:- We here by certify that the material described here in has been tested in accordance with the applicable specifications referred above and meets the requirements as per EN10204/3.1B & NACE Standard-MR0175-2003			Checked by: Metallurgist
Vanadium	0.080max.	0.002	---				
Carbon Equivalent (CE)	0.47max.	0.358	0.343				Certified by: Quality Control Manager

Plate 5/16" x 8'-2" x 32' SA36
(NW9295, NW9385)

Stock

52
76
77
79

EVRAZ

EVRAZ INC. NA

Evraz Oregon Steel 14400 N. Rivergate Blvd., Portland, Oregon 97203

REPORT OF CHEMICAL/PHYSICAL TESTS

ISO 9001 REGISTERED U.S. PLATE PRODUCER	SOLD TO	FOREMOST UNIVERSAL LP 6614 50TH AVE LLOYDMINSTER, AB T9V 2K2 CANADA	FOREMOST UNIVERSAL 5014 65TH STREET LLOYDMINSTER, ALBE T9V 2K2 CANADA	CERTIFICATE NO. 1318669 DATE Jul 31, 2013 PAGE 2
				MILL ORDER NO. 267280 DATE
				CUSTOMER ORDER NO. PO-145003
				JOB/REQ. NO.
				SHIPPING NO. 1318669 DATE 07/31/2013

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
 STRUCTURAL QUALITY PLATE CSA G21-04 CSA G40.21-04 GRADE 260W (38W)/300W (44W)
 ASTM A36-08. ASME SA36-2010/ 11ADD. MEETING MATERIAL REQUIREMENTS OF API650 GR
 III. KILLED FINE GRAIN PRACTICE.

CARRIER
UNION PACIFIC
 CAR/TRUCK NO.
ORANGE

PHYSICAL PROPERTIES

ITEM NO.	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
2	0.2500 X 98.000 X 384.000									
	1 PC 2668 LBS	^ NW9384		605	760	24				
	8 PCS 21344 LBS	^ NW9388		595 585	750 740	23 20				
4	0.3125 X 98.000 X 384.000 SCHEDULE B:7208.52.00.93									
	1 PC 3335 LBS	^ NW9295		580	740	28				
	4 PCS 13340 LBS	^ NW9385		595	745	22				
	22 PCS 59363 LBS TOTALS									

Foremost Universal LP
 Lloydminster North
 Entered Receipt into Visual
 AUG 21 2013

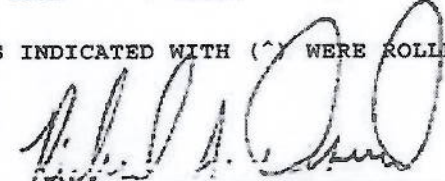

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	McQuaid Bhn Grain Size
NW9384	.14	1.09	.011	.009	.25	.01	.05	.018	.015	.057	.02	.00	.002		.0046			
NW9388	.14	1.09	.011	.009	.24	.01	.05	.020	.016	.058	.02	.00	.002		.0055			
NW9295	.13	1.05	.013	.007	.22	.01	.04	.017	.014	.039	.02	.00	.002		.0035			
NW9385	.14	1.08	.013	.008	.24	.01	.05	.016	.015	.050	.02	.00	.002		.0051			

HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (^) WERE ROLLED IN THE USA.

..... END OF REPORT

I certify the above to be correct as contained in the records of EVRAZ INC. NA By


 Richard Deschand Quality Coordinator

54, 55, 56
57,

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

CERTIFICADO DE INSPECCION

Inspection Certificate - Certificat de Réception

DIN EN 10204 / 3.1
ISO 10474 / 3.1



ULMA FORJA, S.COOP.

FECHA: 07/06/2013 N.º 157916

HOJA:

PRODUCTO FLANGES
Article - Produit

SU PEDIDO N.º
Your Order No. 4810330-00/S759208550
Votre Cde. N.º

DE
of. - de 05/04/2013

Certified acc. PED 97/23/EC+AD2000-W0
by TÜV Rheinland
N.º 01 202 E/Q 02 7443

8º Zubilaga, 3 - Apdo. 14
20560 OÑATI (Gipuzkoa) SPAIN
Tel.: 34 - 943 780552
Fax: 34 - 943 781808
E-mail: ulma@ulmapiping.com

NORMAS APLICABLES ASME B16.5-13
Requirements - Normes Applicables

MARCA DEL FABRICANTE
Mark of factory
Marque du fabricant

Packing List: 102843

MATERIAL CORRESPONDIENTE ASTM/ASME A/SA350LF2-12, A/SA105M-12

Material Correspondent - Qualité
MODO DE FUSION (*)
Steel Making - Elaboration de l'acier
E = Elec. Y = Oxígeno básico

NACE MR0175/ISO15156-2-09 & MR0103-12
Clause 7.2.1.4, Annex A.2 and SSC Region 3.
CSA-Z245.12-09 Gr.248 CAT II-SS (WN & BLIND FLANGES ONLY)

DEPARTAMENTO QUALITY ASSURANCE
Section
Département

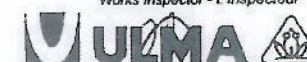
PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	LOTE	OBSERVACIONES Remarks Observations (*)	COLADA N.º Heat No N.º Coulée	RESISTENCIA T.Strength Resist Rupt N/mm2	LARGO ELAST. Y.Strength 0.2 % N/mm2	ALARGAM. Elongation Alongement Lo. 4 d %	ESTRICCION Red. Area Striction %	RESILIENCIA Impact test Résilience Joules	CHARPY V 10x10mm MEDIA Average Moyenne °C	DUREZA Hardness Dureté HBW
31 7586891	62	WN 8 150LB STD/40 RF A350LF2	283	NE	411V2	530	330	25,00	52,10	52 66 36	52 -50	157 161
31 7586891	2	WN 8 150LB STD/40 RF A350LF2	193	NE	803V2	516	314	31,50	62,60	39 40 50	43 -50	147 153
31 7586891	6	WN 8 150LB STD/40 RF A350LF2	983	NE	A61V3	520	317	25,00	53,20	57 61 58	59 -50	150 150
36 7585291	50	WN 6 150LB XS/80 RF A350LF2	553	NE	A45V3	536	328	25,90	53,10	67 76 47	64 -50	154 155
40 7586600	45	THR 2 150LB RF A350LF2	2942	NE	1098V2	531	317	26,10	56,40	48 53 49	50 -50	156 160
42 7585267	17	WN 4 150LB XS/80 RF A350LF2	753	NE	A67V3	523	328	25,90	54,50	61 62 63	62 -50	156 157

COLADA N.º Heat No N.º Coulée	COMPOSICION QUIMICA - STEEL MAKER'S LADLE ANALYSIS - ANALYSE CHIMIQUE																
	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	N %	CEq %		
1098V2	0,170	0,220	1,030	0,015	0,003	0,155	0,047	0,014	0,003	0,004	0,105	0,027	0,017	0,000	0,386		
411V2	0,207	0,193	0,930	0,012	0,003	0,070	0,140	0,032	0,000	0,004	0,242	0,023	0,000	0,000	0,409		
803V2	0,210	0,208	0,920	0,007	0,007	0,044	0,050	0,010	0,006	0,005	0,116	0,031	0,000	0,000	0,386		
A45V3	0,210	0,220	0,860	0,009	0,004	0,187	0,078	0,053	0,001	0,002	0,243	0,024	0,000	0,000	0,423		
A61V3	0,200	0,210	0,850	0,015	0,002	0,195	0,094	0,035	0,001	0,002	0,252	0,030	0,000	0,000	0,411		
A67V3	0,210	0,230	1,020	0,012	0,002	0,072	0,078	0,029	0,001	0,001	0,230	0,035	0,000	0,000	0,421		

- Las dimensiones 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
N_ NORMALIZED AT 900 C AND ALLOWED TO COOL IN STILL AIR



ASME VIII, DIVISION 1
EDITION 2000
10
11

4" XS RW10 1500 LF2
HT# A67V3
P.O# 144580
Oct 1/13



ISO 9001:2008

TRILAD Flanges and Fittings, Inc.

30 WOODSLEE AVE.
PARIS, ON, CANADA N3L 3V1
(PHONE) 519-442-6520
(FAX) 519-442-7658
www.tri-lad.com

CERTIFIED MATERIAL TEST REPORTCertificate No. **13174685**

EN 10204 3.1

Date of Report **9/23/2013**

Customer
ALLIED EDMONTON - CAD\$
172 TURBO DRIVE
SHERWOOD PARK

AB T8H 2J6

Customer Order No.
414992Quantity
1

Tri-Lad Order No. **592395**
Line No. **2**

Specification A350-LF2-CL 1 STOCK		Heat Treatment NORMALISED	
Item Description 12 150 WN XS RF LF2 CL1 (882319)		Temperature Init 1706 F 930 C	
Shop Order/Trace No.		Time N=1.25HRS	Lot Definition
Lot No.			
Heat Code TL10006471			
C.E. .40	Melt Practice EF		

Chemical Composition										
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	
.17	1.19	.030	.012	.22	.08	.07	.09	.02	.004	
Nb										
.00										

Mechanical Properties									
Yield	Tensile	Elongation	Reduction of Area	Hardness	Impact Test	Impact Values			Shear Fracture
Ksi 58	Ksi 80			HBW 156	Temperature	Ft-lbs	122	118	125
Mpa 399	Mpa 550	30 %	57 %	HBW 156	M50 F	Joules	165	160	169
					M46 C				
Tensile Specimen		STD RD							
Lateral Expansion		Impact Type	Impact Orientation	Starting Material			Impact Specimen		
		VNOTCH	TANGENTIAL				FULL SIZE		

Notes

Cr+Mo ≤ 0.32% 0.10
 Cr+Cu+Mo+Ni+V ≤ 1.00% 0.26
 Mn/C ≥ 3.0 7.00
 CE = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15 0.40

ASTM A350-12 LF2 CLASS 1 CSA Z245.12-09 GR 248 CAT II M46C SS
 ASME SA350 2010 Ed 2011A Addendum LF2 CLASS ANSI/NACE MR0175/ISO15156:2009(E)
 NACE MR0103 LATEST ED.
 NACE MR0175/ISO15156-09

Material is in accordance with the applicable Standard to which it is ordered including:
 ASME Sect II, ASME B16.5, B16.9, B16.36, B16.47, CSA, MSS, AWWA C-207.
 NO WELD REPAIR

Material conforms to both ASTM (A) and ASME (SA) applicable specifications.
 We hereby certify that all information presented on this CMTR conforms to the above specification.

We hereby certify the results to be a true copy of the records of the company.

Les Mansfield
 Les Mansfield, CET
 Quality Assurance Manager

ASME VIII, DIVISION
 EDITION 11
 ADDENDUM 11

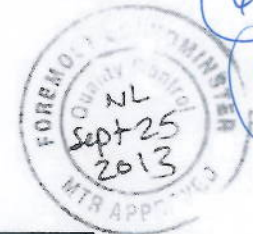


59

Wett 28978
 Sept 24/13
 12" ISOT RFLW XS LF2
 HT# TL10006471
 P.O# 149555

6" 150# STD RFWN SA105L
HT# H 4120
P.O# 149156
Stock
Sept. 18/13

FORM VIII, DIVISION 1
EDITION 10
APPENDIX



R.N. GUPTA & COMPANY LTD., C-55, FOCAL POINT, LUDHIANA -141 010 (INDIA)

MATERIAL / MILL TEST CERTIFICATE EN 10204 : 2004 - 3.1



CERTIFICATE NO. 4308 DATE 29/08/2012

NAME OF BUYER

RAW MATERIAL SPECIFICATION : ASTM A105-09/ASME SA105-09

SPECIFICATION FOR INSPECTION : ANSI/ASME B16.5-2009

P.O NO. 62933 DT. 09/03/2012

INVOICE NO. RNG/EXP/3213 DT. 24/08/2012

MECHANICAL REQUIREMENTS

Sr. No.	Description	Qty (PCS)	Heat No.	Supp. Code	Y.S(Psi) Min 36,000	T.S(Psi) Min 70,000	E% Min 22%	R.A% Min 30%	Heat Treatment	Soaking Time (Min.)	Hardness BHN 137-187
9	3 150# SOFF FLGS	6	H 3762	31	49316	75205	31.40	63.42	NORMALISED	50	144 - 146
10	3 150# SOFF FLGS	1	H 4098	22	50696	71655	33.50	63.80	NORMALISED	50	148 - 150
11	3 150# SOFF FLGS	6	H 3995	18	46061	72146	32.80	61.81	NORMALISED	50	142 - 144
12	3 150# SOFF FLGS	1	H 3851	22	48420	73956	29.20	61.41	NORMALISED	50	144 - 146
13	4 150# WNRF XH FLGS	91	H 4139	22	51497	71733	33.20	64.57	NORMALISED	50	141 - 143
14	4 150# WNRF XH FLGS	9	H 4134	22	48927	74380	31.60	62.41	NORMALISED	50	144 - 146
15	6 150# WNRF STD FLGS	100	H 4120	22	48962	75747	31.20	62.41	NORMALISED	50	144 - 146
16	6 150# WNRF STD FLGS	100	H 4120	22	48962	75747	31.20	62.41	NORMALISED	50	144 - 146

CHEMICAL REQUIREMENTS

Sr. No.	Heat No.	SPECIFIED ELEMENTS						UNSPECIFIED ELEMENTS				
		C.E. 0.47% Max	C 0.35 Max	Mn 0.60-1.05	P 0.035 Max.	S 0.04 Max.	Si 0.10 -0.35	Cu 0.40 Max.	Ni 0.40 Max	Cr 0.30 Max.	Mo 0.12 Max.	V 0.05 Max.
9	H 3762	0.39	0.23	0.94	0.014	0.012	0.24	0.004	0.021	0.016	0.005	0.002
10	H 4098	0.35	0.19	0.96	0.021	0.018	0.25	0.007	0.008	0.006	0.003	0.002
11	H 3995	0.36	0.19	0.92	0.017	0.023	0.19	0.009	0.019	0.038	0.015	0.002
12	H 3851	0.38	0.22	0.92	0.019	0.006	0.25	0.008	0.012	0.024	0.006	0.002
13	H 4139	0.36	0.20	0.92	0.017	0.016	0.19	0.013	0.011	0.011	0.003	0.002
14	H 4134	0.37	0.21	0.90	0.017	0.016	0.27	0.008	0.012	0.014	0.003	0.002
15	H 4120	0.41	0.23	0.97	0.025	0.022	0.23	0.006	0.008	0.020	0.004	0.002
16	H 4120	0.41	0.23	0.97	0.025	0.022	0.23	0.006	0.008	0.020	0.004	0.002

Material in accordance with NACE MRO 175-2003 and NACE MRO 103

All Products were manufactured, Sampled, Tested and Inspected Solely by the manufacturer shown on this Test Report in accordance with indicated specification and were found to meet the requirements.

No Weld Repair was performed and all products are free of Weld Repair. All Products are free of Mercury Contamination and Radioactivity.

Note:- We hereby confirm that our QA system comply with the requirements of Annex I, Clause 4.3 of PED 97/23/EC and it is certified by M/s Det Norske Veritas vide Certificate No. 95036-2011-CE-IND-DNV Dated 31-03-2014 ISO 9001-2008 Certificate No. is 39752-2008-QA-INDIA-RvA.01 Dated 23/07/2011.

For R.N. GUPTA & COMPANY LTD.

[Signature]
METALLURGIST

Phone (780) 466-4122
Fax (780) 463-5587

KS Manufacturing Enterprises Ltd.

5203-76 Avenue
Edmonton, Alberta T6B 0A7

MATERIAL TEST REPORT 25070

Date: 2013-11-07

Purchaser: UNIFIED ALLOYS (EDMONTON) LTD.

Distributor:

Purchaser Order No. EP108433

Distributor Order No:

Products

Item No.	Qty.	Product	Specification	Heat No	Description
1	2	1-1/4" X 5" LONG 3000 THRD COUPLING B16.11 CRN# 0A0297.2	A/SA182 F316/316L	H9E5	2-1/4" RD BAR ASTM A484-11, A276-10, A479-12, A182-10 CHEM ONLY, A320-08 B8M CL 1, A193-10A B8M CL 1, ASME SA479-10a, SA182-10 CHEM ONLY, SA193-10 B8M CL 1, NACE MR01-75/ISO 15156, NACE MR01-03, EN 10204 3.1
2	1	1-1/2" X 5" LONG 3000 THRD COUPLING B16.11 CRN# 0A0297.2	A/SA182 F316/316L	F9F0	2-1/2" RD BAR ASTM A484-11, A276-10, A479-11, A182-10 CHEM ONLY, ASME SA479-10A, SA182-10 CHEM ONLY, ASTM F899-11, AMS 5648L/ 5653G. AMS QQS-763B, QQS-763F, NACE MR01-75/ISO 15156, NACE MR01-03, EN 10204 3.1

Chemical Properties

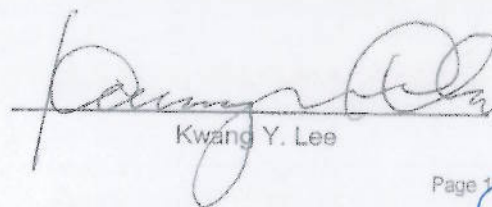
Heat No. C	Mn	P	S	Si	Cr	Ni	Mo	Cu	V	Nb	Co	N	Al	Sn	Ti
H9E5	.0179	1.4195	.0325	.0270	.2910	16.831	10.535	2.0540	.4050	-	-	.3110	.0589	-	-
F9F0	.0209	1.2820	.0280	.0220	.3075	16.751	10.600	2.0160	.3250	-	-	.2280	.0437	-	-

Mechanical Properties

Item No.	Heat No	Yield	Tensile	Elong % in 2"	RA	B.H.N.	Impact FT LB	Remarks
1	H9E5	42,000 PSI	84,000 PSI	42.0	54.0	143	CORROSION: ASTM A262 PRAC E OK	SLTN ANNLD: 1900 F. WQ
2	F9F0	43,000 PSI	87,000 PSI	52.0	69.0	164	CORROSION: ASTM A262 PRAC E OK	SLTN ANNLD: 1900 F. WQ

1/4x5/1/2x5 3000# long couplings
HT# H9E5/F9F0
P.O# 152250
WCH# 28974
Nov. 12/13

We hereby certify the above results to be correct as contained in the records of the company.


Kwang Y. Lee

65/66
64

67, 68, 69, 70, 71

REPORT OF CHEMICAL/PHYSICAL TESTS

CERTIFICATE NO.	DATE	PAGE
1102095	Jul 16, 2010	1

	SOLD TO	UNIVERSAL INDUSTRIES 5014 65TH STREET LLOYDMINSTER, ALBE T9V 2K2 CANADA	UNIVERSAL INDUSTRIES 5014 65TH STREET LLOYDMINSTER, ALBE T9V 2K2 CANADA
		MILL ORDER NO. 232536 DATE	
		CUSTOMER ORDER NO. PO-082562	
		JOB/REQ. NO.	
		SHIPPING NO. 1102095 DATE 07/16/2010	

THIS MATERIAL HAS BEEN MANUFACTURED, TESTED AND FOUND TO MEET THE SPECIFICATIONS AND PURCHASE ORDER REQUIREMENTS
 CARBON STRUCTURAL QUALITY PLATE CSA G40.21-04 GRADE 260W CSA 260W API 650 CSA
 38/44W - ASTM A36 - API GR3. KILLED FINE GRAIN PRACTICE. .80 MIN MN, 1.10 MAX
 MN, 44 KSI MIN YIELD.

CARRIER
BURLINGTON NORTHERN
CAR/TRUCK NO.
WHITE

PHYSICAL PROPERTIES

ITEM NO	DESCRIPTION	HEAT NO.	SLAB	YIELD PSI X 100	TENSILE PSI X 100	% ELONG 8" 2"	% RA	HARDNESS BHN	BEND TEST	IMPACTS
3	0.2500 X 96.000ME X 360.000 SCHEDULE B:7208.52.00.00 PT# 2521 12 PCS 29400 LBS 12 PCS 29400 LBS TOTALS	NT7430		590 535	755 715	27 19				1/4" x 8 x 30 Heat # NT 7430 38W/SA-36

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	V	Co	Al	Cr	Mo	Ti	B	N	Ca	CE	McQuill Bhn Grain Size
NT7430	.14	.88	.011	.008	.27	.02	.05	.005	.005	.044	.02	.00						
HEATS INDICATED WITH (+) WERE MELTED & MANUFACTURED IN THE USA. HEATS INDICATED WITH (^) WERE ROLLED IN THE USA.																		
..... END OF REPORT																		



ASME VII, DIVISION 1
 EDITION 2007
 ADDENDA 29

I certify the above to be correct as contained in the records of EVRAZ INC. NA

By

Signature

Test Certificate

8250 130th Street, Surrey, BC, V3W 8J9

Form TC1: Revision 1: Date 31 Oct 2000

5 Ticks

72, 73

Customer: UNIVERSAL INDUSTRIES 5014-65TH STREET LLOYDMINSTER AB T9V2K2	Customer P.O. No.: 130437	Mill Order No.: 41-247024-02	Shipping Manifest : ST051435
	Product Description: CSA G40.21(2004)44/300/38W;ASTM A36(04) A709(01A)36/ASME SA36(01ED) CSA G40.21(2004)260W (API PLATES)		Ship Date: 30 Oct 12 Cert Date: 30 Oct 12
	Size: 0.250 X 96.00 X 360.0 (IN)		Cert No: 011143679 (Page 1 of 1)

Tested Pieces				Tensiles						Charpy Impact Tests								BDWTT		
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB) 1 2 3 Avg				% Shear 1 2 3 Avg						Tst Tmp
NW6724	A90378A	0.250 X 96.00 (CUT)	L	62000	76000		26	T												
NW6735	A90354A	0.250 X 96.00 (CUT)	C	56000	74000		29	T												
			L	56000	74000		26	T												
NW6738	A90529A	0.250 X 96.00 (CUT)	C	55000	74000		24	T												
			L	63000	78000		25	T												
			C	60000	78000		23	T												

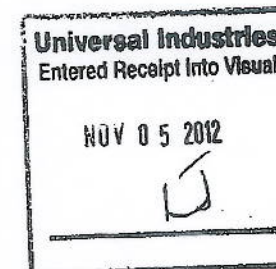
Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N		
NW6724	.14	.87	.013	.005	.23	.045	.01	.05	.02	.00	.005	.009	.002	.0000	.0047		CAN
NW6735	.15	.87	.015	.007	.22	.049	.01	.05	.03	.00	.005	.009	.002	.0000	.0051		CAN
NW6738	.14	.92	.012	.006	.25	.035	.02	.05	.03	.00	.005	.013	.002	.0000	.0042		CAN

FINE GRAIN, ALLOYS PER API 650(98/05)TBL2-1
 MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL
 * NW6724 A90378A PCES: 4, WGT: 9801
 * NW6738 A90529A PCES: 16, WGT: 39204

* NW6735 A90354A PCES: 4, WGT: 9801



ASME VIII, DIVISION 1
 EDITION 10
 ADDENDA 11



(u) Cust Part # :

WE HEREBY CERTIFY THAT THIS MATERIAL
 WAS TESTED IN ACCORDANCE WITH THE
 APPROPRIATE SPECIFICATION

Greg Balsdon
 CHECKED BY

Plate 1/4 x 8' x 30' 38/44w

STOCK

74



EVRAZ INC. NA

Test Certificate

8250 130th Street, Surrey, BC, V3W 8J9

Form TC1: Revision 1: Date 31 Oct 2000

Customer: UNIVERSAL INDUSTRIES 5014-65TH STREET LLOYDMINSTER AB T9V2K2	Customer P.O. No.: E76854	Mill Order No.: 41-245218-02	Shipping Manifest : ST050459
	Product Description: CSA G40.21(2004)44/300/38W;ASTM A36(04) A709(01A)36/ASME SA36(01ED) CSA G40.21(2004)260W (API PLATES)		Ship Date: 11 Jun 12 Cert Date: 11 Jun 12
	Size: 0.250 X 96.00 X 360.0 (IN)		Cert No: 011139889 (Page 1 of 1)

Tested Pieces				Tensiles						Charpy Impact Tests															
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in	8in	Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp	%Shr		
NW5086	A86958AA	0.250 X 96.00 (CUT)	L	53000	74000		27		T																
NW5089	A86959AA	0.250 X 96.00 (CUT)	C	55000	73000		27		T																
			L	61000	80000		23		T																
NW5107	A86957A	0.250 X 96.00 (CUT)	C	59000	78000		22		T																
			L	60000	75000		25		T																
			C	60000	75000		25		T																

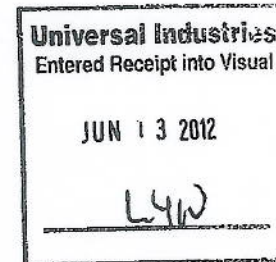
Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N		
NW5086	.14	.87	.011	.006	.22	.043	.01	.05	.02	.00	.005	.005	.002	.0000	.0046		CAN
NW5089	.15	.89	.016	.010	.22	.037	.02	.05	.02	.00	.005	.005	.002	.0000	.0046		CAN
NW5107	.13	.90	.015	.005	.22	.038	.01	.05	.02	.00	.005	.007	.002	.0000	.0040		CAN

FINE GRAIN, ALLOYS PER API 650 (98/05) TBL2-1
 MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL
 * NW5089 A86959AA PCES: 4, WGT: 9801
 * NW5107 A86957A PCES: 14, WGT: 34304

* NW5086 A86958AA PCES: 3, WGT: 7351



ASME VIII, DIVISION 1
 EDITION 10
 ADDENDA 11



(u) Cust Part # :	WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATION	Greg Balsdon CHECKED BY
-------------------	--	----------------------------

Plate 44x8' x24' 38/44w

H 1 NW0293 ; NW0310 ; NW0311

NW0312

STOCK

PART 3/11

EVRAZ

EVRAZ INC. NA

Test Certificate

8250 130th Street, Surrey, BC, V3W 8J9

Form TC1: Revision 1: Date 31 Oct 2000

Customer: UNIVERSAL INDUSTRIES 5014-65TH STREET LLOYDMINSTER AB T9V2K2	Customer P.O. No.: 093609	Mill Order No.: 41-239099-06	Shipping Manifest: ST045864
Product Description: CSA G40.21(2004)44/300/38W; ASTM A36(04) A709(01A)36/ASME SA36(01ED) CSA G40.21(2004)260W (API PLATES)		Ship Date: 16 Mar 11 Cert Date: 16 Mar 11	Cert No: 011122675 (Page 1 of 1)
Size: 0.250 X 96.00 X 288.0 (IN)			

Tested Pieces				Tensiles						Charpy Impact Tests												
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Temp	Tst Dir	Tst Siz (mm)	BDWTT	
										1	2	3	Avg	1	2	3	Avg				Temp	%Shr
NW0293	A1	0.250 X 96.00 (CUT)	L	62000	78000		24	T														
NW0310	A3	0.250 X 96.00 (CUT)	C	53000	74000		27	T														
			L	59000	74000		28	T														
NW0311	A4	0.250 X 96.00 (CUT)	C	52000	72000		26	T														
			L	63000	77000		26	T														
NW0312	A3	0.250 X 96.00 (CUT)	C	53000	73000		25	T														
			L	59000	75000		28	T														
			C	51000	72000		30	T														

Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Co	V	Ti	B	N		
NW0293	.14	.90	.011	.007	.24	.035	.02	.05	.03	.00	.005	.008	.002	.0000	.0046		ORGN
NW0310	.14	.87	.014	.007	.23	.044	.02	.05	.03	.00	.005	.010	.002	.0000	.0045		CAN
NW0311	.14	.88	.012	.008	.22	.043	.02	.05	.02	.00	.005	.009	.002	.0000	.0040		CAN
NW0312	.15	.87	.011	.007	.23	.043	.02	.05	.02	.00	.005	.005	.002	.0000	.0057		CAN

MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL

* NW0312

A3

PCES: 2, WGT: 3920

* NW0310

A3

PCES: 15, WGT: 29403

* NW0293

A1

PCES: 25, WGT: 49005

* NW0311

A4

PCES: 3, WGT: 5881


 ASME VIII, DIVISION 1
 EDITION 2010
 ADDENDA

 Universal
 Entered Receipt
 into Visual

MAR 18 2011

Cert Part #

 WHEREBY CERTIFY THAT THIS MATERIAL
 WAS TESTED IN ACCORDANCE WITH THE
 REQUIREMENTS OF THE ASME CODE

 Greg Baldwin
 Director

SSAB

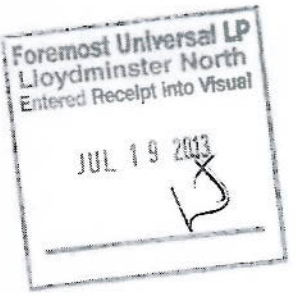
1770 Bill Sharp Boulevard, Muscatine, IA 52761-9412

plate 1/4" x 10' x 40' 38W

Test Certificate

WO - 29430/29517

Form TC1: Revision 1: Date 31 Oct 2000

Customer: WILKINSON STEEL & METALS INC 9525 60TH AVENUE EDMONTON AB T6E0C3		Customer P.O.No.: P30516EM001E & 41-36		Mill Order No. 41-365055-01		Shipping Manifest: MR200167											
		Product Description: CSA G40.21(2004)44W/38W / ASTM A36(08) ALLOYS PER API 650 (11TH ED) TABLE 4-1				Ship Date: 10 Jun 13 Cert Date: 10 Jun 13		Cert No: 061391622 (Page 1 of 1)									
		Size: 0.250 X 120.0 X 480.0 (IN)															
Tested Pieces:				Tensiles:				Charpy Impact Tests									
Heat Id	Piece Id	Tested Thickness	Tst Loc	YS (KSI)	UTS (KSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB) 1 2 3 Avg	% Shear 1 2 3 Avg	Tst Tmp	Tst Dir	Tst Sz (mm)	BDWTT Tmp %Shr		
A3F065	A10	0.245 (DISCRT)	L 53	67			35	T									
A3F065	A14	0.309 (DISCRT)	L 51	66			36	T									
Chemical Analysis																	
Heat Id	C	Mn	P	S	Si	Total Al	Sol Al	Cu	NI	Cr	Mo	Cb	V	Ti	B	N	ORGN
A3F065	.06	1.10	.013	.004	.28	.032	.028	.31	.12	.07	.03	.001	.004	.007	.0002	.0092	USA
MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT KILLED STEEL, PRODUCED TO A FINE GRAIN PRACTICE MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT PRODUCTS SHIPPED: A3F065 A11 PCES: 5, WGT: 20462 A3F065 A10 PCES: 15, WGT: 61385																	
ASME VIII, DIVISION 1 EDITION <u>10</u> ADDENDA <u>11</u>																	
																	
																	
WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION																	
B. H. Wales SENIOR METALLURGIST - PRODUCT																	
(P) Cust Part #:																	

S30703AR001-1 FOREMOST UNIVER - Cert#: P30516EM001.A3F065.1 - P.O.#: 145702

(78)

Plate 5/16" x 8'-2" x 32' 38w (80,81) Stock

EVRAZ EVRAZ INC. NA

8250 130th Street, Surrey, BC, V3W 8J9

Test Certificate

Form TC1: Revision 1: Date 31 Oct 2000

Customer: FOREMOST UNIVERSAL LP 6614 50TH AVE LLOYDMINSTER AB T9V2W8	Customer P.O. No.: 140450	Mill Order No.: 41-248883-07	Shipping Manifest: ST052804A
	Product Description: CSA G40.21(2004)44/300/38W;ASTM A36(04) A709(01A)36/ASME SA36(01ED) CSA G40.21(2004)260W (API PLATES)		Ship Date: 29 May 13 Cert Date: 29 May 13
	Size: 0.313 X 98.00 X 384.0 (IN)		Cert No: 011148389 (Page 1 of 1)

Tested Pieces				Tensiles					Charpy Impact Tests												
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp %Shr
NW8640	A31A	0.313 X 96.00 (CUT)	L	57000	74000		29	T		1	2	3	Avg	1	2	3	Avg				
			C	54000	72000		29	T													
NW8689	A33A	0.313 X 96.00 (CUT)	L	53000	70000		29	T													
			C	55000	71000		30	T													
NW8696	A22A	0.313 X 96.00 (CUT)	L	51000	68000		32	T													
			C	50000	68000		33	T													

Heat Id	Chemical Analysis																ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N		
NW8640	.14	.85	.012	.007	.23	.040	.01	.05	.01	.00	.005	.004	.002	.0000	.0061	CAN	
NW8689	.13	.87	.016	.010	.20	.039	.01	.05	.02	.00	.005	.010	.002	.0000	.0040	CAN	
NW8696	.13	.87	.009	.007	.19	.049	.00	.05	.02	.00	.005	.002	.002	.0000	.0038	CAN	

FINE GRAIN, ALLOYS PER API 650 (98/05) TBL2-1
 MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL
 * NW8640 A31A PCES: 4, WGT: 13090
 * NW8696 A22A PCES: 4, WGT: 13090

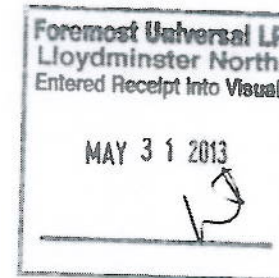
* NW8689

A33A

PCES: 10, WGT: 32725



May 31/13



(5)

Cust Part # :

WE HEREBY CERTIFY THAT THIS MATERIAL
 WAS TESTED IN ACCORDANCE WITH THE
 APPROPRIATE SPECIFICATION

Greg Balsdon
 CHECKED BY

ESSAR Steel Algoma Inc.

105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4

W0 - 24720

CUSTOMER PURCHASE ORDER NUMBER 116502	ENTRY DATE 2012/02/28	CREATE DATE 2012/04/06	TALLY NUMBER 271722	SHIPPERS NUMBER -	CARRIER BCOL	MILL ORDER 17716
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CHARGE TO CUSTOMER NAME & ADDRESS

UNIVERSAL INDUSTRIES LIMITED
5014-65TH STREET
LLOYDMINSTER ALBERTA
T9V 2K2

SHIP TO CUSTOMER NAME & ADDRESS

UNIVERSAL INDUSTRIES LIMITED
5014 - 65 STREET
LLOYDMINSTER ALBERTA

MILL TEST REPORTS

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.

K. UGHADPAGA
MANAGER METALLURGICAL SERVICES

CUSTOMER SPECIFICATION

HR PLATE - CARBON - ASME SA516 GR 70 (11A) - CVNL 15/10 FT LBS AT -50 F CVNT
15/12 FT LBS AT -40 F - FINE GRAIN - PQV - NORMALIZED - FLATNESS 1/2 A-20 -
NORM 21 MINUTES MIN. @ 1670 F - FULLY KILLED

SUPPLEMENTARY INSTRUCTIONS

TEST CERT 1: JOANN.NUTBROWN@CORLAC.COM TEST CERT 2: PLATE TES
T COUPON:

INSP T/R

TEST REPORTS REQUIRED

CUST
USE
RESALE P/N 024720/3

2000220373 PF

2012/04/09 11:04

MEETS EN 10204:2004 TYPE 3.1
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM
ALL HEATS FULLY KILLED

HEATS INDICATED WITH (*) FINE GRAINED
HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS

***** PRODUCT SHIPPED *****
CUSTOMER ITEM 00009 OUR ITEM 007 DIMENSIONS .625 X 122 X 384 "

PLATE
NUMBER
67692

HEAT-MS
4492M-07

NO. WEIGHT
PIECES
2 16607

PLATE
NUMBER

HEAT-MS
PIECES

ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11

***** MECHANICAL PROPERTIES *****

TENSILE TESTS:

PLATE HEAT NUMBER	SAMPLE SRCE	GAUGE	COND	METH	DIR	YIELD KSI	TENSILE KSI	% ELONG
4492M 67692	166"	.6250	N	.2	T	52.3	78.0	29(8")

IMPACT TESTS:

PLATE HEAT NUMBER	SAMPLE SRCE	GAUGE	COND	METH	DIR	SIZE	TEMP	FULLSIZE FTLB	ENERGY AVG*
4492M 67692	166"	.6250	N	CVN	L	FULL	-50F	76	88
	166"	.6250	N	CVN	T	FULL	-40F	48	38
								86	93
								50	45

Universal Industries
Entered Receipt into Visual

APR 26 2012

LYN

LAB
ALG

SPEC LAB
ASTM ALG
ASTM ALG

WARNING

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

PAGE 3 OF 4

ESSAR Steel Algoma Inc.

105 West St., Sault Ste. Marie, Ontario, Canada, P6A 7B4

CUSTOMER PURCHASE ORDER NUMBER 116502	ENTRY DATE 2012/02/28	CREATE DATE 2012/04/06	TALLY NUMBER 271722	SHIPPERS NUMBER -	CARRIER BCOL	-864340	MILL ORDER 17716
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CHARGE TO CUSTOMER NAME & ADDRESS

UNIVERSAL INDUSTRIES LIMITED
5014-65TH STREET
LLOYDMINSTER ALBERTA
T9V 2K2

SHIP TO CUSTOMER NAME & ADDRESS

UNIVERSAL INDUSTRIES LIMITED
5014 - 65 STREET
LLOYDMINSTER ALBERTA

MILL TEST REPORTS

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.

K. UGHADPAGA

MANAGER METALLURGICAL SERVICES

CUSTOMER SPECIFICATION

HR PLATE - CARBON - ASME SA516 GR 70 (11A) - CVNL 15/10 FT LBS AT -50 F CVNT 15/12 FT LBS AT -40 F - FINE GRAIN - PVQ - NORMALIZED - FLATNESS 1/2 A-20 - NORM 21 MINUTES MIN. @ 1670 F - FULLY KILLED

SUPPLEMENTARY INSTRUCTIONS

TEST CERT 1: JOANN.NUTBROWN@CORLAC.COM TEST CERT 2: PLATE TES
T COUPON:

INSP T/R

TEST REPORTS REQUIRED

2000220373 PF

CUST
USE

RESALE P/N 024720/3

2012/04/09 11:04

* * * * * C H E M I C A L P R O P E R T I E S * * * * *															
HEAT	(WT %)	C	MN	P	S	SI	CR	NI	CU	MO	AL	CB	V	B	DO
4492M**		TI .19 .003	SN 1.10	N .010	AS .005	ZR .33	PB .02	SB .15	.03	.00	.032	.000	.015	.0002	.39

Universal Industries
Entered Receipt into Visual

APR 26 2012

LYN

WARNING

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

Plate 1/4" x 8' x 32' SA36
 WO # 28978
 DWB # T-028978 - A115
 11/4" DEAN

83

STOCK



EVRAZ INC. NA

Test Certificate

8250 130th Street, Surrey, BC, V3W 8J9

Form TCI: Revision 1: Date 31 Oct 2000

Customer: FOREMOST UNIVERSAL LP 6614 50TH AVE LLOYDMINSTER AB T9V2W8	Customer P.O. No.: 146824	Mill Order No.: 41-250516-01	Shipping Manifest : ST053496
	Product Description: CSA G40.21(2004)44/300/38W;ASTM A36(04) A709(01A)36/ASME SA36(01ED) CSA G40.21(2004)260W (API PLATES)		Ship Date: 09 Sep 13 Cert Date: 09 Sep 13
	Size: 0.250 X 96.00 X 384.0 (IN)		Cert No: 011150538 (Page 1 of 1)

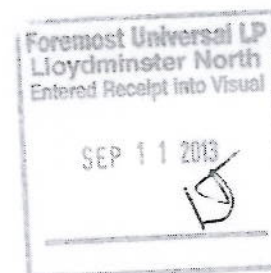
Tested Pieces			Tensiles						Charpy Impact Tests										BDWTT Tmp %Shr	
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (PSI)	UTS (PSI)	%RA	Elong % 2in 8in	Tst Dir	Average Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp		
										1	2	3	Avg	1	2	3	Avg			
NW9390	A97769AA	0.250 X 96.00 (CUT)	L	53000	69000		32	T												
NW9403	A97770AA	0.250 X 96.00 (CUT)	C	49000	68000		32	T												
			L	55000	73000		29	T												
			C	53000	71000		32	T												

Heat Id	Chemical Analysis																	ORGN
	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B	N			
NW9390	.13	.86	.011	.007	.23	.054	.03	.05	.02	.00	.005	.003	.002	.0000	.0031			CAN
NW9403	.13	.89	.010	.009	.22	.052	.01	.05	.02	.00	.005	.003	.002	.0000	.0049			CAN

FINE GRAIN, ALLOYS PER API 650(98/05)TBL2-1
 MATERIAL MARKED WITH AN ASTERISK IS PRODUCED FROM COIL
 * NW9403 A97770AA PCES: 14, WGT: 36591

* NW9390 A97769AA PCES: 1, WGT: 2614

ASME VIII DIVISION 1
 EDITION 10
 ADDENDA 4



(u) Cust Part # :

WE HEREBY CERTIFY THAT THIS MATERIAL
 WAS TESTED IN ACCORDANCE WITH THE
 APPROPRIATE SPECIFICATION

Greg Balsdon
 CHECKED BY

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Certif. N. 3765	Del/Dated 27.07.2012	Fattura / Invoice N. 2586	Del/Dated 26.07.2012
DDT / Del Note N. 3057	Del/Dated 26.07.2012	Ns.Ord. / Our ref. N.	Del/Dated
CE FRANKLIN LTD		Dest.: CE Franklin Ltd - DISTRIBUTION CEN.	
1800, 635 - 8TH Avenue S.W. T2P 3M3 CALGARY, ALBERTA		2603 - 76 Avenue T6P 1P6 EDMONTON, ALBERTA	
CA		CA	

Pag. 2 - 9

COD. COL. COLATA HEAT CODE HEAT		POS. ITEM	VS. ORDINE YOUR REFERENCE		Q.TA' Q.TY	DESCRIZIONE DESCRIPTION		DIM. IN ACC. A DIM. ACCORDANCE TO ASME/ANSI B16.5 -2009													VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY		
4287/12		071	3015795-OR-2100		392,00	W/N 150 RF 3" STD A105N		C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E. %	B %
								0,189	0,220	0,910	0,005	0,004	0,140	0,100	0,052	0,020	0,100	0,003	0,002	0,009	0,025	0,393	0,000
MATERIALE / MATERIAL ASTM A105 (LADLE)																							
PROVETTA / TEST SPECIMEN SEZ. mm2 LUNG. mm SECT. mm2 LENGTH mm		FORMA SHAPE 1=O 2=□	SNERVAMENTO YIELD POINT N/mm2 >=0,2%		ROTTURA TENSILE STRENGTH N/mm2 >=		ALLUNGAMENTO ELONGATION %>=		CONTRAZIONE REDUCTION OF AREA %>=		DUREZZA HARDNESS HBW		RESILLENZA / IMPACT TEST - JOULE/cm2						SNERVAMENTO YIELD POINT N/mm2 >=1,0%				
126,60 50,80		1	329,0		537,0		30,0		58,0		163,0 - 165,0		TIPO / TYPE 10x10mm KV						0,0				
													°C										
													20 1 86 2 82 3 88										
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 CSA CAN3 Z245.12-09 GRADE 248 CAT.I SOUR SERVICE			TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR																				
			FORNO / FURNACE ELECTRIC FURNACE																				
			ORIGINE / ORIGIN EUROPEAN UNION																				

COD. COL. COLATA HEAT CODE HEAT 4287/12	POS. ITEM 071	VS. ORDINE YOUR REFERENCE 3015795-OR-2100	Q.TA' Q.TY 392,00	DESCRIZIONE DESCRIPTION W/N 150 RF 3" STD A105N	DIM. IN ACC. A DIM. ACCORDANCE TO ASME/ANSI B16.5 -2009													VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY
MATERIALE / MATERIAL ASTM A105 (LADLE)		C% 0,189	Si% 0,220	Mn% 0,910	S% 0,005	P% 0,004	Cr% 0,140	Ni% 0,100	Mo% 0,052	Ti% 0,020	Cu% 0,100	V% 0,003	Nb% 0,002	N% 0,009	Al% 0,025	C.E.% 0,393	B % 0,000	
PROVETTA / TEST SPECIMEN SEZ. mm2 LUNG. mm SECT. mm2 LENGTH mm 126,60 50,80	FORMA SHAPE 1=O 2=□ 1	SNERVAMENTO YIELD POINT N/mm2 >=0,2% 329,0	ROTTURA TENSILE STRENGTH N/mm2 >=537,0	ALLUNGAMENTO ELONGATION %>=30,0	CONTRAZIONE REDUCTION OF AREA %>=58,0	DUREZZA HARDNESS HBW 163,0 - 165,0						RESILLENZA / IMPACT TEST - JOULE/cm2 TIPO / TYPE 10x10mm KV 20				SNERVAMENTO YIELD POINT N/mm2 >=1,0% 0,0		
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 CSA CAN3 Z245.12-09 GRADE 248 CAT.I SOUR SERVICE					TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR													
					FORNO / FURNACE ELECTRIC FURNACE													ORIGINE / ORIGIN EUROPEAN UNION

NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION
MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO 15156-2009 - SOUR SERVICE
MATERIAL IN ACCORDANCE WITH NACE MR-0103/2010 - SOUR SERVICE

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTEMENT

ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY

MARCHIO PRODUZIONE
MANUFACTURER'S SYMBOL

S. Corti
Ant. Sergio





METALFAR
PRODOTTI INDUSTRIALI S.P.A.

STAMPAGGIO A CALDO DI ACCIAI COMUNI - LEGATI E INOSSIDABILI

SEDE AMMINISTRATIVA E STABILIMENTO:
23061 CESANA BRIANZA (LC) - Italy
Via G. Parini, 28
Tel. +39 031.855441
Fax +39 031.605149
quality.mf@metalfar.com

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Certif. N. 1312 DDT / Del Note N. 1020	Del/Dated 01.03.2013 Del/Dated 28.02.2013	Fattura / Invoice N. 885 Ns.Ord. / Our ref. N.	Del/Dated 28.02.2013 Del/Dated
TRANS AM PIPING PRODUCTS LTD 9335 ENDEAVOR DRIVE S.E. T3S 0A1 CALGARY, ALBERTA CA		Dest.: TRANS AM "PROJECT" Warehouse 1711 - 66 Avenue T6P 1Y9 Edmonton, ALBERTA CA	

Pag. 3 - 10

COD. COL. COLATA HEAT CODE HEAT	POS. ITEM	VS.ORDINE YOUR REFERENCE	Q.TA' Q.TY	DESCRIZIONE DESCRIPTION	DIM.IN ACC. A DIM. ACCORDANCE TO ASME/ANSI B16.36 -2009										VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY			
09/77929	024	PI-12-35432	1,00	CP. OR WN 300/600 RF 2" XS A105N														
MATERIALE / MATERIAL ASTM A105 (LADLE)		C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%		
		0,195	0,240	0,980	0,011	0,012	0,100	0,060	0,010	0,008	0,180	0,001	0,001	0,000	0,021	0,397		
PROVETTA / TEST SPECIMEN SEZ. mm2 LUNG. mm SECT. mm2 LENGTH mm	FORMA SHAPE 1=O 2=□	SNERVAMENTO YIELD POINT N/mm2 >=0,2%	ROTTURA TENSILE STRENGTH N/mm2 >=	ALLUNGAMENTO ELONGATION %>=	CONTRAZIONE REDUCTION OF AREA %>=	DUREZZA HARDNESS HBW		RESILIENZA / IMPACT TEST - JOULE/cm2				SNERVAMENTO YIELD POINT N/mm2 >=1,8%		Ns.Rif. OUR REF.				
126,60 50,80	1	334,0	540,0	33,0	58,0	164,0 - 166,0		TIPO / TYPE 10x10mm KV				°C	1 2 3	0,0				
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 ADD. 2011a					TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR					FORNO / FURNACE ELECTRIC FURNACE					ORIGINE / ORIGIN OF STEEL EUROPEAN UNION			
CSA Z245.12 GRADE 248 CAT.I SOUR SERVICE																		

COD. COL. COLATA HEAT CODE HEAT	POS. ITEM	VS.ORDINE YOUR REFERENCE	Q.TA' Q.TY	DESCRIZIONE DESCRIPTION	DIM.IN ACC. A DIM. ACCORDANCE TO ASME/ANSI B16.5 -2009										VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY				
12/35152	003	PI-12-35486	70,00	W/N 150 RF 4" STD A105N															
MATERIALE / MATERIAL ASTM A105 (LADLE)					C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%
					0,185	0,230	0,930	0,008	0,005	0,100	0,060	0,010	0,015	0,160	0,002	0,001	0,009	0,025	0,377
PROVETTA / TEST SPECIMEN SEZ. mm2 LUNG. mm SECT. mm2 LENGTH mm	FORMA SHAPE 1=O 2=□	SNERVAMENTO YIELD POINT N/mm2 >=0,2%	ROTTURA TENSILE STRENGTH N/mm2 >=	ALLUNGAMENTO ELONGATION %>=	CONTRAZIONE REDUCTION OF AREA %>=	DUREZZA HARDNESS HBW	RESILIENZA / IMPACT TEST - JOULE/cm2				SNERVAMENTO YIELD POINT N/mm2 >=1,8%		Na.Rif. OUR REF.						
126,60 50,80	1	346,0	508,0	32,0	60,0	156,0 - 159,0	TIPO / TYPE 10x10mm KV	°C	1	2	3								
							20	87	83	83	0,0								
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO ASTM/ASME A 105/SA 105 M - 11 ASME CODE SECT. II, PART A, ED. 2010 ADD. 2011a					TRATTAMENTO TERMICO / HEAT TREATMENT NORMALIZED AT 920 C - COOLED IN STILL AIR					FORNO / FURNACE ELECTRIC FURNACE					ORIGINE / ORIGIN OF STEEL EUROPEAN UNION				
CSA Z245.12 GRADE 248 CAT.I SOUR SERVICE																			

NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION
MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO 15156-2009 - SOUR SERVICE
MATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTEMENT

ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY

MARCHIO PRODUZIONE
MANUFACTURER'S SYMBOL

[Signature]





METALFAR

PRODOTTI INDUSTRIALI S.P.A.

STAMPAGGIO A CALDO DI ACCIAI COMUNI - LEGATI E INOSSIDABILI

SEDE AMMINISTRATIVA E STABILIMENTO:
23861 CESANA BRIANZA (LC) - Italy
Via G. Parini, 28
Tel. +39 031.655441
Fax +39 031.655149
quality.mff@farmas.com

COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

Certif. N. 6090	Del/Dated 20.12.2011	Fattura / Invoice N. 4073	Del/Dated 20.12.2011
DDT / Del Note N. 4840	Del/Dated 20.12.2011	No. Ord. / Our ref. N.	Del/Dated
FORGED FLANGES & FITTINGS LTD		Dest.: F.F.F. c/o CCTF -EDM	
CASTLE HOUSE - STATION ROAD EN5 1PE NEW BARNET/HERTFORD...		5407, 53 AVENUE T8B 3G2 EDMONTON, ALBERTA	
GB		CA	

COD. COL.	COLATA	POS.	VS. ORDINE	Q.TA'	DESCRIZIONE	DIM. IN ACC. A										VISIVO E DIMENS. VIS. & DIMENS. SATISFACTORY	
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACCORDANCE TO											
	11/38305	001	3832/CCTF EDM	729,00	W/N 150 RF 2" STD A105N	ASME/ANSI B16.5 -2009											
MATERIALE / MATERIAL			C%	Si%	Mn%	S%	P%	Cr%	NI%	Mo%	Ti%	Cu%	V%	Nb%	N%	AP%	C.E.%
ASTM A105			0,205	0,250	1,000	0,010	0,013	0,110	0,070	0,010	0,009	0,220	0,002	0,001	0,000	0,010	0,415
PROVETTA / TEST SPECIMEN	FORMA	SNERVAMENTO	ROTTURA	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESILIENZA / IMPACT TEST - JOULE/cm2								SNERVAMENTO		
SECT. mm2	SHAPE	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	TPO / TYPE 10x10mm								YIELD POINT		
126,80	50,80	1	349,0	527,0	30,5	68,0	KV								0,0		
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO						TRATTAMENTO TERMICO / HEAT TREATMENT						FORNO / FURNACE				ORIGINE / ORIGIN	
ASTM/ASME A 105/SA 105 M - 10 ASME CODE SECT. II, PART A, ED. 2010						NORMALIZED AT 920 C - COOLED IN STILL AIR						ELECTRIC FURNACE				EUROPE	

NOTE MATERIAL IN ACCORDANCE WITH NACE MR-0175/2003 ISO 15156-2009

NOTES

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTEMENT

ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY

MARCHIO PRODUZIONE
MANUFACTURER'S SYMBOL

S. Corti
Carlo Sergio



N30

92



METALFAR
PRODOTTI INDUSTRIALI S.P.A.

SUBORDINATO A CARICO DI AZIONE DOLCE - LEGGERE E INDEFORMABILI

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

ST. J. ASSURIMENTO E STABILIMENTO
23861 CESANA BRIANZA (CO) - Italy
Via G. F. 28
Tel. +39 031.60044
Fax +39 031.601119
qualita.metalfar.com

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1' INSPECTION CERTIFICATE

Certif. N. 2212 DDT / Del Noto N. 1698	Del/Dated 16.04.2013 Del/Dated 11.04.2013	Fattura / Invoice N. 1439 No.Ord. / Our ref. N.	Del/Dated 11.04.2013 Del/Dated
WFF FITTINGS AND FLANGES (CANADA) LTD		Dest.: MRC MIDFIELD CANADA	
#128, 10805 48th ST. SE T2C 1G8 CALGARY, ALBERTA		502 - 25TH AVENUE T9E 0K6 NISKU, ALBERTA	
CA		CA	

COD. COL.	COLATA	POS.	VS.ORDINE	Q.TA'	DESCRIZIONE	DIM.IN ACC. A										VISIVO E DIMENS.					
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.TY	DESCRIPTION	DIM. ACCORDANCE TO										VIS. & DIMENS.					
	12/34072	004	D000442/MID	153,00	W/N 150 RF 6" STD	A105N SS										SATSFACTORY					
						ASME/ANSI B16.5 -2009															
MATERIALE / MATERIAL						C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%	B %
ASTM A105 (LADLE)						0,200	0,240	0,960	0,007	0,009	0,090	0,050	0,010	0,015	0,120	0,002	0,002	0,000	0,025	0,392	0,000
PROVETTA / TEST SPECIMEN		FORMA	SVERNAMENTO	ROTTURA	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESILLENZA / IMPACT TEST - JOULE/cm2						SVERNAMENTO							
SEZ. mm2	LUNG. mm	SHAPE	YIELD POINT	TENSILE STRENGHT	ELONGATION	REDUCTION OF AREA	HARDNESS	TPO / TYPE 10x10mm °C						YIELD POINT							
SECT. mm2	LENGTH mm	1-0 2-0	Minmm2 >=0,2%	N/mm2 >=	%>=	%>=	HW							10mm2 >=1,0%							
126,60	50,80	1	348,0	530,0	30,0	58,0	159,0 - 163,0	KV						20	89	83	85	0,0			
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO						TRATTAMENTO TERMICO / HEAT TREATMENT										FORNO / FURNACE		ORIGINE / ORIGIN OF STEEL			
ASTM/ASME A 105/SA 105 M - 11a ASME CODE SECT. II, PART A, ED. 2010						NORMALIZED AT 920 C - COOLED IN STILL AIR										ELECTRIC FURNACE		EUROPEAN UNION			
ADD. 2011a																					
CSA Z245.12 GRADE 290 CAT.I SOUR SERVICE																					

COD. COL. COLATA POS. VS. ORDINE Q.TA' DESCRIZIONE DIM. IN ACC. A VISIVO E DIMENS.	HEAT CODE HEAT ITEM YOUR REFERENCE Q.TY DESCRIPTION DIM. ACCORDANCE TO VIS. & DIMENS.	SATSFACTORY															
12/34072 004	D000442/MID	153,00	W/N 150 RF 6" STD	A105N SS													
MATERIALE / MATERIAL	C%	Si%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E. %	B %	
ASTM A105 (LADLE)	0,200	0,240	0,960	0,007	0,009	0,090	0,050	0,010	0,015	0,120	0,002	0,002	0,000	0,025	0,392	0,000	
PROVETTA / TEST SPECIMEN	SEZ. mm2	LUNG. mm	FORMA	SVERNAMENTO	ROTTURA	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESILLENZA / IMPACT TEST - JOULE/cm2						SVERNAMENTO		
SECT. mm2	LENGTH mm	1-0 2-0	YIELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA	HARDNESS	TPO / TYPE 10x10mm °C						YIELD POINT			
126,60	50,80	1	348,0	530,0	30,0	58,0	159,0 - 163,0	KV 20 89 83 85						0,0			
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO				TRATTAMENTO TERMICO / HEAT TREATMENT				FORNO / FURNACE				ORIGINE / ORIGIN OF STEEL					
ASTM/ASME A 105/SA 105 M - 11a ASME CODE SECT. II, PART A, ED. 2010				NORMALIZED AT 920 C - COOLED IN STILL AIR				ELECTRIC FURNACE				EUROPEAN UNION					
ADD. 2011a																	
CSA Z245.12 GRADE 290 CAT. I SOUR SERVICE																	

NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION
MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO 15156-2009 - SOUR SERVICE
MATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTMENT

ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY

MARCHIO PRODUZIONE
MANUFACTURER'S SYMBOL

[Signature]

[Logo]

**FOREMOST UNIVERSAL LP
NON- ASME CODE
NON-CONFORMANCE REPORT**

NCR No.
6362

WORK ORDER NUMBER: 28978

SERIAL NUMBER: 28978-1 (Tag # 002-T-08-1118, P.O. # 41000011700)

IDENTIFICATION DETAILS: Nozzle N5 - Temperature Gauge

DESCRIPTION OF NON-CONFORMITY:

N5 nozzle installed at wrong elevation.

Elevation was to be at 886 mm and was installed at 866 mm.

ORIGINATOR SIGNATURE: Norman Saulnier

DATE: November 21, 2013

PROPOSED DISPOSITION OR REPAIRS:

We would like to propose to leave as-is and will as built the changes. As the nozzle is to be used as

Temperature Gauge connection and will not connect to any outside piping, therefore, will not affect service.

ROOT CAUSE ANALYSIS AND PREVENTATIVE / CORRECTIVE ACTION

It is a human error. We will ensure foreman and QC check with construction drawing before cutting the hole.

DEPARTMENT MANAGER APPROVAL: [Signature]

DATE: Nov 22, 2013

ENGINEER APPROVAL: N/A

DATE: N/A

CUSTOMER INSPECTOR'S ACCEPTANCE: [Signature]

DATE: Nov 29/13

NON-CONFORMANCE RECTIFIED:

Q.C. SUPERVISOR APPROVAL: [Signature]

DATE: Nov. 22, 13

ENGINEER APPROVAL: ALEX THOMPSON (DEVON PE)

DATE: Nov 22/13

CUSTOMER INSPECTOR'S ACCEPTANCE: [Signature]

DATE: Nov-29/13



STORAGE TANK WELD MAP

Job #: 028978	Client: Devon Canada
Tank Tag #: 002-T-08-1118	Firetube Serial #: N/A
Tank Serial #: 28978-1	Construction Code: API-650 Modified

Item	In	Out	
Floor	BP	BP	
Floor to Shell	KJ	KJ	
Roof	TF	TF	
Roof to Runaround	N/A	KJ	
1 st Course V1/V2	TF	TF	
2 nd Course V1/V2	TF	TF	
3 rd Course V1/V2	KJ / KJ	KJ / KJ	
2 nd Seam Horizontal	KJ/TF	TF	
1 st Seam Horizontal	MR/KJ	TF/KJ	
		Nozzle	Repad
N1 Nozzle Pipe NPS 3"	KJ	KJ	KJ
N2 Nozzle Pipe NPS 3"	KJ	KJ	KJ
N3 Nozzle Pipe NPS 3"	KJ	KJ	KJ
N5 Nozzle Pipe NPS 2"	KJ	TF	N/A
N6 Nozzle Pipe NPS 4"	KJ	TF	N/A
N7 Nozzle Pipe NPS 2"	KJ	TF	N/A
N8 Nozzle Pipe NPS 3"	KJ	TF	N/A
N9 Nozzle Pipe NPS 2"	TF	TF	N/A
N10 Nozzle Pipe NPS 3"	KJ	KJ	KJ
N11 Nozzle Pipe NPS 4"	KJ	TF	N/A
N12 Nozzle Pipe NPS 2"	KJ	TF	N/A
N13 Nozzle Pipe NPS 2"	KJ	KJ	N/A
N14 Nozzle Pipe NPS 3"	MR	TF	TF
N15 Nozzle Pipe NPS 2"	BD	BD	N/A
N16 Nozzle Pipe NPS 2"	BD	BD	N/A
N17 Nozzle Pipe NPS 2"	KJ		N/A
N18 Nozzle Pipe NPS 3"	TF	TF	N/A
N19 Nozzle Pipe NPS 8"	TF	TF	N/A
N20 Nozzle Pipe NPS 2"	KJ	KJ	N/A
N21 Nozzle Pipe NPS 4"	MR	TF	TF
N22 Nozzle Pipe NPS 4"	MR	MR	MR
N23 Nozzle Pipe NPS 4"	MR	MR	MR
N24 Nozzle Pipe NPS 4"	MR	TF	TF
N26 Nozzle Pipe NPS 2"	KJ	KJ	N/A

STORAGE TANK WELD MAP

Job #: 028978	Client: Devon Canada
Tank Tag #: 002-T-08-1118	Firetube Serial #: N/A
Tank Serial #: 28978-1	Construction Code: API-650 Modified

[illegible]



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Buenaventura Padin ABSA File No.: N/A Stamp No.: BP
 Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP-511.2
 Base material(s) welded: G40.21-38W Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)		Actual Values		Range Qualified	
Welding Process(es) Used:		SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:		Manual	Manual	Manual	Manual
Base Metal P Number: 1 To P Number:		1		P1 - 15F	
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		Plate		>2 7/8" OD Flat Only	
Backing (metal, weld metal, double-welded, etc.):		Dbl Welded	Weld Metal	Dbl Welded	With Only
Filler Metal or Electrode Specification(s) (SFA) (info only):		5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):		E6010	E7018		
Filler Metal or Electrode F-Number(s):		F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):		N/A	N/A	N/A	N/A
Consumable Insert for GTAW or PAW:		N/A	N/A	N/A	N/A
Deposit Thickness for each process or electrode type, etc. (in.):		.125"	.250"	.250"	.500"
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No		Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No			
Welding Position (2G, 6G, 3F, etc.):		2G	2G	2G+1G	2G+1G
Vertical Progression (Uphill or Downhill):		N/A	N/A	N/A	N/A
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:		N/A	N/A	N/A	N/A
Transfer Mode (spray/globular or pulse to short circuit- GMAW):		N/A	N/A	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):		N/A	N/A	N/A	N/A

Results

Visual Examination of Fit-Up; Root Gap: OK Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: [Signature]

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: July 24, 2012

P.Q. Card No. (When Issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 2G, July 24/12, BP

Date Coupon is to be retained to: 90 Days



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Buenaventura Padin ABSA File No.: N/A Stamp No.: BP

Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP-511.2

Base material(s) welded: G40.21-38W Thickness: .375 ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)		Actual Values		Range Qualified	
Welding Process(es) Used:		SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:		Manual	Manual	Manual	Manual
Base Metal P Number: 1 To P Number:		1		P1 - P15F	
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		Plate		>2 7/8" OD Flat Only	
Backing (metal, weld metal, double-welded, etc.):		Dbt Welded	Weld Metal	Dbt Welded	With Only
Filler Metal or Electrode Specification(s) (SFA) (info only):		5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):		E6010	E7018-1		
Filler Metal or Electrode F-Number(s):		F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):		N/A	N/A	N/A	N/A
Consumable Insert for GTAW or PAW:		N/A	N/A	N/A	N/A
Deposit Thickness for each process or electrode type, etc. (in.):		.125"	.250"	.250"	.500"
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No		Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No			
Welding Position (2G, 6G, 3F, etc.):		3G	3G	3G / 1G	3G/1G
Vertical Progression (Uphill or Downhill):		Down	Up	Down	Up
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:		N/A	N/A	N/A	N/A
Transfer Mode (spray/globular or pulse to short circuit- GMAW):		N/A	N/A	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):		N/A	N/A	N/A	N/A

Results

Visual Examination of Fit-Up; Root Gap: 3/32" Tack Welds: OK (Length: 1/4" Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: [Signature]

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: July 24, 2012

P.Q. Card No. (When issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 36, UP, July 24/12, BP

Date Coupon is to be retained to: 90 Days from test



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Buenaventura Padin ABSA File No.: N/A Stamp No.: BP
 Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP- 511.2
 Base material(s) welded: G40.21-38W Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values		Range Qualified	
Welding Process(es) Used:	SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:	Manual	Manual	Manual	Manual
Base Metal P Number: 1 To P Number:	1		P1 - 15F	
☒ Plate ☐ Pipe (enter diameter if pipe or tube):	Plate		>2 7/8" OD Flat Only	
Backing (metal, weld metal, double-welded, etc.):	Ddl Welded	Weld Metal	Dbl Welded	With Only
Filler Metal or Electrode Specification(s) (SFA) (info only):	5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):	E6010	E7018		
Filler Metal or Electrode F-Number(s):	F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	N/A	N/A	N/A	N/A
Consumable Insert for GTAW or PAW:	N/A	N/A	N/A	N/A
Deposit Thickness for each process or electrode type, etc. (in.):	.125"	.250"	.250"	.500"
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No			
Welding Position (2G, 6G, 3F, etc.):	4G	4G	4G+1G	4G+1G
Vertical Progression (Uphill or Downhill):	N/A	N/A	N/A	N/A
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	N/A	N/A	N/A	N/A
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	N/A	N/A	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):	N/A	N/A	N/A	N/A

Results

Visual Examination of Fit-Up; Root Gap: OK Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: [Signature]

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: July 24, 2012

P.Q. Card No. (When issued): N/A Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 4G, July 24/12 BP Date Coupon is to be retained to: 90 Days



WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Buenaventura Padin ABSA File No.: N/A Stamp No.: BP
Identification of WPS followed by welder during welding of test coupon: 19-LT Rev 5 W.P. Reg. # WP- 511.2
Base material(s) welded: G40.21-38W Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding Process(es) Used:	<u>SMAW</u>	<u>SMAW</u>
Type of Welding (i.e., Manual, Semi-Automatic) Used:	<u>Manual</u>	<u>Manual</u>
Base Metal P Number: 1 To P Number:	<u>1</u>	<u>P1 to P15F</u>
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		<u>>2 7/8" OD Min.</u>
Backing (metal, weld metal, double-welded, etc.):	<u>DbI Welded</u>	<u>DbI Welded</u>
Filler Metal or Electrode Specification(s) (SFA) (info only):	<u>5.4</u>	
Filler Metal or Electrode Classification(s) (info only):	<u>E309-17</u>	
Filler Metal or Electrode F-Number(s):	<u>F5</u>	<u>F5</u>
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	<u>N/A</u>	<u>N/A</u>
Consumable Insert for GTAW or PAW:	<u>N/A</u>	<u>N/A</u>
Deposit Thickness for each process or electrode type, etc. (in.):	<u>.375"</u>	<u>.750"</u>
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	<u>3G</u>	<u>1G, 3G</u>
Vertical Progression (Uphill or Downhill):	<u>Up</u>	<u>Up</u>
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	<u>N/A</u>	<u>N/A</u>
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	<u>N/A</u>	<u>N/A</u>
GTAW Current Type/Polarity (AC, DCEP, DCEN):	<u>N/A</u>	<u>N/A</u>

Results

Visual Examination of Fit-Up; Root Gap: 1/8" Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)] ☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)] ☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E00343 Date: December 4, 2012

P.Q. Card No. (When issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 19-LT, 3G, Dec 4/12, BP

Date Coupon is to be retained to: 90 Days



WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Buenaventura Padin ABSA File No.: N/A Stamp No.: BP
Identification of WPS followed by welder during welding of test coupon: 19-LT Rev 5 W.P. Reg. # WP-511.2
Base material(s) welded: G40.21-38W Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding Process(es) Used:	<u>SMAW</u>	<u>SMAW</u>
Type of Welding (i.e., Manual, Semi-Automatic) Used:	<u>Manual</u>	<u>Manual</u>
Base Metal P Number: 1 To P Number:	<u>1</u>	<u>P1 to P15F</u>
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		<u>>2 7/8" OD Min.</u>
Backing (metal, weld metal, double-welded, etc.):	<u>Dbi Welded</u>	<u>Dbi Welded</u>
Filler Metal or Electrode Specification(s) (SFA) (info only):	<u>5.4</u>	
Filler Metal or Electrode Classification(s) (info only):	<u>E309-17</u>	
Filler Metal or Electrode F-Number(s):	<u>F5</u>	<u>F5</u>
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	<u>N/A</u>	<u>N/A</u>
Consumable Insert for GTAW or PAW:	<u>N/A</u>	<u>N/A</u>
Deposit Thickness for each process or electrode type, etc. (in.):	<u>.375"</u>	<u>.750"</u>
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	<u>4G</u>	<u>1G, 4G</u>
Vertical Progression (Uphill or Downhill):	<u>N/A</u>	<u>N/A</u>
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	<u>N/A</u>	<u>N/A</u>
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	<u>N/A</u>	<u>N/A</u>
GTAW Current Type/Polarity (AC, DCEP, DCEN):	<u>N/A</u>	<u>N/A</u>

Results

Visual Examination of Fit-Up; Root Gap: 1/8" Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)] ☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)] ☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E00343 Date: December 4, 2012

P.Q. Card No. (When Issued): N/A Performance Test Reference No.: N/A

Test Coupon I.D. No.: 19-LT, 4G, Dec 4/12, BP Date Coupon is to be retained to: 90 Days



WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Kenneth Johnson ABSA File No.: N/A Stamp No.: KJ
Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP- 511.2
Base material(s) welded: G40.21-38W Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values		Range Qualified	
Welding Process(es) Used:	SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:	Manual	Manual	Manual	Manual
Base Metal P Number: 1 To P Number:	1		P1 - 15F	
☒ Plate ☐ Pipe (enter diameter if pipe or tube):	Plate		>2 7/8" OD Flat Only	
Backing (metal, weld metal, double-welded, etc.):	Ddl Welded	Weld Metal	Ddl Welded	With Only
Filler Metal or Electrode Specification(s) (SFA) (info only):	5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):	E6010	E7018		
Filler Metal or Electrode F-Number(s):	F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	N/A	N/A	N/A	N/A
Consumable Insert for GTAW or PAW:	N/A	N/A	N/A	N/A
Deposit Thickness for each process or electrode type, etc. (in.):	.125"	.250"	.250"	.500"
Process/Electrode 1:	3 layers minimum ☐ Yes ☒ No		3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	2G	2G	2G+1G	2G+1G
Vertical Progression (Uphill or Downhill):	N/A	N/A	N/A	N/A
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	N/A	N/A	N/A	N/A
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	N/A	N/A	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):	N/A	N/A	N/A	N/A

Results

Visual Examination of Fit-Up; Root Gap: OK Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: May 30, 2012

P.Q. Card No. (When Issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 2G, May 30/12, KJ

Date Coupon is to be retained to: 90 Days



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Kenneth Johnson ABSA File No.: N/A Stamp No.: KJ

Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP-511.2

Base material(s) welded: G40.21-38W Thickness: .375 ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)

Actual Values

Range Qualified

Welding Process(es) Used:

SMAW

SMAW

SMAW

SMAW

Type of Welding (i.e., Manual, Semi-Automatic) Used:

Manual

Manual

Manual

Manual

Base Metal P Number: 1 To P Number:

1

P1 - P15F

☒ Plate ☐ Pipe (enter diameter if pipe or tube):

Plate

>2 7/8" OD Flat Only

Backing (metal, weld metal, double-welded, etc.):

DbI Welded

Weld Metal

DbI Welded

With Only

Filler Metal or Electrode Specification(s) (SFA) (info only):

5.1

5.1

Filler Metal or Electrode Classification(s) (info only):

E6010

E7018-1

Filler Metal or Electrode F-Number(s):

F3

F4

F3

F4

Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):

N/A

N/A

N/A

N/A

Consumable Insert for GTAW or PAW:

N/A

N/A

N/A

N/A

Deposit Thickness for each process or electrode type, etc. (in.):

.125"

.250"

.250"

.500"

Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No

Process/Electrode 2:

3 layers minimum ☐ Yes ☒ No

Welding Position (2G, 6G, 3F, etc.):

3G

3G

3G / 1G

3G/1G

Vertical Progression (Uphill or Downhill):

Down

Up fill /
Down cap

Down

Up fill /
Down cap

Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:

N/A

N/A

N/A

N/A

Transfer Mode (spray/globular or pulse to short circuit- GMAW):

N/A

N/A

N/A

N/A

GTAW Current Type/Polarity (AC, DCEP, DCEN):

N/A

N/A

N/A

N/A

Results

Visual Examination of Fit-Up; Root Gap: 3/32" Tack Welds: OK (Length: 1/4" Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: May 30, 2012

P.Q. Card No. (When issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 3G, Down May 30/12, KJ

Date Coupon is to be retained to: 90 Days from test



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Kenneth Johnson ABSA File No.: N/A Stamp No.: KJ
 Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP-511.2
 Base material(s) welded: G40.21-38W Thickness: .375 ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)

Actual Values

Range Qualified

Welding Process(es) Used:	SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:	Manual	Manual	Manual	Manual
Base Metal P Number: 1 To P Number:	1		P1 - P15F	
☒ Plate ☐ Pipe (enter diameter if pipe or tube):	Plate		>2 7/8" OD Flat Only	
Backing (metal, weld metal, double-welded, etc.):	DbI Welded	Weld Metal	DbI Welded	With Only
Filler Metal or Electrode Specification(s) (SFA) (info only):	5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):	E6010	E7018-1		
Filler Metal or Electrode F-Number(s):	F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	N/A	N/A	N/A	N/A
Consumable Insert for GTAW or PAW:	N/A	N/A	N/A	N/A
Deposit Thickness for each process or electrode type, etc. (in.):	.125"	.250"	.250"	.500"
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No			Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	3G	3G	3G / 1G	3G/1G
Vertical Progression (Uphill or Downhill):	Down	Up	Down	Up
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	N/A	N/A	N/A	N/A
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	N/A	N/A	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):	N/A	N/A	N/A	N/A

Results

Visual Examination of Fit-Up; Root Gap: 3/32" Tack Welds: OK (Length: 1/4" Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: May 30, 2012

P.Q. Card No. (When Issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 3G, UP, May 30/12, KJ

Date Coupon is to be retained to: 90 Days from test



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Kenneth Johnson ABSA File No.: N/A Stamp No.: KJ
 Identification of WPS followed by welder during welding of test coupon: 19-LT Rev 5 W.P. Reg. # WP- 511.2
 Base material(s) welded: G40.21-38W Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding Process(es) Used:	<u>SMAW</u>	<u>SMAW</u>
Type of Welding (i.e., Manual, Semi-Automatic) Used:	<u>Manual</u>	<u>Manual</u>
Base Metal P Number: 1 To P Number:	<u>1</u>	<u>P1 to P15F</u>
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		<u>>2 7/8" OD Min.</u>
Backing (metal, weld metal, double-welded, etc.):	<u>Dbt Welded</u>	<u>Dbt Welded</u>
Filler Metal or Electrode Specification(s) (SFA) (info only):	<u>5.4</u>	
Filler Metal or Electrode Classification(s) (info only):	<u>E309-17</u>	
Filler Metal or Electrode F-Number(s):	<u>F5</u>	<u>F5</u>
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	<u>N/A</u>	<u>N/A</u>
Consumable Insert for GTAW or PAW:	<u>N/A</u>	<u>N/A</u>
Deposit Thickness for each process or electrode type, etc. (in.):	<u>.375"</u>	<u>.750"</u>
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	<u>4G</u>	<u>1G, 4G</u>
Vertical Progression (Uphill or Downhill):	<u>N/A</u>	<u>N/A</u>
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	<u>N/A</u>	<u>N/A</u>
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	<u>N/A</u>	<u>N/A</u>
GTAW Current Type/Polarity (AC, DCEP, DCEN):	<u>N/A</u>	<u>N/A</u>

Results

Visual Examination of Fit-Up; Root Gap: 1/8" Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A

U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: LARRY SPENCE

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E00343 Date: December 6, 2012

P.Q. Card No. (When issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 19-LT, 4G, Dec 6/12, KJ

Date Coupon is to be retained to: 90 Days



WELDER QUALIFICATION RECORD (WQR)

AB-76A 06/02

Welder's Name: Travis Fontaine ABSA File No.: N/A Stamp No.: TF
Identification of WPS followed by welder during welding of test coupon: WPS 19-LT Rev 5 W.P. Reg. # WP-511.2
Base material(s) welded: SA-36 Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding Process(es) Used:	<u>SMAW</u>	<u>SMAW</u>
Type of Welding (i.e., Manual, Semi-Automatic) Used:	<u>MANUAL</u>	<u>MANUAL</u>
Base Metal P- or S-Number: 1 To P- or S-Number:	<u>1</u>	<u>P1 - P15F</u>
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		<u>2 7/8" OD min.</u>
Backing (metal, weld metal, double-welded, etc.):	<u>DbI Welded</u>	<u>DbI Welded</u>
Filler Metal or Electrode Specification(s) (SFA) (info only):	<u>5.4</u>	
Filler Metal or Electrode Classification(s) (info only):	<u>E309-17</u>	
Filler Metal or Electrode F-Number(s):	<u>F-5</u>	<u>F5</u>
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	<u>n/a</u>	<u>n/a</u>
Consumable Insert for GTAW or PAW:	<u>n/a</u>	<u>n/a</u>
Deposit Thickness for each process or electrode type, etc. (in.):	<u>.375</u>	<u>.750"</u>
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	<u>2G</u>	<u>1G, 2G</u>
Vertical Progression (Uphill or Downhill):	<u>n/a</u>	<u>n/a</u>
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	<u>n/a</u>	<u>n/a</u>
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	<u>n/a</u>	<u>n/a</u>
GTAW Current Type/Polarity (AC, DCEP, DCEN):	<u>n/a</u>	<u>n/a</u>

Results

Visual Examination of Fit-Up; Root Gap: 1/8" Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by radiography to QW-191)

Radiographic Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E00343 Date: April 17, 2012

P.Q. Card No. (When Issued): N/A Performance Test Reference No.: N/A

Test Coupon I.D. No.: TF, 19-LT, 2G, 04/17/12 Date Coupon is to be retained to: 90 Days



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 06/02

Welder's Name: Travis Fontaine ABSA File No.: N/A Stamp No.: TF
 Identification of WPS followed by welder during welding of test coupon: WPS 13 Rev 4 W.P. Reg. # WP- 511.2
 Base material(s) welded: SA-106-B Thickness: .218" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values		Range Qualified	
Welding Process(es) Used:	SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:	MANUAL	MANUAL	MANUAL	MANUAL
Base Metal P- or S-Number: 1 To P- or S-Number:	1		P1 - P15F	
☐ Plate ☒ Pipe (enter diameter if pipe or tube):	NPS 2		1" OD Min.	
Backing (metal, weld metal, double-welded, etc.):	without	weld metal	with or without	with only
Filler Metal or Electrode Specification(s) (SFA) (info only):	5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):	E6010	E7018-1		
Filler Metal or Electrode F-Number(s):	F-3	F-4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	n/a	n/a	n/a	n/a
Consumable Insert for GTAW or PAW:	n/a	n/a	n/a	n/a
Deposit Thickness for each process or electrode type, etc. (in.):	.125"	0.930"	.250"	.186"
Process/Electrode 1: E6010 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: E7018-1 3 layers minimum ☐ Yes ☒ No			
Welding Position (2G, 6G, 3F, etc.):	6G	6G	All	All
Vertical Progression (Uphill or Downhill):	Up	Up	Up	Up
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	n/a	n/a	n/a	n/a
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	n/a	n/a	n/a	n/a
GTAW Current Type/Polarity (AC, DCEP, DCEN):	n/a	n/a	n/a	n/a

Results

Visual Examination of Fit-Up; Root Gap: 3/32" Tack Welds: OK (Length: 1/4" Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by radiography to QW-191)

Radiographic Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch, or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E00343 Date: January 23, 2012

P.Q. Card No. (When Issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13.6B, Jan 23/12, TF

Date Coupon is to be retained to: 90 Days



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 2010-09

Welder's Name: Travis Fontaine ABSA File No.: N/A Stamp No.: TF

Identification of WPS followed by welder during welding of test coupon: 13 Rev 4 W.P. Reg. # WP-511.2

Base material(s) welded: G40.21-38W Thickness: .375 ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values		Range Qualified	
	SMAW	SMAW	SMAW	SMAW
Welding Process(es) Used:	Manual	Manual	Manual	Manual
Type of Welding (i.e., Manual, Semi-Automatic) Used:	Manual	Manual	Manual	Manual
Base Metal P Number: 1 To P Number:	1		P1 - P15F	
☒ Plate ☐ Pipe (enter diameter if pipe or tube):	Plate		>2 7/8" OD Flat Only	
Backing (metal, weld metal, double-welded, etc.):	Dbt Welded	Weld Metal	Dbt Welded	With Only
Filler Metal or Electrode Specification(s) (SFA) (info only):	5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):	E6010	E7018-1		
Filler Metal or Electrode F-Number(s):	F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	N/A	N/A	N/A	N/A
Consumable Insert for GTAW or PAW:	N/A	N/A	N/A	N/A
Deposit Thickness for each process or electrode type, etc. (in.):	.125"	.250"	.250"	.500"
Process/Electrode 1:	3 layers minimum ☐ Yes ☒ No	Process/Electrode 2:	3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	3G	3G	3G / 1G	3G/1G
Vertical Progression (Uphill or Downhill):	Down	Up fill / Down cap	Down	Up fill / Down cap
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	N/A	N/A	N/A	N/A
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	N/A	N/A	N/A	N/A
GTAW Current Type/Polarity (AC, DCEP, DCEN):	N/A	N/A	N/A	N/A

Results

Visual Examination of Fit-Up; Root Gap: 3/32" Tack Welds: OK (Length: 1/4" Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)] ☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)] ☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by volumetric examination to QW-191)

R.T. Results: N/A U.T. Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E-00343 Date: January 23, 2012

P.Q. Card No. (When issued): N/A Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13, 3G, Jan 23/12, TF Date Coupon is to be retained to: 90 Days from test



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 06/02

Welder's Name: Travis Fontaine ABSA File No.: N/A Stamp No.: TF
 Identification of WPS followed by welder during welding of test coupon: WPS 19-LT Rev 5 W.P. Reg. # WP-511.2
 Base material(s) welded: SA-36 Thickness: .375" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding Process(es) Used:	<u>SMAW</u>	<u>SMAW</u>
Type of Welding (i.e., Manual, Semi-Automatic) Used:	<u>MANUAL</u>	<u>MANUAL</u>
Base Metal P- or S-Number: 1 To P- or S-Number:	<u>1</u>	<u>P1 - P15F</u>
☒ Plate ☐ Pipe (enter diameter if pipe or tube):		<u>2 7/8" OD min.</u>
Backing (metal, weld metal, double-welded, etc.):	<u>DbI WeldedI</u>	<u>DbI Welded</u>
Filler Metal or Electrode Specification(s) (SFA) (info only):	<u>5.4</u>	
Filler Metal or Electrode Classification(s) (info only):	<u>E309-17</u>	
Filler Metal or Electrode F-Number(s):	<u>F-5</u>	<u>F5</u>
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	<u>n/a</u>	<u>n/a</u>
Consumable Insert for GTAW or PAW:	<u>n/a</u>	<u>n/a</u>
Deposit Thickness for each process or electrode type, etc. (in.):	<u>.375</u>	<u>.750"</u>
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No	
Welding Position (2G, 6G, 3F, etc.):	<u>3G</u>	<u>1G, 3G</u>
Vertical Progression (Uphill or Downhill):	<u>Up</u>	<u>Up</u>
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	<u>n/a</u>	<u>n/a</u>
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	<u>n/a</u>	<u>n/a</u>
GTAW Current Type/Polarity (AC, DCEP, DCEN):	<u>n/a</u>	<u>n/a</u>

Results

Visual Examination of Fit-Up; Root Gap: 1/8" Tack Welds: OK (Length: 1/4" Number: 2)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by radiography to QW-191)

Radiographic Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2010

Certified by: [Signature] Examiner File No. E00343 Date: April 18, 2012

P.Q. Card No. (When Issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: TF 19-LT, 3G, 04/18/12

Date Coupon is to be retained to: 90 Days



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR)

AB-76A 06/02

Welder's Name: Matt Reichle ABSA File No.: N/A Stamp No.: MR
 Identification of WPS followed by welder during welding of test coupon: WPS 13 Rev 4 W.P. Reg. # WP-511.2
 Base material(s) welded: SA-106-B Thickness: .218" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)	Actual Values		Range Qualified	
Welding Process(es) Used:	SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:	MANUAL	MANUAL	MANUAL	MANUAL
Base Metal P- or S-Number: 1 To P- or S-Number:	1		P1 - P15F	
☐ Plate ☒ Pipe (enter diameter if pipe or tube):	NPS 2		1" OD Min.	
Backing (metal, weld metal, double-welded, etc.):	without	weld metal	with or without	with only
Filler Metal or Electrode Specification(s) (SFA) (info only):	5.1	5.1		
Filler Metal or Electrode Classification(s) (info only):	E6010	E7018-1		
Filler Metal or Electrode F-Number(s):	F-3	F-4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):	n/a	n/a	n/a	n/a
Consumable Insert for GTAW or PAW:	n/a	n/a	n/a	n/a
Deposit Thickness for each process or electrode type, etc. (in.):	.125"	0.093"	.250"	.186"
Process/Electrode 1: E6010 3 layers minimum ☐ Yes ☒ No	Process/Electrode 2: E7018-1 3 layers minimum ☐ Yes ☒ No			
Welding Position (2G, 6G, 3F, etc.):	6G	6G	All	All
Vertical Progression (Uphill or Downhill):	Up	Up	Up	Up
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:	n/a	n/a	n/a	n/a
Transfer Mode (spray/globular or pulse to short circuit- GMAW):	n/a	n/a	n/a	n/a
GTAW Current Type/Polarity (AC, DCEP, DCEN):	n/a	n/a	n/a	n/a

Results

Visual Examination of Fit-Up; Root Gap: 3/32" Tack Welds: OK (Length: 3/16" Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test: ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by radiography to QW-191)

Radiographic Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Larry Spence

Company: Corlac Industries

Welding supervised by: Larry Spence

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: Corlac Industries AOQP No.: 7171 Expiry Date: August 26, 2013

Certified by: [Signature] Examiner File No. E00343 Date: March 2, 2012

P.Q. Card No. (When Issued): N/A

Performance Test Reference No.: N/A

Test Coupon I.D. No.: 13.6G, Mar 2/12, MR

Date Coupon is to be retained to: 90 Days



the pressure equipment safety authority

WELDER QUALIFICATION RECORD (WQR) FOREMOST UNIVERSAL LP

AB-75A 06/02

Welder's Name: Chris James ABSA File No.: W 26752 Stamp No.: BD
Identification of WPS followed by welder during welding of test coupon: COR-8 W.P. Reg. # WP-1997.2
Base material(s) welded: SA 106B Thickness: .344" ☒ Test Coupon ☐ Prod. Weld

Testing Conditions and Qualification Limits

Welding Variables (QW-350)		Actual Values		Range Qualified	
Welding Process(es) Used:		SMAW	SMAW	SMAW	SMAW
Type of Welding (i.e., Manual, Semi-Automatic) Used:		MANUAL	MANUAL	MANUAL	MANUAL
Base Metal P- or S-Number: 1 To P- or S-Number:		P1		P1-P1	
☐ Plate ☒ Pipe (enter diameter if pipe or tube):		2" NPS		1" OD Min	
Backing (metal, weld metal, double-welded, etc.):		without	weld metal	with or without	with only
Filler Metal or Electrode Specification(s) (SFA) (info only):		E 5.1	E 5.1		
Filler Metal or Electrode Classification(s) (info only):		E6010	E7018-1		
Filler Metal or Electrode F-Number(s):		F3	F4	F3	F4
Filler Type (solid/metal or flux cored/powder) (GTAW or PAW):		n/a	n/a	n/a	n/a
Consumable Insert for GTAW or PAW:		n/a	n/a	n/a	n/a
Deposit Thickness for each process or electrode type, etc. (in.):		.125"	.219"	.250"	.438"
Process/Electrode 1: 3 layers minimum ☐ Yes ☒ No		Process/Electrode 2: 3 layers minimum ☐ Yes ☒ No			
Welding Position (2G, 6G, 3F, etc.):		6G	6G	All	All
Vertical Progression (Uphill or Downhill):		Uphill	Uphill	Uphill	Uphill
Fuel Gas for OFW or Inert Gas Backing for GTAW, PAW, GMAW:		n/a	n/a	n/a	n/a
Transfer Mode (spray/globular or pulse to short circuit- GMAW):		n/a	n/a	n/a	n/a
GTAW Current Type/Polarity (AC, DCEP, DCEN):		n/a	n/a	n/a	n/a

Results

Visual Examination of Fit-Up, Root Gap: 3 3/2" Tack Welds: OK (Length: 1/4 Number: 3)

Root Pass (Describe Discontinuity if Unacceptable): OK

Completed Weld (Describe defects if unacceptable): OK

Bend Test ☒ Transverse Root and Face [QW-462.3(a)] ☐ Longitudinal Root and Face [QW-462.3(b)] ☐ Side [QW-462.2]

☐ Pipe Bend Specimen, corrosion-resistant overlay [QW-462.5(c)]

☐ Plate Bend Specimen, corrosion-resistant overlay [QW-462.5(d)]

☐ Macro Test for Fusion [QW-462.5(b)]

☐ Macro Test for Fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result
Root 1	Pass	Face 2	Pass		
Root 3	Pass	Face 4	Pass		

(For alternative qualification of groove welds by radiography to QW-191)

Radiographic Results: N/A

Fillet Weld - Fracture Test (Describe location, nature and size of any crack or tearing of specimen): N/A

Length and Per Cent of Defects: N/A inches N/A

Macro Test-Fusion: N/A

Appearance-Fillet Size (leg.): N/A X N/A inch. Convexity: N/A inch. or Concavity: N/A inch.

Other Tests: N/A

Record Information

Film or Specimens Evaluated by: Morris Linge

Company: Corlac IND

Welding supervised by: Morris Linge

Mechanical tests conducted by: N/A

Laboratory test no.: N/A

We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

ACCREDITED ORGANIZATION: CORLAC INDUSTRIES AOQP No.: 7171 Expiry Date: November 14/ 2010

Certified by: Morris Linge Examiner File No. WG00248 Date: July 24/ 2008

P.Q. Card No. (When issued): 742

Performance Test Reference No.: N/A

Test Coupon I.D. No.: Cor-8-F3-F4 -6G-08-07-23-BD

Date Coupon is to be retained to: 90 Days after test

Card No. 262

ALL WGOOBY
Position Qualified for Examiner File No.
1'20 Minimum Pipe Diameter

Card № 742

WELDING PERFORMANCE
QUALIFICATION

Card No. 747

[illegible]

PRESSURE PIPING
EXAMINATION CHECK LIST

JOB NO.: 28978		DRAWING NO.: T-028978-D104 Sht.1&2		
ITEM: Steam Heat Coil 028978-2	QC	DATE	OWNER INSPECTOR	DATE
Welding Procedures qualified & registered with ABSA	<i>HL</i>	OCT 18 2013	<i>GP</i>	<i>Nov 29/13</i>
Welders qualified to procedure	<i>HL</i>	OCT 18 2013	<i>GP</i>	↓
Welders P.Q. Cards valid	<i>HL</i>	OCT 18 2013	<i>GP</i>	
Material checked against drawings & specifications for proper identification	<i>HL</i>	OCT 21 2013	<i>GP</i>	
Radiography films, interpretation sheets reviewed	<i>HL</i>	OCT 21 2013	<i>GP</i>	
NDE reports reviewed	<i>HL</i>	OCT 21 2013	<i>GP</i>	
Heat treatment completed, chart filed	<i>N/A</i>			<i>N/A</i>
Fabrication monitored for root spacing, preparation, alignment, preheat, etc.	<i>HL</i>	NOV 29 2013	<i>GP</i>	<i>Nov 29/13</i>
All welds identified with welders symbol	<i>HL</i>	NOV 29 2013	<i>GP</i>	↓
Completion of NDE & heat treatment recorded on construction drawings	<i>HL</i>	NOV 29 2013	<i>GP</i>	
Visual of welds completed	<i>HL</i>	NOV 29 2013	<i>GP</i>	
Deficiencies completed	<i>HL</i>	NOV 29 2013	<i>GP</i>	
Pressure test checked	<i>HL</i>	NOV 29 2013	<i>GP</i>	
Construction and test data report AB-83 completed	<i>HL</i>	NOV 29 2013	<i>GP</i>	↓
Records delivered to owner				

PRESSURE PIPING EXAMINATION GUIDE

	Examination Prior to Test (Punching)	Q.C. Insp.	Date
1.	Pipe material specification correct.	HL	NOV 29 2013
2.	Flanges, ratings, schedule material specification correct.	HL	NOV 29 2013
3.	Fittings, tees, return bends, reducers couplings, weldolets, etc. correct schedule material specifications.	HL	NOV 29 2013
4.	Valve identification - Manufacturers name tag, etc. correct.	N/A	
5.	Valves installed correctly, flow direction, accesses, rising stems free from obstructions. Clearance for removal adequate.	N/A	
6.	Lubrication fittings, drains, etc. installed as required.	N/A	
7.	Bolts and studs length and material correct. Studs at least flush with heads (max. thread exposure beyond nut should be about 2 threads).	HL	NOV 29 2013
8.	Gaskets are correct type, material size, etc.	HL	NOV 29 2013
9.	All welding satisfactory and traceable to welder's symbol.	HL	NOV 29 2013
10.	Seal welding complete - threads covered.	N/A	
11.	All attachment welds satisfactory.	N/A	
12.	All NDE heat treatment complete, records filed.	HL	NOV 29 2013
13.	Guide anchors and shoes required installed correctly (high temp. lines).	N/A	
14.	Line supports adequate - supports to be checked against drawings.	HL	NOV 29 2013
15.	Spring hangers - correct type.	N/A	
16.	Lines have adequate allowance for expansion.	N/A	
17.	Bellow type expansion joint correct type and installed correctly.	N/A	
18.	Required cold spring applied.	N/A	
19.	Orifice runs have specified straight length of pipe - located correctly, etc.	N/A	
20.	All deficiencies recorded on punch list.	N/A	

PRESSURE PIPING EXAMINATION GUIDE

		Q.C. Insp.	Date
	Test Preparation		
1.	All punch list items corrected.	N/A	
2.	Test blinds correct thickness.	HL	NOV 29 2013
3.	All items which could be damaged by test isolated or removed (control valves, safety valves, instrument expansion joints, etc.).	N/A	
4.	Equipment with internals re filters that could be damaged, isolated all required.	N/A	
5.	Vents and drains correctly installed.	HL	NOV 29 2013
6.	Open and closed position of all valves verified.	HL	NOV 29 2013
7.	Shipping bars in place - bellows.	N/A	
8.	Stops in place hangers.	N/A	
	Test Completion		
1.	All temporary blinds, blanks removed.	N/A	
2.	Temporary gaskets changed for correct gaskets.		
3.	Temporary supports removed.	N/A	
4.	Shipping bars removed from bellows.	N/A	
5.	Spring hanger stops removed - cold setting checked.	N/A	
6.	Safety valves - "UV" or "V" symbol and correct pressure and capacity.	N/A	
7.	Safety valve vents correct size - adequately supported drain holes and/or weather hoods installed.	N/A	
8.	Screens for pumps for compressors installed (initial start-up and permanent screens).	N/A	



the pressure equipment safety authority

PRESSURE PIPING CONSTRUCTION AND TEST DATA REPORT

In accordance with the provisions of the PESR Section 31(1)

AB-83 2011-09

Shop Construction ☒; Field Construction ☐;
Final Data Report ☒; Partial Data Report ☐ (from one ABSA- authorized Contractor to another
ABSA- authorized Contractor).

Complete both sides of this Form

1. Constructed By: Foremost Universal LP Owner's Job No: N/A
(Name of ABSA authorized primary contractor or subcontractor)
Lot 9, County Energy Park, Lloydminster, AB, T9V 3A2 Canada
(Address)

Certificate of Authorization Permit No. AQP-1321 Expiry Date: August 26, 2016

2. Constructed For: N/A
(Name of primary contractor if different from above)

N/A

(Address)

Certificate of Authorization Permit No. AQP-1061 Expiry Date: Sept.15,2013

(Required when the primary contractor undertakes some/all of the quality functions, e.g., NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

3. Owner: Devon Canada 2000, 400-3rd Ave. S.W. Calgary, AB. T2P 4H2
(Name and address)

LSD: 11-2-39-08 W5M

(Location of installation)

Certificate of Authorization Permit No. AQP-N/A Expiry Date: N/A

(Required when the owner undertakes some/all of the quality functions, e.g., NDE, PWHT, Tie-in, fabrication, hydro test, final assembly etc.)

4. Piping Design Alberta Registration No.: PP-0726-B-113-P
(Required if aggregate piping volume is over 0.5m³)

5. Design Responsibility: Owner ☐; Contractor ☒

6. WP No.: WP-3299.2; Company: Foremost Universal LP Owner's WP No. (If used): WP-N/A
(Alberta Registration No.)
WPS No(s). used: 15 Rev 5, 20-LT Rev 1; Owner's WPS No(s). (If used): N/A
(Alberta Registration No.)

7. Code: ASME B31.1 Non Boiler External Piping ☐; ASME B31.1 Boiler External Piping ☐;
B31.5 ☐; B31.9 ☐; CSA Z662 Steam Pipelines ☐;
ASME B31.3 ☒ - Service Category: Normal ☒, D ☐, M ☐, High Pressure ☐; Severe Cyclic Condition ☐
High Purity ☐

Drawing No. Rev. No. Line No.	Fluid (Air/Stm. Etc.)	Des. Press. kPa	Des. Temp. °C (Max. & Min.)	Pressure Test kPa	Test Medium	Pipe Mat'l Spec. & Grade	C.A. mm	Pipe NPS & Schedule	Flange Material & Rating	PWHT/ Preheat Temp. °C	NDE
T-028978 D-104 sht 1 Rev 1	W.O.G.	1585	-29/180	2378	Water	SA-160B	3.2	2 XS	SA-105N	N/A/10	10% RT 100% VT
T-028978 D-104 sht 2 Rev 1	W.O.G.	1585	-29/180	2378	Water	SA-333-Gr.6	3.2	2 XS	SA-350 LF2 CL1	N/A/10	10% RT 100% VT

Partial Data Reports certified by sub-contractors are listed below and attached to this Data Report ☐

No.	Line No.	Spool No.	Dwg. No. (with Rev. No.)	Sub-contractor (Name)	AQP No. (if from Alberta)	Expiry (if from Alberta)

Remarks: For partial data report provide information about the code work that was not completed by the subcontractor (e.g., hydrostatic test, PWHT etc.). For final data report provide information about the code work that was not completed by subcontractors and subsequently completed by the primary contractor (e.g., hydrostatic test of entire assembly, PWHT etc.)

Dwg T-028978-D104 sht 1 of 2 is a Category H fitting registered under CRN 0H09853.213
Dwg T-028978-D104 sht 2 of 2 are the Heat Coil nozzles through the tank shell
Foremost Universal LP WO# 028978.

Endorse certificate 'A' or 'B'	
A. CERTIFICATE OF COMPLIANCE Signed by the subcontractor when supplying this certificate as a Partial Data Report We certify that the statements in this Data Report are correct and that materials, construction and workmanship of the piping fabrication conform to the registered quality system and the applicable Piping code(s). Date: _____ Contractor _____ Print Authorized Representative's Name Signature This certificate is not valid unless it forms part of a Final Data Report signed by Primary Contractor	B. CERTIFICATE OF COMPLIANCE Signed by the primary contractor when supplying this certificate as a Final Data Report We certify that the statements in this Data Report are correct and that piping job no. <u>28978</u> described in this Data Report was constructed in accordance with the Province of Alberta Safety Codes Act and Regulations, and applicable ASME Piping Code(s). Date: <u>Nov. 29/13</u> <u>Foremost Universal LP</u> Contractor <u>Ben Reed</u> Print Authorized Representative's Name Signature

CERTIFICATE OF INSPECTION	
I, the undersigned, employed by <u>MTL INSPECTION GROUP</u> have verified that all required examination and testing has been completed, and inspected the piping described in this construction data report to the extent necessary to be satisfied that it conforms to all applicable examination requirements of the Code and of the engineering design, and state that, to the best of my knowledge and belief, the contractor has constructed this piping in accordance with the Alberta Safety Codes Act and Regulations. By signing this certificate neither the inspector nor his or her employer makes any warranty, expressed or implied, concerning the piping described in this construction data report. Furthermore, neither the inspector nor his or her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	
Date: <u>NOV. 29/13</u> <u>CJ PRICHARD</u> Owner's Inspector Name (please print) _____ Owner's Inspector Signature:	Date: _____ _____ ABSA Safety Codes Officer (please print) (BOILER EXTERNAL PIPING ONLY) _____ ABSA Safety Codes Officer's Signature

Current version of this Form may be obtained from www.absa.ca

CERTIFIED BY
FOREMOST UNIVERSAL LP

MAWP: 1585 kPa @ 180 °C

230 psi @ 356 °F

MAWP EXT: — kPa @ — °C

— psi @ — °F

MDMT: —29 °C @ 1585 kPa

—20 °F @ 230 psi

SERIAL#: 028978—2

YEAR BUILT: 2013 CRN: 0H09853 213

HEAT COIL

PRESSURE TEST PROCEDURE & CERTIFICATE

ITEM TESTED: Glycol Heat Coil

SERIAL NO.: 028978-2

Wo. NO.: 28978

CRN OH09853.213

DATE: November 29, 2013

PREPARED: Ben Reed

TEST PERFORMED BY: Foremost

DIAMETER: 2"

LENGTH: 16'-8 11/16"

VOLUME: 7.0 ft³

DESIGN PRESSURE: 230 psi

TEST PRESSURE: 345 psi

HOLDING TIME: 10 mins

TEST MEDIUM: Water

MEDIUM TEMPERATURE: 10° C

TEST INSTRUCTIONS

Increase pressure M.A.W.P. and hold for 1 minute, increase to 1/2 of the differential pressure between M.A.W.P. and max. test pressure, and hold for 1 minute, increase to 3/4 differential pressure and hold for 1 minute, increase to test pressure. Pressure is to be released to M.A.W.P. at the same rate.

NOTES

1. The system is to be checked by the QC Inspector prior to testing.
2. Provide a vent at the highest point during filling.
3. Test medium must be at specified temperature.
4. Two calibrated gauges must be used with one at the highest point possible.
5. Pressure gauges will be graduated to approximately four times test pressure and not less than one and one half times.
6. The QC Inspector is to be notified after 50% of the holding time has expired.
7. The pressure is not to be released until the test has been accepted by the QC Inspector or unless due to leakage or safety considerations.

Hydrotest heat coil as per drawing 028978 - D104

TEST RESULTS

TEST PRESSURE: 345 psi

HOLDING TIME: 10 mins

RESULTS: Pass

TEST MEDIUM: Water

MEDIUM TEMPERATURE: 10° C

PRESSURIZING UNIT USED: Baker Pump

PRIMARY GAUGE: AC-2153030

SECONDARY GAUGE: AC-2153028

THIS CERTIFIES THE ABOVE STATEMENTS ARE CORRECT AND THE EQUIPMENT DESCRIBED WAS FREE FROM LEAKS.

SIGN OFF

WITNESS:

DATE: NOV 29 2013

WITNESS: Norman Sanchez

DATE: Nov 29/13

CUSTOMER REP: W. P. RICHARDS

DATE: Nov 29/13

PRESSURE TEST PROCEDURE & CERTIFICATE

ITEM TESTED: Steam Heat Coil		SERIAL NO.: 028978-2
Wo. NO.: 28978	CRN OH09853.213	DATE: Feb 27/14
PREPARED: Ben Reed	TEST PERFORMED BY: Foremost	
DIAMETER: 2"	LENGTH: 15.3 m	VOLUME: 0.37 m ³
DESIGN PRESSURE: N/A	TEST PRESSURE: 10 psi	HOLDING TIME: Duration
TEST MEDIUM: Air/Soap/-40 C Washer fluid		MEDIUM TEMPERATURE: 10° C

TEST INSTRUCTIONS

Increase pressure M.A.W.P. and hold for 1 minute, increase to ½ of the differential pressure between M.A.W.P. and max. test pressure, and hold for 1 minute, increase to ¾ differential pressure and hold for 1 minute, increase to test pressure. Pressure is to be released to M.A.W.P. at the same rate.

NOTES

1. The system is to be checked by the QC Inspector prior to testing.
2. Provide a vent at the highest point during filling.
3. Test medium must be at specified temperature.
4. Two calibrated gauges must be used with one at the highest point possible.
5. Pressure gauges will be graduated to approximately four times test pressure and not less than one and one half times.
6. The QC Inspector is to be notified after 50% of the holding time has expired.
7. The pressure is not to be released until the test has been accepted by the QC Inspector or unless due to leakage or safety considerations.

Air test coil to ensure proper gasket sealing Dwg #T-028978 - D104

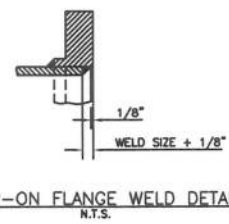
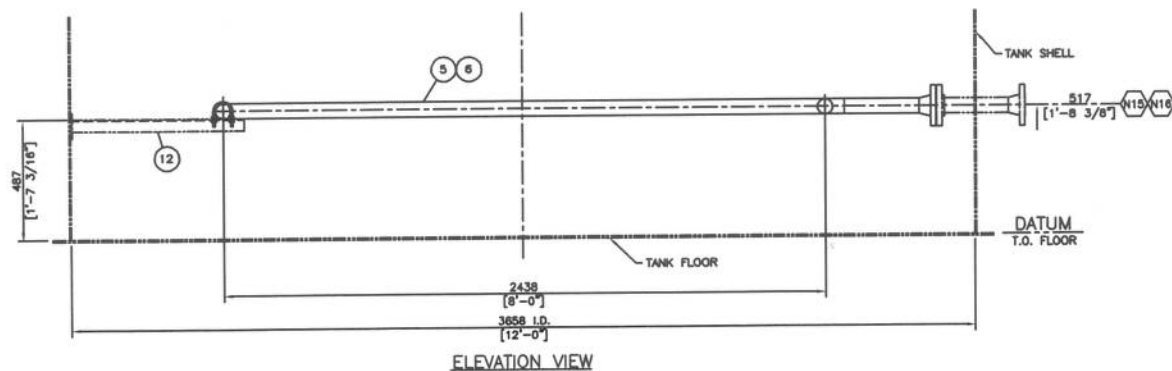
TEST RESULTS

TEST PRESSURE: 10 psi	HOLDING TIME: duration	RESULTS: Pass
TEST MEDIUM: Air/Soap/-40 C Washer fluid	MEDIUM TEMPERATURE: -17° C	
PRESSURIZING UNIT USED: Compressor		
PRIMARY GAUGE: AC-2153028	SECONDARY GAUGE: N/A	

THIS CERTIFIES THE ABOVE STATEMENTS ARE CORRECT AND THE EQUIPMENT DESCRIBED WAS FREE FROM LEAKS.

SIGN OFF

WITNESS: <i>Norm Lankin</i>	DATE: FEB 27 2014
WITNESS:	DATE:
CUSTOMER REP: <i>QJ Pichay</i>	DATE: FEB 27 2014



NOTES:

1. ALL DIMENSIONS ARE IN S.I. AND IMPERIAL UNITS. DIMENSIONS IN BRACKETS ARE IMPERIAL HARD CONVERSIONS FOR YOUR REFERENCE.
2. ALL NOZZLE PROJECTIONS ARE GIVEN ALONG THE NOZZLE CENTERLINE.
3. ALL FLANGE RATINGS TO BE ASME B16.5-2008.
4. FLANGE AND BOLT HOLES TO STRADDLE PRINCIPAL CENTERLINE OF TANK.
5. HEAT COIL WILL BE UNCOATED C.S.
6. THE LENGTH SHOWN FOR MK-#5 & MK-#6 ARE THE FINISHED LENGTHS. PIPE TO BE ROLLED TO 1189 [3'-10 13/16"] I.R. CUT TO LENGTH FROM A 1'-0" PIPE.
7. CRN BASED ON DWG. EDS-6159 REV.1.
8. HEAT COIL SHALL BE HYDROTESTED AFTER INSTALLATION INSIDE OF TANK.
9. SEE DWG. T-028978-D104 SHT.2 FOR NOZZLE SPOOL LENGTHS.

HEAT COIL DATA

DESIGN CODE: ASME B31.3 2012 EDITION _____

DESIGN PRESSURE: 1585 KPa(g) (230 psig) _____

DESIGN TEMPERATURE: -28°C (-20°F) TO 180°C (350°F) _____

OPERATING PRESSURE: 520 KPa(g) (75 psig) _____

OPERATING TEMPERATURE: INLET 80°C (194°F) / OUTLET 65°C (149°F) _____

SERVICE: HYDROCARBON LIQUID AND VAPOR, WATER, OIL, AIR, STEAM, AIR _____

HYDROTTEST PRESSURE: 2378 KPa(g) (345 psig) @ 10°C (50°F) _____

CORROSION ALLOWANCE: 3.2(1/8") _____

RADIOGRAPHY: 10% ALL BUTTWELDS _____

CRN NO.: 090853.213 _____

SERIAL NO.: 028978-2 _____

VOLUME: 0.20m³ (7.0 ft³) _____

HEATING SURFACE: 1.54 m² (16.82 ft²) _____

PWHT: NONE _____

HEAT COIL LENGTH: 8.1 m (26'-8 11/16") _____

	12/07/13	UPDATING OPERATING PRESSURE AND TEMPERATURE DATA;	JS	
		REVISED CLIENT INFO AND TANK TAG NO.		
	21/06/13	ISSUED FOR CONSTRUCTION	JS	JK
NO.	DATE (d/m/y)	REVISIONS	BY	APPO
THIS DRAWING IS THE PROPERTY OF FOREMOST UNIVERSAL LP AND IS TO BE USED ONLY IN CONJUNCTION WITH PERFORMANCE OF WORK BY FOREMOST UNIVERSAL LP. REPRODUCTION OR USE OF IN WHOLE OR IN PART FOR ANY OTHER PURPOSE IS EXPRESSLY FORBIDDEN.				
				
CLIENT	DEVON CANADA C/O WORLEYPARSONS LIQUID EXTRACTION PLANT, LSD: 11-2-39-08 W5M P.O.# 4100001170			
DWG TITLE	SLOP OIL TANK, TAG# 002-T-08-1118 GLYCOL HEAT COIL DETAILS			
NO. REV'D 1	DRAWN BY J. SHORT	WG. NO. 028978	LEG. NO.	
SCALE 1:15	CHKD	DWG NO. T-028978-D104	SHEET NO. 1 of 2	REV. NO.
DATE (d/m/y) 18/05/13	APPO			

All welds by "BD"

#	Dwg #	Mark #	ITEM	THICKNESS	MATERIAL	HEAT NUMBER	Location
1	D-104 1 of 2	1	2" Class 300 RFWN	XS	SA-105	4443569	
2	D-104 1 of 2	2	2" Class 300 RFSO	300#	SA-105	581	
3	D-104 1 of 2	3	2" L.R. Elbow	XS	SA-234-WPB	97693	
4	D-104 1 of 2	4	2" Pipe	XS	SA-106-B	L11109951	
5	D-104 1 of 2	5	2" Pipe	XS	SA-106-B	L11109951	
6	D-104 1 of 2	6	2" Pipe	XS	SA-106-B	L11109951	
7	D-104 2 of 2	1	2" Class 300 RFWN	XS	SA-350-LF2 CL.1	1249389	
8	D-104 2 of 2	2	2" Pipe	XS	SA-333-GR.6	1126428V	
9							
10							
11							
12							
13							
14							
15							

2" 300# RFWXS SA105N
HT#4443569
P.O#150126
Stock
Oct. 9/13



SAN ENG STEEL FORGING CO LTD
311, Jen Hsin Road, Jen Wu District
Kaohsiung, Taiwan, R.O.C.
TEL: 07-3724249; FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@ksts.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1.B(DIN50049/3.1.B)

Customer: W.F.F. FITTINGS & FLANGES (CANADA)
LTD.

Order No.: D000469/S759209857

Certificate No.: SE103488

Date: 08/31/2013

PRODUCT				MATERIAL SPECIFICATIONS										DIMENSIONAL SPECIFICATIONS									
FORGED CARBON STEEL FLANGES				ASTM A105-11a/ASME SA-105-11a										ASME B16.5-09 CSA Z245.12									
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)																		CE(*)	
				Min Max	C -	Si 0.100 0.350	Mn 0.600 1.050	P -	S 0.035 0.040	Cu 0.400	Cr 0.300	Ni 0.400	Mo 0.120	V 0.080	Nb 0.020	N -							
1		300 WNRFXS 2" A105N	400 PCE		0.220	0.210	1.150	0.025	0.004	0.010	0.020	0.010	0.002	0.004	0.001	0.005			0.418				
2		300 BLRF(2"NPT TAP) 3" A105N	30 PCE		0.210	0.220	1.160	0.018	0.004	0.007	0.010	0.010	0.003	0.008	0.001	0.007			0.408				
3		150 BLRF(3"NPT TAP) 4" A105N	20 PCE		0.220	0.200	1.160	0.019	0.009	0.007	0.020	0.010	0.003	0.004	0.001	0.008			0.420				
4		300 BLRF 4" A105N	60 PCE		0.212	0.250	1.050	0.011	0.013	0.018	0.045	0.048	0.005	0.037	0.005	0.005			0.409				
5		600 BLRF 4" A105N	40 PCE		0.200	0.230	1.120	0.012	0.002	0.080	0.120	0.120	0.020	0.004	0.001	0.006			0.429				
6		300 BLRF(1"NPT TAP) 3" A105N	15 PCE		0.210	0.220	1.160	0.018	0.004	0.007	0.010	0.010	0.003	0.006	0.001	0.007			0.408				
7		150 BLRF(1"NPT TAP) 4" A105N	10 PCE		0.220	0.200	1.160	0.019	0.009	0.007	0.020	0.010	0.003	0.004	0.001	0.008			0.420				
8		150 WNRFXS 2" A105N	5 PCE		0.220	0.200	1.160	0.019	0.009	0.007	0.020	0.010	0.003	0.004	0.001	0.008			0.420				
9		900 BLRF 4" A105N	5 PCE		0.200	0.200	1.120	0.015	0.007	0.100	0.110	0.060	0.030	0.010	0.002	0.006			0.427				
10		300 SORF 24" A105N	5 PCE		0.200	0.190	1.050	0.014	0.007	0.110	0.120	0.030	0.020	0.001	0.002	0.007			0.413				

Item No.	Heat No.	T.S.(*) (MPA)	Y.S.(*) (MPA)	E.L.(*) (%)	Hardness (HB)	R.A.(*) (%)	Impact Test Temp: Minimum: Joule			Material Supplier	HEAT TREATMENT(*)		REMARKS
							Min Max	485.0 -	250.0 -		22.0 -	187 -	
1	4443569	523.7	357.9	35.6	153/151	72.1				ACOMINAS		880°CX4HRS	CONFORMS WITH NACE MR0103-12 AND NACE MR0175/ISO15156.2-09 CLAUSE 7.2.1.4 REGION 3 AND ANNEX A. CONFORMS WITH Z245.12 CAT I GR248 SOUR SERVICE-09(FOR USE AS WELDING NECK AND BLIND FLANGES ONLY) MN TO C RATIO IS GREATER THAN 3.0"
2	4677171	518.0	350.0	35.8	153/151	70.4				ACOMINAS			
3	4625126	535.0	358.0	32.6	154/151	69.5				ACOMINAS			
4	21379	513.9	354.0	34.2	152/150	68.6				NTMK			
5	652897	531.0	374.0	34.6	154/152	71.3				GODO STEEL			
6	4677171	518.0	350.0	35.8	153/151	70.4				ACOMINAS			
7	4625126	535.0	358.0	32.6	154/151	69.5				ACOMINAS			
8	4625126	535.0	358.0	32.6	154/151	69.5				ACOMINAS			
9	292445	519.8	379.0	35.6	154/151	72.1				SEAH BESTEEL			
10	Y202038	510.0	362.0	36.0	152/150	71.3				KOTOBUKI			

*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

*3: C.E Value = C + (Mn /6) + (Cr + Mo +V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.

Manager of Quality Assurance Dept

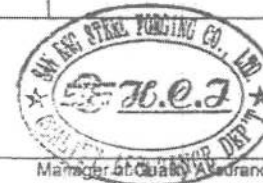
SIN ANG STEEL FORGING CO., LTD.
H.E.I.
FOREMOST LLOYD
Quality Control
04/17
2013

*1: T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area.

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S.T=Solution Treated, S.R=Stress Relieved, A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled.

*3: C.E. Value = $C + (Mn/6) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15$

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.



Manager of Quality Assurance Dept

ASME B16.5-09
SA-105-11a
Z245.12

1

2" 300# RFSO STD SA105N
HT# 581
P.O.# 149582
Stock
Oct. 1/13



SUDHIR FORGINGS PVT. LTD
KANGANWAL ROAD, P.O. JUGIANA,
G.T. ROAD, LUDHIANA (INDIA)

Control No. TC/01
Rev. 01
Eff Date 01.07.2009

TEST CERTIFICATE

(in accordance with EN 10204 3.1 B)

ITEM		2" 300 SORF (6878194)				CERTIFICATE No.		SF/FLANGE/BD5A/012		DATED		16-Nov-2012		
QUANTITY		100 PCS				LAB Ref. No.		581						
FINISH		BLACK PAINT				CUSTOMER NAME		CCTF CORPORATION						
MAT. SPECIFICATION		ASME SA 105N-10 / ASTM A105N-03				INVOICE No.		SF/2012-13/061						
P.O. No.		4891799		DT.		5-Sep-2012		INVOICE DATE		16-Nov-2012				
Heat No.	Supplier Heat No.	Description	Chemical Analysis											
			C%	Mn%	P%	S%	Si%	Cr%	Mo%	V%	Cu%	NI%	C.E %	
			Specified	0.25 max	0.60 - 1.06	0.035 max	0.040 max	0.10 - 0.35	0.40 max	0.40 max	0.30 max	0.12 max	0.08 max	0.47 max
581	6893	Observed	0.210	0.840	0.027	0.016	0.200	0.008	0.000	0.000	0.000	0.000	0.352	
Heat No.	Supplier Heat No.	Description	Physical / Mechanical Properties											
			UTS N / MM ²		YIELD N / MM ²		Elongation%		R.A.%		Hardness (BHN)			
			Specified	485 min	250 min	22 min	30 min	187 max						
581	6893	Observed	511.24	332.51	37.60	54.83	163							
HEAT TREATMENT PROCESS : TEMP 600C - 1000C														

HEAT TREATMENT PROCESS :- TEMP. 870°C - 910°C
SOAKING TIME:- 2.30 HOURS

REMARKS.

- Material is in accordance with NACE STD, MR-0175/ISO-15156
- Flanges are forged steel and manufactured in strict accordance with ASTM A/SA 105 & ANSI B16.5
- The flange have been normalized in accordance with ASTM A961.
- We certify that the Material Suits the Requirement of P.O./Relevant specifications.
- Flanges have serrated face as per MSS-SP-6 within the limit of 125 - 250 RMS.
- Flanges are painted with black paint & Marked as. SF 2 SORF 300 A105N B16.5 581 INDIA

ASME VIII, DIVISION 1
EDITION 10
APPENDIX 2



FOR SUDHIR FORGINGS PVT. LTD

For: [Signature]
Q.C. Engg.

Q.C. Mgr

2

2" XH LR 90° WPB Weld Elbow 4234
HT#97693
P.O.#152655
Watt#30430
Nov. 20/13

10
11



ISO9001:2000 certified by TÜVRheinland NO.01100085921 SHENYANG UNIWEL MACHINERY CO.,LTD NO. 8 ROAD BEI 21, ECONOMIC DEVELOPMENT ZONE, SHENYANG, 110141 CHINA	ISO 97/23/EC NO.01100085921	INSPECTION CERTIFICATE (MILL TEST CERTIFICATE) EN 10204 3.1 PED 97/23/EC-CN .CE.04395-10/11 ISO/TUV Register. No. 01 100 085921 CRN. 0A13475.5C	Date: 03-07-12 Purchase Order No: 4810274-00 Certificate No.: UV12023-1
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PURCHASER: CCTF-EDMONTON 5407 53 AVENUE EDMONTON, AB T6B 3G2	REQUIREMENT & SPECIFICATIONS: Material: A234-10 /SA234-07 WPB, NACE MR0175 & MR0103 Dimension: ANSI B16.9 AND B16.28 Starting Material: MADE FROM SEAMLESS PIPE	REMARKS / NOTES: $CEq=C + (Mn)/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$ $Cu + Ni + Cr + Mo \leq 1.00\%$ $Cr + Mo \leq 0.32\%$
--	---	---

Item	Quant.	Heat No.	Product No.	DESCRIPTION	CHEMICAL COMPOSITION										PHYSICAL PROPERTIES					Heat Treatment (HT)
					C	Mn	P	S	Si	Cr	Mo	Ni	Cu	V	Ceq	Tensile Strength Mpa	Yield Point Mpa	Elongation %	Hardness	
					Min	-	0.29	-	-	0.10	-	-	-	-	-	-	415	240	22	
Max	0.30	1.06	0.050	0.058	-	0.40	0.15	0.40	0.40	0.08	-	655	-	-	-	197				
1	1790	97693	6860900	E 2 XH LR 90 WELD ELL WPB	0.200	0.470	0.012	0.016	0.240	0.010	0.010	0.010	0.010	0.010	0.29	480	280	25	141	1
110	5	97693	6862600	E 2 XH LR 180 RTN BEND WPB	0.200	0.470	0.012	0.016	0.240	0.010	0.010	0.010	0.010	0.010	0.29	480	280	25	141	1
2	1615	08584	6860381	E 3 STD LR 90 WELD ELL WPB	0.200	0.530	0.017	0.008	0.250	0.030	0.010	0.010	0.010	0.010	0.30	480	300	28.5	140	1
7	615	08584	6861213	E 3 STD LR 45 WELD ELL WPB	0.200	0.530	0.017	0.008	0.250	0.030	0.010	0.010	0.010	0.010	0.30	480	300	28.5	140	1
26	110	08584	6862325	E 3 STD LR 180 RTN BEND WPB	0.200	0.530	0.017	0.008	0.250	0.030	0.010	0.010	0.010	0.010	0.30	480	300	28.5	140	1
146	5	08584	AA481588	E 3 STD LR 22.5 DEG A234WPB	0.200	0.530	0.017	0.008	0.250	0.030	0.010	0.010	0.010	0.010	0.30	480	300	28.5	140	1
3	1320	02135	6860420	E 4 STD LR 90 WELD ELL WPB	0.200	0.490	0.016	0.007	0.220	0.020	0.010	0.010	0.010	0.010	0.29	470	290	28	141	1
13	265	02135	6861256	E 4 STD LR 45 WELD ELL WPB	0.200	0.490	0.016	0.007	0.220	0.020	0.010	0.010	0.010	0.010	0.29	470	290	28	141	1
4	860	00273	6860346	E 2 STD LR 90 WELD ELL WPB	0.190	0.520	0.022	0.023	0.300	0.050	0.010	0.020	0.030	0.010	0.29	495	315	32	141	1
8	510	F4358	6860462	E 6 STD LR 90 WELD ELL WPB	0.190	0.530	0.030	0.009	0.220	0.030	0.010	0.015	0.011	0.010	0.29	470	365	23	143	1
35	105	F4358	6861299	E 6 STD LR 45 WELD ELL WPB	0.190	0.530	0.030	0.009	0.220	0.030	0.010	0.015	0.011	0.010	0.29	470	365	23	143	1
9	505	02920	6861507	E 3 XH LR 45 WELD ELL WPB	0.200	0.550	0.020	0.010	0.220	0.030	0.010	0.010	0.020	0.010	0.30	485	300	27.5	140	1
150	545	02920	6860942	E 3 XH LR 90 WELD ELL WPB	0.200	0.550	0.020	0.010	0.220	0.030	0.010	0.010	0.020	0.010	0.30	485	300	27.5	140	1

NDT					Heat Treatment: (HT)					
UT	MPI	LPT	Surface Appearance	Dimensional	RT					
N/A	N/A	N/A	GOOD	GOOD	N/A	(1) Hot Forming Between 630°C and 980°C AC (2) Cold Forming: STRESS RELIEVED AT 600°C X 120Minutes (3) Hot Forming Between 630°C and 980°C AC; Normalized at 920°C X 60 Minutes				

LEGEND:
 TR: It is within the standard range <0.008% and include trace element.
 LA: Laddle Analysis WQ: Water Quenched PA: Product Analysis
 NDT: Non-destructive Test A: Annealing N: Normalized
 HB: Brinell Hardness HRC: Rockwell Hardness N/A: Not Applicable
 AC: Air Cooled WC: Water Cooled L: Longitudinal T: Transversal

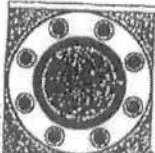
OC: Oil Cooled
 G: Hot Dip Galvanized
 SR: Stress Relieving

We hereby certify that the material described herein has been made in accordance with the requirements called for by the order and is that which has been tested to the satisfaction of the inspector.

Reviewed and approved by: [Signature] Witnessed by: [Signature]

3

7



OFFICINE NICOLA GALPERTI E FIGLIO S.p.A.
Capitale Sociale € 2.882.500,00 interamente versato
Sede Legale e Amministrativa: 23024 BERVIO (LO) - Via Enrico Fermi, 48
C.C.I.A.A. Lecce n. 00204690135 - R.E.A. 70016 - C.F. e P.IVA IT00205980135
Stabilimento - Uffici Amministrativi / Workshop - Warehouse - Offices - Meeting rooms:
22010 GERA LARIO (CO) - Via Tizio Fuentes, 4 - Tel. 0344-97200 - Fax 0344-97210
E-mail: info@galperti.com - www.galperti.com
CERTIFICATO DI COLLAUDO EN 10204 NS. ORDINE / INTERNAL JOB
TEST CERTIFICATE EN 10204

SPETT.LE / MESSRS:

MRC CANADA ULC

Page 1 of 2

7072 - 112 AVE SE - 5220 51 STREET
CALGARY AB, T2C 4Z1 (CDN)

100 Original

3.1

121447

015940/1

DATA / DATE
07/03/2013

VS. ORDINE / YOUR
S 759 180758 REV.1

DATA / DATE
28/09/2012

POS / ITEM	DESCRIZIONE / DESCRIPTION	QUANTITA' / QUANTITY	S/A	MATERIALE / MATERIAL	N° COLATA / PROVA HEAT N° / TEST N°	ACCIAIERIA STEEL MILL
010/010	2" 300 WN RF XS LF2 - 81 FSF4	905	S	ASTM A350/07 LF2 CL1	1249389.L1/B5	LUCCHINI PIONBI

ANALISI CHIMICA / CHEMICAL ANALYSIS																			
C %	MN %	SI %	P %	S %	CR %	NI %	MO %	CU %	V %	SN %	AL %	NB %	TI %	N %	B %	H %	O %		
0,175	1,190	0,230	0,016	0,005	0,140	0,028	0,007	0,046	0,017	0,004	0,036	0,002	0,002	0,005	0,0002	0,0003	0,001		
0,170	1,185	0,250	0,015	0,003	0,145	0,030	0,010	0,050	0,015	0,004	0,053	0,002	0,002	0,005	0,0002	0,0003	0,001		
CA%														0,4%	0,3%	FC%	FL%		
0,001														0,238	0,147	0,373	0,411		
0,001														0,250	0,155	0,367	0,406		

NOTE / NOTES

04=Copper+Nickel+Chromium+Molybd.+Vanadium
03=Chromium+Molybdenum
FC=Carbon Equivalent Short Formula
FL=Carbon Equivalent Long Formula

CU+NI+CR+MO+V
CR+MO
C+(MN/6)
C+(MN/6)+((CR+MO+V)/5)+((NI+CU)/15)

C = ANALISI DI PRODOTTO / CHECK ANALYSIS

CARATTERISTICHE MECCANICHE / MECHANICAL PROPERTIES																
TRAZIONE / TENSILE										RESILLENZA / CHARPY TEST						
TIPO TYPE		DIAMETRO PROVETTA mm	SEZIONE AREA mmq.	LUNGHEZZA LENGHT mm.	TEMP. TEMPERATURE C	ROTTURA TENSILE Mpa	SNERVAMENTO YIELD Mpa	A.L. ELONG %	CONTR. REDUCT. %	TIPO TYPE KV	TEMP. TEMPERATURE C	VALORI / VALUES Joule			DUREZZA HB HARDNESS (AVERAGE)	
A	S	12,50	122,70	50,00	20	485	250	22,0	30,0		-46	Min.	16	Med.	20	197
A	O	12,50	122,70	50,00	20	530	310	30,8	69,2		-46	61	64	66		155

NOTE / NOTES

O = OTTENUTE / OBTAINED
S = STANDARD

TRATTAMENTI TERMICI / HEAT TREATMENTS										NOTE GENERALI / GENERAL NOTES				
Normalized at 900 dgr.C for 1 h.-Cooling from 900 dgr. in still air										PINITURE / ROUGHNESS FSF4=Ra = 125 AARH				
ASME VIII, DIVISION 1 EDITION 1989 ADDENDA 10 11										STANDARD B1 = ASME 816.5 ED.09 Inch STD				

NOTE / NOTES

Material according to Technical Specification MRC-FLG-001 Rev.0.
Material according to NACE MR-01-75 / ISO 15156-2 Sour service Region 3-2009 and NACE MR0103-2010.

MARCHIO DI FABBRICA TRADE MARK	DATA COLLAUDO INT. INT. INSPECT DATE 07/03/2013	COLLAUDATORE INT. INT. INSPECTOR P.CESARE
ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY		

PO # 147103

PIPE 2" XS SA-333-6

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dalixincun, Hongyang City, Hunan, P.R. China P.C.: 421001

Tel and Fax: +86 734 8873739

E-mail: hsiecthysteel@tube.com

(ACCORDING TO EN10204 3.1)

(ACCORDING TO EN10243-1)

E-mail: hsiac@hysteeltube.com

CUSTOMER	CE FRANKLIN			CERTIFICATE NO.	C201205053-1				
CONTRACT NO.	2110002307	P.O. NO.	PO.2895832-OR-2100-C (LOT B)	L/C NO.	2FA11DS-00038	DATE:	2012-2-15	PAGE:	1/3
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE.			DELIVERY CONDITION	N				
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT						
GRADE	GR.6			DIMENSIONS(mm)	2" * 0.218" * 20FT				
TOTAL BUNDLES:	6	TOTAL PIECES:	224	TOTAL LENGTH:	4482.960	FT	TOTAL WEIGHT:	10.219	MT

NO.	LOT No.	HEAT No.	BUNDLES	PIECES	LENGTH	WEIGHT	TENSILE TEST ASTM A370						FLATTENING TEST
					FT	MT	SAMPLE TYPE/ ORIENTATION / SIZE(mm)/GAUGE LENGTH(mm):SL112.5/50						
						WT	TS(Psi)	YS(Psi)	Rp0.2	EL(%)	R.A. (%)	YS/TS	
1	9213W0611	1126428V	6	224	4482.960	10.219	66120/64960	48575/47850		35.5/34.5		0.73/0.74	ACCEPTABLE

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST	
	NOTCH TYPE/ORIENTATION/TEMPERATURE/SIZE (mm):										NACE MR0175	
	V8/L-45/3.3											
	AK1 (J)	Av. (J)	% SHEAR AREA	LE	AK2 (J)	Av. (J)	% SHEAR AREA	LE				HRC ≤22
1	70.0/71.0/70.0	70	80/80/80	1.30/1.30/1.30							11.0/	

WUXIANG YANIN STEEL TUBE

无锡彦仁钢管有限公司

NOTES:

W1-THEORETICAL WEIGHT

W2-ACTUAL WEIGHT

NR-NORMALIZING ROLLED

AK1-ABSORB ENERGY FOR THE FIRST SET

SAMPLE ORIENTATION: L-LONGITUDINAL T-TRANSVERSE

SAMPLE TYPE: S-STRIP C- CLUBBED F-FULL-SECTION

Q&T-QUENCHING AND TEMPERING

AK2-ABSORB ENERGY FOR THE SECOND SET

N-NORMALIZING

A-ANNEALING

Av-AVERAGE

LE-SIDE EXPANSION

HE-HOT EXPANDED

HR-HOT ROLLED

N&T-NORMALIZING AND TEMPERING



ASME VIII, DIVISION 1
EDITION 10
ADDENDA 11



9

HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

(ACCORDING TO EN10204 3.1)

Add: 10 Dalixincun, Hengyang City, Hunan, P.R. China
P.C.: 421001

Tel and Fax: +86 734 8873739

E-mail: hsienc@hysteeltube.com

CUSTOMER	CE FRANKLIN		CERTIFICATE NO.		C201205053-1	
CONTRACT NO.	2110002307	P.O.NO.	PO.2895832-OR-2100-C (LOT B) L/C NO: 2FAHD5-00038		DATE:	2012-2-15
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE				DELIVERY CONDITION	N
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT			
GRADE	GR.6		DIMENSIONS(mm)		2" * 0.218" * 20FT	
TOTAL BUNDLES:	6	TOTAL PIECES:	224	TOTAL LENGTH:	4482.960	FT
				TOTAL WEIGHT:	10.219	MT

NO	HEAT No. LOT No.	Type	CHEMICAL COMPOSITION (%)																				SUM1			SUM2			SUM3			R1			R2			R3					
			C	Si	Mn	Cr	Mo	W	Cu	Ni	P	Al	Sn	As	Pb	Sb	Nb	Ti	Zr	N	Bi	S	V	B	Ca	CEI1%	CEPCW	SUM1	SUM2	SUM3	R1	R2	R3										
		P	*100																				*1000			*10000			*100			*1000											
1	1126428V	H	10	26	107	5	1		6	3	13						1	2				30	32	2		30	153						10.7										
	9213W0611	P	10	24	106	3	1		4	1	10						1	2				20	30	2		29	93						10.6										
	9213W0611	P	9	24	106	3	1		4	1	10						1	2				20	30	2		28	93						11.8										
		H																																									
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NON-DESTRUCTIVE TEST			
POSITION	PIPE BODY	PIPE END	END SURFACE(GROOVE)
NDT Type(Level)	EMI	MPI	
LAMINAR			
TEST RESULT	ACCEPTABLE	ACCEPTABLE	N/A
RESIDUAL MAGNETISM			N/A
UT THICKNESS MEASUREMENT (50%)			N/A
HYDROSTATIC TEST	Min(psi/s)	2500/5	ACCEPTABLE

NOTES:			
H-HEAT ANALYSIS	P-PRODUCT ANALYSIS	CE-EQUIVALENT CARBON	R-RATIO
CEI1W=C+Mn/5+(Cr+Mo+V)/5+(Cu+Ni)/15		CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+Mo/15+V/10+5*B	R1=Ca /S
SUM1=Cr+Cu+Mo+Ni+V		SUM2=Nb+V	R2=Al /N
L4--ACCEPT LEVEL L4,NOTCH DEPTH IS 12.5% THE SPECIFIED WALL THICKNESS		SUM3=Nb+V+Ti	R3=Mn /C
L2--ACCEPT LEVEL L2,NOTCH DEPTH IS 5% THE SPECIFIED WALL THICKNESS.			



HENGYANG VALIN STEEL
TUBE CO., LTD

MILL TEST REPORT

Add: 10 Dnlixincun, Hengyang
City, Hunan, P. R. China P. C. : 421001
Tel and Fax: +86 734 8873739
E-mail: hsiac@hysteeltube.com

CUSTOMER	CE FRANKLIN			(ACCORDING TO EN10204 3.1)		CERTIFICATE NO.	C201205053-1				
CONTRACT NO.	2110002307	P.O.NO.	PO.2895832-OR-2100-C (LOT B)	L/C NO.	2FAHDS-00038	DATE:	2012-2-15	PAGE:	3/3		
PRODUCT	SEAMLESS CARBON STEEL PIPE FOR OIL AND GAS USE					DELIVERY CONDITION	N				
SPECIFICATION	SEE SPECIFICATION NOTE		HEAT TREATMENT								
GRADE	GR.6										
TOTAL BUNDLES:	6	TOTAL PIECES:	224	DIMENSIONS(mm)	2" * 0.218" * 20FT	TOTAL LENGTH:	4482 960	FT	TOTAL WEIGHT:	10 219	MT
REMARK :											

SPECIFICATION NOTE	ASTM A333-6-2010, ASME SA333-6-2010, NACE MR-0175-2009 (FOR HARDNESS ONLY)	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electronic signature. On the original certificate the trade-mark JOINTIME light-green coloured at the bottom of the page is stamped. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube CO., LTD, E-mail: hsiac@hysteeltube.com		
CUSTOMER THIRD PARTY		
Quality Manager: 胡双开 		Certificate-maker: 曾黎明

Inspection & Test Plan for Foremost Devon Canada

Foremost w/04307
Inv # 17298

CCC Job# Quote L-7230 Tag# 002-T-08-1118 Foremost Job# WO-028978 PO# 4100001170 Rev 2

400Bbl Devon.

	R - Review	H - Hold	W - Witness	CCC Insp.	UIC Insp.	Owner Insp.
	Scope	Reference Documentation				
1	Quality Manual	Revision Date: March 2009				R
2	Drawings Issued Approved for Construction	Per drawings sent by Foremost Aug 27/13		V.G. Dec 11/13		R
3	Coating Material/Material Storage & Handling	Devchem 100 Clovaline Coal Tar Epoxy Per Product MSDS,		V.G. Dec 11/13		
4	Manufacturers Technical Document	Data Sheet for Devoe Devmat 100 Clovaline Coal Tar Epoxy		V.G. Dec 11/13		R
5	Customer Specifications	Devon Canada -As per supplied GS-6200 and GS- 6100 Spec.		V.G. Dec 11/13		R
6	Abrasive Blast Media	Kleenblast/ Starblast 50/50		V.G. 12/11/13		R 12/11/13
7	Surface Preparation Quality	SSPC-SP5 Blast - Int Blend SSPC-SP6 Blast- Ext and Underside		V.G. Dec 11/13		R 12/11/13
8	- Surface Profile - Testex Tape - Coating Application/ Ambient Condition /Thickness/Holid ay Status/Cure	NACE RPO 287 See QC Sheet Attached (Cure) NACE RP0 188		V.G. Dec 14/13		W OR R 12/18/13
9	Final QC Acceptance and Release	See QC Sheet Attached NACE RP0 188		V.G. Dec 16/13		H 12/10/13
10	Turnover Package Complete	QC Sheet and ITP Signed		V.G. Dec 16/13		R

Christie Corrosion-
Foremost-
Inspector-

Signature _____
Signature _____
Signature

Invoice # 17298

INTERNAL COATING APPLICATION

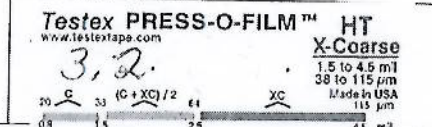
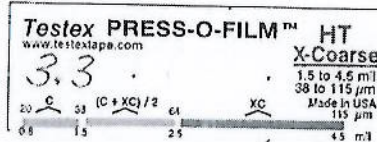
Date of start up: Dec 11/13
Customer: Foremost
Location: CCC Shop
Tank Serial #: 028978-1
Tag #:
Description: 400 BBL Tank

WO #: 4327
Customer P/O: PO-150879
Owner: Devon Energy
Inspector: Nathan Kennedy
Job Foreman: Jim German

Shop: ()
White Metal SSPC-SP5

SURFACE PREPARATION

Abrasive Material: Sil Silica Grade: Sil 4 30-60
Compressor Size: 825 cfm Condition: Clean
of Pots: 2 Nozzle Size: 7 Nozzle press: 105 lbs
Method of Sand Removal: Vec loader and dry air blast
Surface Profile: 3.2/3.3 How profile measured: Testex tape
Metal Temp: -15° Air Temp: -19° R.H. 72% Dew Point: -21°
Surface accepted for lining: Date Dec 11/13 Time: 2:00 PM
Salt Test No contaminants Blotter Test No contaminants
Comments: Tank was moved into a cool shop & ventilated.
Testex Tape Rust bloom did not occur.



Internal: (✓) **COATING SPECIFICATIONS** External: ()
Product: Devomat 100 Thinner: Ø
Specified Thickness: 15-20 DFT # of Coats Specified: One
25-40 Floor + 1 m.

1st COAT Product: Devomat 100 Date of Application: Dec 12/13
Batch #'s: Base 64948-HVIA Catalyst: 20739 HV8J
Thinner: Ø % Thinner Used: Ø
Applied With: Airless Hydro Cat Tip Size: 4-29
Date of Inspection: Dec 13/13 Time: 0800
D.F.T. 18/27 (Avg) Low 14/22 High 27/33 Floor Mills
Metal Temp: 17° Air Temp: 22° R.H: 19% Dew Point: 6°
Color: Gray Appearance: smooth + uniform

Comments: The low film thickness areas were prepped & recoated
Dec. 14/13 - three holidays and six pinholes at roof line. by brush & roll.

2nd COAT Product: _____ Date of Application: _____
Batch #'s: Base _____ Catalyst: _____
Thinner: _____ % Thinner Used: _____
Applied With: _____ Tip Size: _____
Date of Inspection: _____ Time: _____
D.F.T: _____ (Avg) Low: _____ High _____ Mils
Metal Temp: _____ Air Temp: _____ R.H: _____ Dew Point: _____
Color: _____ Appearance: _____
Comments: _____

3rd COAT Product: _____ Date of Application: _____
Batch #'s: Base _____ Catalyst: _____
Thinner: _____ % Thinner Used: _____
Applied With: _____ Tip Size: _____
Date of Inspection: _____ Time: _____
D.F.T: _____ (Avg) Low: _____ High _____ Mils
Metal Temp: _____ Air Temp: _____ R.H: _____ Dew Point: _____
Color: _____ Appearance: _____
Comments: _____

4th COAT Product: _____ Date of Application: _____
Batch #'s: Base _____ Catalyst: _____
Thinner: _____ % Thinner Used: _____
Applied With: _____ Tip Size: _____
Date of Inspection: _____ Time: _____
D.F.T: _____ (Avg) Low: _____ High _____ Mils
Metal Temp: _____ Air Temp: _____ R.H: _____ Dew Point: _____
Color: _____ Appearance: _____
Comments: _____

Floor + 3' of shell
HOLIDAY INSPECTION

Date: *Dec. 18/13* Time: *10:15am*
Type of Detector: *PCWT* Volts: *62.5*
Method of Inspection: Wet Sponge: () Dry Spark: ()
Electrolyte: Detergent: () Photo Flo: () Other: _____
Results and Comments: *two holidays and bolt holes on floor + 3'*

REPAIRS INSPECTED

Accepted: () Date: _____ Time: _____

CURE TEST

Method of Cure: Air: () Force: () Cure Temp: *70°C* hrs cured *48*
Type of Test: _____ Accepted: ()

Job complete () Sticker () Date: *Dec. 18/13*
Comments: _____

Coater's Signature: _____ Inspector Signature: _____

Form CCC QC
Revision 01

INVOICE# 17298

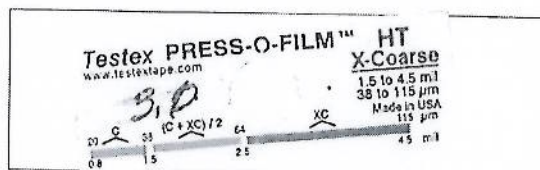
EXTERNAL COATING APPLICATION

Date of Start Up: Dec 11/13 Job # 4327
Customer: Foreman Customer P/O # PO-150879
Location: CCC Shop Owner: Devon
Description: bottom 1.5' of shell
Tank # or Serial # 028978-10 Inspector: Nathan
Tank Size: 400 bbl. Job Foreman: Jim G

SURFACE PREPARATION

Shop (☒) Field ()
White () Near White () Commercial (☒) Other ()
SSPC-SP5 SSPC-SP10 SSPC-SP6
Abrasive Material: silica Grade: 4
Compressor Size: 825 CFM Condition: good
of Pots 1 Nozzle size 7 Nozzle press. 100 Traps, Etc.
Method of Sand Removal: dry air blow
Surface Profile: 3.0 mils How Profile Measured: testex tape
Metal Temp: -15°C Air Temp: -19°C R.H. 72% Dew Point: -21°C
Area Blasted: bottom 1.5' of shell
Floor () Roof () Shell (☒) Stairs () Nozzles ()
Comments:

TESTEX TAPE:



EXTERNAL COATING APPLICATION

PRIMER COAT

Primer Product Cloudline 8329

Base Batch #: W13A5024

Thinner added per gal. 3%

Applied with airless

Appearance shell

Metal Temp: 24°C

Dry Mil Thickness 7.1 (Avg.) Low 4.1

Comments: _____

Date of Application: Dec. 17/13

Thinner T-10

Catalyst Batch #: W13A5318

Thinner Batch # _____

Tip Size 3/15

Color off white

R.H.: 29% Dew Point: _____

High 11 Mils

FINISH COAT

Paint Product _____

Base Batch #: _____

Thinner added per gal. _____

Applied with _____

Appearance _____

Metal Temp: _____

Dry Mil Thickness _____ (Avg.) Low _____

Comments: _____

Date of Application: _____

Thinner _____

Catalyst Batch #: _____

Thinner Batch # _____

Tip Size _____

Color _____

R.H.: _____ Dew Point: _____

High _____ Mils

Date of Inspection: _____

Time: _____

Job Complete ☒

Sticker ☐

Date: Dec 18/13

Comments: _____

Coaters Signature [Signature] Inspectors Signature _____

INVOICE# 17298

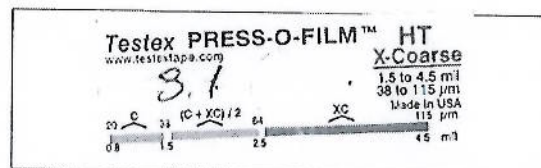
EXTERNAL COATING APPLICATION

Date of Start Up: Dec 11/13 Job # 4327
Customer: Foremost Customer P/O # PO-150879
Location: CCC Shop Owner: Devon
Description: underside Inspector: Nathan
Tank # or Serial # 028978-1 Job Foreman: Jim G.
Tank Size: 400 bbl.

SURFACE PREPARATION

Shop (☒) Field ()
White () Near White (☒) Commercial () Other ()
SSPC-SP5 SSPC-SP10 SSPC-SP6
Abrasive Material: 515 silica Grade: 4
Compressor Size: 825 CFM Condition: good
of Pots 1 Nozzle size 7 Nozzle press. 100 Traps, Etc.
Method of Sand Removal: dry air blow
Surface Profile: 3.1 mils How Profile Measured Testex Tape
Metal Temp: -15°C Air Temp: -12°C R.H. 72% Dew Point: -21°C
Area Blasted: complete underside
Floor () Roof () Shell () Stairs () Nozzles ()
Comments:

TESTEX TAPE:



EXTERNAL COATING APPLICATION

PRIMER COAT

Primer Product Chlorine

Base Batch #: PB71159H

Thinner added per gal. _____

Applied with 21/10/55

Appearance Shine

Metal Temp: 24°C / Air Temp: 2

Dry Mil Thickness 20 (Avg.) Low

Comments: _____

Date of Application: Dec. 17/13

Thinner _____

Catalyst Batch #: DC 221 B9988

Thinner Batch #

Tip Size 4-23

Blank

R.H.: 29 Dew Point:

✓5 High 28 Mils

FINISH COAT

Paint Product _____

Base Batch #: _____

Thinner added per gal. _____

Applied with _____

Appearance _____

Metal Temp: _____ Air Temp: _____

Dry Mil Thickness_____ (Avg.) Low

Comments: _____

Date of Application:_____

Thinner_____

Catalyst Batch #: _____

Thinner Batch # _____

Tip Size _____

R.H.: _____ Dew Point: _____

High	Mils
------	------

Date of Inspection:_____

Time: _____

Job Complete (✓)

Sticker ()

Date: Dec. 18/13

Comments: _____

Coaters Signature: [Signature] Inspectors Signature _____

Coaters Signature: [Signature] Inspectors Signature _____

Vendor: FOREMOST

Doc #: WO-028978-TSI

Vendor Rev #: -

Description: TSI - INSPECTION AND TEST PLAN

devon

REVIEW STAMP

PROJECT NO. _____

1. REVIEWED & ACCEPTED. MANUFACTURE MAY PROCEED ☒

2. REVIEWED & ACCEPTED AS MARKED. REVISE & RE-SUBMIT. MANUFACTURE MAY PROCEED ☐

3. REVISE AS MARKED & RE-SUBMIT. MANUFACTURE SHALL NOT PROCEED ☐

4. REVIEW NOT REQUIRED. FOR INFORMATION ONLY. MANUFACTURE MAY PROCEED ☐

Acceptance in any of these categories in no way relieves the Contractor/Supplier of its responsibility for the due and proper performance of the Works in accordance with the Contract/Purchase Order.

Name SEP 10 2013

Signed: *L. H. H. H.* Date:

DATE	JOB NO.	PURCHASE ORDER NO.
09/10/2013	407014-00120	ME-POD-0005
VTRI-0939		
DEVON MR. NO.		
FE-CPF-M005		
EQUIP. NO.	WORLEYPARSONS VP NO.	REV.
002-T-08-1118	407014-00120-ME-POD-0005-0327	1

devon

QA/QC Prior Approval

By: *L. H. H. H.* SEP 10 2013 Date:

Inspection and Test Plan

	TSI Job #: 866-13	Date:
	Client: Foremost	Tag #: 002-T-08-0210
	Location: Foremost Bonnyville / Lloydminster	Insulation Type: Urethane Panels w/ Aluminum Cladding
	WO#: WO-028977	Insulation Thickness: 2"
	PO#: 4100001170	

Activity No.	Activity Description	TSI		UIC		Devon		Notes
		Hold Int.		Hold Int.		Hold Int.		
General								
1.1	Confirm latest revision of IFC drawings and specs	R	Q	SU		SU		
1.2	Review IFC drawings and specs to confirm insulation type/thickness	R	Q	SU		SU		
Shell Insulation								
2.1	Tank Surface is Clean and Dry	I	Q	SU		SU		
2.2	Urethane Panels installed correctly with proper lap	I	Q	I		I		Upper panels lap over lower panels for watershed
2.3	Banding installed and tightened to secure the insulation panels	I	Q	I		I		Banding on 48" max centers
2.4	Longitudinal laps fastened down with S.S. screws	I	Q	I		I		Screws max 6" spacing
2.5	All cutouts flashed and sealed with caulking	I	Q	I		I		
Roof Insulation								
3.1	Urethane Panels installed correctly with all laps sealed with caulking and fastened with S.S. screws	I	Q	I		I		Screws max 6" spacing
3.3	All cutouts flashed and sealed with caulking	I	Q	I		I		
3.4	Rim flashing installed and fastened with S.S. screws.	I	Q	I		I		Screws max 6" spacing
Comments								
Acceptance of ITP - TSI <i>Q ml</i>			Acceptance of ITP - UIC			Acceptance of ITP - Devon		

Legend: R - Review I - Inspect SU - Surveillance