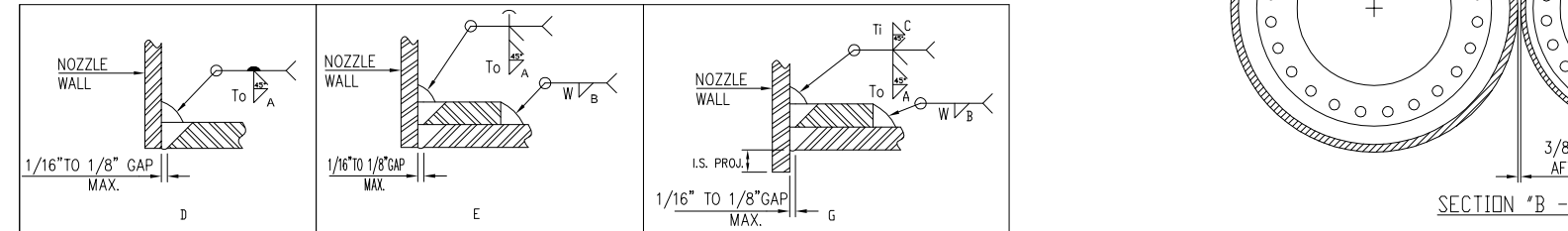
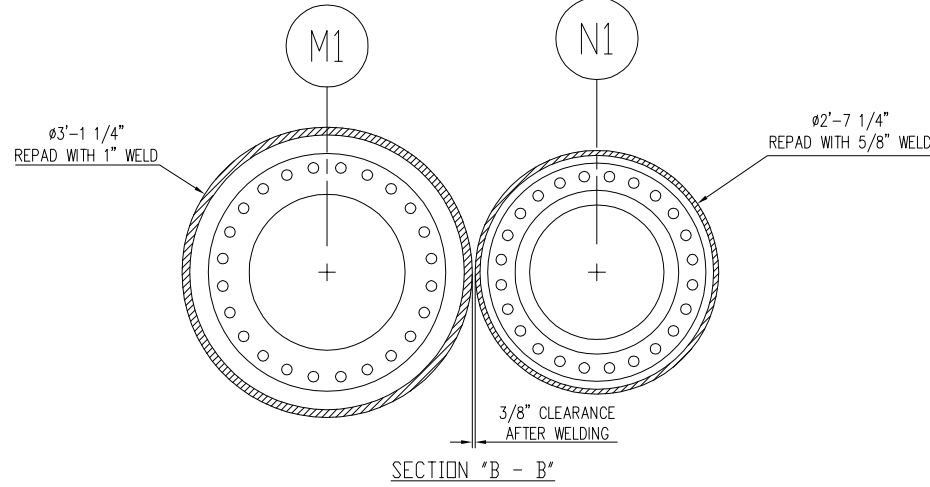
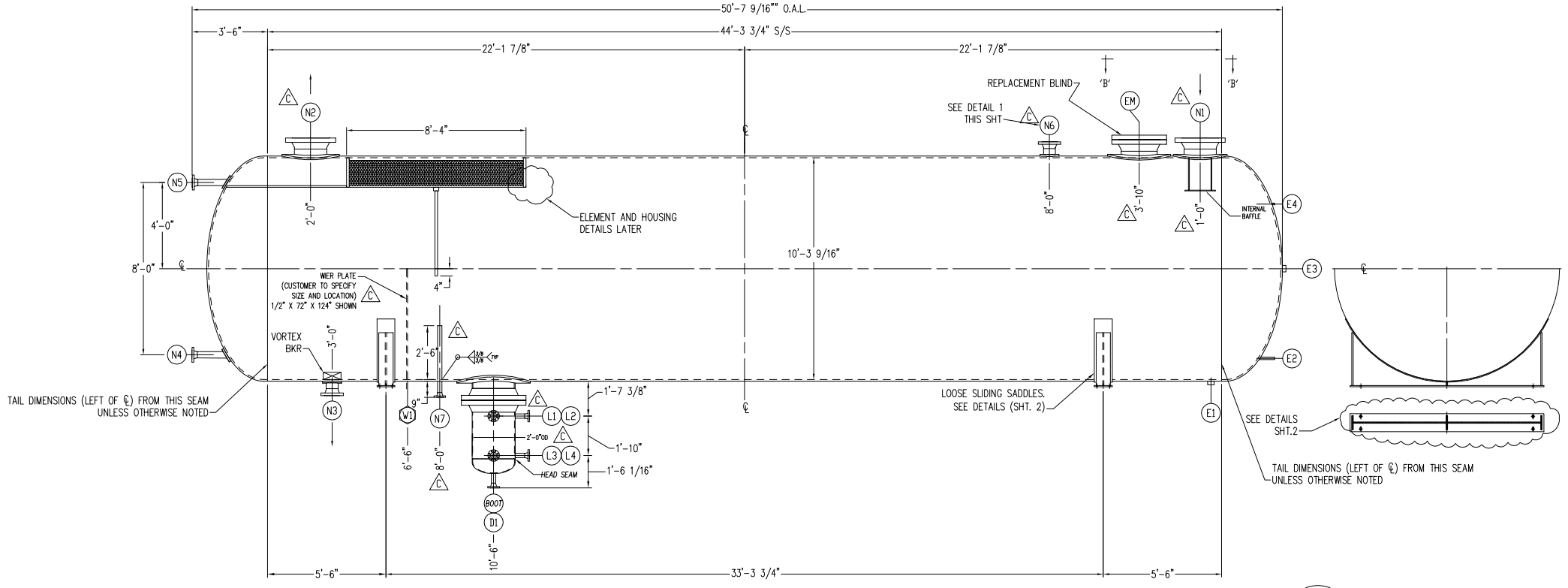


Total Energy Fabrication Corp
ISSUED FOR APPROVAL
 Date 8/16/10
 Initials REM

- FABRICATION NOTES:**
- ALL FLANGE BOLT HOLES TO STRADDLE TRUE VESSEL CENTER LINES
 - CLEAN VESSEL THOROUGHLY AND PROTECT ALL OPENINGS FOR SHIPMENT
 - LENGTHS SHOWN IN B. D. M. FOR REFERENCE ONLY. DRAWING DIMENSIONS TAKE PRECEDENCE
 - MINIMUM FILLET WELD SIZES SHALL BE 1/4" UDN
 - ELEVATION DETAILS ARE FOR ELEVATION CLARITY ONLY. SEE ORIENTATION VIEW FOR TRUE ORIENTATION
 - LENGTHS SHOWN IN B. D. M. FOR REFERENCE ONLY. DRAWING DIMENSIONS TAKE PRECEDENCE

- GENERAL NOTES:**
- DEMISTER SUPPLIED BY ACS. REF. ACS QUOTE # 010-13568
 - SHIP LOOSE ITEMS TO BE PALLETIZED AND SHRINK WRAPPED WITH ITEM TAG #'S
 - AVOID DIRECT CONTACT WITH ANY TYPE OF LIQUID/CHEMICAL TO GASKET SURFACES.



MARK	QTY	SIZE	RATE	TYPE	SCH.	SERVICE	OS PROJ.	IS PROJ.	ATT TYPE	THK. / WIDTH	A - B - C	WELD SIZE	FLG	NECK	PAD	COVER	BOLTS	GASKET	OTHER		
N7	1	2	300	WN	80	RISER DRAIN	SEE ELEV.	SEE ELEV.	D	-	-	.375	-	.375	15	23	-	-	-	-	
N6	1	6	300	WN	STD	RELIEF VALVE	8	-	E	1.00	2	.375	.625	.375	5	6	7	-	-	27	
L4	1	2	300	WN	80	LEVEL TRANS	8	-	D	-	-	.375	-	-	15	16	-	-	-	-	
L3	1	2	300	WN	80	LEVEL GA	8	-	D	-	-	.375	-	-	15	16	-	-	-	-	
L2	1	2	300	WN	80	LEVEL TRANS	8	-	D	-	-	.375	-	-	15	16	-	-	-	-	
L1	1	2	300	WN	80	LEVEL GA	8	-	D	-	-	.375	-	-	15	16	-	-	-	-	
D1	1	2	300	WN	80	BOOT DRAIN	8	-	D	-	-	.375	-	-	15	16	-	-	-	-	
BOOT	1	24	300	WN	XST	BOOT NOZZLE	10	.500	G	1.00	8.50	.375	.625	.375	24/25	11	12	-	26	-	13/14
N5	1	3	300	WN	STD	NEW SERVICE LEVEL	8	-	E	1.00	2	.375	.625	-	8	9	10	-	-	-	
N4	1	3	300	WN	STD	NEW SERVICE LEVEL	8	-	E	1.00	2	.375	.625	-	8	9	10	-	-	-	
N3	1	6	300	WN	STD	NEW SERVICE DRAIN	8	-	E	1.00	2	.375	.625	-	5	6	7	-	-	18	
N2	1	18	300	WN	STD	NEW SERVICE OUTLET	10	.500	G	1.00	6.00	.375	.625	.375	1	2	3	-	-	17	
N1	1	18	300	WN	STD	NEW SERVICE INLET	10	.500	G	1.00	6.00	.375	.625	.375	1	2	3	-	-	-	
E4	1	.375	NPT	CPLG	-	EXISTING SERVICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E3	1	2.5	NPT	CPLG	-	EXISTING SERVICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E2	1	.75	NPT	PIPE	-	EXISTING SERVICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
E1	1	2	NPT	CPLG	-	EXISTING SERVICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EM	1	20	300	LWN	TBD	EXISTING MANWAY	TBD	-	-	-	-	-	-	-	4	4A	4B	-	-	-	

SCHEDULE OF OPENINGS

BILL OF MATERIALS (CONT.) FOR ALTERATIONS (QTY SHOWN FOR 1 VESSEL, 2 REQUIRED)					BILL OF MATERIALS FOR ALTERATIONS (QTY SHOWN FOR 1 VESSEL, 2 REQUIRED)				
MK	QTY	MATERIAL	SERVICE	DESCRIPTION	MK	QTY	MATERIAL	SERVICE	DESCRIPTION
24	1	SA-105	FLANGE	24" CL 300# RFWN X SCH XST BORE	1	2	SA-105	FLANGE	18" CL 300# RFWN X SCH XST. BORE
25	1	SA-105	FLANGE	24" CL 300# RFWN X SCH STD BORE	2	2	SA-106-B	PIPE NECK	18" X SCH XST X 7' LONG BDE
26	24	SA-193-B7	STUD/NUTS	1.5" X 9.25" STUDS W/2 SA-194-2H NUTS EA.	3	2	SA-516-70	RE-PAD	1" THK X 30" OD X 18" ID ROLLED TO A 62.75" RADIUS
27	4	SA-36	GUSSETS	1/2" X 2" X 5 3/4" LONG (DETAIL 1)	4	1	SA-105	BLIND	20" CL CUSTOM RFBF (VERIFY EXISTING BEFORE ORDERING, **CUSTOM MACHINING REQUIRED**)

4A	20	SA-193-B7	BOLTS/NUTS	TO BE VERIFIED
4B	1	-	GASKET	TO BE VERIFIED
5	2	SA-105	FLANGE	6" CL 300# RFWN X SCH STD. BORE
6	2	SA-106-B	PIPE NECK	6" X SCH STD X 6' LONG BDE
7	2	SA-516-70	RE-PAD	1" THK X 30" OD X 18" ID ROLLED TO A 62.75" RADIUS
8	2	SA-105	FLANGE	3" CL 300# RFWN X SCH STD. BORE
9	2	SA-106-B	PIPE NECK	3" X SCH STD X 24" LONG BDE
10	2	SA-516-70	RE-PAD	1" THK X 7.5" OD X 3.5" ID
11	1	SA-106-B	PIPE STUB	24" X SCH XST X 6' LONG BDE
12	1	SA-516-70	REPAD	1" THK X 41" OD X 24" ID
13	1	SA-234-WPB OR SA-516-70	BOOT HEAD	.375" MIN THK ASME 21 ELLIP. HEAD W/2" STRT FLANGE
14	1	SA-106-B	BOOT SHELL	24" X SCH STD PIPE X 26' LONG BBE
15	6	SA-105	FLANGE	2" CL 300# RFWN X SCH 80 BORE
16	5	SA-106-B	PIPE	2" X SCH 80 X 6' LONG BDE
17	1	SA-36	INT. BAFFLE	1/2" THK X 48" WIDE X 96" LONG
18	2	SA-36	VORTEX BRKR	1/2" THK X 2" WIDE X 10" LONG
19				DELETED
20				DELETED
21				DELETED
22	1	SA-36	WIER PLATE	1/2" THK X 72" WIDE X 124" LONG
23	1	SA-106-B	PIPE	2" X SCH 80 X 38" LONG BDE

VESSEL INFORMATION: (FROM ORIGINAL DATA REPORT / PLATE / STAMPING)		VESSEL INFORMATION: (FROM ORIGINAL DATA REPORT / PLATE / STAMPING)	
MANUFACTURER	ACF INDUSTRIES, INC.	MANUFACTURER	ACF INDUSTRIES, INC.
YEAR BUILT	1956	YEAR BUILT	1956
CONSTRUCTION CODE	ASME	CONSTRUCTION CODE	ASME
ADDENDA	1952	ADDENDA	1952
SERIAL No.	14-875-13	SERIAL No.	14-875-15
VESSEL TAG No.	-	VESSEL TAG No.	-
NATIONAL BOARD No.	4548	NATIONAL BOARD No.	4553
RADIOGRAPH % / JOINT EFFICIENCY:		RADIOGRAPH % / JOINT EFFICIENCY:	
(GIRTH SEAMS) 100% .95		(GIRTH SEAMS) 100% .95	
(LONG SEAMS) 100% .95		(LONG SEAMS) 100% .95	
HEAT TREATMENT:		HEAT TREATMENT:	
(GIRTH SEAMS) YES		(GIRTH SEAMS) YES	
(LONG SEAMS) YES		(LONG SEAMS) YES	
THICKNESSES:		THICKNESSES:	
(HEADS) 15/16" ELLIP. OR HEMI.		(HEADS) 15/16" ELLIP. OR HEMI.	
(SHELL) 15/16"		(SHELL) 15/16"	
CORROSION ALLOWANCE: -		CORROSION ALLOWANCE: -	
PRESSURES / TEMPERATURES		PRESSURES / TEMPERATURES	
MAMP 250 PSI @ 650 °F		MAMP 250 PSI @ 650 °F	
MDMT - °F @ - PSI		MDMT - °F @ - PSI	
VACUUM PRESSURE - PSI		VACUUM PRESSURE - PSI	
HYDRO TEST PRESSURE 400 PSI		HYDRO TEST PRESSURE 400 PSI	
CONSTRUCTION SAFETY FACTOR - RATIO		CONSTRUCTION SAFETY FACTOR - RATIO	
MATERIALS:		MATERIALS:	
SHELLS: SA-212 GR B		SHELLS: SA-212 GR B	
HEADS: SA-212 GR B		HEADS: SA-212 GR B	
RE-PADS: -		RE-PADS: -	
FLANGES: -		FLANGES: -	
PIPE NOZZLES: -		PIPE NOZZLES: -	
CAPACITY / WEIGHT & SERVICE		CAPACITY / WEIGHT & SERVICE	
U.S. GALLONS/WEIGHT 30K 70,000		U.S. GALLONS/WEIGHT 30K 70,000	
ORIGINAL SERVICE PROPANE STORAGE		ORIGINAL SERVICE PROPANE STORAGE	
NOTES / REMARKS		NOTES / REMARKS	

WELDING PROCEDURES FOR ALTERATIONS:			
HEAD / SHELL:	-		
SHELL / SHELL:	-		
FLANGE TO PIPE:	SAW/FCAW/GMAW S-1-1-HT,M-1-1-HT,TF-1-1-HT		
NOZZLE NECK TO VESSEL:	SAW/FCAW/GMAW S-1-1-HT,M-1-1-HT,TF-1-1-HT		
COUPLINGS:	-		
SUPPORTS:	-		
MISC:	GMAW M-1-1-HT		
PROJECT: / LOCATION	-	JOB NO.:	TEF-148
		ITEM NO.:	----
CUSTOMER:	ONEOK	TOTAL ENERGY FABRICATION, CORP. BLACKWELL, OK	
P.D. NO.:	-		
DATE:	-		
USER:	-	SCALE:	NONE
		DRAWN BY:	REM
		CHECKED BY:	SRL
		APPROVED BY:	GAH
		DATE:	6/28/10
		CERTIFIED BY:	REM
		DATE:	-
		DESCRIPTION:	BULK STORAGE TANK
			10'-3 9/16" ID X 44'-6 1/2" S/S HORIZ. VESSEL ELEVATION & GENERAL ARRANGEMENT (2) UNITS AS SHOWN
		DRAWING NO.:	D-Q10-209 SHT. 1 OF 2
		REV.:	C

REVISIONS	DATE	BY	REFERENCES
REV PER CUST. COMMENTS	8/16/10	REM	-
RE-ISSUE FOR APPROVAL	7/1/10	REM	-
ADDED NOZZLES AND WIER PLATE	6/28/10	REM	-
ISSUED FOR APPROVAL	6/28/10	REM	D-Q10-209 SHT 2