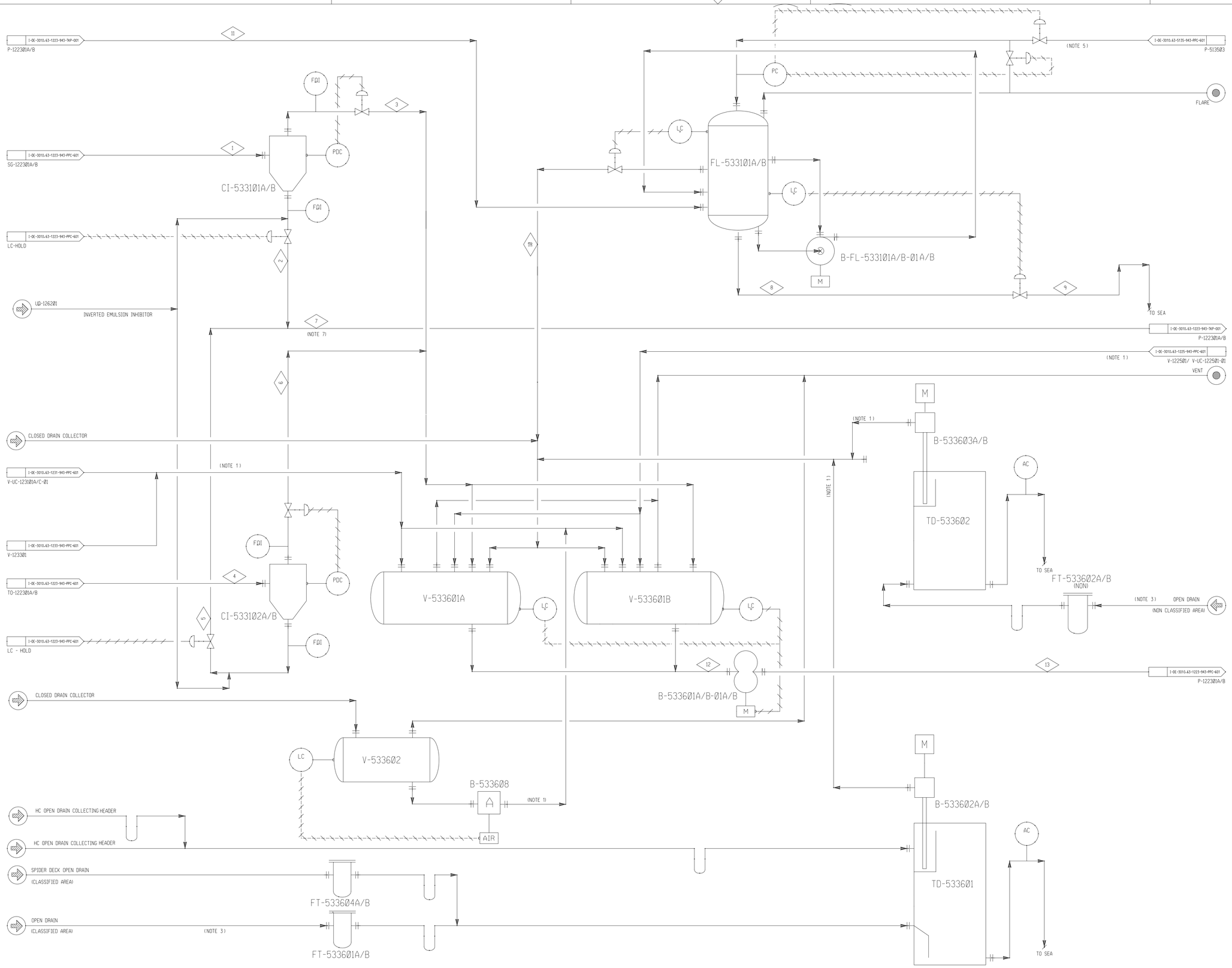

STREAM No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
DESIGN FLOW RATE	(kg/h)	672545	659094	13451	58977	57798	1180	716892	681047	681047	35845	716892	48000	48000																				
OPERATING TEMPERATURE	(°C)	120	120	120	120	120	120,0	120	40	40	40	40	120	120																				
OPERATING PRESSURE	(kPa abs)	981	207	177	981	207	177	207	467	467	177	108	108	108																				
DENSITY	(kg/m³)	980	980	122	980	980	687	980	980	980	722	800	800	800																				
NOTES:								(NOTE 7)					(NOTE 8)	(NOTE 8)																				

REFERENCE DOCUMENTS

I-ET-3010.63-1200-941-PPC-002 REV.G - SYMBOLS AND ABBREVIATIONS.
I-DE-3010.63-5330-943-PPC-601 REV.D - PRODUCED WATER AND DRAINAGE

EQUIPMENT

TAG	DESCRIPTION	TYPE	CAPACITY
B-533601A/B-01A/B (4x100%)	SLOP VESSEL PUMP	(NOTE 6)	60 m^3/h
B-533602A/B (2x100%)	OPEN DRAIN CASSION OIL PUMP CLASSIFIED AREA	VERTICAL	10 m^3/h
B-533603A/B (2x100%)	OPEN DRAIN CASSION OIL PUMP NON-CLASSIFIED AREA	VERTICAL	10 m^3/h
CI-533101A/B (2x50%)	PRODUCTION SEPARATOR HYDROCYCLONE	-	12500 m^3/d
CI-533102A/B (2x50%)	OIL DEHYDRATOR HYDROCYCLONE	-	4000 m^3/d
FL-533101A/B (2x50%)	GAS FLOTATION UNIT	VERTICAL	12500 m^3/d
TD-533601 (1x100%)	OPEN DRAIN CAISSON CLASSIFIED AREA	CYLINDRICAL	40 m^3
V-533601A/B (2x100%)	SLOP VESSEL	HORIZONTAL	32 m^3
TD-533602 (1x100%)	OPEN DRAIN CAISSON NON CLASSIFIED AREA	CYLINDRICAL	40 m^3
B-FL-533101A/B-01A/B (4x50%)	PRODUCED WATER RECIRCULATION PUMP	CENTRIFUGAL	(NOTE 8)
FT-533601A/B (2x100%)	OPEN DRAIN FILTER CLASSIFIED AREA	BASKET, SIMPLEX	600 m^3/h
FT-533602A/B (2x100%)	OPEN DRAIN FILTER NON-CLASSIFIED AREA	BASKET, SIMPLEX	72 m^3/h
FT-533604A/B (2x100%)	OPEN DRAIN FILTER CLASSIFIED AREA	BASKET, TUBES SIMPLEX	120 m^3/h
V-533602 (1x100%)	SLOP VESSEL FOR SPIDER DECK	HORIZONTAL	2.6 m^3
B-533608A/B (2x100%)	SLOP VESSEL FOR SPIDER DECK PUMP	PNEUMATIC	10 m^3/h

GENERAL NOTES

1 - NORMALLY WITHOUT FLOW. EVENTUAL LIQUID FLOW IS NOT INCLUDED ON THE MASS BALANCE.

2 - PERFOMANCE CHARACTERISTICS OF EQUIPMENT AND SYSTEMS ARE DESIGN DATA AND MAY NOT AGREE WITH THE MASS BALANCE.

3 - FLOW RATES AND SIZING FOR THESE LINES BY THE CONTRACTOR.

4 - THE HYDROCYCLONES INLET FLOWRATES ARE BASED ON PRODUCED WATER STREAM (6) SHOWN IN PROCESS FLOW DIAGRAM I-DE-3010.63-1223-943-TKP-002 (MAXIMUM WATER).

5 - GAS INJECTION SIZING FOR FLOTATION UNIT WILL BE DEFINED BY VENDOR.

6 - PROGRESSIVE CAVITY TYPE PUMPS.

7 - THE NOMINAL CAPACITY OF OILY WATER SYSTEM IS 12500 m^3/d.

8 - MAXIMUM FLOW. NORMAL FLOW = 60 m^3/h.

Figura 2.4-26 - Tratamento de Água Produzida

REV.	DESCRIPTION	DATE	EXEC.	CHECK	APPROV.
0	FOR INFORMATION	24/FEB/05	BMNOGUEIRA	RSAMPAIO	RBARROSO

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FSTP Pte. Ltd. / Technip TECHNIP ENGENHARIA S/A

TKP Nº.: B20257-T00T-UFD-5330-001
CONTRACT Nº.: 899.2.010.03-9
TECHNICAL RESP.: Roberto Jourdan Aquino — INITIALS: RAQ
File N.: Micorstation 7.0/I-DE-3010.63-5330-943-TKP-001.0.DGN
CREA REG. Nº.: 48748-D

PETROBRAS NETHERLANDS B.V.

ENGENHARIA / IEMS

CLIENT OR USER: UN - RIO / ATP - MLS

JOB OR PROJECT: MARLIM SUL FIELD DEVELOPMENT

AREA OR UNIT: PETROBRAS 51 (P-51)

TITLE: UTILITY FLOW DIAGRAM PRODUCED WATER AND DRAINAGE

DESIGN BY: TKP	DRAWN BY: BMNOGUEIRA	CHECKED BY: RSAMPAIO	APPROVED BY: RBARROSO
SCALE: NO SCALE	DRAWING TYPE: A1	CC:	SHEET 1 of 1
DATE: 24/FEB/05	PB Nº.: I-DE-3010.63-5330-943-TKP-001		