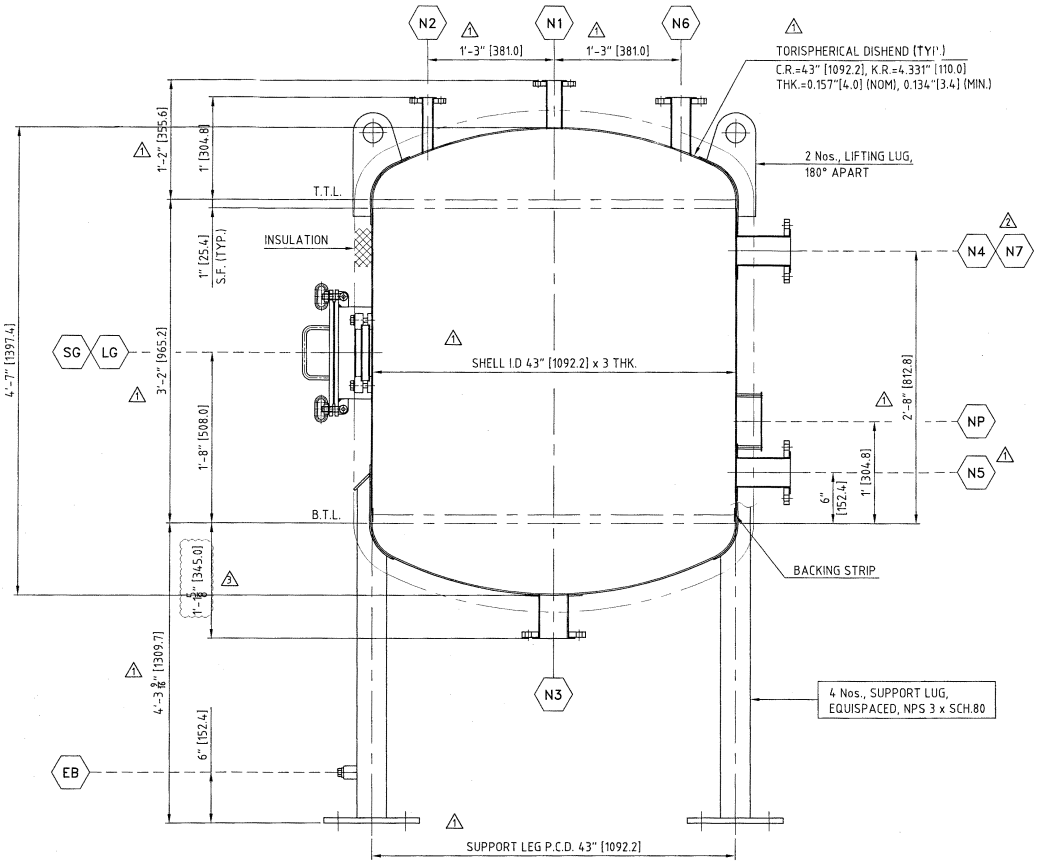
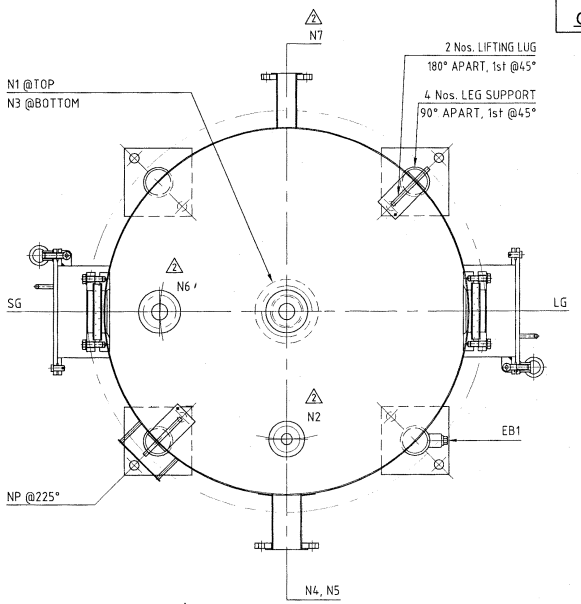


ELEVATION



NOZZLE ORIENTATION PLAN

0° PN
270° 90°
180°
ORIENTATION

NOZZLE NO.	NPS/OD	SCH. / THK.	TYPE	RATING	PROJ. FROM ℄	SERVICE
N7	2	SCH.80	SORF	#150	2'-4"	CONDENSATE IN FROM VAPORISER REBOILER
N6	1 1/2	SCH.80	SORF	#150	SEE.DWG.	CONDENSATE IN FROM SIDE STRIPPER COLUMN REBOILER
N5	3	SCH.80	SORF	150#	2'-4" 3	LEVEL TRANSMITTER
N4	3	SCH.80	SORF	150#	2'-4"	LEVEL TRANSMITTER
N3	3	SCH.80	SORF	#150	SEE.DWG.	CONDENSATE OUT
N2	1	SCH.80	SORF	#150	SEE.DWG.	VENT
N1	1 1/2	SCH.80	SORF	#150	SEE.DWG.	CONDENSATE IN FROM SUPERHEATER
NP	--	--	AS PER STD.		SEE.DWG.	NAME PLATE
SG/LG	--	--	AS PER STD.		SEE.DWG.	SIGHT GLASS / LIGHT GLASS
EB	--	--	AS PER DETAIL		--	EARTHING BOSS

NOZZLE SCHEDULE

FULL OF WATER WEIGHT	lbm / kg	3086 / 1400	
OPERATING WEIGHT	lbm / kg	2205 / 1000	
EMPTY WEIGHT	lbm / kg	685 / 310	
WEIGHTS			
PAINTING	--	REF. NOTE No.-24	
CAPACITY (GROSS)	gallon./(m³)	264 / [0.99]	
CAPACITY (NET)	gallon./(m³)	229 / [0.87] 1	
INSULATION THICKNESS	in./[mm]	2" / [50.8]	
INSULATION TYPE	--	HOT	
SEISMIC — IMPORTANCE FACTOR	--	1.0	
SEISMIC — SITE CLASS	--	D 3	
SEISMIC — ACC. BASED FACTOR (Fv)	--	2.0	
SEISMIC — ACC. BASED FACTOR (Fa)	-- 1	1.6	
SEISMIC — DESIGN CODE	--	IBC-2006	
WIND — IMPORTANCE FACTOR	--	1.0	
WIND — EXPOSURE CONSTANT	--	Exposure- 'C'	
WIND — SPEED	mph/[kmph]	150 / [241.4]	
WIND — DESIGN CODE	--	IBC-2006	
PWHT	--	NOTE No.- 4	
IMPACT TESTING	--	NOTE No.- 5	
PROCESS FLUID DENSITY	lbs/ft3 / [kg/m3]	49.94 / [800.0]	
PROCESS FLUID	--	ALCOHOL WATER	
NDT — JOINT EFFICIENCY	SHELL/HEAD	0.85 / 0.85	
NDT — RADIOGRAPHY	SHELL/HEAD	SPOT / SPOT	
NDT — DPT\LPT	--	AS PER QA PLAN	
CORROSION ALLOWANCE [(SHELL, DISH) / (NOZZLE)]	in. [mm]	N.A. N.A.	
TEST FLUID	--	WATER [REF.NOTE-19]	
HYDRO TEST PRESSURE	psi (g)/[MPa (g)]	45.51 / [0.313]	
MDMT AT MAWP	Deg f/[Deg c]	32 / [0]	
DESIGN TEMPERATURE	Deg f/[Deg c]	320 / [160]	
EXTERNAL MAP AT DESIGN TEMPERATURE	psi (g)/[MPa (g)]	NA	
MAWP AT DESIGN TEMPERATURE	psi (g)/[MPa (g)]	32.35 / [0.223]	
DESCRIPTION	UNITS	VALUE	
DESIGN CODE : ASME SEC. VIII DIV. 1 EDITION-2004 UPTO & INCLUDING ADDENDA 2006 (ASME 'U' STAMP & NATIONAL BOARD REGISTRATION IS REQD.)			

DESIGN DATA

NAME PLATE	AISI 304
INSL. CLADDING (BY CLIENT)	SS 304
ASSESS HOLE	N.A.
LEG SUPPORT PIPE	SA 53 GR. B
TRUNNION	N.A.
LIFTING LUG	SA240 TYPE 304 3
GUSSET	IS 2062 GR. B
BASE PLATE	IS 2062 GR. B
PAD PLATE FOR SUPPORT	SA240 TYPE 304L
BEND ABOVE NPS 12	SA240 TYPE 304L
BEND UPTO NPS 12	SA403 WP 304L
STUD/NUT/WASHER (EXT.)	SA193 GR.B7, SA194 GR.2H
FOR NOZZLE FLANGE ABOVE NPS 6	(GREEN PASSIVATED)
STUD/NUT/WASHER (EXT.)	SA193 GR.B8, SA194 GR.8
FOR NOZZLE FLANGE UPTO NPS 4	
GASKET	NACF (AF #154)
NOZZLE FLANGE 3	N.A.
ABOVE NPS 24	
NOZZLE FLANGE	SA 105 (WITH SS304L
NPS 6 TO NPS 24	WELD OVERLAY)
NOZZLE FLANGE UPTO NPS 4	SA182 F304L
NOZZLE PIPE ABOVE NPS 12	SA240 TYPE 304L
NOZZLE PIPE UPTO NPS 12	SA312 TP 304L (WELDED)
PAD PLATE FOR EXTERNAL MS/CS STIFFENER (IF APPLICABLE)	N.A.
SHELL STIFFENER	N.A.
VORTEX BREAKER	N.A.
R.F. PAD	SA240 TYPE 304L
DISHEND	SA240 TYPE 304L
SHELL	SA240 TYPE 304L

MATERIAL OF CONSTRUCTION

24) ALL STAINLESS STEEL PARTS SHALL BE PICKLED & PASSIVATED AS PER ASTM A-380 CODE-B AND CARBON STEEL PARTS SHALL BE SAND BLAST CLEANED TO SA 2 1/2 & PAINTED WITH MINIMUM ONE COAT OF EPOXY PRIMER & TWO COATES OF EPOXY FINAL PAINT.
23) NOZZLE UP TO NPS 3 SHALL BE PROVIDED 2 NOS. GUSSET OF SIZE 1" W.x 0.196"THK. AT 90° APART.
22) ALL NOZZLE FLANGES SHALL BE CLOSED WITH 3 mm THK. NACF GASKET & 1.6 MM THK. AISI 304 SHEET, DULY TIED WITH ø 1.6 AISI 304 WIRE TO AVOID ENTRY OF FOREIGN MATERIALS DURING TRANSPORTATION/STORAGE.
21) AFTER HYDROTEST EQUIPMENT SHALL BE DRIED THOROUGHLY.
20) TAG No., AS GIVEN IN THE TABLE TO BE STENCILED ON EQUIPMENT @ GIVEN ORIENTATION.
19) CHLORIDE CONTENT OF WATER USED FOR HYDROTEST SHOULD NOT EXCEED 25 PPM.
18) CARBON STEEL BLIND FLANGES ALONG WITH RING GASKET (1/8" THK.) TO BE USED DURING HYDROTEST.
17) EQUIPMENT HYDROSTATIC TESTING AT SHOP SHALL BE CARRIED OUT IN VERTICAL POSITION.
16) MINIMUM METAL TEMPERATURE OF EQUIPMENT DURING HYDROTEST SHALL BE MAINTAINED BETWEEN 62°F TO 104°F.
15) ALL R.F. PAD VENT HOLES SHALL BE PNEUMATICALLY TESTED @ 15 psi (g) & CHECKED WITH SOAP SOLUTION.
14) ATTACHMENT WELDS OF ANY PERMANENT ATTACHMENT TO SHELL/DISH SHALL BE PENETRANT TESTED.
13) THE ROOT & FINAL PASS OF ALL CLOSING SEAMS OR INACCESSIBLE BUTT WELDS SHALL BE PENETRANT TESTED.
12) ALL WELD OVERLAY SHALL BE OF PARENT MATERIAL & EXAMINED BY PENETRANT TEST AFTER MACHINING.
11) PROPER CARE SHOULD BE TAKEN BY SHOP TO PROTECT THREADING OF NIPPLE OR SOCKET.
10) ALL INSIDE WELDS TO BE FLUSHED AND OUTSIDE WELD JOINTS TO BE GROUND SMOOTH.
9) NOZZLE FLANGES UP TO NPS 24 SHALL BE AS PER ASME B16.5-2003 ; HALF COUPLINGS WITH PLUG SHALL BE AS PER ASME B16.11-2001 ; STUBENDS SHALL BE AS PER ASME B16.9 SHORT PATTERN ; BOLTING DIMENSIONS FOR NOZZLE FLANGES OF SIZE NPS 26 & ABOVE ARE AS PER ASME B16.47, #150, SERIES A .
8) GASKET SEATING SURFACE OF FLANGES SHALL HAVE SERRATED CONCENTRIC FINISH OF 125 TO 250 MICRO INCH AND AVERAGE CONCENTRIC SERRATIONS 44 TO 55 PER INCH AS PER ASME B16.5-6.4.4.3.
7) ALL MATERIALS SHALL CONFIRM TO ASME SEC.VIII DIV.1 EDITION 2004 ADDENDA 06. MATERIAL TEST REPORTS (MTR) IS REQUIRED FOR ALL PRESSURE PARTS.
6) EQUIPMENT IS FOR NON-LETHAL SERVICE AND CYCLIC LOADING & IMPACT SHOCK LOADING ARE NOT APPLICABLE.
5) STAINLESS STEEL MATERIALS ARE EXEMPTED FROM IMPACT TESTING AS PER UHA 51 (d) AND 51 (e) FOR THE REQUIRED MDMT. SA 516 GR.70 (NORMALIZED) FLANGES. OVER 5" (127 mm) THICKNESS SHALL BE IMPACT TESTED AT MDMT.
4) PWHT IS NOT REQUIRED FOR COMPLETE EQUIPMENT (EXEMPTED AS PER UHA 32). IF CARBON STEEL FLANGES OVER 38 mm THICKNESS ARE WELDED OF SEGMENTS, THEN PWHT SHALL BE CARRIED OUT AFTER COMPLETE WELDING OF FLANGES ONLY.
3) ALL BOLT HOLES TO STRADDLE WITH PRINCIPLE CENTRE LINE.
2) NOZZLE PROJECTIONS ARE MEASURED FROM CENTER LINE OF EQUIPMENT OR FIXED REFERENCE LINE UPTO THE GASKET SEATING SURFACE.
1) ALL DIMENSIONS ARE IN US CUSTOMERY UNITS & THOSE IN BRACKET ARE IN "mm". UNLESS OTHERWISE SPECIFIED.

GENERAL NOTES

SR. No.	REFERENCE DRAWING/DOC	DRAWING NO.	REV.
07	DESIGN CALCULATION	06D058-CAL-T1604	--
06	PICKLING & PASSIVATION	MFG-P-219	--
05	FABRICATION TOLERANCES	06D058-FABTOL-1604	--
04	PAINTING SPEC	STD-4-M-2358	--
03	NAME PLATE	06D058-3-NPD431	--
02	SIGHT GLASS / LIGHT GLASS	STD-3-M-2613	--
01	FABRICATION DETAILS OF ALCOHOL SCRUBBER	06D058-2-WFD431	--

I.NO.	DESCRIPTION	Q.TY.	MATERIAL	SIZE
04	BACKING STRIP	01	SA240 TYPE 304L	0.118" THK. x REF. DRG. No. 06D058-2-WFD431
03	BOTTOM DISHEND	01	SA240 TYPE 304L	0.157" THK. x REF. DRG. No. 06D058-2-WFD431
02	TOP DISHEND	01	SA240 TYPE 304L	0.157" THK. x REF. DRG. No. 06D058-2-WFD431
01	SHELL	01	SA240 TYPE 304L	0.118" THK. x REF. DRG. No. 06D058-2-WFD431

BILL OF MATERIAL

AS BUILT

REV. NO.	DESCRIPTION	DRAWN	CHKD.	APPD.	DATE
3	AS BUILT 3	A.S.J.	Y.S.G.	K.B.	25-DEC-2008
2	REVISED AS MARKED 2	PSK	YSG	KB	27/02/2008
1	REVISED AS MARKED 1	PSK	YSG	KB	24/01/2008
0	FOR FABRICATION.	K.G.W.	Y.S.G.	K.B.	11/10/2007

CLIENT : LOUISIANA GREEN FUELS LLC.
PLANT : 22.45 MGPY DEHYDRATED ETHANOL (UNDENATURED)
LOCATION : LA CASSINE, LOUISIANA, USA

PRAJ INDUSTRIES

THIS DWG. IS THE PROPERTY OF PRAJ INDUSTRIES LTD. AND SHOULD NOT BE REPRODUCED WITHOUT WRITTEN CONSENT FROM PRAJ INDUSTRIES LTD.
"PRAJ HOUSE", Bavdhan, Pune-411 021. (INDIA)

TITLE: GENERAL ASSEMBLY OF STEAM CONDENSATE TANK FOR MSDH (T 1604)

I.D. NO. T 1604 | PIL JOB CODE 06D058
SCALE N.T.S. | CAD FILE NAME 06D058-2-GAD431
DWG. NO. 06D058 – 2 – GAD431 | SHEET 1 OF 1 | REV. 3