

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

1/2

1. Manufactured and certified by Chart Cooler Service Company, Inc. 3515 Dawson Rd. Tulsa, OK 74115
(Name and address of manufacturer)

2. Manufactured for JR MANUFACTURING; 6485 THOMAS RD; HOUSTON, TX 77041
(Name and address of purchaser)

3. Location of installation Unknown
(Name and address)

4. Type Heat Exchanger 47810-1 --- 47810-1-2 13514 2011
(Horiz. Or vert. Tank) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)

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
Year 2007

to 2009 n/a n/a
Addenda (Date) Code Case Nos. Special Service per UG-120(d)

6. Shell: SA516-70 0.625" 0.125" n/a 13'-10.375"
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft & in.) Length (overall) (ft & in.)

7. Seams: Corner None n/a n/a n/a n/a None n/a
Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp. (F) Time (hr) Girth (Welded, Dbl., Spot., Lap, Butt) R.T. (Spot or Full) No. of Courses

8. Heads: (a) Matl. SA516-70 b) Matl. SA516-70
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top / Bottom	0.375"	0.125"	n/a	n/a	n/a	n/a	n/a	n/a	Flat
(b)	End/Stay	0.375"	0.125"	n/a	n/a	n/a	n/a	n/a	n/a	Flat

If removable, bolts used (describe other fastenings) None
(Matl., Spec. No., Gr., Size, No.)

9. MAWP 75 psi at max. temp 300° F
Min. design metal temp. -20 F at 75 psi. Hydro., pneu., or comb. Test pressure 98 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
Inlet	2	6"-150#	RFWN/Pipe	SA-105 / SA-106-B	Sch 80	Integral	UW16.1(a)	Wrapper
Outlet	2	4"-150#	RFWN/Pipe	SA-105 / SA-106-B	Sch 120	Integral	UW16.1(a)	Wrapper
Auxiliary	2	1"	Half Cplg.	SA-105	6000#	Integral	UW16.1(a)	Wrapper
Inspection	660	0.875"	UNF	SA-105	n/a	n/a	Threaded	Plugsheet

11. Supports: Skirts No Lugs 8 Legs None Other Nameplate Bracket Attached Header / Welded
(Yes or No) (No.) (No.) (Describe) (where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
U-2A report for welding on 47810-1 provided by TTH Welding Services, Tulsa OK.
(Name of part, item number, Mfg's name and identifying stamp)

[1] No relieving device per UG-125. [2] Constructed per Appendix-28. [3] Air-cooled Heat Exchanger.

[4] Tubes: 0.75" x 0.06" AW x 40' Lg, SA-249 TP304L, Qty-330 [5] Impact Testing Exempt per UG-20(f)

[6] Service: "Amine Still Reflux Condenser" [7] Header Outside Dimensions: 7.375" x 7.125" x 166.375" & 7.375" x 4.25" x 166.375"

CERTIFICATE OF SHOP 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. "U" Certificate of Authorization No. 36,229 expires 11/30/2012

Date 2-24-11

Co. name Chart Cooler Service Company, Inc.

Signed

James G. Dunn
(Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Chart Cooler Service Company, Inc. at 3515 Dawson Rd. Tulsa, OK 74115

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of Oklahoma and employed by One BeaconAmerica Lynn, MA

have inspected the component described in this Manufacturer's Data Report on 2-24-2011, 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 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 loss of any kind arising from or connected with this inspection.

Date 2-24-2011

Signed

E. J. Poirier
(Authorized Inspector)

Commissions -NB 7376 A

(Nat'l Board (incl. Endorsements), State, Prov. And No.)

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM) 13514
2/2
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by TTH Welding Services, Ltd., 5666 S. 122nd East Ave Suite B10 TULSA, OK 74146
(Name and address of Manufacturer)
2. Manufactured for CHART COOLER SERVICE COMPANY, INC. 3515 DAWSON ROAD TULSA, OK 74115
(Name and address of Purchaser)
3. Location of installation Unknown
(Name and address)
4. Type: Heat Exchanger 47810-1
[Description of vessel part (shell, two-piece head, tube bundle)] (Manufacturer's serial Number) (CRN)
47810-1-2 Chart cooler service company, inc 2011
(National Board number) (Drawing number) (Drawing prepared by) (CRN)
5. ASME Code Section VIII Div 1 2007 and 2009
[Edition and Addenda (date)] (Code Case number) [Special Service per UG-120(d)]

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.		T yp e	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
4	*	166.375"	SA 516-70	0.625"	0.125"									
4	**	166.375"	SA 516-70	0.375"	0.125"									

7. Head: (a) SA-516-70				Head: (b) SA-516-70										
(Material spec. number, grade or type) (H.T. – time & temp)				(Material spec. number, grade or type) (H.T. – time & temp)										
	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	Top/Bottom	0.375"/0.375"	0.125"											
(b)	Ends	0.375"/0.375"	0.125"											

If removed, bolts used (describe other fastenings) _____

8. MAWP _____ at max temp. _____
(Internal) (External) (Internal) (External) (Material spec. number, grade, size, number)
 Min. design metal temp. _____ at _____
9. Impact Test No at test temperature of _____
Indicate yes or no and the component(s) impact tested
10. Hydro., pneu., or comb. test press. _____ Proof Test _____
11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc)	N o.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet/Out let	4	4"/6"-150#	RFWN	SA106B	SA105		0.125"	WELD	WELD	WELD	HEADER
Drain	2	1.0"CPLG			SA105		0.125"	WELD	WELD	WELD	HEADER

12. Identification of parts							
Name of Part	Quantity	Line No.	Mfr's identification No.	Mfr's Drawing no.	CRN	National Board No.	Year Built

13. Supports: Skirt _____ Lugs _____ Legs _____ Others _____ Attached _____
(Yes or No) (Number) (Number) (Describe) (Where and how)
14. Remarks No design function performed. Constructed per App.28. 1 Front and 1 Back Headers * Header outside Dimension 166.375" x 7.375" x 4.25" ** Header out side dimension 166.375" x 7.375" x 7.125"

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction and workmanship of this pressure vessel part conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1.

U Certificate of Authorization No. 38552 Expires June 1, 2012

Date 1/31/2011 Name TTH Welding Services, Ltd
(Manufacturer)

Signed [Signature]
(Representative)

CERTIFICATE OF SHOP/FIELD 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 of OKLA. and employed by ONE BEACON AMERICA INS. Co of LYNN, MA, have inspected the pressure vessel part described in this Manufacturer's Data Report on 1-31-11 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. by signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel part described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 1/31/2011 Signed [Signature]

Commissions OK 0652
(Authorized Inspector) (National Board (incl endorsements) State, Province and number)