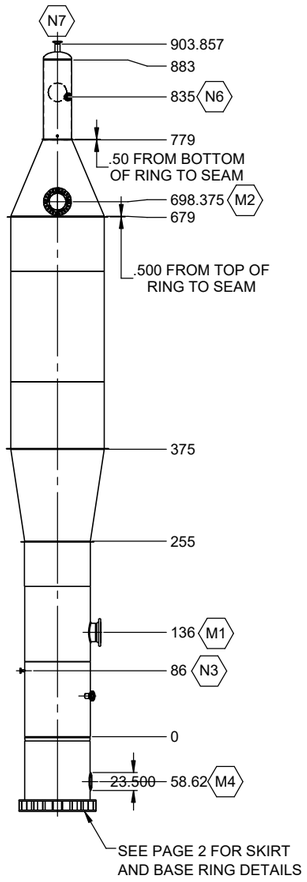
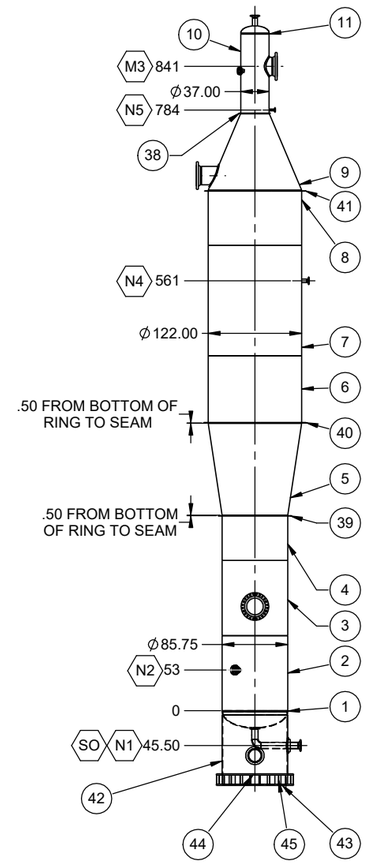
NOZZLE SCHEDULE

NOZZLE				WELDS							COMPONENTS
MARK	SIZE	QTY.	SERVICE	TYPE	Nt	EXT. PROJ.	INT. PROJ.	41	42	43	
M1	24"	1	MANWAY	II	1	12.4375"	0	0.375"	0.375"	-	13,23,34
M2	24"	1	MANWAY	II	1	12.0256"	0	0.375"	0.625"	-	13,25,33
M3	24"	1	MANWAY	II	1	16.50"	0	0.375"	0.375"	-	13,23,32
M4	18"	1	MANWAY	III	1	3.25"	2.00"	0.5"	0.5"	0.5"	26,35
N1	8"	1	DRAIN	II	0.5	0.50"	0	0.375"	0.375"	0.625"	16,27,31,30,38
N2	6"	1	PROCESS	I	0.719	6.4375"	0	0.375"	-	-	12,21
N3	2"	1	PROCESS	I	0.344	6.4375"	0	0.25"	-	-	17,24
N4	4"	1	PROCESS	I	0.674	12.937"	0	0.375"	-	-	14,29
N5	2"	1	PROCESS	I	0.344	8.125"	0	0.25"	-	-	17,20
N6	4"	1	PROCESS	I	0.337	6.50"	0	0.25"	-	-	18,19
N7	6"	1	PROCESS	I	0.719	14.124"	0	0.1875"	-	-	15,22
SO	16"	1	SKIRT OPENING	III	1	3.25"	2.00"	0.375"	0.5"	0.375"	28,36

* FOR MANWAY COVER DETAILS, SEE PAGE 2



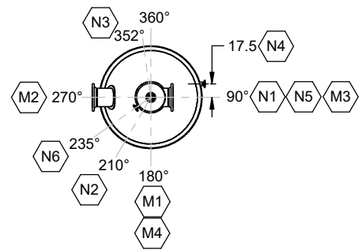


DESIGN DATA

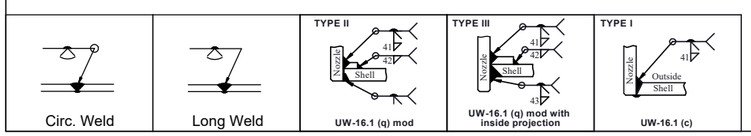
DESIGN CODE	ASME VIII DIV.I 2007 ED. 2008 ADD.		
INTERNAL PRESSURE:	150 PSI @ 550°F		
EXTERNAL PRESSURE	15 PSI @ 550°F		
HYDROTEST PRESSURE:	195 PSI @ 70°F		
MDMT:	-20°F @ 150 PSI		
CORROSION ALLOWANCE:	0.125"		
PWHT:	NO		
RADIOGRAPHY:	RT-2		
IMPACT TESTING:	NONE	EXEMPTION:	UCS-66
SEISMIC CODE:	IBC-2006	WIND CODE:	IBC-2006
SERVICE:	-	CAPACITY:	28,515 GAL (US).
WEIGHT EMPTY:	80,261 LBS.	FLOODED WEIGHT:	251,260 LBS.

NOTES:
1. ALL DIMENSIONS ARE IN INCHES
2. ALL WELDS SHALL BE NEAT IN APPEARANCE, FREE OF SLAG AND OTHER DEFECTS.
3. VESSEL TO BE CLEANED OF SCALE, OIL, WELD SPLATTER AND ALL FOREIGN MATERIAL PRIOR TO HYDROSTATIC TEST.
4. REMOVE ALL SHARP EDGES ON NOZZLES (1/8" MIN. RADIUS)
5. ALL NOZZLES TO BE SUPPORT NOMINAL LOADS ONLY, FLANGES CONFORM TO B16.5 STANDARDS.
6. REPAD TO HAVE MIN. 1/8" TELLTALE HOLE.
7. ALL FITTINGS CONFORM TO B16.9 STANDARDS.
8. SEISMIC TO IBC-2006:
   Ss:2.0 S1: 1.0
   Cat:I SITE CLASS: B
   RESPONSE FACTOR: 3 TL:3

   WIND TO IBC-2006:
   V: 90 MPH EXPOSURE: C
   IMPORTANCE: 1.15 Kd:1
   DAMPING COEFFICIENT: 0.024
9. RFWN FLANGE BORE TO MATCH HOST PIPE.
10. VESSEL TO BE HYDROTESTED IN HORIZONTAL POSITION.
11. ANCHOR BOLTS FOR BASE RING TO BE SA-193 B7 MATERIAL.



Item	Qty	Description	Material
1	1	Head, 2:1 Elliptical - 85.5000" OD, 1.5000" SF, 0.7500" Nom., 0.6250" MAF	SA-516 Gr.70
2	1	Shell: 84" ID x 0.625" THK x 98" LG.	SA-516 Gr.70
3	1	Shell: 84" ID x 0.625" THK x 98" LG.	SA-516 Gr.70
4	1	Shell: 84" ID x 0.625" THK. x 59" LG.	SA-516 Gr.70
5	1	Conical Shell: 0.875" THK x 120.25" ID to 84" ID, 120" LG	SA-516 Gr.70
6	1	Shell: 0.875" THK x 120.25" ID x 88" LG	SA-516 Gr.70
7	1	Shell: 0.875" THK x 120.25" ID x 144" LG	SA-516 Gr.70
8	1	Shell: 0.875" THK x 120.25" ID x 72" LG	SA-516 Gr.70
9	1	Conical Shell: 0.875" THK x 120.25" ID to 36.25" ID, 100" LG	SA-516 Gr.70
10	1	Shell: 0.375" THK x 36.25" ID x 104" LG	SA-516 Gr.70
11	1	Head, 2:1 Elliptical - 37.0000" OD, 1.5000" SF, 0.3750" Nom., 0.3125" MAF	SA-516 Gr.70
12	1	Flange, B16.5 RFWN - 300#, 6.00 NPS	SA-105
13	3	Flange, B16.5 RFWN - 300#, 24.00 NPS	SA-105
14	1	Flange, B16.5 RFWN - 300#, 4.00 NPS	SA-105
15	1	Flange, B16.5 RFWN - 300#, 6.00 NPS	SA-105
16	1	Flange, B16.5 RFWN - 300#, 8.00 NPS	SA-105
17	2	Flange, B16.5 RFWN - 300#, 2.00 NPS	SA-105
18	1	Flange, B16.5 RFWN - 300#, 4.00 NPS	SA-105
19	1	Pipe: 4" SCH80 x 3.5" LG	SA-106 Gr.B
20	1	Pipe: 2" SCH160 x 5.75" LG	SA-106 Gr.B
21	1	Pipe: 6" SCH160 x 8" LG	SA-106 Gr.B
22	1	Pipe: 6" SCH160 x 8" LG	SA-106 Gr.B
23	2	Plate: 24" OD x 1" THK x 9"LG	SA-516 Gr.70
24	1	Pipe: 2" SCH160 4.3125" LG	SA-106 Gr. B
25	1	Plate: 24" OD x 1" THK x 9"LG	SA-516 Gr.70
26	1	Pipe: 18" OD x 1" THK x 5" LG	SA-516 Gr.70
27	1	Pipe: 8" SCH80 x 48" LG.	SA-106Gr.B
28	1	Plate: 16.25" OD x 1" THK x 5" LG	SA-516 Gr.70
29	1	Pipe: 4" SCHXXS x 10.875" LG	SA-106 Gr.B
30	1	8" SCH40 Pipe x 15.4642" LG	SA-106 Gr.B
31	1	SR Elbow, B16.9 - SCH40, 8.00 NPS	SA-234 WPB
32	1	Repad: 28" OD x 24" ID x 0.375" THK	SA-516 Gr.70
33	1	Repad: 30.5309" OD x 24" ID x 0.75" THK	SA-516 Gr.70
34	1	Repad: 28" OD x 24" ID x 0.625" THK	SA-516 Gr.70
35	1	Repad: 23.5" OD x 16.25" ID x 1" THK	SA-516 Gr.70
36	1	Repad: 21" OD x 16.25" ID x 1" THK	SA-516 Gr.70
37	1	Repad: 12.625" OD x 8.625" ID x 0.5" THK	SA-516 Gr.70
38	1	Ring: 0.375 x 2 FLAT BAR	SA-36
39	1	Ring: 0.5 x 5 FLAT BAR	SA-36
40	1	Ring: 0.625 x 6 FLAT BAR	SA-36
41	1	Ring: 0.5 x 5 FLAT BAR	SA-36
42	1	Skirt: 84" ID x 0.75" THK x 90.62" LG	SA-516 Gr.70
43	1	Base Ring: 101" OD x 81" ID x 1.625" THK	SA-516 Gr.70N
44	1	Top Ring: 101" OD x 85.5" ID x 1.625" THK	SA-516 Gr.70N
45	24	Guesset: 12" x 7.75" x 0.375" THK	SA-516 Gr.70



Certified by
XX
(Name of Manufacturer)
150 PSI @ 550°F
Max. allowable working pressure (MAWP)
15 PSI @ 550°F
Max. allowable external working pressure
-20°F @ 150 PSI
Min. Design Metal Temperature (MDMT)
SERIAL
Manufacturer's serial number
ASME W RT-2
XX
CRN
2016
Year built

Revision

Rev.	Revision History	Date	Drw.	Chk.
0	Release	2015/09/28	MCT	BEM

PVEng
Pressure Vessel Engineering
120 Randall Drive, Suite B
Waterloo, ON, Canada, N2V 1C6

Title
TOWER: SAMPLE 13

Size	Job ID	Drawing No.	Revision
C	PVE-3602	3602d-1 R0	0
Scale	Material	Sheet	
1:128	See BOM	1 OF 3	