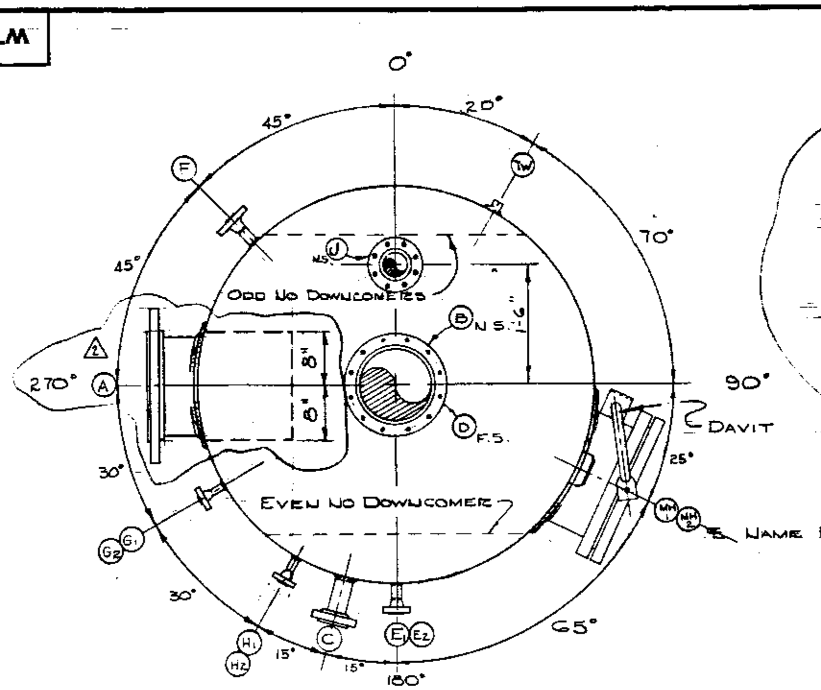
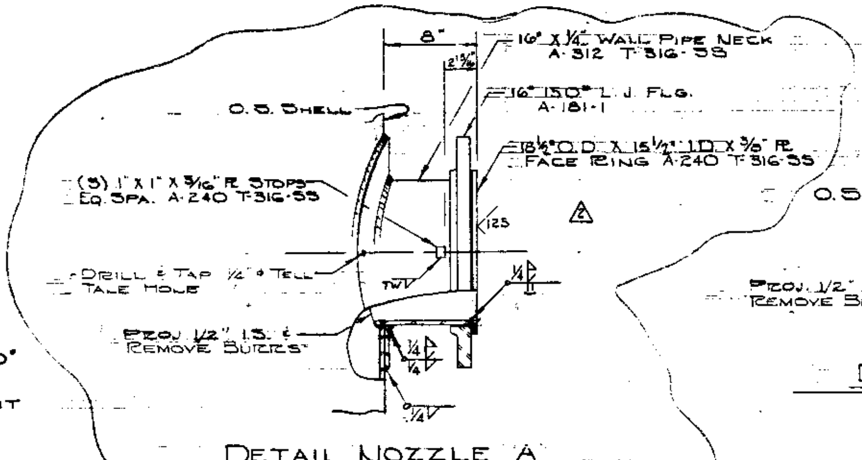
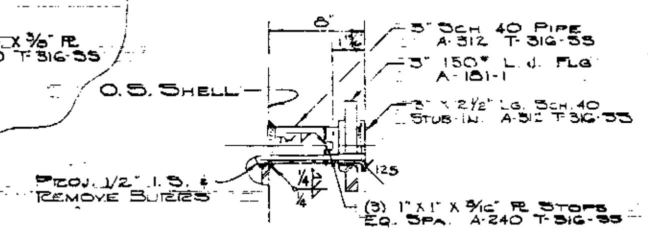


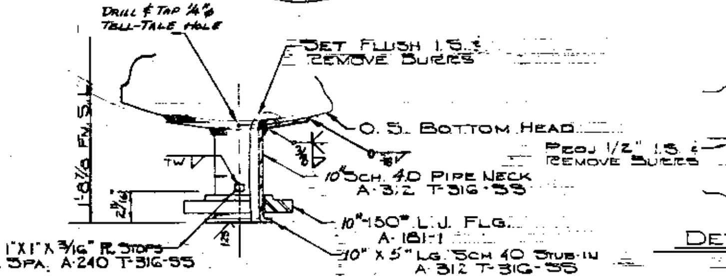
ORIENTATION
SCALE: 3/4" = 1'-0"



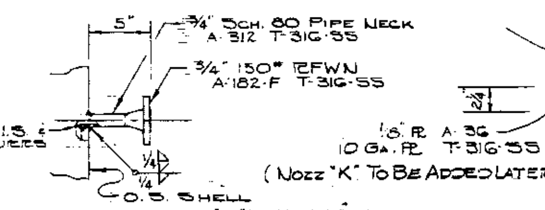
DETAIL NOZZLE "A"
SCALE: NONE



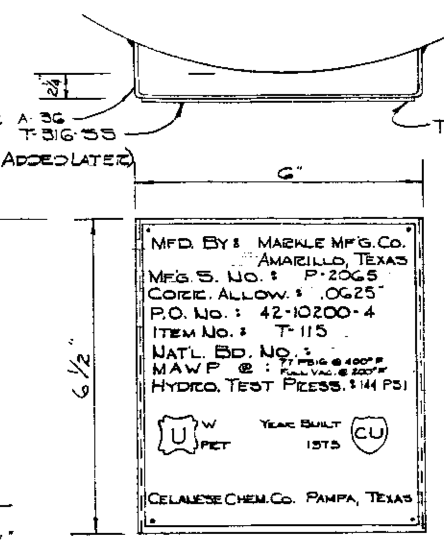
DETAIL NOZZLE "C"
SCALE: 1 1/2" = 1'-0"



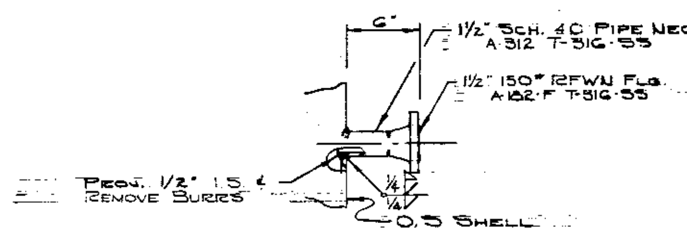
DETAIL NOZZLE "D"
SCALE: 1 1/2" = 1'-0"



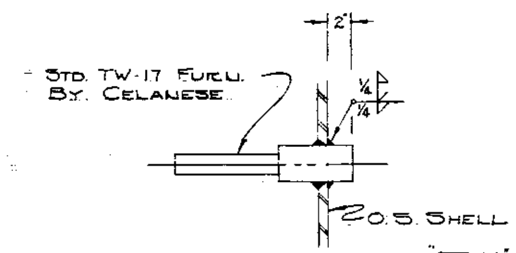
DETAIL NOZZ. "E", "G1", "H1" & "K"
SCALE: 1 1/2" = 1'-0"



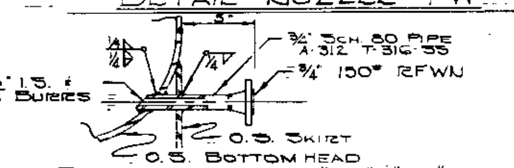
DETAIL NAMEPLATE & BRACKET



DETAIL NOZZLE "F"
SCALE: 1 1/2" = 1'-0"

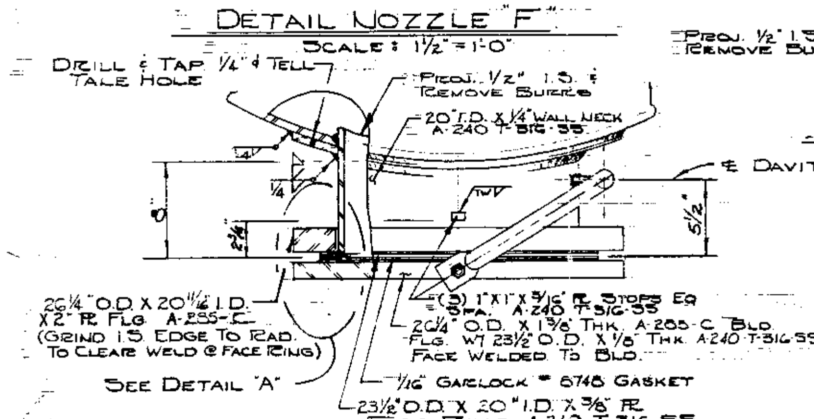


DETAIL NOZZLE "TW"

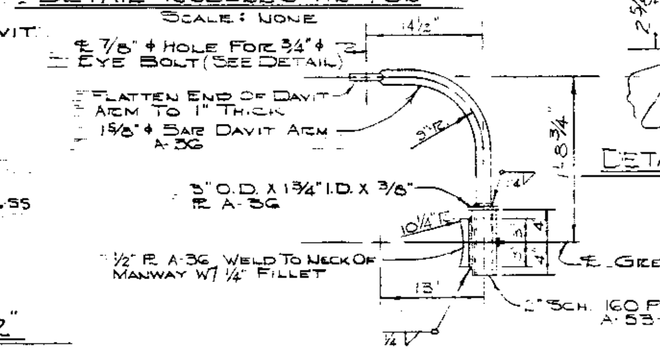


DETAIL NOZZLES "H2" & "G2"
SCALE: NONE

CERTIFIED
10-15-74

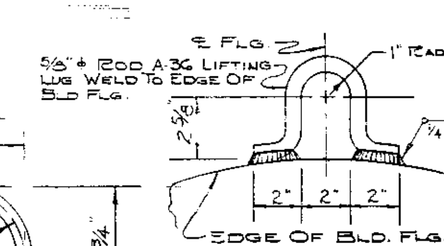


DETAIL MANHOLE "MH1" & "MH2"
SCALE: 1 1/2" = 1'-0"

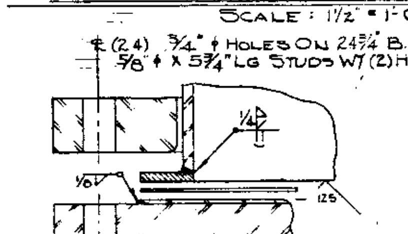


DETAIL DAVIT ARM
SCALE: 1" = 1'-0"

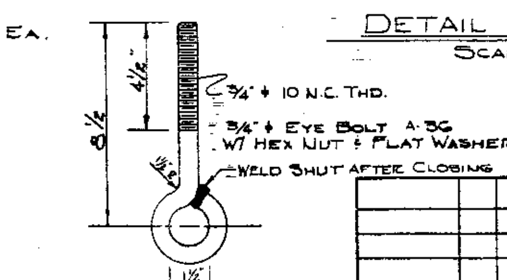
#95560



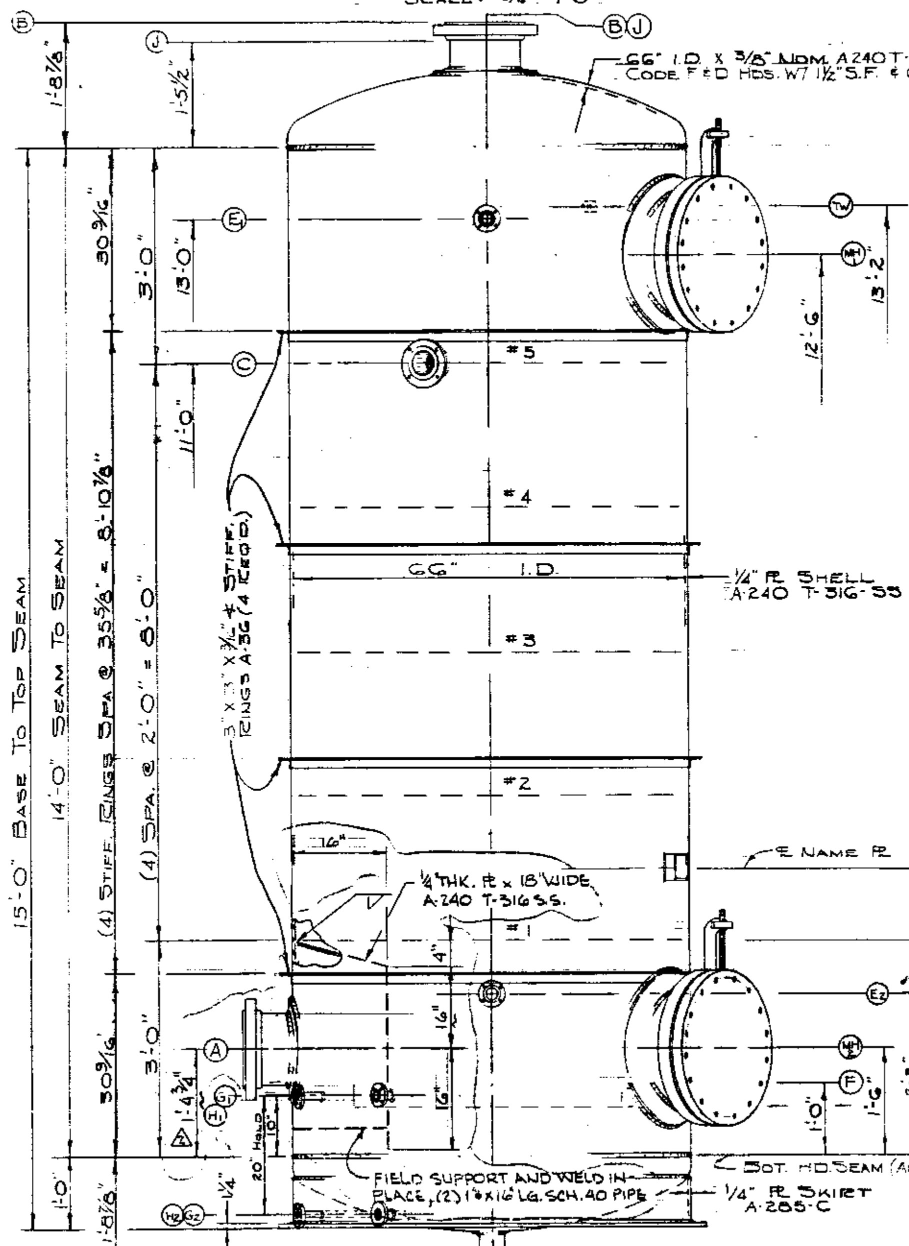
DETAIL LIFTING LUG
SCALE: 3" = 1'-0"



DETAIL "A"



DETAIL EYE BOLT



ELEVATION
SCALE: 3/4" = 1'-0"

CONNECTION SCHEDULE

Mark	No.	Size	Flange Rate	Flange Type	Flange Mat'l	Neck Thk.	Neck Mat'l	Reinf. Pad O.D.	Reinf. Pad I.D.	Reinf. Pad Thk.	Reinf. Pad Mat'l	Proj. In	Proj. Out	Service & Remarks
A	1	16"	150#	L.J.	A-181-1	1/4"	A-312 T-316-SS	21"	16 1/8"	3/8"	A-285C	1/2"	8"	Feed
B	1	12"	"	"	"	1/4"	"	24 1/2"	12 7/8"	3/8"	A-285C	"	1'-6 7/8" Fr. S. Line	Vapor Outlet
C	1	3"	"	"	"	Sch 40	"	–	–	–	–	1/2"	8"	Reflux
D	1	10"	"	L.J.	"	Sch 40	"	19"	10 7/8"	1/2"	A-285C	3/4"	8"	Residue
E	2	3/4"	"	RFWN	A-182-F T-316-SS	Sch 80	"	–	–	–	–	1/2	5"	Pressure Taps
F	1	1 1/2"	"	"	"	Sch 40	"	–	–	–	–	"	6"	Corrosion Probe
G1	1	3/4"	"	"	"	Sch 80	"	–	–	–	–	"	5"	Sight Glass
G2	1	3/4"	"	"	"	"	"	–	–	–	–	"	"	Sight Glass
H1	1	3/4"	"	"	"	"	"	–	–	–	–	"	"	LIC
H2	1	3/4"	150#	RFWN	A-182-F T-316-SS	Sch 80	A-312 T-316-SS	–	–	–	–	1/2"	5"	LIC
J	1	4"	150#	LJ	A-181-1	Sch 40	A-312 T-316-SS	8"	4 5/8"	3/8"	A-285C	1/2"	1'-5 1/2" Fr. Hd. Sm.	PSV
TW	1		–	Std TW-17	T-316-SS	–	–	–	–	–	–		2"	Furnished By Celanese
MH1	1	20"		Fab	A-285-C	1/4"	A-240 T-316-SS	28 1/2"	20 5/8"	1/4"	A-285-C	1/2"	8"	Manhole W/ Bld. & Davit
MH2	1	20"		Fab	A-285-C	1/4"	A-240 T-316-SS	28 1/2"	20 5/8"	1/4"	A-285-C	1/2"	8"	Manhole W/ Bld. & Davit
K1	1	3/4"	150#	RFWN	A-182-F T-316-SS	Sch 80	A-312 T-316-SS	–	–	–	–	1/2"		Sample Taps
K2	1	3/4"	150#	RFWN	A-182-F T-316-SS	Sch 80	A-312 T-316-SS	–	–	–	–	1/2"		Sample Taps

K1, K2: To Be Added Later

DESIGN DATA

A. ASME Code For Unfired Press. Vess. Sec. VIII 1974 Edition Div. I
B. Additional Specs.: Celanese Vendor Requirements
C. Code Symbol To Be Applied: Yes
D. Design Press.: {30 PSIG @ 400°
E. Design Temp.: {Full Vac. @ 200°
F. Corr. Allow.: .0625"
G. Type Of Heads: Code F & D
H. Stress Relief Req'd.: No
I. Radio Graph Req'd.: Spot Per Code
J. Joint Efficiency: Shell 85% Head 100%
K. Max Allow. Working Press. Before Corr. Allow. 96 PSIG Limited By: Heads
After Corr.: 77 PSI Limited By: Heads
L. Hydrostatic Test Press.: 144 PSI
M. Hammer Test: None
N. Weight Empty: 11,952 Lbs.
O. Weight Full Of Water: 35,628 Lbs.
P. Design Wind Press.: 30 PSF

MATERIAL SPECIFICATIONS

A. Shell: ASTM A-240 T-316-SS
B. Heads: ASTM A-240 T-316-SS
C. Flange: ASA A-182-F T-316-SS & A-181-1 / A-285C
D. Nozz. Neck: ASTM A-312 T-316-SS & A-240 T-316-SS
E. Nozz. Reinf.: ASTM A-285-C
F. Press. Bolting: Studs ASTM A-193-B7
Nuts ASTM A-194-2H
G. Internals: ASTM A-240 T-316-SS & A-312 T-316-SS
H. Structural Supts: ASTM A-36 & A-285C
I. Stiff. Rings: ASTM A-36
J. Gaskets: 1/16" Garlock #8748
K. Paint: Sandblast & Spray One Coat Red Lead Primer @ C.S. Only
L. Weld Elect.: SS To SS 3/32" ASTM E-317
CS To SS 3/32" ASTM E-310

GENERAL NOTES

A. All Bolt Holes To Straddle Norm ℄
B. Protect All Mach. Surfaces & Threaded Conn. With Rust Preventive
C. Vess. Shall Be Drained, Cleaned, & All Openings Covered Before Shipping
D. All Flgs. Shall Be ASA Std. Except Manhole

Celanese P.O. No. 42-10200-4

Ref. Dwg. No.: WT-11188
WT-11189
WT-11190

W.O. No.	No.	Description	By	Ck.	App'd	Date
3-5749	2	Revised Nozzle "A"	RER	GFL	BTL	7-27
1-5336	1	Revised Nozzle "D"	DMG	AHM	DGF	11-29-79

REVISIONS

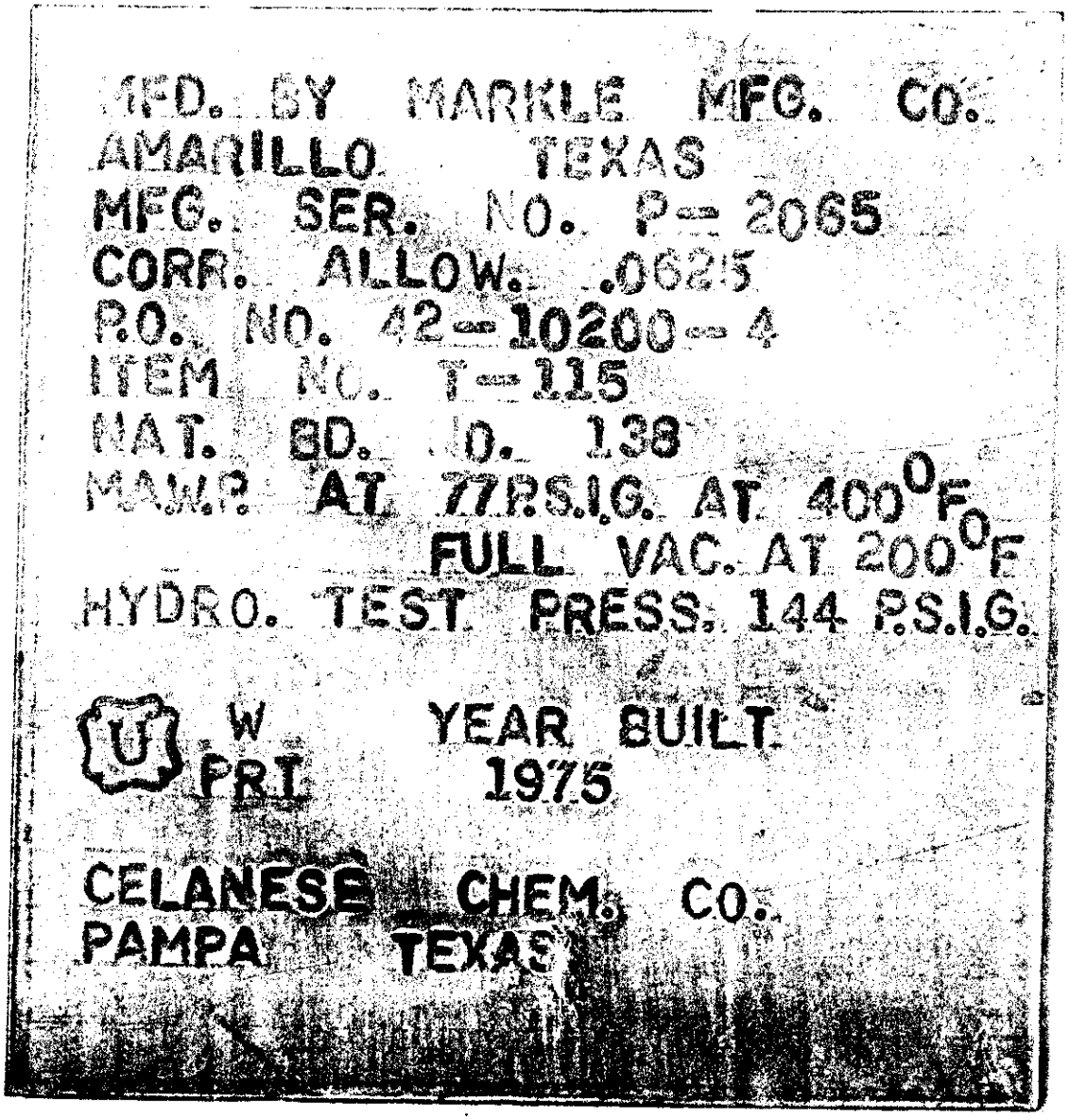
Form P-490
Rev. 4-66

Pampa Engineering Dept
CELANESE CHEMICAL COMPANY
A Division of Celanese Corporation

Area XV
MF AcA Unit
66" I.D. X 14'-0" Seam-Seam
Vertical Tower
Plan & Elevation
Item T-115

Dr. By Fountain	Date 8-1-74	Scale	Drawing No.
Ck. By BM	Date 9-4-74	As Shown	WT-11187-2
App. By	Date 2-28-75		
App. By	Date		

MARKLE DWG. NO.: 74-67-3704-01


MFD. BY MARKLE MFG. CO.
AMARILLO TEXAS
MFG. SER. NO. P-2065
CORR. ALLOW. .0625
P.O. NO. 42-10200-4
ITEM NO. T-115
NAT. BD. NO. 138
MAW.P. AT 77 P.S.I.G. AT 400°F
FULL VAC. AT 200°F
HYDRO. TEST PRESS. 144 P.S.I.G.
U W PRI
YEAR BUILT
1975
CELANESE CHEM. CO.
PAMPA TEXAS

#95560

FORM U-1A MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

Alternate Form For Single Chamber Completely Shop Fabricated Vessels Only

As required by the Provisions of the ASME Code Section VIII — Division 1 and the National Board

$9560

1. Manufactured by Markle Manufacturing Company, Amarillo, Texas
(Name and address of Manufacturer)

2. Manufactured for Celanese Chemical Co., Pampa, Texas
(Name and address of Purchaser)

3. Type Vertical (Horiz. or Vert.) Vessel No. (P-2065 (Mfrs. Serial)) ( ) (State & Std. No.) Nat'l Bd. No. 138 Yr. Built 1975

4. SHELL: Mat'l SA-240 T-316 (Kind and Spec. No.) T.S. 75,000 (Flg. or F. B. & Spec. Min. T.S.) Nom. Thk. .250 Corr. .0625 in. Allow. in. Diam. 5 ft. 6 in. Length 14 ft. 0 in.

5. SEAMS: Long Dbl. Butt (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No)[1] R.T. Spot (Spot or Complete) Sectioned No (Yes or No) Efficiency 85 %
Girth Dbl. Butt H.T. No R.T. Spot Sectioned No No. of Courses 3
If riveted or brazed describe seams fully under remarks.

6. HEADS: (a) Material SA-240-T-316 T.S. 75,000 (b) Material SA-240 T-316 T.S. 75,000

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) Top	.375 Nom.	66"	4"					Concave
(b) Bottom	.375 Nom.	66"	4"					Concave

If removable, bolts used (Material, Spec. No., T.S., Size, Number) Other fastening (Describe or Attach Sketch)

7. Constructed for max. allowable working press.[2] Full Vac. psi. at max. temp. at 200° F. Min. temp. (when less than −20°) °F. Hydrostatic / Pneumatic / Combination Test Press. 144 psi.

8. SAFETY OR RELIEF VALVE OUTLETS: Number 1 Size 4" Location In top head.

9. NOZZLES:

Purpose, (Inlet Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Inlet-Outlet	2	12"	Pipe	SA312-T316	.250	SA-285-C	Welded to Shell
Outlet	1	4"	"	"	.237	"	" "
Inlet	1	3"	"	"	.216	None	Welded in Shell
Cor. Probe	1	1-1/2"	"	"	.145	"	" "
Various	8	3/4"	"	"	.154	"	" "

10. INSPECTION OPENINGS Manholes, No. 2 Size 20" Location In shell at top and bottom
Handholes, No. Size Location
Threaded, No. Size Location

11. SUPPORTS: Skirt Yes (Yes or No) Lugs (Number) Legs (Number) Other (Describe) Attached Welded to bottom head. (Where & How)

12. REMARKS: 66" I.D. x 14'-0" Seam-Seam Vertical Tower, Item T-115, per Celanese Dwg. #WT-11187, Markle Mfg. Co. Dwg. 74-67-3704-01.

(Brief description of purpose of the vessel, as Air Tank, After Cooler, Jacketed Cooker, etc. State contents.)
1 If Postweld Heat Treated 2 list other internal or external pressures with coincident temperature when applicable.

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 Unfired Pressure Vessels. Section VIII, Division 1.

Date 1-20 19 75 Signed Markle Mfg. Co. (Manufacturer) By H.E. Sprue[illegible]
H.E. Sprue[illegible], V-P & Gen. Mgr.

Certificate of Authorization Expires July 30, 1977.

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Markle Mfg. Co. at Amarillo, Texas

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 Texas and employed by Commercial Union Assurance Cos of Boston, Mass. have inspected the pressure vessel described in this manufacturer's data report on Jan. 16 19 75 and state that to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code.
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel 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 1-20 19 75.

Inspectors Signature

Commissions Nat'l Board 5912
Nat'l Board, State, or Province and No.