FORM U-1 MANUFACTURERS DATA REPORT FOR PRESSURE VESSELS

As required by the Provisions of the ASME Code Rules, Section VIII, Division I

104389

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)

3. Type Horiz. (Horiz. or Vert.) Kind Heat Exch. (Tank, Jacketed, Heat Exch.) Vessel No. (2080-1) (Mfrs. Serial) (State & State No.) Natl. Bd. No. 583 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.

4. SHELL: Material SA285GRC (Kind and Spec. No.) T.S. 55000 (Fig. or F.B. & Spec. Min. T.S.) Nominal Thickness 3/8 In. Corrosion 1/16" In. Allowance Diam. 2 Ft. 6 In. Length 12 Ft. 0 In.

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

Girth DBW H.T. No R.T. Spot Sectioned No No. of Courses 2

If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material _____ T.S. _____ (b) Material _____ T.S. _____

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)								
(b)								

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

7. STAYBOLTS: _____ (Material) If hollow _____ (Size of Hole) Attachment _____ (Threaded, Welded) Pitch _____ (Horiz.) X _____ (Vert.) Diam. _____ (Nominal)

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

9. Constructed for max. allowable working press[2] 100 psi at max. temp. 650 °F. Min. temp. (when less than –20°) _____ °F. Hydrostatic ~~Pneumatic~~ ~~Combination~~ Test Press 150 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240 T304 (Kind & Spec. No.) Diam. 30 (Subject to Pressure) In. Thickness 1-1/16" In. Attachment Welded (Welded, Bolted)

Floating. Material SA249 (Kind & Spec. No.) Diam. _____ In. Thickness _____ In. Attachment _____

11. TUBES: Material T304 (Kind & Spec. No.) O.D. 3/4" In. Thickness 16 ~~Inches~~ Gage Number 799 Type Straight (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 (Kind and Spec. No.) T.S. 75000 (Fig. or F.B. & Spec. Min. T.S.) Nominal Thickness 1/4 In. Corrosion 2 1/16" In. Allowance 0 In. Diam. 2 Ft. 6 In. Length 2 Ft. 0 In.

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

Girth Single H.T. No R.T. None Sectioned No No. of courses 2

If riveted describe seams fully on reverse side of form.

14. HEADS (a) Material SA285GRC T.S. 55000 (b) Material Same T.S. _____ (c) Material _____ T.S. _____

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	W/SA240T304 1-1/8	-	-	-	-	-	34-3/8"	-
(b) Channel								
(c) Floating								

If removable, bolts used (a) SA193 B7 32 3/4 10 UNC (Material, Spec. No., T.S., Size, Number) (b) Same

(c) _____ Other fastening _____ (Describe or Attach Sketch)

15. Constructed for max. allowable working press[2] 50 psi at max. temp. 300 °F. Min. temp. (when less than –20°) - °F. Hydrostatic ~~Pneumatic~~ ~~Combination~~ Test Press 90.6 psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number _____ Size _____ Location In Piping

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
A	1	24"	Plt.	SA240T304	3/8"	None	Welded
B-C	2	6"	Pipe	SA312T304	SCH40	"	"
E-D	2	14"	"	SA53GRB	STD.	"	"

P.O. 026-35067-FCD Eqv. No: E-4051-3 Insp. 026035

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

(Over)

FORM U-1 (back)

18. INSPECTION OPENINGS: Manholes, No. ____ Size ____ Location ____ #104389
Handholes, No. ____ Size ____ Location ____
Threaded, No. 4 & 2 Size 3/4" & 1/2" Location Exp. Joint & Nozzles D&E

19. SUPPORTS: Skirt No (Yes or No) Lugs ____ (Number) Legs ____ (Number) Other Support (Describe) Attached Shell Welded (Where & How)

20. REMARKS: Vessel is a Slurry Tank Flash Condenser constructed to Oat Dwg. 5218-2 and the 1971 ASME Code Section VIII.

Equipment No. E-4051-3

(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 9/1 1972 Signed Joseph Oat & Sons, Inc. (Manufacturer) By [signature]

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 Sept 1 1972

[signature] Commissions N.B. 6900
Inspectors Signature Nat'l Board, State, or Province and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

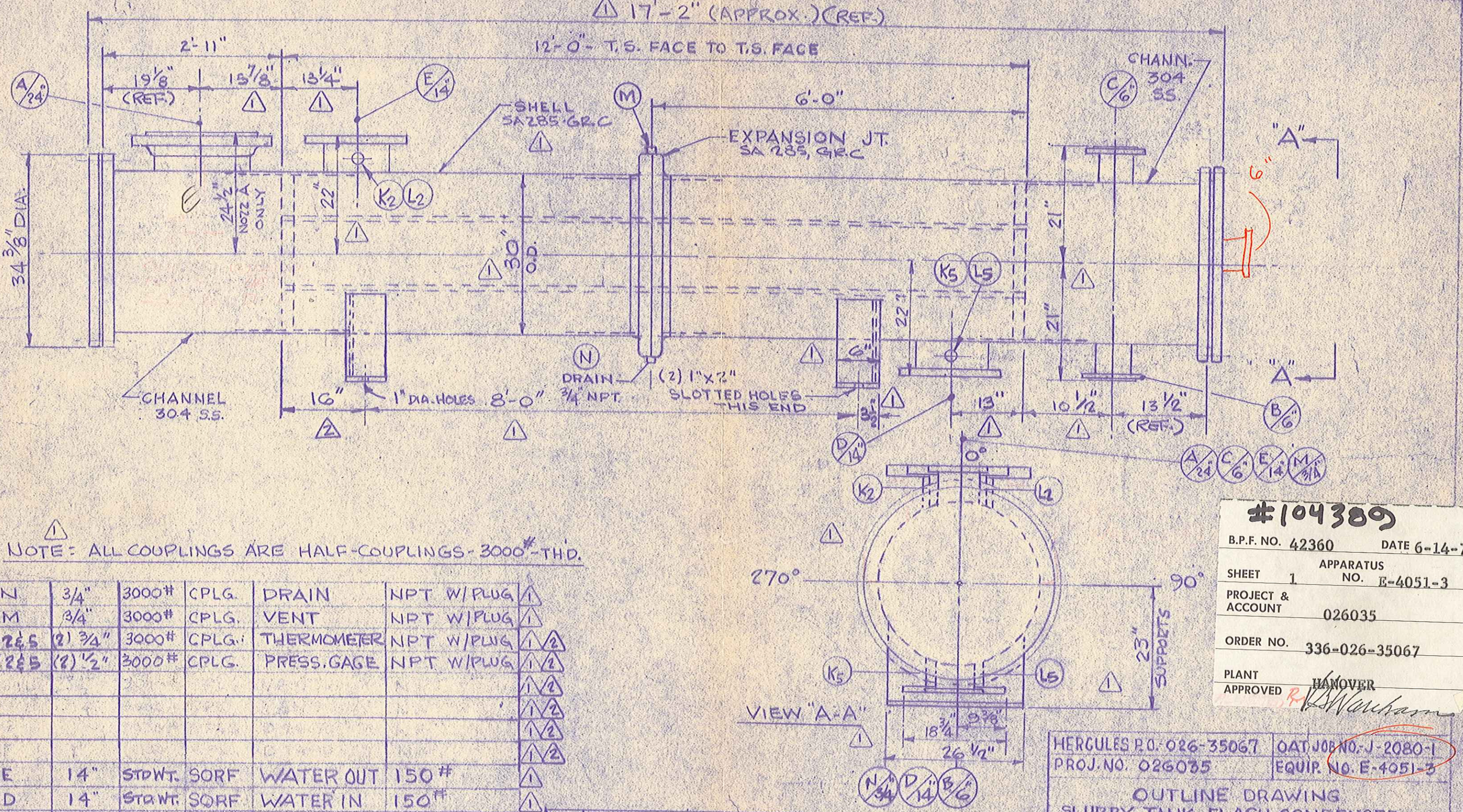
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province ____ and employed by ____ of ____ have compared the statements in this manufacturer's data report with the described pressure vessel and state that parts referred 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 ____

____ Commissions ____
Inspector's Signature Nat'l Board, State, or Province and No.

Printed in U.S.A. (9/68) This Form is obtainable from the ASME, 345 E. 47th St., New York, N.Y. 10017



NOTE: ALL COUPLINGS ARE HALF-COUPLINGS - 3000# - TH'D.

MARK	SIZE	SCH.	FLANGE	PURPOSE	REMARKS
N	3/4"	3000#	CPLG.	DRAIN	NPT W/PLUG
M	3/4"	3000#	CPLG.	VENT	NPT W/PLUG
L2&5	(2) 3/4"	3000#	CPLG.	THERMOMETER	NPT W/PLUG
K2&5	(2) 1/2"	3000#	CPLG.	PRESS. GAGE	NPT W/PLUG
E	14"	STD WT.	SORF	WATER OUT	150#
D	14"	STD WT.	SORF	WATER IN	150#
C	6"	40	L.J.	VENT	150#
B	6"	40	L.J.	COND. OUT	150#
A	24"	3/8" WALL	L.J.	STEAM IN	150#

DATE	REVISIONS	BY
6/1/72	2 REVISED PER HERCULES MARKED PRINT, DATED 5-25-72. DELETED NOZ'S. d, H, G, F, L1, 3 & K1, 3	EXD. DRG. PRINT
5/22/72	1 REVISED PER HERCULES MARKED PRINT DATED 3/21/72 & TO SUIT FAB. DWG.	CHK. DRG. PRINT RO
2-16-72	0 ISSUED FOR APPROVAL	RO

#104389

B.P.F. NO. 42360 DATE 6-14-72

SHEET 1 APPARATUS NO. E-4051-3

PROJECT & ACCOUNT 026035

ORDER NO. 336-026-35067

PLANT HANOVER

APPROVED R. B. Wareham

HERCULES P.O. 026-35067 | OAT JOB NO. J-2080-1

PROJ. NO. 026035 | EQUIP. NO. E-4051-3

OUTLINE DRAWING SLURRY TANK FLASH CONDENSER

HERCULES INCORPORATED
HANOVER PLANT
WILMINGTON, N. C.

JOS. OAT & SONS, INC. CAMDEN, N. J.

DRAWN-RO | DATE-2-16-72 | SCALE - NONE | DWG. 5212 | REV. 2