

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

1602-313-2

1. Manufactured by Camden Alloy Fabricators Camden, New Jersey # 86923
(Name and address of manufacturer)

2. Manufactured for E. I. Du Pont De Nemours & Company Wilmington, Delaware
(Name and address of purchaser)

3. Location of installation E. I. Du Pont De Nemours & Company Old Hickory, Tenn
(Name and address)

4. Type Horizontal Heat Exchanger Vessel No. 80-7871B A-1523 1744 Year Built 1980
(Horiz. or vert. tank) (Mfg's Serial No.) (CRN) (Drawing) (Nat'l Bld No.)

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 and Addenda to 6-30-79 and Code Case no. --- Special service per UG-120(d) ---
(Date)

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, mfg's name and identifying stamp)

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

6. Shell: Material SA240T316 Nominal Thickness .438 in. Corrosion Allowance 125 in. Diam. 1 ft 6 in. Length 21 ft 0 in.
(Spec. No., Grade)

7. Seams: Longitudinal DBL Butt R.T. Spot Efficiency 85 % H.T. Temp --- F
(Welded, Dbl., Sngl., Lap, Butt) (Spot or Full)

Time --- Girth Single Butt, UA 48(8) R.T. Spot No. of Courses 1
(Welded Dbl., Sngl., Lap, Butt) (Spot, Partial or Full)

8. Heads: (a) Material SA240 T316L (b) Material ---
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio
(a)	End	.375	/125			2 to 1
(b)						
	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)		
(a)				Concave		
(b)						

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

9. Type of Jacket --- Proof Test ---

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

11. Constructed for max. allowable working pressure 375 psi at max. temp. 212 F Min. temp. (when less than -20 F) --- F.
Hydrostatic, ~~ph~~ test pressure 563 psi

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary—Material SA240 T317L Diam. 23.125 in. Nominal Thickness 2.094 in. Corrosion Allowance 0 in. Attachment Bolted Floating—Material --- Diam. --- in.
(Spec. No., Gr.) (Subject to pressure) (Spec. No., Grade)

Nominal Thickness --- in. Corrosion Allowance --- in. Attachment ---

13. Tubes: Material SB338-7 O.D. .750 in. Nominal Thickness 16 X of gauge Number 91 Type "U"
(Spec. No., Gr.) (Straight or "U")

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

14. Shell: Material SA240T316L Nominal Thickness .500 in. Corrosion Allowance 125 in. Diam. 1 ft 6 in. Length 1 ft 2 in.
(Spec. No., Gr.)

15. Seams: Longitudinal DBL Butt R.T. Spot Efficiency 85 % H.T. Temp --- F Time ---
(Welded, Dbl., Sngl., Lap, Butt) (Spot or Full)

Girth DBL Butt, UA 48(8) R.T. Partial No. of courses 1
(Welded, Dbl., Sngl., Lap, Butt) (Spot, Partial, or Full)

16. Heads: (a) Material SA 240 T316L (b) Material ---
(Spec. No., Grade) (Spec. No., Gr.)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio
(a)	End	.375	.125			2 to 1
(b)						
	Conical Apex Angle	Hemispherical Radius		Flat Diameter	Side to Pressure (Convex or Concave)	
(a)					Concave	
(b)						

If removable, bolts used (describe other fastenings) 321 S/S, SA193 B8MCT2, 125000, 3/4, 28.
(Material, Spec. No., Gr., Size, No.)

7. Constructed for max. allowable working pressure 400 psi at max temp. 475 F. Min. temp. (when less than -20 F) -20 F
Hydrostatic, pneumatic or combination test pressure 600 psi.

#86923

Items below to be completed for all vessels where applicable

18. Safety Valve Outlets: Number _____ Size _____ Location Elsewhere in System

19. Nozzles: _____

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached
Inlet, Outlet	2	6"	SO	SA312T316L	Sch 80	SA240 T316L	Welded
Inlet, Outlet	2	4"	SO	SA312T316L	Sch 120	None	Welded
Drain	1	1"	LWF	SA182T316L	300#	None	Welded
	2	1 1/2"	LWF	SA182T316L	300#	None	Welded

20. Inspection Openings:

Manholes No. _____ Size _____ Location _____

Handholes No. _____ Size _____ Location _____

Threaded No. _____ Size _____ Location _____

21. Supports: Skirt No Lugs No Legs No Other (4) Saddles Attached Shell, Welded
(Yes or no) (No.) (No.) (Describe) (Where and how)

22. Remarks: This vessel is a 4 Pass, 722 Sq Ft Heat Exchanger.

Overall length 23'-5 1/2". Contents Unknown.

DuPont P.O. # OHC-3287-W Item # 1602-313-2 P6809

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 Aug 19, 1980 Signed Camden Alloy Fabricators by Frank E. Hoffman
(Manufacturer) (Representative)

"U" Certificate of Authorization No. 399 expires March 30 1981

CERTIFICATE OF SHOP INSPECTION

Vessel made by Camden Alloy Fabricators at Camden, New Jersey

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 PA and employed by *The Factory Mutual System

of Norwood, MA have inspected the pressure vessel described in this Manufacturers' Data Report on _____ 19 _____

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 8-19-80
Signed Robert J. Potts Commissions NB5412 Pa 1924 + Ohio
(Inspector) (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 _____ by _____
(Manufacturer) (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/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

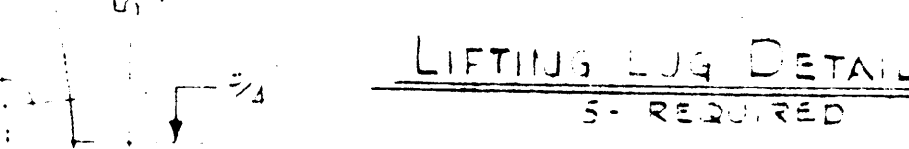
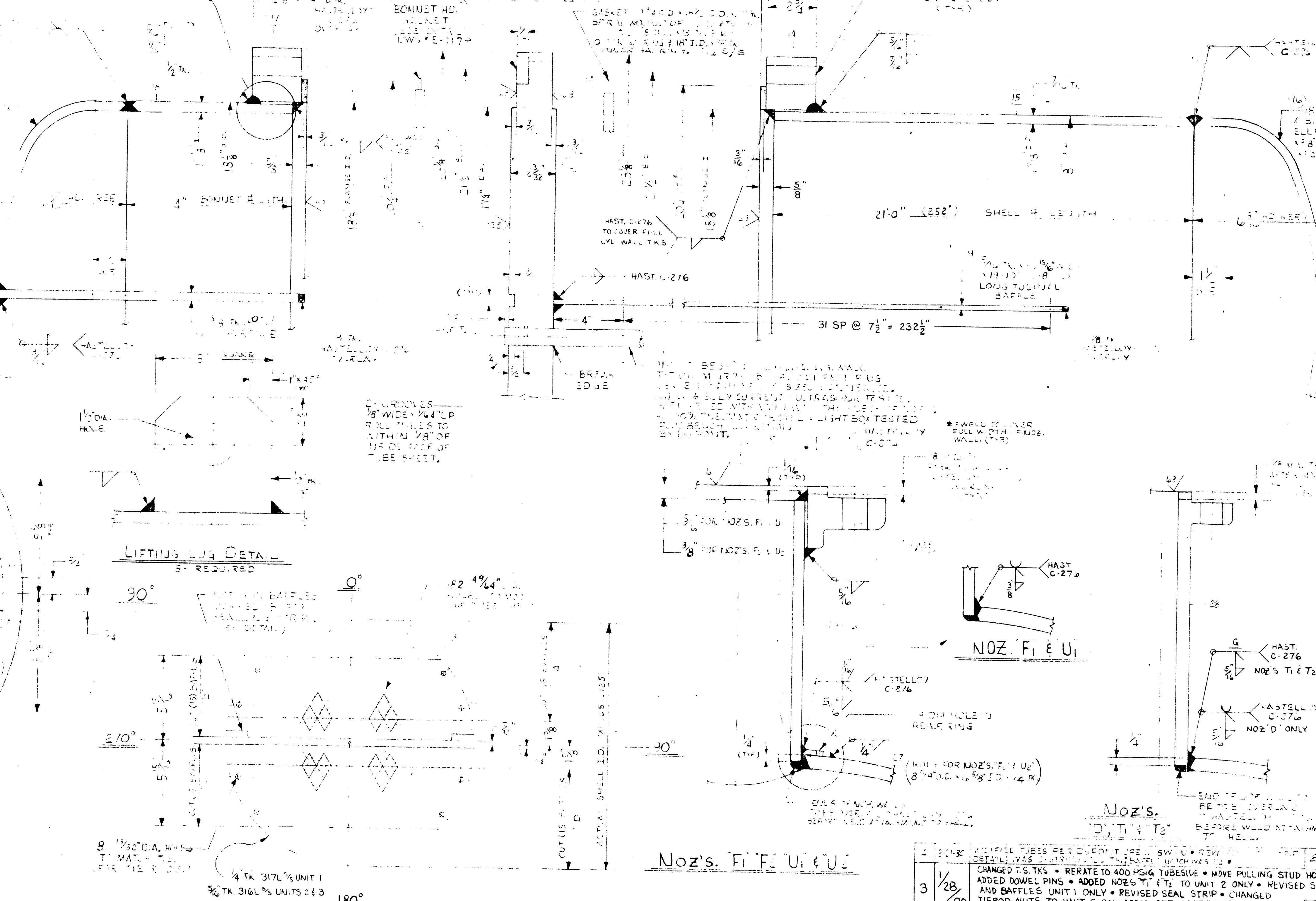
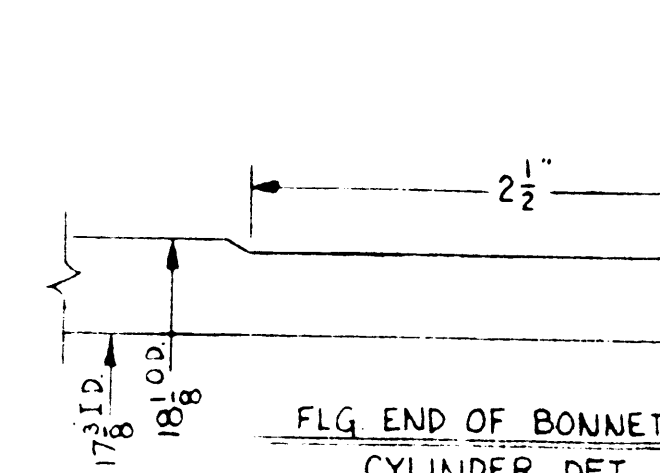
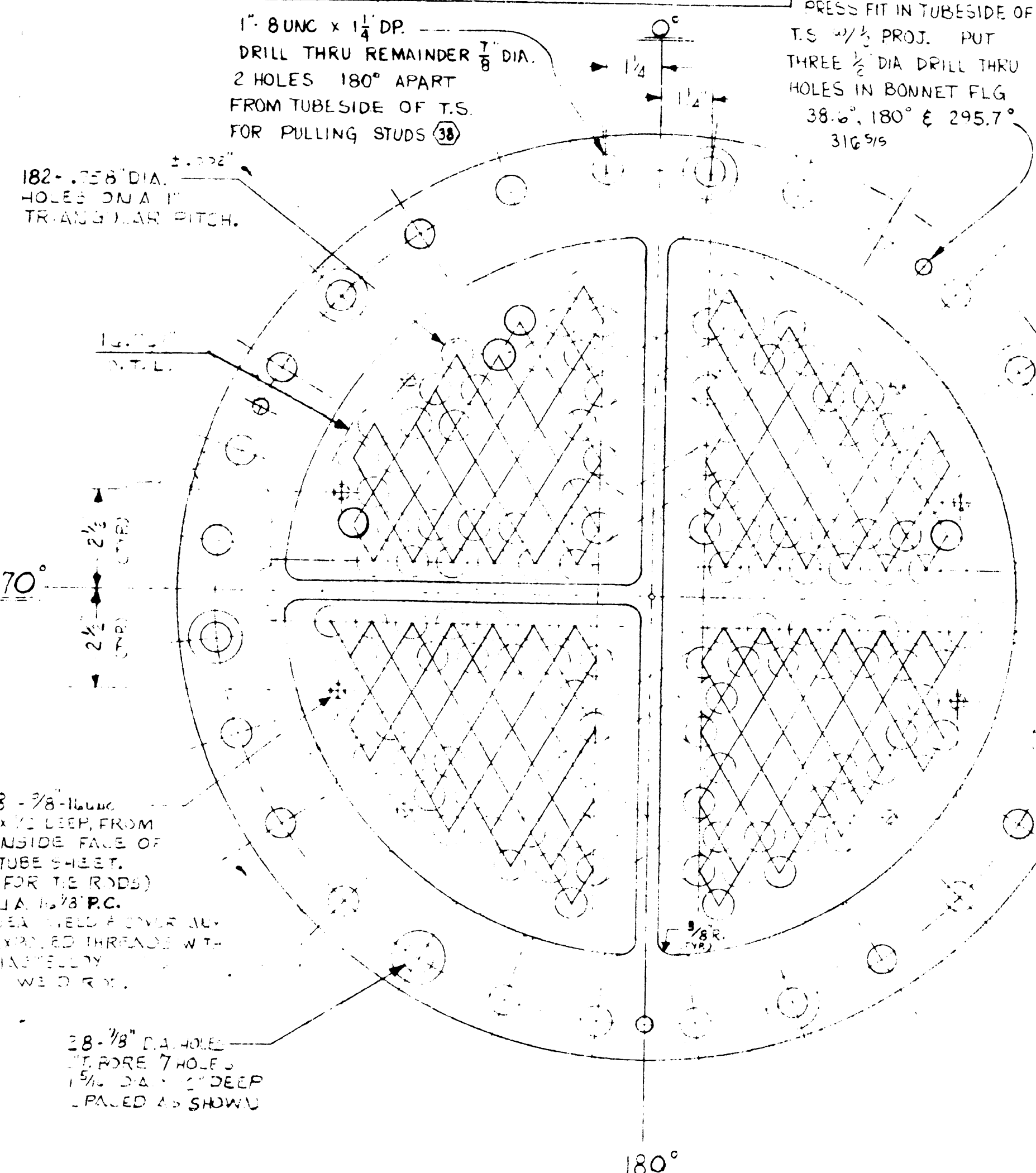
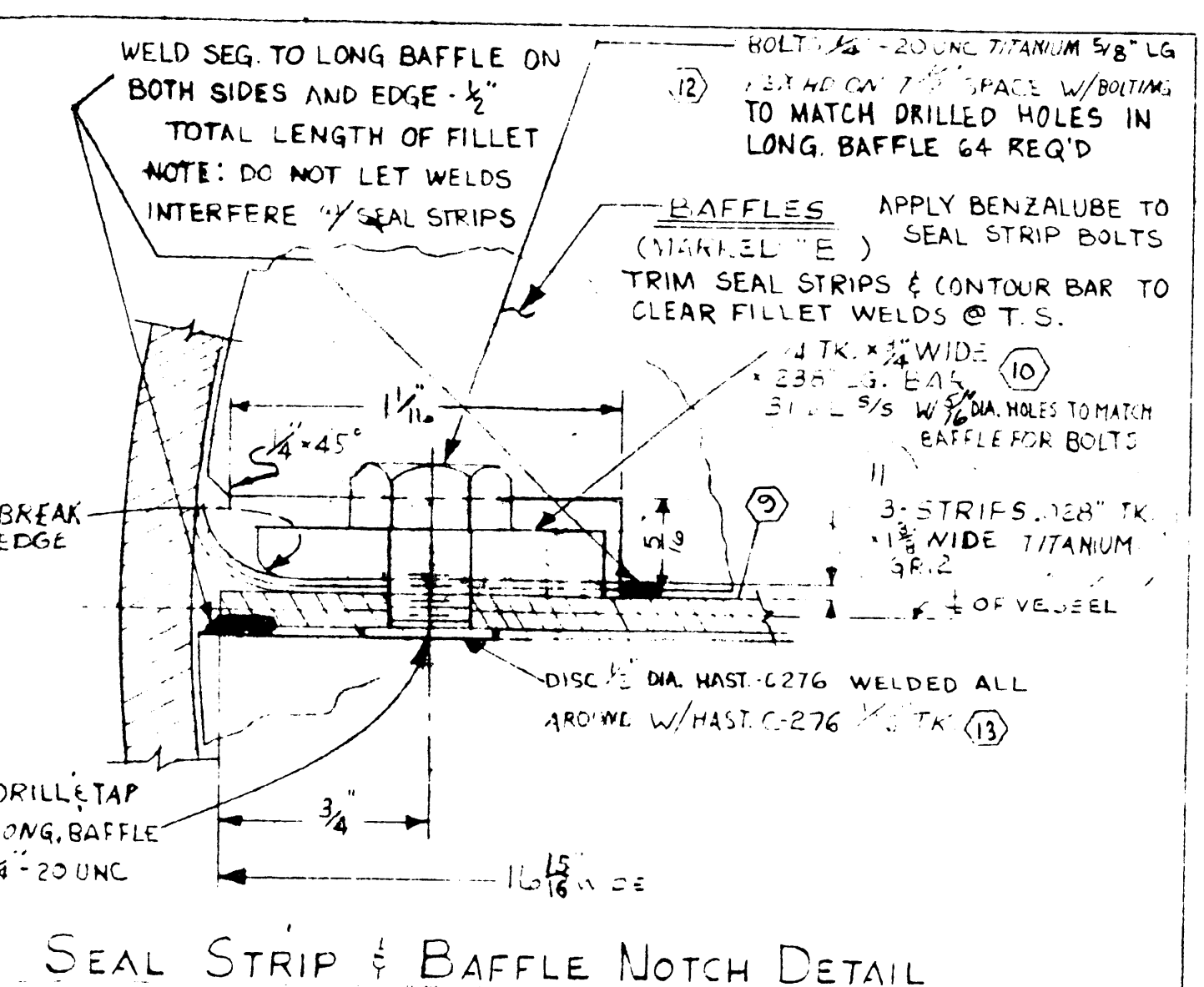
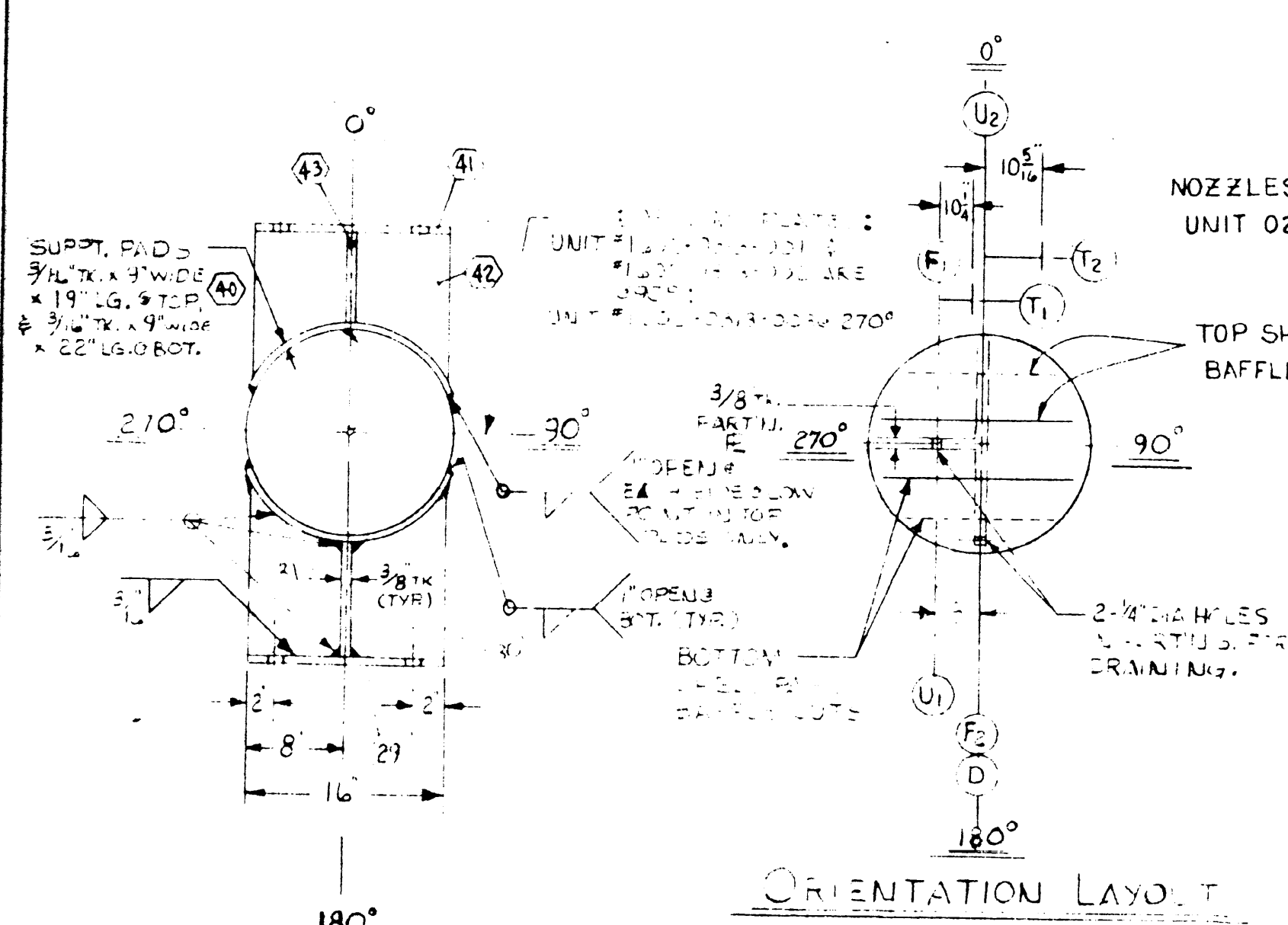
been inspected by me and that, to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

The described vessel was inspected and subjected to a hydrostatic test of _____ psi.

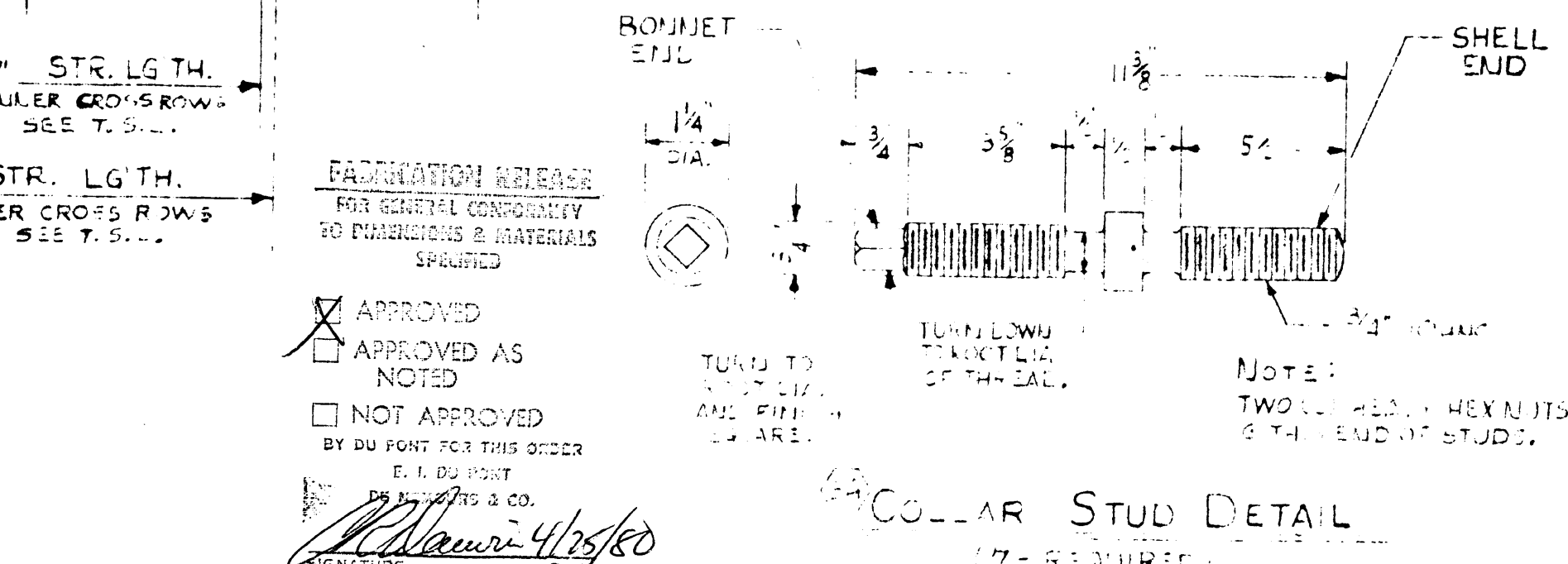
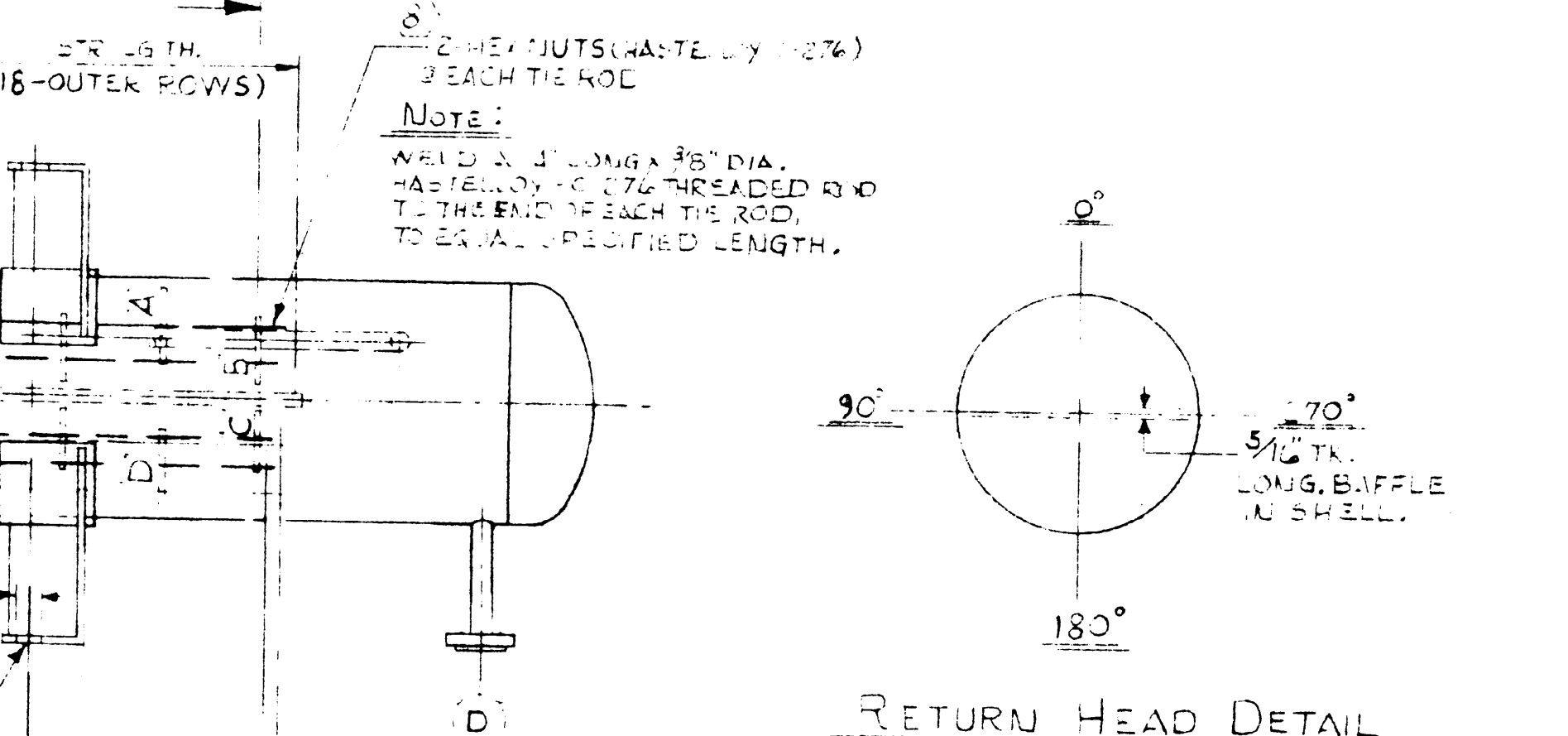
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturers' Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____
Signed _____ Commissions _____
(Authorized Inspector) (Nat'l Board, State, Province and No.)

* = TIE ROD LENGTH SPECIFIED,
INCLUDES 4" LG. HASTELLOY
C-276 ROD.



WJZ	SIZE	FLG TYPE	FLG RATE	WJZ, NECK TK, & MATL	FLG MATL	DUTY	REMARKS
F1	4	RF / S.D.	300*	SCH.120 - 3/4L 1/2" - SA-B3	3/4L 1/2" SA-B3 F	INLET	
F2	4	RF / S.D.	300*	SCH.120 - 3/4L 1/2" - SA-B3	3/4L 1/2" SA-B3 F	INLET	
U1	4	RF / S.D.	300*	SCH.120 - 3/4L 1/2" - SA-B3	3/4L 1/2" SA-B3 F	OUTLET	
U2	4	RF / S.D.	300*	SCH.120 - 3/4L 1/2" - SA-B3	3/4L 1/2" SA-B3 F	OUTLET	
D	1"	LONG W.N.	300*	3/4" WALL TKS. 3/4L 1/2" SA-B3 F	3/4L 1/2" SA-B3 F	DRZIN	
T1	1 1/2"	LONG W.N.	300*	3/4" WALL TKS. 3/4L 1/2" SA-B3 F	3/4L 1/2" SA-B3 F		UNIT 02 ONLY
T2	1 1/2"	LONG W.N.	300*	3/4" WALL TKS. 3/4L 1/2" SA-B3 F	3/4L 1/2" SA-B3 F		UNIT 02 ONLY

[illegible]

TEST DATE 4-1-57	WEIGHT 7.000*	BUNDLES 1.850*
DESIGN DATA	SHELL SIDE	TUBE SIDE
DESIGN PRESSURE	375 PSIG	400 PSIG
DESIGN TEMPERATURE	212° F	275° F
WORK TEST	548 PSIG	600 PSIG
RADIATION EXAM	20"	PARTIAL
CORROSION ALLOWANCE	1" (A)	1.125" (B) BY TEST
DETAILS	PROCES	PROCES

[illegible]

BILLING STUD HOLES • ONLY • REVISED SPACERS RANGED 1/2" KEN RING 1/4" MAX. GAP		DFT #39450 ORIGINAL SHEET # 10 F.C. # OHC-3287N PROJ. # 4809 EU-11602-313-2, 6 EU-11602-313-3 #51623	
DuPont COMPANY OLD MILITARY TENSILE TESTER EU-11602-313-2, 6		CAMDEN ALLOY FABRICATORS CEALF 17-140-EFU-722 SQ. FT. 4-PAINTED IN OILS 20-PAINT SUELLER 5-HARDENED BURN HEAT IN JANUARY	
DATE ORDERED 8-17-79 CHECKED 8-22-79 APPROVED 8-27-79 SCALE FIRST MADE FOR DUPONT # 3811		REF DWS E-1193 E-1194 E-1179 E-1180 ASSY DING ORDERING NO. A-1523	
APPROVED		APPROVED	