

MUSTANG ENGINEERS & CONSTRUCTORS, INC.	PRESSURE VESSEL DATA SHEET	REV.	DATE	DESCRIPTION	CHK.	APPV	SHEET : 1 of 1
		A	8/13/2004	Issued for Inquiry		SVP	SPEC. NO.: PDE-002
		B	9/7/2004	Added Level Nozzles			REV. NO.: 01
		01	8/17/2005	Issued for Record	RBH	MES	PROJ. NO.: AA13
CLIENT:	Giant Refining						
PROJECT:	ULSD Hydrotreater						
LOCATION:	Yorktown, VA						
							DATE: 8/17/05

VESSEL NAME:	Hot High Pressure Separator	ITEM NO.:	D-506
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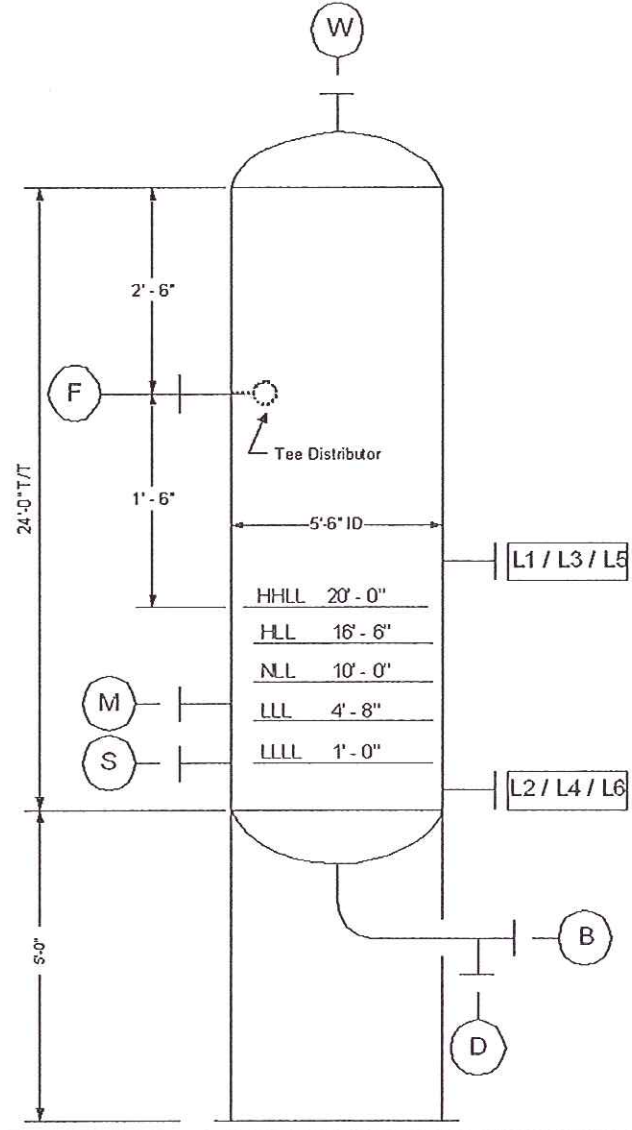
Design	Pressure	815 psig @	800 °F (Note 2)
Conditions	Vacuum: Full Vacuum	psig @	350 °F
	Regen.	- psig @	- °F
Operating	Pressure	737 psig @	565 °F
Conditions	Vacuum	- psig @	- °F
Vessel Liquid Sp. Gr.	0.65	@	565 °F
Sour Water Service	☐ Yes		☒ No
Hydrogen Partial Pressure			598 psia
H ₂ S Partial Pressure			36 psia
Minimum Design Metal Temperature	0 °F		

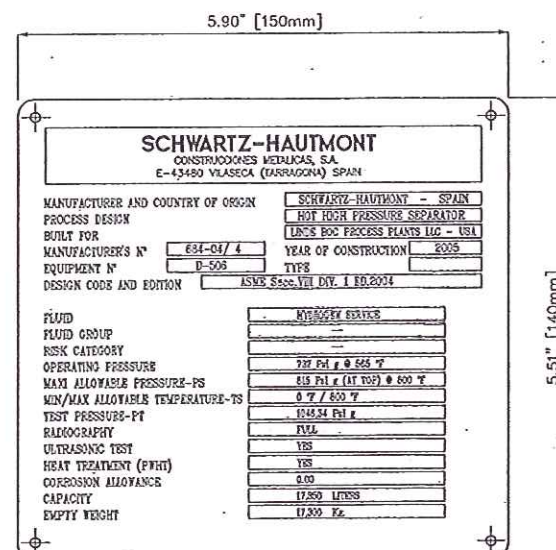
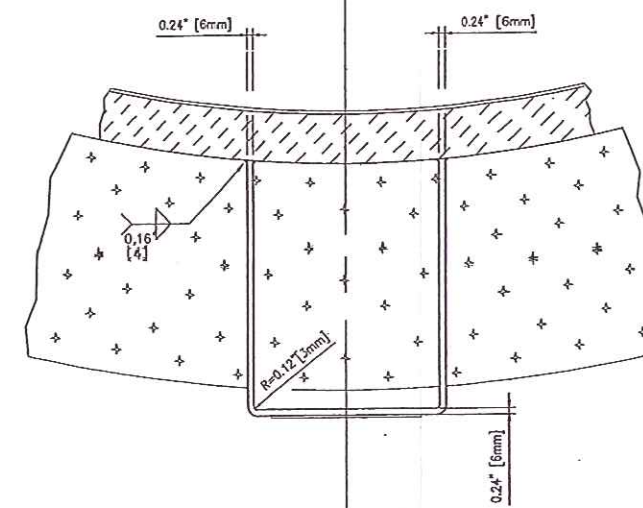
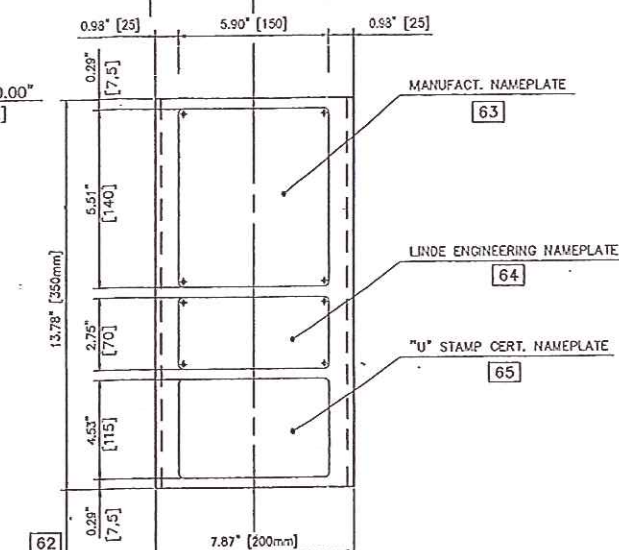
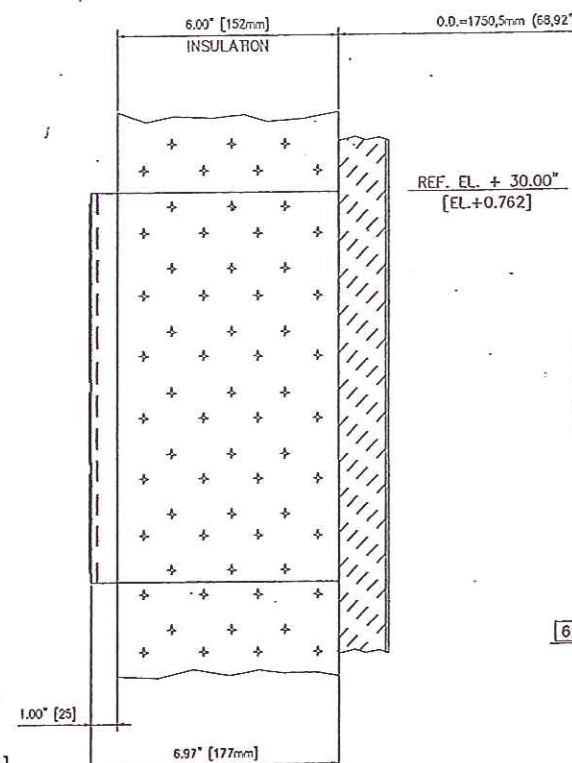
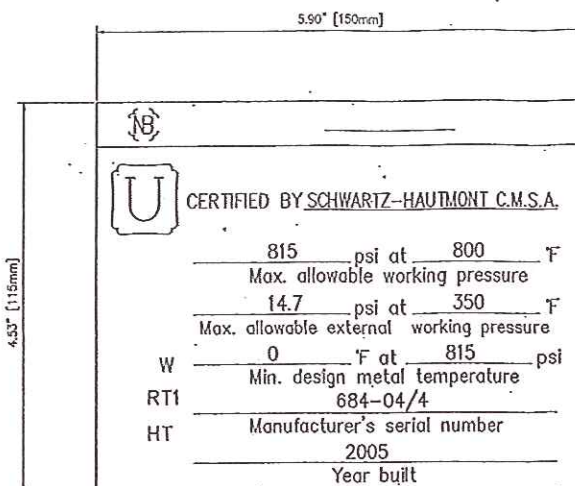
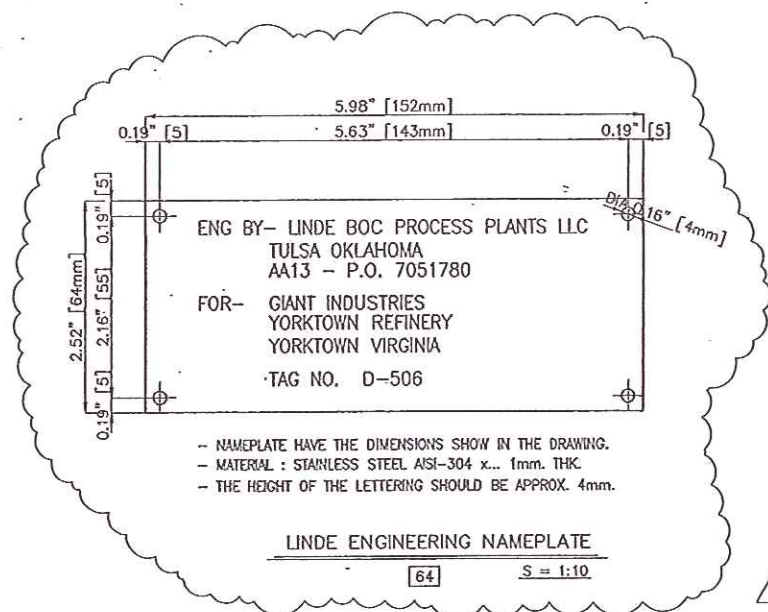
Code Stamp	Yes - w/National Board Registration		
ASME Code	Sect. VIII	Div.	1
Stress Relieve For Process		☒ Yes	☐ No
Insulation ☐	None ☒	X Conservation 6*	☐ Protection
Refs, Specs	BSD-001		

	Material	Corr. Allow.
Vessel Shell / Heads	1 1/4Cr, 1/2Mo w 347 SS OL	OL
Vessel Nozzles	1 1/4Cr, 1/2Mo w 347 SS OL	OL
Internals		
Lining / Clad	Material	Thick.
Packing		
Trays		
Caps / Valves		
Baffle		
Mist Eliminator		
Gaskets		

MK.	NO.	SIZE	RTG.	FCG.	SERVICE
W	1	6"	600#	RF	Vapor Outlet
B	1	6"	600#	RF	Liquid Outlet
D	1	2"	600#	RF	Drain
F	1	8"	600#	RF	Main Inlet
L1 / L2	2	2"	600#	RF	Level Bridle
M	1	18"	600#	RF	Manway
S	1	2"	600#	RF	Steam Out
L3/L4/L5 /L6	4	2"	600#	RF	Level Transmitter

1. This vessel is in hydrogen service
2. Design temperature is based on PSV relieving from Isotherming
Reactor section





- NOTES
- 1.- THE NAMEPLATE SHALL HAVE THE DIMENSIONS SHOWN IN THE DRAWING.
 - 2.- MATERIAL : STAINLESS STEEL SA-240 Tp.304 x...0.12" [3mm] THK.
 - 3.- THE MARKS, LETTERS AND PORTIONS ILLUSTRATED AS SHALL BE IN RELIEF BY MEANS OF ENGRAVING OR HARD STAMPING AND MUST BE CLEARLY LEGIBLE, THE HEIGHT OF THE LETTERING SHOULD BE APPROX. 0.18" [4mm]

VALID FOR ASME CODE FABRICATION
VALIDO PARA FABRICACION S/ CODIGO ASME

NO.	REVISION	DATE	BY	DATE	BY
5	AS SHOWN REVISION ACCORDING TO CLIENT COMMENTS	09-13-00			
4	CHANGED UNITS FROM SI TO U.S. SYSTEM	07-29-00			
3	AS SHOWN REVISION ACCORDING TO CLIENT COMMENTS ON S-N CALCULATIONS	04-28-00			
2	AS SHOWN REVISION ACCORDING TO CLIENT COMMENTS	04-11-00			
1	GENERAL REVISION ADDRESSING TO CLIENT COMMENTS	03-08-00			
0	ISSUED FOR APPROVAL	12-29-04			

#105977

BILL OF MATERIALS

MARK	QTY.	DESCRIPTION	WEIGHT Kgs.	MATERIAL	S-H DRAWING N°
1	1	HEMI-ELLIPICAL HEAD L.D.=1676mm (65,98") THK= CS 34mm (1,34") + CLADD. 3,2mm (0,12")	876	SA-387 Gr.11 Cl.2 SA-240 Tp.347	684s000o04-400
2	1	HEMI-ELLIPICAL HEAD L.D.=1676mm (65,98") THK= CS 34mm (1,34") + CLADD. 3,2mm (0,12")	876	"	"
3	1	COURSE-III- PL.1804 x 5382 x 34+3,2mm THK.	2835	"	"
4	1	COURSE-III- PL.1804 x 5382 x 34+3,2mm THK.	2835	"	"
5	1	COURSE-III- PL.1804 x 5382 x 34+3,2mm THK.	2835	"	"
6	1	COURSE-IV- PL.1803 x 5382 x 34+3,2mm THK.	2835	"	"
7	1	COURSE-A- PL.1384 x 5394 x 18mm THK.	1055	"	"
8	6	LADDER PAD PL.152x152x18mm THK.	19	SA-387 Gr.11 Cl.2	"
9	2	LIFTING LUG PLATE 260x700x30mm THK.	95	SA-387 Gr.11 Cl.2	684s000o04-401
10	2	LIFTING LUG REINF. PLATE 260x65x30mm THK.	9	"	"
11					
12	1	BASE RING PLATE #2035/#1555 x25mm THK.	265	"	"
13	1	CHAIR RING PLATE #2035/#1735 x30mm THK.	209	"	"
14	24	ANCHOR BASE STIFF. PLATE 250x290x15mm THK.	205	"	"
15	12	ANCHOR PLATE WASHER 100x100x25mm THK.	23	"	"
16	1	TAILING LUG PLATE 250x455x30mm THK.	26	"	"
17					
18	3	SHORT VENT PIPE #4" Sch-80 x.170mm LG.	11	SA-355 P11	"
19	1	SHORT NOZZLE REINF. PL. OD/442x200x18mm THK.	37	SA-387 Gr.11 Cl.2	"
20	1	SHORT ACCESS REINF. PL. OD/544x215x18mm THK.	50	"	"
21					
22	48	INSUL. SUPP. STIFF. PL.100x140x6mm THK.	20	SA-387 Gr.11 Cl.2	684s000o04-402
23	4	INSUL. SUPP. RING PL.130x6mm THK.	145	"	"
24	1	INSUL. CLIP. RING PL.50x6mm THK.	13	"	"
25	52	INSUL. SUPP. CUP PL.26x35x6mm THK.	2	"	"
26	52	INSUL. SUPP. PIN ROD #5mm x 565mm LG.	4	SA-240 Tp.304	"
27					
28					
29	1	SELF REINF. FORGING #6" x 420 (+3,2mm CLADDING)	90	SA-338 F11 O2 + SA-240 Tp.347	684s000o04-403
30	1	ELBOW #6" Sch-160 -90°-LR(+3,2mm CLADDING)	25	SA-234 WP11 O2 + SA-240 Tp.347	"
31	1	PIPE #6" Sch-160 x.1241mm LG.(+3,2mm CLADDING)	98	SA-355 P11 + SA-240 Tp.347	"
32	1	FLANGE # 6"-WN -600#-RF (Sch-160)	40	SA-182 Gr.F11 O2 + SA-240 Tp.347	"
33	1	FLANGE #2"-LWN -600#-RF	12	"	"
34					
35	1	REINF. FLANGE #6"-LWN -600#-RF	150	SA-338 F11 O2 + SA-240 Tp.347	"
36					
37					
38	1	SELF REINF. FLANGE #18"-LWN -600#-RF	760	SA-338 F11 O2 + SA-240 Tp.347	684s000o04-404
39	1	FLANGE #18"-BLIND -600#-RF	290	SA-182 Gr.F11 O2 + SA-240 Tp.347	"
40	1	SPIRAL WOUND GASKET #18"-600#-RF.	2	NOTE 1.-	"
41	20	STUD BOLT #1 5/8"-UN...x 11.02" [280mm] LG.	50	SA-193 Gr.B16	"
42	40	HEAVY HEX. NUT #1 5/8"-UN....	15	SA-194 Gr.7	"
43	1	SUPP. BRACKET PL.110x20mm THK.	10	SA-387 Gr.11 Cl.2	"
44	1	DAWIT ROD #50mm x 945 mm LG.	14	"	"
45	1	STAPLE ROD #20mm x 180mm LG.	1	"	"
46	1	PLATE WASHER #80/#52 x 20mm THK.	1	"	"
47	1	RING WASHER #90/#52 x 5mm THK.	---	TEFLON	"
48					
49	1	FORGED EYE BOLT #7/8" x 200mm LG.	1	SA-182 Gr.F11 O2	"
50	2	HEAVY HEX. NUT #7/8"-UN....	---	SA-194 Gr.7	"

BILL OF MATERIALS

MARK	QTY.	DESCRIPTION	WEIGHT Kgs.	MATERIAL	S-H DRAWING N°
51	1	PLATE WASHER #42/#24x3mm THK.	---	SA-387 Gr.11 Cl.2	684s000o04-404
52	1	COTTER PIN #4mm x 45mm LG.	---	C.S. GALVANIZED	"
53	1	SELF. REINF. FLANGE #2"-LWN -600#-RF	18	SA-338 F11 O2 + SA-240 Tp.347	"
54					
55	1	SELF. REINF. FLANGE #8"-WN -600#-RF	200	SA-338 F11 O2 + SA-240 Tp.347	684s000o04-405
56	1	EQUAL TEE # 8" SCH-XXS	40	SA-240 Tp.347	"
57					
58	6	SELF. REINF. FLANGE #2"-LWN -600#-RF	108	SA-338 F11 O2 + SA-240 Tp.347	"
59	3	LADDER PAD PL.152x152x18mm THK.	9	SA-387 Gr.11 Cl.2	"
60					
61					
62	1	NAMEPLATE SUPP. PL. 350x50x6mm THK.	9	SA-387 Gr.11 Cl.2	684s000o04-406
63	1	MANUFACT. NAMEPLATE PL. 140x150x3mm THK.	---	SA-240 Tp.304	"
64	1	UNDE NAMEPLATE PL. 75x150x2mm THK.	---	"	"
65	1	"U" STAMP CERT. NAMEPLATE PL. 115x150x2mm THK.	---	"	"
66					
67					
68					
69					
70					
71					
72					
73					

NOTES :

- 1.- SPIRAL WOUND GASKET SS 347 "GRAFOIL" FILLED (4,4mm THK.)
FLEXITALLIC CGI STYLE WITH SS INNER AND OUTER RING.
- 2.- MATERIAL CERTIFICATE "3.1B" ACCORDING TO DIN/EN 10204 & ASME.....

MATERIAL CERTIFICATE	
MATERIAL	CERTIFICATED ACC. TO...
SA-387 Gr.11 Cl.2	ASME / ASTM
SA-182 Gr.11 Cl.2	ASME
SA-338 Gr.11 Cl.2	ASME
SA-335 P11	ASME
SA-234 WP11 Cl.2	ASME / ASTM
SA-240 Tp.321	ASME
SA-193 Gr.B16	ASME
SA-194 Gr.7	ASME

SPARE PARTS

MARK	QTY.	DESCRIPTION	WEIGHT Kgs.	MATERIAL	S-H DRAWING N°
26	5	INSUL. SUPP. PIN ROD #5mm x 22.24" [565mm] LG.	---	SA-240 Tp.304	684s000o04-402
40	2	SPIRAL WOUND GASKET #18"-600#-RF.	---	NOTE 1.-	684s000o04-404
41	2	STUD BOLT # 1 5/8"-UN...x 11.02" [280mm] LG.	---	SA-193 Gr.B16	"
42	4	HEAVY HEX. NUT # 1 5/8"-UN....	---	SA-194 Gr.7	"

VALID FOR ASME CODE FABRICATION
VALIDO PARA FABRICACION S/ CODIGO ASME

12 SEP 2005

#105977

4	CHANGED UNITS FROM S.I. TO U.S. SYSTEM	07-23-05	
3	"AS SHOWN" REVISION ACCORDING TO SHOP FABRICATION COMMENTS	04-29-05	
2	"AS SHOWN" REVISION ACCORDING TO CLIENT COMMENTS	04-11-05	
1	GENERAL REVISION ACCORDING TO CLIENT COMMENTS	03-09-05	
0	ISSUED FOR APPROVAL	12-30-04	
INDEX	REVISIONS	WOB. BY	DATE
SCHWARTZ-HAUTMONT CONSTRUCCIONES METALICAS, S.A. E-43480 VILASECA (BARCELONA) www.shh.es		Under BOC Process Plants LLC - USA Grant Industries, Inc. - USA	
PURPOSE ORDER	SPECIFICATION	BASIC INFORMATION	
NOTES	YORKTOWN REFINERY / U.S.O. HYDROTREATER	DATE	NAME
	HOT HIGH PRESSURE SEPARATOR ITEM: D-508	DRAWN	CHECKED
	BILL OF MATERIALS	CHECKED	APPROVED
ORDER: 684	DRAWING No: 684s000o04-407	SHEET	OF
	FILE No: 684s000o04-407.DWG	REV.	4