

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1 Page 1 of 2

1. Manufactured and certified by **Tri-Point Oil & Gas Production Systems, LLC, 10885 Exhibition Road, Canadian, Texas, 79014**

(Name and address of Manufacturer)

2. Manufactured for **FourPoint, 8450 E Crescent PKWY , Suite 400, Greenwood Village, Colorado, 80111**

(Name and address of Purchaser)

3. Location of Installation **Unknown**

(Name and address)

4. Type **Vertical** **T014847-5** **N/A** **014847-DSS-VES** **1572** **2019**
 (Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Division 1 **2017/ N/A** **N/A** **N/A**
 [Edition and Addenda, if applicable (date)] (Code Case numbers) [Special service per UG-120(d)]

6. Shell: **SA-516-70N** **3.50 in** **0.0625 in** **0' 28.0" (OD)** **8' 0.0"**
 (Material spec. number, grade) (Nominal thickness) (Corr. allow.) (Inner diameter) [Length (overall)]

Body Flanges on Shells

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7. Seams: **Type 1** **Full** **100%** **1100 °F** **2hrs** **Type 1** **Full** **100%** **1**
 [Long. (welded, dbl., singl., lap, butt)] [R.T. (spot or full)] (Eff., %) (H.T. temp) (Time, hr) [Girth. (welded, dbl., singl., lap, butt)] [R.T. (spot or full)] (Eff., %) (No. of courses)

8. Heads: (a) Material **SA-516-70N** (b) Material **SA-516-70N**
 (Spec. no., grade) (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	TOP	2.9023"	0.0625"	N/A	N/A	2:1	N/A	N/A	N/A	Concave
(b)	BOTTOM	2.9023"	0.0625"	N/A	N/A	2:1	N/A	N/A	N/A	Concave

Body Flanges on Heads

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A

9. MAWP **5000 psi** **N/A** at max. temp. **200 °F** **N/A**
 (Internal) (External) (Internal) (External)
 Min. design metal temp. **-20 °F** at **5000 psi** Hydro, pneu., or comb. test pressure **HYDRO at 6500 psi**

Proof test **N/A**

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet	1	3"	RTJHB	N/A	SA-105	CL2500	0.0625"	Integral	N/A	UW-16.1(I)	Shell
Outlet	1	3"	RTJHB	N/A	SA-105	CL2500	0.0625"	Integral	N/A	UW-16.1(I)	Shell
Drain	2	3"	Pipe/RTJWN	SA-106-C	SA-105	XXH/CL2500	0.0625"	SA-516-70	UW-16.1(a-1)	Fig.2-4(6)	Head

Additional Nozzles - See Attached U-4...

11. Supports: Skirt **No** Lugs **0** Legs **0** Other **N/A** Attached **N/A**
 (Yes or no) (Number) (Number) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors, have been furnished for the following items of the report:

BISE WELDING & FABRICATING, INC.
S/N 7462-C

(Name of part, item number, Manufacturer's name and identifying stamp)

Over Pressure Protection Provided per UG-125.

Impact Exempt per UCS-66.

Tested in Vertical Position.

(1) Name Plate Bracket; SA-36. Welded to Shell.

(2) Saddle Legs; SA-36. Welded to Shell.

(1) Lift Lug; SA-36. Welded to Shell.

(2) Support Lugs; SA-36. Welded to Shell.

(1) Support Repad; SA-36. Welded to Head.

Manufactured by **Tri-Point Oil & Gas Production Systems, LLC, 10885 Exhibition Road, Canadian, Texas, 79014**
Manufacturer's Serial No. **T014847-5** CRN **N/A** National Board No. **1572**

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number **37306**
expires **February 22, 2020**

Date **09/04/2019**

Co. name

Tri-Point Oil & Gas Production Systems, LLC
(Manufacturer)

Signed


(Representative)**CERTIFICATE OF SHOP/FIELD INSPECTION**

Vessel constructed by **Tri-Point Oil & Gas Production Systems, LLC** at **10885 Exhibition Road, Canadian, Texas, 79014**

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and employed by
OneCIS Insurance Company, of Lynn, MA

have inspected the component described in this Manufacturer's Data Report on **September 3, 2019**,
and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER
AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any
warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector
nor his/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 **09/04/2019**

Signed


(Authorized Inspector)

Commissions

16179

(National Board Authorized Inspector Commission number)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Tri-Point Oil & Gas Production Systems, LLC, 10885 Exhibition Road, Canadian, Texas, 79014
(Name and address of Manufacturer)

2. Manufactured for FourPoint, 8450 E Crescent PKWY , Suite 400, Greenwood Village, Colorado, 80111
(Name and address of Purchaser)

3. Location of installation Unknown
(Name and address)

4. Type Vertical N/A T014847-5
(Horizontal, vertical, or sphere) (Tank, separator, heat exch., etc.) (Manufacturer's serial number)

N/A 014847-DSS-VES 1572 2019
(CRN) (Drawing number) (National Board number) (Year built)

Data Report
Item Number _____ Remarks _____

Additional nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
PSV	1	2"	TOL	SA-105	N/A	9000#	0.0625"	Integral	UW-16.1(a)	N/A	Head
Cleanout	1	2"	TOL	SA-105	N/A	9000#	0.0625"	Integral	UW-16.1(a)	N/A	Shell
PI	1	3/4"	TOL	SA-105	N/A	9000#	0.0625"	Integral	UW-16.1(a)	N/A	Shell

Certificate of Authorization: Type "U" No. 37306 Expires February 22, 2020

Date 09/04/2019 Name Tri-Point Oil & Gas Production Systems, LLC
(Manufacturer)

Date 09/04/2019 Name James F. Jones Commissions 16179
(Authorized Inspector) (National Board Authorized Inspector Commission number)

Signed [Signature]
(Representative)

Examination & Inspection Sheet		Job. No.: E101865		NBN: 1572		PJ#: 20729		Page 1 of 3	
		Serial No.: T014847-5				Dwg. No.: 0147847-DSS-VES			
		Customer: Fourpoint				Location: Canadian, TX			
		New Construction		Repair		Alteration		Routine Repair	
Vessel Data		Applicable Code(s):		ASME Code Sec. VIII-1, Yr/Ed: 2017		NBIC Yr/Ed			
		Description: 28"OD x 8'-0" x 5000# V. Sand Separator							
Completed Vessel Operations						Quality Control		Authorized Inspector	
						Initial	Date	Initial	Date
1.0 Calculations						AW	3/25/19	DW *	3/25/19
2.0 Drawings						AW	3/25/19	DW *	3/25/19
3.0 Welding Procedures						AW	3/25/19		
4.0 Welder Performance Qualifications						AW	3/25/19		
5.0 Material Test Reports						I.S	5-13-19		
6.0 Customer Specifications						I.S	5-13-19		
7.0 Vessel Layout Prior to Burning						I.S	5-13-19		
8.0 Head and Shell Forming							*		
Seam Alignment							*		
9.0 Internal Vessel Inspection						I.S	5-17-19	JTJ *	7/17/19
10.0 Hold Dimensions									
MAWP	5000	PSI @	200	°F	WT/lbs.	9,921			
MAEWP	N/A	PSI @	N/A	°F	HD./in.	2.9023"			
MDMT	-20	°F @	5000	PSI	SH./in.	3.50"			
11.0 Impact Testing Required						Yes	No		
12.0 Heat Treat / Chart Review						Yes	No		
13.0 NDE (Ref. NDE Inspection Reports)						RT - 1			
14.0 Witness And Record Hydrostatic Test									
15.0 Hydrostatic Test		PSIG		Chart Time		NB	9/3/19	JTJ *	9/3/19
Data		6500		N/A					
16.0 Review Documentation									
17.0 Conformity Corrections						Yes	No		
18.0 Nameplate Stamping Verification									
		U		R		AW	6/22/19		
19.0 Welder's Identification		Dot S / F / Dot XX		KK					
20.0 Final Inspection								JTJ *	9/3/19
19.0 Sign Data Report						JP	9-4-19	JTJ *	9/4/19
20.0 Quality Checklist Review: Above Documents Scanned for 3 year min. Record Retention									
21.0 Remarks:									
Corrosion Allowance: 0.0625"									
								Rev:	1

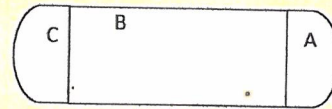
Material Heat Numbers

Job No.: E101865

Serial No.: 014847

Drawing No.: 014847-DSS-VES

Page 2 of 3

[illegible]



1572

CERTIFIED BY

TRIPPOINT



U

PLANT

CANADIAN, TX

W

MAWP

5000

PSI

AT

200

°F

RT1

MAWP

N/A

PSI

AT

N/A

°F

HT

MDMT

-20

°F

AT

5000

PSI

S/N

T014847-5

DATE BUILT

2019

WT

9921

LBS

DWG 014847-DDS-VES

HD

3.50"

SH

3.50"

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by: Bise Welding & Fabricating, Inc. 1900 De Soto Houston, Texas 77091
(Name and address of Manufacturer)

2. Manufactured for: SFI Oil & Gas Production Systems, LLC. P.O. Box 429 Elk City, OK 73648-0429
(Name and address of Purchaser)

3. Location of installation: Unknown
(Name and address)

4. Type: Cylinder 7462 A Through C (CRN)
(Description of vessel part (shell, two piece head, tube bundle)) (Manufacturer's serial number) (Year built)
(National Board number) (Drawing number) (Drawing prepared by)

5. ASME Code Section VIII Div 1 2015 (Code Case number) (Special Service per UG-120(d))
(Edition and Addenda, if applicable (date))

6. Shell (a) Number of course (s): 1 (b) Overall Length: 8'-0"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type		Nom.	Corr	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	28"OD	8'-0"	SA 516-70N		3.50"		I	Full						

Body Flanges on Shell													
No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting				
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material	

7. Heads: (a) (Material spec, number, grade or type) (H.T. - time and temp) (b) Material (Material spec, number, grade or type) (H.T. - time and temp)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispheric al Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)														
(b)														

Body Flanges on Heads												
	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)												
(b)												

8. MAWP PSI at max temp. °F °F Min. design metal temp. °F at PSI
(Internal) (External) (Internal) (External)

9. Impact Test Yes, Material/Production. at test temperature of - 50F/- 20F
Indicate yes or no and the component(s) impact tested

10. Hydro, pneu, or comb. test press. PSI Proof Test

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	

12. Identification of part (s)

Name of Part	Quantity	Line No.	Mfr's Identification No.	Mfr's Drawing No.	CRN	National Board No.	Year Built

13. Support: Skirt Lugs Legs Other Attached
Yes or no (Number) (Number) Describe (Where and how)

14. Remarks SFI Oil Gas PO# 78182 Desing By Others Formed In Accordance With UG 79, UG 80 and UCS 79
No Hydro Preformed

Mfg. Representative WLB 8-23-17 Authorized Inspector SG 8-23-17 Serial Number 7462 A-C
 (Initial) (Date) (Initial) (Date)

FORM U-2A (BACK)

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction and workmanship of this pressure vessel part conform to the ASME Boiler and pressure Vessel Code, Section VIII, Division 1

"U" Certificate of Authorization Number 30,911 Expires January 30, 2020
 Date 8-23-17 Name Bise Welding & Fabricating, Inc. Signed [Signature]
 (Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by OneCIS Insurance Company of Lynn, MA

have inspected the pressure vessel part described in this Manufacturer's Data Report on 8-23-17 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel part described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/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 8-23-17 Signed [Signature] Commissions NB 14513AI, R
 (Authorized Inspector) [National Board [(incl. endorsements)]]



BISE

Welding & Fabricating, Inc.

1900 De Soto St. • Houston, TX 77091

Ph: 713-681-0958 • Fax: 713-681-7555

www.BiseWelding.com

Stamp Rubbing

CUSTOMER SFI

PO# 78182

Paint Stick

Cylinder: 3 1/2 x 280S x 96" Lg

SN: 7462-A

Welder Symbol: G

Material: SA 516-70

Heat: D1017

Slab: 7

U Steel Stamp

Part

Certified By Bise

SN: 7462-A

MFG: _____





BISE

Welding & Fabricating, Inc.

1900 De Soto St. • Houston, TX 77091

Ph: 713-681-0958 • Fax: 713-681-7555

www.BiseWelding.com

Stamp Rubbing

CUSTOMER

SFI

PO#

78182

Paint Stick

Cylinder: 3 1/2 x 28.0 x 96 Lg

SN:

7462-B

Welder Symbol:

11, 15

Material:

SA 516-70N

Heat:

D0455

Slab:

8

MFG:

U

Steel Stamp

Part

Certified By Bise

SN:

7462-B





BISE

Welding & Fabricating, Inc.

1900 De Soto St. • Houston, TX 77091

Ph: 713-681-0958 • Fax: 713-681-7555

www.BiseWelding.com

Stamp Rubbing

CUSTOMER _____

SFI

PO# _____

78182

Paint Stick

Cylinder: $3\frac{1}{2}$ x 28 ϕ x 96 Lg

SN: _____

7462-C

Welder Symbol: _____

Q

Material: _____

SA 516-70

Heat: _____

D0455-

Slab: _____

8

MFG: _____

U

Steel Stamp

Part

Certified By Bise

SN: _____

7462-C





Metallurgical Chemistry and Testing Laboratory

3204 BROADWAY (77017)
POST OFFICE BOX 262265
HOUSTON, TEXAS 77207-2265
PHONE: (713) 644-7501
FAX: (713) 644-1400
metalltesters@an-tech.com

July 17, 2017

Page 1 of 1

Bise Welding & Fabricating, Inc.
Attn: Mr. Martin Castelan
1900 DeSoto
Houston, TX 77091-3927

P.O. No. 2432
Report No. 17-1030

IDENTIFICATION: 3-1/2"Thk, HT# D0815, SL# 5
MATERIAL: SA 516 70 N
SPECIFICATION: ASME Sec. VIII 2015/ 2015 ASME UG84

IMPACT TEST

10mm x 10mm CVN @ -20°F

	<u>Foot Pounds</u>	<u>Lateral Expansion (mils)</u>	<u>% Shear</u>
Weld	31.0	22	20
1/16" From Weld	26.0	18	20
Cap Surface	29.0	21	20
Weld	21.0	17	10
1/4 T From	13.0	12	10
Bottom Surface	32.0	24	20
HAZ Between	138.0	70	70
1/4 T to 1/2 T From	165.0	85	80
Cap Surface	154.0	83	70
HAZ Between	145.0	82	70
1/4 T to 1/2 T From	48.0	40	20
Bottom Surface	152.0	87	70

Material was stress relieved @ 1150°F for 2 hours and 22.5 minutes. Rate of heating above 800°F was 114°F max per hour. Rate of cooling to 800°F was 142°F max per hour. Material was air cooled after reaching 800°F.

em

Kyle Gibson
Q. A. Manager

Tests were performed in accordance with the An-Tech Laboratories, Inc. Quality Assurance Manual 2nd Edition, Revision 3 dated April 25, 2015. The contents for this report are correct and accurate and that all test results and operations performed by An-Tech are in accordance with the material specification and customer requirements. Our letters and reports are for the exclusive use of the client to whom they are addressed. Our reports apply only to the actual sample tested and are not necessarily indicative of the properties of other identical or similar materials.



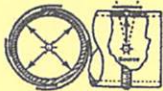
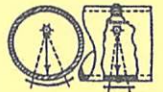
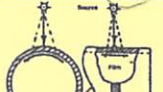
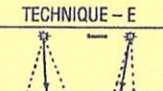
11050 W. Little York Road, Bldg. G
Houston, Texas 77041
Office: 713-937-8168
Fax: 713-937-8198

111971

RADIOGRAPHIC REPORT

DATE 8-22-17 DAY Tuesday

CUSTOMER Bise Welding		PROJECT TRI-Point		CLIENT P.O. NO. 2467	
SHOP OR JOB NO. 78182		HEAT NO. U1A		DESCRIPTION 3/2 X 2800 X 8-014	
S/N 7462 AC		TECHNIQUE B		CURIES / KV 87	
FOCAL SPOT SIZE 1/8		SOURCE 10-60		MAT. TYPE C/S	
MAT. THICKNESS 3/2		WELD THICKNESS 3/8		WELD REINFORCEMENT 1/8	
SOURCE TO OBJECT 18		S.S. OBJECT TO FILM 3/2		SIZE FILM 10" 17" OTHER	
SOURCE TO FILM DISTANCE 21/2		SCREEN TYPE & SIZE Pb FR. 010 BK. 010		FILM PER CASSETTE 1	
FILM BRAND & TYPE AGFAD7		NO. OF EXP. 24		NO. OF WELDS 3	
RADIOGRAPHIC PROCEDURE D110001 REV 9		ACCEPTANCE STANDARD ASME SEC III DIV 1		EXPOSURE: DBL WALL (S. WALL)	
VIEWING: DBL WALL (S. WALL)		PERDIEM ☐ YES ☒ NO		OFFICE USE ONLY 7X7=24	
HRS. WORKED		TRAVEL TIME TO FROM TOTAL		MILEAGE	
ARRIVE		LEAVE		TOTAL	
DEFECT CODE AD - ACCUM. DISCONTINUITIES AB - ARC BURN BT - BURN THROUGH CH - CHILLS CS - COLD SHUTS CON - CONCAVITY CRACK - CRACK HT - HOT TEAR IF - INADEQUATE FUSION IP - INADEQUATE PENETRATION PIN - PINHOLE POR - POROSITY SI - SAND INCLUSION SLI - SLAG INCLUSION SLL - SLAG LINE UCE - UNDERCUT EXTERNAL UCI - UNDERCUT INTERNAL O - OTHER					

WELD NO.	LOCATION	SIZE & THICKNESS	ACCEPT		PENT	SFD	DEFECT TYPE/SIZE	WELDER	COMMENTS	 TECHNIQUE - A
			YES	NO						
A	2	3/2 X 28	/		C	21/2		11		 TECHNIQUE - B
	2-3		/							
	3-4		/							
	4-5		/							
	5-6		/							
B	6-7		/							 TECHNIQUE - C
	7-8		/							
	8-9		/							
	12		/					TS		
	2-3		/							
C	3-4		/							 TECHNIQUE - D
	4-5		/							
	5-6		/							
	6-7		/							
	7-8		/							
	8-9		/							 TECHNIQUE - E
	12		/							
	2-3		/							
	3-4		/							
	4-5		/							
	5-6		/							 TECHNIQUE - F
	6-7		/							
	7-8		/							
	8-9		/							
			/							
			/							 TECHNIQUE - G
			/							
			/							
			/							
			/							

TECHNICIAN C. UASQUEZ	LEVEL II	ASST. FREDDY A.	LEVEL I
CLIENT REPRESENTATIVE Hah-C	DATE 8-23-17	ASST.	LEVEL

SIGNATURE CERTIFIES TIME & MATERIAL CORRECT

DIAMOND G INSPECTION INC. Assumes No Responsibility for Losses of Any Kind Due to Interpretation
RADIOGRAPHY PRODUCES TWO DIMENSIONAL IMAGES ONLY AND CANNOT TELL DEPTH
DAILY RADIOGRAPHIC REPORT

08/04/2017 From: AMERICAN ALLOY STEEL, INC.

To: JACKRABBIT STEEL PRODUCTS, INC.

P.O.#: 113036

S.O.#: 578358

AA PL#: 5184767

Item: 1 (2 PC) 3-1/2" X 96" X 105"

TAG: JOB 3191-1

ArcelorMittal

TEST CERTIFICATE

SHIP TO: ARCELORMITTAL PLATE LLC

AMERICAN ALLOY STEEL
BNSF TR 7226 MILE 66.4
LN SEG 492
6230 N HOUSTON ROSSLYN RD
HOUSTON TX 77091

PAGE NO: 01 OF 03
FILE NO: 0284-01-32
MILL ORDER NO: 73761-005
MELT NO: D0455
SLAB NO: 8
DATE: 05/31/17

SOLD TO:

AMERICAN ALLOY STEEL, INC
P. O. BOX 40469
HOUSTON TX 77240-0469

SEND TO:

01-C

STEEL PLATE DIMENSIONS / DESCRIPTION

TOTAL QTY	GAUGE	WIDTH	LENGTH	DESCRIPTION	PIECE WEIGHT
1	3.5"	96"	240"	RECTANGLE	22870#

CUSTOMER INFORMATION

CUSTOMER PO: 110934

PART NO. 32

SPECIFICATION (S)

THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS AND SPECIFICATION(S).

ASME SA516 REV ED YR 13 GR 70
ASME SA516 REV ED YR 13 GR 65
ASME SA516 REV ED YR 13 GR 60
ASTM A516 10 GRADE 70
ASTM A516 10 GRADE 65
ASTM A516 10 GRADE 60

THE MANAGEMENT SYSTEMS FOR MANUFACTURE OF THIS PRODUCT ARE CERTIFIED TO ISO 9001:2008 (CERTIFICATE NO. 30130) AND ISO 14001:2004 (CERTIFICATE NO. 49009).

CHEMICAL COMPOSITION (WT%) FOR ALL ELEMENTS EXCEPT H (PPM)

MELT:D0455	C	MN	P	S	CU	SI	NI	CR	MO
	.22	1.01	.012	.002	.19	.22	.10	.12	.03
MELT:D0455	V	TI	B	AL	CB				
	.002	.003	.0002	.023	.001				

MANUFACTURE

FINELINE - VACUUM DEGASSED

Certified a true copy of the original, retained in our file.
AMERICAN ALLOY STEEL, INC.

Reviewed By:

JF 7/18/2017

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320

SUPERVISOR - TEST REPORTING
LOC TRAN

AMERICAN ALLOY
PLATE # 5184767

08/04/2017 From: AMERICAN ALLOY STEEL, INC.

To: JACKRABBIT STEEL PRODUCTS, INC.

P.O.#: 113036

S.O.#: 578358

AA PL#: 5184767

Item: 1 (2 PC) 3-1/2" X 96" X 105"

TAG: JOB 3191-1

TEST CERTIFICATE

PAGE NO: 02 OF 03
FILE NO: 0284-01-32
MILL ORDER NO: 73761-005
MELT NO: D0455
SLAB NO: 8
DATE: 05/31/17

HEAT TREAT CONDITION

MATL OR TEST	HEAT TREAT DESCRIPTION	NOM TEMP	HOLD MINS	COOL MTHD
PL/TEST	NORMALIZE	1650F	87	AIR COOL

TENSILE PROPERTIES

SLAB NO.	LOC	DIR	YIELD STRENGTH PSI X 1000	TENSILE STRENGTH PSI X 1000	ELONGATION AFTER FRACTURE GAGE LGTH %
8	BOT.	TRANS.	47	77	2.00" 30.0

CHARPY V-NOTCH IMPACT RESULTS

SLAB	LOC	DIR	TEMP	SIZE	FT. LBS.
8	BOT.	LONG.	-50F	FULL	31 52 57

STRIKER RADIUS 8MM

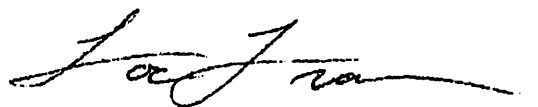
GENERAL INFORMATION

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE U.S.A.
MATERIAL HAS BEEN VACUUM DEGASSED AND CALCIUM TREATED
FOR SULFIDE SHAPE CONTROL.
TEST CERTS. ARE PREPARED IN ACCORD. WITH PROCEDURES
OUTLINED IN EN10204:2004 TYPE 3.1
MERCURY OR MERCURY COMPOUNDS ARE NOT USED IN THE
MANUFACTURE OF ARCELORMITTAL PLATE LLC PRODUCTS.
ALL STEEL HAS BEEN MANUFACTURED IN THE U.S.A.
ACID SOLUBLE ALUMINUM
FOR MORE INFORMATION AND PROCESSING GUIDELINES, REFER TO
WWW.USA.ARCELORMITTAL.COM/PLATE

B/L #15342 BVRV 63052

WE HEREBY CERTIFY THE ABOVE
INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320


SUPERVISOR - TEST REPORTING
LOC TRAN

08/04/2017 From: AMERICAN ALLOY STEEL, INC.

To: JACKRABBIT STEEL PRODUCTS, INC.

P.O.#: 113036

S.O.#: 578358

AA PL#: 5184767

Item: 1 (2 PC) 3-1/2" X 96" X 105"

TAG: JOB 3191-1

TEST CERTIFICATE

PAGE NO: 03 OF 03
FILE NO: 0284-01-32
MILL ORDER NO: 73761-005
MELT NO: D0455
SLAB NO: 8
DATE: 05/31/17

MEXICAN GOVERNMENT PRODUCT IDENTIFICATION REQUIREMENTS:

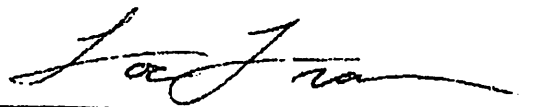
01. PRODUCT DESCRIPTION: HOT ROLLED CARBON STEEL PLATE CUT TO LENGTH
02. TYPE OF STEEL: NON-ALLOY
03. TYPE OF COATING USED: N/A
04. TYPE OF FINISHING OR COMPLEMENTARY MANUFACTURING: N/A
05. PROPRIETARY STANDARD:
ASME SA516 REV ED YR 13 GR 70
ASME SA516 REV ED YR 13 GR 65
ASME SA516 REV ED YR 13 GR 60
ASTM A516 10 GRADE 70
ASTM A516 10 GRADE 65
ASTM A516 10 GRADE 60
06. PRODUCT PRESENTATION: PLATE
07. ACCESSORIES INTEGRATED TO THE GOOD: N/A
08. PRODUCT DIMENSIONS:

GAUGE	WIDTH	LENGTH	
3.5	96	240	INCHES
88.9MM	2438.4MM	6096MM	MILLIMETERS
09. TECHNICAL SPECIFICATION: FINELINE
VACUUM DEGASSED
10. PHYSICAL SPECIFICATIONS: NORMALIZE
AIR COOL
11. COUNTRY OF ORIGIN: USA
12. CHEMICAL COMPOSITION: (WEIGHT %) DETAILED IN MILL TEST REPORT
13. PRODUCING MILL: ARCELORMITTAL PLATE LLC
SUPERVISOR TEST REPORTING, QUALITY, 930
139 MODENA ROAD
COATESVILLE, PA 19320

CONTACT PERSON: LOC TRAN
PHONE: (610) 238-7579
EMAIL: MAILTO:LOC.TRAN@ARCELORMITTAL.COM
14. CERTIFICATE NUMBER: D0455
15. PLATE IDENTIFIER: 8

WE HEREBY CERTIFY THE ABOVE
INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320


SUPERVISOR - TEST REPORTING
LOC TRAN

08/04/2017 From: AMERICAN ALLOY STEEL, INC.

To: JACKRABBIT STEEL PRODUCTS, INC.

P.O.#: 113036

S.O.#: 578358

AA PL#: 5187010

Item: 1 (1 PC) 3-1/2" X 96" X 105"

TAG: JOB 3191-1

ArcelorMittal

TEST CERTIFICATE

SHIP TO: ARCELORMITTAL PLATE LLC
AMERICAN ALLOY STEEL
BNSF TR 7226 MILE 66.4
LN SEG 492
6230 N HOUSTON ROSSLYN RD
HOUSTON TX 77091

PAGE NO: 01 OF 03
FILE NO: 0284-01-32
MILL ORDER NO: 79620-003
MELT NO: D1017
SLAB NO: 7
DATE: 07/11/17

SOLD TO: AMERICAN ALLOY STEEL, INC
P. O. BOX 40469
HOUSTON TX 77240-0469

SEND TO:

01-C

STEEL PLATE DIMENSIONS / DESCRIPTION

TOTAL QTY	GAUGE	WIDTH	LENGTH	DESCRIPTION	PIECE WEIGHT
1	3.5"	96"	240"	RECTANGLE	22870#

CUSTOMER INFORMATION

CUSTOMER PO: 111407

PART NO. 22

SPECIFICATION(S)

THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS AND SPECIFICATION(S).

ASME SA516 REV ED YR 15 GR 70
ASME SA516 REV ED YR 15 GR 65
ASME SA516 REV ED YR 15 GR 60

ASTM A516 10 GRADE 70
ASTM A516 10 GRADE 65
ASTM A516 10 GRADE 60

THE MANAGEMENT SYSTEMS FOR MANUFACTURE OF THIS PRODUCT ARE CERTIFIED TO ISO 9001:2008 (CERTIFICATE NO. 30130) AND ISO 14001:2004 (CERTIFICATE NO. 49009).

CHEMICAL COMPOSITION (WT%) FOR ALL ELEMENTS EXCEPT H (PPM)

MELT:D1017	C .23	MN .99	P .013	S .004	CU .19	SI .23	NI .13	CR .12	MO .04
MELT:D1017	V .002	TI .003	B .0001	AL .023	CB .001				

MANUFACTURE

FINELINE - VACUUM DEGASSED

Certified a true copy of the original, retained in our file.
AMERICAN ALLOY STEEL, INC.

Reviewed By:

Jk 8/2/2017

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320

SUPERVISOR - TEST REPORTING
LOC TRAN

AMERICAN ALLOY
PLATE #2187010

08/04/2017 From: AMERICAN ALLOY STEEL, INC.

To: JACKRABBIT STEEL PRODUCTS, INC.

P.O.#: 113036

S.O.#: 578358

AA PL#: 5187010

Item: 1 (1 PC) 3-1/2" X 96" X 105"

TAG: JOB 3191-1

TEST CERTIFICATE

PAGE NO: 02 OF 03
FILE NO: 0284-01-32
MILL ORDER NO: 79620-003
MELT NO: D1017
SLAB NO: 7
DATE: 07/11/17

HEAT TREAT CONDITION

MATL OR TEST	HEAT TREAT DESCRIPTION	NOM TEMP	HOLD MINS	COOL MTHD
PL/TEST	NORMALIZE	1650F	97	AIR COOL

TENSILE PROPERTIES

SLAB NO.	LOC	DIR	YIELD STRENGTH PSI X 1000	TENSILE STRENGTH PSI X 1000	ELONGATION AFTER FRACTURE GAGE LGTH %
7	BOT.	TRANS.	42	71	2.00" 29.0

CHARPY V-NOTCH IMPACT RESULTS

SLAB	LOC	DIR	TEMP	SIZE	FT. LBS.
7	BOT.	LONG.	-50F	FULL	52 60 60

STRIKER RADIUS 8MM

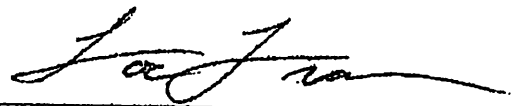
GENERAL INFORMATION

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE U.S.A.
MATERIAL HAS BEEN VACUUM DEGASSED AND CALCIUM TREATED
FOR SULFIDE SHAPE CONTROL.
TEST CERTS. ARE PREPARED IN ACCORD. WITH PROCEDURES
OUTLINED IN EN10204:2004 TYPE 3.1
MERCURY OR MERCURY COMPOUNDS ARE NOT USED IN THE
MANUFACTURE OF ARCELORMITTAL PLATE LLC PRODUCTS.
ALL STEEL HAS BEEN MANUFACTURED IN THE U.S.A.
ACID SOLUBLE ALUMINUM
FOR MORE INFORMATION AND PROCESSING GUIDELINES, REFER TO
WWW.USA.ARCELORMITTAL.COM/PLATE

B/L #17896 ATW 164016

WE HEREBY CERTIFY THE ABOVE
INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320


SUPERVISOR - TEST REPORTING
LOC TRAN

08/04/2017 From: AMERICAN ALLOY STEEL, INC.

To: JACKRABBIT STEEL PRODUCTS, INC.

P.O.#: 113036

S.O.#: 578358

AA PL#: 5187010

Item: 1 (1 PC) 3-1/2" X 96" X 105"

TAG: JOB 3191-1

TEST CERTIFICATE

PAGE NO: 03 OF 03
FILE NO: 0284-01-32
MILL ORDER NO: 79620-003
MELT NO: D1017
SLAB NO: 7
DATE: 07/11/17

MEXICAN GOVERNMENT PRODUCT IDENTIFICATION REQUIREMENTS:

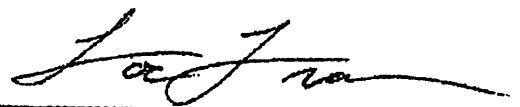
01. PRODUCT DESCRIPTION: HOT ROLLED CARBON STEEL PLATE CUT TO LENGTH
02. TYPE OF STEEL: NON-ALLOY
03. TYPE OF COATING USED: N/A
04. TYPE OF FINISHING OR COMPLEMENTARY MANUFACTURING: N/A
05. PROPRIETARY STANDARD: ASME SA516 REV ED YR 15 GR 70
ASME SA516 REV ED YR 15 GR 65
ASME SA516 REV ED YR 15 GR 60
ASTM A516 10 GRADE 70
ASTM A516 10 GRADE 65
ASTM A516 10 GRADE 60
06. PRODUCT PRESENTATION: PLATE
07. ACCESSORIES INTEGRATED TO THE GOOD: N/A
08. PRODUCT DIMENSIONS:

GAUGE	WIDTH	LENGTH	
3.5	96	240	INCHES
88.9MM	2438.4MM	6096MM	MILLIMETERS
09. TECHNICAL SPECIFICATION: FINELINE
VACUUM DEGASSED
10. PHYSICAL SPECIFICATIONS: NORMALIZE AIR COOL
11. COUNTRY OF ORIGIN: USA
12. CHEMICAL COMPOSITION: (WEIGHT %) DETAILED IN MILL TEST REPORT
13. PRODUCING MILL: ARCELORMITTAL PLATE LLC
SUPERVISOR TEST REPORTING, QUALITY, 930
139 MODENA ROAD
COATESVILLE, PA 19320

CONTACT PERSON: LOC TRAN
PHONE: (610) 238-7579
EMAIL: MAILTO:LOC.TRAN@ARCELORMITTAL.COM
14. CERTIFICATE NUMBER: D1017
15. PLATE IDENTIFIER: 7

WE HEREBY CERTIFY THE ABOVE
INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
QUALITY ASSURANCE LABORATORY
139 MODENA ROAD
COATESVILLE, PA 19320


SUPERVISOR - TEST REPORTING
LOC TRAN



11765 Highway 6 South Navasota, TX

DECEMBER 5, 2017

SFI OIL & GAS PRODUCTION SYSTEM
PO BOX 429
ELK CITY, OK 73648

Reference Customer P/O: 77337 TAG: 03-3043-J

Trinity SO #: 127066

GENTLEMEN:

Attached are copies of mill test reports for the following material provided on referenced purchase order.
We certify the following:

4-SA516-70 ELLIP-2:1 HEAD 28.00 OD 3.500 NOM 2.8750 MIN WITH 2.0 SF.

CODE	QTY	THICKNESS	PRODUCER	MELT	SLAB	GRADE
SOEF	4	3.50	ARCELORMITTAL	C7693	6	SA516-70

TRINITY HEADS, INC certifies that heads manufactured from material represented by this report were normalized during forming at 1750F(+/-25F) for 105 minutes and air cooled.

The items listed above were formed in strict accordance with all applicable requirements of the ASME Boiler and Pressure Vessel Code Section VIII, Div. 1. All heads comply with UG-79 and UG-81.

Attached mill test reports are in compliance to ASME Code Section II.

If you have further questions, please contact your customer service representative in Navasota, TX at 1-800-392-3594.

VERY TRULY YOURS

Mel Chapman
Quality Assurance & Technical Services Mgr.

ad

S F I
CHEMICALS & PHYSICALS
BY EC DATE 12/5/17
CODE NO. NKL

TEST CERTIFICATE

SHIP TO: ARCELORMITTAL PLATE LLC
 LEECO STEEL LLC
 FWR DELIVERY
 TRACK 1907
 CLEBURNE TX 76031

PAGE NO: 01 OF 02
 FILE NO: 4695-01-26
 MILL ORDER NO: 17421-001
 MELT NO: C7693
 SLAB NO: 6
 DATE: 07/11/13

SOLD TO: LEECO STEEL LLC
 8255 S LEMONT RD STE 100
 DARIEN IL 60561

SEND TO:

01-N

PLATE DIMENSIONS / DESCRIPTION

TOTAL QTY	GAUGE	WIDTH	LENGTH	DESCRIPTION	PIECE WEIGHT
1	3-1/2"	126"	126"	RECTANGLE	15759#

CUSTOMER INFORMATION

CUSTOMER PO: V00922 401712-01 HP0142
 PART NO. 350126126A516-70

SPECIFICATION (S)

THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS AND SPECIFICATION(S).

ASTM A516 YR 10 GR 70 EN10204:2004 TYPE 3.1
 THE MANAGEMENT SYSTEMS FOR MANUFACTURE OF THIS PRODUCT ARE CERTIFIED TO ISO 9001:2008 (CERTIFICATE NO. 30130) AND ISO 14001 (CERTIFICATE NO. 009496).

CHEMICAL COMPOSITION

	C	MN	P	S	CU	SI	NI	CR	MO
MELT: C7693	.21	1.13	.009	.002	.15	.25	.06	.11	.01
	V	TI	B	AL	CB	SN			
MELT: C7693	.001	.003	.0003	.030	.001	.007			

HEAT TREAT CONDITION

MATL OR TEST	HEAT TREAT DESCRIPTION	NOM TEMP	HOLD MINS	COOL MTHD
TEST ONLY	NORMALIZE	1650F	105	AIR COOL

CHEMICALS & PHYSICALS

BY EC DATE 12/4/17CODE NO. NKL

NOTARY

AFFIRMED AND SUBSCRIBED BEFORE ME
 THIS DAY OF 07/11/13

Carol L. Slody
 NOTARY PUBLIC

NOTARIAL SEAL
 CAROL L. SLODY, NOTARY PUBLIC
 COATESVILLE, CHESTER CO., PA
 MY COMMISSION EXPIRES MAY 27, 2014

WE HEREBY CERTIFY THE ABOVE
 INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
 QUALITY ASSURANCE LABORATORY
 139 MODENA ROAD
 COATESVILLE, PA 19320

REVISED COPY 01/20/15

Elinore Zaplitny
 SUPERVISOR - TEST REPORTING
 ELINORE ZAPLITNY

506F

TEST CERTIFICATE

PAGE NO: 02 OF 02
 FILE NO: 4695-01-26
 MILL ORDER NO: 17421-001
 MELT NO: C7693
 SLAB NO: 6
 DATE: 07/11/13

TENSILE PROPERTIES

SLAB NO.	LOC	DIR	YIELD STRENGTH PSI X 100	TENSILE STRENGTH PSI X 100	ELONGATION GAGE LGTH %
6	BOT.	TRANS.	547	797	2.00" 29.0

GENERAL INFORMATION

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE U.S.A.
 MFST: PO# 401712-01
 MFST: PART# HP0142
 ACID SOLUBLE ALUMINUM
 FOR MORE INFORMATION AND PROCESSING GUIDELINES, REFER TO
 WWW.ARCELORMITTAL.COM/PLATEINFORMATION

B/L #26611 EYRY 63013

HT.#	
MTR APPROVED	
DATE	1-21-15
ISP	me
QUALITY CONTROL DEPT.	

S F I
 CHEMICALS & PHYSICALS

BY EC DATE 12/5/17
 CODE NO. NKL

NOTARY

AFFIRMED AND SUBSCRIBED BEFORE ME
 THIS DAY OF 07/11/13

Carol L. Slody
 NOTARY PUBLIC

WE HEREBY CERTIFY THE ABOVE
 INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
 QUALITY ASSURANCE LABORATORY
 139 MODENA ROAD
 COATESVILLE, PA 19320

NOTARIAL SEAL
 CAROL L. SLODY, NOTARY PUBLIC
 COATESVILLE, CHESTER CO., PA
 MY COMMISSION EXPIRES MAY 27, 2014

Elinore Zaplitny
 SUPERVISOR - TEST REPORTING
 ELINORE ZAPLITNY

Trinity Metals Laboratory

A DIVISION OF TRINITY INDUSTRIES
4001 IRVING BLVD. 75247 - P.O. BOX 568887
DALLAS, TX 75356-8887

Phone: 214.589.7591 FAX: 214.589.7594



TEST REPORT

Lab No: 17080048

ANISSA DALZELL
TRINITY HEADS, INC.
11765 Hwy 6 South
Navasota, TX 77868

Received Date: 08/02/2017
Heat Code: SOEF
Heat Number: C7693 6
PO or Work Order: 127066
Test Spec: SA370 ASTM METHODS
Other Information: SFI

Completion Date: 08/08/2017
Weld Spec:
Material Type: SA 516-70
Material Size: 3.50"

TENSILE TEST:

Material Type: SA 516-70
Tensile ID: Base Metal-Transverse
Test Spec: E-8

Yield Stress: 0.2% Offset
Gauge Length: 2"

Dimensions			Ultimate Stress		Yield Stress		% Elong	% RA	Frac Loc.
Dia.		Area	Ld.Lbs.	PSI	Ld.Lbs.	PSI			
0.502		0.1979	15717	79400	10060	50800	33	70	

PASSED

Requirements:

Max: 90000
Min: 70000 38000 21

HEAT TEST:

Seq: 1

Sample normalized @ 1750°F for 105 minutes at Trinity Heads.

S F I
CHEMICALS & PHYSICALS
BY EC DATE 12/5/17
CODE NO. NKL

We certify the above results to be a true and accurate representation of the sample(s) submitted. Alteration or partial reproduction of this report will void certification. NVLAP Certificate of Accreditation effective through 12-31-17. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Lab Director, Michael S. Beaton, PE



11765 Highway 6 South Navasota, TX

NOVEMBER 13, 2017

SFI OIL & GAS PRODUCTION SYSTEM
PO BOX 429
ELK CITY, OK 73648

Reference: Customer PO: 253C

TAG: ITEM 03-3043-J PJ 20602

Trinity SO #: 128170

GENTLEMEN:

Attached are copies of mill test reports for the following material provided on referenced purchase order.
We certify the following:

12-SA516-70 ELLIP-2:1 HEAD 28.00 OD 3.500 NOM 2.8593 MIN WITH 2.0 SF.

CODE	QTY	THICKNESS	PRODUCER	MELT	SLAB	GRADE
SOGF	10	3.500	ARCELORMITTAL	C8694	1	SA516-70
SOGF	2	3.500	ARCELORMITTAL	C8694	2	SA516-70

TRINITY HEADS, INC certifies that heads manufactured from material represented by this report were normalized during forming at 1750F(+/-25F) for 210 minutes and air cooled.

The items listed above were formed in strict accordance with all applicable requirements of the ASME Boiler and Pressure Vessel Code Section VIII, Div. 1. All heads comply with UG-79 and UG-81.

Attached mill test reports are in compliance to ASME Code Section II.

If you have further questions, please contact your customer service representative in Navasota, TX at 1-800-392-3594.

VERY TRULY YOURS

Mel Chapman

Quality Assurance & Technical Services Mgr.

ad

S F I
CHEMICALS & PHYSICALS
BY EC DATE 11/30/17
CODE NO. NKJ, NKK

TEST CERTIFICATE

SHIP TO: ARCELORMITTAL PLATE LLC
 TRINITY INDUSTRIES INC
 HEAD DIV
 PLANT 56
 HWY 6 S
 NAVASOTA TX 77868

PAGE NO: 01 OF 02
 FILE NO: 7978-12-45
 MILL ORDER NO: 20882-001
 MELT NO: C8694
 SLAB NO: 1
 DATE: 09/17/13

SFI PO# 253C

SOLD TO: TRINITY INDUSTRIES, INC.
 HEAD DIVISION
 11765 HWY. 6 SOUTH
 NAVASOTA TX 77868

SEND TO:

01-C

PLATE DIMENSIONS / DESCRIPTION

TOTAL QTY	GAUGE	WIDTH	LENGTH	DESCRIPTION	PIECE WEIGHT
2	3.5"	96"	240"	RECTANGLE	22870#

CUSTOMER INFORMATION

CUSTOMER PO: 401788

PART NO. HP0517

S F I
 CHEMICALS & PHYSICALS

BY EC DATE 11/30/17

CODE NO. NKJ

SPECIFICATION (S)

THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS AND SPECIFICATION(S).

ASME SA516 REV ED YR 10 GR 70

ASME SA516 11A ADDENDA GR.70

THE MANAGEMENT SYSTEMS FOR MANUFACTURE OF THIS PRODUCT ARE CERTIFIED TO ISO 9001:2008 (CERTIFICATE NO. 30130) AND ISO 14001 (CERTIFICATE NO. 009496).

CHEMICAL COMPOSITION

	C	MN	P	S	CU	SI	NI	CR	MO
MELT: C8694	.23	.92	.007	.004	.10	.20	.08	.09	.02
	V	TI	B	AL	CB	SN			
MELT: C8694	.001	.003	.0001	.025	.001	.005			

HEAT TREAT CONDITION

MATL OR TEST	HEAT TREAT DESCRIPTION	NOM TEMP	HOLD MINS	COOL MTHD
TEST ONLY	NORMALIZE	1650F	105	AIR COOL

NOTARY

AFFIRMED AND SUBSCRIBED BEFORE ME
 THIS DAY OF 09/17/13

Carol L. Slody
 NOTARY PUBLIC

NOTARIAL SEAL
 CAROL L. SLODY, NOTARY PUBLIC
 COATESVILLE, CHESTER CO., PA
 MY COMMISSION EXPIRES MAY 27, 2014

WE HEREBY CERTIFY THE ABOVE
 INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
 QUALITY ASSURANCE LABORATORY
 139 MODENA ROAD
 COATESVILLE, PA 19320

Elinore Zaplitny
 SUPERVISOR - TEST REPORTING
 ELINORE ZAPLITNY

PAGE

TEST CERTIFICATE

PAGE NO: 02 OF 02
 FILE NO: 7978-12-45
 MILL ORDER NO: 20882-001
 MELT NO: C8694
 SLAB NO: 1
 DATE: 09/17/13

TENSILE PROPERTIES

SLAB NO.	LOC	DIR	YIELD STRENGTH PSI X 100	TENSILE STRENGTH PSI X 100	ELONGATION GAGE LGTH %
1	BOT.	TRANS.	555	705	2.00" 30.0

GENERAL INFORMATION

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE U.S.A.
 ACID SOLUBLE ALUMINUM
 FOR MORE INFORMATION AND PROCESSING GUIDELINES, REFER TO
 WWW.ARCELORMITTAL.COM/PLATEINFORMATION

B/L #31786 ATW 164094

TEST CERTS. ARE PREPARED IN ACCORD. WITH PROCEDURES
 OUTLINED IN EN 10204:2004 TYPE 3.1.

S F I
CHEMICALS & PHYSICALS

BY EC DATE 11/30/17
 CODE NO. NKJ

HT.#	<u>68694</u>
MTR APPROVED	
DATE	<u>3/16/16</u>
ISP	<u>pd</u>
QUALITY CONTROL DEPT.	

NOTARY

AFFIRMED AND SUBSCRIBED BEFORE ME
 THIS DAY OF 09/17/13

Carol L. Slody
 NOTARY PUBLIC

WE HEREBY CERTIFY THE ABOVE
 INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC
 QUALITY ASSURANCE LABORATORY
 139 MODENA ROAD
 COATESVILLE, PA 19320

NOTARIAL SEAL
 CAROL L. SLODY, NOTARY PUBLIC
 COATESVILLE, CHESTER CO., PA
 MY COMMISSION EXPIRES MAY 27, 2014

REVISED COPY 03/16/16

Elinore Zaplitny
 SUPERVISOR - TEST REPORTING
 ELINORE ZAPLITNY

SFF PO#253C



Accredited to ISO/IEC 17025:2005
Accredited to ISO 9001:2015

P.O. Box 802404 ♦ Houston, TX 77280-2404 ♦ Telephone (713) 460-3655 ♦ FAX (713) 460-3695

Report Date: 11/6/2017
Report No: 803503.00
Rev: A
Cust Acct: TRI868

To: Trinity Heads, Inc.
11765 Highway 6
Navasota, TX 77868

Ordered By: Anissa

PO: Credit Card

Material: SA516-70 3.50" Thick Test Piece
Heat/ID: C8694 Slab:1 Code: SOGE SO:128170 Requisition:595328
Job Info: Customer:SFI Oil & Gas

Tensile Test Results

No/Location	Size (in.)	Area (in ²)	Ult. Load (lbs.)	Yield (psi)	Tensile (psi)	Elong (%)	R. of A. (%)	Fracture
1	.506			49,100	76,800	30.1	61.2	

Unless otherwise stated, yield stress is 0.2% offset, gauge length is 2 in. for 1/2 in. bars or 1 in. for 1/4 in. bars.

Charpy Test Results

No.	Temp	Location	Foot Pounds	%Shear	Mils Lat Exp
1	-20°F	LCVN	12-20-19	20-25-25	14-21-20

Unless otherwise stated, Charpy Impact specimens are V-notch 10 x 10 mm. Tested with 8 mm striker.

Heat Treatment

Normalized at 1,750°F for 210 minutes, Air Cool.

S F I
CHEMICALS & PHYSICALS
BY EC DATE 11/30/17
CODE NO. NKJ

Document
Reviewed By:

Yvonne Arredondo
Yvonne Arredondo
Documentation Specialist

SFI PO# 253C

Our reports are for the exclusive use of our customer and our name may be used only with prior written approval. Our reports apply only to the sample tested or inspected and do not necessarily represent the quality of other apparently similar or identical materials. All test specimens and testing conforms to ASTM A-370 requirements unless otherwise stated. This test report shall not be reproduced, except in full, without the written approval of Accu-Test Labs LLP.



American Piping Inspection, Metallurgical Lab
18501 E. Admiral Pl. Catoosa, Oklahoma 74015
Office: (918) 266-4130

Form: MR-3
Established: 10/2/16
Revision: 1
Date: 1/13/17

Mechanical/Lab Test Report

Organization: Tri-Point Lab Number: 19070104 Rev. 0
Base Material: 1 SA-516-70 to 2 SA-516-70 Heat Number: D1290
Coupon Dimension: 3.5" Thick Plate Pos. Welder Name/ID: Juan Cardenas ID.
WPS/PQR #: SFI-2, SFI-21 Process(es): GMAW / SMAW / SAW
Filler Metal: ER70S-6 / E7018 / F7A2 EM12K PWHT: 1150°F +/- 25°F for 2 Hours
Serial Number: T014847-1-10 Project Number: 20729

Charpy V-Notch Impact Test

Specimen Number	Specimen Size (mm)	V-Notch Location	Temperature (°F)	Impact Value (ft/lbs)	Lateral Expansion (mils)	Shear (%)	Average (ft/lbs)
1	10 x 10	Weld Metal at 1/16" from Cap Surface	-20	39	37	20	47.3
2	10 x 10	Weld Metal at 1/16" from Cap Surface	-20	63	54	30	
3	10 x 10	Weld Metal at 1/16" from Cap Surface	-20	40	31	20	
4	10 x 10	Weld Metal at 3/4T	-20	30	20	20	49.3
5	10 x 10	Weld Metal at 3/4T	-20	51	40	30	
6	10 x 10	Weld Metal at 3/4T	-20	67	54	30	
7	10 x 10	HAZ at 1/4t to 1/2t from Cap Surface	-20	137	78	70	142.0
8	10 x 10	HAZ at 1/4t to 1/2t from Cap Surface	-20	113	69	50	
9	10 x 10	HAZ at 1/4t to 1/2t from Cap Surface	-20	176	81	95	
10	10 x 10	HAZ at 1/4t to 1/2t from Root Surface	-20	100	66	50	80.0
11	10 x 10	HAZ at 1/4t to 1/2t from Root Surface	-20	75	56	35	
12	10 x 10	HAZ at 1/4t to 1/2t from Root Surface	-20	65	48	30	
						Striker Radius:	8mm

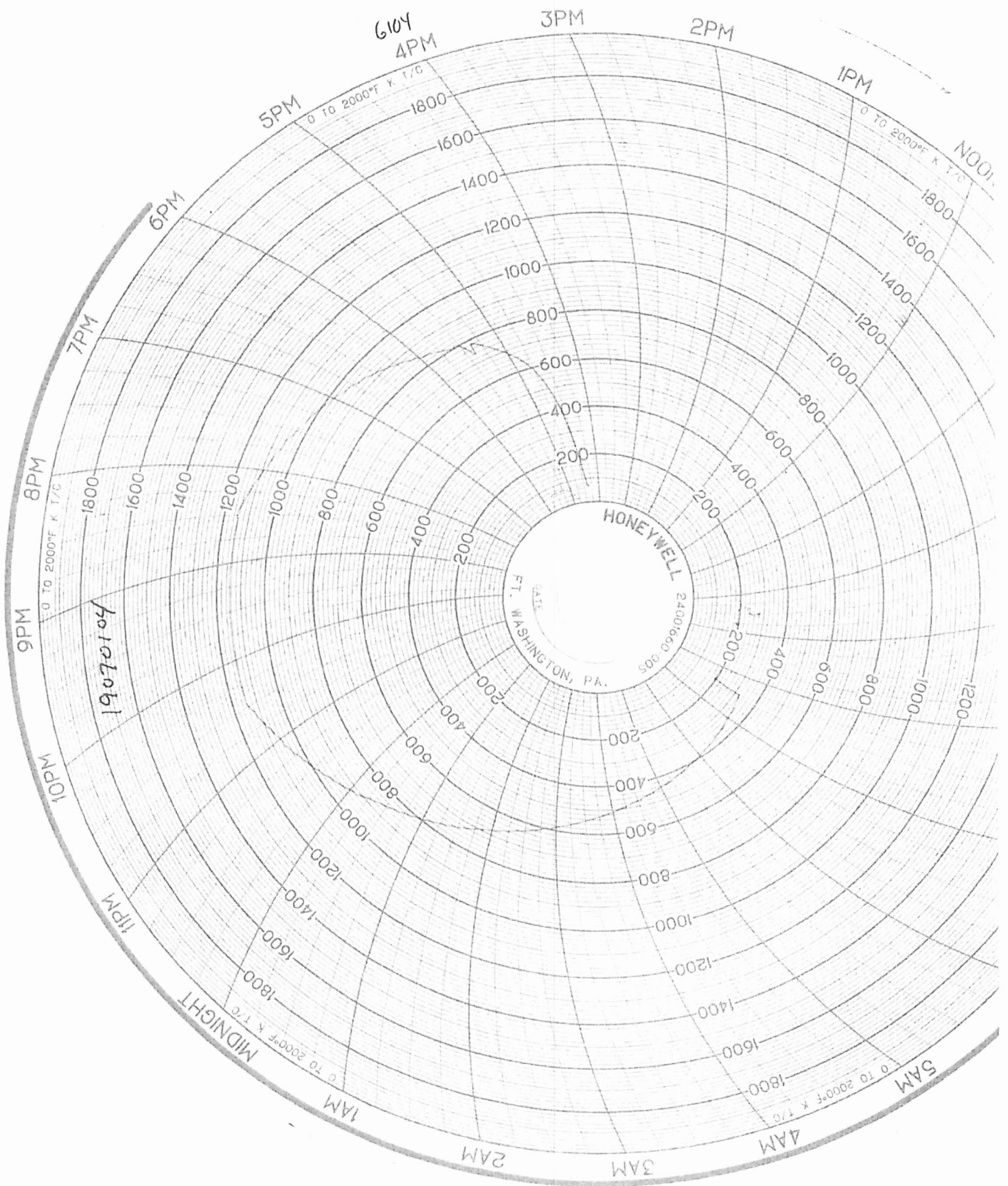
Comments

All testing performed in accordance with the methods specified in ASME Sec. VIII, Div. 1, UG-84

Approved by: Aaron Brewer Date: 7/15/2019 Signature: 

Title: Technical Director

*Test results relate only to the items tested. This document shall not be reproduced, except in full, without the written approval of American Piping Inspection, Inc. Metallurgical Laboratory.



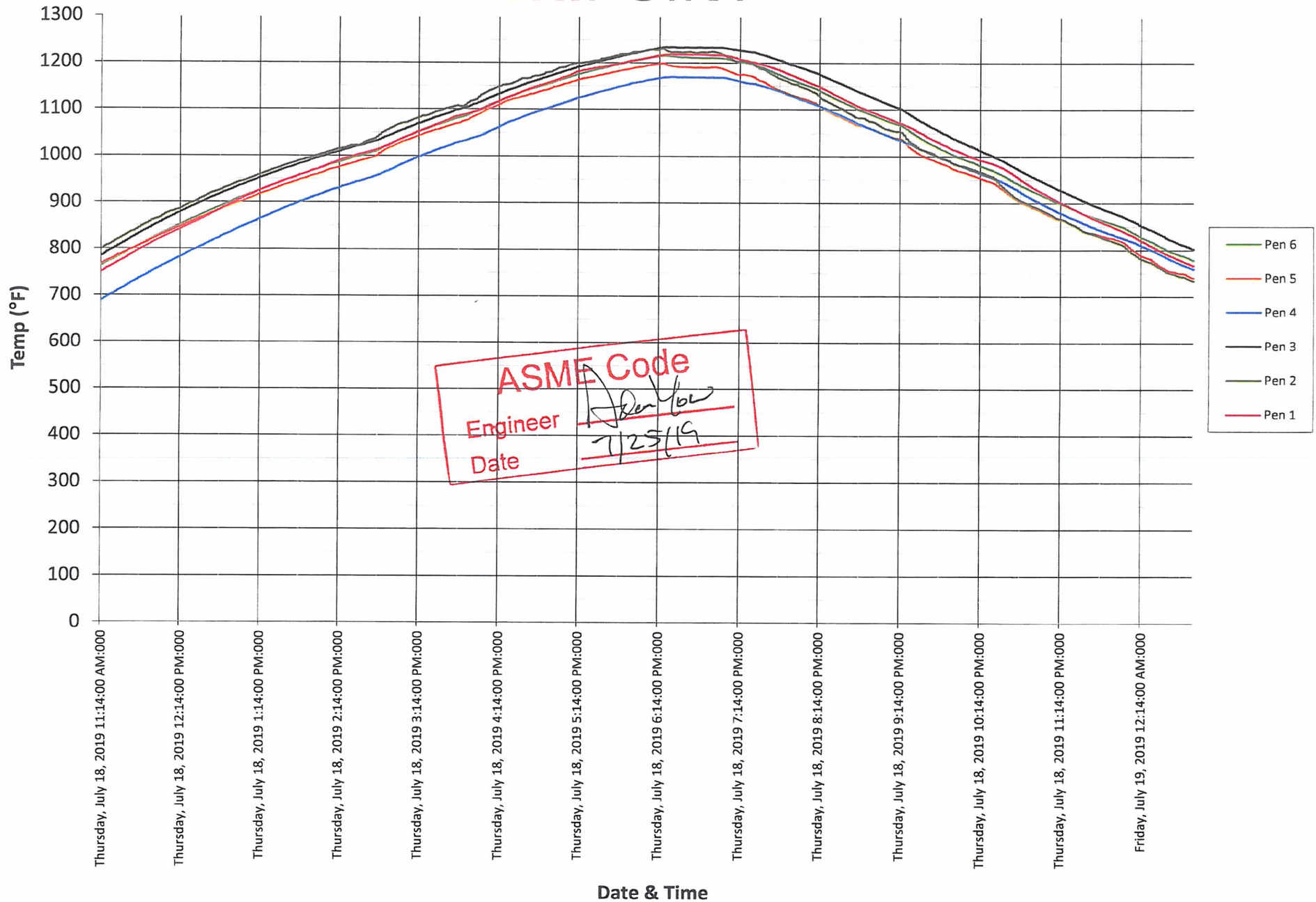
PHASED ARRAY ULTRASONIC TESTING - INSPECTION REPORT FORM INSPECTION DETAILS														
QUALITY DOCUMENT		REPORT #: PAUT 014847-5 (TP-SD-PV-SH-T3.500X3.500)-RS1-RS2-ACCEPT.xlsx												
PROJECT INFORMATION														
Customer:	FOUR POINT				Inspection Scope:	100% Volumetric Inspection for Weld Quality				Inspection Date:	7/16/2019			
Job # / SN:	014847-5				Inspected Item:	Shell to Head Round Seam RS#1 AND RS#2				Material Type:	C/S			
Drawing:	014847-DSF-VES				Inspection Coverage:	Full Weld & Haz Initial Weld Quality				Inspection Stage:	Initial Inspection			
Item Description:	28" SAND SEPERATOR #5 - RS#1 AND RS#2				Item Dimensions:	28" O.D. x 8'-0" x 5000 PSI V. SAND SEPARATOR				Min. Scan Distance (Linear Inches):	87.964			
INSPECTION PARAMETERS														
Inspection Procedure:	QC.026		Rev.:	1		Material Temp. (F):	91		Measured Thickness (1):	3.499				
Acceptance Standard (Code / Specification):	QC.026 12-3 PER. ASME Sec VIII, Div.1 & 2		Edd.:	2017		Cal. Block Temp.(F):	82		Measured Thickness (2):	3.502				
Surface Condition:	As-Welded	Surface Prep:	Buffed		Temp. Diff. (20 Max):	9		Average Thickness (1):	3.501					
EQUIPMENT DETAILS														
Instrument - Mfg.:	Olympus				Search Unit (1)	Mfg.:	Olympus	Type:	5L64-A32	Freq:	5 Mhz.	S/N:	T3994	
Instrument Model:	OmniScan MX2				Total Virtual Probe Aperture (VPA):	1.26"	El.Pitch:	0.02"	El.Qty.:	64	El.Gap:	N/A		
Instrument Serial:	OMNI2-14525				Min. Angle:	40	Max. Angle:	70	Probe Cable - Type / Length:	Integral / 5 M				
Acquisition Software/Rev:	MXU 4.4R4				Wedge Model:	SA32-N55S	Corective Wedge used:	No	Type:	N/A	Dia.	N/A		
Evaluation Software/Rev:	OMNIPC 4.4R4				Search Unit (2)	Mfg.:	N/A	Type:	N/A	Freq:	N/A	S/N:	N/A	
Scanner Type(s):	Semi / Auto / Encoded				Total Virtual Probe Aperture (VPA):	N/A	El.Pitch:	N/A	El.Qty.:	N/A	El.Gap:	N/A		
Scanner Model (1):	HSMT Compact PAUT Scanner				Min. Angle:	N/A	Max. Angle:	N/A	Probe Cable - Type/Length:	N/A				
Scanning Surface:	Outside Diameter of Item				Wedge Model:	N/A	Corective Wedge used:	N/A	Type:	N/A	Dia.	N/A		
SCANS PERFORMED														
Lamination Scans:	MUT 0 Deg. Examination			☒ Accept	Parallel Flaw Scans:	Trv. flaws found scanned with PAUT Encoded Linear Scan						☒ Accept		
Transverse/Off Axis Scans:	MUT/MPA Linear / Raster Scans			☒ Accept	Scans of LACC Areas: LACC = Areas with Limited Access to Scanner	Scanned with MUT/MPA Linear / Raster Scans						☒ Accept		
CALIBRATION PARAMETERS														
Reference Block Type & Material:	ASME 3" Thk. Basic Calibration Block C/S				Reference Gain:	11	Reference Level %:	80%	Scanning Level:	RL+6db				
Reference Block Size / Thickness:	12" L. x 6" H. x 3" Thk.				Scan Plan Technique:	TP-SP-PV-SH-T3.500x3.500						Rev.: 0		
Reference Block Serial #:	62243				Set Up Technique:	TP-SU-PV-SH-T3.500x3.500						Rev.: 0		
Supplemental Block Type / Material:	NAVSHIPS CRB / 1018 CS (P1 Equivalent)				Couplant/Mix Type:	Ultragel II / Water		Batch#:	19B021					
Supplemental Block Size / Thickness #:	12" L. x 3" H. x 1" Thk.				MUT Reference Gain:	11	MUT Ref. Level %:	80%	MUT Scanning Level:	RL+6db				
Supplemental Block Serial #:	10118				MUT Procedure:	QC.026	Rev.:	0	Cal. Check Results:	Acceptable				
INSPECTION REMARKS														
Referrence Subsequent Inspection Data Sheets (Page 2 etc.) for Weld Acceptance Data														
Phased Array Inspector:	Print Name	Scott A. Turner				Signature					PAUT Level II UTSW Level II	Date:	7/16/2019	
Phased Array Assistant:	Print Name	N/A				Signature	N/A				Level	N/A	Date:	N/A
These test results report our findings at the time of inspection and shall be reviewed by the client for compliance to the project requirements. Due to the limitations of nondestructive testing in evaluating all of the factors that determine the overall component quality, no guarantee is made or liability assumed by us for the overall component quality or serviceability														

[illegible]

Mutli Trend Serial Number:
0751Y776530600001
Date of Calibration: 6/4/2019



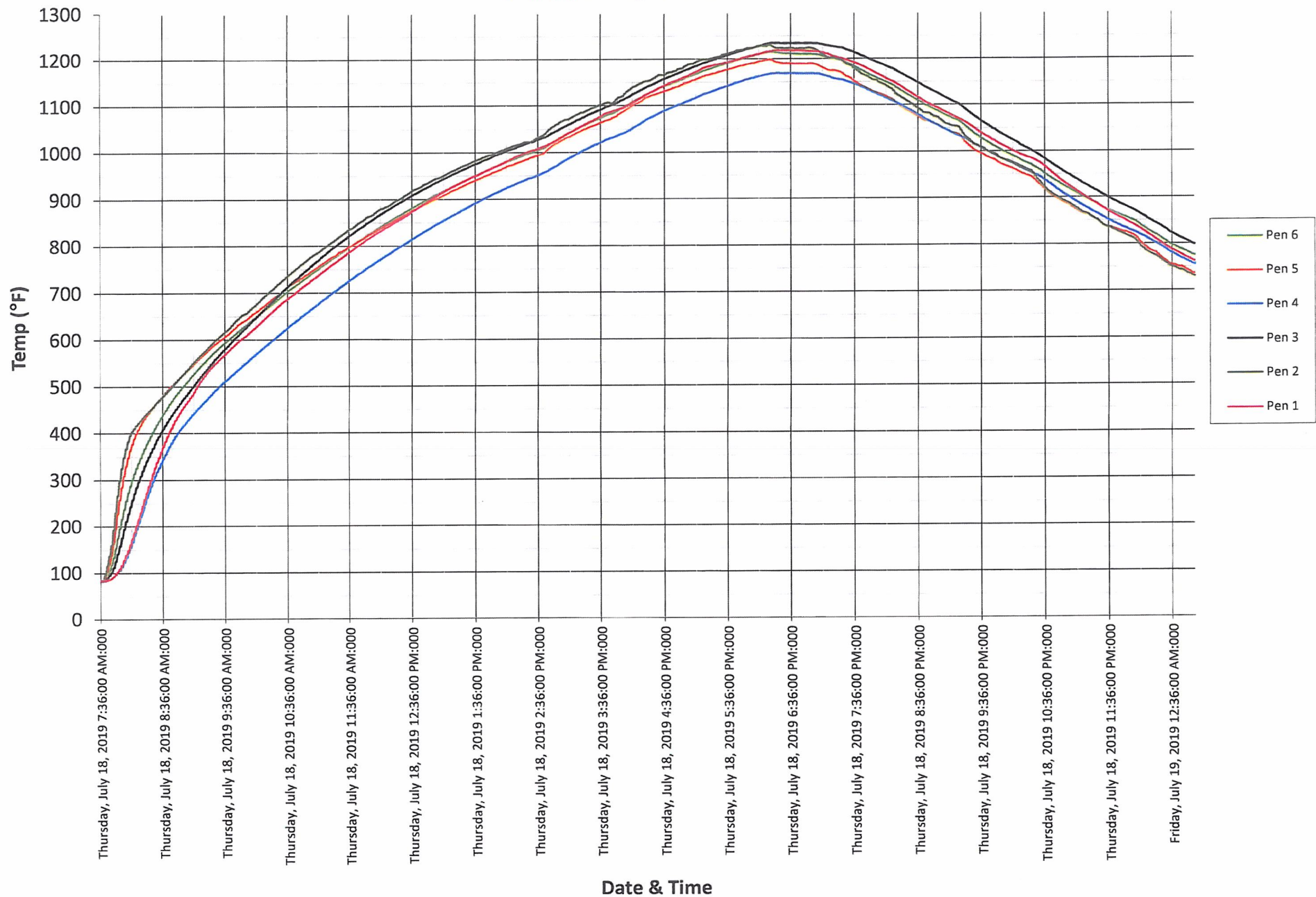
PWHT
SFI Job Number: T014847-4 & 5



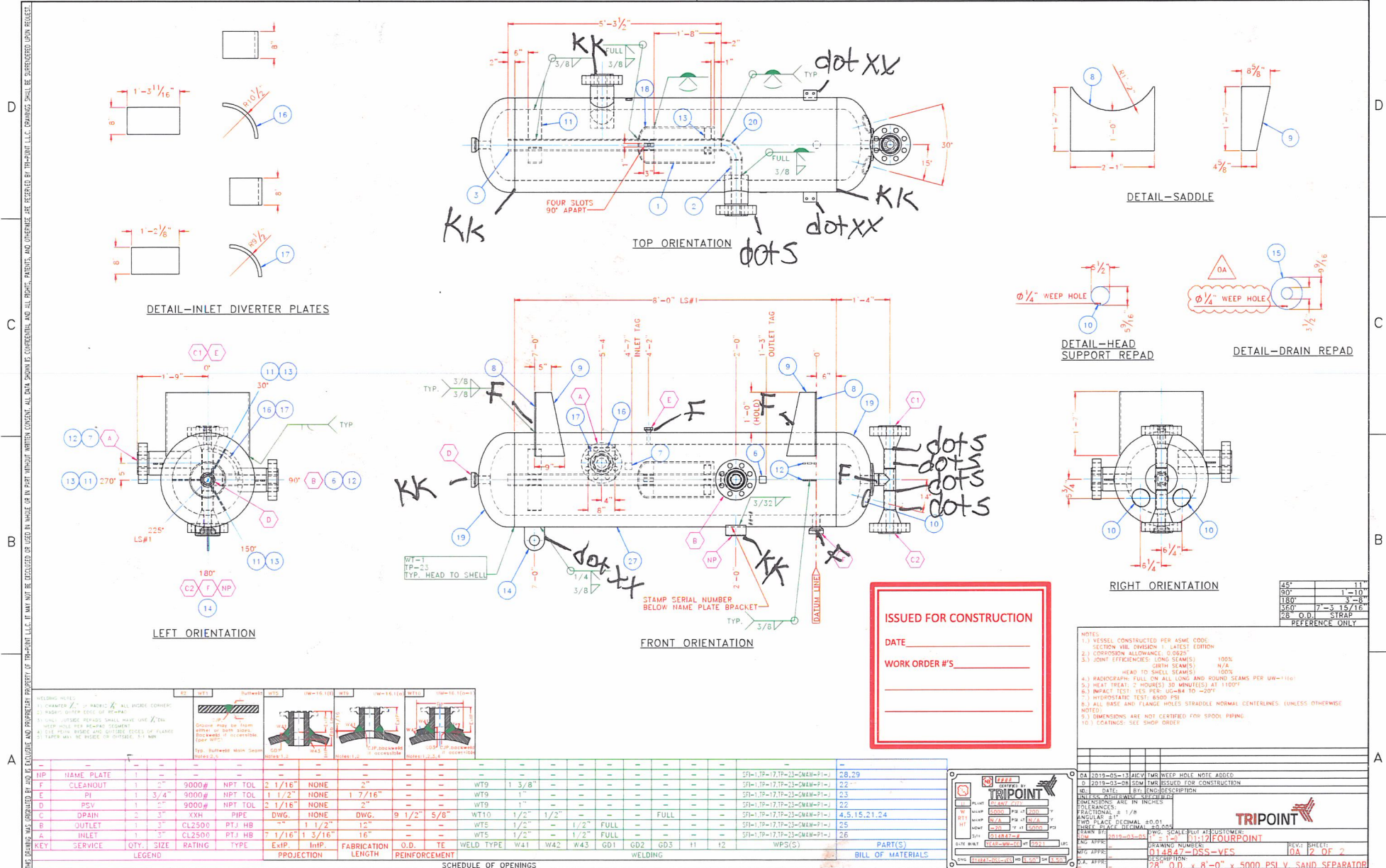
Mutli Trend Serial Number:
0751Y776530600001
Date of Calibration: 6/4/2019



PWHT
SFI Job Number: T014847-4 & 5



014847-5



ISSUED FOR CONSTRUCTION

DATE _____

WORK ORDER #S _____

NOTES:

- 1) VESSEL CONSTRUCTED PER ASME CODE SECTION VIII, DIVISION 1, LATEST EDITION.
- 2) CORROSION ALLOWANCE: 0.0625"
- 3) JOINT EFFICIENCIES: LONG SEAMS: 100% (GIRTH SEAMS) N/A
- 4) RADIOGRAPH: FULL ON ALL LONG AND ROUND SEAMS PER UW-1100
- 5) HEAD TO SHELL SEAMS: 100%
- 6) HEAT TREAT: 2 HOURS (30 MINUTES) AT 1100°F
- 7) IMPACT TEST: YES PER UW-10-207
- 8) HYDROSTATIC TEST: 8500 PSI
- 9) ALL BASE AND FLANGE HOLES STRADDLE NORMAL CENTERLINES, UNLESS OTHERWISE NOTED.
- 10) DIMENSIONS ARE NOT CERTIFIED FOR SPOOL PIPING.
- 11) COATINGS: SEE SHOP ORDER

TRIPPOINT

DRAWING NUMBER: 014847-DSS-YES

REV: 12 OF 2

DESCRIPTION: 24" O.D. x 4'-0" x 5000 PSI V. SAND SEPARATOR

</
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ISSUED FOR CONSTRUCTION

DATE _____

WORK ORDER #S _____

DA	2019-02-13	AICV	TMR	WEEP HOLE NOTE ADDED
0	2019-03-08	SDM	TMR	ISSUED FOR CONSTRUCTION
NO.:	DATE:	BY:	ENG:	DESCRIPTION
TOLERANCES UNLESS OTHERWISE SPECIFIED:				
DIMENSIONS AND FITS:				
FRACTIONAL: ± 1/8				
ANGULAR: ± 1°				
TWO PLACE DECIMAL: ±0.01				
THREE PLACE DECIMAL: ±0.001				
DATE:	2019-03-08	NO.:	014847	DESCRIPTION: 28" O.D. x 8'-0" x 5000 PSI V. SAND SEPARATOR
APP.:		APP.:		
APP.:		APP.:		
APP.:		APP.:		



REV. SHEET: 0A 1 OF 2

WELDING OPERATOR QUALIFICATION TESTS (WPQ)

(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

Company name	Tri-Point	Welder's Name	Kenneth Muwanguzi
	701 S. Eastern	Welder's Stamp	KK
	Elk City, Oklahoma 73644	Date of Test	9/10/2018
Welding Process	(1) GMAW		(2) FCAW
Process Type	(1) Semi-auto		(2) Semi-Auto
WPS used	(1) SFI-3		(2) SFI-17
Base material used	SA-106 B/C	to	SA-106 B/C Thickness 0.625
Manual or Semiautomatic Variables for Each Process (QW-350)		Actual Values	Range Qualified
Backing (QW-402)		Weld Metal	With or without Backing
ASME P-No. (QW-403)		P1 to P1	P1 thru 11
Plate	Pipe	Pipe Diameter	1" O.D. and above
Filler metal Specification (QW-404)		SFA Spec.	5.18 / 5.20
		Classification	N/A
		F-No.	F6
Consumable insert for GTAW or PAW			N/A
Deposited weld metal thickness for each process	(1)	0.125	0.138
	(2)	0.625	Max To be welded
Welding position (QW-405)		6G	All
Weld progression (uphill or downhill)		Up and Downhill	(1) Either; (2) Uphill Only
Backing Gas or Fuel Gas (QW-408)		None	N/A
GMAW transfer mode (QW-409)		Short-Circuit / Spray	Short-Circuit / Spray
GTAW welding current type/polarity		N/A	N/A
Machine Welding Variables for the Process Used (QW-360)		Actual Values	Range Qualified
Direct/remote visual control		N/A	N/A
Automatic voltage control (GTAW)		N/A	N/A
Automatic joint tracking		N/A	N/A
Welding position (1G, 5G, etc.)		N/A	N/A
Consumable insert		N/A	N/A
Backing (metal, weld metal, welded both sides, flux, etc.)		N/A	N/A
Single pass or Multiple pass per side		N/A	N/A

Guided Bend Test Results

Guided Bend Tests Type	QW-462.2 (Side)	QW-462.3(a) (Tran. R & F)	QW-462.3(b) (Long. R & F)
Side Bend #1	Pass		
Side Bend #2	Pass		
Side Bend #3	Pass		
Side Bend #4	Pass		

Radiographic Test Results (QW-304 & QW-305) N/A

Fillet Weld Fracture Test N/A

Macro test fusion N/A in. x Concavity/Convexity in.

Welding Tests conducted by Tri-Point

Mechanical Tests conducted by Tri-Point

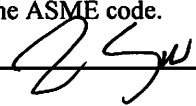
Lab. test No. N/A

Visual Exam By Joseph Suttle

Results Visually acceptable

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 code.

Date 9/10/2018

By 

Title Q.C. Manager

WELDING OPERATOR QUALIFICATION TESTS (WPQ)

(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

Company name	Tri-Point	Welder's Name	Thomas Nguyen
	701 S. Eastern	Welder's Stamp	Dotted XX
	Elk City, Oklahoma 73644	Date of Test	2/1/2019
Welding Process	(1) GMAW	(2)	FCAW
Process Type	(1) Semi-Auto	(2)	Semi-Auto
WPS used	(1) SFI- 3	(2)	SFI - 17
Base material used	SA-106 B/C	to	SA-106 B/C Thickness 0.625
Manual or Semiautomatic Variables for Each Process (QW-350)		Actual Values	Range Qualified
Backing (QW-402)		Weld Metal	With Backing
ASME P-No. (QW-403)		P1 to P1	P1 thru 11
Plate	Pipe	Pipe Diameter	1" O.D. and above
Filler metal Specification (QW-404)		SFA Spec.	5.18/5.20
		Classification	N/A
		F-No.	F6
Consumable insert for GTAW or PAW			N/A
Deposited weld metal thickness for each process	(1)	0.125	0.138
	(2)	0.625	Max To be welded
Welding position (QW-405)		6G	All
Weld progression (uphill or downhill)		Up and Downhill	(1) Either; (2) Uphill Only
Backing Gas or Fuel Gas (QW-408)		N/A	N/A
GMAW transfer mode (QW-409)		Short-Circuit/Spray	Short-Circuit/Spray
GTAW welding current type/polarity		N/A	N/A
Machine Welding Variables for the Process Used (QW-360)		Actual Values	Range Qualified
Direct/remote visual control		N/A	N/A
Automatic voltage control (GTAW)		N/A	N/A
Automatic joint tracking		N/A	N/A
Welding position (1G, 5G, etc.)		N/A	N/A
Consumable insert		N/A	N/A
Backing (metal, weld metal, welded both sides, flux, etc.)		N/A	N/A
Single pass or Multiple pass per side		N/A	N/A

Guided Bend Test Results

Guided Bend Tests Type	QW-462.2 (Side)	QW-462.3(a) (Tran. R & F)	QW-462.3(b) (Long. R & F)
Side Bend #1	Pass		
Side Bend #2	Pass		
Side Bend #3	Pass		
Side Bend #4	Pass		

Radiographic Test Results (QW-304 & QW-305) N/A

Fillet Weld Fracture Test N/A

Macro test fusion N/A in. x Concavity/Convexity in.

Welding Tests conducted by Tri-Point

Mechanical Tests conducted by Tri-Point

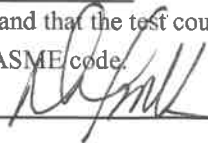
Lab. test No. N/A

Visual Exam By Joe Carson

Results Visually acceptable

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 code.

Date 2/1/19

By 

Title Quality Manager

QW-484 MANUFACTURER'S RECORD OF WELDER OR WELDING OPERATOR QUALIFICATION TESTS (WPQ)

(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

fcaw-6G-XXH

Company name <u>SUPERIOR FABRICATION, INC.</u>	Welder's Name <u>Matt Jansen</u>
<u>701 S. Eastern</u>	Welder's Stamp <u>F</u>
<u>Elk City, Oklahoma 73644</u>	Date of Test <u>1/8/2015</u>

welding Process (1) <u>FCAW</u>	(2) _____	(3) _____
Process Type (1) <u>Semi-Auto.</u>	(2) _____	(3) _____
WPS used (1) <u>SFI-3</u>	(2) _____	(3) _____
Base material used <u>SA-106-B</u>	to <u>SA-106-B</u>	Thickness <u>.436"</u>

Manual or Semiautomatic Variables for Each Process (QW-350)

	Actual Values	Range Qualified
Backing (QW-402)	None	With or Without
ASME P-No. (QW-403)	P1 to P1	P1 to P11 to P1 to P11
☐ Plate ☒ Pipe	Pipe diameter <u>2.375"</u>	1" OD & above
Filler metal Specification (QW-404)	SFA Spec. <u>5.20</u>	
	Classification <u>E71T-1</u>	
	F-No. <u>F6</u>	<u>F6</u>
Consumable insert for GTAW or PAW	<u>NA</u>	<u>NA</u>
Deposited weld metal thickness for each process	(1) <u>.436"</u>	<u>.872"</u>
	(2) _____	_____
	(3) _____	_____

Welding position (QW-405)	6G	6G
Weld progression (uphill or downhill)	Uphill and Downhill	Either
Backing Gas or Fuel Gas (QW-408)	None	May be used
GMAW transfer mode (QW-409)	NA	NA
GTAW welding current type/polarity	NA	NA

	Actual Values	Range Qualified
Machine Welding Variables for the Process Used (QW-360)		
Direct/remote visual control	NA	NA
Automatic voltage control (GTAW)	NA	NA
Automatic joint tracking	NA	NA
Welding position (1G, 5G, etc.)	NA	NA
Consumable insert	NA	NA
Backing (metal, weld metal, welded both sides, flux, etc.)	NA	NA

Guided Bend Test Results

Guided Bend Tests Type ☐ QW-462.2 (Side) ☐ QW-462.3(a) (Tran. R & F) ☐ QW-462.3(b) (Long. R & F)

Side Bend #1	Bent Satisfactorily		
Side Bend #2	Bent Satisfactorily		
Side Bend #3	Bent Satisfactorily		
Side Bend #4	Bent Satisfactorily		

Visual Examination (QW-302.4), By SUPERIOR FABRICATION, INC. Results Visually acceptable

Radiographic Test Results (QW-304 & QW-305) _____

Fillet Weld Fracture Test _____ Length & percent of defects _____

Macro test fusion _____ Fillet leg size _____ in. x _____ Concavity/Convexity _____ in.

Welding Tests conducted by SUPERIOR FABRICATION, INC.

Mechanical Tests conducted by Superior Fabrication, Inc. Lab. test No. F 7

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

Section IX of the ASME code. SUPERIOR FABRICATION, INC. Elk City, Oklahoma
 Date 1/8/2015 By Tim Rula Title Q.C. Manager

QW-484 MANUFACTURER'S RECORD OF WELDER OR WELDING OPERATOR QUALIFICATION TESTS (WPQ)

(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

short6-2xxh

Company name SUPERIOR FABRICATION, INC. Welder's Name Matt Jansen
701 S. Eastern Welder's Stamp F
Elk City, Oklahoma 73644 Date of Test 1/8/2015

Welding Process (1) GMAW Short-Arc (2) _____ (3) _____
Process Type (1) Semi-Auto. (2) _____ (3) _____
WPS used (1) SFI-3 (2) _____ (3) _____
Base material used SA-106-B to SA-106-B Thickness .436"

Manual or Semiautomatic Variables for Each Process (QW-350)

	Actual Values	Range Qualified
Backing (QW-402)	None	With or Without
ASME P-No. (QW-403)	P1 to P1	P1 to P11 to P1 to P11
☐ Plate ☒ Pipe	Pipe diameter 2.375"	1" OD & above
Filler metal Specification (QW-404)	SFA Spec. 5.18	
	Classification ER70S6	
	F-No. F6	F6
Consumable insert for GTAW or PAW	NA	NA
Deposited weld metal thickness for each process	(1) .436"	.48"
	(2) _____	_____
	(3) _____	_____

	Actual Values	Range Qualified
Welding position (QW-405)	6G	6G
Weld progression (uphill or downhill)	Uphill and Downhill	Either
Backing Gas or Fuel Gas (QW-408)	None	May be used
GMAW transfer mode (QW-409)	Short Arc	Short Arc
GTAW welding current type/polarity	NA	NA

	Actual Values	Range Qualified
Machine Welding Variables for the Process Used (QW-360)		
Direct/remote visual control	NA	NA
Automatic voltage control (GTAW)	NA	NA
Automatic joint tracking	NA	NA
Welding position (1G, 5G, etc.)	NA	NA
Consumable insert	NA	NA
Backing (metal, weld metal, welded both sides, flux, etc.)	NA	NA

Guided Bend Test Results

Guided Bend Tests Type ☒ QW-462.2 (Side) ☐ QW-462.3(a) (Tran. R & F) ☐ QW-462.3(b) (Long. R & F)

Side Bend #	Result
Side Bend #1	Bent Satisfactorily
Side Bend #2	Bent Satisfactorily
Side Bend #3	Bent Satisfactorily
Side Bend #4	Bent Satisfactorily

Visual Examination (QW-302.4), By SUPERIOR FABRICATION, INC. Results Visually acceptable

Radiographic Test Results (QW-304 & QW-305) _____

Fillet Weld Fracture Test _____ Length & percent of defects _____

Macro test fusion _____ Fillet leg size _____ in. x _____ Concavity/Convexity _____ in.

Welding Tests conducted by SUPERIOR FABRICATION, INC.

Mechanical Tests conducted by Superior Fabrication, Inc. Lab. test No. F 3

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

Section IX of the ASME code. SUPERIOR FABRICATION, INC. Elk City, Oklahoma
Date 1/8/2015 By Tim [Signature] Title Q.C. Manager

WELDING OPERATOR QUALIFICATION TESTS (WPQ)

(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

Company name	Tri-Point		Welder's Name	Jason Culliver (shaggy)
	701 S. Eastern		Welder's Stamp	Dotted S
	Elk City, Oklahoma 73644		Date of Test	12/1/2018
Welding Process	(1)	GMAW	(2)	FCAW
Process Type	(1)	Semi-Auto	(2)	Semi-Auto
WPS used	(1)	SFI- 3	(2)	SFI - 17
Base material used		SA-106 B/C	to	SA-106 B/C Thickness 0.625
Manual or Semiautomatic Variables for Each Process (QW-350)				
Backing (QW-402)			Actual Values	Range Qualified
ASME P-No. (QW-403)			Weld Metal	With Backing
Plate	Pipe	Pipe Diameter	P1 to P1	P1 thru 11
Filler metal Specification (QW-404)		SFA Spec.	2.75	1" O.D. and above
		Classification	5.18/5.20	5.18/5.20
		F-No.	ER70S-6/E71T-1M	N/A
Consumable insert for GTAW or PAW			F6	F6
Deposited weld metal thickness for each process	(1)	N/A	N/A	N/A
	(2)	0.125	0.138	0.138
		0.625	Max To be welded	Max To be welded
Welding position (QW-405)		6G	All	All
Weld progression (uphill or downhill)		Up and Downhill	(1) Either; (2) Uphill Only	(1) Either; (2) Uphill Only
Backing Gas or Fuel Gas (QW-408)		N/A	N/A	N/A
GMAW transfer mode (QW-409)		Short-Circuit/Spray	Short-Circuit/Spray	Short-Circuit/Spray
GTAW welding current type/polarity		N/A	N/A	N/A
Machine Welding Variables for the Process Used (QW-360)				
Direct/remote visual control		Actual Values	Range Qualified	Range Qualified
Automatic voltage control (GTAW)		N/A	N/A	N/A
Automatic joint tracking		N/A	N/A	N/A
Welding position (1G, 5G, etc.)		N/A	N/A	N/A
Consumable insert		N/A	N/A	N/A
Backing (metal, weld metal, welded both sides, flux, etc.)		N/A	N/A	N/A
Single pass or Multiple pass per side		N/A	N/A	N/A

Guided Bend Test Results

Guided Bend Tests Type	QW-462.2 (Side)	QW-462.3(a) (Tran. R & F)	QW-462.3(b) (Long. R & F)
Side Bend #1	Pass		
Side Bend #2	Pass		
Side Bend #3	Pass		
Side Bend #4	Pass		

Radiographic Test Results (QW-304 & QW-305)

N/A

Fillet Weld Fracture Test

N/A

Macro test fusion

N/A

in. x

Concavity/Convexity

in.

Welding Tests conducted by

Tri-Point

Mechanical Tests conducted by

Tri-Point

Lab. test No.

N/A

Visual Exam By

Joe Carson

Results

Visually acceptable

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 code.

Date 12/4/18

By

Title

PROJECT INFORMATION	
PROJECT NUMBER:	CUSTOMER:
PAINT SUPERVISOR:	CUSTOMER SPECIFICATION: ☐ YES ☐ NO
SPECIFICATION DETAILS:	

PART DETAILS	
EQUIPMENT: <u>Sand Separator</u>	PIECE COUNT:
PIECE MARKINGS: <u>T014847-5</u>	

SURFACE PREPARATION			
REQUIREMENT: SSPC SP-		ABRASIVE USED:	
SURFACE PROFILE REPLICATION TAPE	READING (mils)	SURFACE PROFILE REPLICATION TAPE	READING (mils)
	4.3		
SURFACE PROFILE REPLICATION TAPE	READING (mils)	SURFACE PROFILE REPLICATION TAPE	READING (mils)
	3.4		
SURFACE PROFILE REPLICATION TAPE	READING (mils)	SURFACE PROFILE REPLICATION TAPE	READING (mils)

DATE OF PREP:	AMBIENT TEMPERATURE:	RELATIVE HUMIDITY:
SURFACE PREPARED BY:		PRODUCTION LEAD/QC ACCEPTANCE:
CHLORIDE TEST REQUIRED? ☐ YES ☐ NO	PERFORMED BY/DATE:	☐ ACCEPTABLE ☐ UNACCEPTABLE

COATING APPLICATION							
PRIMER	PAINT MANUFACTURER:			PAINT PRODUCT:			
LOT/BATCH #'s:	PART A:		PART B:		PART C:		
COATING DATE:	COLOR:		Required DFT →		Actual DFT →		
AMBIENT TEMP.:	DEW POINT:	RELATIVE HUMIDITY:					
PAINT APPLIED BY:			PROD. LEAD/QC ACCEPTANCE:				
INTERMEDIATE	PAINT MANUFACTURER:			PAINT PRODUCT:			
LOT/BATCH #'s:	PART A:		PART B:		PART C:		
COATING DATE:	COLOR:		Required DFT →		Actual DFT →		
AMBIENT TEMP.:	DEW POINT:	RELATIVE HUMIDITY:					
PAINT APPLIED BY:			PROD. LEAD/QC ACCEPTANCE:				
FINISH	PAINT MANUFACTURER: <u>Sherwin Williams</u>			PAINT PRODUCT: <u>Envirolastic 940</u>			
LOT/BATCH #'s:	PART A: <u>Xm3438xw</u>		PART B: <u>MO2279LS</u>		PART C:		
COATING DATE: <u>10-21-19</u>	COLOR: <u>Carlsbad Canyon Tan</u>		Required DFT →		Actual DFT →		
AMBIENT TEMP.: <u>79</u>	DEW POINT: <u>31</u>	RELATIVE HUMIDITY: <u>18</u>					
PAINT APPLIED BY: <u>D White</u>			PROD. LEAD/QC ACCEPTANCE:				

27421
JO: 27633

QC.022A

VESSEL INSPECTION RECORD

Rev 1

VESSEL INFORMATION [Información del Recipiente de Presión]	
SERIAL NUMBER: [Numero de Serial]	CUSTOMER: [Cliente]
PROJECT NUMBER: [Numero de Proyecto]	VESSEL DESCRIPTION: [Descripción del Recipiente de Presión]
PROJECT MANAGER: [Gerente de Proyecto]	DRAWING: [Dibujo]
REMARKS: [Comentarios]	

PRESSURE VESSEL FABRICATION [Fabricación del Recipiente de Presión]				
TASK [Tarea]	HOLD POINT	INITIALS & DATE [Iniciales y fecha]		
		COMPLETED	SUPERVISOR	QC
FIRST HEAD [Primera Cabeza]				
VERIFY MATERIALS (Specification & Size, as appropriate) [Verificar materiales] (Especificaciones & dimensiones, apropiadamente)	NO		AB	ST
PREP AND LAYOUT HEAD (Hole & attachment locations & sizes, scribe hole to be cut on steel, mark bevel size) [Preparación y trazo de la Cabeza] (Agujeros y ubicación de accesorios y tamaño, trazar agujeros en el metal, marcar y biselar)	YES		AB 7-2-19	ST
CUT HOLES AND BEVEL AS REQUIRED [Cortar agujeros y biselar apropiadamente]	NO		AB	
FIT NOZZLES AND ATTACHMENTS [Presentar boquillas y otros accesorios]	YES			
WELD-OUT HEAD SUB-ASSEMBLY [Soldar Cabeza y Accesorios]	NO			
VISUAL WELD INSPECTION, FIRST HEAD (per QA.001; Weld defects, Material condition, Welder stencil, etc.) [Inspección visual, de la primera Cabeza] (de acuerdo con QA.001, defectos de soldadura, condición del material, stencil del soldador, etc.)	YES			
COMPLETE/VERIFY HEAT/WELD MAP (ENTER/WRITE HEAT NUMBER) [Completar/Verificar Mapa de Soldadura, escribir número de colada del material]	NO			
SECOND HEAD [Segunda Cabeza]				
VERIFY MATERIALS (Specification & Size, as appropriate) [Verificar materiales] (Especificaciones & dimensiones, apropiadamente)	NO			
PREP AND LAYOUT HEAD (Hole & attachment locations & sizes, scribe hole to be cut on steel, mark bevel size) [Preparación y trazo de la Cabeza] (Agujeros y ubicación de accesorios y tamaño, trazar agujeros en el metal, marcar y biselar)	YES			
CUT HOLES AND BEVEL AS REQUIRED [Cortar agujeros y biselar apropiadamente]	NO			
FIT NOZZLES AND ATTACHMENTS [Presentar boquillas y otros accesorios]	YES			
WELD-OUT HEAD SUB-ASSEMBLY [Soldar Cabeza y Accesorios]	NO			
VISUAL WELD INSPECTION, FIRST HEAD (per QA.001; Weld defects, Material condition, Welder stencil, etc.) [Inspección visual, de la primera Cabeza] (de acuerdo con QA.001, defectos de soldadura, condición del material, stencil del soldador, etc.)	YES			
COMPLETE/VERIFY HEAT/WELD MAP (ENTER/WRITE HEAT NUMBER) [Completar/Verificar Mapa de Soldadura, escribir número de colada del material]	NO			

TASK [Tarea]	HOLD POINT	INITIALS & DATE [Iniciales y fecha]		
		COMPLETED	SUPERVISOR	QC
SHELL [Cilindro]				
VERIFY MATERIALS (Specification & Size, as appropriate) [Verificar materiales] (Especificaciones & dimensiones, apropiadamente)	NO		AB	IS
PREP AND LAYOUT SHELL (Hole & attachment locations & sizes, scribe hole to be cut on steel, mark bevel size) [Preparacion y trazo del cilindro] (Agujeros y ubicacion de accesorios y tamano, trazar agujeros en el metal, marcar y biselar)	YES		AB 7-2-9	IS
CUT HOLES AND BEVEL AS REQUIRED [Cortar agujeros y biselar apropiadamente]	NO		AB	
FIT NOZZLES AND ATTACHMENTS [Presentar boquillas y otros accesorios]	YES			
WELD-OUT SHELL NOZZLES AND ATTACHMENTS [Soldar boquillas y otros accesorios]	NO			
VISUAL WELD INSPECTION, SHELL (per QA.001; Weld defects, Material condition, Welder stencil, etc.) [Inspeccion visual, del cilindro] (de acuerdo con QA.001, defectos de soldadura, condicion del material, stencil del soldador, etc)	YES			
COMPLETE/VERIFY HEAT/WELD MAP (ENTER/WRITE HEAT NUMBER) [Completar/Verificar Mapa de Soldadura, escribir numero de colada del material]	NO			
INTERNALS/CLOSURE				
HANG & FIT FIRST HEAD [Colgar y Presentar Primera Cabeza]	YES		AB 7-2	ST
WELD-OUT FIRST HEAD ROUND SEAM [Soldar circunferencia de la primera Cabeza]	NO			
LAYOUT AND FIT INTERNAL ATTACHMENTS [Trazado interno y presentar los accesorios internos]	YES		AB	
WELD-OUT INTERNALS [Soldar accesorios internos]	NO		AB	
VISUAL WELD INSPECTION, INTERNALS ***THIS IS AN AI HOLD POINT*** (per QA.001; Weld defects, Material condition, Round/chamfer corners, etc.) [Inspeccion visual, de accesorios internos] *** SE REQUIERE EL INSPECTOR ASME*** (de acuerdo con QA.001, defectos de soldadura, condicion del material, stencil del soldador, etc)	YES		AB 7-2-19	
WATER LEAK TEST BUCKET & WEIR (when so equipped) [Cubo y Prueba de Fugas de Agua] (cuando esta equipado)	YES			
HANG & FIT CLOSING HEAD [Colgar y Presentar Segunda Cabeza]	YES			
WELD-OUT CLOSING ROUND SEAM & PRESSURE BOUNDARY [Soldar circunferencia de la segunda Cabeza y barrera de presion]	NO			
LAYOUT & FIT SADDLES/SKIRT/BASE, AS REQUIRED [Trazar y presentar montaduras/falda/base, apropiadamente]	YES		AB 7-16	
WELD-OUT SADDLES/SKIRT/BASE [Soldar montaduras/falda/base]	NO			
COMPLETION/TESTING [Final/Prueba]				
FINAL VISUAL WELD INSPECTION (per QA.001; Weld defects, Material condition, Welder stencils, etc.) [Inspeccion visual de soldadura] (de acuerdo con QA.001, defectos de soldadura, condicion del material, stencil del soldador, etc)	YES			
WELD PICK-UP (Repairs completed) [Defectos corregidos]	YES			
NONDESTRUCTIVE EXAMINATION (RT, UT, MT, PT on round & long seams, lifting lugs and nozzle penetrations, as required) [Inspeccion no destructiva] (Rayos X, Ultrasonido, Particulas Magneticas, Tinte Penetrante en las soldaduras de Cabeza, Cilindro y accesorios de acuerdo a lo requerido)	YES			
NDE REPAIRS, AS REQUIRED (QC to schedule retesting) [Corregir defectos encontrados en la inspeccion no destructiva] (QC debe programar repetir pruebas no destructivas que fallaron)	NO			
NONDESTRUCTIVE EXAMINATION OF REPAIRS (RT, UT, MT, PT, as required) [Pruba no destructiva en las soldaduras corregidas]	YES			
TRIAL FIT LADDERS/PLATFORMS, ETC. AS REQUIRED (QC document with	YES			

[Presentar preliminarmente la escalera, plataforma y otros] (QC debe documentar esto con fotos)				
PWHT, AS REQUIRED (Chart downloaded, if performed in-house, QC need only sign-off if subcontracted))	YES			
[Tratamiento termico] (carta de registro requerida, si es ejecutado en la planta, si es ejecutado por un contratista QC solo necesita firmar)				
HARDNESS TESTING, AS REQUIRED	YES			
[Prueba de dureza, de acuerdo a lo requerido]				
HYDROSTATIC TESTING ***THIS IS AN AI HOLD POINT** (QC to download crystal gauge data)	YES			
[Prueba hidrostática] ** SE REQUIERE EL INSPECTOR ASME** (QC debe obtener data del registrador)				
ATTACH VESSEL NAMEPLATE AND APPLY ASME & NB STAMPS	NO			
[Colocar placa del recipiente de presion y las estampas de ASME y NB]				
SURFACE PREPARATION & COATING [Preparacion de Superficies y revestimiento interno]				
INTERNAL SURFACE PREPARATION (Record atmospheric conditions)	NO			
[Preparacion de la superficie interna] (Registrar las condiciones atmosfericas)				
INSPECT SURFACE PREPARATION (Appearance, anchor pattern & welding)	YES			
[Inspeccionar la preparacion de la superficie interna] (Apariencia, anclaje y soldadura)				
INTERNAL FIRST COAT (Record atmospheric conditions and DFTs)	NO			
[Primera capa de revestimiento interno] (Registrar las condiciones atmosfericas y el espesor de la capa seca)				
INTERNAL FINISH COAT (Record atmospheric conditions and DFTs)	YES			
[Capa final de revestimiento interno] (Registrar las condiciones atmosfericas y el espesor de la capa seca)				
INTERNAL HOLIDAY TESTING, AS REQUIRED	YES			
[Prueba para detectar discontinuidades, de acuerdo a lo requerido]				
EXTERNAL SURFACE PREPARATION (Record atmospheric conditions)	NO			
[Preparacion de la superficie externa] (Registrar las condiciones atmosfericas)				
INSPECT SURFACE PREPARATION (Appearance, anchor pattern & welding)	YES			
[Inspeccionar la preparacion de la superficie] (Apariencia, anclaje y soldadura)				
EXTERNAL PRIME COAT (Record atmospheric conditions and DFTs)	NO			
[Primera capa base de revestimiento externo] (Registrar las condiciones atmosfericas y el espesor de la capa seca)				
EXTERNAL INTERMEDIATE COAT (Record atmospheric conditions and DFTs)	NO			
[Capa intermedia de revestimiento externo] (Registrar las condiciones atmosfericas y el espesor de la capa seca)				
EXTERNAL FINISH COAT (Record atmospheric conditions and DFTs)	YES			
[Capa final de revestimiento externo] (Registrar las condiciones atmosfericas y el espesor de la capa seca)				
EXTERNAL HOLIDAY TESTING, AS REQUIRED	YES			
[Prueba para detectar discontinuidades, de acuerdo a lo requerido]				

MISC. REMARKS [Otras notas o comentarios]
REMARKS [Notas o comentarios]:

MANUFACTURING FINAL INSPECTION SIGN-OFF
[Firma de Inspeccion Final de Manufactura]

DATE OF FINAL INSPECTION
[Fecha de Inspeccion Final]

QC FINAL INSPECTION SIGN-OFF
[Firma de Inspeccion Final de Control de Calidad]

DATE OF FINAL INSPECTION
[Fecha de Inspeccion Final]

Date Created: 13-Dec-18

Date Revised: 09-Jan-19

Approved By: A. DeHART

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