104190

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

1. Manufactured by Waner Mfg. Corp. 8200 W. 16th St. Tulsa, Oklahoma
(Name and address of manufacturer)

2. Manufactured for Hercofina Wilmington, N. C.
(Name and address of purchaser)

3. Location of installation Hercofina Wilmington, N. C.
(Name and address)

4. Type Vert. Ht.Exch. (Horiz., or vert. tank) Vessel No. 79-1515 (Mfgr's Serial No.) (CRN) 79-1515 (Drawing) 1455 (Nat'l Bd No.) Year Built 1979

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1977 (Year) and Addenda to 12-31-78 (Date) and Code Case no. _____.

Special service per UG-120(d) None

Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: None
(Name of part, item number, mfgr's name and identifying stamp)

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers

6. Shell: Material SA240-316L (Spec No., Grade) Nom. Thickness 3/8 in. Corrosion Allowance 0 in. Diam. 3 ft. 6 in. Length 29 ft. 11 3/8 in. (Overall)

7. Seams:
Longitudinal Dbl (Dbl., Sngl.) R.T. Spot (Spot or Full) Efficiency 85 % H.T. Temp --- F Time --- Girth * (Dbl., Sngl.) R.T. ** (Spot, Partial, or Full) No. of Courses 3

8. Heads: (a) Material _____ (Spec No., Grade) (b) Material _____ (Spec No., Grade)
*Corner Jt. & Dbl
**Exempt & Spot

	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)										
(b)										

If removable, bolts used (describe other fastenings) _____ (Material, Spec. No., Gr., Size, No.)

9. Type of Jacket _____ Proof Test _____

10. Jacket Closure _____ (Describe as ogee & weld, bar, etc.) If bar, give dimensions _____ If bolted, describe or sketch.

11. Constructed for max. allowable working pressure 150 psi at max. temp. 400 F Min. temp. (when less than -20 F) _____ F.
Hydrostatic ~~pneumatic~~ ~~combination~~ test pressure 225 psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary Material SA182F316 (Spec. No., Gr.) Diam. 43 in. Nominal Thick. 3 1/8 in. Corrosion Allow. 0 in. Attachment Welded (Welded, Bolted) (Two

Floating Material _____ (Spec. No., Gr.) Diam. _____ in. Nominal Thick. _____ in. Corrosion Allow. _____ in. Attachment _____

13. Tubes: Material SA249-316 (Spec. No., Gr.) O.D. .75 in. Minimum Nominal Thickness .065 in. or gauge Number 1197 Type Straight (Straight or "U")

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: Material SA240-316 (Spec. No., Gr.) Nominal Thickness 3/8 in. Corrosion Allowance 0 in. Diam. _____ ft. _____ in. Length 4 ft. 4 15/16 in. 15° Cone 42"IDx19¼"ID FRT
10° Cone 42"IDx19¼"ID 6 3 BACK

15. Seams:
Longitudinal Dbl (Dbl., Sngl.) R.T. Spot (Spot or Full) Efficiency 85 % H.T. Temp --- F Time --- Girth Dbl (Dbl., Sngl.) R.T. Spot (Spot, Partial or Full) No. of courses 1

16. Heads: (a) Material SA182 F316 (Spec. No., Grade) (b) Material _____ (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	Hub Type Flanges								
(b)										

If removable, bolts used (describe other fastenings) Channels: SA193-B7, 5/8, 76 (Material, Spec. No., Gr., Size, No.)

17. Max. allowable working pressure 150 psi at max temp. 400 F. Min. temp. (when less than -20F) _____ F.
Hydro. pneu. or comb. test pressure 225 psi.

Items below to be completed for all vessels where applicable

18. Safety Valve Outlets: Number _____ Size _____ Location _____

This form may be obtained from the Nat[illegible]ard of Boiler and Pressure Vessel Inspectors, 1055 Crupper Ave., Col's., O. 43229 NB-26 Rev. 4

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Nom Thickness	Reinforcement Material	How Attached
Channel In-Out	1-1	20"150	WN	SA240-316L	3/8"	Weld	Welded
Shell In-Out	1-1	20"150	WN	SA240-316L	3/8"	SA240-316L	Welded
Aux	4	4"150	WN	SA312-316L	Std.	Weld	Welded

20. Inspection Openings:
Manholes No. _____ Size _____ Location _____
Handholes No. _____ Size _____ Location _____
Threaded No. _____ Size _____ Location _____

21. Supports: Skirt Yes (Yes or no) Lugs _____ (No.) Legs _____ (No.) Other _____ (Describe) Attached Shell Welded (Where and how)

22. Remarks: Service: Expander Preheater
Size: 42-360
Type: BEM Item: E-4100-3

NOTE: SA240-316L - 60"ID x ½" Nom. Flanged and Flued Heads in shell w/SA240-316L ½" x 2'10" cyl. between heads.

CERTIFICATE OF 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.

Date 8-28-79 Signed Waner Mfg. Corp. (Manufacturer) by R. J. Sedlacek (Representative)

"U" Certificate of Authorization No. 8979 expires March 30, 19 82.

CERTIFICATE OF SHOP INSPECTION

Vessel made by Waner Mfg. Corp. at Tulsa, Oklahoma

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Arkansas and employed by Commercial Union Ins. Co. of Boston, Mass. have inspected the pressure vessel described in this Manufacturers' Data Report on 8-23, 1979, 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 the Manufacturers' 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 8-24-79

Signed Thomas Payne (Inspector) Commissions N.B. #8940 (Nat'l Board, State, Province and No.)

CERTIFICATE OF COMPLIANCE FOR FIELD WORK

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.

Date _____ Signed _____ (Manufacturer) by _____ (Representative)

"U" Certificate of Authorization No. _____ expires _____, 19_____.

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 _____ of _____ have compared the statements in this Manufacturers' 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 that, to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with 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 Manufacturers' 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 _____ (Authorized Inspector) Commissions _____ (Nat'l Board, State, Province and No.)

#104120

8-23-79