

106771
FORM U-1 MANUFACTURERS' DATA REPORT FOR UNFIRED PRESSURE VESSELS

3442

As required by the Provisions of the ASME Code Rules

1. Manufactured by RICHMOND ENGINEERING COMPANY, INC., RICHMOND, VIRGINIA
(Name and address of Manufacturer)
2. Manufactured for CLARK OIL & REFINING CORP., P. O. BOX 297, BLUE ISLAND, ILL.
(Name and address of Purchaser)
3. Type HORIZ. Kind HEAT EXCH. Vessel No. 1-5268.40 (Mfrs. Serial) (State & State No.)
Natl. Bd. No. 54956 Yr. Built 1967

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 SA240-304 T.S. 75,000 Nominal Thickness 1/4 Corrosion Allowance 2 In. Diam. 6 Ft. 11 11-3/4 In. Length 11 11-3/4 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
5. SEAMS: Long DB W H.T. NO X.R. NO Sectioned NO Efficiency 70 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Girth DB W H.T. NO X.R. NO Sectioned NO No. of Courses 1
6. HEADS (a) Material SA285 GR C T.S. 55,000 (b) Material SEE TUBE SHEETS T.S. 55,000
Location (Top, bottom, ends) Thickness 3/8 Crown Radius 30 Knuckle Radius 2-1/4 Elliptical Ratio NO Conical Apex Angle NO Hemispherical Radius NO Flat Diameter NO Side to Pressure (Convex or Concave) CONCAVE
(a) SEE TUBE SHEETS
(b) SEE TUBE SHEETS
If removable, bolts used SEE TUBE SHEETS Other fastening SEE TUBE SHEETS
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)

If riveted describe seams fully on reverse side of form.

7. STAYBOLTS: SEE TUBE SHEETS If hollow SEE TUBE SHEETS Attachment SEE TUBE SHEETS Pitch SEE TUBE SHEETS X SEE TUBE SHEETS Diam. SEE TUBE SHEETS
(Material) (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (Nominal)8. JACKET CLOSURE: SEE TUBE SHEETS
(Describe as ogee & weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)9. Constructed for max. allowable working press. 75 psi at max. temp. 300 °F. Min. temp. (when less than -20°) 35 °F. Hydrostatic Test 137 psi.
Press. 1-5/8 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240-304 T.S. 75,000 Diam. 16 In. Thickness 3/4 In. Attachment WELDED
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)Floating. Material SA249-304 T.S. 75,000 Diam. 16 In. Thickness 3/4 In. Attachment WELDED
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)
11. TUBES: Material SA249-304 O.D. 3/4 In. Thickness 16 In. Gauge Number 640 Type STRAIGHT
(Kind & Spec. No.) (Straight or U)

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

12. SHELL Material SA285 GR C FG T.S. 55,000 Nominal Thickness 3/8 Corrosion Allowance 2 In. Diam. 6 Ft. 9-1/2 In. Length 2 Ft. 9-1/2 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)13. SEAMS: Long DB W H.T. NO X.R. NO Sectioned NO Efficiency 70 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Girth DB W H.T. NO X.R. NO Sectioned NO No. of courses 2

If riveted describe seams fully on reverse side of form.

14. HEADS (a) Material SA-285 GR C T.S. 55,000 (b) Material SEE TUBE SHEETS T.S. 55,000 (c) Material SEE TUBE SHEETS T.S. 55,000
Location (Top, bottom, ends) Thickness 3/8 Crown Radius 30 Knuckle Radius 2-1/4 Elliptical Ratio NO Conical Apex Angle NO Hemispherical Radius NO Flat Diameter NO Side to Pressure (Convex or Concave) CONCAVE
(a) Top, bottom, ends
(b) Channel
(c) FloatingIf removable, bolts used (a) SA193 GR B7, 125,000 - 5/8" - 56 (b) SEE TUBE SHEETS
(Material, Spec. No., T.S., Size, Number)(c) SEE TUBE SHEETS Other fastening SEE TUBE SHEETS
(Describe or Attach Sketch)15. Constructed for max. allowable working press. 75 psi at max. temp. 200 °F. Min. temp. (when less than -20°) 35 °F. Hydrostatic Test 115 psi.
Press. 1-5/8 psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number SEE TUBE SHEETS Size SEE TUBE SHEETS Location SEE TUBE SHEETS17. NOZZLES
Purpose (Inlet, Outlet, Drain) Number Diam. or Size Type Material Thickness Reinforcement Material How Attached
IN. & OUT. 2 6" 150# FS S/O FLG W/ SCH 80 NECK WELDED
IN. & OUT. 2 8" " " L/J " " 3/16" "
VENTS & DRAINS 4 1" 6000# CPL. C/S "
NOZ. CONN. 1 3/4" 3000# CPL. C/S "
" " 1 3/4" " " S/S "

EXCHANGER FILE

19 E 8 11 D

1 If postweld heat treated

2 If test is required, this test must be performed with coincident temperature when applicable.

FORM U-1 (back)

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. _____ Size _____ Location _____

19. SUPPORTS: Skirt _____ Lugs _____ Legs _____ Other 2 SADDLES Attached LOOSE
 (Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: ITEM E81A - DECOMPOSER COOLER: ASME CONST. CODE, PART UW, SECTION VIII, 1965
EDITION.

THIS VESSEL CONTAINS NON LETHAL SUBSTANCES

(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 Unfired Pressure Vessels.

Date JAN 27 '67 19____ Signed RICHMOND ENGINEERING CO., INC. By [Signature]
 (Manufacturer)

Certificate of Authorization Expires DECEMBER 31, 1967

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY RICHMOND ENGINEERING CO., INC. at RICHMOND, VIRGINIA

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of OHIO, PA. and employed by FACTORY MUTUAL GROUP OF INS. COS. of NORWOOD, MASS. have inspected the pressure vessel described in this manufacturer's

data report on JAN 27 '67 19____, 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 JAN 27 '67 19____ PA. WC 1056

[Signature] Commissions NB4824
 Inspectors Signature Nat'l Board or State 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 of _____ 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 or State and No.