



- NOTES**
- BOLTING TO BE SA-193-B7 AND SA-194-2H MATERIAL.
  - BOLTING TO BE SA-193-B8 AND SA-194-8 MATERIAL.
  - GASKETS TO BE 1/8" THK LINEBACKER G10/TEFLON.
  - GASKETS TO BE SPIRAL WOUND 316 SS WITH FLEXIBLE CHLORITE FILLER AND CARBON STEEL INNER AND CENTRING RING (PINK STRIPE).
  - SHELL AND HEADS CVNT EXEMPT PER UCS-66. ALL OTHER COMPONENTS EXEMPT PER UG-20(f), UCS-66 AND/OR UHA-51(d).
  - PRESSURE RETAINING PLATE MATERIAL TO BE ULTRASONICALLY INSPECTED ON A 4" GRID, PER SA-435.
  - ALL CATEGORY 'D' WELDS TO BE ULTRASONICALLY INSPECTED.
  - NOZZLE BUTT WELDS TO BE 100% RT, LONG AND CIRC SEAMS RT PER UW-11(c) TYPE 1.
  - MAGNETIC PARTICLE INSPECT LIFTING AND TAILING LUG WELDS.
  - ALL SS NOZZLES SHALL BE EXAMINED FOR THE DETECTION OF CRACKS BY LIQUID PENETRANT METHOD PER UHA-34.
  - 10% OF SS INTERNAL PIPING SHALL BE EXAMINED FOR THE DETECTION OF CRACKS BY LIQUID PENETRANT METHOD PER UHA-34.
  - 10% OF SS TAB WELDS SHALL BE EXAMINED FOR THE DETECTION OF CRACKS BY LIQUID PENETRANT METHOD PER UHA-34.
  - MIG ROOT TO BE REMOVED BY BACKGROUING, BACKWELD WITH E7018-1.
  - FOR THE FOLLOWING WPS USE THE CORRESPONDING MATERIAL GROUPS: 5B-102/5B-103 FOR P1 TO P1 5B-107 FOR P8 TO P1 5B-108 FOR P8 TO P8
  - ONE (1) HOUR CHART RECORDED HYDROTEST REQUIRED (CERTIFIED RECORDER, PRESSURE ONLY).
  - STANDARD FORGINGS SHALL BE IN ACCORDANCE WITH ASME B16.5, 2009 EDITION.
  - SEAL WELD BOTH SIDES OF ALL INTERNAL NON-REMOVABLE ATTACHMENTS WHERE ACCESSIBLE.
  - ALL WELDS AND INTERNAL EDGES TO BE GROUND SMOOTH WITH A 1/8" RADIUS ON CORNERS.
  - INTERNAL SURFACE PREPARATION: PER E&I.
  - EXTERNAL SURFACE PREPARATION: PER E&I.
  - SURFACE PREPARATION SHALL NOT BE CONDUCTED ON SURFACES THAT ARE LESS THAN 3" ABOVE DEWPOINT, OR WHEN THE RELATIVE HUMIDITY OF THE AIR IS GREATER THAN 80%.
  - INSULATE PORTIONS OF VESSEL OUTSIDE OF BLDG w/ 2" THK MINERAL WOOL c/w SMOOTH ALUMINIUM JACKET.
  - PAINT: PER E&I.
  - VESSEL INTERNAL COATING: PER E&I.
  - SHOP NOTE: 'S' DENOTES FAR SIDE.
  - ALL DIMENSIONS IN [ ] ARE IN mm.
  - REFER TO DWG# 5B1088-08-DR-20-001 FOR VESSEL ELEVATION & ORIENTATION.
  - REFER TO DWG# 5B1088-08-DR-20-003 FOR COIL DETAILS.
  - REFER TO DWG# 5B1088-08-DR-20-004 AND 005 FOR ADDITIONAL DETAILS.
  - REFER TO DWG# 5B1088-08-DR-20-007 FOR VANE PACK DETAILS.
  - REFER TO DWG# 5B1088-08-DR-20-010 TO 015 FOR COALESCER PACK DETAILS.

BILL OF MATERIALS							BILL OF MATERIALS				
ITEM NO.	PART	DESCRIPTION	QTY	MATERIAL	WELD SYMBOL	ITEM NO.	PART	DESCRIPTION	QTY	MATERIAL	WELD SYMBOL
N1	INLET	8" CL 150 RFLWN FLG x 10 3/4" LG	1	SA-105N	N1-1	1	HEADS	72" ID x 0.500" NOM THK 2:1 SE HEAD w/2" SF (HOT FORMED)	2	SA-51670N	S2-2
N2	GAS OUTLET	8" CL 150 RFLWN FLG x 10 3/4" LG	1	SA-105N	N1-1						
N3	OIL OUTLET	6" CL 150 RFLWN FLG x 8 5/8" LG	1	SA-105N	N1-1	3	SHELLS (#1-#3)	72" ID x 1/2" PL x 8'-0" LG (BBE)	3	SA-51670N	S2-1/S2-2
N4	WATER OUTLET	3" CL 150 RFLWN FLG x 8 5/8" LG	1	SA-105N	N1-1	4	NAME PLATE	5BLUE STANDARD NAME PLATE c/w "1" BRACKET	1	SAG40.2144W	
N5	PSV-1010E	4" CL 150 RFLWN FLG x 8 5/8" LG	1	SA-105N	N1-1	5	WEAR PLATE	1'-3" x 3/8" PL x 8'-6" LG (ROLL TO 73" ID)	2	SA-51670N	
N6	VENT	3" CL 150 RFLWN FLG x 8 5/8" LG	2	SA-105N	N1-1	6	BASE PLATE	10" x 1" PL x 6'-0 1/2" LG	2	SAG40.2144W	
	(N6B)	3" CL 150 RF BLIND FLG	1	SA-105N		7	FACE PLATE	5'-10 1/2" x 1/2" PL x 6'-0 3/16" LG	2	SAG40.2144W	
	(N6B)	3" CL 150 RF GASKET	1	NOTE #3		8	SIDE PLATE	10" / 8" x 1/2" PL x 6'-0 3/16" LG	4	SAG40.2144W	
	(N6B)	5/8" x 3 1/2" LG STUD c/w (2) NUTS EACH	8	NOTE #1		9	RIB PLATE	8" x 1/2" PL x 4'-0" LG	4	SAG40.2144W	
N7	LIT-1010C BRIDLE (N7A)	2" CL 300 RFLWN FLG x 1'-0 1/8" LG	1	SA-105N	N1-1	10	VACUUM RING	80 1/8" OD x 1/2" PL x 73 1/8" ID	3	SA-51670N	
	(N7B)	2" CL 300 RFLWN FLG x 8 1/2" LG	1	SA-105N	N1-1	11	INSULATION SUPPORT	REFER TO DWG# 5B1088-08-DR-20-005			
	(N7A)	3" x 3/8" FB x 8 1/2" LG (TRIM)	1	SAG40.2144W		12	LIFT LUG	8" x 1 1/8" PL x 8" LG (SEE DETAIL)	2	SA-51670N	
N8	LIT-1010B BRIDLE (N8A)	2" CL 300 RFLWN FLG x 10 1/2" LG	1	SA-105N	N1-1	13	LIFT LUG REPAD	10" x 3/8" PL x 1'-2" LG (ROLL WIDTH TO 73" ID)	2	SA-51670N	
	(N8B)	2" CL 300 RFLWN FLG x 8 1/2" LG	1	SA-105N	N1-1	14	TAILING LUG	4" x 3/4" PL x 6" LG (SEE DETAIL)	2	SA-51670N	
	(N8A)	3" x 3/8" FB x 7 1/4" LG (TRIM)	1	SAG40.2144W		15	GROUNDING LUG	2" x 3/8" FB x 2" LG (SEE DETAIL)	2	SAG40.2144W	
N9	LIT-1010 (N9A)	2" CL 300 RFLWN FLG x 1'-0 1/8" LG	1	SA-105N	N1-1	16	HEAT MEDIUM COIL	REFER TO DWG# 5B1088-08-DR-20-003			
	(N9B)	2" CL 300 RFLWN FLG x 8 1/2" LG	1	SA-105N	N1-1	17	COIL SUPPORT	3" x 3" x 3/8" ANGLE x 3'-8 3/4" LG	2	SA-276-316	
	(N9A)	3" x 3/8" FB x 8 1/2" LG (TRIM)	1	SAG40.2144W		18	U-BOLT	NPS2" U-BOLT c/w (2) HEX NUTS EACH	8	316 SS	
N10	LIT-1010A (N10A)	2" CL 300 RFLWN FLG x 9" LG	1	SA-105N	N1-1	19	INLET DEFLECTOR	REFER TO DWG# 5B1088-08-DR-20-004			
	(N10B)	2" CL 300 RFLWN FLG x 8 1/2" LG	1	SA-105N	N1-1	20	VANE PACK	REFER TO DWG# 5B1088-08-DR-20-007			
	(N10C FUTURE)	2" CL 300 RFLWN FLG x 10 1/2" LG	1	SA-105N	N1-1	21	VANE PACK DRAIN	REFER TO DWG# 5B1088-08-DR-20-005			
	(N10C FUTURE)	2" CL 300 RF BLIND FLG	1	SA-105N		22	COALESCER PACK	REFER TO DWG# 5B1088-08-DR-20-010 TO 015			
	(N10C FUTURE)	2" CL 300 RF x 1/8" THK GASKET	1	NOTE #3		23	COALESCER PACK SUPPORT	REFER TO DWG# 5B1088-08-DR-20-005			
	(N10C FUTURE)	5/8" x 3 1/2" LG STUDS c/w (2) HEX NUTS EACH	8	NOTE #1		24	WEIR	REFER TO DWG# 5B1088-08-DR-20-004			
	(N10A)	3" x 3/8" FB x 10 1/2" LG (TRIM)	1	SAG40.2144W		25	ANODE SUPPORT	REFER TO DWG# 5B1088-08-DR-20-004			
	(N10C)	3" x 3/8" FB x 7 1/4" LG (TRIM)	1	SAG40.2144W		26	N3 VORTEX BREAKER	REFER TO DWG# 5B1088-08-DR-20-004			
N11	PG-1010D	2" CL 300 RFLWN FLG x 1'-0 1/8" LG	1	SA-105N	N1-1	27	N4 VORTEX BREAKER	REFER TO DWG# 5B1088-08-DR-20-004			
N12	PSHH-1010A	2" CL 300 RFLWN FLG x 1'-0 1/8" LG	1	SA-105N	N1-1	28	DAVIT	REFER TO DWG# 5B1088-08-DR-20-005			
N13	TG/TW-1010B	2" CL 300 RFLWN FLG x 11 7/8" LG	1	SA-105N	N1-1	29	GRAB BAR	REFER TO DWG# 5B1088-08-DR-20-005			
N14	TE/TW-1010A	2" CL 300 RFLWN FLG x 11 7/8" LG	1	SA-105N	N1-1	30	INSULATION RING	76 1/2" OD x 3/8" PL x 73 1/8" ID	1	SAG40.2144W	
N15	UTILITY CONNECTION	2" CL 300 RFLWN FLG x 10 1/2" LG	1	SA-105N	N1-1						
N16	HEAT MEDIUM COIL	2" CL 300 RFLWN FLG x 1'-2" LG	2	SA-105N	SEE N16						
		2" SCH 160 SMLS PIPE x 5 5/8" LG (BOEXP0E)	2	SA-312P316	F1-1/F3-1						
		2" CL 300 RFSO FLG	2	SA-182F316	F1-1						
N17	HEAT MEDIUM COIL (FUTURE)	2" CL 300 RFLWN FLG x 1'-2" LG	2	SA-105N	SEE N16						
		2" SCH 160 SMLS PIPE x 5 5/8" LG (BOEXP0E)	2	SA-312P316	F1-1/F3-1						
		2" CL 300 SCH 160 RFSO FLG	2	SA-182F316	F1-1						
		2" CL 300 RF BLIND FLG	2	SA-105N							
		2" CL 300 RF x 1/8" THK GASKET	2	NOTE #4							
		5/8" x 3 1/2" LG STUDS c/w (2) HEX NUTS EACH	16	NOTE #2							
N18	ANODE	4" CL 150 RFHB FLG x 1'-0 7/8" LG	4	SA-105N	N1-1						
M1	MANWAY	20" CL 150 RFV2 FLG x 1'-4" LG	1	SA-105N	SEE M1						
		20" CL 150 RF BLIND FLG	1	SA-105N							
		20" CL 150 RF x 1/8" THK GASKET	1	NOTE #3							
		1 1/8" x 6 1/4" LG STUDS c/w (2) HEX NUTS EACH	40	NOTE #1							
M2	MANWAY	20" CL 150 RFV1 FLG x 1'-6" LG	1	SA-105N	N1-1						
		20" CL 150 RF BLIND FLG	1	SA-105N							
		20" CL 150 RF x 1/8" THK GASKET	1	NOTE #3							
		1 1/8" x 6 1/4" LG STUDS c/w (2) HEX NUTS EACH	40	NOTE #1							

REV. NO.	REVISION	BY	CHECKED	DATE
4	AS BUILT	TBB		24/09/13
3	REVISED NOTES #11 & #24, REVISED N16 & N17 MATERIAL SPECS	TBB		30/04/13
2	NOZZLE N6 WAS 2" CL300, ADDED GUSSET FOR NOZZLE N10A, ADDED ITEM #30	TBB		02/04/13
1	ISSUED FOR CONSTRUCTION	AM		13/03/13
0	ISSUED FOR LONG AND CIRC SEAM WELDING ONLY	TBB		22/02/13
A	ISSUED FOR APPROVAL	TBB		21/02/13

  

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CUSTOMER	DEVON NEC CORPORATION		
CUSTOMER REF. NO.	RFP No. FC-1212496-M105	JOB NO.	5B1088-20
PROJECT	FERRIER CENTRAL PROCESSING FACILITY CENTRAL OIL BATTERY - SEPARATION & TREATMENT		
TITLE	FREE WATER KNOCK OUT VESSEL (001-V-01-1010) NOZZLE SCHEDULE AND BOM		
DATE	25/01/13	DRAWING NUMBER	5B1088-08-DR-20-002
SCALE	AS SHOWN	SHEET	008

<b>WELDING DATA</b> WELDING PROCEDURES: WP-3146.2 REF. DRAWING NUMBER: 5B-0001 (FABRICATION TOLERANCES FOR PRESSURE VESSELS) LONG SEAM WPS: 5B-102/5B-106 CIRC. SEAM WPS: 5B-102/5B-106 NOZZLE TO FLG WPS: 5B-102/5B-103/5B-107/5B-108 OTHER WPS: SEE NOTE #13 PRE-HEAT TO: 50°F (10°C) MIN.	<b>DESIGN DATA</b> CODE: ASME SECTION VIII, DIV. 1, 2010 EDITION 2011(c) ADDENDA DESIGN PRESS.: 150 PSIG (1034 kPag), DESIGN TEMP.: 302 °F (150 °C) EXTERNAL PRESS.: 15 PSIG (103 kPag), DESIGN TEMP.: 302 °F (150 °C) MIN. DESIGN METAL TEMP.: -20 °F @ 150 PSIG (-29 °C @ 1034 kPag) MAWP: 150 PSIG @ 302 °F (1034 kPag @ 150 °C), (LTD BY: DESIGN) MAP NEW & COLD: PSIG @ °F ( kPag @ °C) CORROSION ALLOW.: 0.125" (3.2 mm) PWHT: NONE HEAD # 1&2 THK NOM.: 0.5" (12.7 mm), MIN.: 0.43" (10.9 mm) HEAD # 3 THK NOM.: " ( mm), MIN.: " ( mm) SHELL # 1-3 THK NOM.: 0.5" (12.7 mm), MIN.: 0.5" (12.7 mm) SHELL # 4 THK NOM.: " ( mm), MIN.: " ( mm) MASS (EMPTY): 22 680 lbs (10 287 kg), MASS (HYDRO): 69 480 lbs (31 516 kg) VOLUME: 750 cu. ft (21.2 cu. m)
<b>NDE &amp; TESTING DATA</b> QUALITY CONTROL PROGRAM: AQP-1507 HYDROSTATIC TEST PRESSURE: 195 PSIG (1345 kPag) (SEE NOTE #15) RADIOGRAPHY: SEE NOTE #8 IMPACT TESTS: SEE NOTE #5	<b>VESEL SERIAL NUMBER:</b> 5B1088-20 <b>SERVICE:</b> SWEET