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

78906

1. Manufactured by Fabricated Products, Inc., 7900 Pence Rd., Charlotte, NC 28212
(Name and address of manufacturer)

2. Manufactured for Badische Corporation, 602 Copper Rd., Freeport, Texas 77541
(Name and address of purchaser)

3. Location of installation Badische Corporation, Acrylic Monomer Project, Freeport, Texas 77541
(Name and address)

4. Type Vertical (Horiz., or vert. tank) Vessel No. 80-345-B (Mfgr's Serial No.) (CRN) 80-345-2 (Drawing) 505 (Nat'l Brd No.) Year Built 1981

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 W'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. Shell: Material SA312TP304 (Spec.No., Grade) Nom. Thickness Sch 40 in. Corrosion Allowance 0 in. Diam. ____ ft. ____ in. Length 140 ft. Approx in. (Overall)

7. Seams:
Longitudinal Sngl. (Dbl., Sngl.) R.T. NA (Spot or Full) Efficiency NA % H.T. Temp ____ F Time ____ Girth Sngl (Dbl., Sngl.) R.T. NA (Spot, Partial, or Full) No. of Courses 14

8. Heads: (a) Material WPR 304 Caps (Spec. No., Grade) (b) Material WPR 304 Caps (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)	End	.154	0	1/2 Weld Cap						Convex
(b)	End	.154	0	1/2 Weld Cap						Convex

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

9. Type of Jacket 1/2 Pipe Proof Test _____

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

11. Constructed for max. allowable working pressure 120 psi at max. temp. 400 F Min. temp. (when less than -20 F) ____ F.
Hydrostatic, ~~pneumatic, or combination~~ test pressure 180 psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary Material _____ (Spec. No., Gr.) Diam. ____ in. Nominal Thick. ____ in. Corrosion Allow. ____ in. Attachment _____ (Welded, Bolted) (Subject to pressure)

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

13. Tubes: Material _____ (Spec. No., Gr.) O.D. ____ in. Nominal Thickness ____ in. or gauge Number _____ Type _____ (Straight or "U")

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

14. Shell: Material SA240TP316L (Spec. No., Gr.) Nominal Thickness .25 in. Corrosion Allowance 0 in. Diam. 6 ft. ____ in. Length 5 ft. 11-1/2

15. Seams:
Longitudinal Dlb. (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 SA240TP316L (Spec. No., Grade) (b) Material SA240TP316L (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)	Top	.50	0	72						Convex
(b)	Bottom	.50	0	72						Convex

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

17. Max. allowable working pressure 90 psi at max temp. 500 F. Min. temp. (when less than -20F) ____ F.

~~Hydro. pneu.~~ or comb. test pressure 135 psi.

Items below to be completed for all vessels where applicable

18. Safety Valve Outlets: Number ____ Size ____ Location In Line By Customer

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

FORM U-1 (BACK) 78906

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached
Vent/ Temp							Welded
Steam/Cond.	4	1"	RFSO	SA182F316L	150#		Welded
Acid/Water	2	1-1/2"	RFSO	SA182F316L	150#		Welded
Outlet	1	4"	RFSO	SA182F316L	150#		Welded
Agitator	1	16"	FFSO	SA18160	150#		Welded

20. Inspection Openings:
Manholes No. 1 Size 20" Location Top Head-Welded
Handholes No. ____ Size ____ Location ____
Threaded No. ____ Size ____ Location ____

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

22. Remarks: ____

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 7-28-81 Signed Fabricated Products, Inc. (Manufacturer) by Willie Hudson (Representative)

"U" Certificate of Authorization No. 10,264 expires January 15, 19 83

CERTIFICATE OF SHOP INSPECTION

Vessel made by Fabricated Products, Inc. at 7900 Pence Rd., Charlotte, NC 28212

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of North Carolina and employed by Dept. of Labor of North Carolina have inspected the pressure vessel described in this Manufacturers' Data Report on 7-28- , 19 81 , 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 7-28-81

Signed Jet Ward (Inspector) Commissions NC722 NB6072 (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

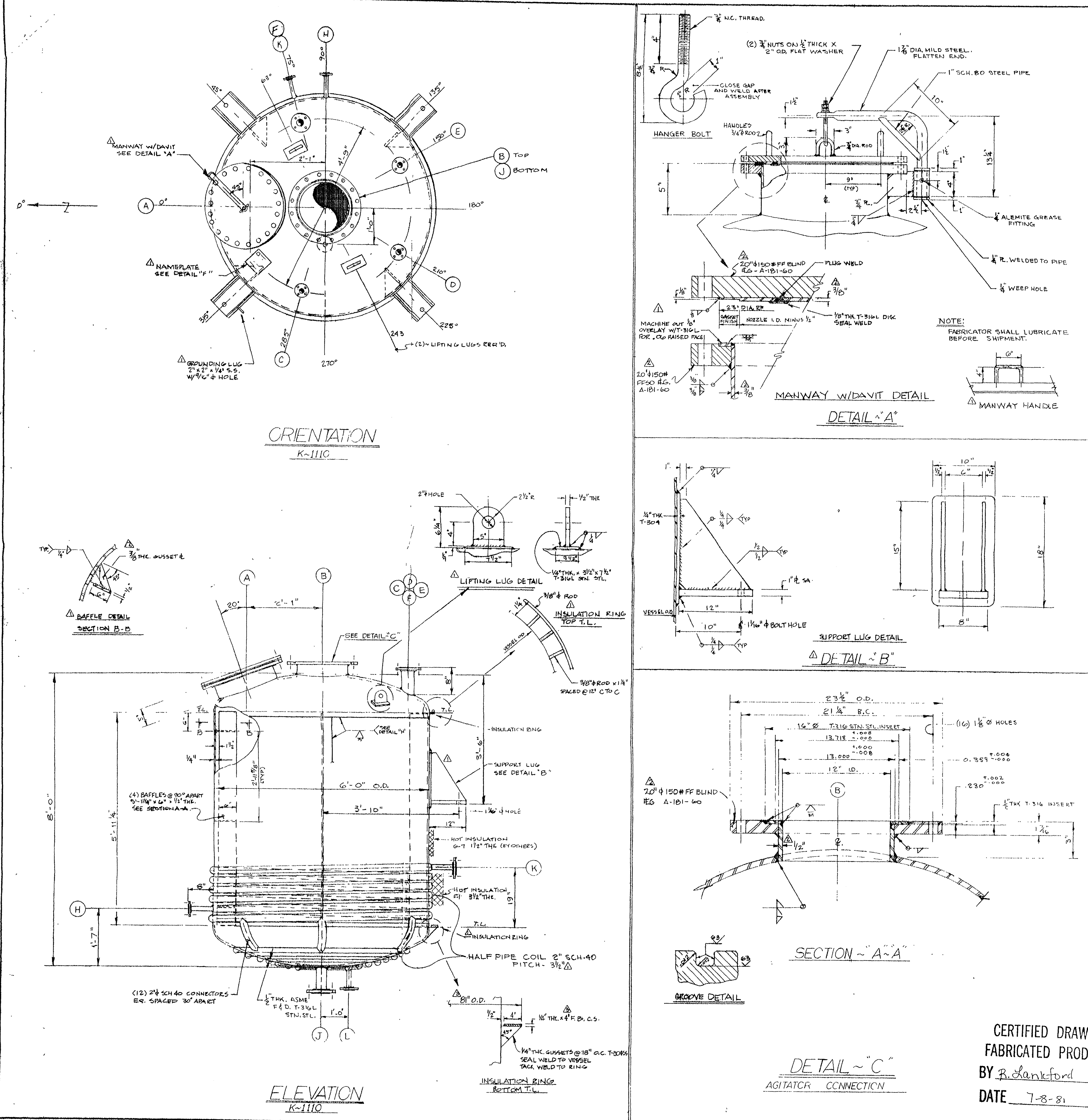
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ____ and employed by ____ of ____ have compared the statements in this Manufacturers' Data Report with the described pressure vessel and state that parts referred 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.

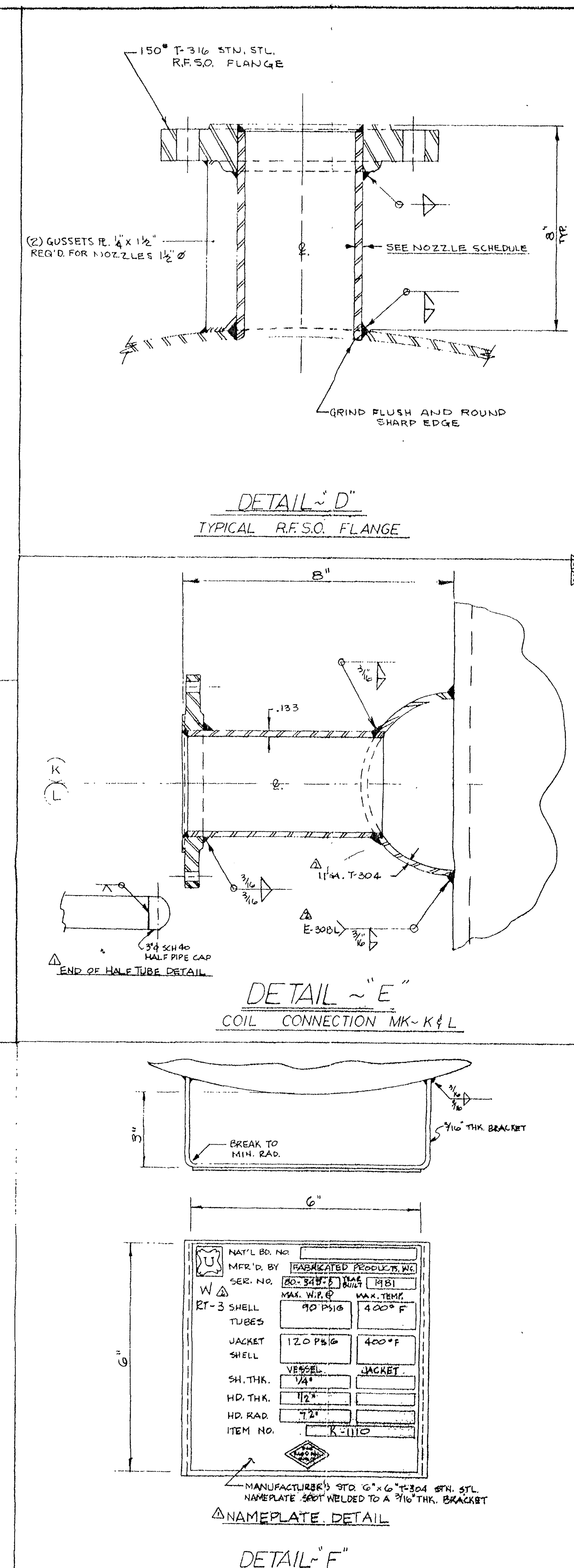
The described vessel was inspected and subjected to a hydrostatic test of ____ psi.

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.)





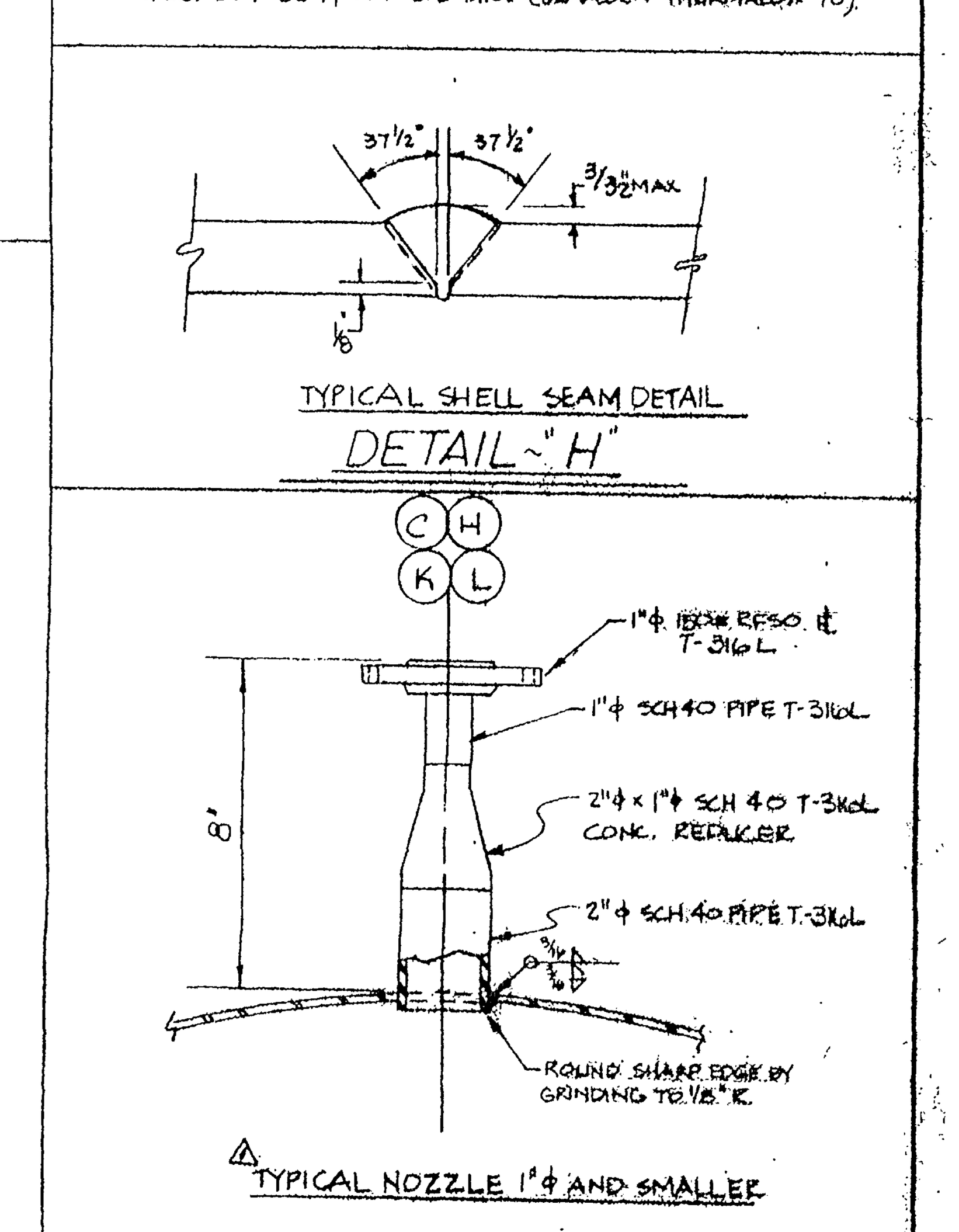
CERTIFIED DRAWING
FABRICATED PRODUCTS
BY B. Lankford
DATE 7-8-81

DESIGN DATA		
POSITION	VERTICAL	
TYPE SUPPORT		
PAINT EXT. CARBON STEEL	SEE NOTES BELOW	
INSULATION RINGS	REQ'D SEE ELEVATION	
ESTIMATED WEIGHT		
EMPTY: 6,000 LBS	FULL: 9,500 LBS	
	VESSEL	
CAPACITY	1515 GAL.	200 GAL.
DIAMETER	6'-0" O.D.	
LENGTH	8'-0"	
BASIC MATERIAL	T-316L STN. STL.	SA-240, T-304
INSIDE FINISH	MILL	
DESIGN TEMPERATURE	400°F	400°F
DESIGN PRESSURE	90 PSIG	120 PSIG
CORROSION ALLOWANCE	NONE	NONE
HYDROSTAT	135 PSIG	
CONSTRUCTION CODE	ASME SEC. VIII DIV. 1	STAMP
HEAT TREATMENT	NO	
RADIOGRAPHY	PARTIAL	
TYPE HEADS	ASME F&D	
GASKETS	[illegible]	
HARDWARE	ASTM A-193-B7 ASTM A-194-2H	GALVANIZED
AGITATOR	YES (BY OTHERS)	
SPECIAL TESTS	VISUAL	
JOINT EFFICIENCY	SHELL 85% / HEADS 100%	

NOZZLE SCHEDULE

MK	SIZE	REQ'D	SCH	SERVICE	RATING	TYPE
A	20"	1	3/8" PL	MANWAY	150#	SPECIAL
B	16"	1	1/2" PL	AGITATOR	150#	SPECIAL
C	1"	1	40	VENT	150#	R.F.S.O.
D	1 1/2"	1		INL. ACID WATER	150#	R.F.S.O.
E	1 1/2"	1		INL. ACID WATER	150#	R.F.S.O.
F	1"	1		INL. SOLVENT	150#	R.F.S.O.
H	1"	1		TEMP. MEAS.	150#	R.F.S.O.
J	4"	1		OUTLET	150#	R.F.S.O.
K	1"	1		STEAM INLET	150#	R.F.S.O.
L	1"	1		CONDENSATE	150#	R.F.S.O.

NOTES:
1. BRUSH BLASTING PER SSPC SP7, NACE # 4.
2. (1) COAT OF HIGH TEMPERATURE COATING PER SPEC. DS7-259, DFT 2.5 MILS (DEARBORN THURMALON 70)



78906

FINAL | DATE 7-9-81 | F

DATE	SYM.	REVISION RECORD	AUTH.	CK.
7-8-81	3	REV. INSULATION RING WIDTH, WAS 3"	BCL	
4/1?/81	2	THK. OF BAFFLE GUSSET WAS 1/4", BAFFLE DET. WAS SECT. A-A NOZ. "A" & "B" HAD R.F. FLANGES, ADDED NOZ. NECK THK'NESS TO NOZ. "A" & "B", ADDED THK. OF HALF PIPE COILS, ADDED MORE INFO TO NAMEPLATE	BCL	
2/13/81	1	ADDED ORIENTATION OF NOZZLES, LIFTING LUGS, INSULATION RINGS, BAFFLE DETAIL, MANWAY COVER & EG DET., GROOVE DET., NAMEPLATE DETAIL, TYP. 1"Ø NOZ. DET., DELETED LEGS ADDED LUGS, NOZ. "J" WAS 3"Ø, NOZ. "F" WAS 1"Ø, ADDED HANDLES TO NOZ. "A"	BCL	

TOLERANCES (EXCEPT AS NOTED)	FABRICATED PRODUCTS, INC. CHARLOTTE, N.C.		
DECIMAL ± .005	FOR: BADISCHE CORPORATION	SCALE N.T.S.	DRAWN BY B.E.R. / APPROVED BY
FRACTIONAL ± 1/8"	TITLE EXTRACTION~KETTLE K~1110		
ANGULAR ± 1/2°	DATE 10-27-80	DRAWING NUMBER 80-345 DWG. #2 SH. 1 of 1	

Rev. 3