

FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS
As required by the provisions of the ASME Code Rules, Section III, Division I

1. Manufactured by Joseph Oat & Sons, Inc. Camden, New Jersey
(Name and address of Manufacturer)
2. Manufactured for Hercules, Inc. Wilmington, North Carolina
(Name and address of Purchaser)

104248

Type Horiz. Kind Heat Exch. Vessel No. 2079-38 (Mfr. Serial) (State & State No.)
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) Natl. Bd. No. 599 Yr. Built 1972

Items 4-9 incl. to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers.
Nominal 1/16 Corrosion 1/16 Thickness 4-5/8 In. Allowance 2 In. Diam. 12 Ft. In. Length 0 In.

4. SHELL: Material SA205GR T.S. 55000 (Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
5. SEAMS: Long DBW H.T. No R.T. Spot Sectioned No Efficiency 85 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

If riveted describe seams fully on reverse side of form.

Girth DBW H.T. No R.T. Spot Sectioned No No. of Courses 2
6. HEADS (a) Material T.S. (b) Material SA240 T.S. 75000
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) Top, bottom, ends (b) Channel
If removable, bolts used (Material, Spec. No., T.S., Size, Number) Other fastening (Describe or Attach Sketch)

7. STAYBOLTS: (Material) SA240 If hollow 1/4 Attachment Threaded, Welded Pitch 12 (Horiz.) 12 (Vert.) (Nominal)

8. JACKET CLOSURE: (Describe as gage & weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)
9. Constructed for max. allowable working press. 175 psi at max. temp. 375 °F. less than -20° Min. temp. (when less than -20°) Hydrostatic Test 262.5 psi.

Items 10 and 11 to be completed for tube sections.
10. TUBE SHEETS: Stationary. Material SA240T304 Diam. 2-5/8 In. Thickness 1-7/8 In. Attachment Welded
(Kind & Spec. No.) (Subject to Pressure)

Floating. Material SA249 Diam. 16 In. Thickness 1/4 In. Attachment Straight
(Kind & Spec. No.) (Level) (Gage Number) (Type) (Straight or U)

Items 12-15 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.
12. SHELL Material SA240T304 T.S. 75000 (Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
Nominal 1/2 Corrosion 0 Thickness 4-5/8 In. Allowance 2 In. Diam. 12 Ft. In. Length 0 Ft.

13. SEAMS: Long DBW H.T. No R.T. Spot Sectioned No Efficiency 85 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

If riveted describe seams fully on reverse side of form.

Girth DBW H.T. No R.T. Spot Sectioned No No. of courses 1
14. HEADS (a) Material SA240T304 T.S. 75000 (b) Material SA240 T.S. 75000 (c) Material T304 T.S. 75000
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) Top, bottom, ends (b) Channel (c) Floating
If removable, bolts used (a) SA197 B-7 32 3/4" 10UNC (b) SA197 B-7 32 3/4" 10UNC
(Material, Spec. No., T.S., Size, Number) Other fastening (Describe or Attach Sketch)

15. Constructed for max. allowable working press. 150 psi at max. temp. 375 °F. less than -20° Min. temp. (when less than -20°) Hydrostatic Test 261 psi.

Items below to be completed for all vessels where applicable.
16. SAFETY VALVE OUTLETS: Number 1 Size 1/2 Location In. Flg.

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement	How Attach
A-C	2	6"	Pipe	SA312T304	SCH 40	None	Weld
B	1	3"	Pipe	SA53GR	SCH 40	None	Weld
E	1	1-1/2"	Pipe	SA53GR	SCH 40	None	Weld

¹ If postweld heat-treated. ² List under remarks other internal or external pressures with coincident temperature when applicable.

FORM U-1 (back)

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. 7 Size 3/4" Location Exp. Jt., Str. Jkt., Nozzle, A2C
 19. SUPPORTS: Skirt No Lugs 2 Legs _____ Other _____ Attached Shell Veld
 (Yes or No) (Number) (Where & How)
 20. REMARKS: Vessel is a Pure Melter Heater constructed to Oat Dwgs. 5258-0, 5259-0, 5210-3 and the 1971 ASME Code Section VIII.

Equipment No. E4513-6B

Bonnet ends have SA285GRC steam jackets hydro-tested to 247.5 psig.

(Brief description of purpose of the vessel, as Air Tank, After Cooler, Jacketed Cooker, etc. State contents of each part.)

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 I.

Date 10/13 19 72 Signed Joseph Oat & Sons, Inc. By David Christensen
 (Manufacturer)

Certificate of Authorization Expires #184 12/31/73

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Joseph Oat & Sons, Inc. 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 N. J. and employed by Royal Globe Indemnity Company of New York, New York

have inspected the pressure vessel described in this manufacturer's data report on 10/13/72, 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 10/13 19 72
Patricia B. Hansen Commissions N.B. 6900
 Inspector's Signature Nat'l Board, State, or Province and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

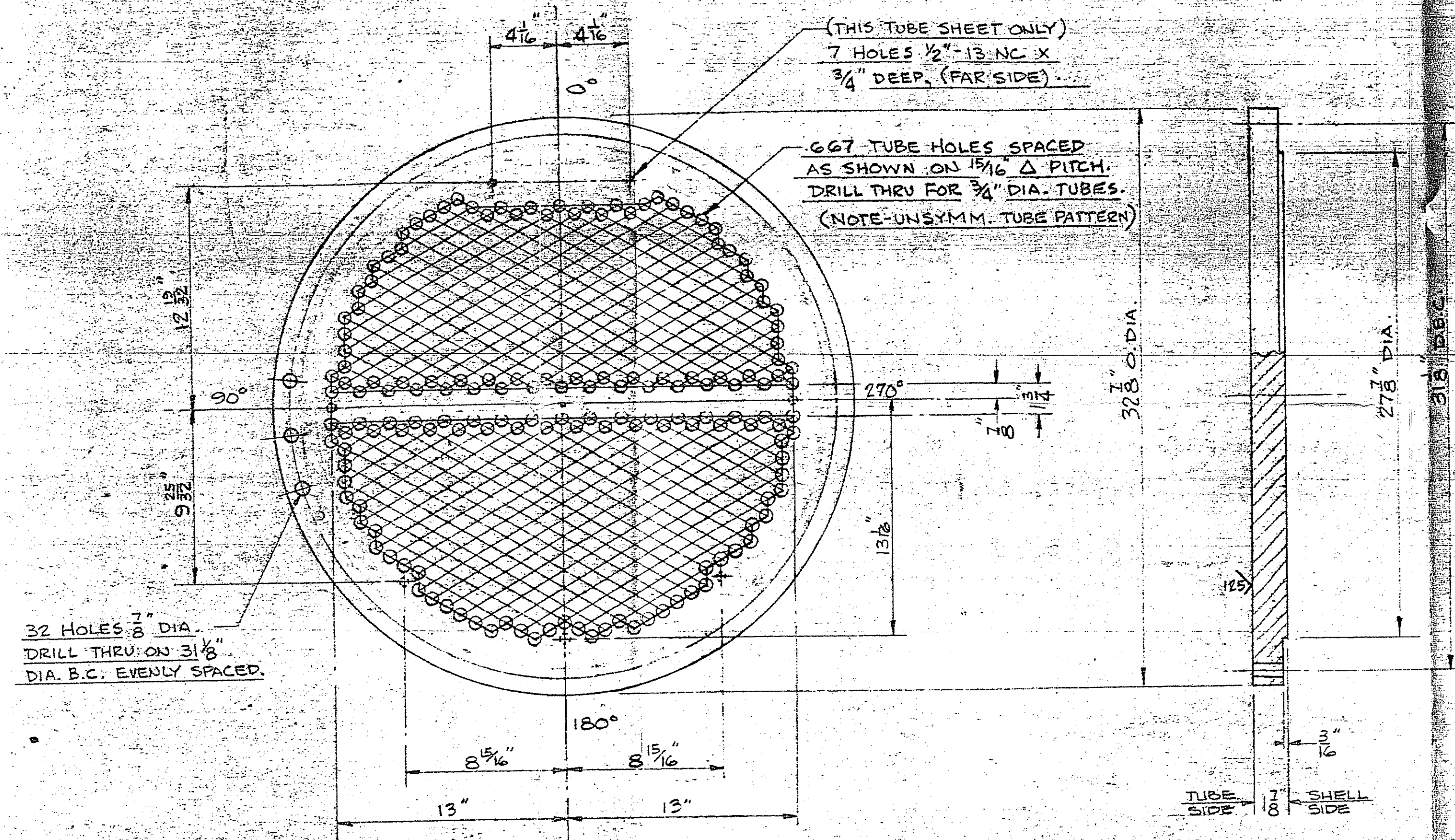
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province _____ and employed by _____

have compared the statements in this manufacturer's 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 the applicable sections of the ASME

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

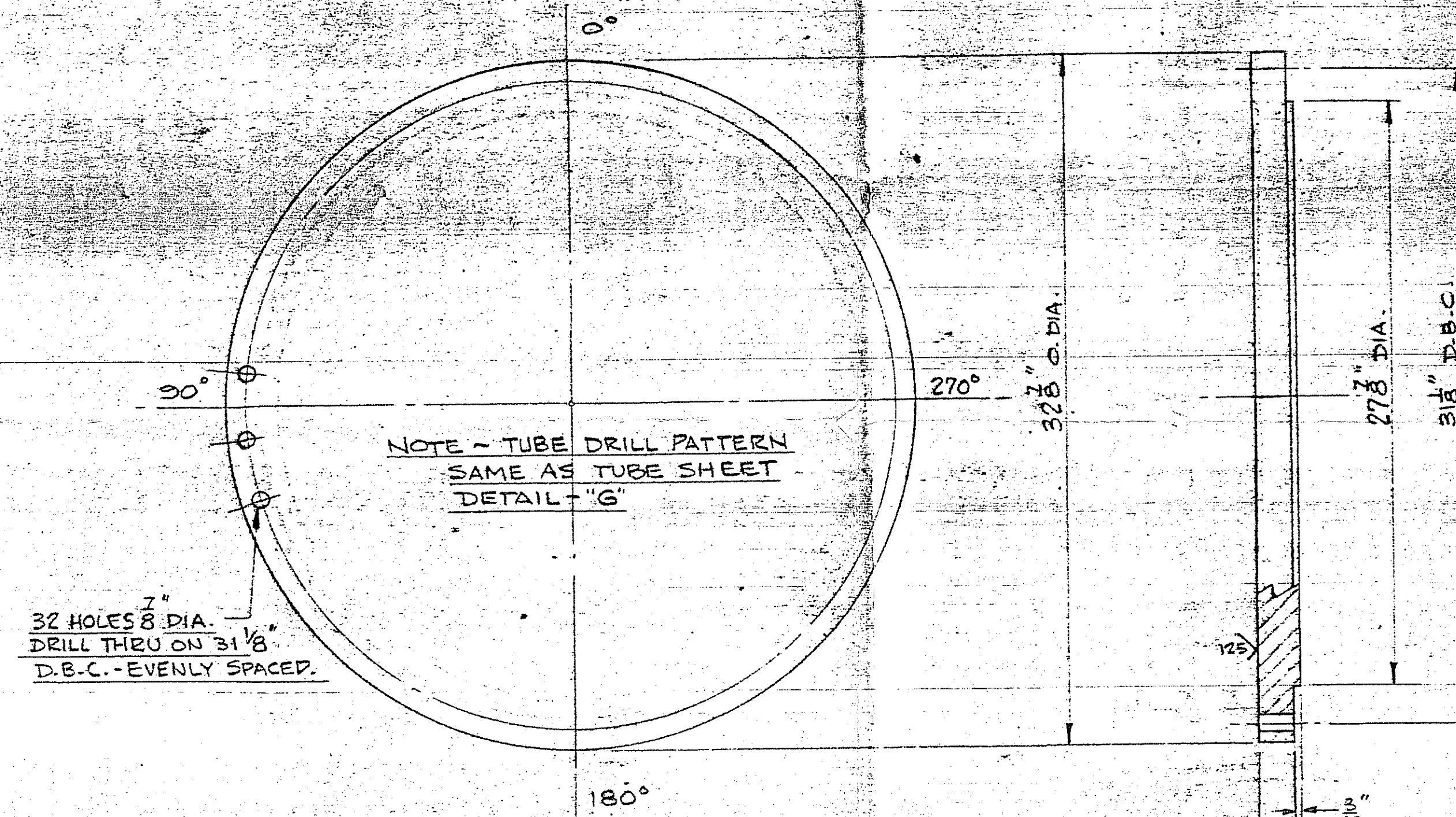
By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this manufacturer's data report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property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

Date _____ 19 _____
 _____ Commissions _____
 Inspector's Signature Nat'l Board, State, or Province and No.



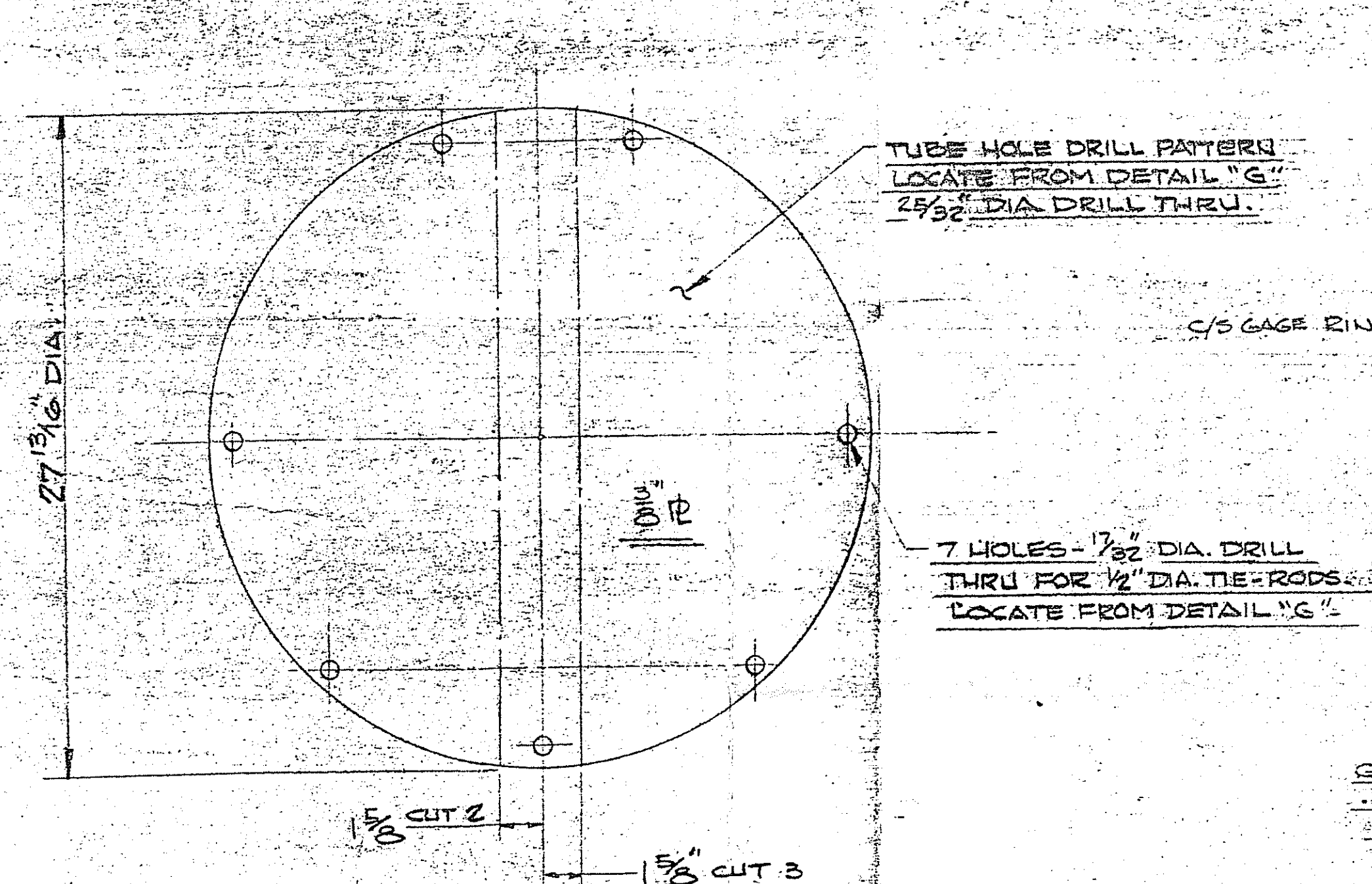
DETAIL "G" ~ TUBE SHEET ⑧

SCALE 3/16" = 1"



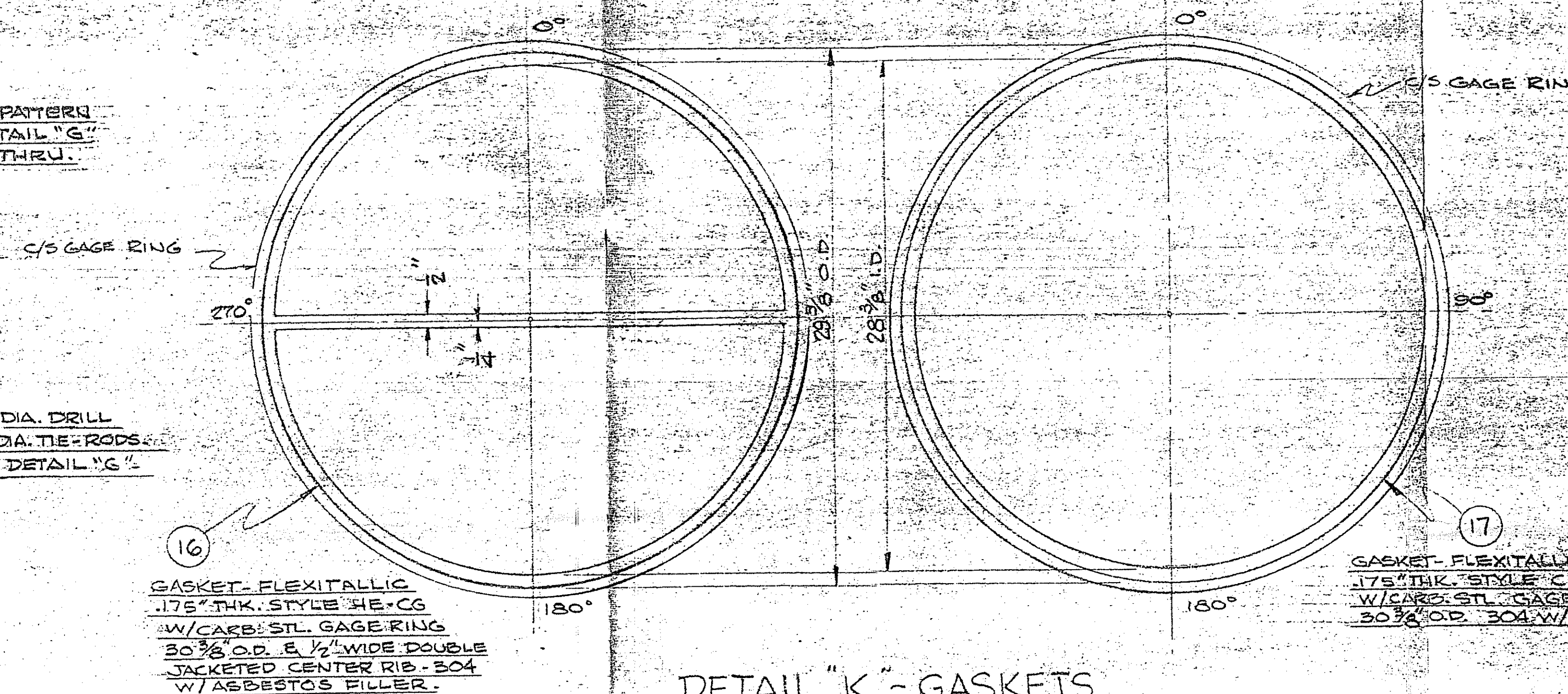
DETAIL "H" ~ TUBE SHEET ⑨

SCALE 3/16" = 1"



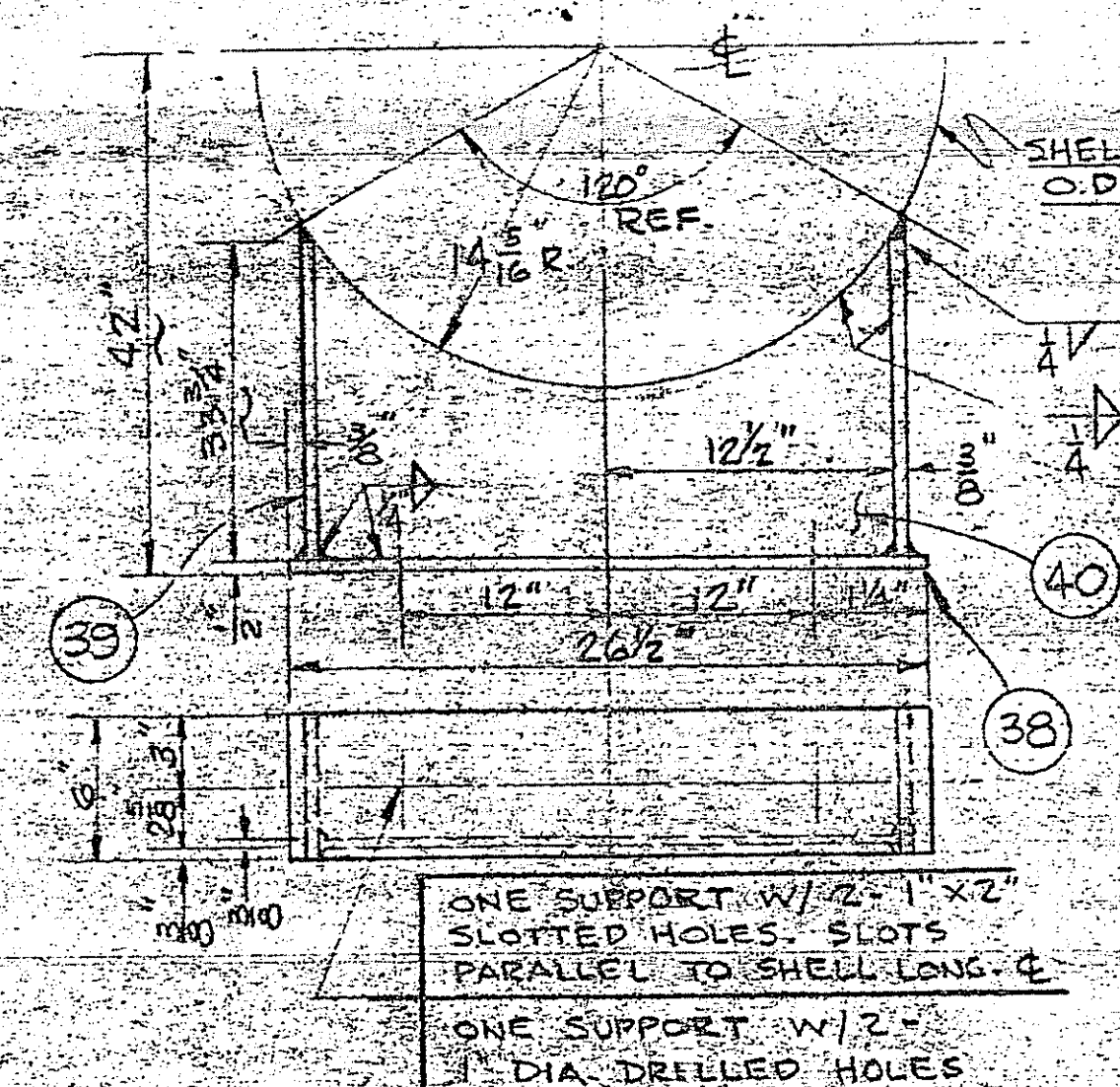
DETAIL "J" ~ BAFFLE ⑮

5 REQ'D. - SCALE 3/16" = 1"



DETAIL "K" ~ GASKETS

SCALE - 3/16" = 1"



DETAIL "L" ~ SUPPORT

2 REQ'D. (SEE HOLE NOTE)

SCALE 1/2" = 1 FT.

NOTE - SEE DWG. 5258 FOR ADDITIONAL DETAILS & ASSEMBLY.

7-12-72	ISSUED FOR APPROVAL	12/4
DATE	REVISION	BY
JOSEPH DAT & SONS, INCORPORATED CHEMICAL ENGINEERS/DESIGNERS/FABRICATORS CAMDEN, NEW JERSEY 08104 PURE MELTER HEATER 28 3/8" O.D. X 4'-5'-6" O.A.L. 2 PASS C/S - 304 STN STL CONSTR. ITEM NO. E-4513-6A-6B DETAILS HERCULES INCORPORATED HANOVER PLANT WILMINGTON, N.C. PURCHASE ORDER NO. 026-350000 NO. REQ'D. TWO		

104248