

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

101491

1. Manufactured and certified by OHMSTEDE LTD., CORPUS CHRISTI PLANT 410 FLATO ROAD CORPUS CHRISTI, TEXAS 78405
(Name and address of Manufacturer)
2. Manufactured for CHEVRON PHILLIPS; PASADENA, TEXAS
(Name and address of Purchaser)
3. Location of installation CHEVRON PHILLIPS; PASADENA, TEXAS
(Name and address)
4. Type: Vertical HEAT EXCHANGER 728170 728170R1 2538 2007
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)
5. ASME Code, Section VIII, Div. 1 2004 Edition, 2006 Addenda NONE
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)
- Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.
6. Shell (a) No. of course(s): 3 (b) Overall length (ft & in.): 23'-11 5/8"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	55" OD.	9'-11"	SA-516-70		1/2"	.0625"	1	Spot	.85	1	Spot	.85	-	-
2	55" OD.	9'-5 1/4"	SA-516-70		1/2"	.0625"	1	Spot	.85	1	Spot	.85	-	-
3	55" OD.	5'-5 1/8"	SA-516-70		1/2"	.0625"	1	Spot	.85	1	Spot	.85	-	-

7. Heads: (a) - (b) -
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp
- | Location (Top Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | | |
|-----------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|---|
| | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. | |
| (a) | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| (b) | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

If removable, bolts used (describe other fastening) -

8. Type of jacket - Jacket closure -
(Mat'l Spec. No., Grade, size, No.)
(Describe as cage & weld, bar, etc.)
If bar, give dimensions: - If bolted, describe or sketch. -
9. MAWP 229 15 psi at max. temp. 302 302 °F Min. design metal temp. 30 °F at 229 psi.
(internal) (external) (internal) (external)
10. Impact test NO EXEMPT PER UCS-66 at test temperature of - °F
(Indicate yes or no and the component(s) impact tested)

11. Hydro. ~~press~~ test press. 298 Proof test -
- Items 12 and 13 to be completed for tube sections.
12. Tubesheet: SA-516-70N 55 9/16" 4 3/8" .1250" Weld
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
SA-516-70N 55 9/16" 4 3/8" .1250" Weld
13. Tubes: SA-214 1 1/4" .110" MW 950 Straight
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment
SA-214 1 1/4" .110" MW 950 Straight
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): - (b) Overall length (ft & in.): -
- | Course(s) | | | Material | | Thickness | | Long. Joint (Cat. A) | | | Circum. Joint (Cat. A, B, & C) | | | Heat Treatment | |
|-----------|---------------|-------------------|---------------------|--|-----------|-------|----------------------|------------------|------|--------------------------------|------------------|------|----------------|------|
| No. | Diameter, in. | Length (ft & in.) | Spec./Grade or Type | | Nom. | Corr. | Type | Full, Spot, None | Eff. | Type | Full, Spot, None | Eff. | Temp. | Time |
| 1 | - | - | - | | - | - | - | - | - | - | - | - | - | - |
| 2 | - | - | - | | - | - | - | - | - | - | - | - | - | - |
| 3 | - | - | - | | - | - | - | - | - | - | - | - | - | - |

15. Heads: (a) - (b) -
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp
- | Location (Top Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | | |
|-----------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|---|
| | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. | |
| (a) | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| (b) | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

If removable, bolts used (describe other fastening) -

(Mat'l Spec. No., Grade, size, No.)

16. MAWP 305 7.5 psi at max. temp. 302 302 *F Min. design metal temp. 30 *F at 305 psi.
(internal) (external) (internal) (external)
17. Impact test NO EXEMPT PER UCS-66 at test temperature of *F

18. Hydro., ~~pressure~~ test press. (Indicate yes or no and the component(s) impact tested)
N/A Proof test

19. Nozzles, inspection, and safety valve openings:

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet	1	10"-150#	RFWN	SA-106B	SA-105	.500"	.0625"	SA-516-70	WELD	WELD	Shell
Outlet	1	10"-150#	RFWN	SA-106B	SA-105	.500"	.0625"	SA-516-70	WELD	WELD	Shell
Inspection	1	6"-150#	RFLWN	SA-105	.	.880"	.0625"	INTEGRAL	WELD	.	Shell
Vent / Drain	2	3/4"-300#	RFLWN	SA-105	.	.570"	.0625"	INTEGRAL	WELD	.	Tubesheets
Temp / Pressure	4	1"-6000#	CPLGS	SA-105	.	.	.	INTEGRAL	WELD	.	Shell Nzl's.
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20. Supports: Skirt Lugs Legs Others 4-Supt Lugs Attached WELDED TO SHELL
(Yes or No) (No.) (No.) (Describe) (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
(List the name of part, item number, mfg's. name and identifying number)

22. Remarks: ITEM NO. 41-5006 P.O. NO. 4502759588 S / N 728170 TRUNIONS: (2)-SMLS PIPE 10 3/4"OD. X 1/2" THK. SA-106B;
REPAOS (2)-16"OD.X 3/8" X 11 3/4" ID. THK. SA-516-70; LUGS (2)-13" X 2" THK. X 23 1/2" LG. SA-516-70; STIFFENING RINGS: (2)-61"OD.X 55" ID.X 3/8" THK. SA-516-70
INCLUDES ONE FLANGED AND FLUED EXPANSION JOINT: 69 1/4" OD. FLG. WITH A 1 1/2" S.F. & 2" I.K.R. X 54" ID. FLUE WITH A 2" I.K.R. & 1" S.F. X 5/8" THK.
SA-516-70N. WELDED INTO SHELL.

CERTIFICATE OF SHOP 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 Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. 20,206 Expires 4/19/2009
Date 9-2-07 Name OHMSTEDE LTD., CORPUS CHRISTI PLANT Signed Charles Varny
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TX.
and employed by HSB CT. of HARTFORD, CT. have inspected

the pressure vessel described in this Manufacturer's Data Report on 9-4-2007, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the

inspector nor his 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 9-4-2007 Signed [Signature] Commissions 9781 HATX00138
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1.

U Certificate of Authorization No. Expires
Date Name Signed
(Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of
and employed by
have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items

, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his 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 Signed Commissions
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province and No.)