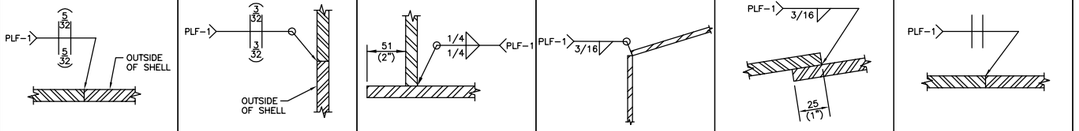
FOREMOST STANDARD TANK WELD DETAILS (N.T.S.)

SHELL JOINT – VERTICAL | SHELL JOINT – HORIZONTAL | SHELL TO FLOOR | SHELL TO ROOF | ROOF JOINT | FLOOR JOINT



CUSTOMER SPECIFICATIONS

DESIGN CODE: API-650 (MODIFIED)
SERIAL NO: 06-061640-1 TO 8
DESIGN PRESSURE: 6.9 kPa (16.0 oz/in)/0.4 oz. VAC.
DESIGN TEMPERATURE: -13°C(8.6°F) TO 93°C(200°F)
OPERATING TEMPERATURE:
SERVICE: OIL, WATER, GAS (SOUR)
OPERATING LEVEL:
CORROSION ALLOWANCE: NIL
OTHER:

FINISHING

EXTERNAL: NONE
INTERNAL: NONE
TESTING: AIR SOAP TEST TO 16 oz. SPOT RADIOGRAPHY
INSULATION: APPLY 51(2") SPRAY HIGH TEMP. URETHANE FOAM INSULATION C/W BLACK ELASTOMERIC SEALER TO SHELL & ROOF. 1

NOZZLE SCHEDULE

MK	NO	SIZE	SCH	RATE	TYPE	PROJECTION INT.	PROJECTION EXT.	REPAD YES	REPAD NO	DESCRIPTION
N1	1	114 / 4"	STD	CLASS 150	RFSO	215 / 8 3/16"	223 / 8 13/16"	✓		PRODUCED EMULSION INLET C/W INTERNAL PIPE
N2	1	114 / 4"	STD	CLASS 150	RFSO	215 / 8 3/16"	203 / 8"	✓		FUEL GAS PRE-HEAT INLET
N3	1	114 / 4"	STD	CLASS 150	RFSO	215 / 8 3/16"	223 / 8 13/16"	✓		SPARE (FUTURE INLET)
N4	1	114 / 4"	STD	CLASS 150	RFSO	215 / 8 3/16"	203 / 8"	✓		GAS VENT C/W FRP INTERNAL RISER & GOOSENECK
N6	1	168 / 6"	STD	CLASS 150	RFSO	208 / 8 3/16"	210 / 8 1/4"	✓		OVERFLOW C/W INTERNAL RISER
N7	1	168 / 6"	STD	CLASS 150	RFSO	208 / 8 3/16"	210 / 8 1/4"	✓		OVERFLOW C/W INTERNAL RISER
N10	1	168 / 6"	STD	CLASS 150	RFSO	208 / 8 3/16"	210 / 8 1/4"	✓		SPARE C/W BLIND
N11	1	168 / 6"	STD	CLASS 150	RFSO	208 / 8 3/16"	210 / 8 1/4"	✓		SPARE C/W BLIND
N13	1	114 / 4"	STD	CLASS 150	RFSO	25 / 1"	203 / 8"	✓		LSHH – KAYDEN TYPE
N14	1	114 / 4"	STD	CLASS 150	RFSO	215 / 8 3/16"	203 / 8"		✓	WATER OUTLET C/W EXTENDED DOWNCOMER (INSIDE ENVRO-VAULT)
N15	1	114 / 4"	STD	CLASS 150	RFSO	215 / 8 3/16"	203 / 8"		✓	EMULSION OUTLET C/W RISER (INSIDE ENVRO-VAULT)
N17	1	114 / 4"	XS	CLASS 150	RFSO	419 / 16 1/2"	67 / 2 5/8"	✓		STINGER CONNECTION C/W GATE VALVE (INSIDE ENVRO-VAULT)
N21	1	114 / 4"	STD	CLASS 150	RFSO	25 / 1"	152 / 6"		✓	VENT
N22	1	273 / 10"	STD	CLASS 150	RFSO	25 / 1"	203 / 8"	✓		LSHH – DIRECT DATE TYPE
N23	1	114 / 4"	STD	CLASS 150	RFSO	190 / 1 1/2"	259 / 10 3/16"	✓		FUEL GAS OUTLET
C1 a	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W DOWNCOMER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C1 b	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W DOWNCOMER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C1 c	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W RISER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C1 d	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W RISER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C1 e	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W RISER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C1 f	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W RISER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C1 g	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	SINGLE CONNECTION C/W RISER, BALL VALVES (ONE SPRING LOADED) (IN VAULT WALL)
C2	1	51 / 2"	–	3000#	FULL CPLG	–	HALF		✓	LEVEL GAUGE (HAWKEYE – REDTAIL)
C2 a,b	2	32 / 1 1/4"	–	3000#	FULL CPLG	–	HALF		✓	FLOAT GUIDE WIRES
C3	1	51 / 2"	–	3000#	FULL CPLG	6 / 1/4"	FULL		✓	LLSD
C4	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	TEMPERATURE INDICATOR
C5	1	25 / 1"	–	3000#	FULL CPLG	–	HALF		✓	TEMPERATURE CONTROLLER
C7	1	19 / 3/4"	–	3000#	FULL CPLG	–	FULL		✓	FIRETUBE PERFORMANCE MONITOR REF. DWG. W06-061640-B104
T1	1	219 / 8"	LW	–	FAB'D	25 / 1"	152 / 6"		✓	THIEF HATCH NOZZLE (MARSH HAWK)
M1	1	610x178 / 2'x4'	–	–	FAB'D	–	102 / 4"		✓	SHELL MANWAY C/W 60/40 SPLIT COVER
F1	1	324 / 12"	–	–	FAB'D	–	152 / 6"	✓		THROAT NOZZLE FOR 12" DIA. U-TUBE

ITEM	ANGLE	CIRC. DISTANCE
N7	4.38°	178 (7")
N22	21.78°	886 (2'-10 7/8")
17	30°	1220 (4'- 1/16")
T1	36.78°	1496 (4'-10 7/8")
MK. 13, 24 & 26	38°	1546 (5'-0 7/8")
N13	43°	1749 (5'-8 7/8")
LG	52°	2115 (6'-11 1/4")
C4	120°	4881 (16'-0 3/16")
C3	122.5°	4983 (16'-4 3/16")
MK. 14 & 23	128°	5206 (17'-1")
MK. 29 & 30	138°	5613 (18'-5")
C5	143°	5816 (19'-1")
F1	145°	5898 (19'-4 3/16")
N23	167.41°	6809 (22'-4 1/16")
N11	175.62°	7143 (23'-5 1/4")
N10	184.38°	7499 (24'-7 1/4")
MK.33	200.8°	8167 (26'-9 9/16")
M1	210°	8542 (28'-0 1/4")
MK. 13	218°	8867 (29'-1 1/8")
MK. 25 & 26	251.73°	10250 (33'-7 9/16")
N3	262.48°	10677 (35'-0 3/8")
N2 & N4	270°	10982 (36'-0 3/8")
N1	277.52°	11287 (37'-0 3/8")
MK. 23	286.5°	11653 (38'-2 13/16")
MK. 23	329.5°	13402 (43'-1 5/8")
N6	355.62°	14465 (47'-5 1/2")

MATERIAL LIST

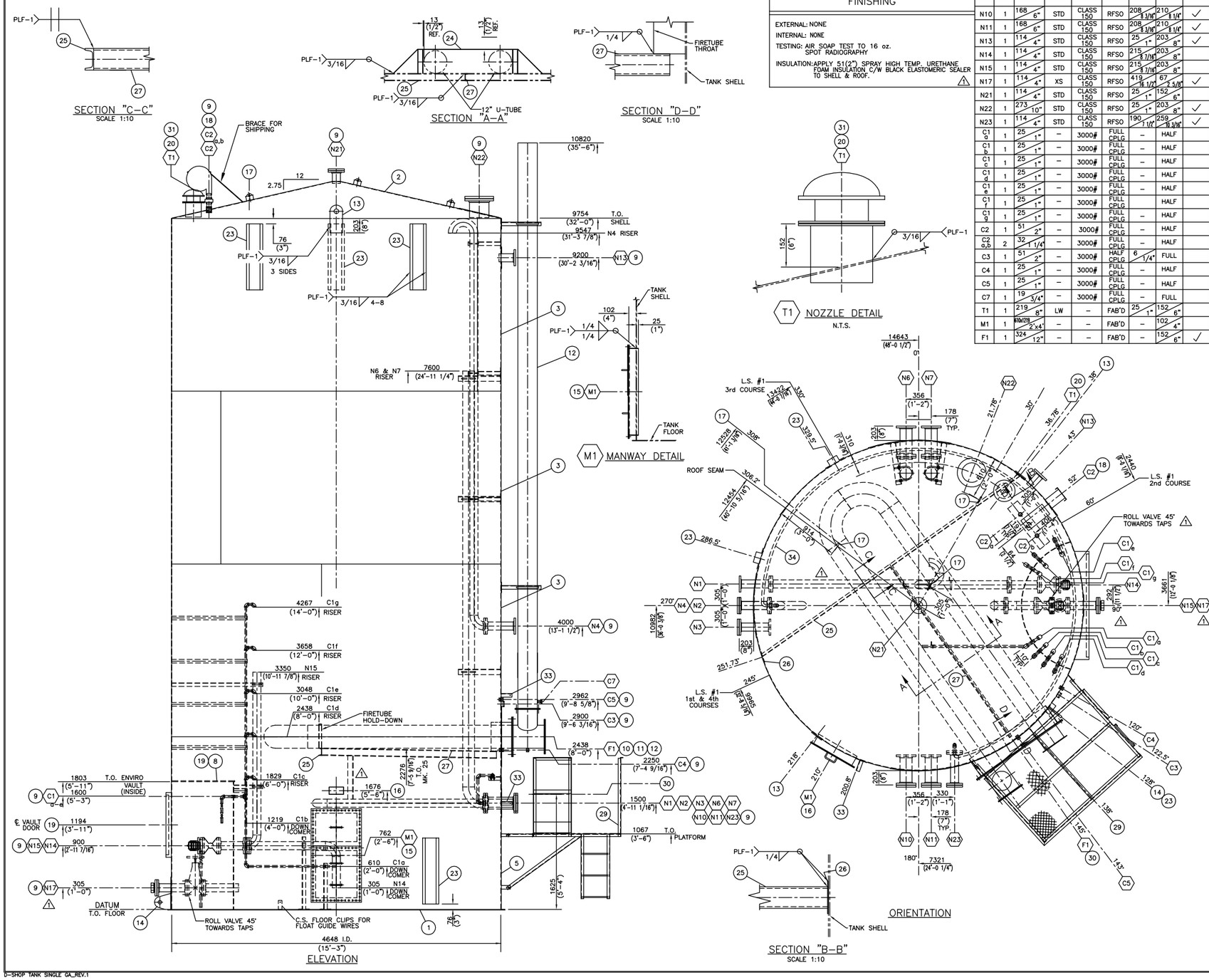
MATERIAL REQUIREMENTS

M (MTR's): MTR's REQUIRED AND MATERIAL IDENTIFIED AS PER Q.C. MANUAL
I (IMPACT TESTING): NONE
C (CHEMISTRY): NONE

MK	QTY	PART NO.	DESCRIPTION	REF. DWG.	MATERIAL	WT	MAT REQ
1	2	2425	FLOOR HALF: PLATE 1/4" THK. x 15'-7 1/2" DIA.	–	G40.21-44W	1958	M
2	2	6996	ROOF PLATE 3/16" THK. x 15'-9 1/8" FLAT DIA.	–	G40.21-44W	1496	M
3	3	2939	SHELL: PLATE 3/16" THK. x 8'-0" x 47-11 1/2" LG.	–	G40.21-44W	8814	M
4							
5	1	2959	SHELL: PLATE 1/4" THK. x 8'-0" x 47'-11 11/16" LG.	–	G40.21-44W	3917	M
6							
7							
8	1	–	ENVIRO-VAULT WALL/ROOF FOR 6' x 6' VAULT	A103	–	848	–
9	1	–	NOZZLE DETAILS	D102	–	2289	–
10	1	–	BURNER RUN	–	–	22	–
11	1	–	BURNER (BY OTHERS)	–	–	90	–
12	1	–	FIRETUBE REMOVABLE U-TUBE 12" SCH STD. 750,000 BTU/HR. C/W THROAT AND STACK	B104	–	2677	–
13	2	4273	LIFTING LUG	–	–	30	–
14	1	4276	TAILING LUG C/W REPAD	–	–	5	–
15	1	1221	SHELL MANWAY 2'-0" x 4'-0" C/W 1/4" 60/40 SPLIT COVER	B112	–	191	–
16	1	1478 2896	NAMEPLATE BRACKET C/W NAMEPLATE	–	–	5	–
17	3	2533	TANK ROOF SAFETY HARNESS LUG	–	–	1	–
18	1	–	HAWKEYE REDTAIL LEVEL INDICATOR ASSY C/W GAUGE HEAD, METRIC BOARD, PVC FLOAT, GUIDE WIRES, FLOOR CLIPS, CABLE TIGHTENERS & MISC. HARDWARE	B105	–	107	–
19	1	16763	ENVIRO-VAULT DOOR DETAIL (3' x 5')	C108	–	105	–
20	1	2769	THIEF HATCH NOZZLE 8"	–	–	25	–
21							
22							
23	5	1494	TANK HAULING PAD	–	–	120	–
24	1	6993	FIRETUBE HOLD-DOWN FOR 12" U-TUBE	–	–	8	–
25	1	2151	CHANNEL C4 x 5.4# x 14'-6 5/8" LG.	–	G40.21-44W	78	–
26	2	5948	REPAD PLATE 1/4" THK. x 6" DIA.	–	G40.21-44W	4	–
27	1	2151	CHANNEL C4 x 5.4# x 9'-7 11/16" LG.	–	G40.21-44W	51	–
28							
29	1	2892	BURNER PLATFORM 4'-0" x 6'-0" (3 RUNG LADDER)	–	–	290	–
30	1	11058	BURNER CONTROL BOX	–	–	–	–
31	1	19192	MARSH HAWK THIEF HATCH 8" API SET @ 16oz PRESS./0.4oz VAC. STD SEAL	–	(SOUR SERVICE)	70	–
32		1					
33	2	–	PIPE SUPPORT	B106	–	5	–
34	1	–	GAS PRE-HEAT LINE DETAILS	C107	–	158	–
35							
36							
37							
38							
39							
40					INSULATION	1000	
					SUBTOTAL	24364	
					x 1.06		
					TOTAL (lbs.) 1	25826	

NOTES:

1. ALL DIMENSIONS ARE IN S.I. AND IMPERIAL UNITS. DIMENSIONS IN BRACKETS ARE IMPERIAL HARD CONVERSIONS FOR SHOP REFERENCE ONLY.
2. ALL FLANGE RATINGS TO BE ASME B16.5 – 2013.
3. DRILL 1/4" TELLTALE HOLE IN REINFORCING PADS, & ADD 1/4" HALF CPLG & NIPPLE TO EXTEND BEYOND INSULATION.
4. FLANGE AND BOLT HOLES TO STRADDLE PRINCIPAL CENTERLINES OF TANK.
5. ALL NOZZLE PROJECTIONS GIVEN ARE ALONG THE NOZZLE CENTERLINE.
6. TANK INSPECTION LEVEL 2.
7. TANK FABRICATOR IS NOT RESPONSIBLE FOR ENVIRO-VAULT DESIGN, BUT ARE RESPONSIBLE FOR ITS INTEGRATION INTO THE TANK. THE ENTIRE TANK, INCLUDING THE ENVIRO-VAULT, IS TO MEET THE DESIGN PRESSURE/VACUUM CONDITIONS SPECIFIED ABOVE.
8. MINIMUM OF 23" FLUID LEVEL MUST BE MAINTAINED TO OFFSET PRESSURE.
9. GAUGEBOARD TO HAVE A STENCIL THAT READS "LOW LEVEL" ABOVE THE BURNER.
10. MARK HIGH LEVEL AT 553 m.



2	26/10/17	AS–BUILT, NO CHANGE	GLB	JK
1	24/05/17	ADDED N17 & PRT NO. FOR MK#31 AND EXTENDED INTERNAL PIPING OF N1 WITH SLOTTED HOLES AND CHANGED NO. REQ'D	RR	BS
A	20/03/17	ISSUED FOR CONSTRUCTION	RR	BS
NO.	DATE (d/m/y)	REVISIONS	BY	APPD

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FOREMOST

CLIENT: PennWest ENERGY
GL CODE: 335.1600

DWG TITLE: 1000 BBL PRODUCTION TANK
GENERAL ARRANGEMENT

NO. REQ'D: 8 1	VOLUME: 160 CU. METERS (1000 Bbl) NOM.	SIZE: 4648mm I.D. x 9754mm HIGH (15'–3" I.D. x 32'–0" HIGH)	WO NO.: 06–061640	LEG NO.:
SCALE: 1:30	DWN BY: R. RANASINGHE	DWG NO.: W06–061640–D101	SHEET NO.: 1 or 1	REV. NO.: 2
DATE (d/m/y): 18/03/17	CHKD: RTK 26/10/17	APPD: JK 26/10/17		