C

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

#93874

1. Manufactured and certified by WARD TANK CORPORATION, 6670 EAST HARRIS BLVD., CHARLOTTE, NC 28215
(Name and address of manufacturer)

...actured for FMC Corp., 440 Route 22 East, Bridgewater, NJ 08807
(Name and address of purchaser)

3. Location of installation FMC Corp., 1701 East Patapsco Ave., Baltimore, MD 21226
(Name and address)

4. Type: Horizontal (Horiz. or vert. tank) | W-2751 (Mfg's serial No.) | N/A (CRN) | 94-W-2751 (Drawing no.) | 1278 (Nat'l Bd. No.) | 1995 (Year built)

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 1992 (Year)

to 1993 (Addenda (Date)) | N/A (Code Case Nos.) | N/A (Special Service per UG 120(d))

6. Shell: SA-240 Ty 304L (Mat'l. (Spec. No., Grade)) | 1/2" (Nom. Thk. (in.)) | 1/32" (Corr. Allow. (in.)) | 8'-5" (Diam. I.D. (ft. & in.)) | 14'-3" (Length (overall) (ft. & in.))

7. Seams: 1 (Long. (Welded, Dbl., Sngl., Lap, Butt)) | Spot (R.T. (Spot or Full)) | 85 (Eff. (%)) | N/A (H.T. Temp (F)) | N/A (Time (hr)) | 1 (Girth (welded, Dbl., Sngl., Lap, Butt)) | Spot (R.T. (Spot, Partial, or Full)) | 2 (No. of Courses)

8. Heads: (a) Matl. SA-240 Ty 304L (Spec No., Grade) (b) Matl. (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	3/8"	1/32"	102"	6.5"	---	---	---	---	Concave
(b)										

If removable, bolts used (describe other fastenings) N/A
(Matl., Spec. No., Gr., Size, No.)

9. MAWP 15 & FV. psi at max. temp. 230 * F

Min. design metal temp. -20 * F at 15 psi. Hydro., [illegible]., or [illegible]. test pressure 23 PSI psi.

10. ...ties, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
Manway	2	24"	Cl-150 LJ	SA-240 Ty 304L	1/2"	None	Welded	Shell
Process	7	1 1/2"-2"	Cl-150 LJ	SA-312 Ty TP304L WLD	S80	None	Welded	
Process	4	3"-4"	Cl-150 LJ	SA-312 Ty TP304L WLD	S40s	None	Welded	

11. Supports: Skirt No (Yes or no) | Lugs — (No.) | Legs — (No.) | Other (2) Saddles (Describe) | Attached Welded to Shell (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report:
(2) 102"OD. Heads; SR# 9573881 & 9573882 ; Enerfab Corp.
(Name of part, item number, Mfg'r's name and identifying stamp)
The Customer is responsible for the pressure relief device per UG 125 F.N. 39.
Customer P.O.No.-JB-94037-11.05 ; Customer Equip.No.-T-15070
Impact test exempt per UHA-51(c) & UCS-66(a)(1)(b)&(c).

CERTIFICATE OF SHOP 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. "U" Certificate of Authorization No. 18,365 expires 2-17 19 96.

Date 6-28-95 Co. Name WARD TANK CORPORATION (Manufacturer) Signed [signature] (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by WARD TANK CORPORATION at CHARLOTTE, NC 28215

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of NC and employed by NC. Department of Labor Raliegh, NC. have inspected the component described in this Manufacturer's Data Report on 6-28, 19 95, and state that, to the best of my knowledge and belief, the ...facturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his ...yer 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 6-28-95 Signed [signature] (Authorized Inspector) Commissions NB 10508(B,A), NC 1230 (Nat'l Board (incl. endorsements) State, Prov. and No.)

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Enerfab, Inc. 4955 Spring Grove Avenue Cincinnati, Ohio 45232
(Name and address of Manufacturer)

2. Manufactured for Ward Tank Corporation P.O. Box 560066 Charlotte, NC 28256-0066
(Name and address of Purchaser)

3. Location of installation Unknown
(Name and address)

$ 93874

4. Type: ASME Flanged & Dished Head | 9573882 | --
(Description of vessel part (shell, two-piece head, tube bundle)) | (Mfg's serial No.) | (CRN)

-- | 957388 | Enerfab, Inc. | 1995
(Nat'l. Bd. No.) | (Drawing No.) | (Drawing prepared by) | (Year built)

5. ASME Code, Section VIII, Div. 1 1992 Edition Dec. 1993 Addenda | -- | ---
Edition and Addenda (date) | Code Case No. | Special Service per UG-120(d)

6. Shell (a) No. of course(s): --- (b) Overall length (ft & in.): ---

Course(s)			Material	Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatmen	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Tim
-													--
-													--
-													--

7. Heads: (a) SA240 304L -- (b) ---
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp | (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness Min.	Thickness Corr.	Radius Crown	Radius Knuckle	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure Convex	Side to Pressure Concave	Category A Type	Category A Full, Spot, None
(a)	Unknown	.47"	Unk	102.'	6.5"							1	Full
(b)													

If removable, bolts used (describe other fastening) ---
(Mat'l Spec. No., Grade, Size, No.)

8. MAWP -- (internal) -- (external) psi at max. temp. -- (internal) -- (external) °F Min. design metal temp. -- °F at --

pact test ---
(Indicate yes or no and the component(s) impact tested)

10. Hydro., pneu., or comb. test press. --- Proof test ---

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material Nozzle	Material Flange	Nozzle Thickness Nom.	Nozzle Thickness Corr.	Reinforcement Material	How Attached Nozzle	How Attached Flange	Location (Insp. Ope
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12. Supports: Skirt --- (Yes or No) Lugs -- (No.) Legs -- (No.) Others --- (Describe) Attached --- (Where and How)

13. Remarks No design function performed by Enerfab, Inc.
7. 102."OD

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. 2631 Expires December 31, 19 97

Date 2-7-95 Name Enerfab, Inc. (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP/FIELD 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 Ohio and employed by Hartford Steam Boiler Inspection & Insurance Co. of Hartford, CT have inspected the pressure vessel part described in this Manufacturer's Data Report on 2-7, 19 95, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor employer makes any warranty, expressed or implied, concerning the pressure vessel part 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 2-7-95 Signed (Authorized Inspector) Commissions (Nat'l Board incl. endorsement, State, Province and No.)

This form may be obtained from The National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Ave., Columbus., OH 43229 NB-1 Rev.

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

Manufactured and certified by Enerfab, Inc. 4955 Spring Grove Avenue Cincinnati, Ohio 45232
(Name and address of Manufacturer)

Manufactured for Ward Tank Corporation P.O. Box 560066 Charlotte, NC 28256-0066
(Name and address of Purchaser)

3. Location of installation Unknown (Name and address) #93874

4. Type: ASME Flanged & Dished Head (Description of vessel part (shell, two-piece head, tube bundle)) 9573881 (Mfg's serial No.) -- (CRN)

-- (Nat'l. Bd. No.) 957388 (Drawing No.) Enerfab, Inc. (Drawing prepared by) 1995 (Year built)

5. ASME Code, Section VIII, Div. 1 1992 Edition Dec. 1993 Addenda (Edition and Addenda (date)) -- (Code Case No.) --- (Special Service per UG-120(d))

6. Shell (a) No. of course(s): --- (b) Overall length (ft & in.): ---

Course(s)			Material	Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
-													--
-													--
-													--

7. Heads: (a) SA240 304L -- (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp (b) --- (Mat'l Spec. No., Grade or Type) H.T. - Time & Temp

	Location (Top, Bottom, Ends)	Thickness Min.	Thickness Corr.	Radius Crown	Radius Knuckle	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure Convex	Side to Pressure Concave	Category A Type	Category A Full, Spot, None	Category A Eff.
(a)	Unknown	.48"	Unk	102."	6.5"							1	Full	--
(b)														

If removable, bolts used (describe other fastening) --- (Mat'l Spec. No., Grade, Size, No.)

8. MAWP -- (Internal) -- (external) psi at max. temp. -- (Internal) -- (external) °F Min. design metal temp. -- °F at -- p

Impact test --- (Indicate yes or no and the component(s) impact tested)

10. Hydro., pneu., or comb. test press. --- Proof test ---

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material Nozzle	Material Flange	Nozzle Thickness Nom.	Nozzle Thickness Corr.	Reinforcement Material	How Attached Nozzle	How Attached Flange	Location (Insp. Open.)

---											

12. Supports: Skirt --- (Yes or No) Lugs -- (No.) Legs -- (No.) Others --- (Describe) Attached --- (Where and How)

13. Remarks No design function performed by Enerfab, Inc.
7. 102."OD

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. 2631 Expires December 31, 1997

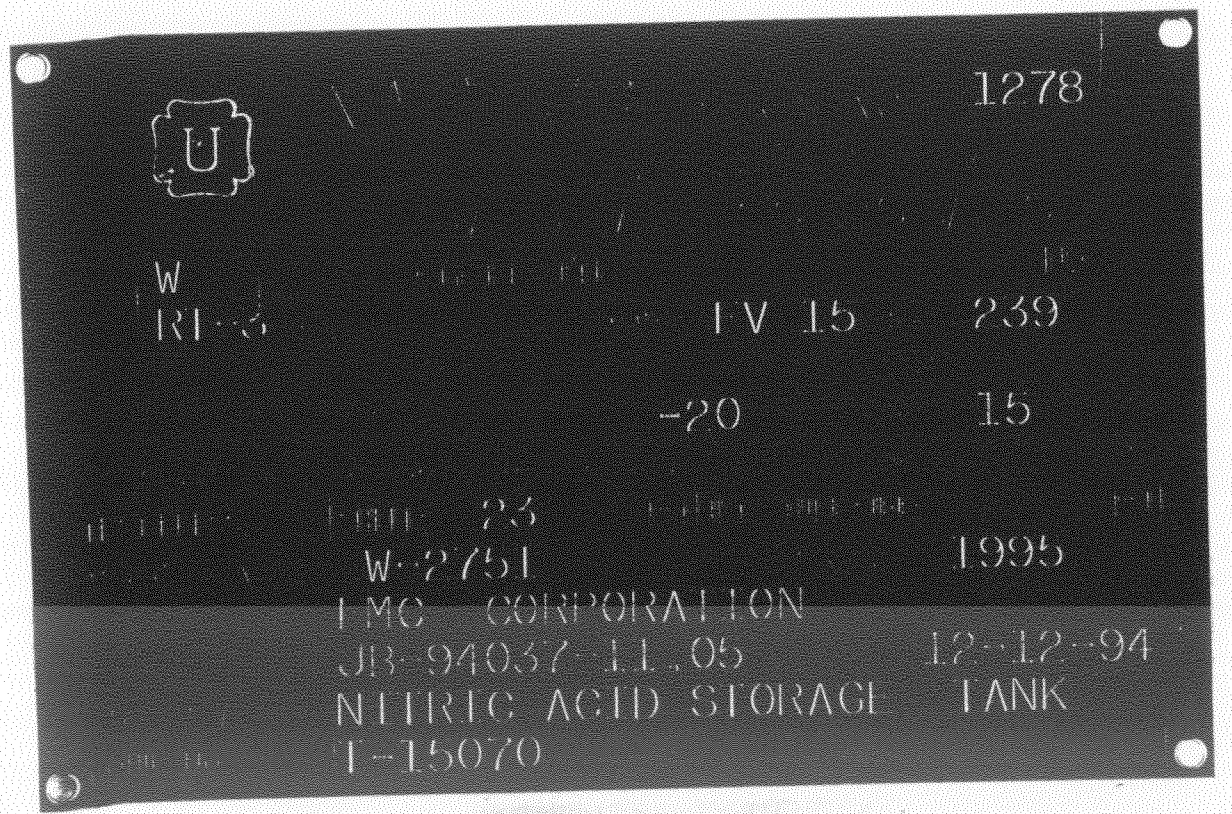
Date 2-7-95 Name Enerfab, Inc. (Manufacturer) Signed Tim Cox (Representative)

CERTIFICATE OF SHOP/FIELD 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 Ohio and employed by Hartford Steam Boiler Inspection & Insurance Co. of Hartford, CT have inspected the pressure vessel part described in this Manufacturer's Data Report on 2-7, 19 95, and state that, to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel part in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor employer makes any warranty, expressed or implied, concerning the pressure vessel part 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 2.7.95 Signed [signature] (Authorized Inspector) Commissions Ohio 1 (Nat'l Board Incl. endorsement, State, Province and No.)

#93874


1278
W
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-20
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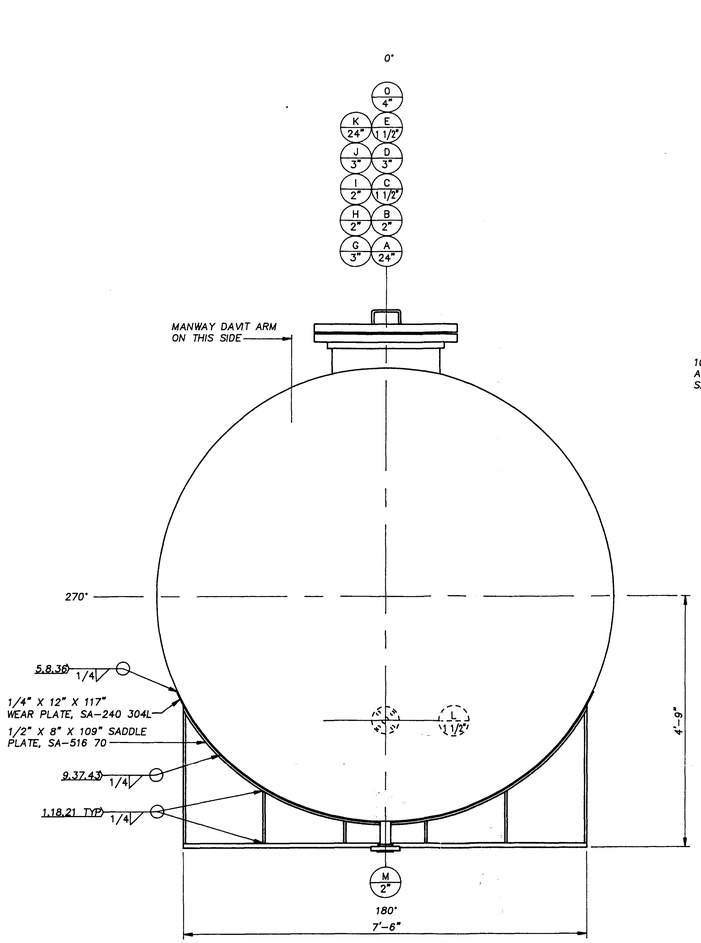
23
W-2751
1995
IMC CORPORATION
JB-94037-11.05
12-12-94
NITRIC ACID STORAGE TANK
T-15070

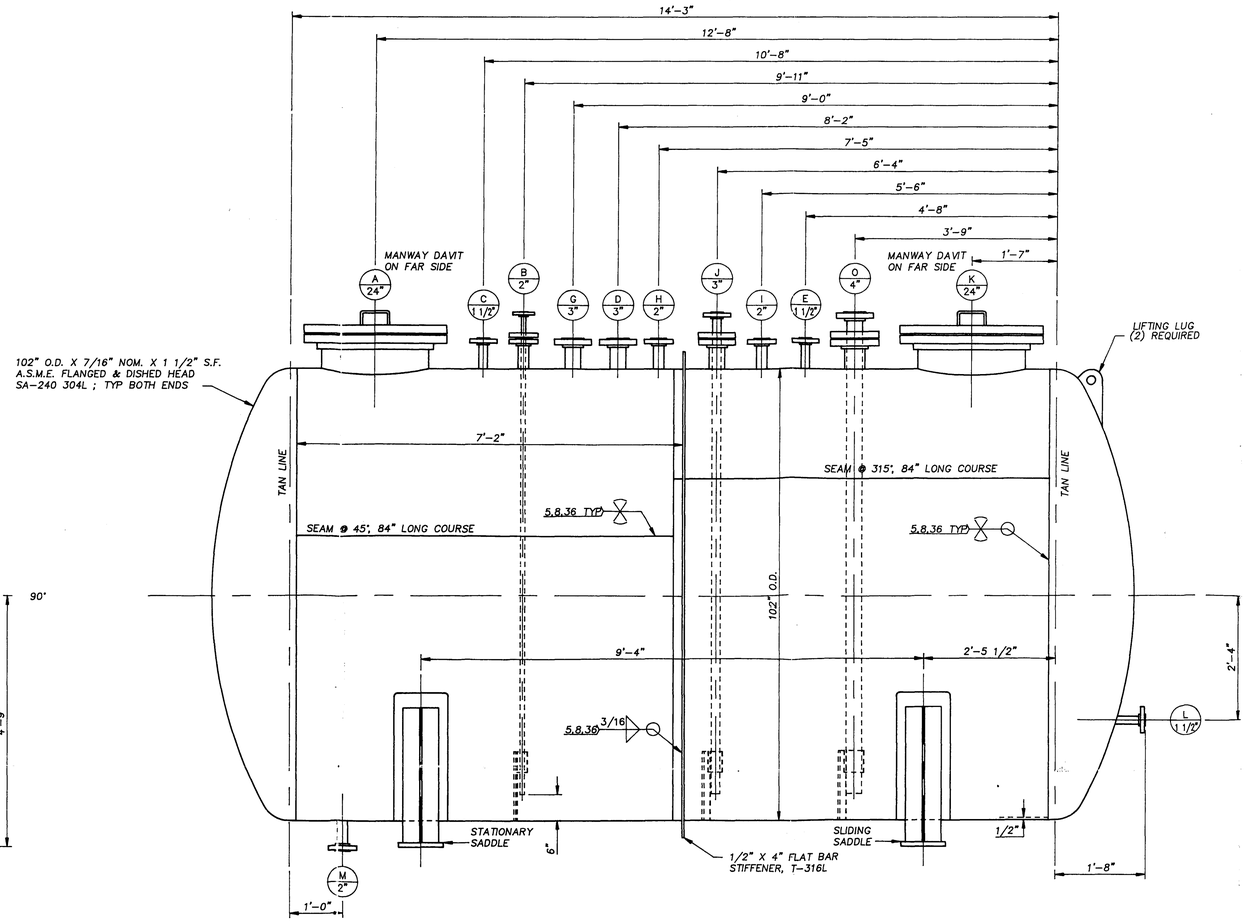
NOZZLE SCHEDULE

MK	SIZE	QUAN	NOZZLE FLANGE TYPE	NOZZLE FLANGE RAT'G	NOZZLE FLANGE MAT'L	NECK SCH	NECK MAT'L	REPAD THK	REPAD O.D.	PROJ	ORIENT	SERVICE
A	24"	1	LJ	150#	SA-105	1/2"	304L			8"	0°	MANWAY W/ DAVIT
B	2"	1	"	"	"	80	"			7"	0°	LEVEL TRANS. W/ 1" DIP
C	1 1/2"	1	"	"	"	80	"			7"	0°	LEVEL SWITCH
D	3"	1	"	"	"	40	"			7"	0°	SPARE W/ BLIND
E	1 1/2"	1	"	"	"	80	"			7"	0°	VENT TO TRUCK
G	3"	1	"	"	"	40	"			7"	0°	SPARE W/BLIND
H	2"	1	"	"	"	80	"			7"	0°	RELIEF
I	2"	1	"	"	"	80	"			7"	0°	VENT TO SCRUB
J	3"	1	"	"	"	40	"			7"	0°	PUMP RETURN W/ 1 1/2" DIP
K	24"	1	"	"	"	1/2"	"			8"	0°	MANWAY W/ DAVIT
L	1 1/2"	1	"	"	"	80	"			**	**	TEMPERATURE
M	2"	1	"	"	"	80	"			7"	180°	OUTLET
O	4"	1	↓	↓	↓	40	↓			7"	0°	INLET W/3" DIP

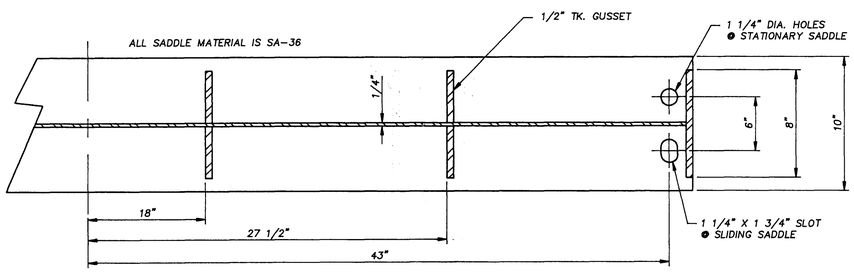
NOTE : REPAD MATERIAL IS SA-240 304L
** SEE DRAWING



LEFT END VIEW
SCALE 3/4"= 1'-0"



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



SADDLE SECTION VIEW
NO SCALE

DESIGN DATA

DESIGN CONDITIONS:
SHELL: FULL VACUUM & 15 Psig @ 239 °F
COIL: _____ Psig @ _____ °F
JACKET/TUBE SIDE: _____ Psig @ _____ °F

HYDROSTATIC TEST:
SHELL: 23 Psig
COIL: _____ Psig
JACKET/TUBE SIDE: _____ Psig

SPECIFIED CORROSION ALLOWANCE: 1/32"
RADIOGRAPHY: SPOT STRESS RELIEF: _____
2 MAWP: 15 Psig LIMITED BY: _____
CODE: A.S.M.E. SECT. VIII ; DIV. 1 ; 1992 A93 STAMP: YES
TYPE HEADS:
SHELL: A.S.M.E. FLANGED & DISHED
JACKET/TUBE SIDE: _____
JOINT EFFICIENCY: HEAD 100% ; SHELL 85%
SHIPPING WEIGHT: ~ 16000 # TEST WEIGHT: ~ 80000 #

MATERIALS

SHELL: VESSEL: 1/2" TK. SA-240 304L
JACKET/TUBE SIDE: _____
HEADS: VESSEL: 7/16" NOM. SA-240 304L
JACKET/TUBE SIDE: _____
TUBES: _____
TUBE SHEETS: _____
BAFFLES: _____
TIE RODS: _____
FLANGE SPEC.: SA-105
RATING: CLASS 150 ; A.N.S.I. B 16.5
FACING: LAP JOINT & RAISED FACE - STANDARD STOCK
EXTERNAL PIPE SPEC.: SA-312 TP 304L WLD.
INTERNAL PIPE SPEC.: SA-312 TP 304L WLD.
CLADDING OR LINING SPEC.: SA-240 304L
BOLTING: STUD: SA-193 B7 ; NUT: SA-194 2H
GASKETS: TFE ENVELOPE/ GARLOCK 6326
SUPPORTS: SA-36 SADDLES ON SA-240 304L REPADS
INSULATION: NONE
2 PAINTING: CARBON STEEL PARTS: PER FMC SPEC. 8004-A

9. VESSEL INTERIOR WILL BE CLEANED AND PASSIVATED PER W.T.C. TECHNICAL DOCUMENT # WTC-QC-10191
10. VESSEL EXTERIOR WILL BE STARBLASTED TO SSPC-SP 6 BEFORE PAINTING.
11. VESSEL EXTERIOR CARBON STEEL PARTS WILL BE PAINTED AS FOLLOWS:
(1) COAT AMERLOCK 400 HIGH SOLIDS EPOXY, YE2 IVORY
(1) COAT AMERLOCK 400 HIGH SOLIDS EPOXY, RT-150; LIGHT GRAY
(1) COAT AMERSHIELD POLYURETHANE, RT-7004 GRAY

NOTES

1. ELEVATIONS MEASURED FROM BASE LINE.
2. ORIENTATION MEASURED CLOCKWISE FROM 0°.
3. PROJECTION MEASURED FROM (CENTERLINE) (OUTSIDE) OF VESSEL TO EXTREME FACE OF FLANGE.
4. NOZZLE BOLT HOLES TO STRADDLE 0°-180° CENTERLINE OR ITS PARALLEL UNLESS NOTED OTHERWISE.
5. COVER ALL FLANGES, OPENINGS AND MACHINED SURFACES PRIOR TO SHIPMENT UNLESS NOTED OTHERWISE.
6. WELDING PROCEDURES:

# 1	SMAW	C.S. TO C.S.	# 21	GTAW	C.S. TO C.S.
# 5	GTAW	S.S. TO S.S.	# 36	GMAW	S.S. TO S.S.
# 8	SMAW	S.S. TO S.S.	# 37	GMAW	S.S. TO C.S.
# 9	SMAW	S.S. TO C.S.	# 43	GTAW	S.S. TO C.S.
# 18	GMAW	C.S. TO C.S.	# 60	CLAD	PLUG WELD

7. ALL REPADS WILL HAVE 1/8" NPT WEEP HOLE AT LOW POINT.
8. INTERIOR WELD SEAMS WILL BE GROUND SMOOTH, BUT NOT FLUSH.

CERTIFIED PLANT
WARD TANK CORPORATION
By: CAC
Date: 10.3.95

U
W
RT-3

NAT'L BD. SERIAL NO. _____
FABRICATED & CERTIFIED BY
WARD TANK CORPORATION
CHARLOTTE N.C.

SHELL	MAWP: FV 15 PSI @	239 °F	
JKT./TUBE SIDE	MAWP: PSI @	°F	
SHELL	Min. Design Metal Temp: -20 °F @	15 PSI	
JKT./TUBE SIDE	Min. Design Metal Temp: °F @	PSI	
TEST PRESS.	SHELL: 23 PSI	JKT./TUBE SIDE:	PSI
MFGR. S. N.	W-2751	YR. BUILT: 1995	
CUSTOMER	FMC CORPORATION		
P.O. NO.	JB-94037-11.05	DATE: 12.12.94	
NOMENCLATURE	NITRIC ACID STORAGE TANK		
EQUIP. NO.	T-15070		

#99814

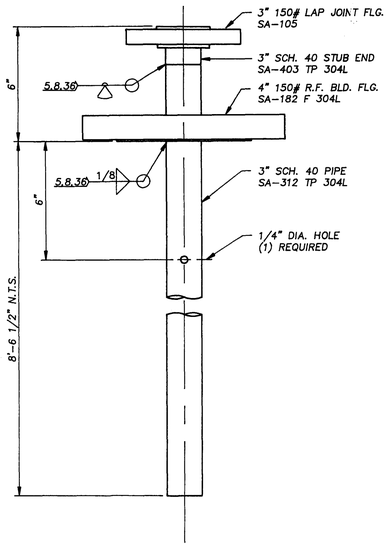
REV NO.	DATE	DESCRIPTION	BY
2	8.2.95	PAINT SPEC. - AS BUILT	C.A.C.
1	3.23.95	PER APPROVAL DRAWING	C.A.C.

QUALITY WTC SERVICE

WARD TANK CORPORATION
8570 EAST HARRIS BOULEVARD
CHARLOTTE, NORTH CAROLINA 28215

CUSTOMER: FMC CORPORATION	PURCHASE ORDER NUMBER: JB-94037-11.05
TITLE: NITRIC ACID STORAGE TANK	
EQUIPMENT NO.: T-15070	NO. REQ'D: 1
CHECKED BY: C.A.C.	DATE: 12.12.94
DRAWN BY: M.C.M.	SCALE: AS SHOWN
DRAWING NUMBER: 94-W-2751	REV. NO.: 2
	SHEET: 1 OF 2

VOID REPLACED



DIP PIPE DETAIL NOZZLE O
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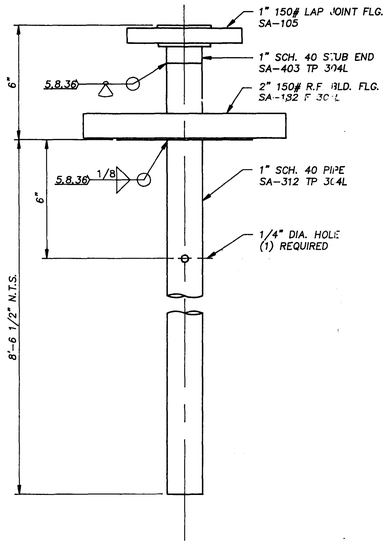

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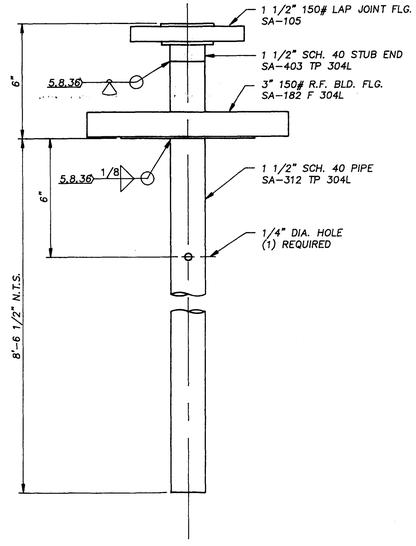

DIP PIPE DETAIL NOZZLE J
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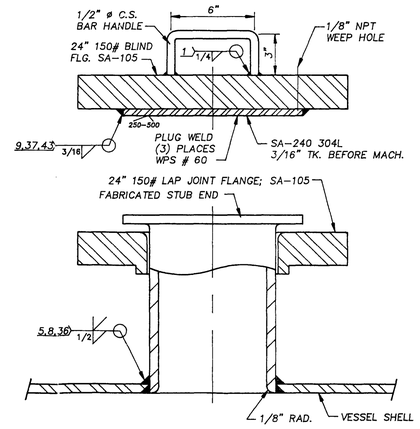

DETAIL MANWAY A & K
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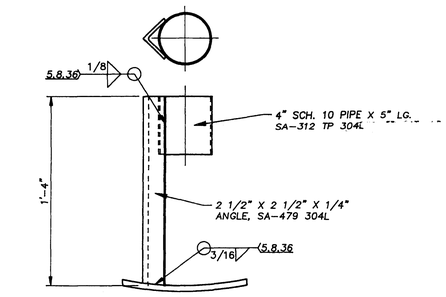

DIP PIPE SUPPORT DETAIL NOZZLE O
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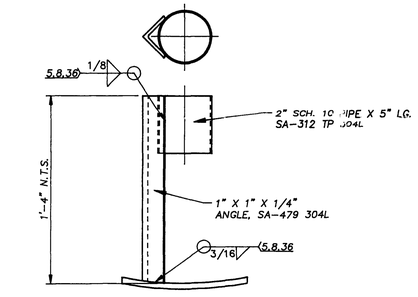

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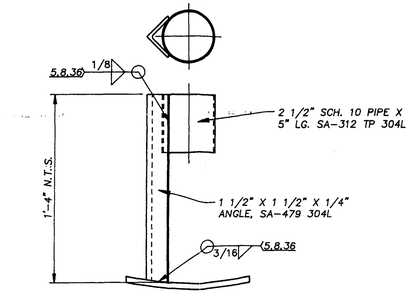
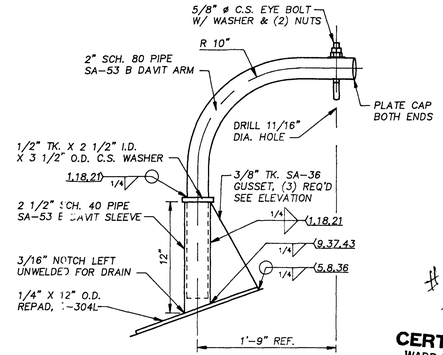


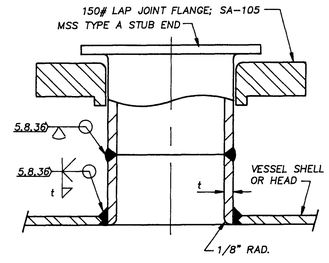
DIP PIPE SUPPORT DETAIL NOZZLE J
NO SCALE



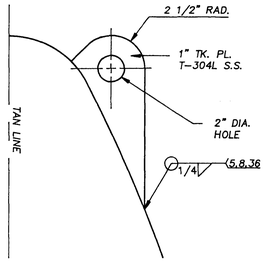
MANWAY A & K DAVIT ARM DETAIL
NO SCALE

#93874

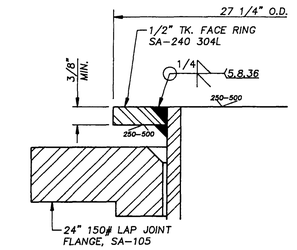
CERTIFIED PRINT
WARD TANK CORPORATION
By: CAC
Date: 10.3.95



NOZZLE ASSEMBLY DETAIL
NO SCALE



LIFTING LUG DETAIL
NO SCALE



STUB END DETAIL MANWAY A & K
NO SCALE

REV NO.	DATE	DESCRIPTION	BY
2	8.2.95	AS BUILT (NO CHANGE)	C.A.C.
1	3.23.95	PER APPROVAL DRAWING	C.A.C.

QUALITY WTC SERVICE

WARD TANK CORPORATION
6870 EAST HARRIS BOULEVARD
CHARLOTTE, NORTH CAROLINA 28215

CUSTOMER: FMC CORPORATION	PURCHASE ORDER NUMBER: JB-94037-11.05

TITLE: NITRIC ACID STORAGE TANK

EQUIPMENT NO. T-15070		NO. REQ'D 1	
CHECKED BY C.A.C.	DATE 12.12.94	DRAWING NUMBER 94-W-2751	REV. NO. 2
DRAWN BY M.C.M.	SCALE AS SHOWN		SHEET 2 OF 2