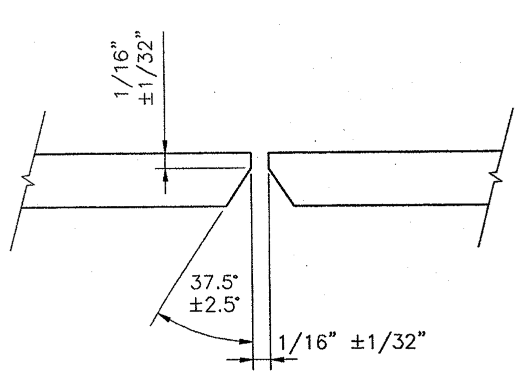
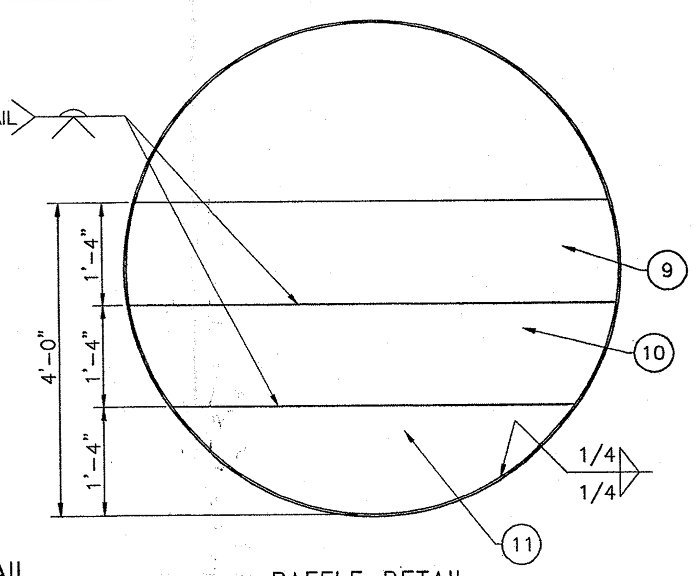
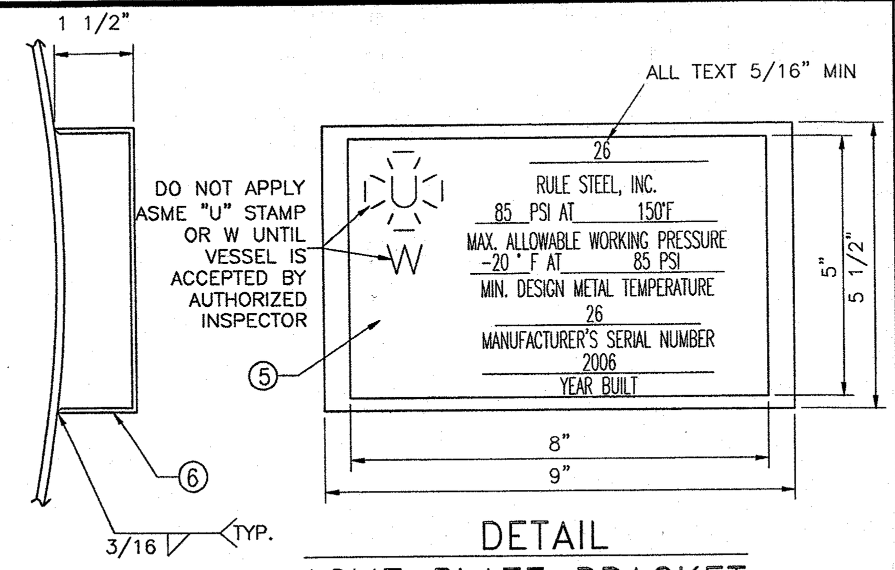


TYPICAL HEAD/SHELL SHELL/SHELL DETAIL
WELD PREPARATION
NTS



BAFFLE DETAIL
SCALE ¾"=1'-0"



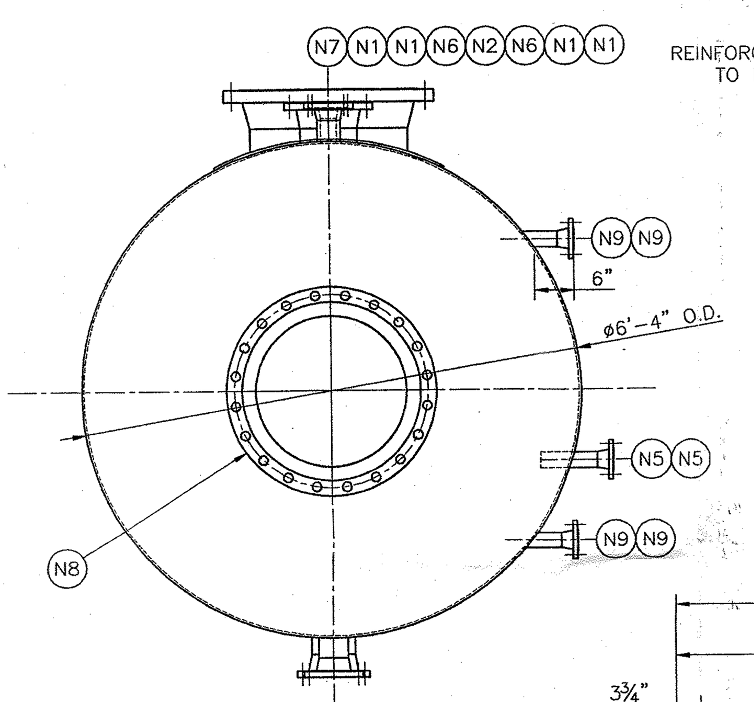
DETAIL
ASME PLATE BRACKET

BILL OF MATERIAL

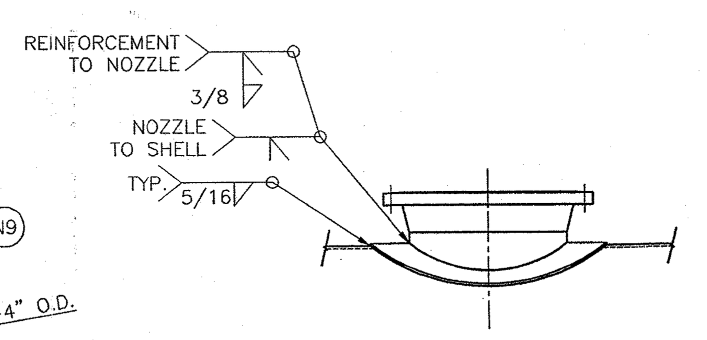
SUB	QUANT	DESCRIPTION	LENGTH	REMARKS	WEIGHT
	1	ASME VESSEL – SERIAL # 26			9502 LBS
1	2	HEADS – 76" O.D. FLANGED AND DISHED ASME CODE TYPE HEAD			1328 LBS
		t = 3/8" NOMINAL WITH 5/16" MINIMUM SA-240 304, SF = 1			
2	4	SHELL – PL 3/8"x5'-0" SA-240 304	19'-9 9/16"	ROLLED TO 76" O.D.	6063 LBS
3					
4	1	REINFORCEMENT PAD – 3/8"x36" O.D.x24" I.D. SA-240 304		ROLLED TO 76" I.D.	60 LBS
5	1	NAME PLATE			
6	1	NAME PLATE BRACKET – BENT PLATE 10 GA. x 8 ½" SA-240 304	9"		6 LBS
7	2	LIFT LUG – PL 1/2"x4" SA-240 304	7"		6 LBS
8	2	LIFT LUG – PL 3/8"x6" SA-240 304	9"	ROLLED TO 76" I.D.	12 LBS
9	1	BAFFLE – PL 1/2"x16" SA-240 304 – CUT TO FIT TANK I.D.	6'-3 3/8"		169 LBS
10	1	BAFFLE – PL 1/2"x16" SA-240 304 – CUT TO FIT TANK I.D.	6'-2 ½"		159 LBS
11	1	BAFFLE – PL 1/2"x16" SA-240 304 – CUT TO FIT TANK I.D.	5'-1 5/8"		99 LBS
12	2	WEAR PLATE – PL 1/4" x 10" SA-240 304	7'-3 13/16"	ROLLED TO 76" ID	124 LBS
13	4	STIFFENER – PL 1/4" x 8" SA-36	3'-6 1/2"		96 LBS
14	8	STIFFENER – PL 1/4" x 4" SA-36	2'-1"		56 LBS
15	2	WEB PLATE – PL 1/4" x 3'-6 1/2" SA-36	5'-6 1/4"		270 LBS
16	1	BASE PLATE – PL 3/8" x 9" SA-36 W/ (2) 1 1/4" ø HOLES	5'-7"		64 LBS
17	1	BASE PLATE – PL 3/8" x 9" SA-36 W/(2) 1 1/4" x 2" HOLES	5'-7"	SLOTTED HOLES	64 LBS

NOZZLE SCHEDULE

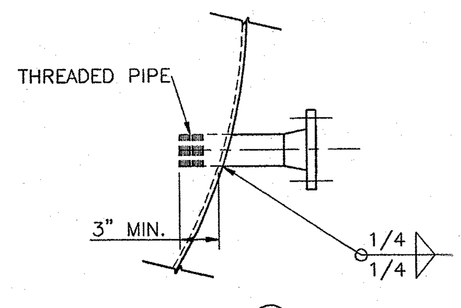
ITEM	QTY	SIZE	MATERIAL				RATE	WEIGHT	DESCRIPTION
			STUB	SA #	FLANGE	SA #			
N1	4	8"	SCH 40S	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	204	
N2	1	24"	SCH 20	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	308	REINFORCING PAD REQUIRED
N3	2	6"	SCH 40S	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	66	
N4									
N5	2	2"	SCH 40S	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	18	8" LONG PIPE STUB THREAD NOZZLE INSIDE VESSEL
N6	2	3"	SCH 40S	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	30	
N7	1	2"	SCH 40S	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	8	
N8	1	24"	NONE		RFWN	SA182 F304	150#	260	
N9	4	2"	SCH 40S	SA-312 TP304 WLD PIPE	RFWN	SA182 F304	150#	32	
N10									



VESSEL END VIEW
(NOZZLE ORIENTATION)
SADDLE NOT SHOWN FOR CLARITY
SCALE ¾"=1'-0"



NOZZLE (N2)
CONNECTION DETAIL
SCALE ¾"=1'-0"



NOZZLE (N5)
CONNECTION DETAIL
SCALE 1 1/2"=1'-0"

STATE OF TEXAS
JOHN REESE LEAVITT
81243
REGISTERED
PROFESSIONAL ENGINEER
2-8-2007

1. DESIGN NOTES:

CODE: ASME BOILER & PRESSURE VESSEL CODE, SECTION VIII, DIV. 1, 2004 EDITION, A05 ADDENDA
MAWP: 85 PSI at 150 Degrees F
MDMT: -20 Degrees F at 85 PSI
NOT DESIGNED FOR VACUUM
CORROSION ALLOWANCE: None
RADIOGRAPHIC EXAM: None
JOINT EFFICIENCY: 0.7
SERVICE: Unspecified
SPECIFIC GRAVITY: 1.22
RADIOGRAPHIC EXAM: None
VISUAL EXAM: 100%
SEISMIC: Ss=0.108, S1=0.045, SITE CLASS D
WIND: 130 MPH EXP. C

2. MATERIAL SPECIFICATIONS:
SHELL: SA-240 304
HEADS SA-240 304
NOZZLES: SA-312 TP304 WLD PIPE

3. VESSEL EMPTY WEIGHT: 9,502#
FLOODED WEIGHT: 61,000#

4. Welding shall be performed in accordance with the ASME Code & the following Welding Procedure Specification (WPS) and Procedure Qualification Records (PQR):
GMAW: WPS #GM-SS-1, PQR #RS-SS-2
FCAW: WPS #RS-SS-5, PQR #RS-SS-5A
GTAW: WPS #SS-T1, PQR #SS-T1a
by welders qualified for the same.

5. Material for pressure parts shall be laid out so that when the vessel is completed, the original identification markings required by the specification are plainly visible (UG-77).

6. Alignment of sections of edges to be butt welded shall be such that the maximum offset is not greater than that allowed by UW-33.

7. The welder shall stamp his identifying mark adjacent to continuous welds or at intervals of not more than 3 feet along welds which he makes, or a record shall be kept by the tank manufacturer of welders and welding operators employed on each joint which shall be available to the Inspector (UW-37 (f)).

8. The surfaces of welds may be left as welded provided they are sufficiently free from coarse ripples, grooves, overlaps, abrupt ridges, and valleys (UW-35 (a)).

9. Undercut shall not exceed 1/32 inch or 10% of the nominal thickness of the adjoining surface, whichever is less (UW-35 (b)).

10. The thickness of weld reinforcement shall not exceed that reinforcement specified in UW-35.

11. The completed vessel shall be hydrostatically tested to 110.5 psi and satisfy the requirements of the Code. The vessel shall be cleaned of scale, oil, weld spatter and all other foreign matter before hydrostatic testing (UG-99).

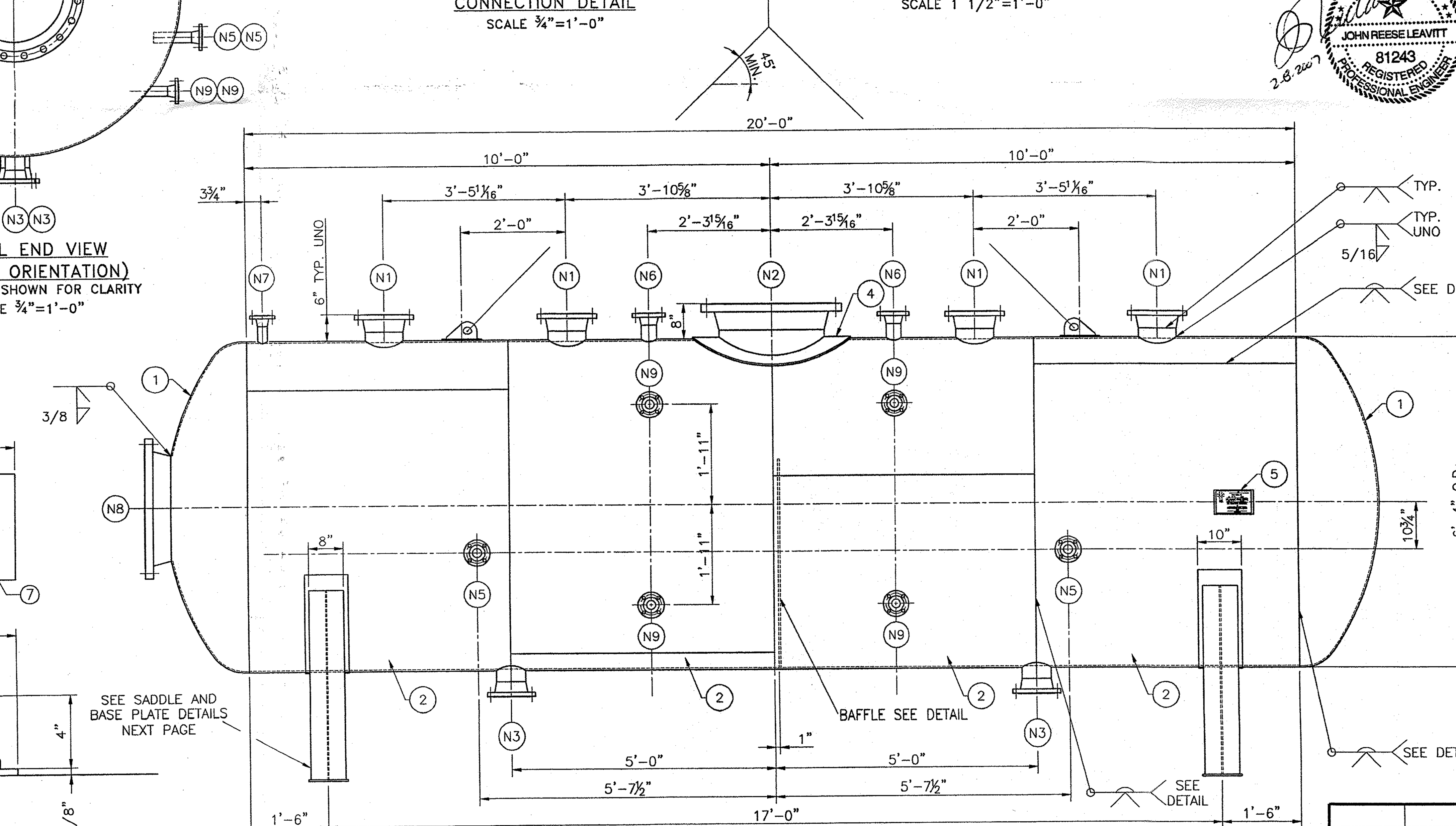
12. Exempt from impact testing per UHA-51(d).

13. Flange bolt holes shall straddle normal vessel centerlines unless noted.

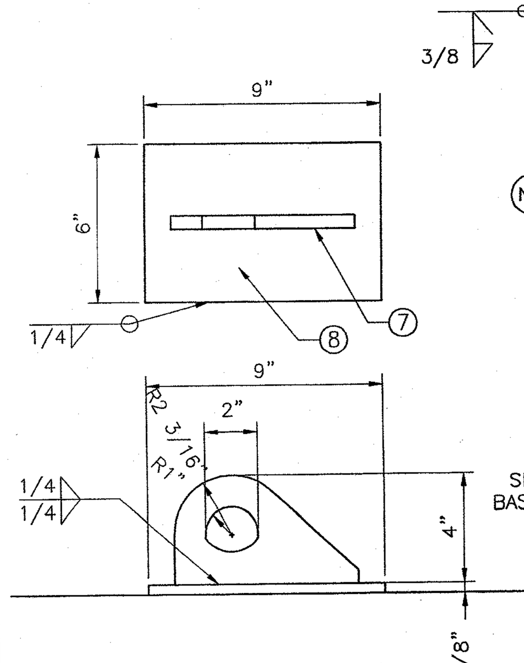
14. Coat all nozzle gasket surfaces with protective lubricant before blanking for shipment.

15. Protect all machined surfaces and threaded connections with wood or plastic protectors before shipment.

16. 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.



ELEVATION
SCALE ¾"=1'-0"



LIFTING LUG DETAIL
NTS

DATE	ENGR.	QA	SERIAL NO.	JOB NO.	AS-BUILT COMMENTS
	RELEASED TO FAB SHOP				

REVISIONS

No.	DATE	BY	DESCRIPTION
5	2/08/2007	JRC	REVISED TO ADD SADDLES
4	10/11/2006	JRC	REVISED BAFFLE DESIGN
3	10/05/2006	JRC	REVISED BAFFLE-NOZZLES
2	07/20/06	JRC	REVISED ADD LIFT LUGS
1	06/27/06	JRC	REVISED NOZZLES
0	06/19/06	JRC	ISSUED FOR APPROVAL

2-22-07
Carroll [signature]

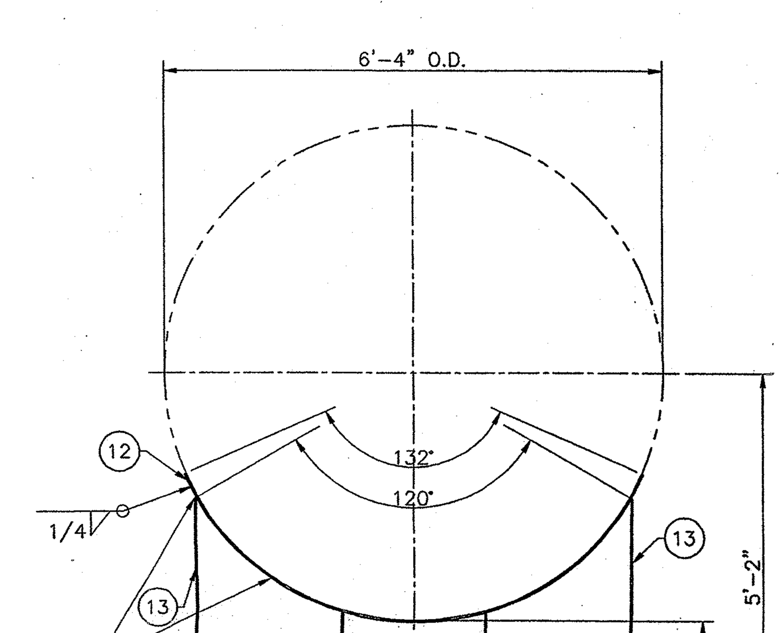
RULE STEEL TANKS, INC.
21986 Middleton Rd.
Caldwell, Idaho 83605
(208) 585-3031
fax: (208) 585-2506
(800) 769-5636

76" DIAMETER x 240" S/S ASME VESSEL
BAYTOWN, TEXAS

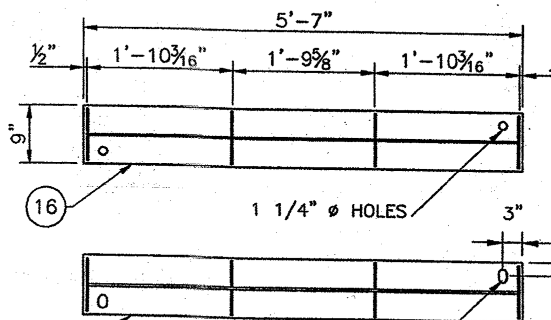
Client: RULE STEEL
Job Number: 06112.004 | Cad file: 06112.004.dwg
Designed By: J.R.C. | Drawn By: J.R.C. | Checked By: J.R.L. | Delivery Date: 06/19/2006

LEAVITT & ASSOCIATES ENGINEERS, INC.
STRUCTURAL * CIVIL
SURVEYING
1324 FIRST STREET SOUTH NAMPA IDAHO 83651
PHONE (208)463-0333/463-7670 FAX (208)463-9040

SCALE: AS NOTED
Sheet Number: 1 OF 2



SADDLE DETAIL
SCALE ¾"=1'-0"
ONE END FIXED – ONE END SLOTTED



BASE PLATE DETAIL
SCALE ¾"=1'-0"

STATE OF TEXAS
JOHN REESE LEAVITT
81243
REGISTERED
PROFESSIONAL ENGINEER
1-8-2007

DATE	ENGR.	QA	SERIAL NO.	JOB NO.	AS-BUILT COMMENTS
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REVISIONS

No.	DATE	BY	DESCRIPTION
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Sheet Number: 2 OF 2