

**FORM U-1A MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS**  
 (Alternate Form for Single Chamber, Completely Shop-Fabricated Vessels Only)  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured by HAPPY DIVISION, THERMA TECHNOLOGY / TULSA, OKLAHOMA  
 2. Manufactured for PHILADELPHIA GAS WORKS / PHILADELPHIA, PA.  
 3. Location of Installation PHILADELPHIA GAS WORKS / PHILADELPHIA, PA.  
 4. Type HORIZONTAL 3416-6-2 --- C-17895 961 (Year Built) 1977  
 (Horiz. or vert. tank) (Mfgr's Serial No.) (CRN) (Drawing No.) (Nat'l Brd No.)  
 5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1974 and Addenda to 12-31-76 and Code Case Nos. ---  
 (Year) (Date)  
 Special Service per UG-120(d) -----  
 Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: -----

6. Shell: Matl. No Shell Norm. Thk. --- in. Corr. Allow. --- in. Diam. --- in. Lgth. --- ft --- in.  
 (Spec. No., Grade)  
 7. Seams: Long. Welded R.T. No Efficiency --- % H.T. Temp. 1150 F Time 1 1/2 hr  
 (Welded, Dbl, Sngl, Lap, Butt) (Spot or Full)  
 Girth Welded R.T. No No. of Courses ---  
 (Welded, Dbl, Sngl, Lap, Butt) (Spot, Partial, or Full)  
 8. Heads: (a) Material SA-204-GRB (b) Material SA-204-GRB  
 (Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends)	Min. Thk.	Corr. Allow.	Flat Diam.	Side to Pressure (Convex or Concave)
(a) T & P Sht	1 3/8"	1/8"	Max Span = 9 1/4" (11"x11'-1")	Flat
(b) Wrapper Sht	1"	1/8"	Max Span = 6 1/4" (5 3/4"x11'-1")	Flat

If removable, bolts used (describe other fastenings) ----- (Material, Spec. No., Gr., Size, No.)

9. Constructed for max. allowable working pressure 540 & F.V. at max. temp. 800 F. Min. temp. (when less than -20 F) --- F. Hydrostatic pressure test pressure 839 psi.  
 10. Safety Valve Outlets: Number --- Size --- Location -----

11. Nozzles and Inspection Openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
Inlet	2	6"-600#	RTJWN	SA-182-F1	SCH 80	Weld Welded	@ Front	Head
Outlet	2	6"-600	RFWN	SA-182-F1	SCH 80	Weld Welded	@ Back	Head
Vent	1	1"-300#	RFLWN	SA-182-F1		Weld Welded	@ Back	Head
Drain	1	1"-300#	RFLWN	SA-182-F1		Weld Welded	@ Front	Head
Inlet	2	6" Ø	PIPE	SA-335-P1	SCH 80	Weld Welded	@ Front	Head
Outlet	2	6" Ø	PIPE	SA-335-P1	SCH 80	Weld Welded	@ Back	Head

12. Supports: Skirt --- Lugs 4 Legs --- Other --- Attached Welded to Tube Sht  
 (Yes or no) (No.) (No.) (Describe) (Where and how)  
 13. Remarks: Box Header at Tube Ends 4 Row, 1 Pass, Tubes; Mat'l SA-209-T1  
Qty 210 O.D. 1" X13 BWG AW X 32'-0" Long.  
F.W. REQ. NO. 1776-1231-J  
P.W.G. EQUIP NO. 2-154-09  
 Unit Service: FEED RETURN CONDENSER ITEM E-221

**CERTIFICATE OF COMPLIANCE**

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 1

Date \_\_\_\_\_ Signed Happy Div. Therma-Tech. by Charles P. Latvala  
 (Manufacturer) (Representative)

"U" Certificate of Authorization No. 10,491 expires May 11, 1980

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**CERTIFICATE OF SHOP INSPECTION**

Vessel made by Happy Div. Therma-Technology at Tulsa, Oklahoma

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Arkansas and employed by Coml. Union Ins. Co have inspected the pressure vessel described in this Manufacturers' Data Report on 10-18 1977, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' 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.

Signed Mark E. Saugh Date 10-18-77 Commissions N. B. 7935  
 (Inspector) (Nat'l Board, State, Province and No.)

INSPECTOR  
 PROCESS PLANTS DIVISION  
 FOSTER WHEELER ENERGY CORP.