FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by TAYLOR TANK COMPANY, INC. 848 EAST 43RD STREET BROOKLYN NEW YORK 11210
(Name and address of Manufacturer)

2. Manufactured for LONZA 100 McKEE EROAD ROCHESTER NY 14611
(Name and address of Purchaser)

3. Location of installation LONZA 100 McKEE EROAD ROCHESTER NY 14611
(Name and address)

4. Type Horizontal (Horizontal, vertical, or sphere) Heat Exch. (Tank, separator, jkt. vessel, heat exch., etc.) 3929 (Manufacturer's serial number)
(CRN) B-3929 REV.0 (Drawing number) 2645 (National Board number) 2013 (Year built)

5. ASME Code, Section VIII, Div. 1 2010 Edition, 2011 Addenda [Edition and Addenda, if applicable (date)] (Code Case number) [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) Number of course(s) 1 (b) Overall length 12'-0"

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	8.625"	12'-0"	SA-53B	.277	0.0625	2	None		1	None	1		

7. Heads: (a) (Material spec. number, grade or type) (H.T. — time and temp.) (b) (Material spec. number, grade or type) (H.T. — time and 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)														
(b)														

If removable, bolts used (describe other fastening) (Material spec. number, grade, size, number)

8. Type of jacket Jacket closure (Describe as ogee and weld, bar, etc.)
If bar, give dimensions If bolted, describe or sketch.

9. MAWP 150 (Internal) (External) at max. temp. 200 (Internal) (External) Min. design metal temp. -20 at 150

10. Impact test NO [Indicate *yes* or *no* and the component(s) impact tested] at test temperature of

11. [X] Hydro., [ ] pneu., or [ ] comb. test pressure 195 Proof test

Items 12 and 13 to be completed for tube sections.

12. Tubesheet SA-182 304L [Stationary (material spec. no.)] 8 [Diameter (subject to press.)] 1.125 (Nominal thickness) (Corr. allow.) Welded [Attachment (welded or bolted)]
[Floating (material spec. no.)] (Diameter) (Nominal thickness) (Corr. allow.) (Attachment)

13. Tubes SA-249 TP304L (Material spec. no., grade or type) .75 (O.D.) 0.049 (Nominal thickness) 40 (Number) Straight [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) 1 (b) Overall length 1'-0"

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	8.625	0'-7"	SA-312 TP304L	.148		1	None		1	None	1		

15. Heads: (a) SA-403 304L (Material spec. number, grade or type) (H.T. — time and temp.) (b) SA-403 304L (Material spec. number, grade or type) (H.T. — time and 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	.148				2:1					X	S	NONE	100
(b)	End	.148"				2:1					X	S	NONE	100

If removable, bolts used (describe other fastening) SA-193 B7 (8)-3/4" DIA.STUDS
(Material spec. number, grade, size, number)

FORM U-1 (Back)

16. MAWP 150 (Internal) _____ (External) at max. temp. 200 (Internal) _____ (External) Min. design metal temp. -20 at 150

17. Impact test NO [indicate *yes* or *no* and the component(s) impact tested] at test temperature of _____.

18. [X] Hydro., [ ] pneu., or [ ] comb. test pressure 195 Proof test _____

19. Nozzles, Inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet/Outlet	2	1 1/2"-150#	RFSO	SA-312 TP304L	SA-182 F304L	Sch10s			WELD	WELD	Bonnet
Inlet/Outlet	2	2"-150#	RFSO	SA-53B	SA-105	Sch80			WELD	WELD	Shell
Vent/Drain	2	.75	CPLG	SA-105					WELD		Shell

20. Supports: Skirt _____ (Yes or no) Lugs _____ (Number) Legs _____ (Number) Other (2)-SADDLES (Describe) Attached WELD. TO SHELL PAD (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, Manufacturer's name, and identifying number):

22. Remarks *-INDICATES NOMINAL THCKNS
RUBICON MODEL:WC8B6-144H
NAME PLATE LOC.: 0 DEG.& 24" FROM TS
IMPACT TEST EXEMPT PER UG-20(f) & UHA-51

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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1.

U Certificate of Authorization Number 4,220 Expires 6/14/2014

Date 7/26/13 Name TAYLOR TANK COMPANY, INC. (Manufacturer) Signed _____ (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 New York and employed by ONECIS INSURANCE COMPANY of LYNN,MA have inspected the pressure vessel described in this Manufacturer's Data Report on July 26, 2013, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel 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 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 7-26-13 Signed _____ (Authorized Inspector) Commissions NB 8845 'A' NY2977 [National Board (incl. endorsements), State, Province, and number]

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

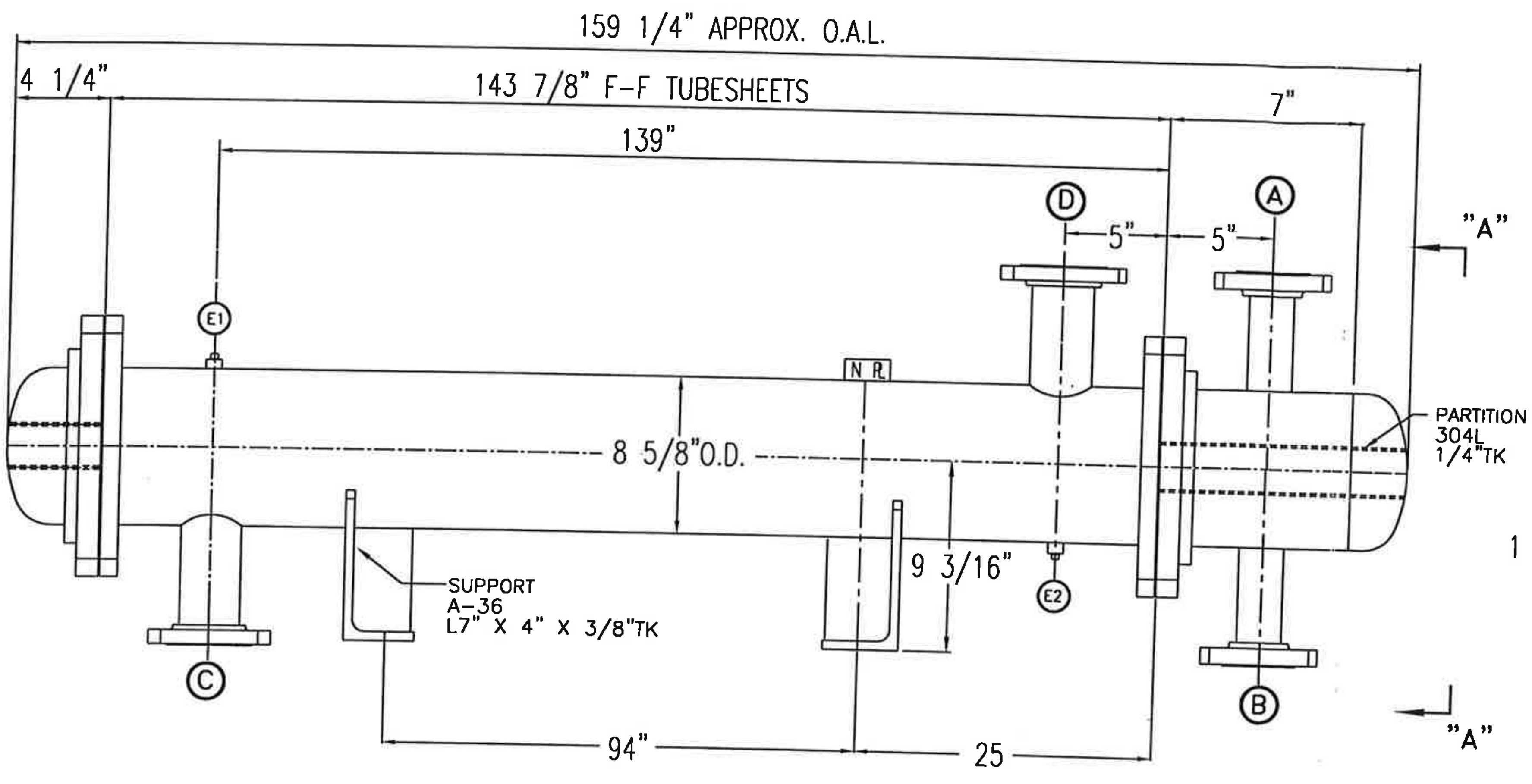
We certify that the statements in this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number _____ Expires _____

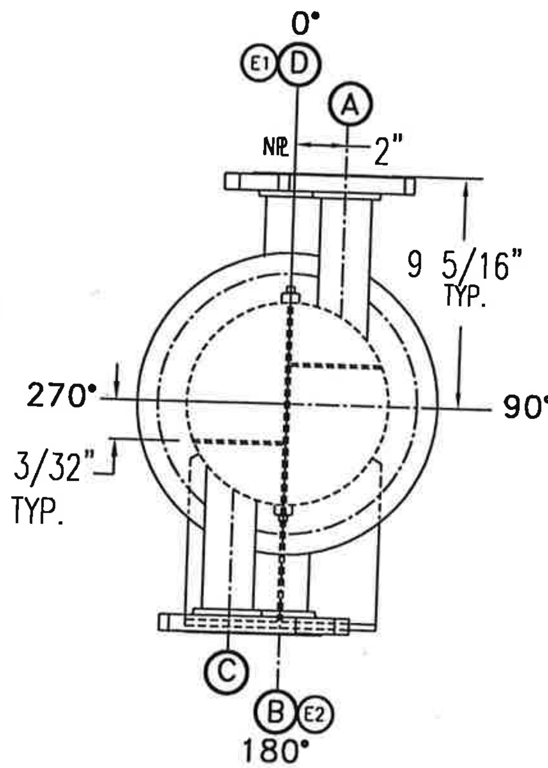
Date _____ Name _____ (Assembler) Signed _____ (Representative)

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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel 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 7/17/2013 Signed _____ (Authorized Inspector) Commissions _____ [National Board (incl. endorsements), State, Province, and number]





VIEW "A-A"

SIX(6)PASS

GENERAL NOTES

1. CONSTRUCTION TO COMPLY WITH A.S.M.E. CODE SECTION VIII, DIV 1 LATEST EDITION.
2. A.S.M.E. STAMP & NAT'L BD. INSPECTION & REGISTRATION. ☒ YES ☐ NO
3. TEMA CLASS "B", TYPE "BEM"
4. 94 SQ. FT. HEAT TRANSFER SURFACE AREA.
5. ALL BOLT HOLES TO STRADDLE CENTERLINES.
6. SEE VIEW "A-A" FOR TRUE NOZZ. ORIENTATION.
7. ALL DIMENSIONS ARE IN INCHES.
8. WEIGHT: 915 LBS. EMPTY; 1200 LBS. FLOODED
9. PAINT (CARBON STEEL ONLY):

   ONE SHOP COAT RED OXIDE

E-CL-11

MECHANICAL DESIGN CONDITIONS	SHELL SIDE	TUBE SIDE
DESIGN TEMPERATURE, °F	200	200
MIN.DESIGN METAL TEMP.,°F	-20	-20
DESIGN PRESSURE, PSIG	150	150
TEST PRESSURE, PSIG	195	195
CORROSION ALLOWANCE, IN.	1/16"	-
RADIOGRAPHY	-	-

ITEM	MAT'L SPEC	SIZE & DESCRIPTION
SHELL	SA-53B	8 5/8"O.D. SCH.30 (.277"NOM.TK.)
TUBESHEETS	SA-182 304L	13 1/2"O.D. X 1 1/8"TK. (8"-150#BLND)
TUBES	SA-249 304L	(40)-3/4"O.D. X 18 BWG 12'-0" LG. ON 15/16"TR. PITCH
BONNET COV.	SA-403 WPW 304L	8 5/8"O.D. SCH.10S WELD CAP (.148"NOM. TK.)
BONNET FLG	SA-182 304L	8"-150#RFSO
BONNET CYL.	SA-312 304L	8 5/8"O.D. SCH.10S (.148"NOM.TK.)
BAFFLES	C.S.	SEGMENTAL TYPE 4 1/4"NOM. PITCH 25% HORIZ.CUT (30 REQ'D)
GASKETS	TEFLON	1/16"TK.
STUDS NUTS	SA-193 GR.B7 SA-194 GR. 2H	-
SUPPT'S	A-36	AS PER RUBICON STD-100 REV.4

MARK	FLG & FITTING SPECIFICATIONS: SIZE,RATING & TYPE	MATERIAL	NECK SPECIFICATIONS: SIZE & SCH.	MATERIAL	SERVICE	REMARKS
A	1 1/2"-150#RFSO	SA-182 304L	1 1/2"SCH.10S	SA-312 304L	-	
B	1 1/2"-150#RFSO	SA-182 304L	1 1/2"SCH.10S	SA-312 304L	-	
C	2"-150#RFSO	SA-105	2"SCH.80	SA-53B	-	
D	2"-150#RFSO	SA-105	2"SCH.80	SA-53B	-	
E_{1-2}	3/4"-3000#HCPLG	SA-105			VENT/DRAIN	WITH PLUG

NO.	REVISION	DATE	BY
0	ISSUED FOR APPROVAL	07/02/13	Y.P.

CUSTOMER	LONZA (ARCH CHEMICALS INC ROCHESTER PLANT)
ADDRESS:	100 McKEE ROAD ROCHESTER NY 14611
P.O. No.	4500748926
REFERENCE:	-
TAG:	-
RUBICON MODEL No.:	WC8B6-144H
RUBICON SERIAL No.:	3929
No.Req'd:	ONE(1)
JOB No.:	J-2453

RUBICON INDUSTRIES CORP.

848 E. 43rd ST., BROOKLYN, N.Y. 11210

DRN. Y.P.	DATE	07/02/13	B-3929	REV.0
CHK.	DATE			
APP.	DATE			

WC8B6-144H BEM CS-304L LONZA.dwg, 7/22/2013 9:49:58 AM, bschelling