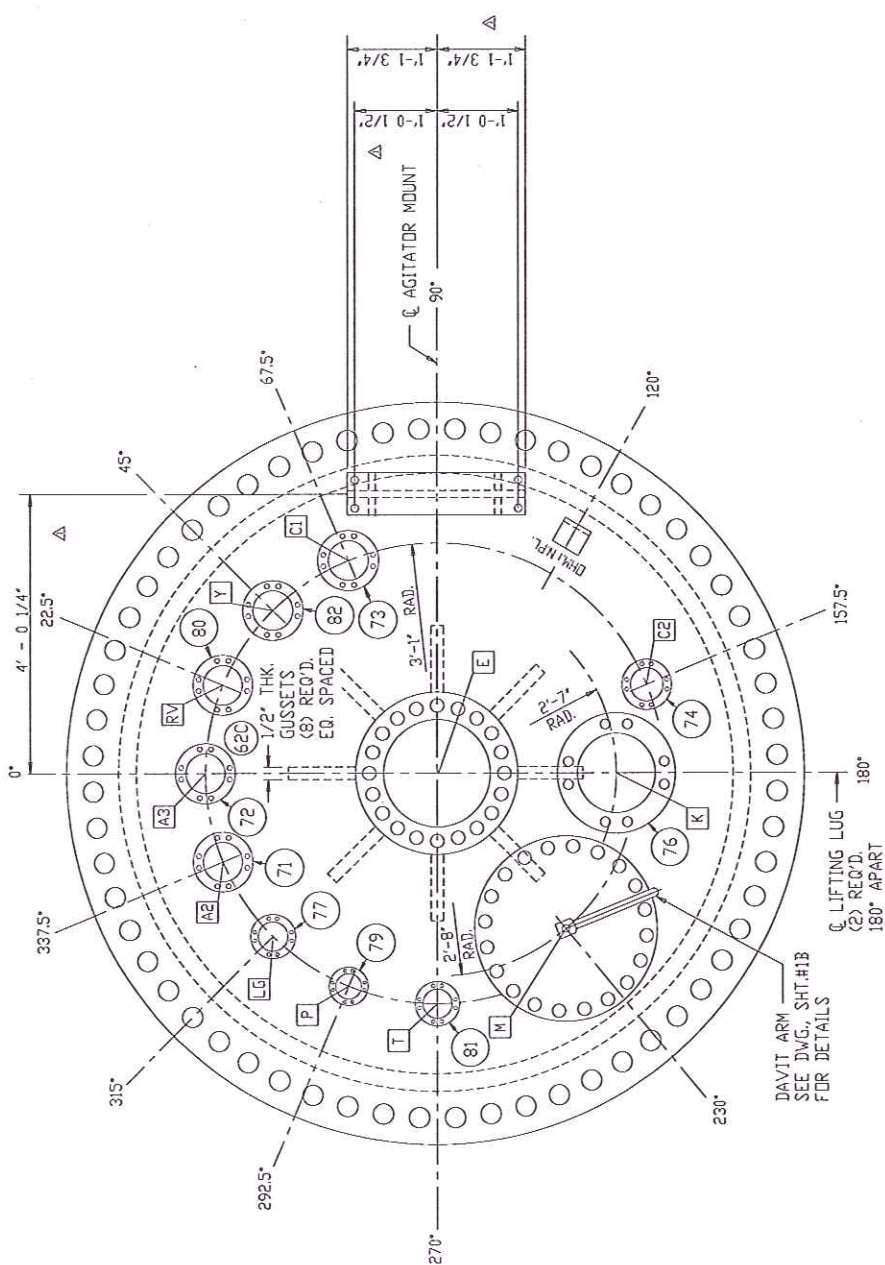
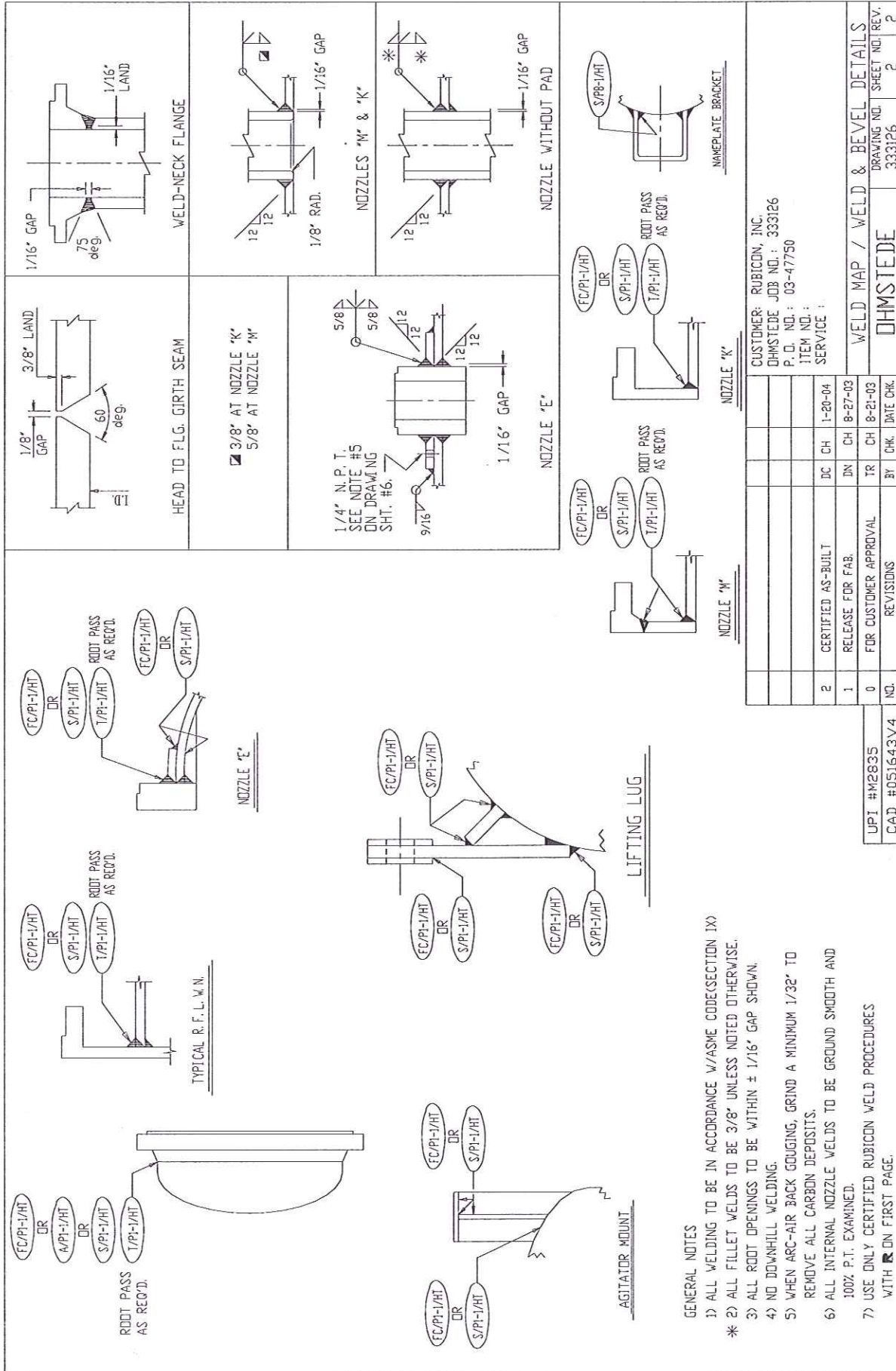


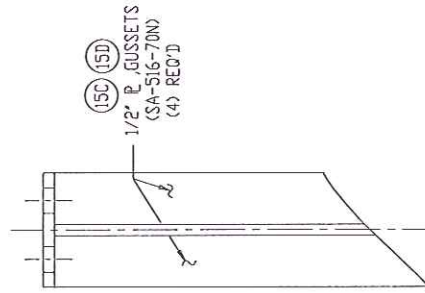
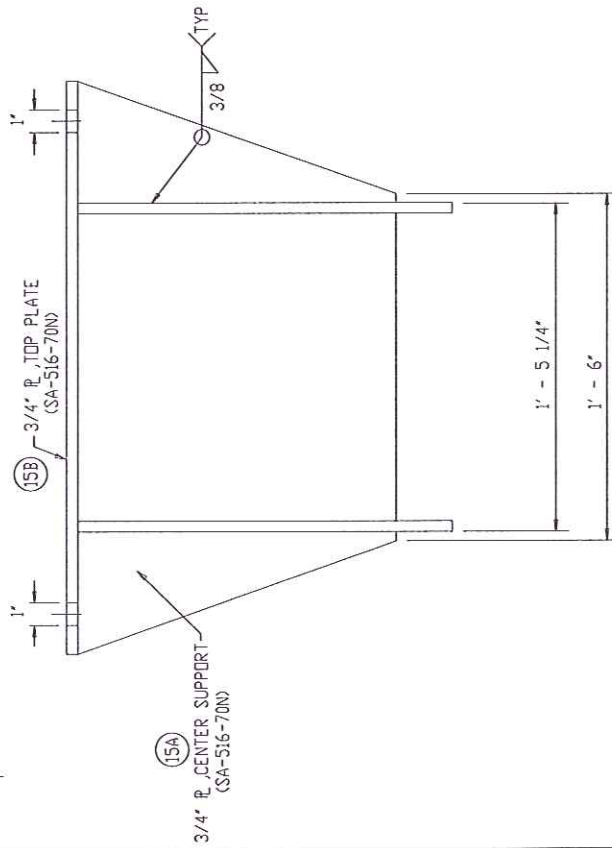


VIEW "A-A"

CUSTOMER: RUBICOM, INC.		OHMSTEDE JOB NO.: 333126		P. D. NO.: 03-47750		ITEM NO.: SERVICE		VIEW "A-A"	
2		CERTIFIED AS-BUILT		DC		CH		1-20-04	
1		RELEASE FOR FAB.		DN		CH		8-27-03	
0		FOR CUSTOMER APPROVAL		TR		CH		9-21-03	
ND.		REVISIONS		BY		CHK.		DATE	
UPI #M2835		OHMSTEDE		DRAWING NO.		333126		SHEET NO. REV.	
CAD #051641V4								1A	
								2	

[illegible]





CUSTOMER: RUBICON, INC.
CHAMSTEDE JOB NO.: 333126
P.O. NO.: 03-47750
ITEM NO.:
SERVICE:

2	CERTIFIED AS-BUILT	DC	CH	1-20-04						
1	RELEASE FOR FAB.	DN	CH	8-27-03						
0	FOR CUSTOMER APPROVAL	TR	CH	8-21-03						
NO.	REVISIONS	BY	CHK.	DATE CHK.						

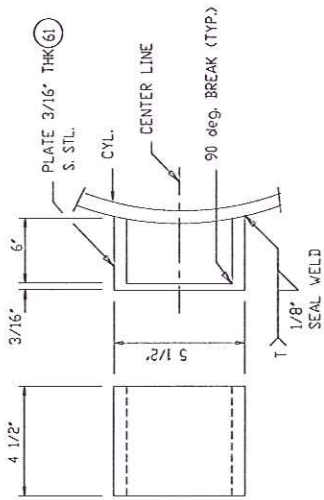
AGITATOR MOUNT SUPPORT

UPI #M2835

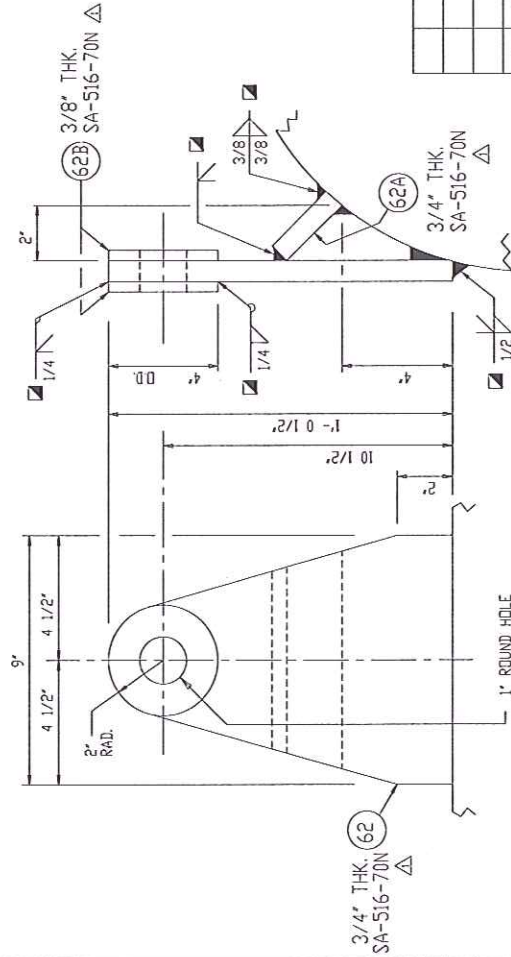
CAD #051644V4

AGITATOR MOUNT DETAILS

OHMSTEDE	DRAWING NO.	SHEET NO.	REV.
	333126	3	2



NAME PLATE BRACKET DETAIL



LIFTING LUG DETAIL

NO REQUIRED: (2)

(65)

MATERIAL: 18-8 STN. STL.(16 GA)



OHMSTEDE Ltd.

NATL. BD. NO. 2056

CERTIFIED BY

OHMSTEDE LTD.

ST. GABRIEL PLANT

SERIAL NO.:

DATE 2003

PART

ITEM NO.

ZE

105" DIA.

TYPE

VESSEL

P.D. NO. 03-47750

TOP REACTOR HEAD ONLY!!

DESIGN PRESS. = 35 PSIG & FV @ 250°F/-20°F

UPI #M2835

CAD #051645V4

CUSTOMER: RUBICON, INC.

OHMSTEDE JOB NO.: 333126

P.D. NO.: 03-47750

ITEM NO.:

SERVICE:

DC CH 1-20-04

DN CH 8-27-03

TR CH 8-21-03

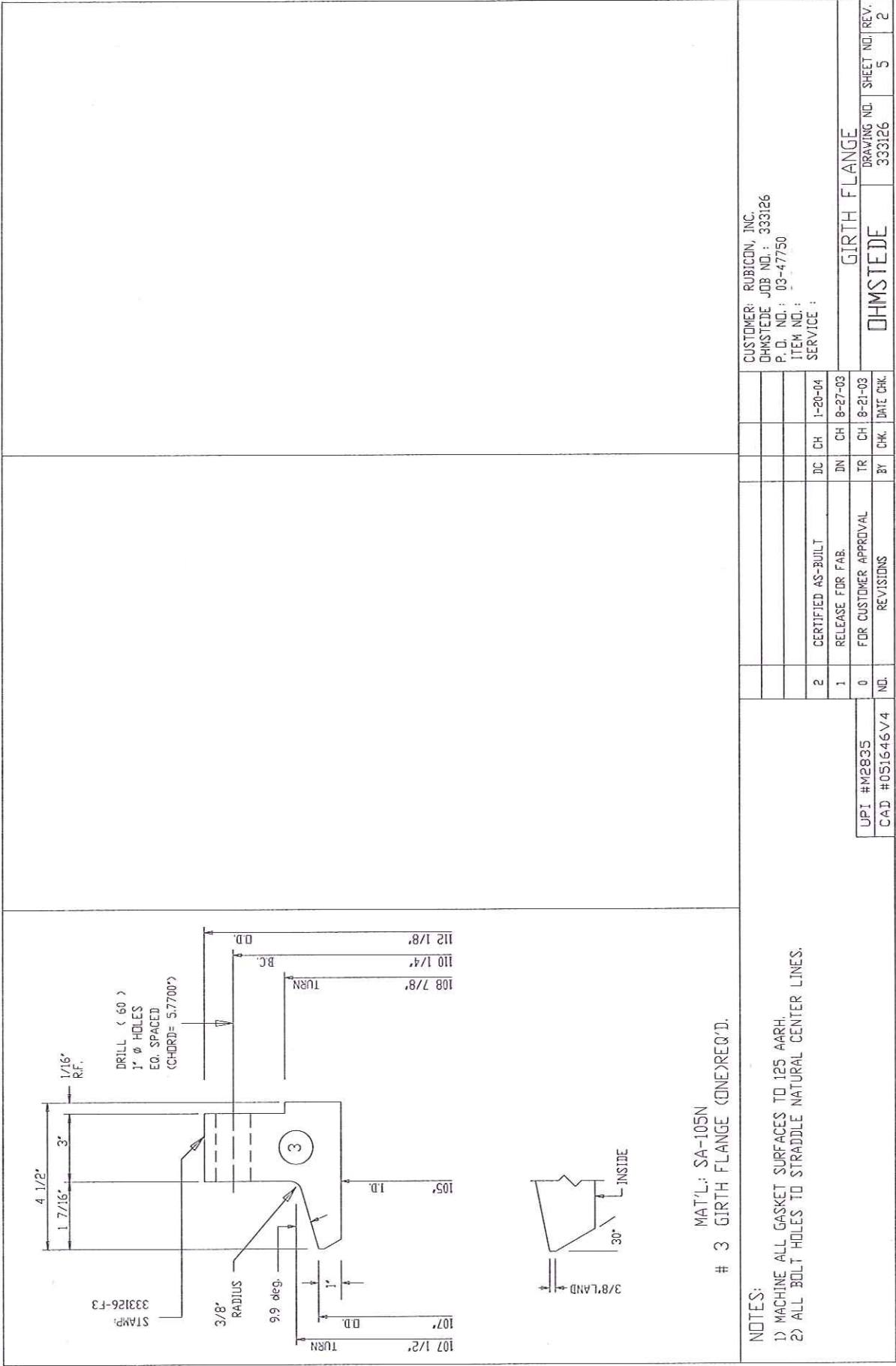
BY CHK. DATE CHK.

NAME PLATE, BRACKET & LUG DETAILS

DRAWING NO. 333126

SHEET NO. 4

REV. 2



GENERAL NOTES

- ALL BOLT HOLES SHALL STRADDLE NORMAL CENTERLINES EXCEPT AS NOTED.
- ALL EXTERNAL BOLTING SHALL BE COATED FULL LENGTH WITH A NON-SILICONE BASE THREAD LUBRICANT.
- THE INSIDE AND OUTSIDE OF THE HEAD SHALL BE CLEAN AND FREE OF ALL SLAG, LOOSE SCALE, DIRT, GRIT, WELD SPATTER, PIECES OF METAL, PAINT, OIL, AND OTHER FOREIGN MATTER BEFORE HYDROTESTING AND PAINTING. THE HEADS SHALL BE THOROUGHLY DRIED INSIDE AND OUTSIDE AFTER HYDROTEST. SURFACE PREPARATION AND PAINTING MATERIALS SHALL BE KEPT OUT OF THE HEADS.
- NOZZLE PADS SHALL BE PROVIDED WITH A 1/4" NPT TEST HOLE. PADS SHALL BE AIR AND SDAP SUDS TESTED AT 25 PSIG PRIOR TO HYDROTEST. TEST HOLES SHALL BE PLUGGED WITH HEAVY GREASE PRIOR TO SHIPMENT.
- ALL FLANGED OPENINGS SHALL BE PROVIDED WITH SNAP-DN PLASTIC SHIPPING COVERS.
- THE VESSEL ITEM NO. AND THE DHMSTEDE SERIAL NO. SHALL BE DIE-STAMPED ON THE PERIPHERAL EDGE OF EACH BODY FLANGE. THE VESSEL ITEM NO., THE PURCHASE ORDER NO., AND THE HEAD SHIPPING WEIGHT SHALL BE STENCILED ON BOTH SIDES OF THE HEAD AT 90 & 270 DEG. CTR. LINES. IN LETTERS AT LEAST 3" HIGH.
- HYDROTEST PRESSURE SHALL BE HELD FOR A PERIOD OF TWO (2) HOURS MINIMUM, EXCLUDING INSPECTION TIME. HYDROTEST SHALL BE CONDUCTED USING POTABLE WATER. MINIMUM WATER TEMPERATURE FOR HYDROTEST SHALL BE 60 DEG. F. THE HEADS FROM JOBS JOBS #338126 & 338127 SHALL BE BOLTED TOGETHER FOR HYDROTESTING.
- THE METAL TEMPERATURE OF EACH PART OF THE VESSEL SHALL BE MAINTAINED ABOVE ITS DUCTILE-BRITTLE TRANSITION TEMPERATURE DURING THE HYDROSTATIC TEST.
- GASKET CONTACT SURFACES (OTHER THAN NOZZLES) SHALL HAVE A FINISH EQUIVALENT TO 125 AARH BUT NOT FINER THAN 80 AARH. THE FLATNESS TOLERANCE (MAXIMUM DEVIATION FROM A PLANE) ON PERIPHERAL GASKET CONTACT SURFACES SHALL BE 1/32", AS DETERMINED BY THE USE OF A STRAIGHTEDGE. GIRTH FLANGE TOLERANCE SHALL BE MEASURED AFTER THE FLANGE HAS BEEN WELDED TO THE HEAD.
- A VISUAL WELD INSPECTION SHALL BE PERFORMED. ALL WELD SURFACES SHALL BE FREE OF POROSITY, CRACKS, LAPS, FISSURES, UNDERCUTTING AND OTHER DEFECTS AS DETERMINED DETRIMENTAL BY RUBICON.

- MT EXAMINATIONS AND ACCEPTANCE CRITERIA SHALL BE PER ASME CODE SECTION VIII, DIV. 1, APPENDIX 6.
PT EXAMINATIONS AND ACCEPTANCE CRITERIA SHALL BE PER ASME CODE SECTION VIII, DIV. 1, APPENDIX 8.
- WHEN LOCAL LIQUID PENETRANT OR MAGNETIC PARTICLE EXAMINATION IS REQUIRED, IT SHALL BE PERFORMED ON ALL ACCESSIBLE SURFACES. SURFACE IRREGULARITIES WHICH WOULD PREVENT GOOD INTERPRETATION SHALL BE REMOVED BY GRINDING, MACHINING, OR OTHER SUITABLE MEANS. AFTER TESTS ARE COMPLETE, THE SURFACES SHALL BE CLEANED FREE OF LIQUID PENETRANT MATERIALS.
- REQUIREMENTS FOR WELD HARDNESS EXAMINATIONS ARE AS FOLLOWS:
WELD METAL AND HEAT AFFECTED ZONE OF PRESSURE-RETAINING WELDS IN COMPONENTS MADE OF P-1 MATERIALS SHALL BE EXAMINED. HARDNESS TESTS SHALL BE MADE USING A 10 MM BALL. HARDNESS SHALL NOT EXCEED 225 BHN FOR P-1 MATERIALS. A MINIMUM OF ONE CIRCUMFERENTIAL WELD & THERE ARE NO LONG SEAMS & EACH CONNECTION-TO-COMPONENT WELD WHERE THE CONNECTION IS 2" NPS OR LARGER, SHALL BE EXAMINED.
IF MORE THAN ONE WELD PROCEDURE IS USED TO FABRICATE CIRCUMFERENTIAL OR LONGITUDINAL WELDS, HARDNESS READINGS SHALL BE MADE OF WELDS DEPOSITED BY EACH WELD PROCEDURE.
- NO SILICONES OR SILICONE CONTAINING COMPOUNDS TO BE USED IN FABRICATION, INSTALLATION OR SHIPPING. RUBICON SPEC. R-9055-W-1 APPLIES.
- ALL MARKING SHALL BE FREE OF SULFUR, ALUMINUM, ZINC, CADMIUM, TIN, LEAD, COPPER, CHLORIDES AND SILICONE.

CUSTOMER: RUBICON, INC.		DHMSTEDE JOB NO.: 333126	
P. D. NO.: 03-47750		ITEM NO. SERVICE	
2	CERTIFIED AS-BUILT	DC	CH 1-20-04
1	RELEASE FOR FAB.	DN	CH 8-27-03
0	FOR CUSTOMER APPROVAL	TR	CH 8-21-03
ND.	REVISIONS	BY	CHK. DATE CHK.
UP1 #M2835		GENERAL NOTES	
CAD #051647V4		DHMSTEDE	
		DRAWING NO. 333126	
		SHEET NO. REV. 6 2	



Ohmstede Inc.

JOB # 333126
P.O. # 03-47750
ITEM # R-2A/R-505A

QW-482 WELDING PROCEDURE SPECIFICATION (WPS)

ISSUE # 1

REL. FOR FAB. 9/8/04

PG 1 OF 6

CN 2102A

WPS NO. A/PI-1/HT

DATE 04-7-92

POR NO. A-34

REVISIONS 0

05-26-93

A-44

WELDING PROCESS(ES) SUBMERGED ARC WELDING TYPE(S) MACHINE

JOINTS (QW-402)

GROOVE DESIGN SINGLE OR DOUBLE "V" BUTT DOUBLE WELDED

BACKING: YES X NO NO

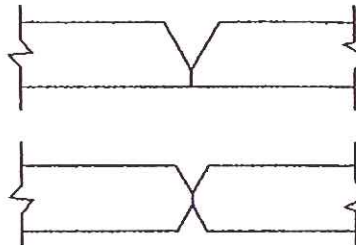
BACKING MATERIAL (TYPE) WELD METAL

☐ METAL

☐ NONFUSING METAL

☐ NONMETALLIC ☐ OTHER

ROOT SPACING 0"



RETAINERS NONE

NOTE: SEE ENGINEERING DRAWINGS FOR PRODUCTION WELD JOINT DETAILS.

BASE METALS (QW-403)

P NO. 1 GROUP NO. 1 OR 2 TO P NO. 1 GROUP NO. 1 OR 2

THICKNESS RANGE:

BASE METAL: WITH IMPACTS GROOVE 3/8" - 8" FILLET ALL

WITHOUT IMPACTS 1/16" - 8"

OTHER NO SINGLE PASS TO EXCEED 1/2"

FILLER METALS (QW-404)

SPEC. NO. (SFA) 5.17

AWS NO. (CLASS) E7018

F NO. 6

A NO. NONE

SIZE OF FILLER METALS 1/16" - 3/16"

WELD METAL THICKNESS RANGE:

GROOVE MAX 8"

FILLET ALL

ELECTRODE-FLUX (CLASS) E7018

TRADE NAME * LINCOLN L56 WIRE - 800 M FLUX

CONSUMABLE INSERT NONE

FILLER METAL/CHANGE NO SUPPLEMENTARY FILLER WIRE OR POWDER ADDED

RECRUSHED SLAG NONE

OTHER * ANY OTHER BRAND OF WIRE AND FLUX COMBINATION MEETING

THE REQUIREMENTS OF E7018 MAY BE USED FOR IMPACTS OR

E7018 WITHOUT IMPACTS.

FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)
A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

TOP HEAD
TDI
MR-505

1. Manufactured and certified by Ohmsted LTD / St. Gabriel Plant 4250 Hwy 30 St. Gabriel, La. 70776
(Name and address of Manufacturer)
2. Manufactured for Rubicon Geismar, LA
(Name and address of Purchaser)
3. Location of installation Rubicon Geismar, LA
(Name and address)
4. Type: Channel
(Description of vessel part (shell, two-piece head, tube bundle))
- (Mfg's serial No.) _____ (CRN) _____
- (Vial Id. No.) 333126 Rev. - (Drawing No.) Ohmsted LTD / St. Gabriel 2003 (Year built)
5. ASME Code, Section VIII, Div. 1 2001 Edition 2002 Addenda
(Edition and Addenda (date)) (Code Case No.) _____ (Special Service per UG-120(d)) Lethal

6. Shell (a) No. of course(s): NONE* (b) Overall length (ft & in.): 3'1 15/16"

Course(s)			Material	Thickness		Type	Long Joint (Cat A)		Circum Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)		Nom.	Corr.		Full, Spot, None	BT.	Type	Full, Spot, None	BT.	Temp	Time
0*	8'-9" ID	3'-1 15/16	*	1.00"	3/16"	--	--	--	1	Full	100	--	--
-	-	-	-	-	-	--	--	--	--	--	--	-	-
-	-	-	-	-	-	--	--	--	--	--	--	-	-

7. Heads: (a) SA-516-70N, NONE (b) _____
(Mat'l Spec. No., Grade or Type) (H.T. - Time and Temp.) (Mat'l Spec. No., Grade or Type) (H.T. - Time and Temp.)

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
	Min	Corr	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	BT.
(a) TOP	1"	3/16"	-	-	2:1	-	-	-	---	Yes	S	None	100
(b)									---	---	--	--	--

If removable, bolts used (describe other fastening) _____

8. MAWP 35 FV psi at max. temp. 250 °F Min. design metal temp. -20 °F at 35/FV psi.
(internal) (external) (external) (external)

9. Impact test No per UCS66(a). at test temperature of _____ °F.
(Indicate yes or no and the component(s) impact tested)

10. Hydro., pneum., or comb. test press. 53 PSI Proof test _____

11. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement	How Attached		Location (Trap, Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
See below**	6	4" 150	RFLWN	SA105	-	.750"	***	Inherent	****	-	-
AGITATOR	1	20" 150	RFLWN	SA105	-	1.00"	***	SA516-70N	****	-	-
Vapor outlet	1	10" 150	RFLWN	SA105	-	1.00"	***	Inherent	****	-	-
Level Arm	1	2" 150	RFLWN	SA105	-	.530"	***	Inherent	****	-	-
Temp Control	1	2" 150	RFLWN	SA105	-	.530"	***	Inherent	****	-	-
Manway	1	24" 150	RFLWN	SA516-70N	SA105N	1.00"	***	Inherent	****	*****	-
Press recorder	1	1" 150	RFLWN	SA105	-	.500"	***	Inherent	****	-	-

12. Supports: Skirt No Lugs - Legs - Others - Attached -
(Yes or no) (No) (No) (Describe) (Where and how)

13. Remarks: Item #6 cont: SA105N Flg. welded directly to 1" thk SA 516-70N head. Item # 11 cont: ** (2) condensate return, (1 ca) phosgene, spare, relief valve, balance line. *** 3/16" C.A., **** UW12(1). ***** UW16.1c.

P.O.#: 03-47750

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. 10,562 Expires 07-14, 2006

Date 12-19-03 Name Ohmsted LTD / St. Gabriel Plant Signed Anthony J. Blaw
(Manufacturer) (Representative)

CERTIFICATE OF SHOP/FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of LA and employed by HSB CT of HARTFORD, CT have inspected the pressure vessel part described in this Manufacturer's Data Report on 11/6/03, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel part described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 1/30/04 Signed Sanjiv Commissions N37114A, LA 678
(Authorized Inspector) (National Board Issued, and Government, State, Province and No.)