

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 VAAHTO OY. Vanha Messilantie 6, FIN 15860 HOLLOLA, FINLAND
(Name and address of Manufacturer)

2. Manufactured for SOUTHBRIDGE LLC, 613 Abbott Street, Detroit Michican 48226, USA
(Name and address of Purchaser)

3. Location of installation RUSH RENEWABLE ENERGY, 2620 N.State Road 3, Rushville, Indiana 46173, USA
(Name and address)

4. Type: Horiz. SPIRAL HEAT EXCHANGER 16095150
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exh., etc.) (Mfg's serial No.)

07.16095-150 Rev.0 62 2008
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 Edit.2004, ADD-06 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): outer channel: 1 (b) Overall length (ft & in.): 2008mm(79.06")

No.	Course(s)		Material Spec./Grade or Type	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
	Diameter, in.	Length (ft & in.)		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	1540mm	2008mm	SA240 Gr304	8mm	N/A	1	Full	1.0	N/A	-	-	N/A	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

7. Heads: (a) SA 516 Grade 70 - No H.T. (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.
(a) END	80mm	N/A	N/A	N/A	N/A	N/A	N/A	1580mm	N/A	N/A	N/A	N/A	N/A
(b) N/A	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) CLAMP BOLTS: SA 193 Gr B7; 1 1/8 - 8UN x 250mm / HEX NUTS: SA194 Gr 2H ; 40 pcs
(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 1035 kPa N/A psi at max. temp. 121 °C N/A °F Min. design metal temp. 20 °C °F at 1035 kPa psi.
(internal) (external)

10. Impact test Yes, components made of SA 516Gr70 with thick >10mm at test temperature of -30 °C °F.
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. Hydrostatic, 1346 kPa Proof test N/A

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: N/A - - -
[Stationary (Mat'l Spec. No.)] [Dia., in. (subject to press.)] (Nom. thk., in.) (Corr. Allow., in.) [Attachment (welded or bolted)]

N/A - - -
[Floating (Mat'l Spec. No.)] (Dia., in.) (Nom. thk., in.) (Corr. Allow., in.) (Attachment)

13. Tubes: N/A - - -
(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.

14. Shell (a) No. of course(s): inner channel: 1 (b) Overall length (ft & in.): 2008mm(79.06")

No.	Course(s)		Material Spec./Grade or Type	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
	Diameter, in.	Length (ft & in.)		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	1540mm	2008mm	SA240 Gr304	8mm	N/A	1	Full	1.0	N/A	-	-	N/A	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-

15. Heads: (a) SA 516 Grade 70 - No H.T. (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.
(a) END	80mm	N/A	N/A	N/A	N/A	N/A	N/A	1580mm	N/A	N/A	N/A	N/A	N/A
(b) N/A	-	-	-	-	-	-	-	-	-	-	-	-	-

If removable, bolts used (describe other fastening) CLAMP BOLTS: SA 193 Gr B7; 1 1/8 - 8UN x 250mm / HEX NUTS: SA194 Gr 2H ; 40 pcs
(Mat'l Spec. No., Grade, size, No.)



FORM U-1 (Back)

16. MAWP 1035 kPa N/A psi at max. temp. 121 °C N/A °F. Min. design metal temp. 20 °C °F at 1035 kPa psi
(internal) (external) (internal) (external)
17. Impact test Yes, components made of SA 516Gr70 with thick >10mm at test temperature of -30 °C °F
(Indicate yes or no and the component(s) impact tested)
18. Hydro., pneu., or comb. test press. Hydrostatic, 1346 kPa 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		
I.C. OUTLET	N2	1	6"	150 WN	SA312/316L	SA182/F304	7,11 mm	N/A	N/A	UW 16.1 (c)	N/A	N/A
I.C. INLET	N1	1	6"	150 WN	SA312/316L	SA182/F304	7,11 mm	N/A	N/A	UW 16.1 (J)	N/A	N/A
O.C. OUTLET	N4	1	6"	150 WN	SA312/316L	SA182/F304	7,11 mm	N/A	N/A	UW 16.1 (J)	N/A	N/A
O.C. INLET	N3	1	6"	150 WN	SA312/316L	SA182/F304	7,11 mm	N/A	N/A	UW 16.1 (c)	N/A	N/A
I.C VENT/DR.	N5/ N6	2	1"	150 WN	SA312/316L	SA182/F304	3,38 mm	N/A	N/A	UW 16.1 (J)	N/A	N/A
O.C VENT/DR.	N7/N8	2	1"	150 WN	SA312/316L	SA182/F304	3,38 mm	N/A	N/A	UW 16.1 (J)	N/A	N/A

20. Supports: Skirt No Lugs 2 Legs N/A Others 2 Bracket Attached Welded to shell
(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: (List the name of part, item number, mfg's. name and identifying number)
N/A

22. Remarks: RT4: Full radiography of outer shell long. joint butt welds and exposed part of shell long. joints.
Paragraph UHA-51(d) exempts the vessel from impact testing as per rule of UG-84(a).
Paragraph UCS-66(a) exempts the vessel from impact testing as per rule of UG-84(a).
Pressure relief devices to be installed by user or his agent per UG-125 (a). Inspection openings provided by removable covers.

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements 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. 32694 Expires 11th July 2010

Date 18th March 2008 Name VAAHTO OY Signed [Signature] QC-Manager
(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 The State of Delaware and employed by LR Insurance Inc. of The State of Delaware

have inspected the pressure vessel described in this Manufacturer's Data Report on 18 th March 2008, 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 18th March 2008 Signed [Signature] Commissions NB 11501 "A" Pa.No.2690
(Authorized Inspector) (Nat'l Board incl. endorsements, 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 _____.

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.)

