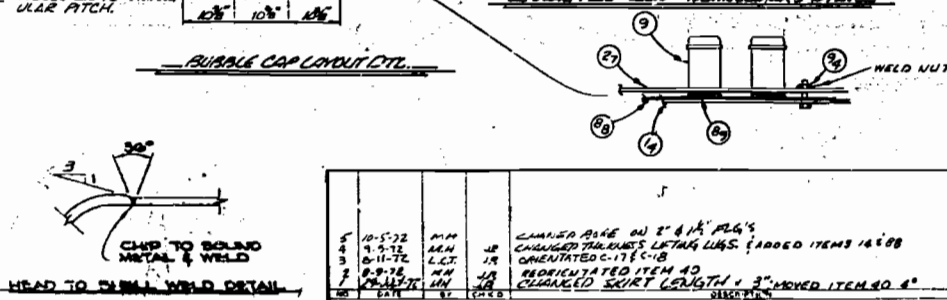
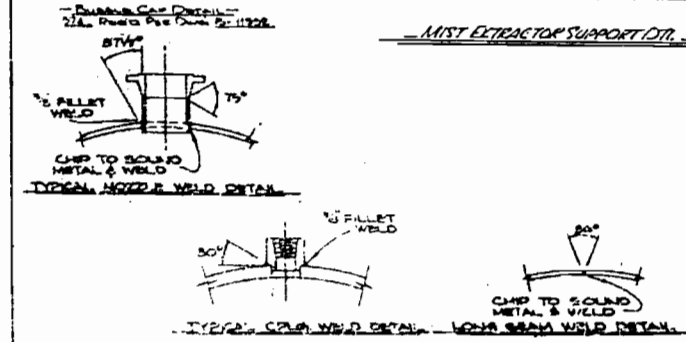
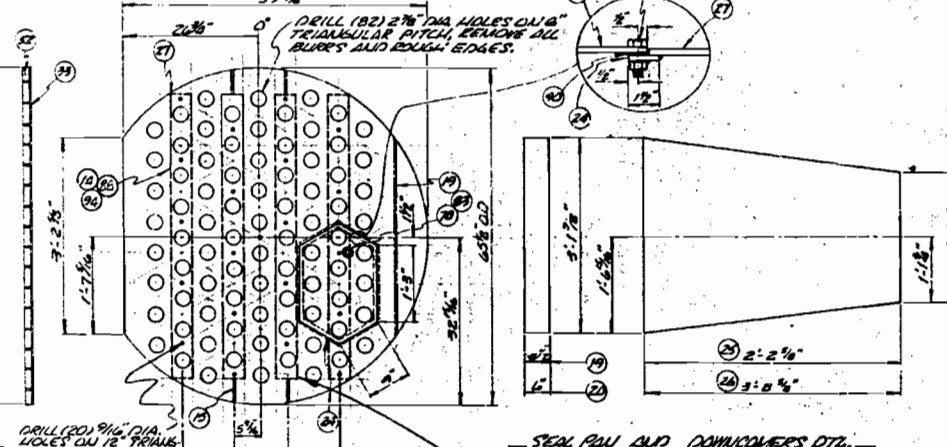
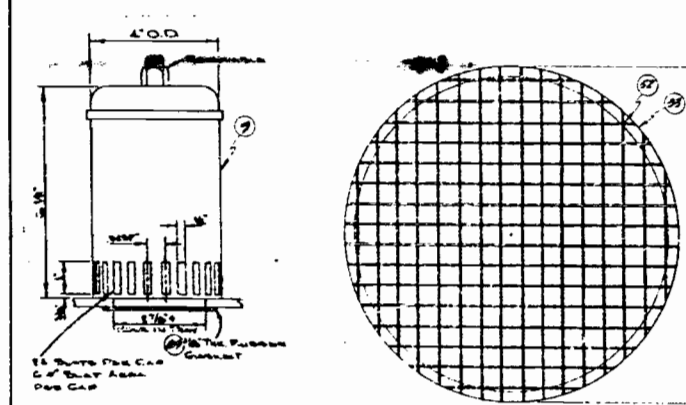
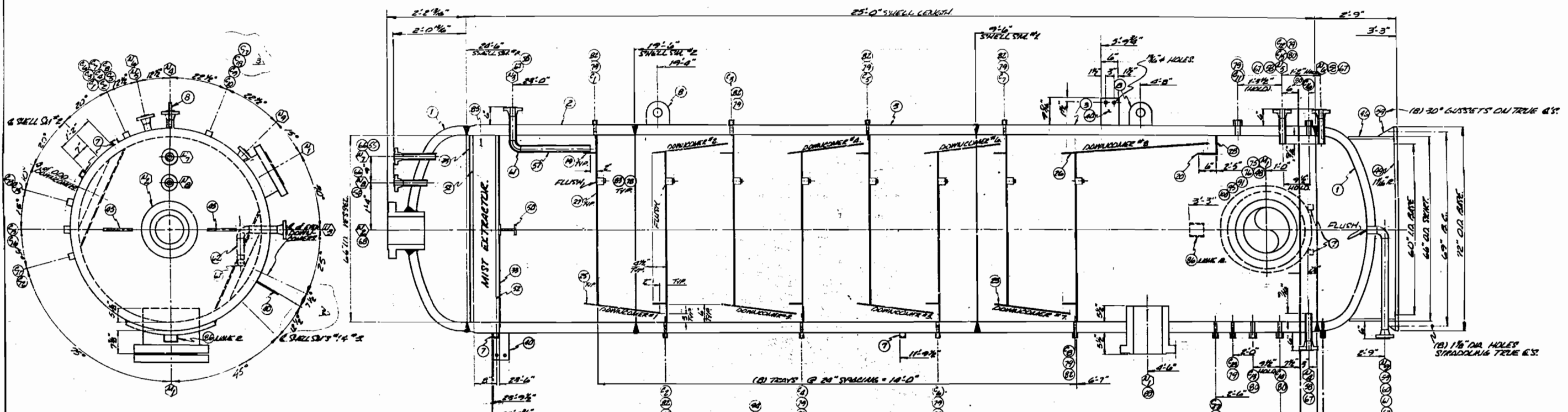


- 1. TRAY COUNT 14-6000 CRGS.
- 2. TRAY COUNT 14-6000 CRGS.
- 3. PRESSURE GAUGE 15-6000 CRGS.
- 4. THERMOMETER CONN. 15-6000 CRGS.
- 5. LEVEL SIK CONN. 15-6000 CRGS.
- 6. MAINWAY 14-600 HTY. L.W. RTU. P.G. 1/2 LG.
- 7. GAS INLET 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.
- 8. GAS OUTLET 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.
- 9. SILVER INLET 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.
- 10. COOL OUTLET 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.
- 11. LIG LEVEL CONTROLS 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.
- 12. RELIEF VALV CONN. 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.
- 13. DRAIN 10-600 HTY. L.W. RTU. 10-600 P.W. RTU. 1/2 LG.



**GENERAL SPECIFICATIONS**

**MATERIAL:**  
 SHELL: SA-516-70 1/2  
 HEADS: SA-516-70 1/2  
 TRAYS: A36  
 FLANGES: SA-516-70 1/2  
 PIPES: SA-516-70 1/2  
 WELDED FITTINGS: SA-516-70 1/2  
 BOLTS: SA-516-70 1/2  
 NUTS: SA-516-70 1/2  
 WASHERS: SA-516-70 1/2  
 GASKETS: SA-516-70 1/2

**DESIGN DATA:**  
 DESIGN PRESSURE: 150 PSIG  
 DESIGN TEMP: 100 F  
 FINAL HYDROSTATIC TEST: 210 PSIG

**HEAT TREAT:**  
 FULL  
 MIN 1100 F

**WELDING:**  
 WELD TO SHELL CORN EFFICIENCY: 100%  
 COMPRESSION ALLOWANCE: .125"

**U**  
 VESSEL TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE 1967 EDITION OF THE ASME PRESSURE VESSEL CODE, SECTION VIII, DIVISION 1, AND IS TO BE SO STAMPED, INSPECTION BY COMMERCIAL INSURANCE CO.

- GENERAL NOTES:**
- ALL NOZZLES TO HAVE FULL PENETRATION WELDS.
  - ALL CONNECTIONS TO HAVE 3/8" LEG FLUET WELDS, OUTSIDE.
  - ALL FLANGES TO HAVE BOLT HOLES STRADDLING TRAY CENTERS 1/8".
  - ALL FLANGES CONNECTIONS TO EXTEND 1/8" OUTSIDE.
  - ALL REINFORCING PADS TO HAVE 1/4" TELL-TALE WELDS.
  - REINFORCING MATERIAL TO BE THE SAME MATERIAL AS THE ELEMENT BEING REINFORCED.
  - ALL FLANGES TO HAVE CHILL RINGS, EXCEPT BELOW.
  - LIGUID LEVEL CONTROL CONNECTIONS MUST NOT HAVE CHILL RINGS.
  - ALL COUPLINGS 1 1/2" AND SMALLER TO EXTEND 1 1/8" OUTSIDE.
  - ALL COUPLINGS 2" AND LARGER TO EXTEND 2" OUTSIDE.
  - ALL CONNECTIONS TO BE PLUG WELDED BEFORE BRIMMING.
  - GASKETS.
  - APPROX. WEIGHT EMPTY, 72,000 LBS.
  - PAINTS: SEPARATOR AND DRUM: RUST BANE 141, 3-5 MILS. DRY.

10-5-72	MM	CHANGED BASE ON 2" DIA. P.L.G.'S	
4	1-1-72	MM	CHANGED THROUGHOUT LISTING UNITS (ADDED ITEMS 14 & 18)
3	9-11-72	S.C.C.	CHANGED C-715-C-B
2	8-9-72	MM	REDESIGNATED ITEM 40
1	7-20-72	MM	CHANGED SURT LENGTH + 3" (MOVED ITEM 40)

REVISIONS

DATE: 10-5-72

DRAWN BY: M. HARRIS

CHECKED BY: J. HARRIS

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

PROJECT: 66-71-D-25-01-L6 SHELL = 1440" H. O. W/18" CORRUSION, 6000L. ASSURER TOWER W/ (2) TRAYS

PRODUCT NO. 0815300875

INCHES AND DECIMALS

7-17-72

REV. BY: J.S.

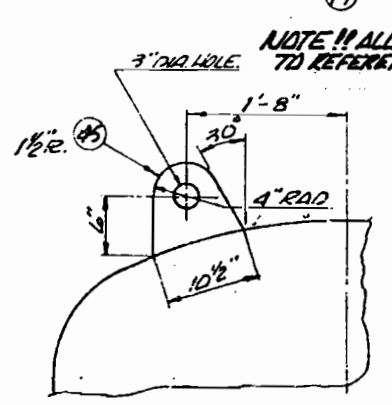
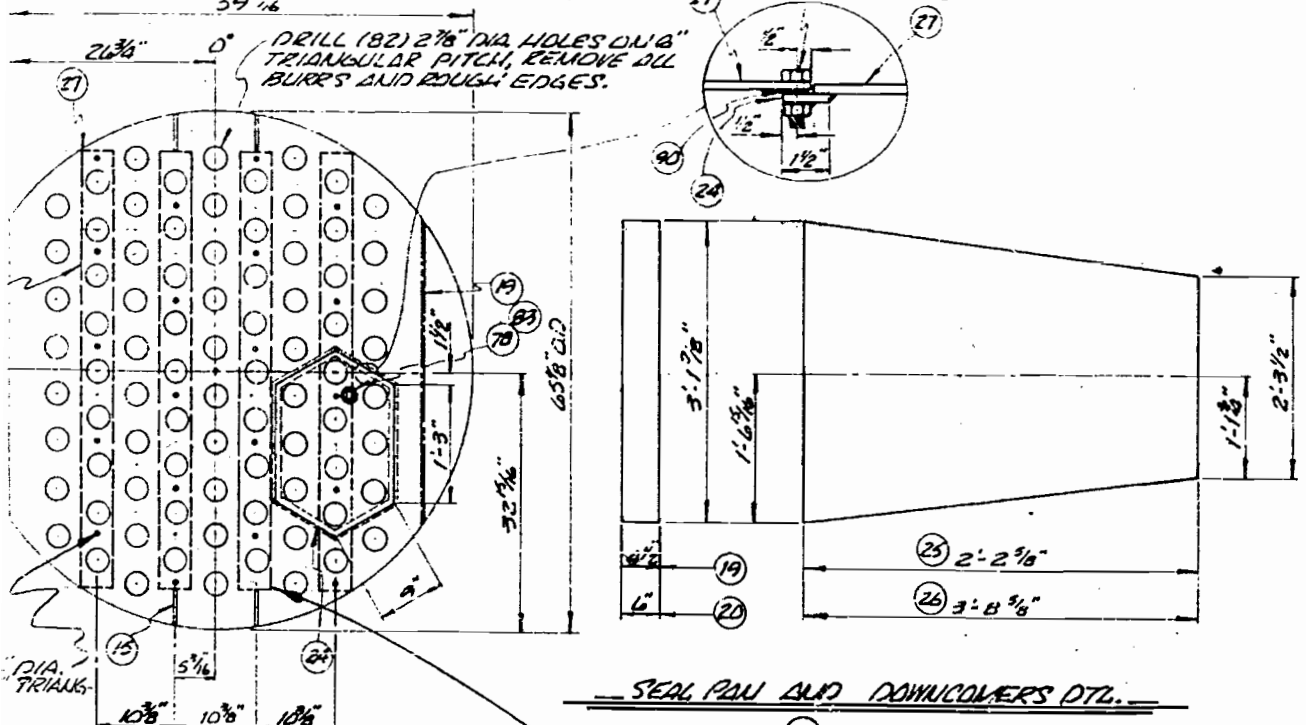
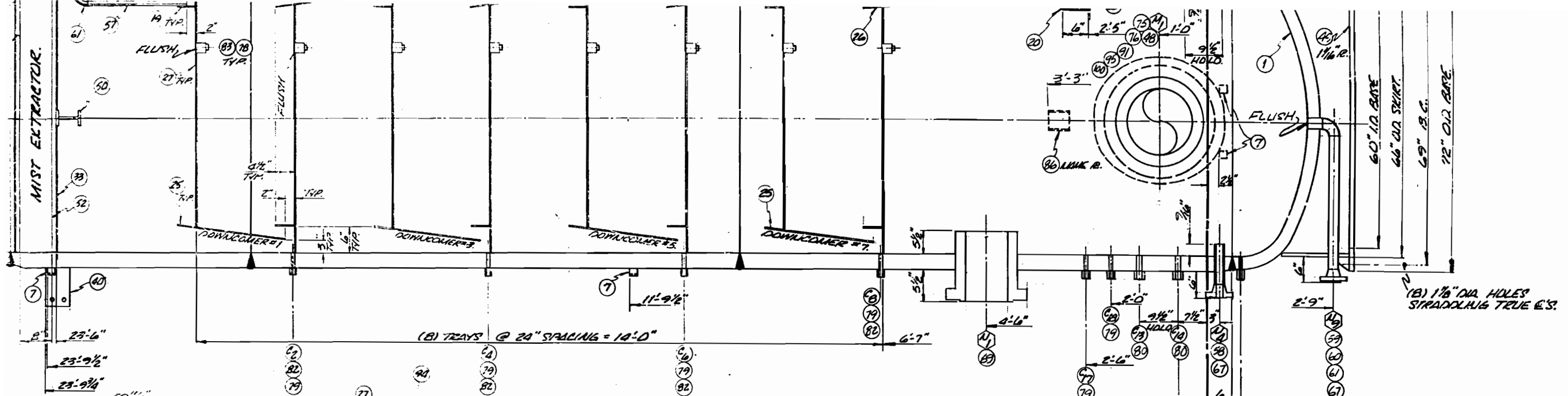
NATCO

NATIONAL TANK COMPANY

A Division of The National Tank Corporation

TEL. 214-344-1000

A-47306



**GENERAL SPECIFICATIONS**

**MATERIAL:**  
 SHELL: 3.000" THK SA-515-62 "70" P19.  
 HEADS: 2.250" (MIN) THK SA-515-62 "70" P19.  
 TYPE: 2:1 ELLIP. R of D: 1CR.  
 FLANGES: USAS B16.5  
 PIPE: SA-53 GR 78 "S&S".  
 WELDED FITTINGS: SA-234 WPB  
 COUPLINGS: SA-105 GR II  
 TUBES: SA-179 S&S.  
 STUD BOLTS: SA-193 B7  
 NUTS: SA-194-2H  
 MACH. BOLTS & NUTS: SA-307 GR 8

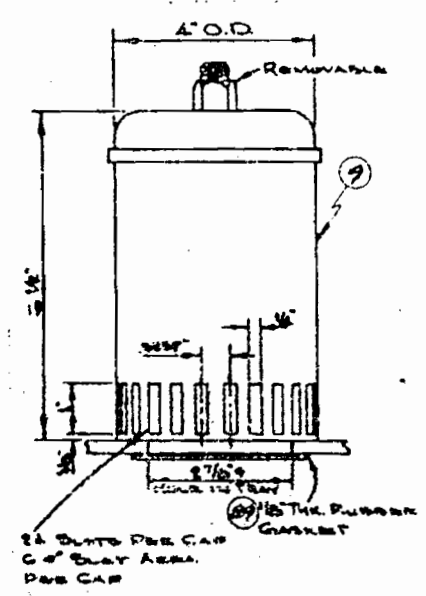
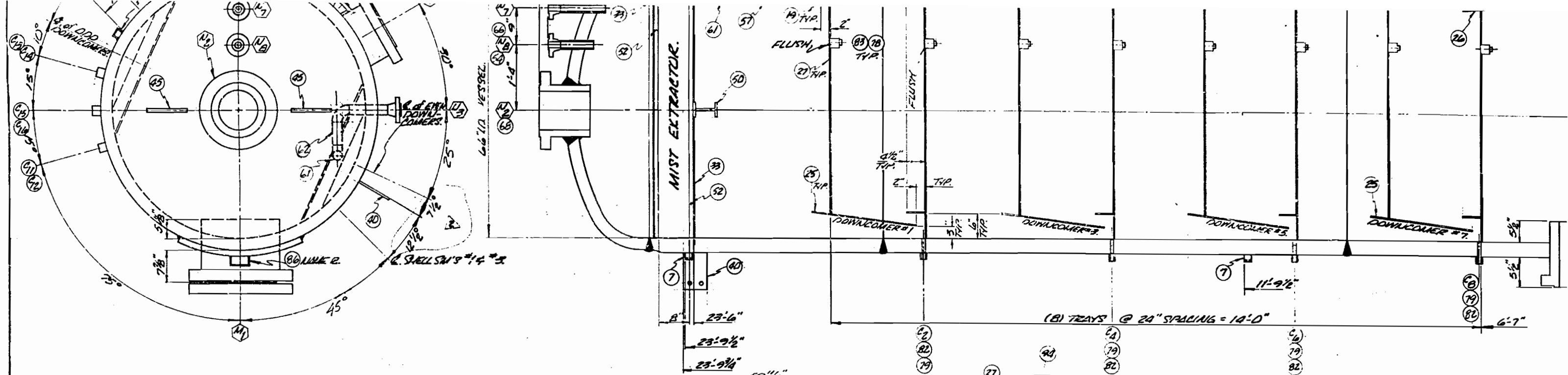
**DESIGN DATA:**  
 DESIGN PRESS: 1440 PSI @ 100 °F  
 LIMITED BY: DESIGN AND FAB.  
 FINAL HYDROSTATIC TEST: 2160 PSI  
 BASED ON:  
 X-RAY: FULL  
 HEAT TREAT: 9 HRS. 30 MIN @ 1100 F  
 LONGITUDINAL JOINT EFFICIENCY: 100 %  
 HEAD TO SHELL JOINT EFFICIENCY: % (check book only)  
 CORROSION ALLOWANCE: .125"

**U** VESSEL TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE 1977 EDITION OF THE ASME PRESSURE VESSEL CODE, SECTION VIII, DIVISION 1, AND IS TO BE SO STAMPED. INSPECTION BY COMMERCIAL UNION INSURANCE CO.

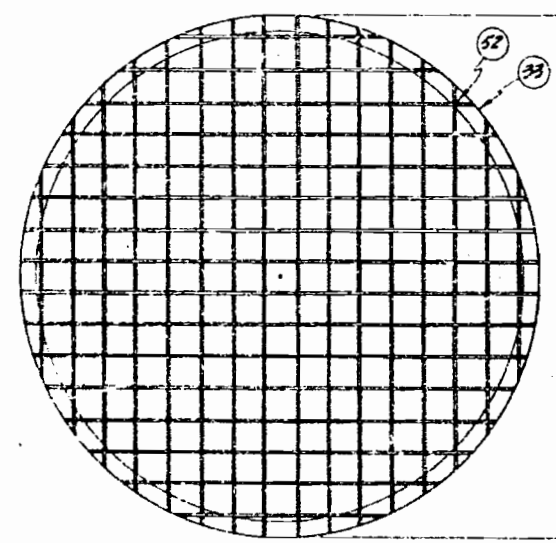
- GENERAL NOTES** (Unless otherwise noted)
1. ALL NOZZLES TO HAVE FULL PENETRATION WELDS.
  2. ALL CONNECTIONS TO HAVE 3/8" LEG FILLET WELDS OUTSIDE.
  3. ALL FLANGES TO HAVE BOLT HOLES STRADDLING TUBE CENTER LINES.
  4. ALL FLANGED CONNECTIONS TO EXTEND 6" OUTSIDE.
  5. ALL REINFORCING PADS TO HAVE 1/4" TELL-TALE HOLES.
  6. REINFORCING MATERIAL TO BE THE SAME MATERIAL AS THE ELEMENT BEING REINFORCED.
  7. ALL FLANGE TO NECK WELDS TO HAVE CHILL RINGS, EXCEPT AS BELOW.
  8. LIQUID LEVEL CONTROL CONNECTIONS MUST NOT HAVE CHILL RINGS.
  9. ALL COUPLINGS 1 1/2" AND SMALLER TO EXTEND 1 1/2" OUTSIDE.
  10. ALL COUPLINGS 2" AND LARGER TO EXTEND 2" OUTSIDE.
  11. ALL CONNECTIONS TO BE PLUGGED BEFORE SHIPPING.
  12. GASKETS: SOFT NECK RINGS.
  13. APPROX. WEIGHT EMPTY: 70,000
  14. PAINT: SANDBLAST AND PRIME. RUST BAIL 191, 3-5 MILS. DRY

CHIP TO SOUND METAL & WELD ALL WELD DETAIL

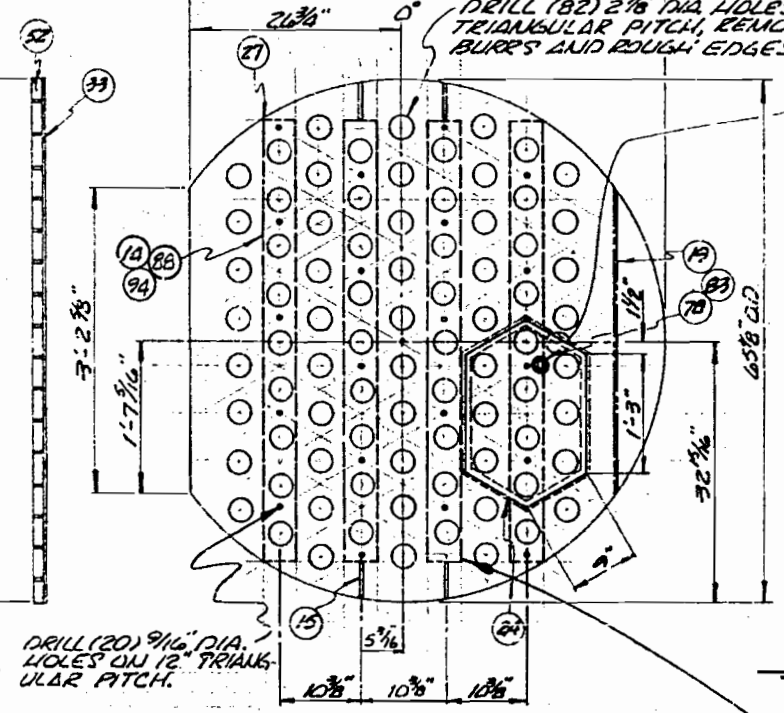
5	10-5-72	M.H.	JR	CHANGED ASSE ON 2" & 1 1/2" FLGS	This drawing is the property of NATIONAL TANK COMPANY and is lent to the recipient for his confidential use only. In consideration of the loan of this drawing the recipient promises and agrees that it shall not be used in any way detrimental to the interests of NATIONAL TANK COMPANY, that it shall be returned upon request, and that it shall not be reproduced, copied, lent or otherwise disposed of, directly or indirectly, without the written permission of NATIONAL TANK COMPANY.	DRAWN M. HAUBER	66" I.D. x 25'-0" LG. SHELL = 1440* W.P. W/ 1/8" CORRUSION, GLYCOL ABSORBER TOWER W/ (B) TRAYS.	PRODUCT I.D. NO. 0515360875	
4	9-5-72	M.H.	JR	CHANGED THRU RINGS LIFTING LUGS. ADDED ITEMS 14 & 88		DATE 18-JULY-1972		SCALE 3/8" = 1'-0"	SHOP FAB. NO. T-1720504
3	8-11-72	L.C.T.	JR	ORIENTATED C-17 & C-18		CHK'D SCH. DATUM		APP'D L.H. VICK	REVISION NO. 5
2	8-9-72	M.H.	JR	REDIENTATED ITEM 40		CUSTOMER PERMULCOIL-LIMITED, INC.		NATIONAL TANK COMPANY A Division of Combustion Engineering, Inc. TULSA, OKLAHOMA - U.S.A.	A-47306
1	24-JUL-72	M.H.	JR	CHANGED SKIRT LENGTH + 3" MOVED ITEM 40 4"		OWG. NO. _____ SUBJECT _____ REFERENCE DRAWINGS _____			



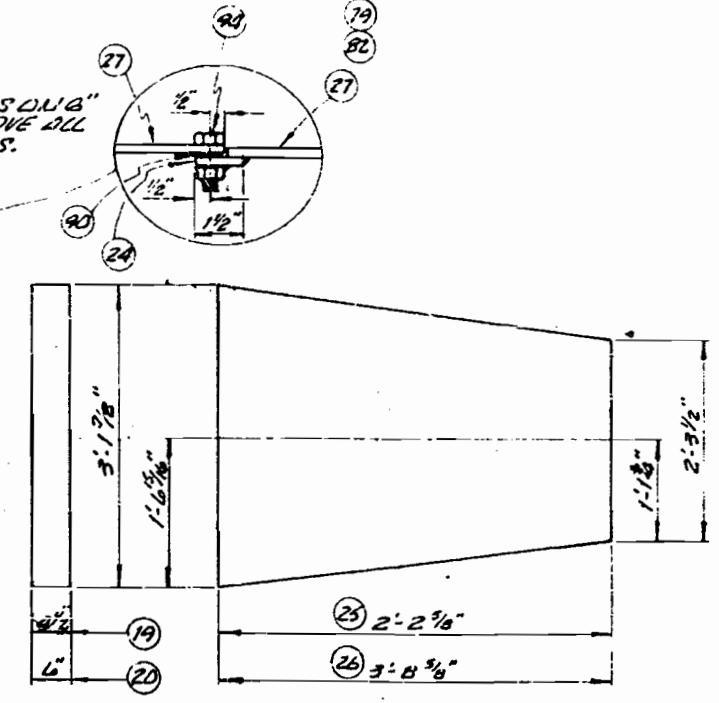
**BUBBLE CAP DETAIL**  
24 BOLT PER CAP  
6\"/>



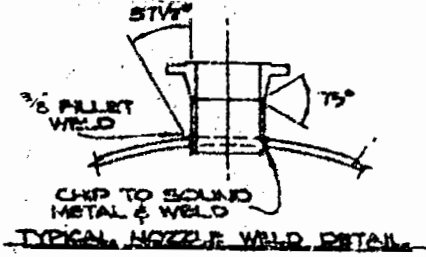
**MIST EXTRACTOR SUPPORT DTL.**



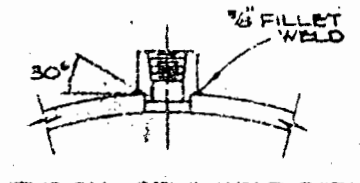
**BUBBLE CAP LAYOUT DTL.**



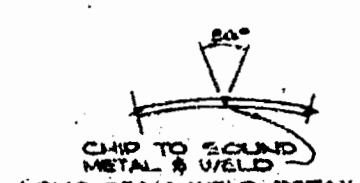
**SEAL PAN AND DOWNCOMERS DTL.**



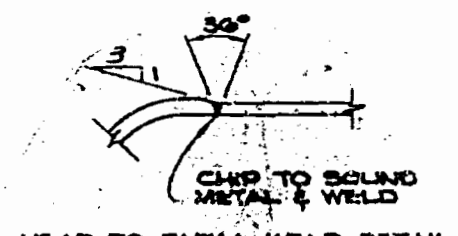
**TYPICAL NOZZLE WELD DETAIL**



**TYPICAL CPLA WELD DETAIL**



**LONG SEAM WELD DETAIL**



**HEAD TO SHELL WELD DETAIL**

NO.	DATE	BY	CHK'D	REVISIONS	DESCRIPTION	DWG NO.	SUBJECT	CUSTOMER
5	10-5-72	M.H.	J.R.		CHANGED PORE ON 2\"/>			
4	9-9-72	M.H.	J.R.		CHANGED THICKNESS LIFTING LUGS. ADDED ITEM 14 & 88			
3	8-11-72	L.C.T.	J.R.		ORIENTATED C-17 & C-18			
2	8-9-72	M.H.	J.R.		REDIRECTED ITEM 40			
1	29-JUL-72	M.H.	J.R.		CHANGED SKIRT LENGTH + 3\"/>			

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VEL SW COMPS.  
6000" C.F.G.

MANWAYS.  
14" 600" HVY. L.W.N. RT.J. FLG.  
x 16" LG.

GAS INLET.  
10" 600" HVY. L.W.N. RT.J. FLG.  
x 14" LG.

GAS OUTLET.  
10" 600" L.W.N. RT.J. FLG.  
x 14" LG.

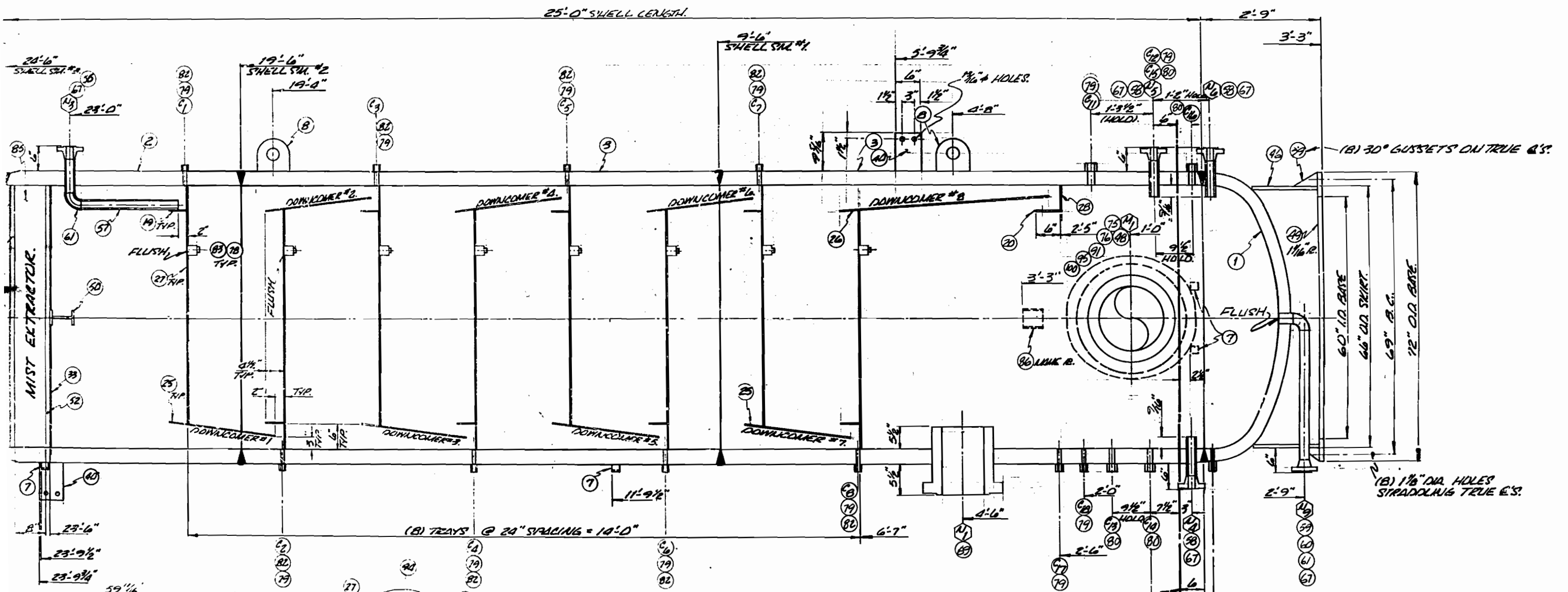
GLYCOL INLET.  
2" 600" R.W.R.T.J. FLG.  
(XX-HVY. BORE).

GLYCOL OUTLET.  
2" 600" R.W.R.T.J. FLG.  
(XX-HVY. BORE).

LIQ. LEVEL CONTROLS.  
2" 600" R.W.R.T.J. FLG.  
(XX-HVY. BORE).

RELIEF VAL. DOWN'S.  
1 1/2" 600" R.W.R.T.J. FLG.  
(160 BORE).

DRAIN  
8" 600" R.W.R.T.J. FLG.  
(XX-HVY. BORE).



DRILL (B2) 2 7/8" DIA. HOLES ON "B" TRIANGULAR PITCH, REMOVE ALL BURRS AND ROUGH EDGES.

NOTE: ALL TOILED DIMS TO REFERENCE LINE

GENERAL SPECIFICATIONS  
MATERIAL:  
SHELL: 3.000" THK SA-515-62 70" P192  
HEADS: 3.000" (min) THK SA-515-62 70" P192  
TYPE: 2:1 ELLIP. IC:  
FLANGES: USA3 B1A.5  
PIPE: SA-53 GR 70 SMLS.  
WELDED FITTINGS: SA-234 WPB  
COLLINGS: SA-176 GR 11

- ① THRU ② TRAY DECKS ③ THRU ④ GA. COLUMN DOWN'S ⑤ PRESS. GA. DOWN. ⑥ THERMOMETER DOWN. ⑦ LEVEL SIK DOWN'S ⑧ 1" 6000" CPUG.
- ⑨ 16" 6000" HYV. L.W.N. RT.J. FLG. x 16" LG. ⑩ GAS INLET. 10" 6000" HYV. L.W.N. RT.J. FLG. x 14" LG. ⑪ GAS OUTLET. 10" 6000" L.W.N. RT.J. FLG. x 14" LG. ⑫ GLYCOL INLET. 2" 6000" A.H. RT.J. FLG. (XX-HYV. BORE).
- ⑬ GLYCOL OUTLET. 2" 6000" A.H. RT.J. FLG. (XX-HYV. BORE).

