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 Smithco Engineering, Inc. (Name and address of manufacturer) 640 W. 41st Street, Tulsa, Okla.
2. Manufactured for KEY ENGINEERING, INC. (Name and address of purchaser) HOUSTON, TEXAS
3. Location of installation HOUSTON OIL & MIN. (Name and address) PALACIOS, TEXAS
4. Type Horiz.(Non Cir.) (Horiz. or vert. tank) Vessel No. 80B3811 A thru D (Mfgr's Serial No.) (CRN) (Drawing) (Nat'l Brd No.) Year Built 1980
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 Summer 79' (Date) and Code Case no. _____ Special service per UG-120(d) _____
Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: _____ (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. Side Material SA516-70 (Spec. No., Grade) Nom. Thk Ft.-1.625 Bk.-.750 C.A. .0625 .0625 in. Diam. 9.6250 3.0000 in. Length 92.5625 92.5625 in.
7. Seams: Longitudinal Corner Joint (Welded, Dbl., Sngl., Lap, Butt) R.T. ------ (Spot or Full) Efficiency -- % H.T. Temp 1150 F
Time 98-Min Girth ---------- (Welded Dbl., Dngl., Lap, Butt) R.T. ----- (Spot, Partial or Full) No. of Courses --
8. End Plates: (a) Material SA 516 - 70 (Spec. No., Grade) (b) Material SA 516 - 70 (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio
(a)	Front Header	.500	.0625	N/A		
(b)	Back Header	.500	.0625	N/A		

	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)			9.6250 x 9.4375	Flat
(b)			3.0000 x 9.4375	Flat

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

9. Type of Jacket None Proof Test _____
10. Jacket Closure None (Describe as ogee & weld, bar, etc.) If bar, give dimensions _____ If bolted, describe or sketch.
11. Constructed for max. allowable working pressure 1000 psi at max. temp. 310 F Min. temp. (when less than -20 F) _____ F.
Hydrostatic, ~~pneumatic~~ test pressure 1500 psi

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary—Material SA 516 - 70 (Spec. No. Gr.) Diam. 9.750 (Subject to pressure) in. Nominal Thickness Ft.-1.625 Bk.-2.250 in. Corrosion Allowance .0625 in. Attachment Welded (Welded, Bolted) Plug Sheet Material SA 516 - 70 (Spec. No., Grade) Diam. 9.750 in.
Nominal Thickness Ft.-1.625 Bk.-2.250 in. Corrosion Allowance .0625 in. Attachment Welded
13. Tubes: Material SA - 214 (Spec. No., Gr.) O.D. 1.0 in. Nominal Thickness .060 in. or gauge Number 18 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 _____ (Spec. No., Gr.) Nominal Thickness ____ in. Corrosion Allowance ____ in. Diam. ____ ft ____ in. Length ____ ft ____ in.
15. Seams: Longitudinal _____ (Welded, Dbl., Sngl. Lap, Butt) R.T. _____ (Spot or Full) Efficiency _____ % H.T. Temp _____ F Time _____
Girth _____ (Welded, Dbl., Sngl., Lap, Butt) R.T. _____ (Spot, Partial, or Full) No. of courses _____
16. Heads: (a) Material _____ (Spec. No., Grade) (b) Material _____ (Spec. No., Gr.)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio
(a)						
(b)						

	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.)

17. Constructed for max. allowable working pressure _____ psi at max temp. _____ F. Min. temp. (when less than -20 F) _____ F.
Hydrostatic, [redacted] test pressure _____ psi.

Items below to be completed for all vessels where applicable

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

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Stub Material	Flange Material	Nom. Thk.	Reinforcement Material	How Attached
Inlet	1	10"-600#	RFWN	SA106B	SA105	.500	Weld Metal	Welded
Outlet	1	10"-600#	RFWN	SA106B	SA105	.500	Weld Metal	Welded
Vent/Drain	2	3/4"-6000#						

20. Inspection Openings:
Manholes No. _____ Size _____ Location _____
Handholes No. _____ Size _____ Location _____
Threaded No. 396 Size 1 1/8 Location Plug Sheets

21. Supports: Skirt No (Yes or no) Lugs _____ (No.) Legs 4 (No.) Other _____ (Describe) Attached Welded to Side Plates (Where and how)

22. Remarks: Box Type Air Cooled Heat Exchanger. Service: Residue Gas Cooler

Item: AC-2

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 9-26-80 Signed Smithco Engineering (Manufacturer) by Todd Fradd (Representative) Todd Fradd

"U" Certificate of Authorization No. 4175 expires February 28 19 82.

CERTIFICATE OF SHOP INSPECTION

Vessel made by Smithco Engineering at Tulsa, Oklahoma

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Arkansas and employed by Royal Indemnity Company of New York, NY. have inspected the pressure vessel described in this Manufacturers' Data Report on 10-7 19 80, 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 10-7-80
Signed Mark E. Haught (Inspector) Mark E. Haught Commissions Ark. # 861 (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 commision issued by the National Board of Boiler and Pressure Vessel Inspectors and/or 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) Commisisons _____ (Nat'l Board, State, Province and No.)