GENERAL SPECIFICATIONS

OIL TREATER, MAJESTIC, AB
10'0" OUTSIDE DIAMETER X 40'0" S/S
Sweet Service

PROCESS DATA

Design Flow Rates:	2,500 b/d (400 m^3/d) oil max. capacity (2000 b/d requested) 800 b/d (127 m/d) water max. capacity (500 b/d requested) 3,300 b/d total fluids max. 2 MMSCFD gas (56,640 m^3/d)
Design Pressure:	517 Kpa (75 psig)
Operating Pressure:	414 Kpa (60 psig)
Design Temperature:	-29°C to 204°C (-20°F to 400°F)
Treating Temperature:	110°C (230°F)
Inlet Temperature:	5°C (40°F)
Oil Gravity:	13.7 API
Water Specific Gravity:	1.014
Gas Specific Gravity:	0.593
Oil Retention Time:	3.76 hours (at max. rate)
Water Retention Time:	3.36 hours (at max. rate)
Water X-Sectional Area:	20 percent
Heating Capacity:	4.0 MMBTU/hr total net heat available
Fuel Gas:	Natural Gas: 36.25 MJ/Sm^3(960 BTU/SCF) Gross Heating Value
Maximum Fuel Gas Consumption:	3884 m^3/D (5,715 scfh) (70% efficiency)
Oil Outlet Quality:	0.5% BS&W maximum
Water Outlet Quality:	$\leq$ 80 ppm

VESSEL DESCRIPTION

Vessel Size:	10'0" outside diameter x 40'0" long seam to seam
Design Code:	ASME Section VIII, Division I, latest edition
Shell Thickness:	3/8" min., SA-516-70 Steel Plate
Outlet Head:	1/2" nom., SA-516-70N, 2:1 semi-elliptical
Firetube Head:	7/8" nom., SA-516-70N, 2:1 semi-elliptical
Radiography:	Spot x-ray as per code requirements
Hydrotest:	Hydrotest to 1.5 times design pressure
Saddles:	UIL standard heavy duty steel pedestal, with wear plate
Corrosion Allowance:	0.0558"

HEATING SECTION

Size:	10'0" diameter x 16'0" long
Flow Pattern:	Horizontal/Streamflo One centre streamflo baffle between firetubes
Heating Capacity:	4.0 MMBTU/hr gross (2.0 MMBTU/hr each firetube, net output, 70% thermal efficiency). Total of two firetubes

DEFOAMING SECTION

Size:	10'0" diameter x 2'6" long
Demister:	One 9# density 304 stainless steel woven demister mat, removable Demister mat mounted in 3/16" steel baffle

110°C = 230

COATING -

MAX Temp - 300° F
Working MAX. 250° F
High SHUTDOWN @ 275° F

COALESCING SECTION

Size:	10'0" diameter x 21'6" long
Baffles:	One baffle to control flow direction and prevent short circuiting. Five coalescing baffles. Baffles are partially solid 3/16" steel plate, with a removable section of stainless steel hydronetic baffle to provide mechanical shearing and coalescence.
Oil Weir:	One outlet, overflow type weir for oil outlet and float control which also acts as a stilling well, and maintains constant treater fluid level.

FIRETUBE, BURNER, STACK

Firetubes:	Two 24" diameter, 16'0" long u-tubes, removable, vertical mount, Sch X-STG "SA-53,ERW pipe.
Burners:	Two flame arrestor/burner assemblies, each with one 5" Eclipse NS-200 burner c/w 0.316" orifice, Ferrofix nozzles 20F-2 for use with natural gas, 15 PSI supplied pressure.
Pilot:	Each burner assembly is complete with canlite 750 pilot and shutdown.
Spark Ignition:	Canlite pezio electric ignitor.
Flame Arrestor:	Standard Universal "Swing-out" aluminum cell flame arrestor complete with wind shield, sealed sight glass and UIL adjustable secondary air shutter. One 30" diameter cell per tube.
Stacks:	16" NPS x 16' high thin wall spiral weld (or .120 plate), self-supporting flanged stack complete with lifting bar, UIL manual adjustable damper and temperature switch. Stacks sandblasted to an SSPC-SP5 and painted with high temperature black paint.