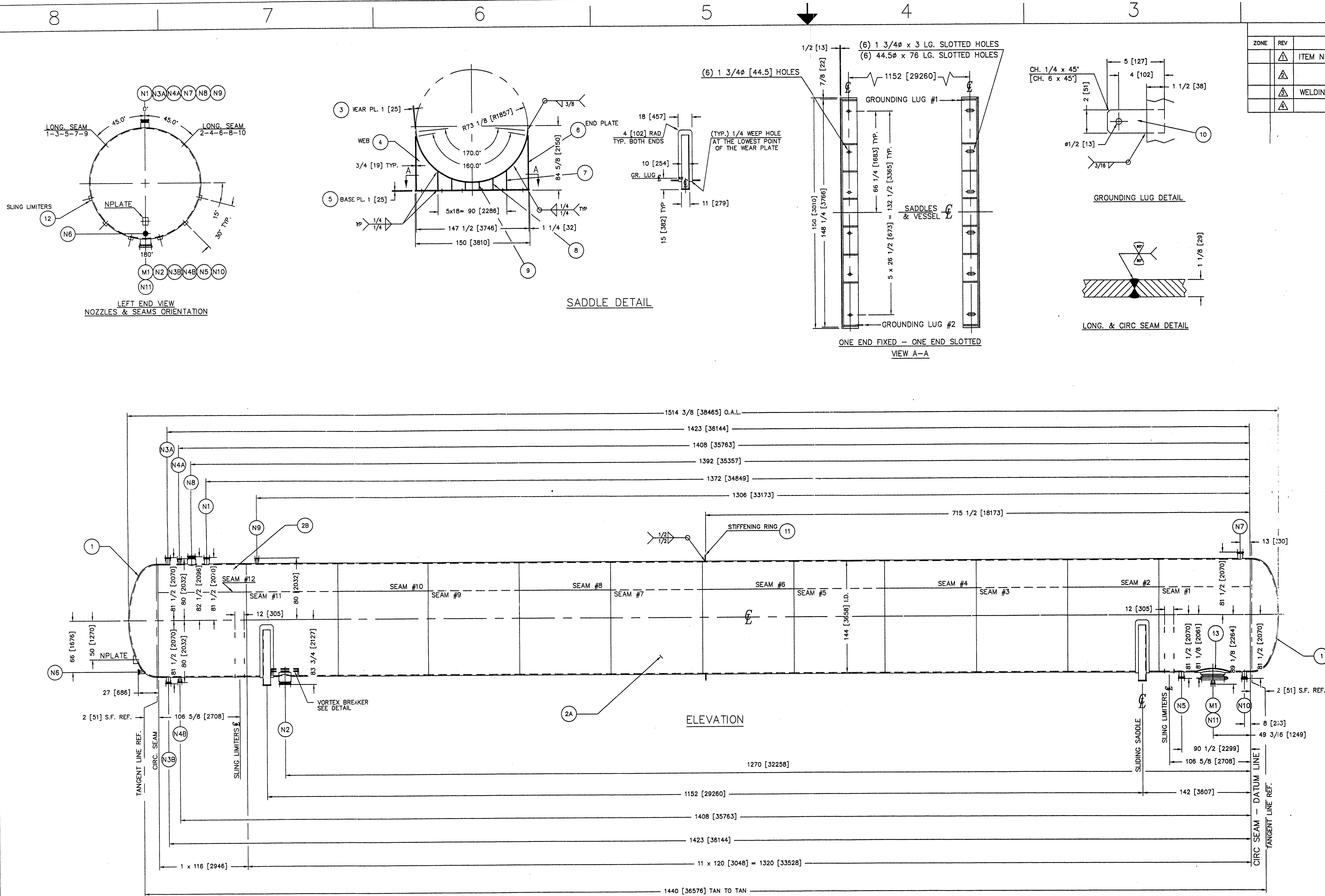


SABLE OFFSHORE ENERGY PROJECT REVIEW	
SUPPLIER: RNG PRO-TECH	
P.O. NUMBER: 2472101	
P.O. DESCRIPTION: VESSEL	
EQUIPMENT TAG NUMBERS: D2100-D	
Sub. No. 005 Date 09/08/10	
Sub. No. 004 Date 09/08/10	
Sub. No. 003 Date 09/08/10	
Sub. No. 002 Date 09/08/10	
Sub. No. 001 Date 09/08/10	
Prime Code Sequence No. 1-13 Sheet No. 1001 of 1001	



N11	MANWAY BLIND CONNECTION	2	2 I.D. X .855 WALL	180.0	0.0625	SA 105 FORGING	N	Y	2	LWN	300#	708.15	A105	—	—	—
M1	MANWAY W/RINGED COVER & 2-300 RFLIN	24	24 I.D. X 4 WALL	180.0	0.0625	SA 105 FORGING	N	Y	24	F	150#	272.75	A105	SA 516 70	N	Y
N10	PURGE C/W BLIND	3	2.9 I.D. X 1.24 WALL	180.0	0.0625	SA 105 FORGING	N	Y	3	HB	300#	708.15	A105	—	—	—
N9	PRESS-VENT TO FLARE	2	2 I.D. X .855 WALL	0.0	0.0625	SA 105 FORGING	N	Y	2	LWN	300#	708.15	A105	—	—	—
N8	VENT C/W BLIND WITH 2"NPT	6	6 I.D. X 2.5 WALL	0.0	0.0625	SA 105 FORGING	N	Y	6	F	150#	272.75	A105	—	—	—
N7	RELIEF	4	3.83 I.D. X 1.305 WALL	0.0	0.0625	SA 105 FORGING	N	Y	4	HB	150#	272.75	A105	—	—	—
N6	THERMOWELL	2	1.94 I.D. X 1 WALL	180.0	0.0625	SA 105 FORGING	N	Y	2	HB	300#	708.15	A105	—	—	—
N5	TRANSFER	4	3.83 I.D. X 1.305 WALL	180.0	0.0625	SA 105 FORGING	N	Y	4	HB	150#	272.75	A105	—	—	—
N4B	LEVEL INDIC./TRIP	2	2 I.D. X .855 WALL	180.0	0.0625	SA 105 FORGING	N	Y	2	LWN	300#	708.15	A105	—	—	—
N4A	LEVEL INDIC./TRIP	2	2 I.D. X .855 WALL	0.0	0.0625	SA 105 FORGING	N	Y	2	LWN	300#	708.15	A105	—	—	—
N3B	LEVEL CONTROL	3	2.9 I.D. X 1.24 WALL	180.0	0.0625	SA 105 FORGING	N	Y	3	HB	300#	708.15	A105	—	—	—
N3A	LEVEL CONTROL	3	2.9 I.D. X 1.24 WALL	0.0	0.0625	SA 105 FORGING	N	Y	3	HB	300#	708.15	A105	—	—	—
N2	LIQUID OUTLET	10	9.56 I.D. X 3.25 WALL	180.0	0.0625	SA 105 FORGING	N	Y	10	F	150#	708.15	A105	—	—	—
N1	PRODUCT INLET	4	3.83 I.D. X 1.305 WALL	0.0	0.0625	SA 105 FORGING	N	Y	4	HB	150#	272.75	A105	—	—	—
MARK	SERVICE	SIZE	DESCRIPTION	ORIENT	CORR. ALLOW.	NECK MAT'L	IMPACT TEST	NORM. TEST	SIZE	TYPE	CLASS	RATING	FLG MAT'L	MATERIAL	IMPACT TEST	NORM. TEST
						NOZZLE										
							NOZZLE	SCHEDULE					FLANGE		REINFORCING PAD	

WPS	MAT'L	P1-P1	P1-P8	*-P1
1	S.M.A.W.	PP-52-1	PP-07-1	
2	S.A.W.			
3	F.C.A.W.	PP-19-1	PP-30	
4	S.A.W.	PP-516-5		

- GENERAL NOTES:
- FLANGE BOLT HOLES SHALL STRADDLE NORMAL VESSEL CENTERLINES UNLESS NOTED.
 - WELDS SHALL BE NEAT IN APPEARANCE, FREE OF SLAG, UNDERGUTS AND OTHER DEFECTS.
 - NOZZLE AND TAIL DIMENSION TOLERANCES SHALL BE +/- 1/8 INCH UNLESS OTHERWISE NOTED.
 - REINFORCING PADS AND PAD SECTIONS SHALL HAVE 1/4 INCH NPT WEEP HOLE LOCATED AS LOW AS POSSIBLE IN THE PAD WHEN THE VESSEL IS IN OPERATING POSITION. PLUG WEEP HOLE WITH HEAVY GREASE.
 - VESSEL SHALL BE CLEANED OF SCALE, OIL, WELD SPATTER AND ALL OTHER FOREIGN MATTER BEFORE HYDROSTATIC TESTING.
 - COAT ALL NOZZLE GASKET SURFACES WITH PROTECTIVE LUBRICANT BEFORE BLANKING FOR SHIPMENT.
 - CLOSE OPENINGS WITH PROTECTIVE COVERS OF WOOD WITH FOUR OR MORE BOLTS. WELD END OPENINGS SHALL BE CLOSED WITH PIPE CAPS AND HEAVY TAPE.

MAJOR COMPONENT DESIGN DATA

VESSEL DESIGNED PER :

EDITION OF ASME CODE SECTION VII DIVISION 1

CODE STAMP: SERIAL NO: NATIONAL BOARD NO:

DESIGN PRESSURE INTERNAL: 250 PSIG [1724 kPag] @ 149 DEG F [65°C]

DESIGN PRESSURE EXTERNAL: -11 PSIG [-76 kPag] @ 149 DEG F [65°C]

OPERATING PRESSURE: 375 PSIG [2586 kPag] @ 50 DEG F [10°C]

HYDRO TEST: 375 PSIG [2586 kPag] @ 50 DEG F [10°C]

MAWP: 250 PSIG [1724 kPag]

MAP: 250 PSIG [1724 kPag]

MDMT: -17 DEG F [-27°C]

DESIGN LIQUID LEVEL : FULL

LIQUID S.G. (DESIGN) : 0.67

FWHT: NO

IMPACT TESTING NOT REQ'D PER UCS-66

INSULATION : NO

HEAD TYPE, TOP: 2:1 ELLIPSOIDAL

RADIOGRAPH: HEAD/SHELL: FULL UW-11(A) JOINT EFFICIENCY: HEAD/SHELL: 1

SHELL CIRC: FULL UW-11(A) SHELL CIRC: 1

SHELL LONG: FULL UW-11(A) SHELL LONG: 1

ESTIMATED WEIGHT: EMPTY: 242101 LBS [110046 kg]

TEST: 1116908 LBS [507686 kg]

OPERATING: 828222 LBS [376464 kg]

ESTIMATED CAPACITY: 104904 US GALLONS [397062 LITRES]

MATERIAL:

SHELL: SA-516-70N

HEADS: SA-516-70N

FLANGES: SA-105N

NOZZLES: SA-105N

BLINDS: SA-105N & SA-516-70N

REINFORCING PADS: SA-516-70N

SADDLES & WEAR PLATES: G40.21-44W & SA-516-70N

GASKETS: 316 S.S. SPIRAL WOUND GRAFOIL FILLED

BOLTS: 316 S.S.

EXTERNAL CLIPS: SA-516-70 & SA-36

VORTEX BREAKER: SA-36

REGISTRATION BY: PROVINCE OF NOVA SCOTIA

INSPECTION BY: PROVINCE OF QUEBEC

INTERNAL FINISH:

PLATES WITH MILL FINISH

WELDS WITH FLUX & SPATTER REMOVED

△ SURFACE PREP. & PAINTING: 4800 SQ.FT

CLEANING :

SANDBLAST PER SSPC-SP10 EXTERNAL SURFACES ONLY

PAINTING :

PRIMER COAT: INTERZONE 954: 18 MILS

TOP COAT: INTERFINE 629 HS : 3 MILS

TOTAL SYSTEM D.F.T. : 21 MILS

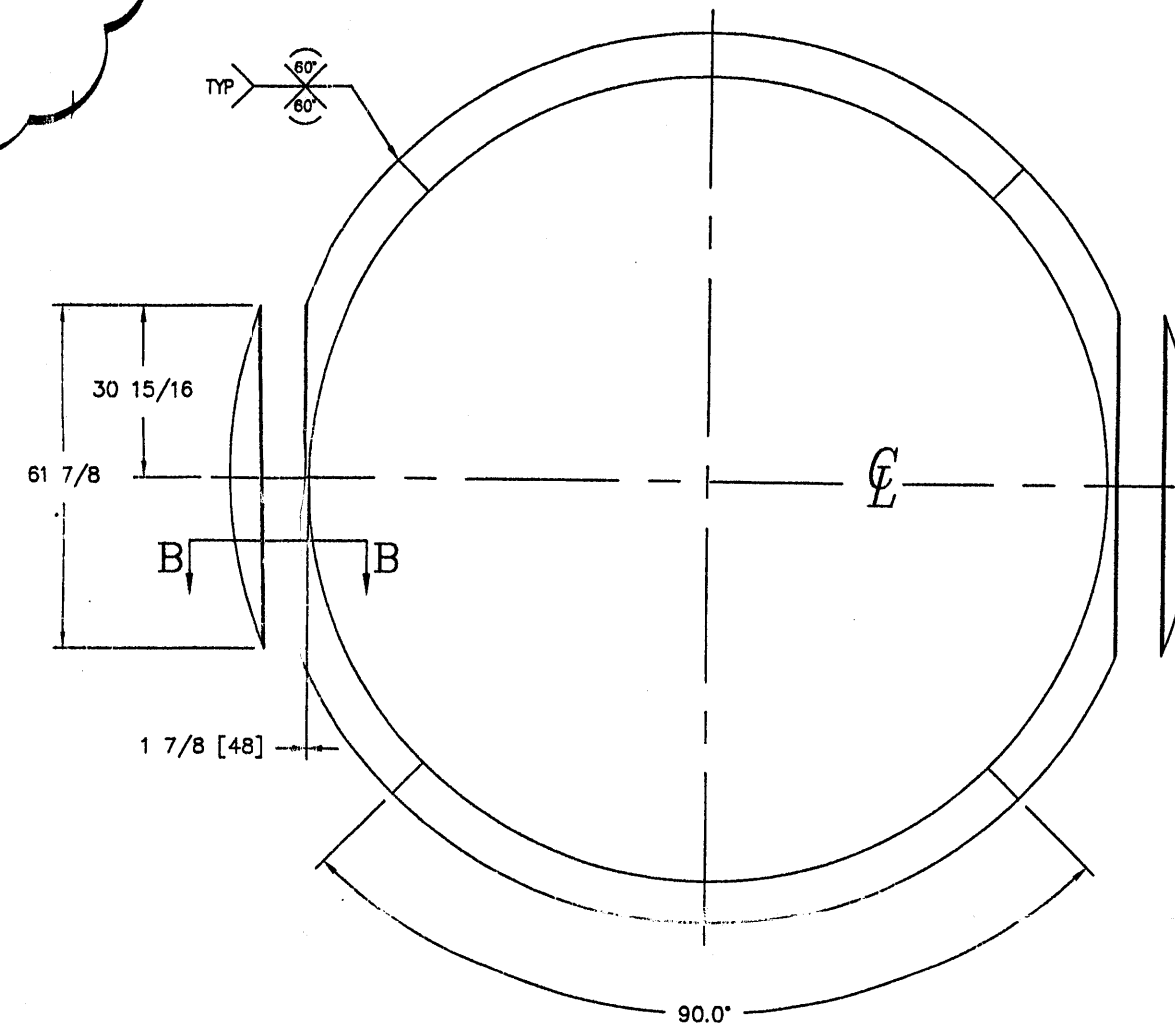
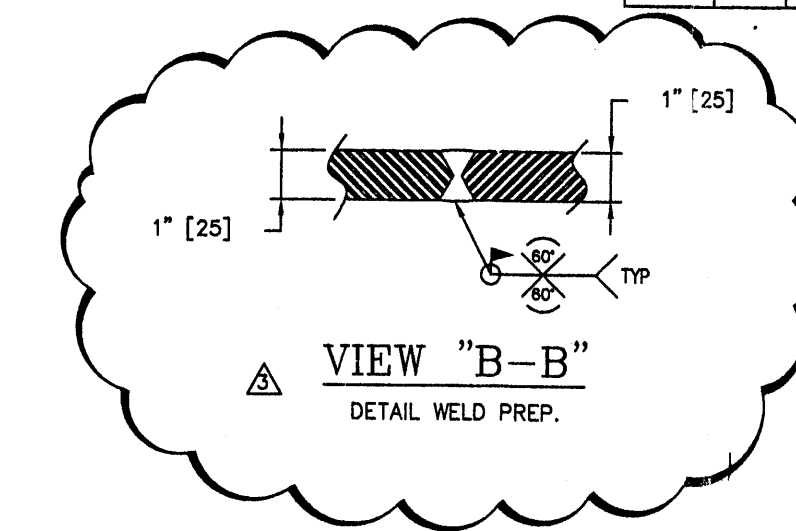
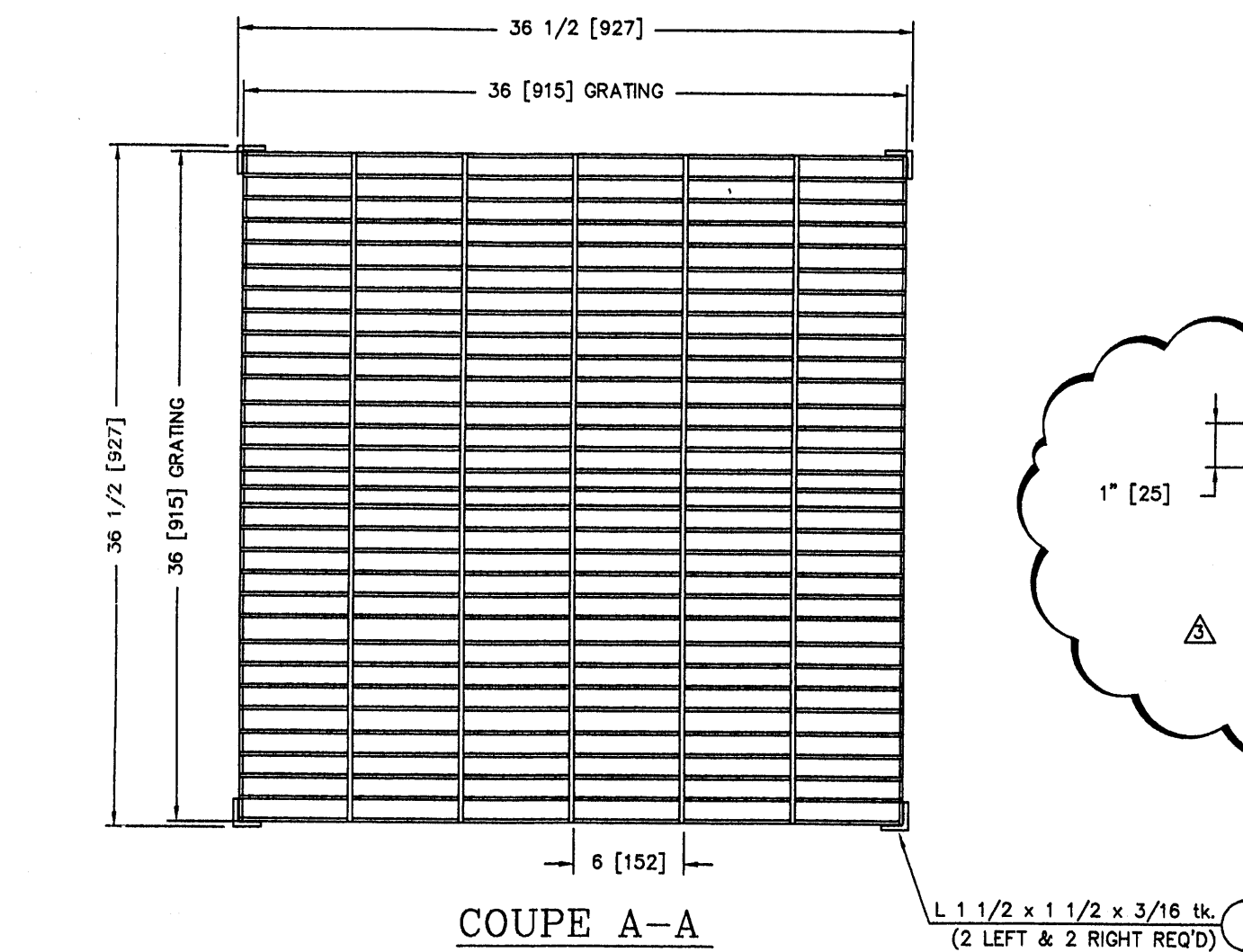
NOTE:

HYDROSTATIC TEST PRESSURE TO BE HELD FOR ONE HOUR

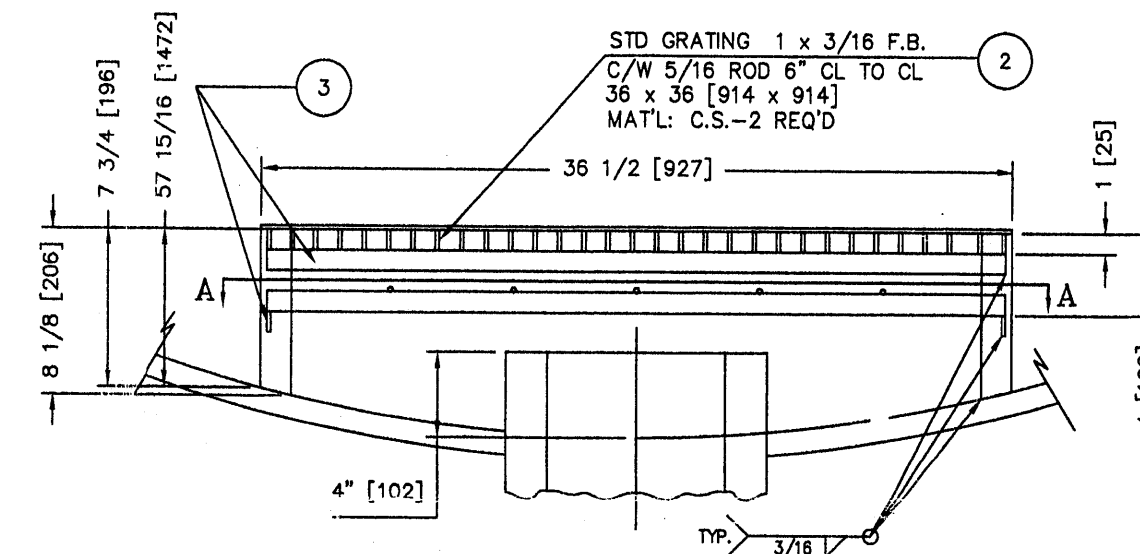
P/N	ITEM	QTY	DESCRIPTION	MAT'L
13	1	PAD 3/4" - 40 1/4 O.D. X 32 7/8 I.D.	SA-516-70N	
12	24	F.B. 3" x 3/8" x 6" LG.	SA-36 OR 44W	
11	1	PL 1" THK X 8" WIDE (RING 4 PCS)	SA-516-70N	
10	2	F.B. 2" WIDE X 5" LG. X 1/4" THK.	SA-36 OR 44W	
9	4	PL 9.25" WIDE X 10" LG. X 0.75" THK.	CSA G40.21-44W	
8	4	PL 9.25" WIDE X 14.47" LG. X 0.75" THK.	CSA G40.21-44W	
7	4	PL 9.25" WIDE X 24.48" LG. X 0.75" THK.	CSA G40.21-44W	
6	4	PL 9.25" WIDE X 70.75" LG X 0.75" THK.	CSA G40.21-44W	
5	2	BASE PLATE 11" WIDE X 150" LG X 1" THK.	CSA G40.21-44W	
4	2	PL 70.75" X 148.25 X .75" THK.	CSA G40.21-44W	
3	2	WEAR PL 18" WIDE X 218 1/2" X 1" THK.	SA-516-70N	
2B	1	PL 116 WIDE X 455.93 LG X 1.125 THK.	SA-516-70N	
2A	11	PL 120 WIDE X 455.93 LG X 1.125 THK.	SA-516-70N	
1	2	2:1 HEAD 143.75" ID X 1.25 NOM. THK.	SA-516-70N	

UNE DIVISION DE/A DIVISION OF RNG GROUP INC.	
RNG Pro-Tech Inc.	
Sable Island Project - D2100 D/E	
144" ID Propane Storage Bullets	
SIZE JOB NO.	DWG NO.
D 1214-98	980047-2
SCALE NTS	DATE 08-26-98
SHEET 1	OF 2

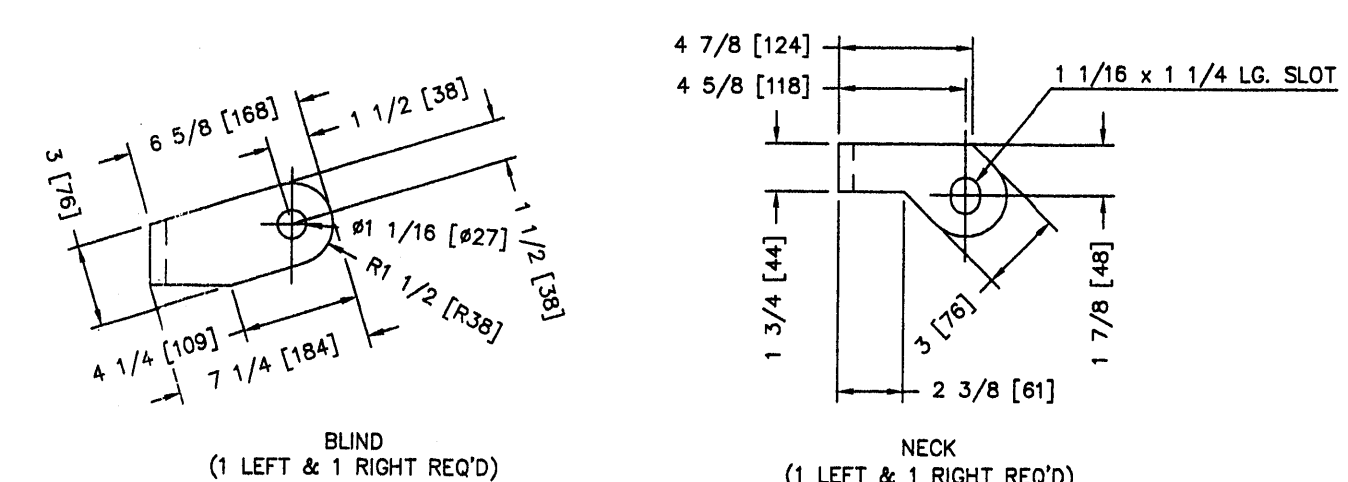
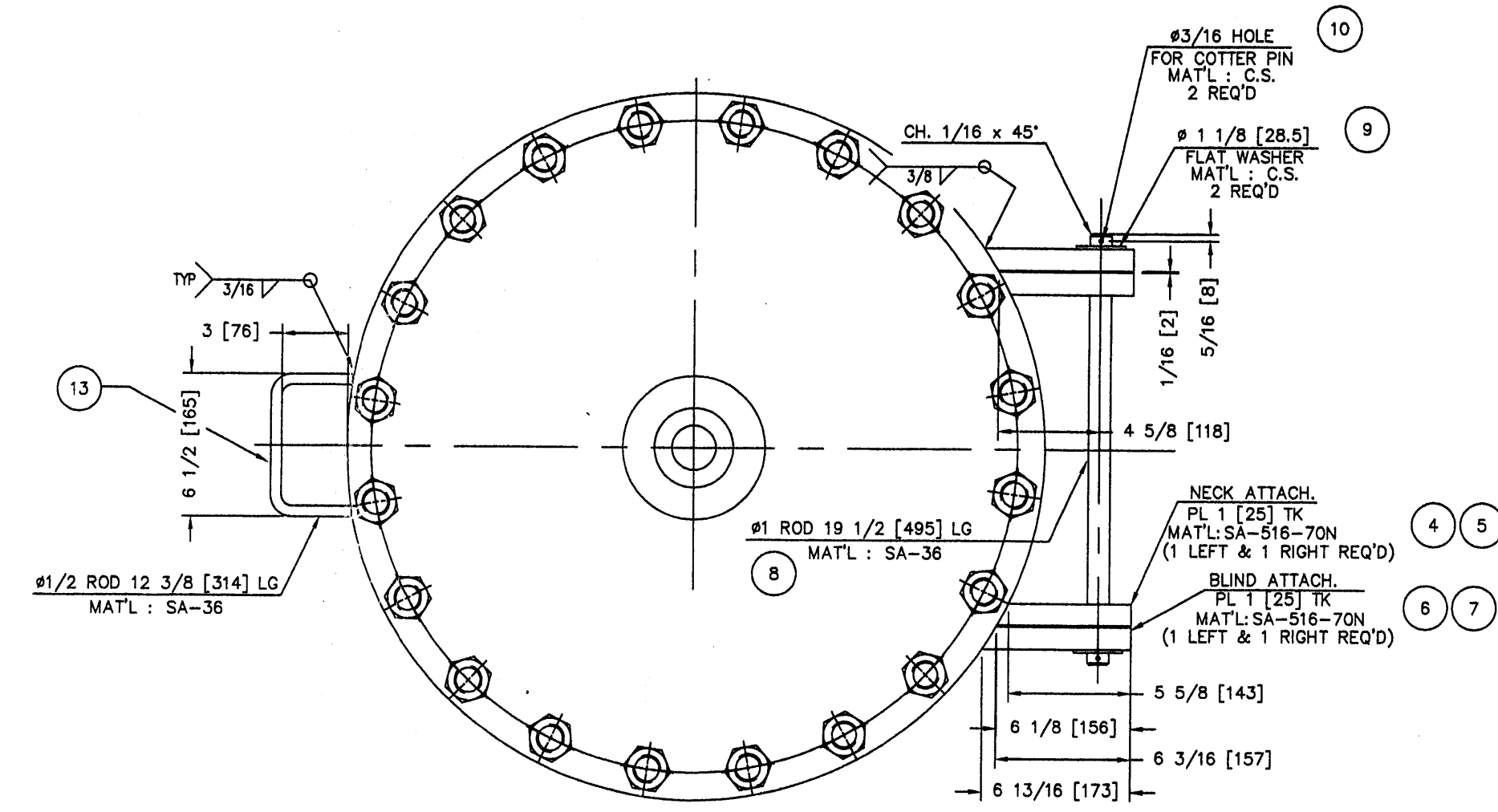
REVISIONS		
DESCRIPTION	DATE	APPROVED
M NUMBERS, B.O.M. ADDED & METRIC NPLATE MOD.	15-09-98	
N2 DETAIL - CRN ADDED	19-10-98	
PUZZLES DETAILS (NECK THK & GROOVE HEIGHT) ADDED	19-10-98	
FFENING RING & BLIND DETAIL ADDED	12-07-98	
MS 15 TO 17 ADDED	12-07-98	
DETAIL & BLIND DETAIL REVISED	22-12-98	



STIFFENING RING DETAIL 
(ITEMS 11 FROM DWG 980047-1 PAGE 1)



VORTEX BREAKER DETAIL



MANWAY COVER HINGE DETAIL

△	△	17d	1	PL. 2 1/2" THK x 39" OD.	SA-516-70 (N)
△	△	17b	24	Ø 1 1/4" BOLTS x 6 1/4" LG.	SA-193-B7
△	△	17c	1	24" FLEXITALIC GASKET - 300#	316 S.S.
△	△	17a	24	Ø 1 1/4" NUTS	SA-194-2H
△	△	16d	8	Ø 3/4" BOLTS x 3 1/2" LG.	SA-193-B7
△	△	16c	1	3" - 300# BLIND FLANGE	SA-105 (N)
△	△	16b	1	3" FLEXITALIC GASKET - 300#	316 S.S.
△	△	16a	8	Ø 3/4" NUTS	SA-194-2H
△	△	15d	1	6" - 150# BLIND FLANGE	SA-105 (N)
△	△	15c	8	Ø 3/4" BOLTS x 3 1/2" LG.	SA-193-B7
△	△	15b	1	6" FLEXITALIC GASKET - 300#	316 S.S.
△	△	15a	8	Ø NUTS 3/4"	SA-194-2H
△	△	14	-	-	-
△	△	13	1	Ø 1/2" ROD x 12 3/8" LG.	SA-36 OR *
△	△	12	2	PLAQUE 4" WIDE X 6"L.G. X 3/32"THK.	S.S. 304L
△	△	11	2	PL. 1" WIDE X 21 1/8" LG. X 3/16"THK.	SA-516-70
△	△	10	2	GOTTER PIN Ø 3/16	C.S
△	△	9	2	FLAT WASHER Ø 1 1/8"	C.S.
△	△	8	1	1" ROD X 19 1/2"L.G.	SA-36 OR *
△	△	7	1	PL. 3 1/2" WIDE X 7 1/2" LG. X 1"THK	SA-516-70N
△	△	6	1	PL. 3 1/2" WIDE X 7 1/2" LG. X 1"THK.	SA-516-70N
△	△	5	1	PL. 3" WIDE X Ø 1/2"L.G. X 1" THK.	SA-516-70N
△	△	4	1	PL. 3" WIDE X Ø 1/2"L.G. X 1" THK.	SA-516-70N
△	△	3	4	FB 1" WIDE X 3/16"THK X 36" LG.	SA-36
△	△	2	2	STD GRATING 1 x 3/16 - 36 x 36	SA-36
△	△	1	4	L 1 1/2 X 1 1/2 X 3/16 TK Ø 1/8 LG	SA-36 OR *
	P/N	ITEM QTY		DESCRIPTION	MAT'L

* CSA G40.21-44W

UNE DIVISION DE/A DIVISION OF RNG GROUP INC.

RNG Pro-Tech Inc.
Sable Island Project - D2008
Off-spec Propane/Depropanizer Feed Drum

SIZE D	JOB NO. 1214-98	DWG NO. 980047-1	REV 4
SCALE NTS	DATE 08-26-98	SHEET 2 OF 2	

CERTIFIED BY

 *RNG Pro-Tech Inc.*

SHERBROOKE, QUEBEC

W MAWP 250 & -11 PSI AT 149 °F
RT-1 M.D.M.T. -17 °F AT 250 & -11PSI

SERIAL NO:

YEAR BUILT: 1998

C.R.N. NO: 8123.8 

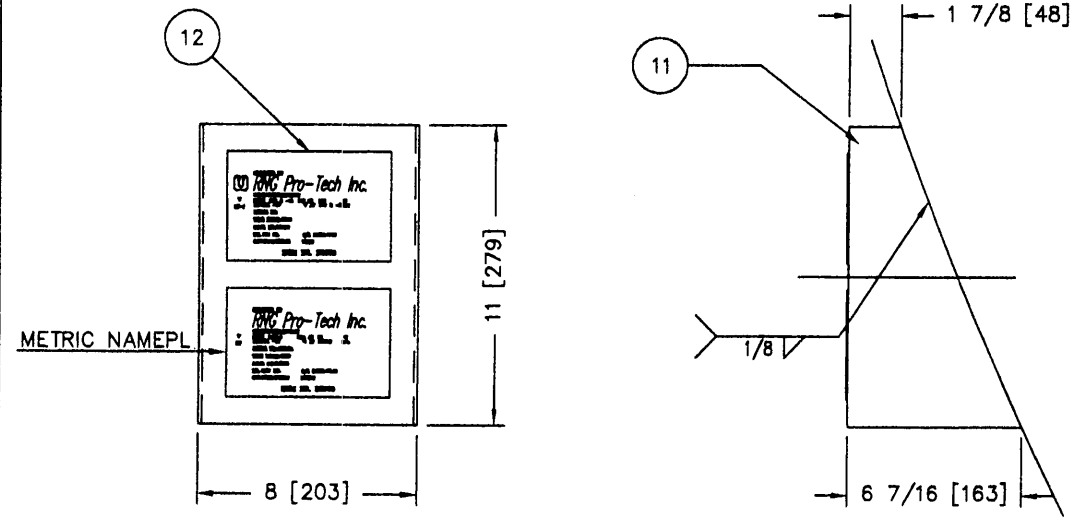
DIA. 144 I.D. O/A LGTH: 1515

CAPACITY: 104904 USWG

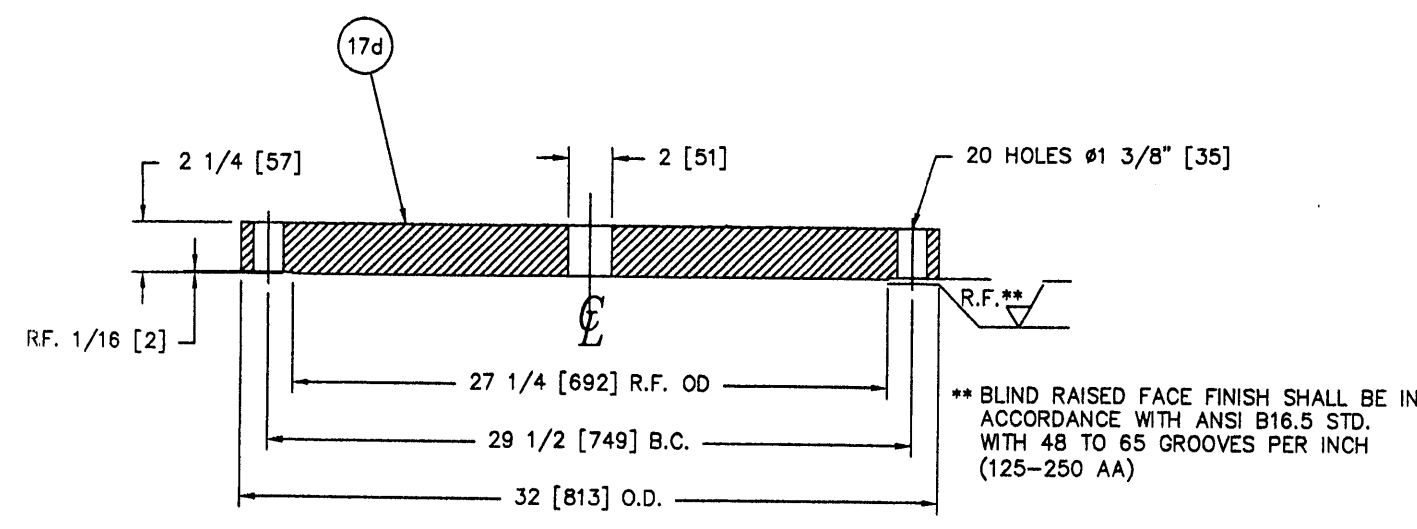
ITEM NO. D2008

CERTIFIED BY
RNG Pro-Tech Inc.
SHERBROOKE, QUEBEC
W MAWP 1724 Δ KPA AT 65 °C
RT-1 M.D.M.T. -27 °C AT 1724 Δ kPa
SERIAL NO: SERIAL
YEAR BUILT: 1996
C.R.N. NO: 8123.8 Δ
DIA. 3.66 I.D. O/A LGTH: 38.48
CAPACITY: 397105 LITRES
ITEM NO. D2008

NAMEPLATE STAMPING DETAIL

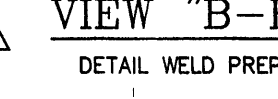
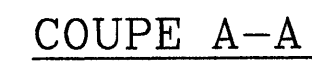


NAMEPLATE BRACKET DETAIL

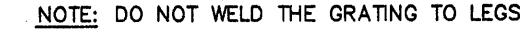


BLIND DETAIL  

2	1	AS-111111
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(ITEMS 11 FROM DWG 980047-2 PAGE 1)



VORTEX BREAKER DETAIL



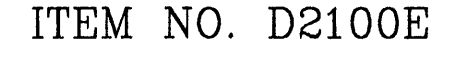
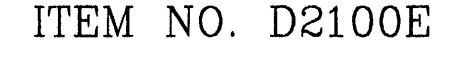
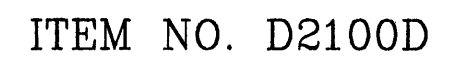
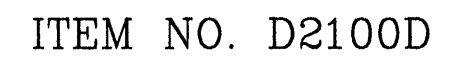
* CSA: G40.21-44W

* CSA: G40.21-44W

UNE DIVISION DE/A DIVISION OF RNG GROUP INC.

Sable Island Project - D2100 D/E		
144" ID Propane Storage Bullets		
SIZE	JOB NO.	DWG. NO.
144"	144"	144"

2	1
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NAMEPLATE STAMPING DETAIL



SABLE OFFSHORE ENERGY PROJECT REVIEW			
SUPPLIER: RNG PRO-TECH		SHEET NO. 1 OF 1	
P.O. NUMBER: ZPM2103A		DATE: 09/02/98	
P.O. DESCRIPTION: VESSEL		SUBMITTER: RNG PRO-TECH	
EQUIPMENT TAG NUMBER: D2008		SUB NO. 005	
D2100-D		004	
D2100-E		002	
001		003	
002		004	
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