

#101408

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

**EXCHANGER LESS
HEADS**

1. Manufactured and certified by OHMSTEDE LTD., LA PORTE PLANT, 12415 HIGHWAY 225 LA PORTE, TEXAS 77571
 (Name and address of Manufacturer)
2. Manufactured for CHEVRON PHILLIPS, 1400 JEFFERSON, PASADENA, TEXAS 77501
 (Name and address of Purchaser)
3. Location of installation CHEVRON PHILLIPS, 1400 JEFFERSON, PASADENA, TEXAS 77501
 (Name and address)
4. Type: HEAT EXCHANGER LESS HEADS 728167 -
 (Description of vessel part (shell, two-piece head, tube bundle)) (Mfg's serial No.) (CRN)
- 1195 728167 OHMSTEDE LTD 2007
 (Mat'l. Bd. No.) (Drawing No.) (Drawing prepared by) (Year built)
5. ASME Code, Section VIII, Div. 1 2004, 2006 - -
 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 1/4"
- | No. | Course(s) | | Material
Spec./Grade or Type | Thickness | | Type | Long. Joint (Cat. A) | | | Circum. Joint (Cat. A, B, & C) | | | Heat Treatment | | |
|-----|---------------|-----------------|---------------------------------|-----------|-------|------|----------------------|------|------|--------------------------------|------|------|----------------|------|------|
| | Diameter, in. | Length ft & in. | | Nom. | Corr. | | Full | Spot | None | Eff. | Type | Full | Spot | None | Eff. |
| 1 | 48" I.D. | 9' 11" | SA-516-70N | 1/2" | 1/16" | 1 | SPOT | 85 | 1 | SPOT | 85 | - | - | - | - |
| 1 | 48" I.D. | 9' 6 1/8" | SA-516 70N | 1/2" | 1/16" | 1 | SPOT | 85 | 1 | SPOT | 85 | - | - | - | - |
| - | 48" I.D. | 3' 5 1/8" | SA-516 70N | 1/2" | 1/16" | 1 | SPOT | 85 | 1 | SPOT | 85 | - | - | - | - |
7. Heads: (a) SA-516 70N (b) SA-516 70N
 (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 |
| (a) | F & F EXP | 1/2" | 1/16" | - | 1 1/2" | - | - | - | - | X | X | - | - |
| (b) | F & F EXP | 1/2" | 1/16" | - | 1 1/2" | - | - | - | - | X | X | - | - |

If removable, bolts used (describe other fastening)

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

8. Type of jacket - Jacket closure -
 (Describe as ogee & weld, bar, etc.)
- If bar, give dimensions - If bolted, describe or sketch.
9. MAWP 255 - psi at max. temp. 302 - °F Min. design metal temp. -20 °F at 255 psi.
 (internal) (external) (internal) (external)
10. Impact test EXEMPT PER UG 20 at test temperature of - °F
 (Indicate yes or no and the component(s) impact tested)
11. Hydro., ~~proof~~, test press. 332 Proof test -

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-516 70N 49 5/8" 4 9/16" 1/8" WELDED
 Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
- SA-516 70N 49 5/8" 4 9/16" 1/8" WELDED
 Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment
13. Tubes: SA-214 1 1/4" 0.110 720 STRAIGHT 24' 8 3/8"
 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.): -
- | No. | Course(s) | | Material
Spec./Grade or Type | Thickness | | Type | Long. Joint (Cat. A) | | | Circum. Joint (Cat. A, B, & C) | | | Heat Treatment | | |
|-----|---------------|-----------------|---------------------------------|-----------|-------|------|----------------------|------|------|--------------------------------|------|------|----------------|------|------|
| | Diameter, in. | Length ft & in. | | Nom. | Corr. | | Full | Spot | None | Eff. | Type | Full | Spot | None | Eff. |
| - | - | - | SA-516 Gr70 | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

FORM U-2 (BACK)

15. Heads: (a) _____

(b) _____

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

If removable, bolts used (describe other fastening) _____

(Mat'l Spec. No., Grade, Size, No.) _____

16. MAWP _____ psi at max. temp. _____ °F Min. design metal temp. _____ °F at _____ psi.
(internal) (external) (internal) (external)

17. Impact test _____ at test temperature of _____ °F

(Indicate yes or no and the component(s) impact tested)

18. Hydro. _____ test press. _____

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 / Outlet	2	0" 300	RFLWN	SA-106 GR B	SA-105	0.500	1/16"	SA-516 Gr 70	WELD	WELD	-
Misc.	1	3" 300 #	RFLWN	-	SA-105	1.06	1/16"	-	-	WELD	-
Vent / Drain	2	1/4" 300	RFLWN	-	SA-105	0.565	1/16"	-	-	WELD	-
Misc.	4	1" 6M	CPLG	-	SA-105	-	1/16"	-	-	WELD	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

20. Supports: Skirt NO Lugs 2 Legs - Others 4 VERTICAL Attached WELDED TO SHELL
(Yes or No) (No.) (No.) (Describe) (Where and How)

21. Remarks: MDMT PER UG 20

CUSTOMER ITEM NO. 41-5003

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 Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. 18,673 Expires 06/27/2010

Date 08/31/2007 Name OHMSTEDE LTD., LA PORTE PLANT Signed Ronald A. [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 the State or Province of TEXAS and employed by HSB CT of HARTFORD, CT have inspected the pressure vessel part described in this Manufacturer's Data Report on 08/31/2007, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 09/25/2007 Signed [Signature] Commissions N.B. 8826 A, TX 985
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)