

1. Manufactured by American Heat Reclaiming Corporation (Name and address of Manufacturer) Lykens, Penna.2. Manufactured for U. S. Steel Chemical Company (Name and address of Purchaser) Pittsburgh, Penna.Type Vert. Kind Tank Vessel No. (7902) (Mfrs. Serial) (State & State No.) Natl. Bd. No. 5421 Yr. Built 1970  
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.)Items 4-9 incl. to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers. 5-3/44. SHELL: Material SA-240-304 T.S. 75,000 Nominal Thickness 1/4" Corrosion Allowance 3 Ft. 8 In. Length 2 Ft. 8 In.  
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)5. SEAMS: Long Welded DB H.T. (Yes or No) R.T. (Spot or Complete) Sectioned (Yes or No) Efficiency 70 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material SA-240-304 T.S. 75,000 (b) Material (b) Material T.S. (b) Material  
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 5/16" 44" 0.5" ConcaveIf removable, bolts used SA-193, B7, 100, 000 24-1" Other fastening Clamps SA-193, B7  
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)7. STAYBOLTS: (Material) (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. 75 psi at max. temp. 200 °F. Min. temp. (when Hydrostatic or Pneumatic or Combination) Test 113 psi.  
allowable working press<sup>2</sup> (F. less than -20°)

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material (Kind & Spec. No.) Diam. (Subject to Pressure) In. Thickness (Welded, Bolted)Floating. Material (Kind & Spec. No.) Diam. (Subject to Pressure) In. Thickness (Welded, Bolted)11. TUBES: Material (Kind & Spec. No.) O.D. (Inches) In. Thickness (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 (Kind and Spec. No.) T.S. (Fig. or F.B. & Spec. Min. T.S.) Nominal Thickness (In.) Corrosion Allowance (In.) Diam. (Ft.) In. Length (Ft.) In.13. SEAMS: Long (Welded, Dbl., Single, Lap, Butt) H.T. (Yes or No) R.T. (Spot or Complete) Sectioned (Yes or No) Efficiency (%)

If riveted describe seams fully on reverse side of form.

14. HEADS (a) Material (T.S.) (b) Material (T.S.) (c) Material (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, bottom, ends (T.S.) (b) Channel (T.S.) (c) Floating (T.S.)If removable, bolts used (a) (Material, Spec. No., T.S., Size, Number) (b) (Material, Spec. No., T.S., Size, Number)(c) (Material, Spec. No., T.S., Size, Number) Other fastening (Describe or Attach Sketch)15. Constructed for max. (psi) at max. temp. (°F.) Min. temp. (when Hydrostatic or Pneumatic or Combination) Test (psi).  
allowable working press<sup>2</sup> (F. less than -20°)

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number (Size) Location (Location)

## 17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Inlets	2	2-1/2" D	Flanged	SA-312-304	Sch-40	SA-182	Welded
Inlets	1	8" D	"	"	"	"	"
Inlets	3	1" D	"	"	"	"	"
Outlet	3	2-1/2" D	"	"	"	"	"
Vent	1	2-1/2" D	"	"	"	"	"
Therme	1	1"	Thrd.	"	3000#	"	"
Pres. Gage	1	1/2"	"	"	3000#	"	"
Coke Discharge	1	12" D	Flanged	SA-312-304	Sch-40	SA-182	Welded

<sup>1</sup> Postweld heat-treated.<sup>2</sup> 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. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_  
 19. SUPPORTS: Skirt \_\_\_\_\_ Lugs \_\_\_\_\_ Legs \_\_\_\_\_ Other Brackets Attached Welded to Shell  
 (Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: Vessel is a Heat Exchanger designed and constructed in accordance with  
A.S.M.E. Code Section VIII-1968

(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 May 14 19 70 Signed Amer. Mt. Recl. Corp. By Guy E. Bohner  
 (Manufacturer)

Certificate of Authorization Expires 31 December 1970

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Amer. Mt. Recl. Corp. at Lykens, Penna.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province Penna. and employed by The Employers Commercial Union Ins. Co. America have inspected the pressure vessel described in this manufacturer's data report on May 14 1970, 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 May 14 1970

G. M. Jamieson  
 Inspector's Signature  
G. M. Jamieson

Commissions

NB-1957-PA-1352

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 \_\_\_\_\_

\_\_\_\_\_  
 Inspector's Signature

Commissions

Nat'l Board, State, or Province and No.