

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

As required by the Provisions of the ASME Code Rules, Section VIII, Division 1

- Manufactured and certified by Doyle & Roth Mfg. Co., Inc. One Morse Avenue Simpson, PA 18407
(Name and address of Manufacturer)
 - Manufactured for McNeil Specialty Products Co. c/o Morrison Knudsen Corp 1500 W. 3rd St Cleveland, OH 44113
(Name and address of Purchaser)
 - Location of installation McNeil Specialty Products Highway 43 & Industrial Rd Industrial RD McIntosh AL 36553
(Name and address)
 - Type: Vertical Heat Exh J-8931-1
(Horiz., vert., or sphere) (Tank, Separator, jkt. vessel, heat exh., etc) (Mfg's serial No.)
NA B-10485-1 18543 1999
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)
 - ASME Code, Section VIII, Div. 1 1995 A97 NA NA
(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 multi-chamber vessels.
- Shell (a) No. of course(s): 2 (b) Overall length (ft & in.): 11'9"

Course(s)			Material		Thickness		Long Joint (Cat A)			Circum Joint (Cat A,B&C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	30.0	8'0"	SA516-70		.375	.125	1	Spot	85	1	None	70	NA	NA
1	30.0	3'9"	SA516-70		.375	.125	1	Spot	85	NA	NA	NA	NA	NA
-	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

7. Heads: (a) <u>NA</u> (b) <u>NA</u> (Mat'l Spec. No. Grade or Type) H.T.-Time & Temp													
Location (Top, Bottom, Ends)	Thickness		Radius		Ellip. Ratio	Coni. Apex Angle	Hemis Radius	Flat Diameter	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Con-conv	Con-conc	Type	Full, Spot, None	Eff.
(a)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
(b)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

- If removable, bolts used (describe other fastening) NA (Mat'l Spec. No., Grade, size, No.)
- Type of jacket NA Jacket closure NA (Describe as ogee & weld, bar, etc.)
 - If bar, give dimensions NA If bolted, describe or sketch.
 - MAWP 130 FV psi at max. temp. 350 350 °F Min. design metal temp. -20 °F at FV/130 psi.
(internal) (external) (internal) (external)
 - Impact test No per UG20(f) & UHA 51 (Indicate yes or no and the component(s) impact tested)
 - Hydro. test press. 195 Proof test NA
 - Items 12 and 13 to be completed for the tube sections.
 - Tubesheet: SA240 304L 34.625 1.25 NA Welded
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
NA NA NA NA NA
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment
 - Tubes: SA249 304L 2.0 .065" 73 Strt
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (straight or U)
 - Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.
 - Shell (a) No. of course(s): 2 (b) Overall length (ft & in.): 10-1/2"

Course(s)			Material		Thickness		Long Joint (Cat A)			Circum. Joint (Cat A,B&C)			Heat Treatment	
No	Diameter, in.	Length (ft & in)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
2	30.0	5-1/4"	SA240 304L		.25	NA	1	None	70	1	Spot	85	NA	NA
-	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
-	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

15. Heads: (a) <u>SA240 304L</u> (b) <u>NA</u> (Mat'l Spec. No. Grade or Type) H.T.-Time & Temp													
Location (Top, Bottom, Ends)	Thickness		Radius		Ellip. Ratio	Coni. Apex Angle	Hemis Radius	Flat Diameter	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Con-conv	Con-conc	Type	Full, Spot, None	Eff.
(a) Ends	.25	NA	NA	NA	2:1	NA	NA	NA	NA	X	NA	NA	NA
(b)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

- If removable, bolts used (describe other fastening) Alloy SA193 B7M & SA194-2H 3/4" (24)
(Mat'l. Spec. No., Grade, size, No.)

Form U-1 (Back)

16. MAWP 100 NA psi at max. temp. 350 NA °F Min. design metal temp. -20 °F at 100 psi.
(internal) (external) (internal) (external)

17. Impact test No per UG20(f) & UHA 51

(Indicate yes or no and the component(s) impact tested)

18. Hydro. test press. 150 Proof test NA

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	
Inlet Outlet	1	4"	LJ	SA312 304L	SA105	Sch 40	NA	*	uw16.1c	fig2-4(1a)	NA
Inlet Outlet	1	8"	RF/SO	SA312 304L	SA105	Sch 40	NA	*	uw16.1c	fig2-4(3)	NA
Inlet Outlet	1	6"	RF/SO	SA106B	SA105	Sch 80	.125	**	uw16.1c	fig2-4(3)	NA
Inlet Outlet	1	2"	RF/SO	SA106B	SA105	Sch 160	.125	**	uw16.1c	fig2-4(3)	NA
Drain Vent	2	.75"	Cplg	SA105	NA	3000#	.125	NA	uw16.1c	NA	NA

20. Supports: Skirt NO Lugs 4 Legs NA Others NA Attached Welded to shell
(Yes or 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: (List the name of part, item number, mfg's. name and identifying number)

NA
NA

22. Remarks: Vertical Shell and Tube Heat Exchanger
Tag Equip. No. E-1131 "DSDA Concentrator Heater"
*SA240 304L **SA516-70

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 of Pressure Vessels, Sect VIII, Division 1.

U Certificate of Authorization No. 982 Expires January 31, 20 02

Date 3-19-99 Name Doyle Roth Mfg. Co., Inc. Signed Joseph Roth
(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 the State or Province of PA and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the pressure vessel described in this Manufacturer's Data Report on 3-19-99, 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 3-19-99 Signed [Signature] Commissions NB 11978 PA 2811 'A'
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on 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 _____, 19 _____

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 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 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. endorsement, State, Province and No.)