

16. VES INTERIOR: PICKLE & PASSIVATE PER STD TS 25-0205-2. ANY WATER LEFT AFTER HYDROTEST TO BE REMOVED BY BLOWING AIR OR SWABBING.
17. ALL NOZZLE REPADS TO HAVE 1/8" NPT WEEP HOLES @ LOW POINT; AIR-SOAP BUBBLE TEST @15 PSI. ALL OTHER EXT. PADS TO HAVE 1/4" VENT HOLES.
18. SEAL ALL MACH. FACES & THREADS W/PLASTIC PROTECTORS BEFORE SHIPPING. LUBRICATE ALL BOLT THREADS W/ANTI-SEIZE.
19. PAINT 45°, 135°, 225° & 315° ABOVE SUPPORT LUGS USING 4" TALL LETTERING.
20. SPREADER BAR REQ'D WHEN LIFTING VESSEL; SHACKLE SIZE= 9 1/2 TON.
21. 2" INSULATION REQ'D (BY OTHERS).
22. VESSEL WEIGHTS: EMPTY= 6,000 lbs; FLOODED (WATER)= 28,000 lbs; OPERATING= 28,000 lbs.
23. CAPACITY: (MAX)= 2,695 gals; HEADS= 126 gals; SHELL= 2443 gal.
24. (1) VESSEL REQ'D.

CERTIFIED BY **LATER**

**CAROLINA**  
INTEGRATED SOLUTIONS  
157 Derrick Rd, Spartanburg, SC 29303

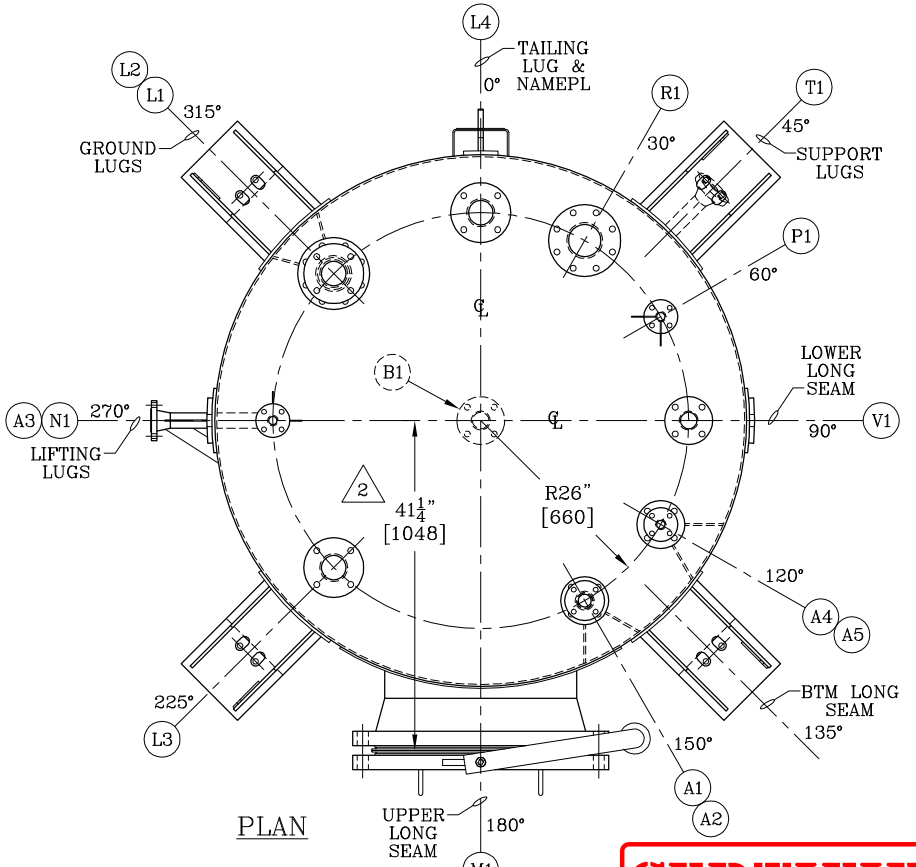
SERIAL NO. 293-08 YR BUILT 2015

SHELL			
MAWP	45	psi @	482 °F
MDMT	-20	°F @	45 psi
MAEWP	-14.7	psi @	482 °F

JACKET			
MAWP		psi @	°F
MDMT		°F @	psi

MAWP	3.1 BARG	PSIG @	250°C	°F
MDMT	-29°C	°F @	3.1 BARG	PSIG
MAEWP	-1.0 BARG	PSIG @	250°C	°F
JKT MAWP		PSIG @		°F
JKT MDMT		°F @		PSIG
INSPECTOR				
PLANT MOBILE, ALABAMA				
WEIGHT 6,000 LBS				
MATERIAL SA-240 316/316L				
P.O. No. 4700984380				
EQUIP No. V-4550				
PROJ No. 4142-00940				

NAMEPLATE DETAIL



PLAN

CERTIFIED

NOZZLE SCHEDULE							
REPADS	MARK	SIZE	SCH	NO.	DESCRIPTION	SERVICE	DETAIL
	A1	1 1/2"	40S	1	150# ANSI RFWN FLG	PROCESS LIQUID INLET	7
	A2	2"	40S	1	150# ANSI RFWN FLG W/RED. SO FLG	MOUNT FOR A1	7
	A3	1 1/2"	40S	1	150# ANSI RFWN FLG W/GUSSETS	IN-TANK EDUCTOR	13
	A4	1"	40S	1	150# ANSI RFWN FLG	PROCESS LIQUID INLET	17
	A5	2"	40S	1	150# ANSI RFWN FLG W/RED. SO FLG	MOUNT FOR A1	17
	B1	2"	40S	1	150# ANSI RFWN FLG	PROCESS LIQUID OUTLET	6
	L1	3"	40S	1	150# ANSI RFWN FLG	RADAR LEVEL XMTR STILLING WELL	8
	L2	4"	40S	1	150# ANSI RFWN FLG W/RED. SO FLG	MOUNT FOR L1	8
	L3	3"	40S	1	150# ANSI RFWN FLG	LEVEL SWITCH- HIGH	12
	L4	3"	40S	1	150# ANSI RFWN FLG	LEVEL SWITCH- HIGH	12
	M1	24"	3/8"	1	150# ANSI RFWN FLG W/BF	MANWAY W/DAVIT	4,5
	N1	1"	40S	1	150# ANSI RFWN FLG W/GUSSETS	NITROGEN INLET	2
	P1	1"	40S	1	150# ANSI RFWN FLG W/GUSSETS	PRESSURE TRANSMITTER	2
	R1	4"	40S	1	150# ANSI RFWN FLG	EMERGENCY PRESSURE RELIEF	3
	T1	1 1/2"	40S	1	150# ANSI RFWN FLG W/GUSSETS	TEMPERATURE TRANSMITTER	15
	V1	2"	40S	1	150# ANSI RFWN FLG	VENT- OFF-GAS	3

**DESIGN DATA**

1. DESIGN PRESS & TEMP: (-14.7) 45 PSIG @482°F [(-1.013) 3.1 BARG @250°C]  
OPERATING PRESS & TEMP- 0.145 PSIG @86°F [0.01 BARG @30°C]
2. CORROSION ALLOWANCE- NONE
3. SPECIFIC GRAVITY OF CONTENTS- 0.994
4. HYDROTEST- 66 PSIG (USE WATER W/A CHLORIDE CONTENT <50 ppm).
5. SPOT RADIOGRAPH REQ'D.
6. WIND LOAD- PER IBC 2009; 140 MPH, I=1.15, EXP C, 25 FT ELEV
7. SEISMIC LOAD- PER IBC 2009; Ss=11%, S1=5.1%, I=1.5, CLASS D

**MATERIAL**

- |  |  |
|--|--|
| <p>HEADS &amp; SHELL- SA-240 316/316L<br/>NOZ NECKS- SA-312 TP 316/316L (SMLS)<br/>FLANGES- SA-182 F 316/316L<br/>MANWAY NECK- SA-240 316/316L<br/>FITTINGS- SA-403 WP 316/316L<br/>INTERNAL ATTACH- SA-240 316/316L<br/>REINF PADS- SA-240 316/316L</p> | <p>LIFT &amp; TAIL LUGS- SA-240 304/304L<br/>EXTERNAL ATTACH- SA-240 304/304L<br/>SUPPORT LUGS- SA-240 304/304L<br/>BOLTING- SA-193 B7/SA-194 2H (GALV)<br/>NOZ GASKETS- SP WD CGI 316/GRAPHITE<br/>M/W GASKETS- 316L WELD-LIP STYLE<br/>KEMPCHEN TYPE A22</p> |
|--|--|

**WELDING PROCEDURES**

No.	PROCESS	ROD	NOTES	No.	PROCESS	ROD	NOTES
8-8-2	(GTAW)	ER308L	304 to 304	8-8-4	(GMAW)	ER316L	316 ROOT ONLY
8-8-3	(FCAW)	ER308LT1-1	304 to 304	8-8-5	(SAW)	ER316L	316 to 316
8-8-4	(GMAW)	ER308L	304 ROOT ONLY	8-8-2	(GTAW)	ER316L	304 to 316
8-8-5	(SAW)	ER308L	304 to 304	8-8-3	(FCAW)	ER316LT1-1	304 to 316
8-8-2	(GTAW)	ER316L	316 to 316	8-8-4	(GMAW)	ER316L	304/316 ROOT ONLY
8-8-3	(FCAW)	E316LT1-1	316 to 316	8-8-5	(SAW)	ER316L	304 to 316

**CONSTRUCTION NOTES**

1. VESSEL TO BE DESIGNED & CONSTRUCTED PER ASME CODE, SEC VIII, DIV 1, 2013 EDITION, ALSO PER SPECS LISTED BELOW.
2. ASME CODE STAMP & NATIONAL BOARD REGISTRATION REQ'D.
3. FLANGE FACE FINISH= 125AA
4. NOZZLE BOLT HOLES TO STRADDLE 0-180° CENTERLINE OR ITS PARALLEL.
5. INSIDE NOZZLE PROJECTION= 0, UNLESS NOTED OTHERWISE.
6. NOZZLE "B1" TO BE GROUND FLUSH.
7. SHELL & HEAD JOINTS TO BE FULL PENETRATION BUTT JOINTS; NOZ NECK TO SHELL OR HEAD JOINTS TO BE FULL PENETRATION. ALL WELDS TO BE CONTINUOUS.
8. ALL WELDS TO BE PASTED PER EC PT&E SPEC 25-0205, PARAGRAPH 5.2. PICKLING PASTE MATERIAL TO BE METINOX 71E OR EQUIVALENT.
9. HOLD FOR AUTH ASME & CUSTOMER INSPECTORS AT: a) FIT-UP & COMPLETION OF BACKGOUGING; b) FIT-UP OF MANWAY; c) HYDROTEST.
10. INTERNAL WELDS TO BE REASONABLY SMOOTH, BUT NOT NECESSARILY RIPPLE FREE OR GROUND SMOOTH.
11. INSIDE SURFACE OF COMPLETED VESSEL TO BE FREE OF RUST, SCALE, SLAG, WELD FLUX, SPATTER, ARC BURNS, GOUGES, TOOL MARKS, OIL, GREASE, INK, PAINT, MILL MARKINGS, DISCOLORATION & GENERAL SHOP SOIL TO PROVIDE A MUTUALLY ACCEPTABLE WORKMANLIKE PRODUCT.
12. GASKET DIMENSIONS FOR CLASS 150# FLGS TO BE PER ANSI B16.5 TABLE E3. CB&T TO SUPPLY (3) SPARE GASKETS FOR ALL BLIND CONNECTIONS.
13. TEST GASKETS TO BE SAME DIMENSIONS & COMPRESSIBILITY AS SERVICE.
14. PRESSURE BOLTING SUPPLIED W/VESSEL TO BE USED FOR TESTING.
15. VES EXTERIOR: PICKLE & PASSIVATE WELDS PER NOTE 8; ACID WASH REMAINDER.

**REFERENCE:**

CUST PO No: 4700984380  
ITEM No: V-4550  
PROJ No: 4142-00940  
SPEC Nos: V-4550, REV 1; 20.230.013, REV 2;  
20.230.030, REV 2; 20.230.036, R1; 20.230.032  
CUST STDS: 25-0101-3; 25-0205-2; 25-0801-2;  
25-0807; 25-0901; 25-0902; 25-0808; 25-0108

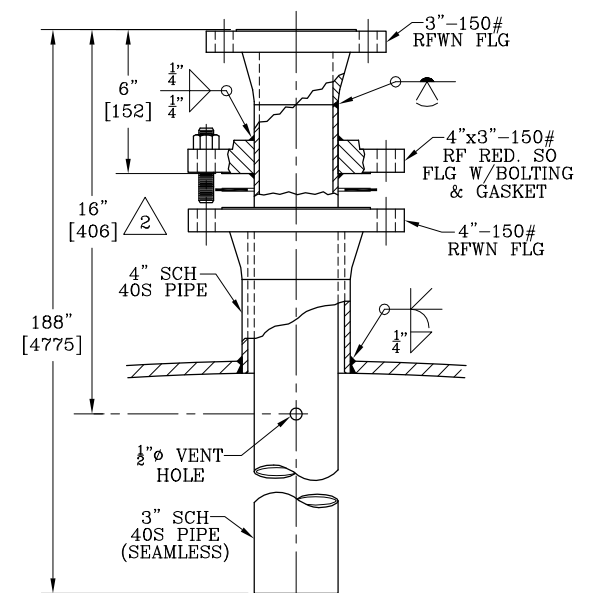
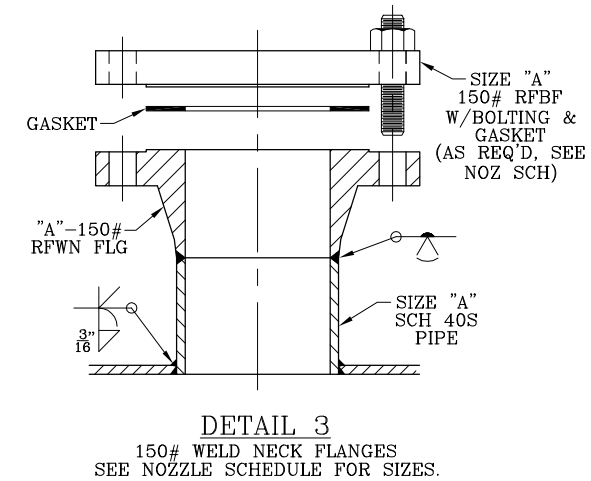
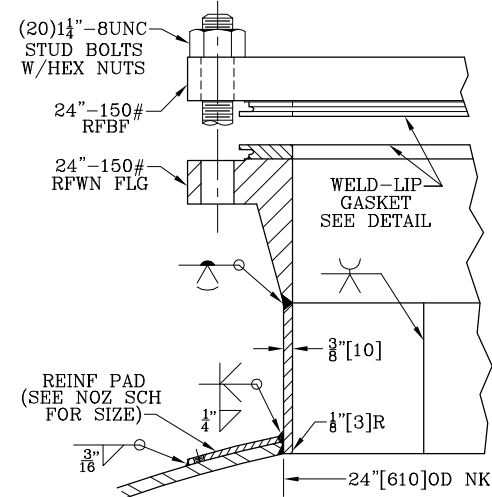
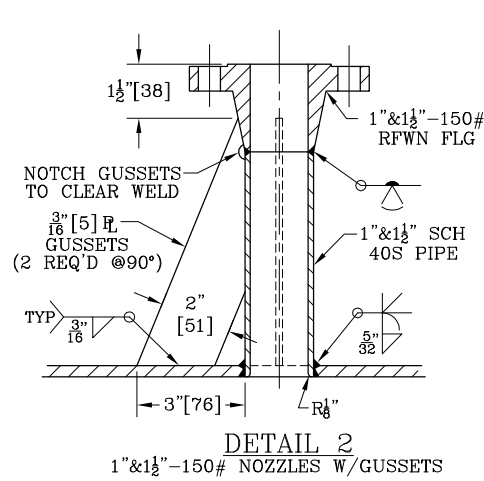
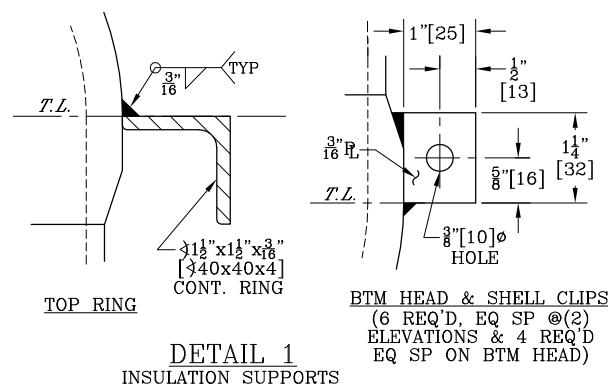
DTV REF DWG: 15515-08-2  
15515-08-3  
DESTINATION: THEODORE, AL

REVISION		DESCRIPTION	BY	CHK'D	DATE	CERTIFIED	SCALE	JOB NO.	REV.
2	ADD	M/W PROJ TO PLAN; ADD NOTE 17	RTC	BT	11-3-15		1"=12"	293-08	
1	DELETE	S1; ADD A4&A5; REV NPL	RTC	BT	8-18-15				
0	RELEASED	FOR FABRICATION	RTC	BT	7-20-15				
A	REV	PER CUSTOMER COMMENTS	RTC	BT	5-12-15				

**DOMINION**  
Tank & Vessel Company, Inc.  
1501 Valley Road, Richmond, VA 23222

66"ID FINISHED ACA DAY VESSEL V-4550  
EVONIK CORPORATION  
MOBILE ALABAMA PLANT  
ACA PROJECT

15515-08-1 2



FRACTION TO MILLIMETER CONVERSION

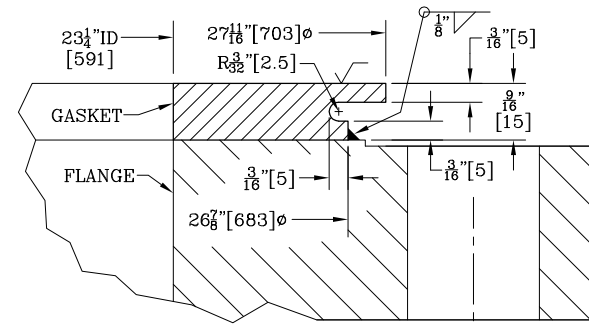
FRACTION	MM	FRACTION	MM
1/8"	[3]	9/16"	[14]
3/16"	[5]	5/8"	[16]
1/4"	[6]	11/16"	[17]
5/16"	[8]	3/4"	[19]
3/8"	[10]	13/16"	[21]
7/16"	[11]	7/8"	[22]
1/2"	[13]	15/16"	[24]

TABLE 3

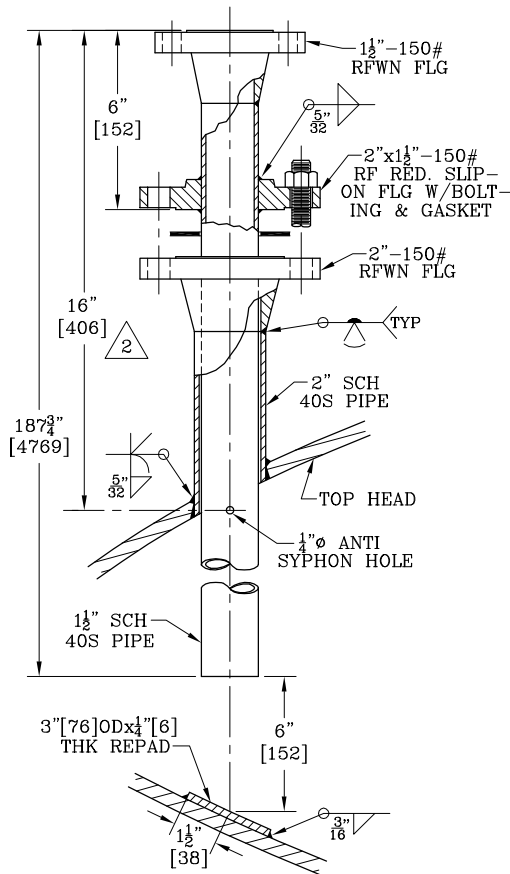
NOM PIPE SIZE "A"	WELD SIZE "w"	STUD BOLTS NO.	STUD BOLTS SIZE
2"	5/32"	4	5/8" -11UNC
4"	1/4"	8	5/8" -11UNC

NOZZLE LOAD TABLE

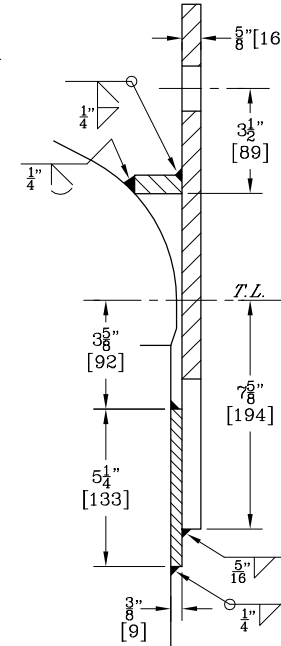
NOZ MARK	lbf			lbf ft		
	P	V <sub>L</sub> V <sub>V</sub>	V <sub>C</sub> V <sub>V</sub>	M <sub>L</sub> M <sub>V</sub>	M <sub>C</sub> M <sub>V</sub>	M <sub>T</sub>
B1	517	697	517	369	295	590



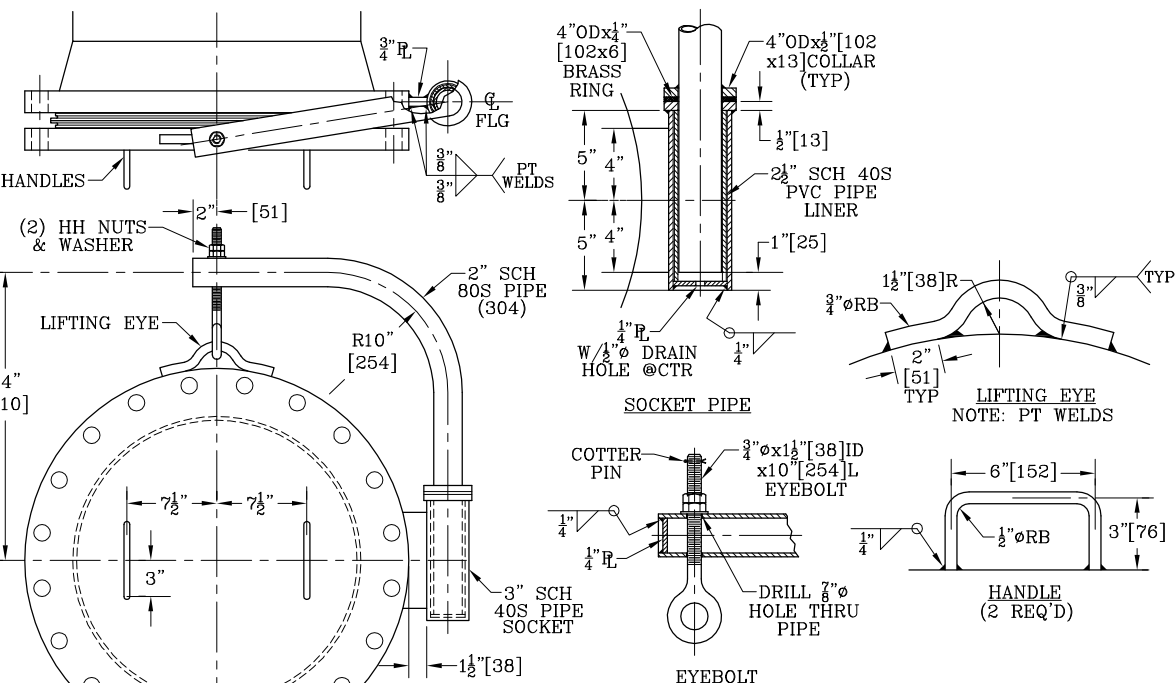
"M1" WELD-LIP GASKET  
24"-150# FLANGE  
(1 PAIR REQUIRED)



DETAIL 7  
NOZZLE "A1 ON A2"  
DIP-PIPE GUIDE REQUIRED.  
SEE ELEVATION FOR LOCATION.

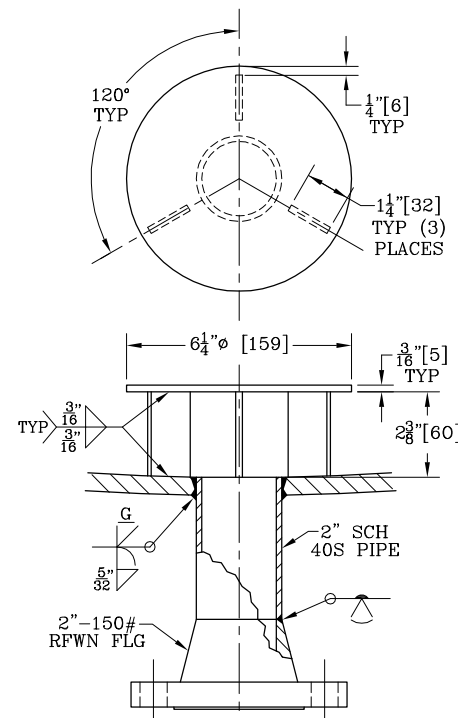


DETAIL 9  
LIFTING LUGS  
(2 REQ'D, EQ SP)  
SEE PLAN FOR ORIENTATION



DETAIL 5

DAVIT FOR 24"-150# FLANGE  
NOTES: ALL MAT'L TO BE S/S EXCEPT AS NOTED.  
SEE PLAN FOR TRUE DAVIT ORIENTATION.



DETAIL 6  
NOZZLE "B1" WITH  
VORTEX BREAKER

REFERENCE:  
CUST PO No: 4700984380  
ITEM No: V-4550  
PROJ No: 4142-00940  
SPEC Nos: V-4550, REV 1; 20.230.013, REV 2;  
20.230.030, REV 2; 20.230.036, R1; 20.230.032  
CUST STDS: 25-0101-3; 25-0205-2; 25-0801-2;  
25-0807; 25-0901; 25-0902; 25-0808; 25-0108

DTV MAIN DWG: 15515-08-1

DESTINATION: THEODORE, AL

MARK	REVISION DESCRIPTION	BY	CHK'D	DATE	CERTIFIED
2	ADD SYPHON HOLE LOC DTLS 7&8	RTC	BT	10-30-15	
1	REV NOZ LOAD TABLE	RTC	BT	8-19-15	
0	RELEASED FOR FABRICATION	RTC	BT	8-13-15	
A	REV PER CUSTOMER COMMENTS	RTC	BT	5-12-15	

DRAWN: RTC 2-18-15  
CHECKED: BT 2-26-15

JOB NO: 293-08  
SCALE: 15515-08-2 2



66" ID FINISHED ACA DAY VESSEL V-4550  
EVONIK CORPORATION  
MOBILE ALABAMA PLANT  
ACA PROJECT

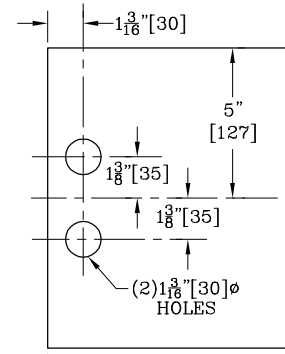
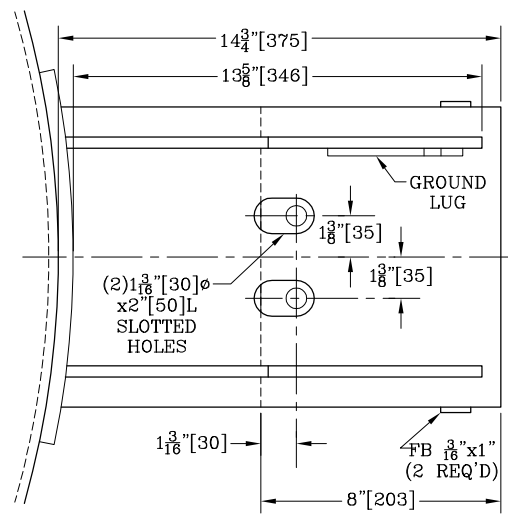
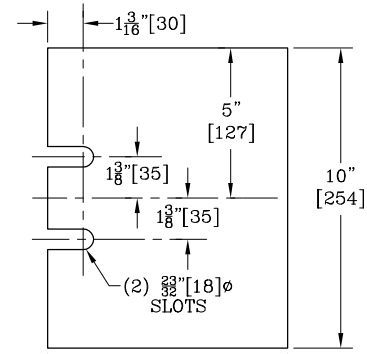


PLATE "A"  
INSULATION PLATE  
MATERIAL: FABRIC  
BASE LAMINATE  
(LAMITEX CE)  
THICKNESS: 2" [51]



PLATES "B"  
ADJUSTING PLATES  
MATERIAL: 304 S/S  
(1) 3/8" THK; (1) 5/8" THK

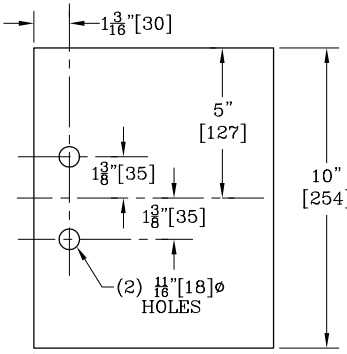
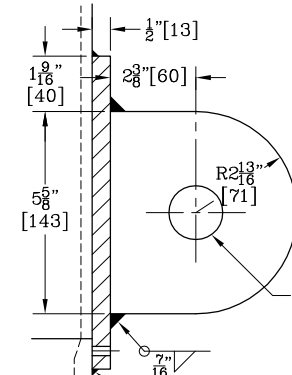
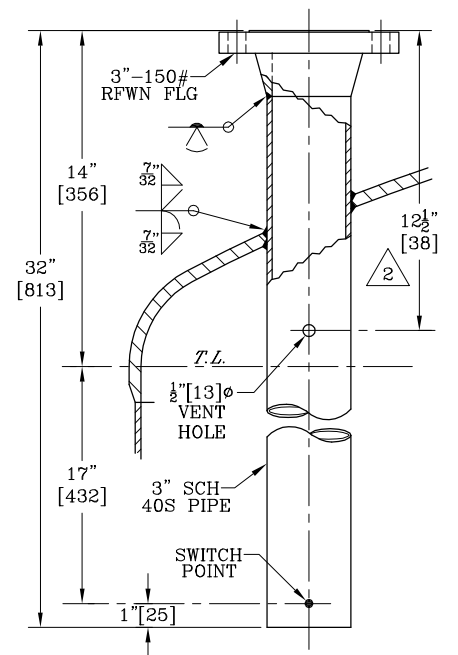
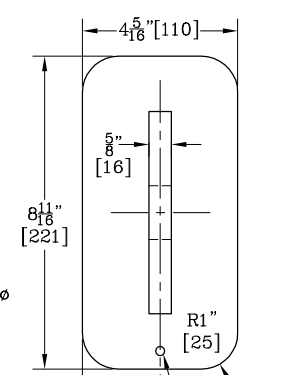


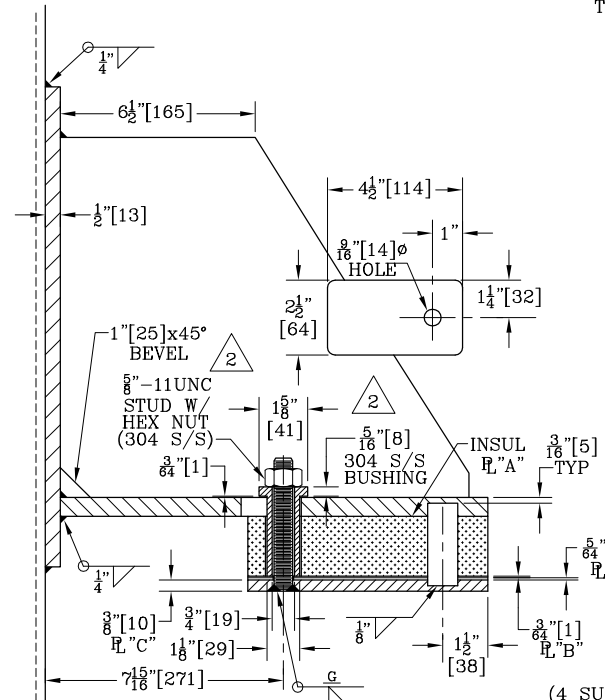
PLATE "C"  
WELD PLATE  
MATERIAL: 3/8" [10] THK 304 S/S



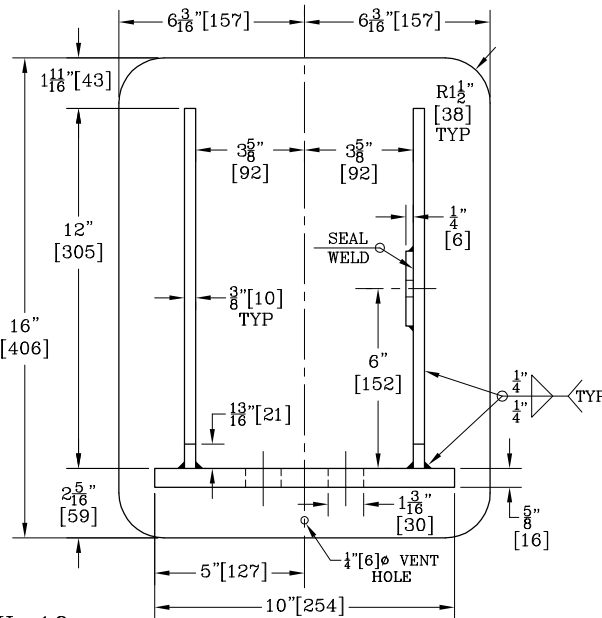
DETAIL 11  
TAILING LUG  
(1 REQ'D)



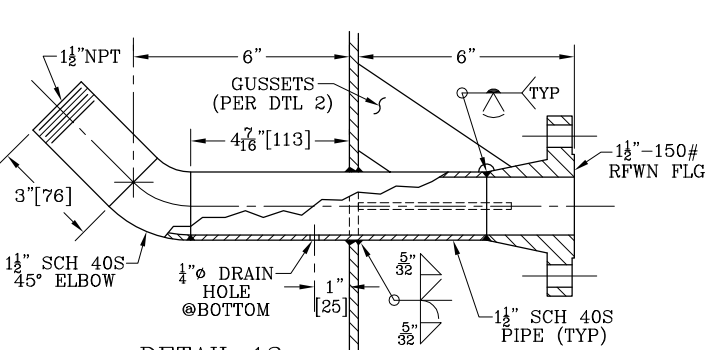
DETAIL 12  
NOZZLES "L3&L4"



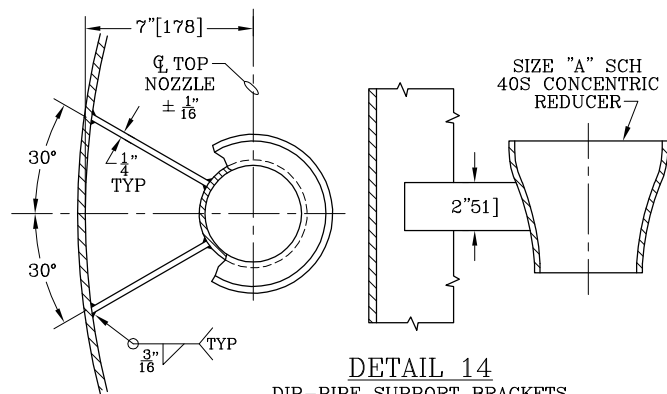
DETAIL 10  
SUPPORT LUGS  
(4 SUPPORT LUGS REQ'D, EQ SP)  
(2) S/S GROUND CLIPS REQ'D, EQ SP.  
SEE ELEV & PLAN FOR LOCATION.



DETAIL 16  
GRAB RUNG & STEP  
(1 STEP REQ'D)



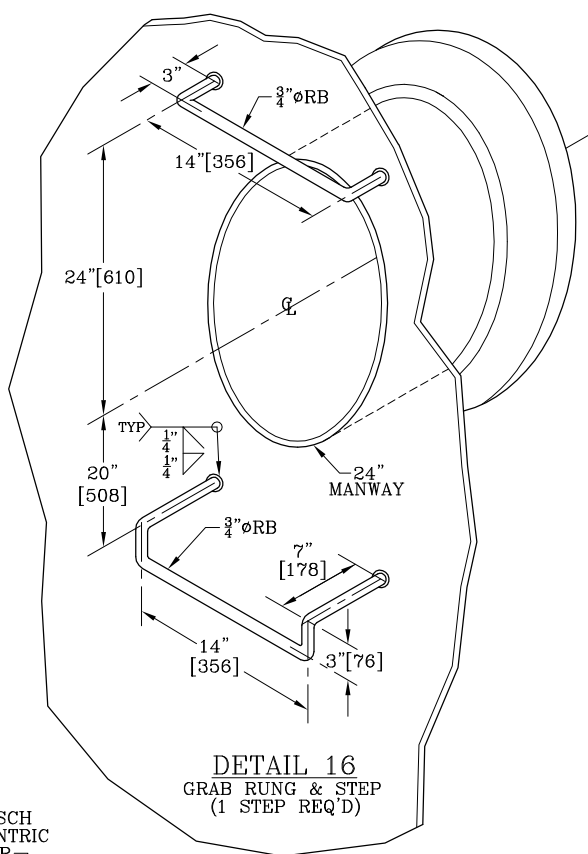
DETAIL 13  
NOZZLE "A3"



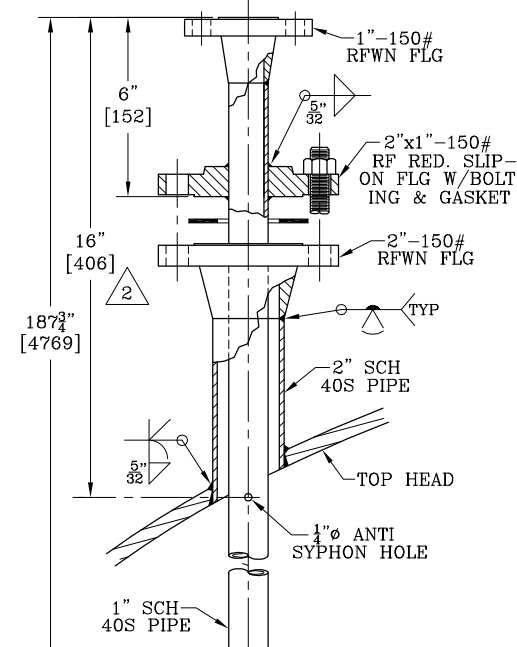
DETAIL 14  
DIP-PIPE SUPPORT BRACKETS  
(1 REQ'D FOR EACH DIP-PIPE)  
SEE TABLE 14 FOR SIZES.  
SEE ELEV FOR LOCATION.

TABLE 14

DIP-PIPE MARK	REDUCER SIZE "A"
A1	6" x 2"
A4	4" x 1 1/2"
L1	6" x 4"



DETAIL 15  
NOZZLE "T1"



DETAIL 17  
NOZZLE "A4 ON A5"  
DIP-PIPE GUIDE REQUIRED.  
SEE ELEVATION FOR LOCATION.

**CERTIFIED**

DTV MAIN DWG: 15515-08-1

DESTINATION: THEODORE, AL

FRACTION TO MILLIMETER CONVERSION

FRACTION	MM	FRACTION	MM
1/8"	[3]	9/16"	[14]
3/16"	[5]	5/8"	[16]
1/4"	[6]	11/16"	[17]
5/16"	[8]	3/4"	[19]
3/8"	[10]	13/16"	[21]
7/16"	[11]	7/8"	[22]
1/2"	[13]	15/16"	[24]

REFERENCE:  
CUST PO No: 4700984380  
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20.230.030, REV 2; 20.230.036, R1; 20.230.032  
CUST STDS: 25-0101-3; 25-0205-2; 25-0801-2;  
25-0807; 25-0901; 25-0902; 25-0808; 25-0108

**DOMINION**  
Tank & Vessel Company, Inc.  
1501 Valley Road, Richmond, VA 23222

66" ID FINISHED ACA DAY VESSEL V-4550  
EVONIK CORPORATION  
MOBILE ALABAMA PLANT  
ACA PROJECT

MARK	REVISION DESCRIPTION	BY	CHK'D	DATE	CERTIFIED
2	ADD VENT HOLE LOC; REV MATERIAL	RTC	BT	11-3-15	
1	ADD DTL 17; REV DTL 14	RTC	BT	8-18-15	
0	RELEASED FOR FABRICATION	RTC	BT	7-20-15	
A	REV PER CUSTOMER COMMENTS	RTC	BT	5-12-15	

DRAWN: RTC 2-18-15  
CHECKED: BT 2-26-15  
JOB NO: 15515-8  
SCALE: 15515-08-3 2