

1. Manufactured by Joseph Oak & Sons, Inc. Camden, New Jersey B.P.F. 4258
(Name and address of Manufacturer)

2. Manufactured for Hercules, Incorporated Wilmington, North Carolina 104196
(Name and address of Purchaser)

3. Type Vert Kind Heat Exch. Vessel No. (2079-2) () Natl. Bd. No. 588 Yr. Built 1972
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (Mfrs. Serial) (State & State No.)

Items 4-9 incl. to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers.

4. SHELL: Material SA285GRC T.S. 55000 Nominal Thickness 3/8 In. Allowance 1/16 In. Diam. 2 Ft. In. Length 12 Ft. 0 In.
(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)
Girth DBW H.T. No R.T. Spot Sectioned No No. of Courses 2
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

6. HEADS (a) Material SA285GRC T.S. 55000 (b) Material SA285GRC T.S. 55000
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(Top, bottom, ends) (Convex or Concave)
(a) Top 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32
(b) Bottom 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32
(c) Floating 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32

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

7. STAYBOLTS: (Material) SA285GRC If hollow No Attachment Welded Pitch X Diam. 1/2 (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (Nominal)

8. JACKET CLOSURE: Welded
(Describe as ogee & weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)

9. Constructed for max. allowable working press² 175 psi at max. temp. 365 °F. Min. temp. (when 365 °F. less than -20°) 365 °F. Test 263 psi.
(Hydrostatic or Pneumatic or Combination)

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240T316 Diam. 31 In. Thickness 1-3/8 In. Attachment Welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)
Floating. Material SA249 Diam. 31 In. Thickness 1-3/8 In. Attachment Welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

11. TUBES: Material T316 O.D. 3/4 In. Thickness 1/8 In. Type Straight
(Kind & Spec. No.) (Gage Number) (Straight or U)

Items 12-15 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

12. SHELL Material SA240T316 T.S. 75000 Nominal Thickness 1/4 In. Allowance 0 In. Diam. 2 Ft. In. Length 1 Ft. 0 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

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)
Girth DBW H.T. No R.T. Spot Sectioned No No. of courses 2
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

14. HEADS (a) Material SA285GRC T.S. 55000 (b) Material SA285GRC T.S. 55000 (c) Material SA285GRC T.S. 55000
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(Top, bottom, ends) (Convex or Concave)
(a) Top 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32
(b) Bottom 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32
(c) Floating 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32 1-23/32

If removable, bolts used (a) SA193 B7 36 3/4 10 UNC (b) SA193 B7 36 3/4 10 UNC
(Material, Spec. No., T.S., Size, Number)

(c) Other fastening (Describe or Attach Sketch)

15. Constructed for max. allowable working press² 75 psi at max. temp. 365 °F. Min. temp. (when 365 °F. less than -20°) 365 °F. Test 130 psi.
(Hydrostatic or Pneumatic or Combination)

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number 1 Size 1/2 Location In Piping

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
A	1	20"	Plt.	SA240T316	1/4"	None	Welded
B&C	2	8"	Pipe	SA53GRB	SCH 40	"	"
D	1	6"	"	SA312T316	"	"	"
E	1	4"	"	"	"	"	"

P.O. 026-35066-FCD Eng. Mr. E-4201-2 Proj. 026035

¹ If postweld heat-treated.

² List under remarks other internal or external pressures with coincident temperature when applicable.

18. INSPECTION Manholes, No. _____ Size _____ Location _____
OPENINGS: Handholes, No. _____ Size _____ Location _____
Threaded, No. 2 & 2 Size 1/2" & 3/4" Location Nozzles B & C Shell _____
19. SUPPORTS: Skirt No Lugs 4 Legs _____ Other _____ Attached Welded
(Yes or No) (Number) (Where & How)
20. REMARKS: * Top Channel is a cone section 31-3/4" x 20"

Vessel is an Oxidate Stripper Condenser constructed to Oat Dwg. 5209,
5240, 5241 and the 1971 ASME Code Section VIII.
Equipment No. E-4201-2

(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 9/18 19 72 Signed Joseph Oat & Sons, Inc. By Ernest 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, N. Y. have inspected the pressure vessel described in this manufacturer's

data report on 1972, 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 9/18 19 72
[Signature] Commissions N. B. 6900
Inspectors 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 _____ of _____

_____ 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

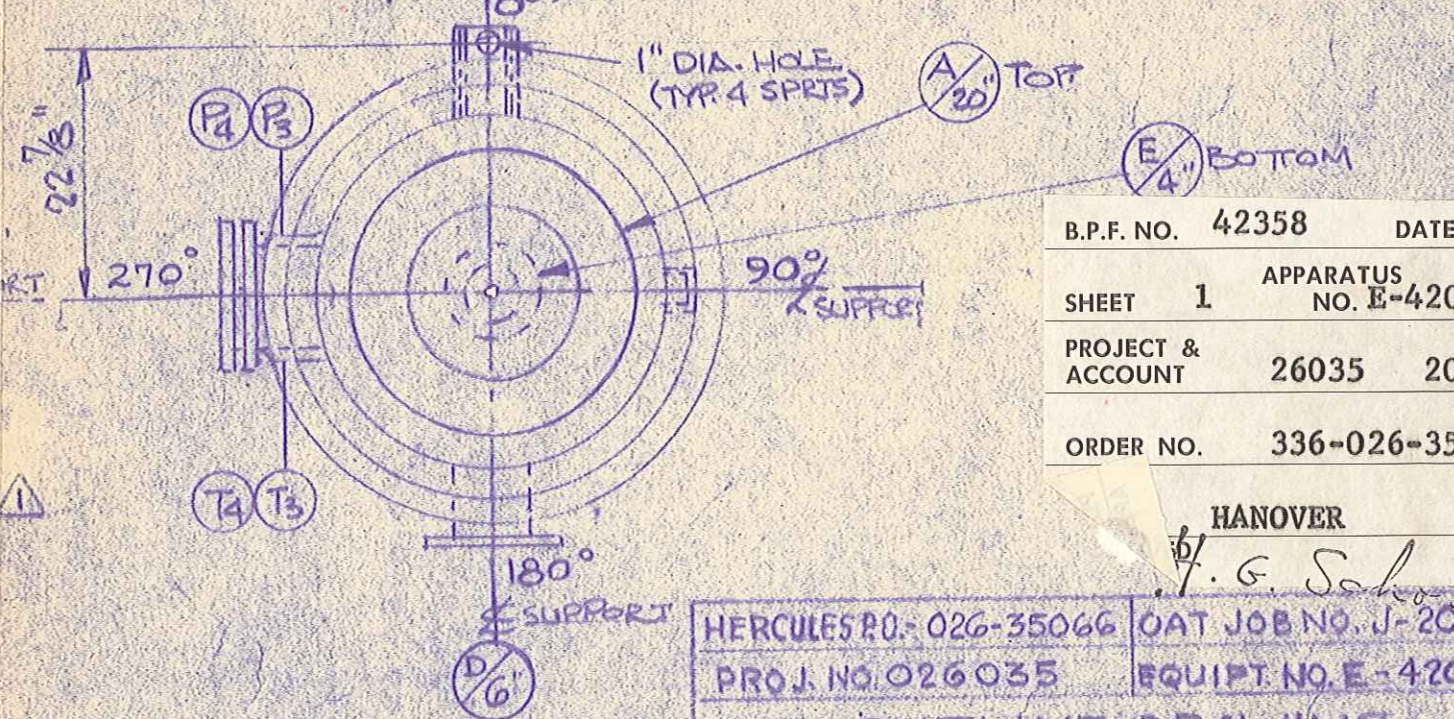
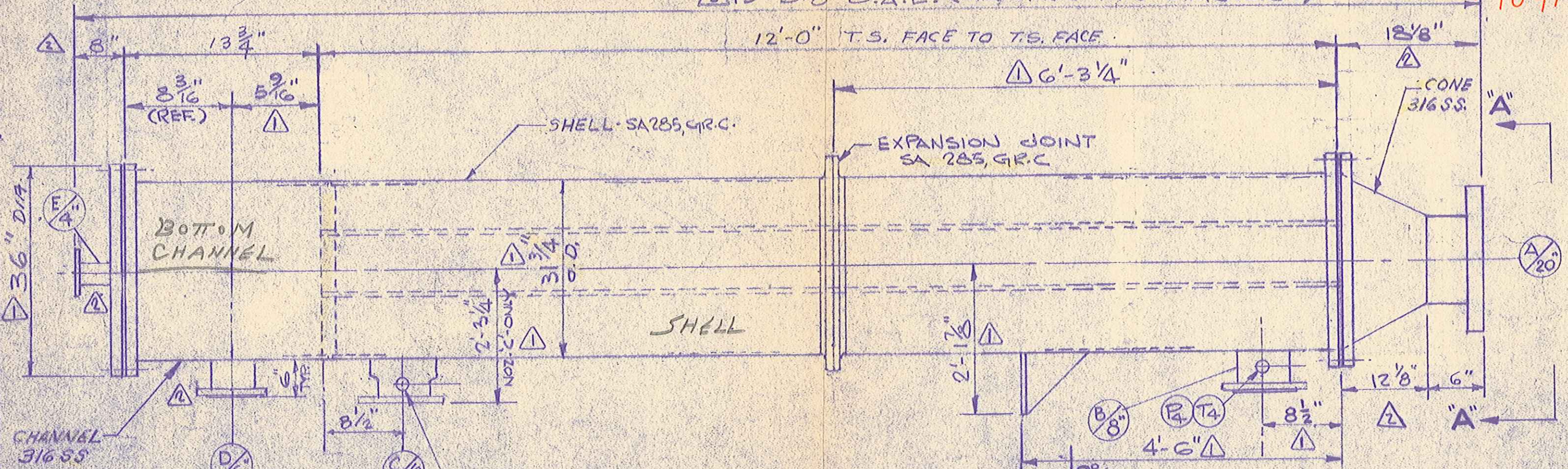
Boiler and Pressure Vessel Code. The described vessel was inspected and subjected to a hydrostatic test of _____ psi.

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

15'-3 7/8" O.A.L. (MAINTAIN THIS DIMENSION)

#104196



NOTE: ALL COUPLINGS ARE - HALF COUPLINGS - 3000# THD.

T _{3,4}	3/4"	3000#	CPLG.	THERMOMETER	NPT W/PLUG
P _{3,4}	1/2"	3000#	CPLG.	PRESS. GAUGE	NPT W/PLUG
E	4"	40	L.J.	LIQUID	150#
D	6"	40	L.J.	VENT	150#
C	10"x8"	40	SORF	SHELL CON.	150#
B	8"	40	SORF	SHELL CON.	150#
A	20"	1/4"	L.J.	CHANNEL IN	150#
MARK	SIZE	SCH.	FLANGE	PURPOSE	REMARKS

DATE	REVISIONS
6-12-72	14-9 7/8" WAS 14-11 7/8" ADDED 8" 18" AND 12 1/8" DIMENSIONS. DELETED NOS. P ₂ , T ₂ , S&F.
5-20-72	REVISED PER HERCULES MARKED PRINT DATED 3-6-72 & TO SUIT FAB DWG.
2-15-72	ISSUED FOR APPROVAL

HERCULES P.O. 026-35066	OAT JOB NO. J-2079-2
PROJ. NO. 026035	EQUIPT. NO. E-4201-2
OUTLINE DRAWING OXIDATE STRIPPER CONDENSER	
HERCULES INCORPORATED HANOVER PLANT WILMINGTON, N.C.	
JOS. OAT & SONS, INC. CAMDEN, N.J.	
DRAWN - RO	DATE 2-15-72
SCALE - NONE	DWG-5209
BY	REV. 2

B.P.F. NO.	42358	DATE	6/14/72
SHEET	1	APPARATUS NO.	E-4201-2
PROJECT & ACCOUNT	26035	2027	
ORDER NO.	336-026-35066		

HANOVER
J. G. Scholer