



Data Book

Ovintiv

SO# 100001253

Customer PO# PO84203

48in x 15ft, 1440#

SN# F-8934

- DESIGN IN ACCORDANCE WITH ASME CODE SECTION VIII, DIV.1 (2019)
- ASME STAMP: REQUIRED
- NATIONAL BOARD REGISTRATION: REQ'D
- DESIGN PRESSURE (INTERNAL): 1440 PSIG @ 130 °F
- DESIGN PRESSURE (EXTERNAL): ATMOSPHERIC PSIG @ 130 °F
- MAX. ALLOWABLE WORKING PRESSURE: 1440 PSIG @ 130 °F
- HYDROSTATIC TEST PRESSURE: 1872 PSIG
- CORROSION ALLOWANCE: HEADS: 0.125" SHELL: 0.125" NOZZLES: 0.125" INTERNALS: 0.00" BOLT ON: 0.00"
- JOINT EFFICIENCY: RIGHT/TOP HEAD: 100%. LEFT/BTM HEAD: 100%. SHELL CIRC.: 100%. SHELL LONG: 100%.
- RADIOGRAPHY: RT-1
- POST WELD HEAT TREATMENT: REQUIRED
- HEATING RATE: 800F PER HOUR
- COOLING RATE: 1000F PER HOUR
- WIND CODE: ---
- SEISMIC CODE: ---
- CHARPY IMPACT TEST: REQUIRED @ -20° F 15/12 FT/LBS

DESIGN DATA

- HEADS: SA-516 GR 70 N
- SHELL: SA-516 GR 70 N
- FLANGES: N/A
- COUPLINGS: SA-105 N
- NOZZLE NECK (PIPE): N/A
- NOZZLE NECKS (FORGED): SA-105 N
- REINFORCING PADS: N/A
- SKIRT: N/A
- BASE PLATE: N/A
- SADDLES: SA-36
- WEAR PLATES: SA-36
- BOLTING: SA-193 Gr2/SA-194 Gr2H
- GASKETS: FLEXITALLIC STYLE "CG"
- ALL MATERIALS SHALL COMPLY WITH PERMIANLIDE STANDARDS AND CODE SPECIFICATIONS.

MATERIAL SPECIFICATIONS

- INSIDE PROJECTIONS ARE MEASURED FROM SHORT SIDE, UNLESS OTHERWISE SPECIFIED
- WORKLINE SHALL BE MARKED BY CENTER PUNCH ON THE VESSEL 12" FROM VESSEL SEAM
- VESSEL SHALL BE CLEANED INSIDE AND OUTSIDE, FREE OF DIRECT, GREASE, DEBRIS, LOOSE MILL SCALE, WELD SPATTER, ETC.
- SHOP RECORDS REQUIRED: REQUIRED - P.W.H.T. CHART
REQUIRED - NAME PLATE DUPLICATE REQUIRED - HYDRO CHART
- TOLERANCES, UNLESS OTHERWISE SPECIFIED: $\pm 1/8"$ ALL DIMENSIONS $\pm 0.5^\circ$ ALL DEGREES

CONSTRUCTION NOTES

- PROTECT NAMEPLATE AND ALL FLANGE FACES BEFORE BLASTING AND PAINTING. FLANGE BOLT HOLES AND EXTERNAL SURFACES NOT MACHINED FOR GASKET SEALING TO RECEIVE SPECIFIED SURFACE PREPARATION AND PAINT
- PAINT SHALL CONFORM TO ALL MANUFACTURERS RECOMMENDATIONS REGARDING THINNING, MIXING CURING, STORAGE AND APPLICATION METHOD.
- INSULATION: NOT REQ'D TYPE: N/A THICKNESS: N/A
- FIREPROOFING: NOT REQ'D THICKNESS: N/A

SURFACE PREPARATION & PAINTING

- REINFORCING PADS SHALL BE PNEUMATIC TESTED TO 15 PSI AND INSPECTED WITH SOAP /WATER SOLUTION
- SERVICE BOLTS SHALL NOT BE USED IN TESTING. SERVICE BOLTS WILL BE SHIPPED IN PLACE
- MATERIAL IDENTIFICATION MARKING MUST BE TRANSFERRED TO ALL PRESSURE PARTS
- WELDERS STENCILS ARE REQUIRED ON ALL WELDS AND/OR RECORDED
- WHERE WELD METAL BUILD-UP IS USED IN JOINTS REQUIRING RADIOGRAPHY, THE WELD METAL BUILD - UP SHALL BE INCLUDED IN THE RADIOGRAPHIC EXAMINATION
- HYDROTEST PRESSURE SHALL BE HELD FOR A MINIMUM OF ONE HOUR USING WATER. VESSEL TO BE IMMEDIATELY DRAINED AFTER HYDROTEST.
- ONLY LEAD SCREENS AND FINE GRAIN KODAK AA FILM OR EQUAL SHALL BE USED FOR RADIOGRAPHY
- ARC STRIKES SHALL BE GROUND SMOOTH AND VISUALLY EXAMINED
- MRT'S REQUIRED PER ASME VIII CODE
- EACH NOZZLE OR MANWAY REINFORCING PAD OR SEGMENT THERE OF SHALL HAVE ONE 1/4" NPT TEST HOLE LOCATED NEAR LOW POINT OF PAD IN OPERATION POSITION. FILL TEST HOLES WITH HEAVY GREASE PRIOR TO SHIPMENT

- FLANGE BOLT HOLES TO STRADDLE VESSEL CENTERLINES UNLESS OTHERWISE SPECIFIED
- PERMISSIBLE OUT OF ROUNDNESS OF CYLINDRICAL OR CONICAL SHELLS SHALL NOT EXCEED 1% OF THE NOMINAL DIAMETER. TOLERANCE SHALL BE INCREASED TO 2% WHEN THE CROSS-SECTION PASSES THROUGH OR WITHIN ONE ID OF AN OPENING OR PER UG-80
- ALL OFFSETS OF BUTT WELDED JOINTS SHALL BE BLENDED, OR IF NECESSARY A WELD METAL BUILD UP, WITH A 3:1 TAPER
- CHECK APPLICABLE WELD PROCEDURE FOR PREHEAT REQUIREMENTS
- NONWELDED EDGES OF PENETRATIONS INSIDE THE VESSEL SHALL BE ROUNDED OR CHAMFERED
- BUTT JOINT EDGES ARE TO BE SMOOTH AND UNIFORM AND BE FREE OF LOOSE SCALE AND SLAG
- TACK WELDS ARE TO BE REMOVED OR THEIR ENDS GROUND SMOOTH WHEN INCORPORATED INTO THE FINAL WELD
- FLANGE RAISED FACE TO HAVE 125 RA. MIN. - 250 RA. MAX SURFACE FINISH
- INTERNAL AND EXTERNAL WELDED ATTACHMENTS SHALL BE CONTINUOUSLY WELDED TO THE VESSEL WALL UNLESS NOTED
- HEAD TOLERANCE PER UG-81
- ANCHOR BOLT TEMPLATE: NOT REQ'D

TESTING, INSPECTION, AND IDENTIFICATION

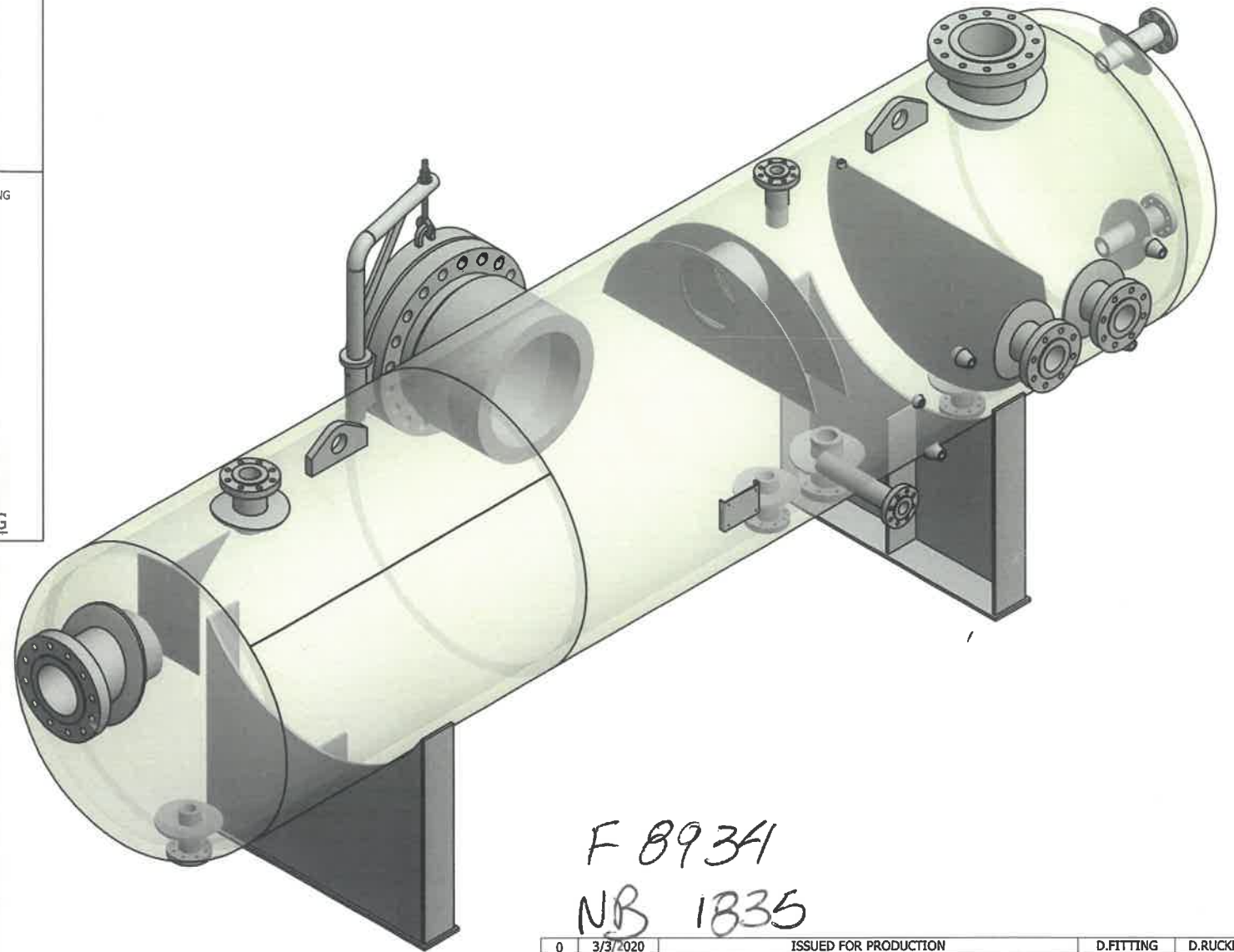
FABRICATION NOTES

MAXIMUM ALLOWABLE MISALIGNED OF BUTT JOINTS IS LIMITED TO

SECTION THICKNESS	JOINT CATEGORY	
	JOINTS: A	JOINTS: B,C & D
UP TO & INCLUDING 1/2"	1/4" OF THICKNESS	1/4" OF THICKNESS
OVER 1/2" TO 3/4", INCLUDING	1/8" OF THICKNESS	1/4" OF THICKNESS
OVER 3/4" TO 1 1/2", INCLUDING	1/8" OF THICKNESS	3/16"
OVER 1 1/2" TO 2", INCLUDING	1/8" OF THICKNESS	1/8" OF THICKNESS
OVER 2"	LESSER OF 1/16" OF THICKNESS OR 3/8"	LESSER OF 1/8" OF THICKNESS OR 3/4"

ISSUED FOR PRODUCTION
3/3/2020

NOTICE:
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F 89341
NB 1835

REV	DATE	DESCRIPTION	DESIGNER	CHECKED BY
0	3/3/2020	ISSUED FOR PRODUCTION	D.FITTING	D.RUCKMAN

ASME
UW
RT-1
HT

CERTIFIED BY PERMIAN TANK & MFG. ODESSA, TX

1440 PSI AT 130 °F
MAXIMUM ALLOWABLE WORKING PRESSURE

-20 °F AT 1440 PSI
MINIMUM DESIGN METAL TEMPERATURE

MFG. SER. NO. XXXX YEAR BUILT 2020

NOM. DIAMETER 48" NOM. LENGTH 15'

TEST PRESSURE 1872 EMPTY WEIGHT 23600

PERMIANLIDE
TANK AND VESSEL MANUFACTURING
2701 INTERSTATE 20 SERVICE RD.
ODESSA TEXAS
(432) 580-1050

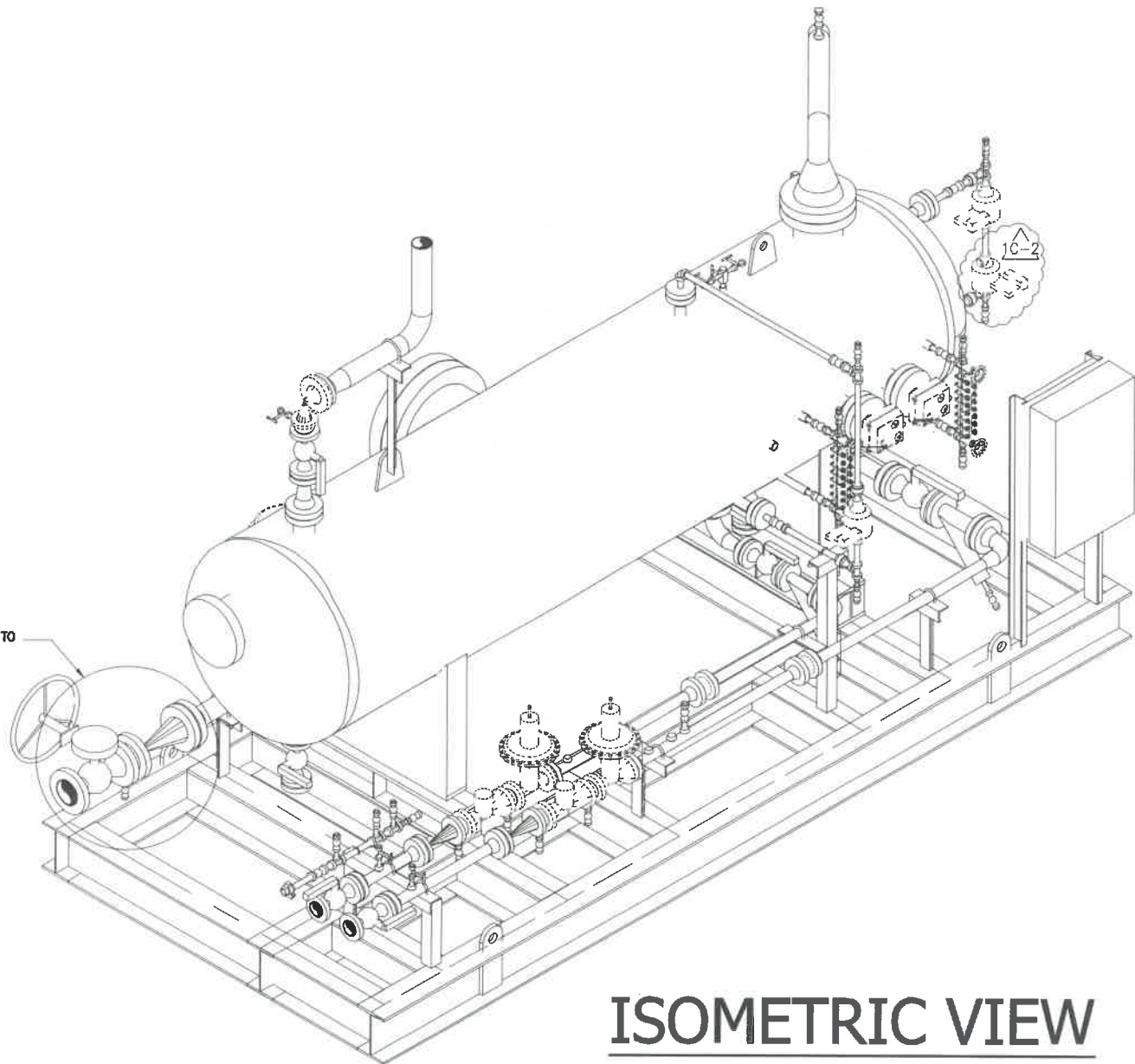
PERMIANLIDE
TANK AND VESSEL MANUFACTURING

TITLE
OVINTIV
SEPARATOR - 48" X 15' 1440# HORZ. 3PH - ASME

PART NO
USEP48X15H1440#3PHC-D5078

DWG NO D5078 EST. WEIGHT 23600 LBS SHEET 1 OF 5 REV 0


REFERENCE ONLY
4/23/2020



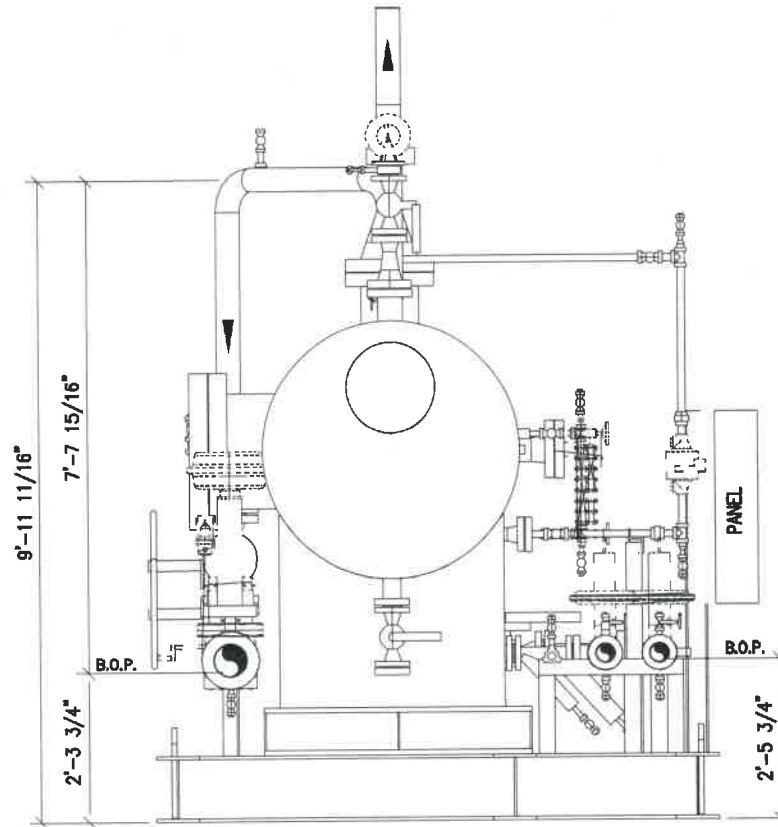
SHOP TO SHIP LOOSE OR TO
ADD CRIBBING AS REQ'D

ISOMETRIC VIEW

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 PERMIANLIDE TANK AND VESSEL MANUFACTURING		PERMIANLIDE TANK AND VESSEL MANUFACTURING 2704 INTERSTATE 20 SERVICE RD. ODDESSA, TEXAS (432) 580-1050
TITLE OVINTIV		
REFERENCE ONLY		
PART NO FSKIDA-SEP48X15H1440#3PHC-001		
DWG NO D5093	DATE	REV

REFERENCE
ONLY
4/23/2020

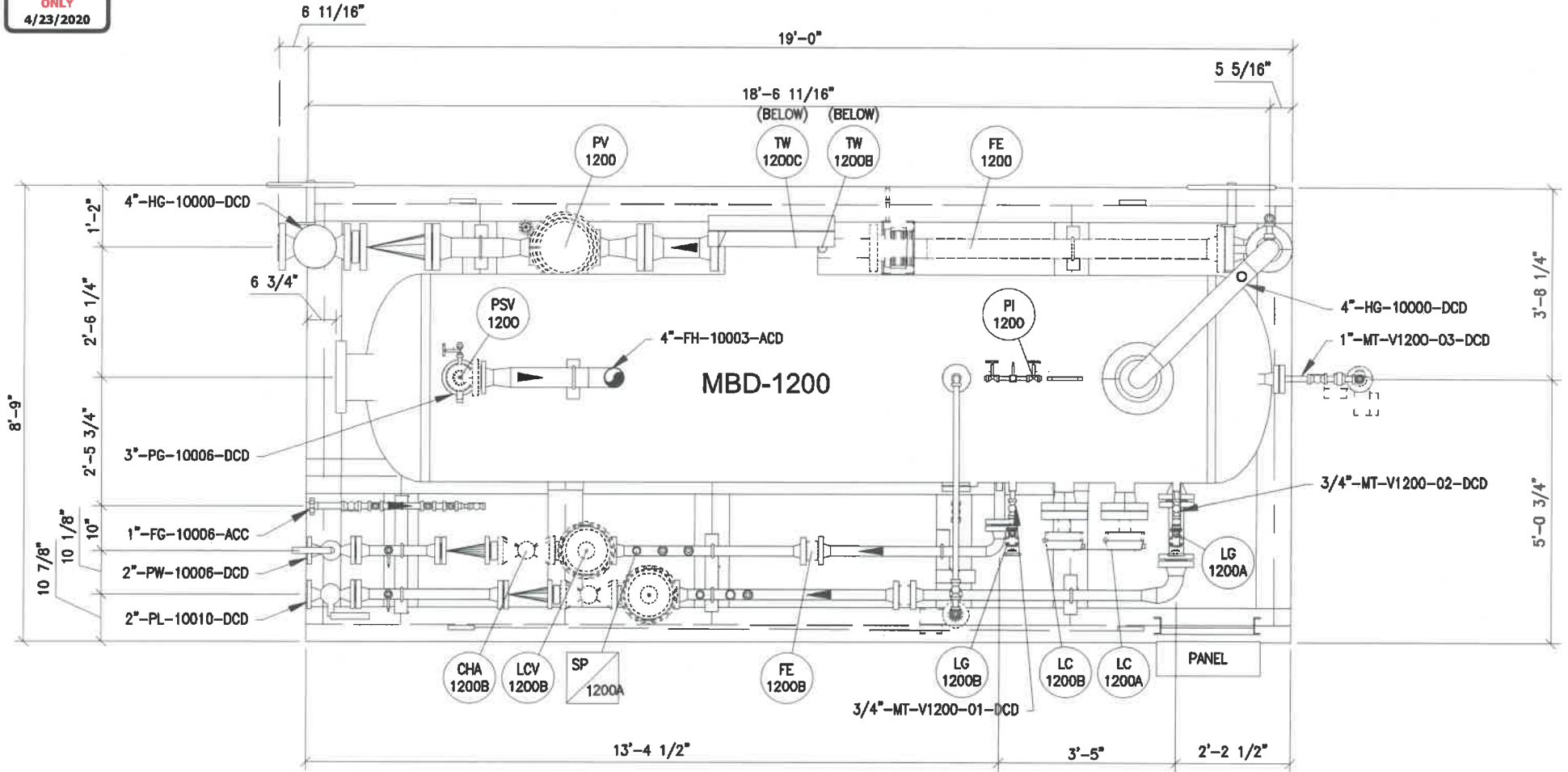


SIDE VIEW

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		PERMIANLIDE TANK AND VESSEL MANUFACTURING <small>2701 INTERSTATE 20 SERVICE RD. GROSSA TEXAS (432) 580-1050</small>
TITLE OVINTIV		
REFERENCE ONLY		
PART NO. FSKIDA-SEP48X15H1440#3PHC-001		
DWG NO. D5093	DATE	REV

REFERENCE ONLY
4/23/2020

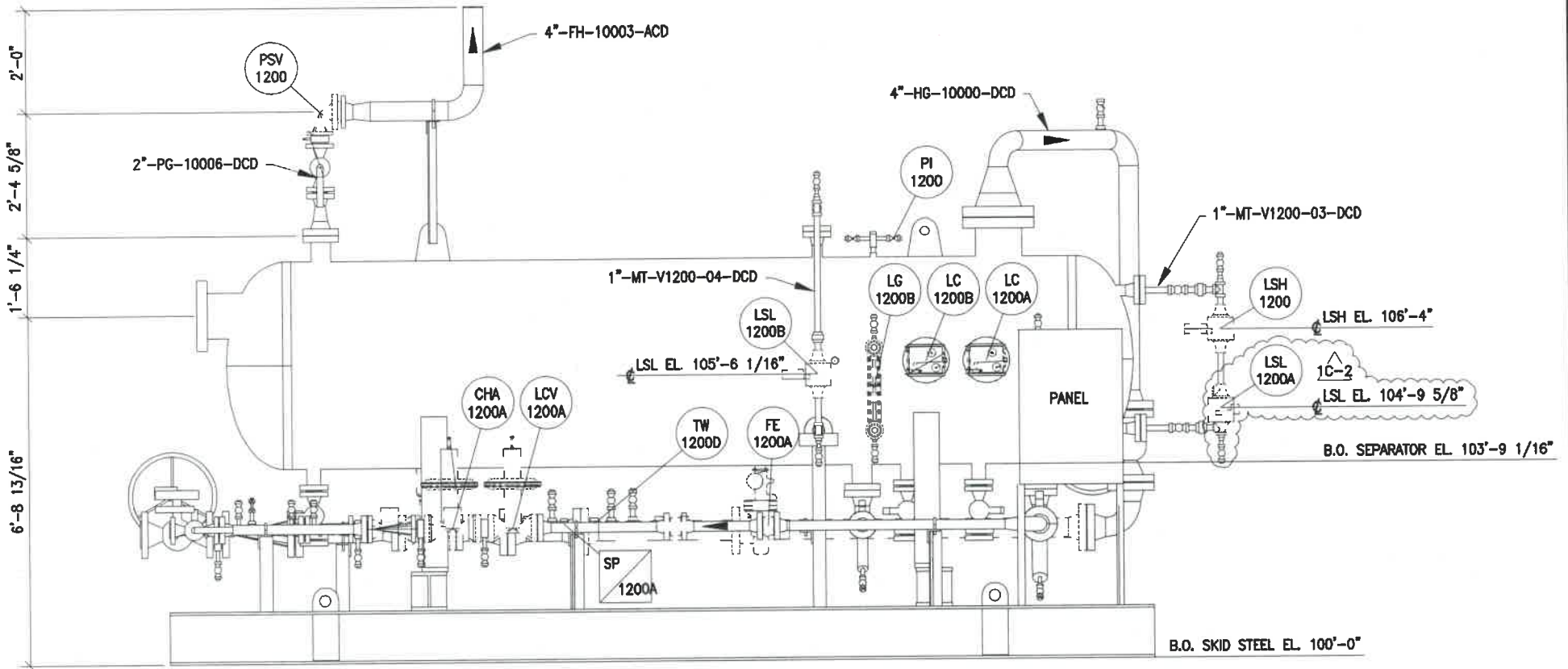


TOP VIEW

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 <p>PERMIANLIDE TANK AND VESSEL MANUFACTURING</p> <p>2701 INDUSTRIAL 20 SERVICE RD. ODESSA TEXAS (432) 580-1050</p>	
<p>TITLE OVINTIV</p> <p style="color: red;">*REFERENCE ONLY*</p>	
<p>PART NO FSKIDA-SEP48X15H1440#3PHC-001</p>	
<p>ENGR NO D5093</p>	<p>DATE</p>
	<p>REV</p>

REFERENCE ONLY
4/23/2020



FRONT VIEW

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 <p>PERMIANLIDE TANK AND VESSEL MANUFACTURING 2701 INTERSTATE 20 SERVICE RD. COLETTA TEXAS (432) 580-1050</p>		<p>PERMIANLIDE TANK AND VESSEL MANUFACTURING</p>	
		<p>TITLE OVINTIV</p> <p>*REFERENCE ONLY*</p>	
<p>PART NO. FSKIDA-SEP48X15H1440#3PHC-001</p>		<p>DATE</p>	<p>REV</p>
<p>OWNS NO. D5093</p>		<p>DATE</p>	<p>REV</p>

ISSUED FOR PRODUCTION
4/23/2020

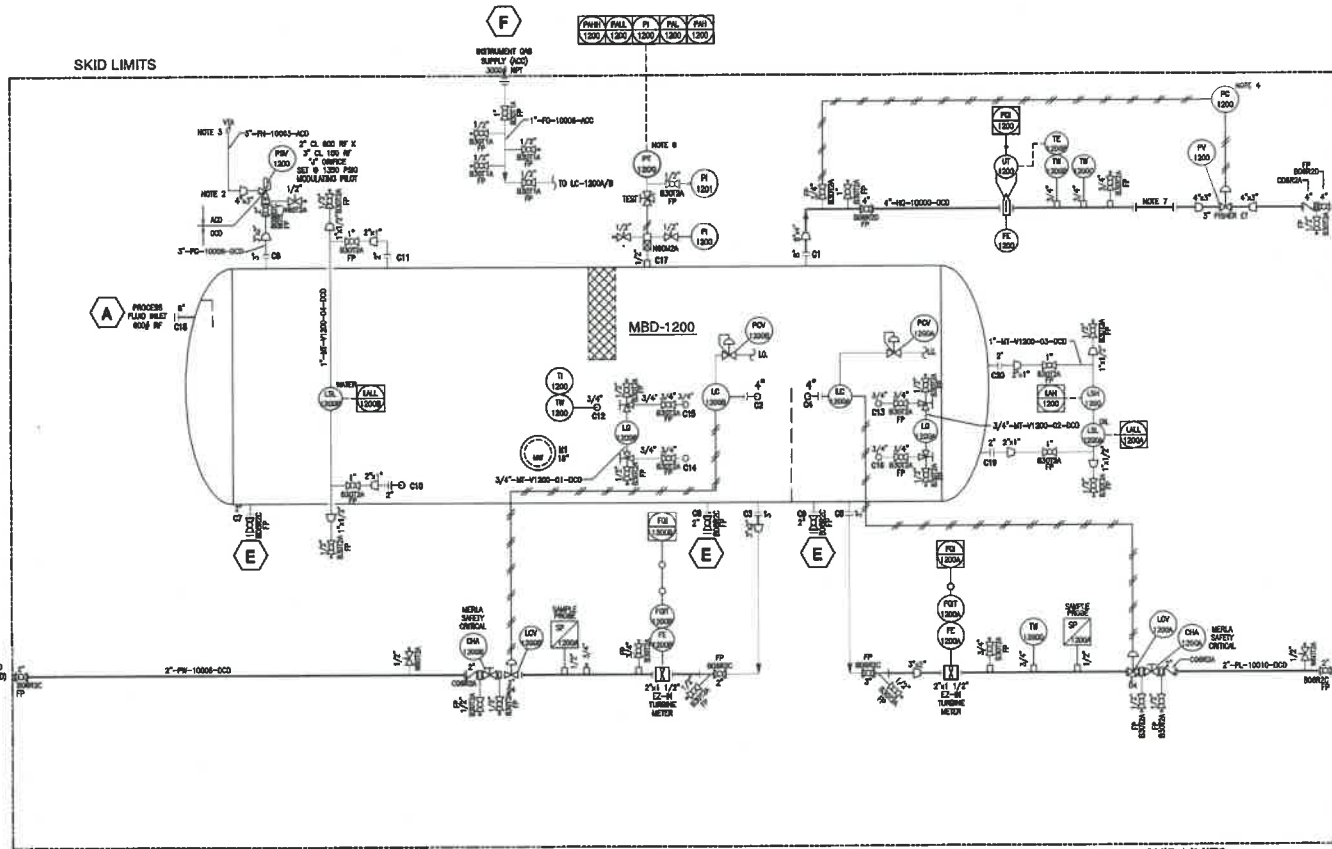
MBD-1200

HORIZONTAL 3-PHASE SEPARATOR
48" OD x 13'-0" L
MANP: 1440 PSIG @ -20 F/130 F

- ④ 4" METER TUBE 600# RF NACE DANIEL AGAS
- ④ PRESSURE CONTROL NACE DIRECT ACTING FISHER CIP
- ④ 3" FCV 600# RF NACE 3" ET / 687-45
- ④ HIGH FLOW TOTALIZING TRANSMITTER NU-FL0
- ④ HIGH FLOW TOTALIZING TRANSMITTER NU-FL0
- ④ 2" EZ-IN FLOW METER 9A-100005095
- ④ 2" EZ-IN FLOW METER 9A-100005095

- ④ 2" FCV 600# RF NACE MERLA
- ④ 2" FCV 600# RF NACE MERLA
- ④ 3/4" NPT WKA 10-1/2" U 75-THZT-105-SS
- ④ 1/2" NPT WKA 0-200F 5" DIAL
- ④ 2" 600# RF X 3" 150# SET @ 1385 PSIG ANDERSON GREENWOOD OR EQUAL
- ④ 1/2" NPT 318L SST CONN ROSEMOUNT 2088 NACE 0-4000 PSI
- ④ 1/2" NPT 233.34 SERIES SG 0-1500 PSIG NACE 4-1/2" FACE
- ④ 1/2" NPT 233.34 SERIES SG 0-1500 PSIG NACE 4-1/2" FACE
- ④ 1/4" NPT SET @ 20# FISHER 67CFR
- ④ 1/4" NPT SET @ 20# FISHER 67CFR
- ④ 2" 600# RF SST DISP 1-7/8"x12" NACE FISHER L2
- ④ 2" 600# RF SST DISP 1-7/8"x12" NACE FISHER L2
- ④ 2" D4 ANSI 600RF F.C. PNEUM FISHER 1-1/4" NACE TRIM
- ④ 2" D4 ANSI 600RF F.C. PNEUM FISHER 1-1/4" NACE TRIM
- ④ 3/4" NPT GAUGE GLASS QUEST-TEC 81TM STANDARD 2U GAUGE COCKS NACE
- ④ 3/4" NPT GAUGE GLASS QUEST-TEC 81TM STANDARD 2U GAUGE COCKS NACE
- ④ 1" NPT FISHER 2100E NACE RH MOUNT
- ④ 1" NPT FISHER 2100E NACE RH MOUNT
- ④ 1" NPT FISHER 2100E NACE RH MOUNT

- ④ GAS FLOW METER TRANSMITTER ABB XMTR286J 600
- ④ RTD PROBE ASSEMBLY 10" SS, 4-WIRE ABB 2011905-026
- ④ 3/4" NPT THERMOWELL ABB TW-(2" U)-75
- ④ 3/4" NPT THERMOWELL ABB TW-(2" U)-75



SKID LIMITS

SKID LIMITS

- NOTES:
1. MUST BE FULL PORT.
 2. 1/4" NPT HOLE.
 3. WELDES TO BE SQUARE CUT.
 4. PRESSURE CONTROLLER MOUNTED TO P#-1200.
 5. ALL INSTRUMENTS TO BE RATED FOR 200F AND BE NACE COMPLIANT.
 6. TRANSMITTER REMOTE MOUNTED VIA 1/2" U.S. TUBING ON SKID AT 4'-0" ABOVE GROUND.
 7. SPOOL TO SHIP OUT WITH FLANGED TEE IF REQ'D.

MARK	SERVICE	SIZE	RATING	TYPE
F	INSTRUMENT GAS	1"	3000#	NPT
E	DRAIN	2"	600#	RF
D	WATER OUTLET	2"	600#	RF
C	OIL OUTLET	2"	600#	RF
B	GAS OUTLET	4"	600#	RF
A	INLET	8"	600#	RF

CUSTOMER CONNECTION SCHEDULE

REV	DATE	ISSUED FOR PRODUCTION	DESCRIPTION	DESIGNER	CHECKED BY	DRAWN	DATE	REV
0	4/23/2020	ISSUED FOR PRODUCTION		D. FOWLE	D. HUGGINS			

TITLE
OVINTIV
HORIZONTAL CODE SEPARATOR P&ID

PART NO
FSKIDA-SEP48X15H1440#3PHC-001

PART NO	DATE	REV
PDS093	2/13/2020	0

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F-8934



1. Manufactured and certified by **Permian Tank & Mfg., Inc., 2701 West Interstate 20, Odessa, Texas, 79766**
(Name and address of Manufacturer)

2. Manufactured for **OVINTIV, 370 17th Street Suite 1700, DENVER, Colorado, 80202**
(Name and address of Purchaser)

3. Location of Installation **UNKNOWN**
(Name and address)

4. Type **Horizontal** **F-8934** **N/A** **D-5078R0** **1835** **2020**
(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-516-70** **2"** **.125 in** **4' (OD)** **SEE REMARKS**
(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: **WELDED** **FULL** **100%** **1100 °F** **2** **WELDED** **FULL** **100%** **2**
[Long. (welded, dbl., sngl., lap, butt)] [R.T. (spot or full)] [Eff. (%) (H.T. temp)] (Time, hr) [Girth. (welded, dbl., sngl., lap, butt)] [R.T. (spot or full)] [Eff. (%) (No. of courses)]

8. Heads: (a) Material **SA-516-70** (b) Material **SA-516-70**
(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)	ENDS	1.875	.125	N/A	N/A	2:1	N/A	N/A	N/A	CONCAVE
(b)	ENDS	1.875	.125	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 **1100 psi** **N/A** at max. temp. **130 °F** **N/A**
(Internal) (External) (Internal) (External)

Min. design metal temp. **-20 °F** at **1440 psi** Hydro, pneu., or comb. test pressure **HYDRO at 1872 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	
OIL LEVEL/WATER LEVEL/DRAIN	5	2"	RFLWN	SA-105N	N/A	.655"	.125	SA-516-70	WELDED	N/A	SHELL/HEAD
RELIEF/OIL OUT/WATER OUT	3	3"	RFLWN	SA-105N	N/A	.810	.125	SA-516-70	WELDED	N/A	SHELL
INLET/GAS OUTLET	2	8"	RFLWN	SA-105N	N/A	1.375"	.125	SA-516-70	WELDED	N/A	SHELL/HEAD
OIL LLC/WATER LLC	2	4"	RFLWN	SA-105N	N/A	1"	.125	INHERENT	WELDED	N/A	SHELL
GAUGE GLASS/TEMPERATURE	5	3/4"	O-LET	SA-105N	N/A	6000#	.125	INHERENT	WELDED	N/A	SHELL
MANWAY	1	18"	RFHB	SA-105N	N/A	2.10"	.125	INHERENT	WELDED	N/A	SHELL

Additional Nozzles - See Attached U-4...

11. Supports: Skirt **NO** Lugs **2** Legs **2** Other **N/A** Attached **BOTTOM/WELDED**
(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:

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

15' SEAM TO SEAM
NO RELIEF PROTECTION PROVIDED
MATERIAL IMPACT EXEMPT PER UCS-66
TEXAS STEEL PROCESSING, INC.
SN#86180-03
HEADS/SHELL IMPACT TESTED TO -20DEG MDWT

Manufactured by **Permian Tank & Mfg., Inc., 2701 West Interstate 20, Odessa, Texas, 79766**

Manufacturer's Serial No. **F-8934** CRN **N/A** National Board No. **1835**

CERTIFICATE OF SHOP/FIELD COMPLIANCE

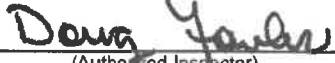
We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number **21502** expires **September 22, 2022**.

Date **08/13/2020** Co. name **Permian Tank & Mfg., Inc.** Signed  (Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by **Permian Tank & Mfg., Inc.** at **2701 West Interstate 20, Odessa, Texas, 79766**
 I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and employed by **TUV Rheinland AIA Services, LLC, of Houston, TX**

have inspected the component described in this Manufacturer's Data Report on **June 9, 2020**, 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 **08/13/2020** Signed  Commissions **13286, TX1815**
 (Authorized Inspector) (National Board Authorized Inspector Commission number)

F-8934
Serial #

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 Permian Tank & Mfg., Inc., 2701 West Interstate 20, Odessa, Texas, 79766
(Name and address of Manufacturer)

2. Manufactured for OVINTIV, 370 17th Street Suite 1700, DENVER, Colorado, 80202
(Name and address of Purchaser)

3. Location of installation UNKNOWN
(Name and address)

4. Type Horizontal N/A F-8934
(Horizontal, vertical, or sphere) (Tank, separator, heat exch., etc.) (Manufacturer's serial number)

N/A D-5078R0 1835 2020
(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	
PI	1	1/2"	O-LET	SA-105N	N/A	6000#	.125	INHERENT	WELDED	N/A	SHELL
TOP WLB/BOTTOM WLB	2	2"	RFLWN	SA-105N	N/A	1"	.125	INHERENT	WELDED	N/A	SHELL

Certificate of Authorization: Type "U" No. 21502 Expires September 22, 2022

Date 08/13/2020 Name Permian Tank & Mfg., Inc. Signed [Signature]
(Manufacturer) (Representative)

Date 08/13/2020 Signed Doug Fowler Commissions 13286, TX1815
(Authorized Inspector) (National Board Authorized Inspector Commission number)



U
W
RT-1
HT

1835

CERTIFIED BY
PERMIAN TANK & MFG., INC.
ODESSA, TX

1440 PSI AT 130 °F
MAXIMUM ALLOWABLE WORKING PRESSURE

-20 °F AT 1440 PSI
MIN. DESIGN METAL TEMPERATURE

MFG. SER. NO.	F-8934	YR. BUILT	2020
NOM. DIA.	48"	NOM. LENGTH	15'
TEST PRESSURE	1872 PSI	EMPTY WEIGHT	23600 LBS

NB 1835

MT064566

426-00

Permian Tank & Manufacturing
Paint MT064562

CODE

Vessel Shop Traveler



Serial #: F8934	DWG#: D-5078 RD	Order Sec:
Description: 48" x 15' H3A Sep 1440#	Customer: Ovirtiv	
Weld Procedure:	Heat Treatment:	X-Ray:

Hold Point	A.I. JOB REVIEW	Qust.	WFG.	QD	A.I.	Parts Material Grade/Heat#
	Check Drawings 4-30-20		JD	JSV	R 8/13/20	Head Heat: S450 Material: 516-70 Chk By: JSV 5-29-20
	Check MTR's					Head/WL Heat: S450 Material: 516-70 Chk By: JSV 5-29-20
	Check Material 5-29-20					Shell Heat: 812A35980 Material: 516-70 Chk By: JSV 5-29-20
	Shell Forming 4-30-20			JSV		Shell Heat: 813H62880 Material: 516-70 Chk By: JSV 5-29-20
	Weld Groove Prep 4-30-20			JSV		Shell Heat: S450 Material: S450 Chk By: JSV
	2 Pass Weld From (Blank Beams or Grinding) 5-29-20			JSV		Shell Heat: S450 Material: S450 Chk By: JSV
	Shell Fitting					Shell Heat: S450 Material: S450 Chk By: JSV
	Nozzle-Island 5-29-20		JD	JSV		Shell Heat: S450 Material: S450 Chk By: JSV
	Shell Layout 4-30-20			JSV		Repad Heat: W0R678 Material: 516-70 Chk By: JSV 5-29-20
	Head Layout 5-10-20			JSV		Repad Heat: S450 Material: S450 Chk By: JSV
	Head Fit up 4-30-20		JD	JSV		Repad Heat: S450 Material: S450 Chk By: JSV
	Final head fit 5-12-20		JD	JSV		Repad Heat: S450 Material: S450 Chk By: JSV
	Internal Check 5-28-20		JD	JSV	R 8/13/20	Repad Heat: S450 Material: S450 Chk By: JSV
	Nozzle Weld Appearance 5-29-20		JD	JSV	R 8/13/20	Repad Heat: S450 Material: S450 Chk By: JSV
	Final Head Fit Up 5-14-20		JD	JSV		Repad Heat: S450 Material: S450 Chk By: JSV
	Long Seam Check 5-29-20		JD	JSV		Repad Heat: S450 Material: S450 Chk By: JSV
	Weld Appearance Comp 5-29-20		JD	JSV	R 8/13/20	Repad Heat: S450 Material: S450 Chk By: JSV
	Final Dimensions Check 5-29-20		JD	JSV		Repad Heat: S450 Material: S450 Chk By: JSV
	Final Inspection - Post Hydro					Repad Heat: S450 Material: S450 Chk By: JSV
	RT1	RT2	RT3	NONE		Repad Heat: S450 Material: S450 Chk By: JSV
	Hydro-Test Complete: Pressure					Repad Heat: S450 Material: S450 Chk By: JSV
	Name Plate:					Repad Heat: S450 Material: S450 Chk By: JSV
	Manufacture Data Report: U1A					SN 86180-03

Welder:	Juan Medrano	Stamp:	M	WPS#	MRFL-001
Welder:	Ruben Arreola	Stamp:	B	WPS#	MRFL 001.
Welder:	Efrain Jurabo	Stamp:	B	WPS#	P2, MRFL-001
Welder:	Hector Fabela	Stamp:	MS	WPS#	MRFL-001
	Ismael Flores	Stamp:	I		SAW-012

6975 East Commerce St
Odessa, TX 79768
432-362-2247

DATE 2020-05-28
AFE/PROJECT Na
PO/RC# Na
APPROVER Davil Lovell

CUSTOMER: Permian Tank LOCATION: Odessa Texas REPORT No: RT2304598

No.	X-RAY No.	MATL SIZE	ACPT	REJT	DISC TYPE	REMARKS	PROCEDURE No. PRO-NDT-RT 1.0 Rev 24
1	R-2	48"					WORK ORDER No. MTO-64539 S/N F-8934
2	0-1	-	X		NI		<input checked="" type="checkbox"/> 100% <input type="checkbox"/> SPOT <input type="checkbox"/> RANDOM
3	1-2	-	X		NI		CODE: ASME SEC VIII, DIV 1
4	2-3	-	X		NI		SOURCE TYPE: IR-192
5	3-4	-	X		NI		FOCAL SPOT SIZE: .1x.1
6	4-5	-	X		NI		ISOTOPE SIZE: 1/8"
7	5-6	-	X		NI		FILM SIZE: 4 1/2" X 17"
8	6-7	-	X		SL		FILM TYPE: AGFA CLASS I D5
9	7-8	-	X		SL		FILM PER CASSETTE: 1
10	8-9	-	X		NI		MATERIAL TYPE: CARBON STEEL
11	9-10	-	X		NI		DIAMETER: 48"
12	10-11	-	X		NI		THICKNESS: 2"
13	11-12	-	X		NI		WELD THICKNESS: 2.5"
14	12-0	-	X		NI		REINFORCEMENT THICKNESS: .500'
15							IQI: Wire C
16							SHIM: Na
17							EXPOSURE TIME: 1 hr
18							MIN. SOURCE TO OBJECT DIST. 24"
19							MAX. SOURCE SIDE OBJECT TO FILM DIST. 24"
20							<input type="checkbox"/> SINGLE WALL EXPOSURE
21							<input checked="" type="checkbox"/> DOUBLE WALL EXPOSURE
22							<input checked="" type="checkbox"/> SINGLE WALL VIEW
23							<input type="checkbox"/> DOUBLE WALL VIEW
24							
25							TOTAL WELDS 1
26							HOURLY CHARGE Asbid 1 hr standby
27							MILES 40
28							PER DIEM <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
29							UNIT No. 19
30							OFFICE ODESSA
31							DISCONTINUITY TERMS AND CODES
32							IP INCOMPLETE PENETRATION CR CRACK
33							IF INCOMPLETE FUSION IU INTERNAL UNDERCUT
34							BT BURN THROUGH EU EXTERNAL UNDERCUT
35							SI SLAG INCLUSION LC LOW CROWN
36							SL SLAG LINE WT WAGON TRACKS
37							P POROSITY NI NO INDICATION
38							SB SUCK BACK (CONCAVE ROOT)
39							NOTES
40							
41							
42							
43							
44							
45							

PRINT NAME

PRO INSPECTOR / LEVEL Luis Munoz II
PRO ASSISTANT(S) Ashton Bowen
CUSTOMER REP. David Lovell

SIGNATURE

PRO INSPECTOR
PRO ASSISTANTS
CUSTOMER REP.





6975 East Commerce St
Odessa, TX 79768
432-362-2247

DATE 2020-05-21
AFE/PROJECT MTO64539
PO/RC# NA
APPROVER _____

CUSTOMER: Permian Tank LOCATION: Odessa Tx REPORT No: RT2304533

No.	X-RAY No.	MATL SIZE	ACPT	REJT	DISC TYPE	REMARKS	PROCEDURE No. PRO-NDT-RT 1.0 Rev 24
1	RS1	48"				F-8934	WORK ORDER No. MTO64539
2	0-1		X		NI		<input checked="" type="checkbox"/> 100% <input type="checkbox"/> SPOT <input type="checkbox"/> RANDOM
3	1-2		X		NI		CODE: ASME SEC VIII, DIV 1
4	2-3		X		NI		SOURCE TYPE: IR-192
5	3-4		X		NI		FOCAL SPOT SIZE: .1x.1
6	4-5		X		NI		ISOTOPE SIZE: .125
7	5-6		X		NI		FILM SIZE: 4 1/2" X 17"
8	6-7		X		NI		FILM TYPE: AGFA CLASS I D5
9	7-8		X		NI		FILM PER CASSETTE: 1
10	8-9		X		NI		MATERIAL TYPE: CARBON STEEL
11	9-10		X		NI		DIAMETER: 48"
12	10-11		X		NI		THICKNESS: 2"
13	11-12		X		NI		WELD THICKNESS: 2.5"
14	12-0		X		NI		REINFORCEMENT THICKNESS: .500
15							IQ: B-Pack
16							SHIM: NA
17							EXPOSURE TIME: 30min
18							MIN. SOURCE TO OBJECT DIST. 24"
19							MAX. SOURCE SIDE OBJECT TO FILM DIST. 24"
20							<input checked="" type="checkbox"/> SINGLE WALL EXPOSURE
21							<input type="checkbox"/> DOUBLE WALL EXPOSURE
22							<input checked="" type="checkbox"/> SINGLE WALL VIEW
23							<input type="checkbox"/> DOUBLE WALL VIEW
24							
25							TOTAL WELDS 1
26							HOURLY CHARGE As Bid
27							MILES -
28							PER DIEM <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
29							UNIT No. 9
30							OFFICE ODESSA
31							DISCONTINUITY TERMS AND CODES
32							IP INCOMPLETE PENETRATION CR CRACK
33							IF INCOMPLETE FUSION IU INTERNAL UNDERCUT
34							BT BURN THROUGH EU EXTERNAL UNDERCUT
35							SI SLAG INCLUSION LC LOW CROWN
36							SL SLAG LINE WT WAGON TRACKS
37							P POROSITY NI NO INDICATION
38							SB SUCK BACK (CONCAVE ROOT)
39							NOTES
40							
41							
42							
43							
44							
45							

PRINT NAME

SIGNATURE

PRO INSPECTOR / LEVEL H. Otwell Lvl2
PRO ASSISTANT(S) I. Steen Lvl1, B. Fisher Lvl2
CUSTOMER REP.

PRO INSPECTOR
PRO ASSISTANTS
CUSTOMER REP.

Beco Stress Relieving

P.O. Box 11335
Odessa, Tx 79760

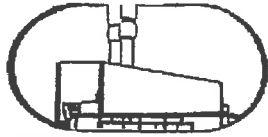
Invoice

DATE	INVOICE #
6/4/2020	17677

BILL TO
PERMIAN TANK P.O. BOX 4456 ODESSA, TX 79760

P.O. NO.	TERMS
	Net 30

DESCRIPTION	QUANTITY	RATE	AMOUNT
STRESS RELIEVE (1) VESSEL 48" ID X 15' S/S X 2" THICK SERIAL NO: F8934 TOTAL WEIGHT: 23,593 LBS.	23,593	0.08998	2,123.00
THANK YOU FOR YOUR BUSINESS			Total \$2,123.00



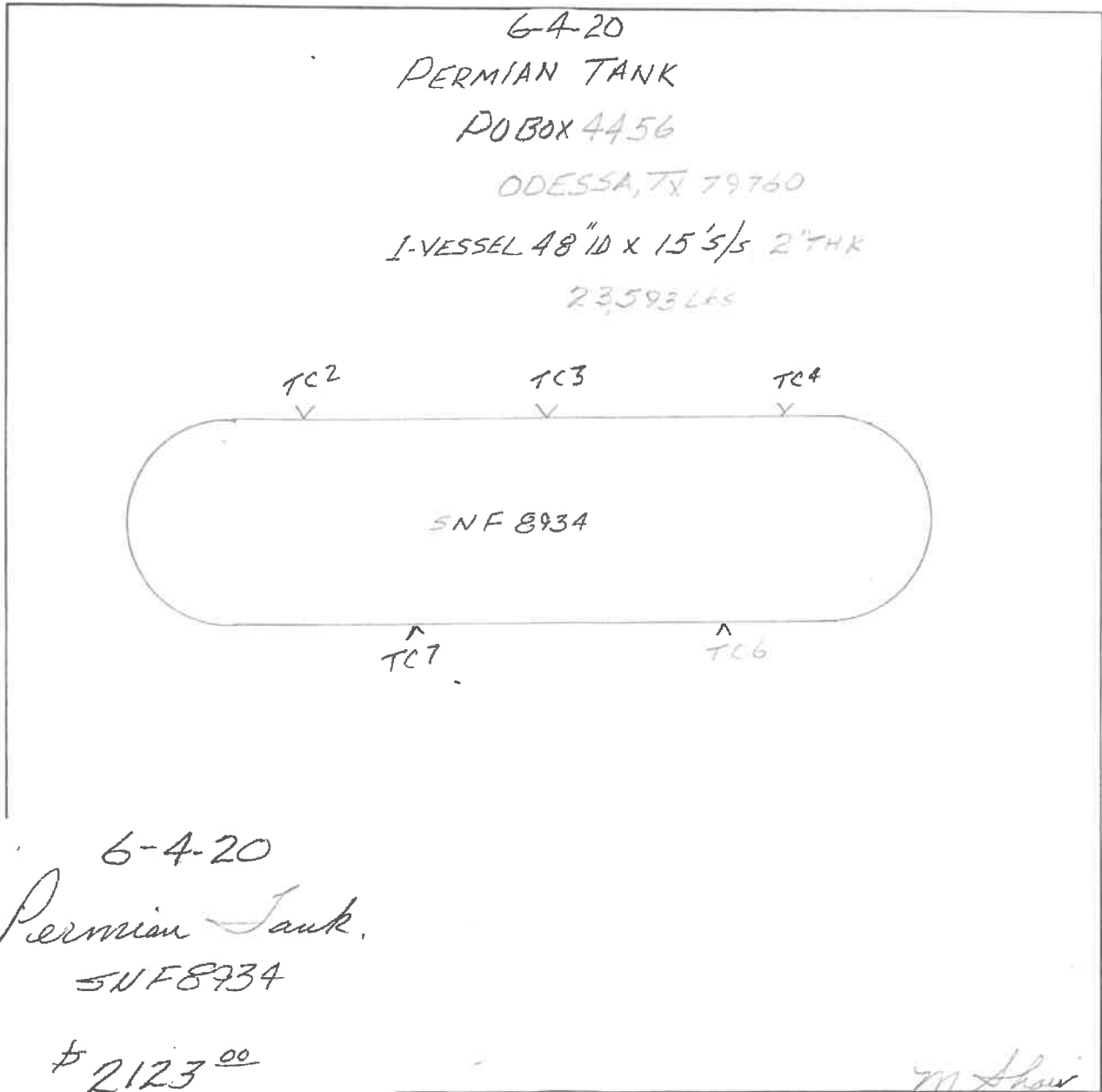
BECO STRESS RELIEVING

(432)337-8241 Office (432)333-3042 Fax

Scheduling Call (432)664-3841

2002 Maurice Rd, Odessa Texas 79760

cbriley@bridgesequipment.com



Thermocouple Location

BECO

GAFFNEY CONTROLS & CORPORATION BUFFALO, NEW YORK

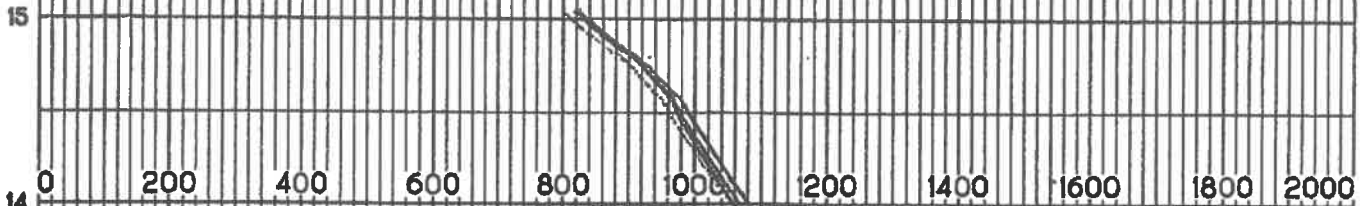
1680cm

Jun. 04. 2020 04:09

02 795°F
06 817°F

03 819°F
07 813°F

04 819°F



Jun. 04. 2020 02:31

02 1161°F
06 1183°F

03 1164°F
07 1177°F

04 1181°F



PERMIAN TANK
PO BOX 4456
ODESSA, TX 79760

1 - VESSEL 48" ID X 15' H, 2" THK

SN - F 8934

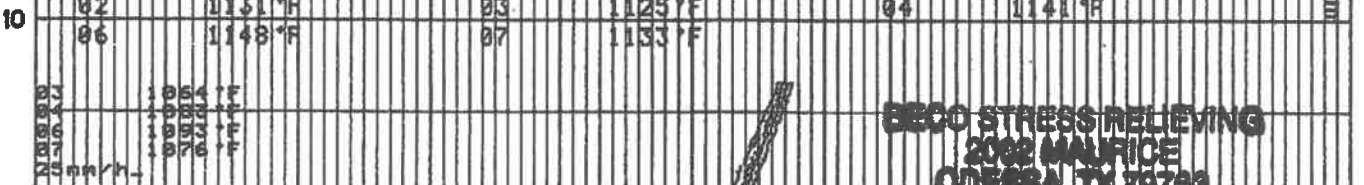
23,593 lbs.

Jun. 04. 2020 00:38

02 1131°F
06 1148°F

03 1125°F
07 1133°F

04 1141°F



1054°F
1084°F
1079°F
1079°F

BECO STRESS RELIEVING
2002 MAURICE
ODESSA, TX 79703

M. Shaw, J. Carroll
6-08-2020



6/4/2020

Shipping Documents



PERMIANLIDE - Odessa Steel
2701 West Interstate 20
Odessa, TX 79766
Tel 432-333-4591

General Shipper

<p>Supplier Ship To: Beco Stress Relieving Corp 2002 Maurice Road Odessa, TX 79760 USA ATTN: Receiving</p>	<p>Shipper No : 370</p> <p>Ship Date : 6/4/20</p> <p>Carrier: JB Hunt Transportation, Inc.</p> <p>Description: 1 - USEP48X15H1440#3PHC-D5078</p>
--	---

Item No	Item Description	Quantity	Unit Price
1	USEP48X15H1440#3PHC-D5078 (F8934)	1	\$0.00

1-VESSEL 48"ID X 15'5/8", 2" THK 2,3593 Lbs SNF 8934

Signature _____

Customer Copy

Plex 6/4/20 7:19 AM pl.jhogga



5480 WINDFERN ROAD ■ HOUSTON, TX 77041

TEL 281-822-3200 ■ FAX 281-822-3201

INFO@TXSTL.COM ■ TXSTL.COM

SHIPPER	NUMBER	PAGE	DATE
SALES REP COURTNEY LIGGETT	86180	1 of 2	03/04/2020
SHIP VIA O/T	TERRITORY		CUST ID PERL ID
YOUR P.O.# 05009691	ROUTE ID		ORDERED 01/28/2020

SOLD TO
PERMIANLIDE - TANK & MFG INC
PO BOX 4456
Odessa, TX 79760

SHIP TO
PERMIANLIDE - TANK & MFG INC
2701 W INTERSTATE 20
ODESSA, TX 79766

Phone: (432) 333-4591

LTN	QUANTITY TO SHIP	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	WEIGHT
-----	------------------	-----------------	-------------------	------------------	---------	-------	--------	--------

1	3 PCS	0	3	0	MTRs required with shipment PLABOR ConjoinCyl. SA516-70N 2" x 48"OD x 15' Sho Date: 03/26/2020 R&W. ASME Section VIII Div 1, XRAY:RT-1, PDR:Yes, *Seam Location (PER DRAWING): LG Seam# 1 @ 45° (60" Long) LG Seam# 2 @ 315° (120" Long) End Bevel: 30° outside bevel with 1/16" Land			
2	3 PCS	0	3	0	D516N2000 CYL SA516-70N 2" x 48"OD x 120"LONG Sho Date: 03/26/2020 R&W. ASME Section VIII Div 1, AW, PDR:Yes, Xray:RT-1 I.S. Offset Double Bevel 70&IS at 25°/ 30& OS at 30°-No Land- 1/8" Gap End Bevel 1: 30° outside with 1/16" Land End Bevel 2: Offset Double Bevel 70&IS at 25°/ 30& OS at 30°- No Land-1/8" Gap - HT# 812435980 2pcs SL# L931601, 1pc SL# L931	156.25300"	120.00000"	31.905613

① 812435980 L931600
② 813H62880 L931602
③ 812435980 L931600

RECEIVED
TRH
2-24-2020
SCANNED

3 VESSELS ONLY

TOTAL WT

44263 LB

TERMS: NET 30

RECEIVED

DATE:

Joe Haggard
Graph Haggard

DRIVER TEL #:

DRIVER SIG:

TRUCK LINE:

832 388 1999

03



Member of Steel
Service Center Institute

SHIPPING COPY

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLERS PUBLISHED TERMS AND CONDITIONS PRINTED ON THE FRONT AND REVERSE SIDE OF THE ORIGINAL OF THIS INVOICE AND THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO THESE TERMS AND CONDITIONS, UNLESS OTHERWISE SPECIFIED, ALL INVOICES ARE DUE AND PAYABLE ON A NET BASIS 30 DAYS FROM DELIVERY DATE, INTEREST IS CHARGED ON ALL PAST-DUE AMOUNTS.



5480 WINDFERN ROAD ■ HOUSTON, TX 77041

TEL 281-822-3200 ■ FAX 281-822-3201

INFO@TXSTL.COM ■ TXSTL.COM

SHIPPER	NUMBER	PAGE	DATE
SALES REP COURTNEY LIGGETT	86180	2 of 2	03/04/2020
SHIP VIA Q/T	TERRITORY		
YOUR P.O.# 05009691	ROUTE ID		CUST ID PERL ID ORDERED 01/28/2020

SOLD TO
PERMIANLIDE - TANK & MFG INC
PO BOX 4456
Odessa, TX 79760

SHIP TO
PERMIANLIDE - TANK & MFG INC
2701 W INTERSTATE 20
ODESSA, TX 79766

Phone: (432) 333-4591

LINE	QUANTITY TO SHIP	SHIPPED TO DATE	QTY THIS SHIPMENT	QTY ON BACKORDER	ITEM ID	WIDTH	LENGTH	WEIGHT
3	3 PCS	0	3	0	D516N2000 Cyl SAS16-70W 2" 48"OD , 60" Long Ship Date: 03/26/2020 RAW, ASME Section VIII Div 1, AW, PDR:Yes, Xray:RT-1 LS: Offset Double Bevel 70&IS at 25°/ 30% OS at 30°-No Land- 1/8" Gap - End Bevel 1:Offset Double Bevel 70&IS @25°/ 30% OS @ -No Land- 1/8" Gap End Bevel 2: 30° outside with 1/16" Land HT# 812H35980 SL# L931600 1pc; HT# 813H62880 SL# L931602 2pcs	156.25300"	60.00000"	15,952.806
4	1 PC	0	1	0	TEST Charpy Coupon 2" 6"x6": -20°F Required Ship Date: 03/26/2020			
5	2 PCS	0	2	0	TEST Production Impacts -20°F per UG-84 Ship Date: 03/26/2020 (2) 6" x 12" PCS			

SENT TO LAB

TOTAL WT

TERMS: NET 30

RECEIVED

DATE

DRIVER TEL #:

DRIVER SIG:

TRUCK LINE:



Member of Steel
Service Center Institute

SHIPPING COPY

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLERS PUBLISHED TERMS AND CONDITIONS PRINTED ON THE FRONT AND REVERSE SIDE OF THE ORIGINAL OF THIS INVOICE AND THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO THESE TERMS AND CONDITIONS, UNLESS OTHERWISE SPECIFIED, ALL INVOICES ARE DUE AND PAYABLE ON A NET BASIS 30 DAYS FROM DELIVERY DATE. INTEREST IS CHARGED ON ALL PAST-DUE AMOUNTS.

FORM U-2A

Manufactured by TEXAS STEEL PROCESSING, INC
Manufacturer's Serial No. 86180-01 thru 86180-03 CRN _____ National Board No. _____

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 or PRT Certificate of Authorization no. 58344 Expires 12/3/2022

Date 2-21-20 Name TEXAS STEEL PROCESSING, INC Signed JMF
(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 AUTHORIZED INSPECTION ASSOCIATES, LLC of HOUSTON, TEXAS

have inspected the pressure vessel part described in this Manufacturer's Data Report on 02-21-2020 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 02-21-2020 Signed Clud Hamie Commissions NB16696R
(Authorized Inspector) (National Board Authorized Inspector Commission number)

ArcelorMittal Burns Harbor Plate

US HWY 12 Burns Harbor, Indiana

SHIPMENT NO. 802-34066	DATE SHIPPED 07-08-19	CAR OR VEHICLE NO. CN-CHGO-BNSF CN 622317	PAGE 4
----------------------------------	---------------------------------	---	------------------

S O L D T O TEXAS STEEL PROCESSING INC 5480 WINDFERN RD HOUSTON TX 77041-7512	S H I P T O TEXAS STEEL PROCESSING INC C/O FML WAREHOUSING & LOGISTICS THEIR SIDING 404 N WITTER PASADENA TX 77506
---	--

S E R I A L N O.	P A T N O.	H E A T N O.	N O. P C S.	S I Z E A N D Q U A N T I T Y				Y I E L D P O I N T	T E N S I L E S T R E N G T H	A F F R A C. E L O N G.	R E D.
				T H I C K N E S S	W I D T H O R D I A.	L E N G T H	W E I G H T				

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.
 PLATES - ASTM A516-10 GR 70 PVQ KLD FINE
 GRAIN PRAC, ASME SA516 GR 70 PVQ
 2017 EDITION --- GAS CUT 4 SIDES
 PLT NORMALIZED & COOLED IN STILL
 AIR --- TEST CERTS ARE PREPARED IN
 ACCORD WITH PROCEDURES OUTLINED IN
 EN 10204:2004 TYPE 3.1
 NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)
 MFST - MFST MILL SERIAL# MFST PPI 0081145- 0001 MFST
 TEST CERTS ARE PREPARED IN ACCORD WITH
 PROCEDURES OUTLINED IN EN MFST 10204:2004 TYPE
 3.1
 - LIFT MAX WT IMM FOR ULTIMATE DELV TO:
 TEXAS STEEL PROCESSING INC 5480 WINDFERN RD
 HOUSTON TX 77041
 CO# 30440 GH 408-1632A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL
 L931601 812H35980 1 2 121 340 23335 47400 72500 2 36
 N 1650 DEG F - 96 MIN
 (M55)MFST REF#:D516N2000

Q-QUENCH TEMPERATURE	T-TEMPERATURE	N-NORMALIZE TEMPERATURE
----------------------	---------------	-------------------------



S E R I A L N O.	P A T N O.	H E A T N O.	H A R D B H N	B E N D	T H I C K N E S S I N C H E S	T Y P E	S I Z E	D I R	T E M P E R A T U R E F	C H A R P Y I M P A C T								
										E N E R G Y F T L B S			S H E A R (%)			L A T. E X P		
										1	2	3	1	2	3	1	2	3



MATERIAL WAS FORMED IN ACCORDANCE
 TO ASME CODE SECTION VIII DIV.1, UG79
 NO HEAT TREATMENT PERFORMED

H E A T N O.	C H E M I C A L A N A L Y S I S															M Q U A D G R A I N S I Z E
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	

812H35980 .17 1.07 .008 .003 .324.017 .01 .11.072.001.002.031.0002 .002.006.003

DATE: 7-29-19
 THICKNESS: 1.039
 VERIFIED BY: *[Signature]*

ArcelorMittal Burns Harbor Plate

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

US HWY 12 Burns Harbor, Indiana

SHIPMENT NO. 802-34066		DATE SHIPPED 07-08-19	CAR OR VEHICLE NO. CN-CHGO-BNSF		CN 622317	PAGE 3
S O L D I D O	TEXAS STEEL PROCESSING INC 5480 WINDFERN RD HOUSTON TX 77041-7512			S H I P T O	TEXAS STEEL PROCESSING INC C/O FML WAREHOUSING & LOGISTICS THEIR SIDING 404 N WITTER PASADENA TX 77506	

N O T E	SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PGS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	AF FRAC. ELONG.	RED.
					THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				
					INCHES	INCHES	INCHES	POUNDS	PSI	PSI	IN	%

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.

PLATES - ASTM A516-10 GR 70 PVQ KLD FINE GRAIN PRAC, ASME SA516 GR 70 PVQ 2017 EDITION --- GAS CUT 4 SIDES PLT NORMALIZED & COOLED IN STILL AIR --- TEST CERTS ARE PREPARED IN ACCORD WITH PROCEDURES OUTLINED IN EN 10204:2004 TYPE 3.1

NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)
MFST - MFST MILL SERIAL# MFST PPI 0081145- 0001 MFST TEST CERTS ARE PREPARED IN ACCORD WITH PROCEDURES OUTLINED IN EN MFST 10204:2004 TYPE 3.1

- LIFT MAX WT IMM FOR ULTIMATE DELV TO:
TEXAS STEEL PROCESSING INC 5480 WINDFERN RD
HOUSTON TX 77041

CO# 30440 GH 408-1632A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL

L931600 812H35980 1 2 121 340 23335 46700 72200 2 35
N 1650 DEG F - 96 MIN
(M55)MFST REF#:D516N2000

Q-QUENCH TEMPERATURE	T-TEMPERATURE	N-NORMALIZE TEMPERATURE
----------------------	---------------	-------------------------

SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT								
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS		
										1	2	3	1	2	3	1	2	3



MATERIAL WAS FORMED IN ACCORDANCE TO ASME CODE SECTION VIII DIV.1, UG79. NO HEAT TREATMENT PERFORMED

HEAT NUMBER	CHEMICAL ANALYSIS																MQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	Sn	
812H35980	.17	1.07	.008	.003	.324	.017	.01	.11	.072	.001	.002	.031	.0002	.002	.006	.003	

DATE: 7-29-19
THICKNESS: 2.032
VERIFIED BY: 123

I certify that the above results are a true and correct copy of actual results contained in records maintained by ArcelorMittal Burns Harbor and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

BHPLTRPT.TIF

SUPV. QUALITY ASSURANCE

ANDREW SMITH PER ELJ
TEXAS STEEL
PROCESSING

Certified a true copy of the original, retained in our file.
Texas Steel Processing



914614.00-RPT

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: 2/3/2020
Report No: 914614.00
Rev: A
Cust Acct: TEX041

To: Texas Steel Processing, Inc.
5480 Windfern Road
Houston, TX 77041

Ordered By: Mallory

PO: 30859

Material: SA516-70N 2"Thick x 6"Wide x 6"Long Test Piece
Heat/ID: 812H35980 PT:86180
Job Info: ASME Section VIII

Charpy Test Results

No.	Temp	Location	Foot Pounds	%Shear	Mils Lat Exp
1	-20°F	LCVN	94-84-99	55-50-55	82-74-86

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

Document
Reviewed By:

Yvonne Arredondo
Yvonne Arredondo
Documentation Specialist

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ArcelorMittal Burns Harbor Plate

QUALITY ASSURANCE
REPORT OF TEST AND ANALYSES

US HWY 12 Burns Harbor, Indiana

SHIPMENT NO. 802-34064	DATE SHIPPED 07-08-19	CAR OR VEHICLE NO. CN-CHGO-BNSF	BCOL 864061 PAGE 2
SOLID TO TEXAS STEEL PROCESSING INC 5480 WINDFERN RD HOUSTON TX 77041-7512	S H I P T O	TEXAS STEEL PROCESSING INC C/O FML WAREHOUSING & LOGISTICS THEIR SIDING 404 N WITTER PASADENA TX 77506	

SERIAL NUMBER	PAT NO.	HEAT NUMBER	NO. PCS.	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	AF FRAC. ELONG.	RED.
				THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				
				INCHES	INCHES	INCHES	POUNDS	PSI	PSI	IN %	%

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.
 PLATES - ASTM A516-10 GR 70 PVQ KLD FINE GRAIN PRAC, ASME SA516 GR 70 PVQ 2017 EDITION --- GAS CUT 4 SIDES PLT NORMALIZED & COOLED IN STILL AIR --- TEST CERTS ARE PREPARED IN ACCORD WITH PROCEDURES OUTLINED IN EN 10204:2004 TYPE 3.1
 NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)
 MFST - MFST MILL SERIAL# MFST PPI 0081145- 0001 MFST TEST CERTS ARE PREPARED IN ACCORD WITH PROCEDURES OUTLINED IN EN MFST 10204:2004 TYPE 3.1
 - LIFT MAX WT IMM FOR ULTIMATE DELV TO:
 TEXAS STEEL PROCESSING INC 5480 WINDFERN RD
 HOUSTON TX 77041
 CO# 30440 GH 408-1632A

PLATES HEAT TREATED - TEST SPECIMENS ATTACHED & YIELD STRENGTH @ .5% EUL
 L931602 813H62880 1 2 121 340 23335 47900 73000 2 33
 N 1650 DEG F - 96 MIN
 (M55)MFST REF#:D516N2000

Q-QUENCH TEMPERATURE	T-TEMPER TEMPERATURE	N-NORMALIZE TEMPERATURE
----------------------	----------------------	-------------------------

SERIAL NUMBER	PAT NO.	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP	CHARPY IMPACT								
										ENERGY FT LBS			SHEAR(%)			LAT. EXP MILS		
										1	2	3	1	2	3	1	2	3



MATERIAL WAS FORMED IN ACCORDANCE TO ASME CODE SECTION VIII DIV.1, UG79. NO HEAT TREATMENT PERFORMED

HEAT NUMBER	CHEMICAL ANALYSIS															MQUAD GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	
813H62880	.18	1.11	.011	.005	.341	.030	.01	.13	.084	.002	.002	.034	.0002	.002	.004	.005

DATE: 7-30-19
 THICKNESS: 2.030
 VERIFIED BY: IC





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

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

Report Date: 11/25/2019
Report No: 905938.00
Rev: A
Cust Acct: TEX041

To: Texas Steel Processing, Inc.
5480 Windfern Road
Houston, TX 77041

Ordered By: Mallory Gutierrez

PO: 30731

Material: SA516-70N 2"Thick X 6"Wide X 6"Long Test Piece

Heat/ID: 813H62880 SL:L931602

Job Info: ASME VIII

Charpy Test Results

No.	Temp	Location	Foot Pounds	%Shear	Mils Lat Exp
1	-20°F	LCVN	86-79-73	65-60-60	77-69-63

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

Document
Reviewed By:

Yvonne Arredondo
Yvonne Arredondo
Documentation Specialist

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916513.00-RPT

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

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

Report Date: 2/17/2020
Report No: 916513.00
Rev: A
Cust Acct: TEX041

To: Texas Steel Processing, Inc.
5480 Windfern Road
Houston, TX 77041

Ordered By: Joe Fraga

PO: 30887

Material: SA516-70N 2"Thick x 12"Wide x 12"Long Double Bevel Weld Coupon
Heat/ID: 812H62880 Slab:L931602 Procedure:GFS-P1-G1/2N-PW-1-20 Welder ID:P,R
Job Info: ASME Sec VII, Div.1, UG-84 & Table 84.6

Charpy Test Results					
No.	Temp	Location	Foot Pounds	%Shear	Mils Lat Exp
1	-20°F	Weld Metal	17-22-24	30-40-40	21-25-26
2	-20°F	Weld Metal	41-70-60	45-60-55	43-65-57
3	-20°F	HAZ	98-73-116	60-55-70	88-64-94
4	-20°F	HAZ	67-99-86	50-60-55	63-88-76
5	-20°F	Base LCVN	95-87-91	55-50-55	87-78-83

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

Charpy Notes:

- #1: 1/16" below side 1
- #2: 1/4T from side 2
- #3: 3/8T below side 1
- #4: 3/8T from side 2

Heat Treatment

PWHT at 1,100°F for 2 hours and 15 minutes.
Heating and cooling rates as required by ASME Section VIII, Div.1.

Document
Reviewed By:

Yvonne Arredondo
Yvonne Arredondo
Documentation Specialist

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RADIOGRAPHIC INSPECTION REPORT

US3303-RT-1908
Page 1 of 1

Procedure: NDE 3.0	Rev: 5	Client: Texas Steel Processing, Inc.	Date: 2020-Feb-12
Gamma Type: IR 192	Film Brand: AGFA	IRISNDT #: DEP2000318	Job #: S/N 86108-01 <i>J.W.</i>
Curies: 76	Film Type: D7	Location: HOUSTON, TX	Other: 86108-01 <i>86108-01</i>
EFSS: .140	#Film/Cassette: 1	Item Inspected: Long Seam	<i>SC180-01</i>
Code: ASME Sect VIII Div. 1 UW-51		Line #:	Plant Unit #: <i>J.W.</i>
Material/Material Group: C/S			

Film ID	Interval	Welder ID	Size, Thickness	M.W.R.	IQI	S.O.D. Inches	O.F.D. Inches	Density	Technique	Type & Location of Discontinuities Rejectable discontinuities in square brackets []	(A)cept (R)ject
C-2-1	1-2	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	2-3	F/K	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	3-4	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	4-5	F/K	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	5-6	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	6-7	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	7-8	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	8-9	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	9-10	F/K	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	10-11	F/K	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	C-3-1	1-2	D/Q	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2	
2-3		D/Q	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
3-4		D/Q	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
4-5		D/Q	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
5-6		D/Q	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A

RT Techniques: Exposure Viewing Technique S.W.E. S.W.V. 1, 2, 2A, 6, 6A, 7 D.W.E. S.W.V. 3, 3A D.W.E. D.W.V. 4, 5, 8	S.O.D. = Source-to-Object Distance M.W.R. = Maximum Weld Reinforcement O.F.D. = Distance from source side of Object-to-Film	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity EI - Elongated Indication	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 TI - Tungsten Inclusion
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Unit# 1187 In. _____ Out. _____ Hrs. _____ Personnel: JWICD	Film Quantity: 15 4 1/2 x 17 D7	Interpretation By: Jamel Williams <i>J. Williams</i> (Print) (Sign) Interpreted By: _____ (Print) (Sign) Client Representative: <i>Joe R. Fry</i> (Print) (Sign)	SNT-TC-1A II CERT # 835 CERT # _____ I am in full agreement with report contents
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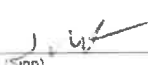
RADIOGRAPHIC INSPECTION REPORT

US3303-RT-1918
Page 1 of 1

Procedure: NDE 3.0 Gamma Type: IR 192 Curies: 76 EFSS: .140 Code: ASME Sect VIII Div. 1 UW-51 Material/Material Group: C/S	Rev: 5 Film Brand: AGFA Film Type: D7 #Film/Cassette: 1	Client: Texas Steel Processing, Inc. IRISNDT #: DEP2000351 Location: HOUSTON, TX Item Inspected: Circ Seam Line #:	Date: 2020-Feb-14 Job #: S/N 86180-01 Other: 86180-01 Plant Unit #:
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Film ID	Interval	Welder ID	Size, Thickness	M.W.R.	IQI	S.O.D. Inches	O.F.D. Inches	Density	Technique	Type & Location of Discontinuities Rejectable discontinuities in square brackets []	(A)ccpt (R)ject
GS-1	1-2	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	2-3	C/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	3-4	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	4-5	C/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	5-6	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	6-7	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	7-8	C/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	8-9	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	9-10	C/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	10-11	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	11-12	C/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	12-1	C/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A

RT Techniques: Exposure Viewing Technique S.W.E S.W.V. 1,2,2A,6,6A,7 D.W.E. S.W.V. 3,3A D.W.E. D.W.V. 4,5,8	S.O.D. = Source-to-Object Distance M.W.R. = Maximum Weld Reinforcement O.F.D. = Distance from source side of Object-to-Film	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity EI - Elongated Indication	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 TI - Tungsten Inclusion
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Unit# <u>1187</u> Miles: _____ In _____ Out _____ Hrs: _____ In _____ Out _____ Hrs: _____ Personnel: JW/CD	Film Quantity: <table border="1"> <tr> <td>12</td> <td>4 1/2 x 17</td> <td>D7</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	12	4 1/2 x 17	D7																						Interpretation By: <u>Jamel Williams</u>  (Print) (Sign) Interpreted By: _____ (Print) (Sign) Client Representative: <u>Joe Fry</u>  (Print) (Sign)	SNT-TC-1A II CERT # <u>835</u> _____ CERT # _____ I am in full agreement with report contents.
12	4 1/2 x 17	D7																									

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RADIOGRAPHIC INSPECTION REPORT

US3303-RT-1907
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Procedure: NDE 3.0 Gamma Type: IR 192 Curies: 76 EFSS: .140 Code: ASME Sect VIII Div. 1 UW-51 Material/Material Group: C/S	Rev: 5 Film Brand: AGFA Film Type: D7 #Film/Cassette: 1	Client: Texas Steel Processing, Inc. IRISNDT #: DEP2000318 Location: HOUSTON, TX Item Inspected: Long Seam Line #:	Date: 2020-Feb-12 Job #: S/N 86408-02 Other: 86408-02 Plant Unit #:
---	--	---	--

Film ID	Interval	Welder ID	Size, Thickness	M.W.R.	IQI	S.O.D. Inches	O.F.D. Inches	Density	Technique	Type & Location of Discontinuities Rejectable discontinuities in square brackets []	(A)cept (R)ject
C-2-2	1-2	R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	2-3	R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	3-4	R/P	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	4-5	R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	5-6	R/P	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	6-7	R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	7-8	R/P	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	8-9	R/P	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	9-10	R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	10-11	R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
	C-3-2	1-2	R/P	48" X 2"	.125"	1C	22"	2.125"	2.6	RT 2	
2-3		R/P	48" X 2"	.125"	1C	22"	2.125"	2.7	RT 2		A
3-4		R/P	48" X 2"	.125"	1C	22"	2.125"	2.6	RT 2		A
4-5		R/P	48" X 2"	.125"	1C	22"	2.125"	2.6	RT 2		A
5-6		R/P	48" X 2"	.125"	1C	22"	2.125"	2.6	RT 2		A

RT Techniques: Exposure Viewing Technique S.W.E S.W.V. 1,2,2A,6,6A,7 D.W.E S.W.V. 3,3A D.W.E D.W.V. 4,5,8	S.O.D. = Source-to-Object Distance M.W.R. = Maximum Weld Reinforcement O.F.D. = Distance from source side of Object-to-Film	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity EI - Elongated Indication	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 TI - Tungsten Inclusion
--	---	--	---	--

Unit#: 1187 Miles: _____ In: _____ Out: _____ Hrs: _____ Personnel: JW/CD	Film Quantity: <table border="1"> <tr> <td>15</td> <td>4 1/2 x 17</td> <td>D7</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	15	4 1/2 x 17	D7																						Interpretation By: (Print) <u>Jamel Williams</u> (Sign) CERT # <u>835</u> Interpreted By: (Print) _____ (Sign) _____ CERT # _____ Client Representative: (Print) <u>Joe R. King</u> (Sign) I am in full agreement with report contents
15	4 1/2 x 17	D7																								

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RADIOGRAPHIC INSPECTION REPORT

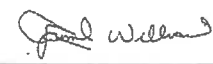
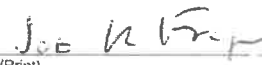
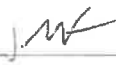
US3303-RT-1913

Page 1 of 1

Procedure: NDE 3.0	Rev: 5	Client: Texas Steel Processing, Inc.	Date: 2020-Feb-14
Gamma Type: IR 192	Film Brand: AGFA	IRISNDT #: DEP2000351	Job #: S/N 86180-02
Curies: 76	Film Type: D7	Location: HOUSTON, TX	Other: 86180-02
EFSS: .140	#Film/Cassette: 1	Item Inspected: Circ Seam	Plant Unit #:
Code: ASME Sect VIII Div. 1 UW-51		Line #:	
Material/Material Group: C/S			

Film ID	Interval	Welder ID	Size, Thickness	M.W.R.	IQI	S.O.D. Inches	O.F.D. Inches	Density	Technique	Type & Location of Discontinuities Rejectable discontinuities in square brackets []	(A)cccept (R)reject
GS-1	1-2	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	2-3	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	3-4	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	4-5	K/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	5-6	K/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	6-7	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	7-8	K/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	8-9	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	9-10	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	10-11	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	11-12	K/F	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	12-1	K/F	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A

RT Techniques: Exposure Viewing Technique S.W.E. S.W.V 1,2,2A,6,6A,7 D.W.E. S.W.V 3,3A D.W.E. D.W.V 4,5,6	S.O.D = Source-to-Object Distance M.W.R = Maximum Weld Reinforcement O.F.D = Distance from source side of Object-to-Film	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity EI - Elongated Indication	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 TI - Tungsten Inclusion
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Unit# <u>1187</u> Miles: _____ In. _____ Out: _____ Hrs: _____ In. _____ Out: _____ Hrs: _____ Personnel: JW/CD	Film Quantity: <table border="1"> <tr> <td>12</td> <td>4 1/2 x 17</td> <td>D7</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	12	4 1/2 x 17	D7																						Interpretation By: Jamel Williams  (Print) (Sign) Interpreted By: (Print) (Sign) Client Representative:   (Print) (Sign)	SNT-TC-1A _____ CERT # <u>835</u> CERT # _____ I am in full agreement with report contents
12	4 1/2 x 17	D7																									

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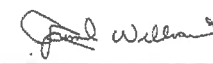

RADIOGRAPHIC INSPECTION REPORT

US3303-RT-1909
Page 1 of 1

Procedure: NDE 3.0	Rev: 5	Client: Texas Steel Processing, Inc.	Date: 2020-Feb-13
Gamma Type: IR 192	Film Brand: AGFA	IRISNDT #: DEP2000339	Job #: S/N 86108-03
Curies: 76	Film Type: D7	Location: HOUSTON, TX	Other: 86108-03 <i>86108-03</i>
EFSS: .140	#Film/Cassette: 1	Item Inspected: Long Seam	Plant Unit #:
Code: ASME Sect VIII Div. 1 UW-51		Line #:	
Material/Material Group: C/S			

Film ID	Interval	Welder ID	Size, Thickness	M.W.R.	IQI	S.O.D. Inches	O.F.D. Inches	Density	Technique	Type & Location of Discontinuities Rejectable discontinuities in square brackets []	(A)cept (R)ject
C-2-3	1-2	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	2-3	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A
	3-4	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	4-5	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A
	5-6	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	3.0	RT 2		A
	6-7	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A
	7-8	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A
	8-9	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	3.0	RT 2		A
	9-10	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A
	10-11	C/M/Q	48" X 2"	.125"	1C	22"	2.125"	2.8	RT 2		A
	C-3-3	1-2	C/M	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2	
2-3		C/M	48" X 2"	.125"	1C	22"	2.125"	3.8	RT 2		A
3-4		C/M	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A
4-5		C/M	48" X 2"	.125"	1C	22"	2.125"	3.0	RT 2		A
5-6		C/M	48" X 2"	.125"	1C	22"	2.125"	2.9	RT 2		A

RT Techniques: Exposure Viewing Technique S.W.E S.W.V. 1,2,2A,6,6A,7 D.W.E S.W.V. 3,3A D.W.E. D.W.V. 4,5,8	S.O.D. = Source-to-Object Distance M.W.R = Maximum Weld Reinforcement O.F.D. = Distance from source side of Object-to-Film.	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity EI - Elongated Indication	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 TI - Tungsten Inclusion
---	---	--	---	--

Unit#: <u>1187</u> Miles: _____	<table border="1"> <tr> <th colspan="3">Film Quantity</th> </tr> <tr> <td>15</td> <td>4 1/2 x 17</td> <td>D7</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	Film Quantity			15	4 1/2 x 17	D7																									Interpretation By: Jamel Williams (Print)  (Sign) SNT-TC-1A _____ CERT # <u>835</u>
Film Quantity																																
15	4 1/2 x 17	D7																														
In _____ Out _____ Hrs: _____ In _____ Out _____ Hrs: _____	Interpreted By: _____ (Print) _____ (Sign) CERT # _____																															
Personnel: JWICD	Client Representative:  (Print) _____ (Sign)	I am in full agreement with report contents																														

Our Core Values revolve around our Safety and Quality Practices. We will always take care of our employees and customers.

1-855-567-5511 www.irisndt.com usinfo@irisndt.com

IRIS NDT

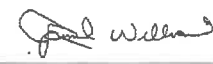
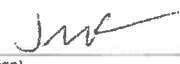
RADIOGRAPHIC INSPECTION REPORT

US3303-RT-1920
Page 1 of 1

Procedure: NDE 3.0 Gamma Type: IR 192 Curies: 74 EFSS: .140 Code: ASME Sect VIII Div. 1 UW-51 Material/Material Group: C/S	Rev: 5 Film Brand: AGFA Film Type: D7 #Film/Cassette: 1	Client: Texas Steel Processing, Inc. IRISNDT #: DEP2000376 Location: HOUSTON, TX Item Inspected: Circ Seam Line #:	Date: 2020-Feb-18 Job #: S/N 86180-03 Other: 86180-03 Plant Unit #:
---	--	---	--

Film ID	Interval	Welder ID	Size, Thickness	M.W.R.	IQI	S.O.D. Inches	O.F.D. Inches	Density	Technique	Type & Location of Discontinuities Rejectable discontinuities in square brackets []	(A)cept (R)ject
GS-1	1-2	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	2-3	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	3-4	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	4-5	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	5-6	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	6-7	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	7-8	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	8-9	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	9-10	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	10-11	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A
	11-12	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.8	RT 1		A
	12-1	C/R/P	48" X 2"	.125"	1C	24"	2.125"	2.7	RT 1		A

RT Techniques: Exposure Viewing Technique S.W.E. S.W.V. 1,2,2A,6,6A,7 D.W.E. S.W.V. 3,3A D.W.E. D.W.V. 4,5,8	S.O.D. = Source-to-Object Distance M.W.R. = Maximum Weld Reinforcement O.F.D. = Distance from source side of Object-to-Film	AB - Arc Burns BT - Burn Through CK - Crack EP - Excessive Penetration P - Porosity EI - Elongated Indication	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 TI - Tungsten Inclusion
---	---	--	---	--

Unit# <u>1187</u> Miles: _____ In: _____ Out: _____ Hrs: _____ In: _____ Out: _____ Hrs: _____ Personnel: JW/CD	Film Quantity: <table border="1"> <tr> <td>12</td> <td>4 1/2 x 17</td> <td>D7</td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	12	4 1/2 x 17	D7																						Interpretation By: <u>Jamel Williams</u>  (Print) (Sign) SNT-TC-1A II CERT # <u>835</u> Interpreted By: _____ (Print) (Sign) CERT # _____ Client Representative: <u>Joe N Fry</u>  (Print) (Sign) I am in full agreement with report contents
12	4 1/2 x 17	D7																								

Our Core Values revolve around our Safety and Quality Practices. We will always take care of our employees and customers.
 1-855-567-5511 www.irisndt.com usinfo@irisndt.com



Accredited
ISO 9001 / 17025

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

Report Date: 10/23/2017
Report No: 802057.00
Rev: A
Cust Acct: TRI868

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

Ordered By: Anissa

PO: Credit Card

Material: SA516-70 2.00"Thick Test Piece

Heat/ID: 7503137 SL#02 SO#128171 Requisition#595322 HC:SUSO

Job Info: Customer:Forum Production

Charpy Test Results

No.	Temp	Location	Foot Pounds	%Shear	Mils Lat Exp
1	-20°F	LCVN	71-87-77	70-80-75	59-70-62

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

Heat Treatment

Normalize at 1,650°F for 60 minutes, Air Cool.

Document
Reviewed By:

Yvonne Arredondo
Yvonne Arredondo
Documentation Specialist

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.

TRINITY HEADS
INC.

11765 HIGHWAY 6 SOUTH, NAVASOTA, TX 77868

FEBRUARY 14, 2020

PERMIAN TANK & MFG
8800 W LOOP 338
ODESSA, TX 79764

Attention:

Reference: Customer: OS009651
Trinity SO #: 135131

TAG:

GENTLEMEN:

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

6-SA516-70 ELLIP-2:1 HEAD 48.00 OD 2.00 NOM 1.875 MIN WITH 2.0" SF.

<u>CODE</u>	<u>QTY</u>	<u>THICKNESS</u>	<u>PRODUCER</u>	<u>MELT</u>	<u>SLAB</u>	<u>GRADE</u>
SUSO	6	2.00	NUCOR	7503137	02	SA516-70

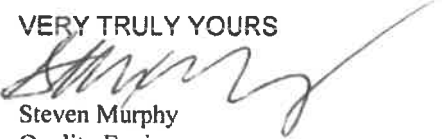
TRINITY HEADS, INC certifies that heads manufactured from material represented by this report were normalized during forming at 1650F (+/-25F) for 60 minutes and air cooled

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-81, UCS-79 and UG-79.

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

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

VERY TRULY YOURS


Steven Murphy
Quality Engineer

ad

42506

Customer Number 940491 Date 2/14/20 Ship To Number 1 Load#
Bill of Lading # BN88451

Bill to Customer Ship To Customer
PERMIAN TANK & MFG PT - ODESSA
ODESSA FG 2701 W I 20
8800 W. LOOP 338
ODESSA ODESSA
TX 79764 USA TX 79766 USA
Contact ACCOUNTS PAYABLE
Phone -

Order Number 135131 Your Order Number OS009651 Order Date 1/22/20
Warehouse 56 Consolidation Request Date 2/12/20
Carrier Route Ship Date 2/14/20
Ship Via SAIA MOTOR FREIGHT Shipper
Customer Registration Number

Line	Item Number	Description	Ship Qty	Carton	Weight
1	39-00498	HEAD 48.0000 OD, 2.0000, ELIP	6.000		9553.48

NOTE;SHIP ALL TOGETHER

Weight 9553.480
Volume .000
Pallet .000

 **RECEIVED**
JKH
2-17-2020

SCANNED

2.00" x 48 d:1 EL

SUSO

JRH
8-17-2020

NUCOR
PLATE MILL

P.O.Box 279
Winton, NC 27986
(252) 356-3700

Mill Test Report

Page 1

1505 River Rd
Cofield, NC 27922
(252) 356-3700

NUCOR
It's Our Nature

Issuing Date :	05/13/2017	B/L No. :	471906	Load No. :	481230	Our Order No. :	147180/6	Cust. Order No. :	403466
Vehicle No:	TTPX 80422	Sold To:	TRINITY INDUSTRIES INC-HEADS DIVISION PLANT 56 11765 HWY 6 S NAVASOTA, TX 77868			Ship To:	TRINITY INDUSTRIES INC HEADS DIVISION PLANT 56 HWY 6 S RATE AUTHORITY CSXT 19103 NAVASOTA, TX 77868		
Specification:	2.0000" x 120.500" x 241.000" ASTM A516 70-10(2015)/ASME SA516 70 PVQ 2013/2015 Normalized Test Coupons at 1650F Hold 30 Min per inch of thickness Air Cooled NACE MR0175 Annex 2.1.2, MR0103(2010) Section 2.1.2 (2015) 13.1.1, 13.1.2) Compliant								
Marking :	HP1491								

Heat No	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al(tot)	V	Nb	Ti	N	Ca	B	Sn	Ceq	Pcm
7503137	0.22	1.10	0.007	0.002	0.19	0.16	0.06	0.08	0.01	0.033	0.007	0.001	0.002	0.0055	0.0020	0.0001	0.007	0.44	0.30

Tensile Test								Charpy Impacts											
Plate Serial No	Pieces	Tons	Dir.	(psi) Yield	(psi) Tensile	Elongation % in 2"	Elongation % in 8"	Dir.	1	(%) shear	2	(%) shear	3	(%) shear	Ave.	(%) shear	Size	Temp	Min Ave.
7503137-02	6	49.41	T	51,600	74,100		27.1												
			T	43,700	70,600		27.6	N											

HT.# 7503137
MTR APPROVED
DATE 5/30/17
ISP
QUALITY CONTROL DEPT.

Test coupons only, normalized 30 minutes per inch of thickness at 1650 F ± 25 F. Hold 30 minutes minimum. ;

Manufactured to fully killed fine grain practice by Electric Arc Furnace. Welding or weld repair was not performed on this material. Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast discrete plate as-rolled, unless otherwise noted in Specification. For Mexico shipments: nhc-SalesMX@Nucor.com
Yield by 0.5EUL method unless otherwise specified. Ceq = C+(Mn/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15)
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B
Melted and Manufactured in the USA. ISO 9001:2008 certified (#010940) by SRI Quality System Registrar (#0985-09). PED 97/23/EC 7/2 Annex 1, Para. 4.3 Compliant.
DIN 50049 3.1.B/EN 10204 3.1B(2004); DIN EN 10204 3.1(2005) compliant. For ABS grades only, Quality Assurance certificate 14-MMPQA-723

We hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with the applicable specifications, including customer specifications.

T. A. Depretis
T. A. Depretis, Metallurgist

5/13/2017 9:00:59 AM



W I L L B A N K S
M E T A L S

Consignment Packing List

Packing List 78583-2
Shipment Dt 3/16/2020



Ship-To
Permian Tank & Mfg Inc
2701 W. I-20
Odessa, TX 79766

(432)333-4591

Issued From
Willbanks Metals Inc. - 28th Street
1155 NE 28th St
Fort Worth, TX 76106

Sold-To
Permian Tank & Mfg Inc
Po Box 4456

Divy Mthd Our Truck To Vehicle No 1528
Carrier | Ref Trailer No
Divy Hours 08:00-17:00
Item | Product |
Our Order 164362 Your PO OS009968
Delivery Freight included in material cost

**EVERY PLATE MUST BE STENCILED WITH GRADE, THICKNESS, AND HEAT NUMBER
OPEN UNTIL 3PM ON FRIDAYS**

1-1 Carbon Plate SA516-70

1/2" x 120" x 480"

Ven Tag ID	Heat	Tag	Pcs	LBS
A12	W0B678	75093A	1	8,168
A12	W0B678	75093B	1	8,168
A12	W0B678	75093C	1	8,168
Total			3	24,504

Shp MI Certificate
1 1 Mill Test Certificate

5-1 Carbon Plate SA516-70

3/8" x 120" x 480"

Ven Tag ID	Heat	Tag	Pcs	LBS
E22	M0B189	75154A	1	6,124
E22	M0B189	75154B	1	6,124
E22	M0B189	75154C	1	6,124
Total			3	18,372

Shp MI Certificate
1 1 Mill Test Certificate

Total for the Shipment 42,876 LBS

DUE

Inside Slip Suzy Williams
Taken-by Slip Suzy Williams

(817) 6256-161 Ext 329
(817) 6256-161 Ext 329

(817) 625-8487
(817) 625-8487



RECEIVED

JRH

3-16-2020

SCANNED



Test Certificate

12400 Highway 43 North, Axis, Alabama 36505, US

WARNING: This product can expose you to chemicals including nickel and nickel compounds, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Form TC1: Revision 4: Date 6 Feb 2019

Customer: WILLBANKS METALS INC. 1155 NE 28TH ST. FORT WORTH TX 76106	Customer P.O.No.: 6922	Mill Order No. 41-595372-03	Shipping Manifest: AT304900
	Product Description: ASTM A516-70(17)/ASME SA516-70(19)		Ship Date: 29 Feb 20 Cert Date: 29 Feb 20
Size: 0.500 X 120.0 X 480.0 (IN)			Cert No: 081763316 (Page 1 of 1)

Tested Pieces:				Tensiles:					Charpy Impact Tests							BDWTT Tst %Shr					
Heat Id	Piece Id	Piece Dimensions	Tst Loc	YS (KSI)	UTS (KSI)	%RA	Elong % 2In 8In	Tst Dir	Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	
WOB678	A12	0.501 (DISCRT)	L	70	90		24	T		1	2	3	Avg	1	2	3	Avg				

Heat Id	Chemical Analysis															ORGN	
	C	Mn	P	S	Si	Tot Al	Sol Al	Cu	Ni	Cr	Mo	Cb	V	Ti	B		IiW
WOB678	.18	1.21	.009	<.001	.35	.031	.030	.15	.08	.20	.06	.018	.003	.008	.0004	.45	USA

KILLED STEEL
 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
 CEV (IIW) = C + MN/6 + (CR+MO+V)/5 + (NI+CU)/15
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 100% MELTED AND MANUFACTURED IN THE USA
 NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.
 PRODUCTS SHIPPED:
 WOB678 A12 PCES: 5, LBS: 40840

JRH
3-16-2020

(P) Cust Part #:	WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION	<u>Justin Ward</u> SENIOR METALLURGIST - PRODUCT
-----------------------	--	---

Packing List 78583-2 (3/16/2020) Image 210127 (3/16/2020)

Our Order 164362-1-1 Your Order OS009968

MRC Global PACKING LIST

If this order is placed under an existing written contract, the terms of such existing contract shall apply. Otherwise, this order is subject to and governed by MRC Global's General Terms and Conditions of Sale (found at www.mrcglobal.com/Terms-and-Conditions by following the instructions on this site and also available by request), which Terms and Conditions are hereby incorporated by reference.



4655271001

Sales Order

Number 4655271-001 Page 1

Printed 04/10/20 14:43

Deliver To: PERMIAN TANK & MFG CO RECEIVING WAREHOUSE 2701 WEST I-20 ODESSA TX 79763	From: MIDLAND TX 3606 E HIGHWAY 158 MIDLAND TX 79706	01-623	Customer Purchase Order OS010099 Customer Release/Requisition No. Ordered by: DESIREE DURAN
---	--	--------	---

Promised - 03/18/20 Salesman - LEROY HIDALGO Ship VIA - CRANE GOOS Terms - NET 30 DAYS
 Shipped - 04/10/20 Phone - (432) 570-0182 Freight Terms - PREPAID & CHARGE P Customer Ship No. - 60115-0018

MTR'S REQUIRED
CERTIFICATES OF COMPLIANCE REQD

CPO Line	Customer Part/Item ID	Quantity			U/M	Description	Line No.
		Ordered	Backorder	Shipped			
	1712XXXX	8		✓	8 EA	2'' 600# RFLWN - 9'' LONG, SA-105 N FINE GRAIN PRACTICE MFG: FORGED COMP HLS: B53563A MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	001
	1712XXXX	3		✓	3 EA	2'' 600# RFLWN - 12'' LONG, SA-105 N FINE GRAIN PRACTICE MFG: FORGED COMP HLS: B52787E MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	002
	1712XXXX	2		✓	2 EA	2'' 600# RFLWN - 16'' LONG, SA-105 N, FINE GRAIN PRACTICE MFG: FORGED COMP HLS: G879 MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	003
	1712XXXX	6		✓	6 EA	3'' 600# RFLWN - 9'' LONG, SA-105 N FINE GRAIN PRACTICE MFG: FORGED COMP HLS: E76082 MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	004
	1712XXXX	4		✓	4 EA	4'' 600# RFLWN - 9'' LONG, SA-105 N FINE GRAIN PRACTICE MFG: FORGED COMP HLS: P39336C MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	005
	1712XXXX	2		✓	2 EA	8'' 600# RFLWN - 12'' LONG, SA-105 N FINE GRAIN PRACTICE	006

RECEIVED
JRH
4-13-2020

SCANNED

These items are controlled by the U.S. government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.

PO Box 513 Charleston WV 25322

CPO Line	Customer Part/Item ID	Quantity			U/M	Description	Line No.
		Ordered	Backorder	Shipped			
						MFG: FORGED COMP HLS: B52787AT MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	
	1712XXXX	2			2 EA	8'' 600# RFLWN - 16'' LONG, SA-105 N FINE GRAIN PRACTICE MFG: FORGED COMP HLS: W582 MTR'S REQUIRED CERTIFICATES OF COMPLIANCE REQD	007

800-8-A

RECEIVING INFO: Company:

Date:

Signed By:

Signature:

Tubes-	Box/Bag-	Crates-	Pallets-	2 Pieces-	Bundles-	Picked by-	CAR	Checked by-	CM	Staged-	
Order Weight-	.00	Material Tot-		Freight-\$.00	Other-\$.00	Tax-\$.00	Total-\$.00



14527 Smith Rd.
 Humble, Texas 77396
 TEL: (281) 441-4088
 FAX: (281) 441-8899

PAGE: 1 of 1
 REPORT # 20-003393
 DATE: 3/25/2020
FCI ORDER # 105149
 IAW ASME 2019 ED.

CUSTOMER ORDER # C6234655271B0
 SOLD / SHIPPED TO: MCJUNKIN RED MAN CORP

Item Quantity Description
 2 3 2" X 600 X 12" LG RF LWN

GRAIN SIZE PER ASTM E112: # 9

Heat Number: B52787E
 Material Type: SA105N/SA350LF2CL1

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

C .195
 Mn 1.240
 P .0140
 S .0030
 Si .221
 Cr .079
 Mo .050
 V .001
 Cu .010
 Ni .011
 Cb(Nb) .004

Yield PSI 45,400
 Tensile PSI 78,400
 Elongation 33.9
 Reduction of Area 69.7
 Hardness 163/163 HBW
 CVN -50 °F FT LBS 59/57/28
 % Shear 50/20/20
 MLE .048/.026/.028

Ti .0010
 B .0005
 C E .429

MADE TO FINE GRAIN PRACTICE

Heat Treatment NORMALIZED
 Temperature 1706 °F
 Time at Temperature
 Cooling Media AIR

We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.

Prepared by:

Name: Cynthia Madrid

Title: QA Representative



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CERTIFICATE OF CONFORMANCE

Date: MARCH 25, 2020

Customer: MCJUNKIN REDMAN CORP.
P.O. BOX 513
CHARLESTON, WV 25322-0513

Purchase Order #: C6234655271B0

FCI SO# 105149

Material: SA105N/SA350LF2CL1

Heat/Item B52787E, ITEM 2, MTR # 20-003393

Per EN 10204:2004 – Type 3.1, the material test reports provided for the above order have been validated by FCI's authorized inspection representative, independent of the manufacturing department. Material was manufactured, sampled, tested and inspected in accordance with the grade and specification stated as well as the purchase order requirements, and was found to meet them.

Cynthia Madrid

CYNTHIA MADRID
Quality Assurance Representative