

Size Category			FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS											
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1														
1. Manufactured and certified by Paul Mueller Company, 1600 W. Phelps, Springfield, Missouri, 65802														
(Name and address of Manufacturer)														
2. Manufactured for Delta T Corporation, P O Box 3024, Williamsburg, Virginia, 23187-3024														
(Name and address of Purchaser)														
3. Location of installation PEI IMPERIAL, 305 Yokum Road, Calipatria, California, 92233														
(Name and address)														
4. Type		Horizontal		Heat Exchanger					366273-8					
		(Horiz., vert., or sphere)		(Tank, separator, jkt. vessel, heat exh., etc.)					(Mfg's serial No.)					
		N/A		EX00401 Rev D					44567					
		(CRN)		(Drawing No.)					(Nat'l. Bd. No.)					
									2007					
									(Year built)					
5. ASME Code, Section VIII, Div. 1														
				2004/ A06				N/A				N/A		
				Edition and Addenda (date)				Code Case No.				Special Service per UG-120(d)		
Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multichamber vessels.														
6. Shell (a) No. of course(s): 1 (b) Overall length: 11' 9.875"														
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.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	24" OD	11' 9.875"	SA53 GR B		.375"	.062"	ERW	None	70%	7	None	N/A	N/A	N/A
7. Heads: (a) N/A (b) N/A														
(Mat'l Spec. No., Grade or Type) (H.T. - Time & Temp.)														
(Mat'l Spec. No., 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.
N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			N/A	N/A	N/A
If removable, bolts used (describe other fastening)														
N/A														
(Mat'l, Spec. No., Grade, Size, No.)														
8. Type of jacket N/A Jacket closure N/A														
(Describe as ogee & weld, bar, etc.)														
If bar, give dimensions N/A If bolted, describe or sketch.														
9. MAWP 150 psi 400 psi at max. temp. 15 °F 400 °F Min. design metal temp. -20 °F at 150/FV														
		(internal)	(external)			(internal)	(external)							
10. Impact test No Charpy Impact Test Exempt per UG-20(f),UHA-51(d,e,f) at test temperature of N/A														
(Indicate yes or no and the component(s) impact tested)														
11. Hydro., pneu., or comb. test press. HYDRO. at 195 psi Proof test N/A														
Items 12 and 13 to be completed for tube sections.														
12. Tubesheet: SA240 304 (2) 27.625" 1"1" 0 Welded														
			Stationary (Mat'l Spec. No.)		Dia., (subject to press.)		Nom. thk.		Corr. Allow.		Attachment (welded or bolted)			
			N/A		N/A		N/A		N/A		N/A			
			Floating (Mat'l Spec. No.)		Dia.		Nom. thk.		Corr. Allow.		Attachment			
13. Tubes: SA249 304 1" .049" 273 Straight														
			Mat'l Spec. No., Grade or Type		O. D.		(Nom. thk.)		Number		Type (Straight or U)			
Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.														
14. Shell (a) No. of course(s): 2 (b) Overall length: 1' 4.75"														
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.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	24" OD	8.375"	SA240 304		.1875"	0	1	None	70%	1	None	70%	N/A	N/A
1	24" OD	8.375"	SA240 304		.1875"	0	1	None	70%	1	None	70%	N/A	N/A
15. Heads: (a) SA240 304 (b) SA240 304														
(Mat'l Spec. No., Grade or Type) (H.T. - Time & Temp.)														
(Mat'l Spec. No., 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)	FRONT	.1183"	0	N/A	N/A	2:1	N/A	N/A	N/A	X	X	S	None	85%
(b)	REAR	.1183"	0	N/A	N/A	2:1	N/A	N/A	N/A	X	X	S	None	85%
If removable, bolts used (describe other fastening)														
32 .625"11NC CS SA193-B7 Class2 Threads,Threaded Studs,64 .625" 11NC CS SA194 GR2H Hex Nuts														
(Mat'l, Spec. No., Grade, Size, No.)														

16. MAWP 75 psi 300 psi at max. temp. 15 °F 300 °F Min. design metal temp. -20 °F at 75/FV
(internal) (external) (internal) (external)

17. Impact test No Charpy Impact Test Exempt per UG20(f), UHA-51(d,e,f) at test temperature of N/A
(Indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. Hydro. at 98 psi Proof test N/A

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Unknown	1	2"	150# Slip On Flg	SA106 GR B	SA105	SCH 80	.062"		UW16.1(e)	UW16.1(k)	
Unknown	1	1"	150# Slip On Flg	SA106 GR B	SA105	SCH 160	.062"		UW16.1(e)	UW16.1(k)	
Unknown	1	3"	150# Slip On Flg	SA53 GR B	SA105	SCH 80	.062"		UW16.1(e)	UW16.1(k)	
Unknown	1	1"	Thd'd Cplg	SA105		3000#	.062"		UW16.2(l)		
Unknown	1	.5"	Thd'd Cplg	SA105		3000#	.062"		UW16.2(l)		
Unknown	2	14"	150# Slip On Flg	SA312 304	SA182 304	SCH 10	0		UW16.1(c)	UW16.1(k)	
Unknown	2	1"	Thd'd Cplg	SA182 304		3000#	0		UW16.2(l)		

20. Supports: Skirt No Lugs N/A Legs N/A Others 2 Saddles Attached Shell Welded
(Yes or no) (No.) (No.) (Describe) (Where and how)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:

N/A

(List the name of part, item number, mfg's. name and identifying number)

22. Remarks:

Length of tubes: 11' 11.875"

Heat Exchanger was hydro tested in horizontal position. Front and Rear Bonnets are removable by a SA182 304 Flange welded to the Shells that bolts to the Tubesheets.

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. 5594 Expires September 21, 2010

Date 12/04/2007 Name Paul Mueller Company Signed Rich Hagin
(Manufacturer) (Representative)

CERTIFICATE OF SHOP 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 MO and employed by HSB CT, of Hartford, CT have inspected the pressure vessel described in this Manufacturer's Data Report on December 5, 2007, 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 a loss of any kind arising from or connected with this inspection.

Date 12/05/2007 Signed Scott W. Fleeman Commissions 13255A, MO0438
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements made in this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1. U Certificate of Authorization No. _____ Expires _____

Date _____ Name _____ Signed _____
(Assembler) (Representative)

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 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 to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the ASME Code, Section VIII, Division 1. 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 _____ Signed _____ Commissions _____
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province and No.)