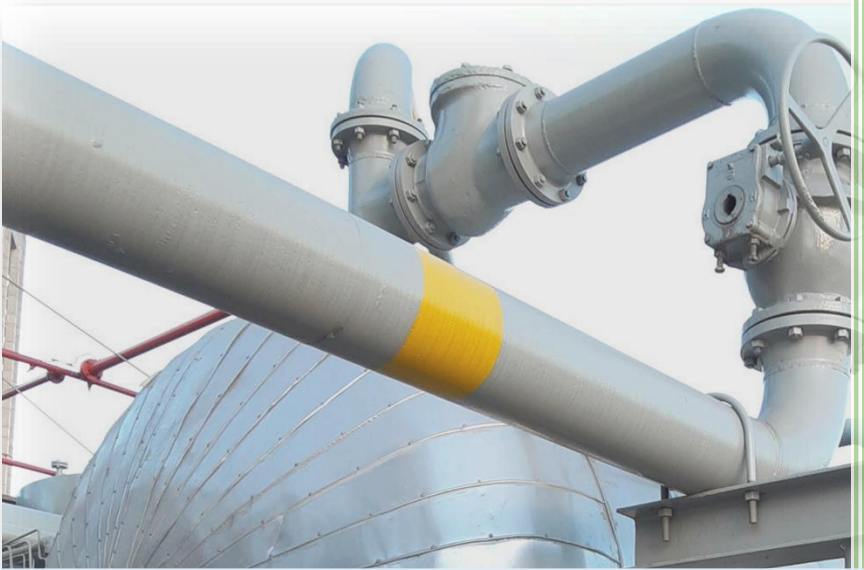




EAGLE II F.P.S.O. BARGE



Website: www.fpsobarge.com

Email: mdb856@comcast.net

Tele: 1 868 299 3692

INTRODUCTION TO THE EAGLE II

The EAGLE II is a totally refurbished versatile Floating Production Storage Offshore Barge registered to Port of Spain, Republic of Trinidad and Tobago. It is currently the only one of its kind registered within the Caribbean Region and is ready and available for work.

Principle Dimensions:

LOA 150 ft (45.7 m)

Beam 60 ft (18.3 m)

Depth 15 ft (4.6 m)

Draft 2 ft - 12ft (0.6 - 3.7 m)

1069 Gross Tons / 320 Net Tons

Double-hulled

Perimeter Spill-rail on deck for spill control and pollution prevention

Its Production and Storage Capabilities Include:

Degassing up to 6500 bpd by means of a Bulk Separator

5 mmscf/ day Gas Compressor, discharging ashore at 30 psi

27,000 bpd cargo discharge via 2 each 21 stage pumps @ 700 psi.

750,000 btu Wellstream Heat Medium with product temperature up to 250 °F

Two 150 bbl Calibration Tanks for Well Testing

High Pressure and Volume discharge



EAGLE II HISTORY

2001: Originally built in Mobile Alabama to American Bureau Shipping standards as a double hull Floating Production Storage Offshore barge fitted with an extensive assortment of equipment including a 3-stage degasser/ bulk separator.

2003: Upgraded with a natural gas compressor to enable the separated gas to be captured, compressed and pumped ashore.

2013-2018: New owners dry docked and refurbished the vessel with new equipment and renewed substantial steel hull plating. The vessel was then deployed offshore and processed crude oil continuously for nearly five years until 2018 when she was removed from service and 'laid up' until 2022.

2022 – 2023: Vessel was sold to a new owner and completely refurbished. During drydock the hull was blasted to bare metal and repaired with seven tons of new hull plating. All machinery, valves, structures, and electrical distribution systems were disassembled and rebuilt or replaced with new equipment. Crew accommodations were upgraded. New Generators installed and all diesel engines rebuilt including natural gas engine. All critical equipment independently tested and recertified.

REFITTING AND REFURBISHMENT WORKS AS OF 2023

MAY 2023 DRY DOCKING

Entire hull blasted to SA 2.5, to deck line; UT readings; 600 sq ft of new AH36 10mm hull inserts; new anodes, 25 mils Jotun Marathon glass flake epoxy paint; 46 ea. 10" x 10" hard wood fenders installed to protect side shell.

ACCOMMODATION, WELFARE AND BRIDGE

✓ **Galley:**

New refrigerator, freezer, microwave, RO system installed for potable water supply.
Head: Gutted out and rebuilt, storage cabinets, toilet, shower stall gel coated, upgrade plumbing, installed ventilation system, new washer dryer.
Installed second toilet enclosure, on deck.

✓ **4- Person Sleeping Quarters**

Painted, refurbished cupboards, service and sanitized A/C.
Installed new flooring and privacy curtains.

✓ **Crew Mess/ Lounge; 140 sq ft**

Installed new enclosure adjacent to galley as lounge for off duty crew with air conditioning and two additional bunks.



- ✓ **Bridge**
Complete floor-to-ceiling refurbishment including cupboards and counter tops, wiring, lighting, floor, etc.
Office equipment; new PC with Starlink internet.
2 new VHF Radios with AIS and DCS, CCTV Recorder, PA System.
- ✓ **Human Machine Interface (HMI)**
New display monitor, new programming.
- ✓ **Program Logical Control System (PLC)**
Open and inspect, service pressure switches, gauges, actuators, installed new batteries, new computer program, sorted electrical harness, new battery charger, new emergency backup batteries, test.

WATER AND SANITATION

- ✓ **12-Person Marine Sanitation Device: SKIMOIL TTM1200**
Installed new 12-man USCG Approved Marine Sanitation Device.
All new plumbing for black water only from two toilets.
Blower and back up air supply installed.
- ✓ **4200-Gal Fresh Water Tank And Equipment**
Cleaned and sanitized inside of tank and plumbing.
Two new 2" pumps with 3 hp Ex motors.
New piping with pressure switch and new 40 gal pressure tank.
- ✓ **100-GPH Reverse Osmosis Water Maker**
Refurbished with 3 hp Ex motor
All new plumbing, electrical, membranes, high- and low-pressure pumps.

POWER GENERATION AND AIR SUPPLY

- ✓ **Electrical Distribution Panel**
Replaced entire cabinet and rewired existing breakers, labelled and tested.
- ✓ **New Kohler 186 kVA Primary Generator**
John Deere J150U-V Engine, Serial # 22011744, in sound box.
New exhaust stack, Canvas cover
- ✓ **New Kohler 500 kVA Secondary Generator**
Doosan D400U-IV Engine, Serial # 22008390, in sound box.
New distribution cabling, Canvas cover
- ✓ **Air Compressor – Piston & Rotary; S.W.P (# 1 and #2): 175 PSI max.**
1: Curtis Toledo Compressor Tank # EII-002, Tested: 200 PSI @ 450 °C.
2: Schulz, Serial F-2460586, Tested: 253 PSI @ 450 °C
Coalescer air dryer newly installed for the production of instrumental air.
Air receiver vessel – open and inspect, blast and paint, PRV inspected and certified
All piping, valves and PRV inspected and certified



FUEL SUPPLY AND WASTE OILS

- ✓ **4,000 Gal Diesel Storage Tank**
Tank opened, inspected, cleaned and sealed.
New sight glasses, high and low alarms serviced and tested.
New motor on one of two industrial in-line transfer pumps.
Various pipes and valves serviced including port and starboard bunker points.
Skid equipped with gas detectors and high/low alarm lights.
- ✓ **300-Bbl Slop Tank**
Pumped out, cleaned.
New Wilden Pump 8 air-diaphragm pump installed.

MOORING EQUIPMENT

- ✓ **Dual Drum Mooring Winch (Forward and Aft); Mechanical**
Removed, dismantled, descale, blast and paint, crop and renew structure as required, reassembled with new parts including a new 471 GM diesel engine, new radiator, alternator, new clutch and brake bands; removed 4000 ft of 1.5" cables, inspected and certified, reinstalled with cable lubrication. New engine controls, new radiators, new engine gauges.

STORES AND WORKSHOP

- ✓ **Store Room**
New 160 sq ft storeroom (aluminium) positioned on top of workshop.
- ✓ **Work Shop**
Cleared, cleaned, repainted, restocked.
Air conditioning installed.
Vice, bench grinder, hydraulic press installed.

LIFTING EQUIPMENT

- ✓ **Grove M977 3-Section Telescopic Boom Crane; SWL 1.5 Tons at 6m**
Dismantled, crop and renew, blasted, painted, reassembled, changed hydraulic ram seals, hoses, control bank, serviced motor and hydraulic pump.
Fabricated weather enclosure for control bank, motor and hydraulic pump, new 15m x 5/16" wire rope.
Inspected tested and certified.



EMERGENCY EQUIPMENT AND RESPONSE✓ **Fire Fighting and Prevention**

Primary electrical and Secondary diesel water pumps supplying 5 x 100 ft hose reels with water and foam.

Deluge sprinkler system hard plumbed to the gas compressor.

Twin 100 lb CO₂ bottles hard plumbed to the vent stack.

20 portable fire extinguishers (ABC, FFF, CO₂); 3 each 100 lbs ABC trolley extinguishers

General alarm system with multiple pull stations and activation points for Emergency

Shut Down (ESD) interfaced with PLC.

Public address for distress communication.

Fire alarm panel with tone generator.

Smoke, heat and explosive gas detectors – interfaced with PLC to activate ESD and alarm.

Two firefighting suits with SCBA units, fire axe.

All the above equipment either rebuild / serviced or new.

✓ **Primary Fire Pump – 3” Centrifugal Pump W/ 30-HP Electric Motor**

Both pump and electric motor removed, overhauled, serviced, reinstalled and tested.

New intake hose with foot valve. New weather resistant enclosure.

✓ **Diesel Fire Pump – 4” Centrifugal Pump W/ 45-HP Diesel 6 Cyl Engine**

Dismantle pump, inspect, repair with new parts. Diesel engine service with new ancillary parts, belts, hoses, filters, gauges, electrical wiring, starter repair. New intake hose with foot valve.

New weather resistant enclosure. Ancillary primer pump. Tested to 80 PSI.

✓ **Gas Monitoring and Detection**

Hydrogen sulphide and LEL gas detectors installed in the bridge and near deck equipment with lighting indicators located at the diesel tank and snuffing system.

Sensors replaced in gas detectors.

Gas alarm panel in bridge.

All inspected and certified.

✓ **Life Saving**

Rescue RIB 18 ft with 15 hp outboard, 6-man, new electrical hoist.

Refurbished 2 x 6-man ridged rafts.

6-man inflatable raft.

8 life rings marked with retroreflective material 100 ft rope and lighting.

22 new life jackets (type I and type II) with lights and whistles;

New EPRIB.

All inspected and certified, all USCG approved.

✓ **First Aid and Medical**

20-person stocked first aid cabinet.

Portable marine first aid kit.

1 basket stretcher certified.

Medical oxygen cylinder with mask.



✓ **Spill Response**

95-GAL Universal Spill Kit stock with perimeter control, absorbents and environmentally safe cleaning agents.
Perimeter spill rail around the process area of the deck

OIL AND GAS PRODUCTION AND STORAGE

✓ **Three-stage Bulk Separator; 20'x 7' Insulated Cylindrical Pressure Vessel**

Open and inspect, clean and degas, remove & clean screen that separates gas from crude, Build up inside welded seams, UT tank structure
Crop and renew drain and other attachments, sheath with new sheet metal.
Install two new level switches, rebuild all valves include 3 each pneumatic actuators.
Remove & replace 8" supply and discharge lines from Separator to gas compressor.
Rebuild all valves. Blast and paint all pipe, new gauges, pressure test and certify PRV.

✓ **Two Fisher Cargo Pumps; Model 500 / Serial 10609-1 / 300 GPM / 900 PSI**

21 stage pumps vertical, removed and overhauled with new bearings & bushings, certified
Randolph gear boxes - Model G300SSM- Serial RI307006 inspected, serviced, oil changed.

✓ **Two Detroit DIESEL 6V-92TA Cargo Pump Engines; Each Turbo Charged / 450 hp @ 2300 RPM**

Removed and Rebuilt with all new wear parts.
New radiators, new alternators, new auto shutdowns, new parts in control panel.
800-gallon cargo pump diesel storage tank; new insulated exhaust silencers.

✓ **Eight Cargo Tanks (4 Port/ 4 Starboard); Total 10,000 Bbl Storage Capacity.**

Degassed, cleaned, all valves serviced, new probe sensors for monitoring tank levels – volumes displayed on Digital Display Panel in accommodation area.
Access hatches refurbished, blasted and painted.

✓ **Heat Medium; Closed Loop; 2 Circulating Pumps, 1500 Gal Heating Oil; Heat Exchanger; 200 kW Heater Element.**

Open and inspect; clean and gas free; service all plumbing and valves, pressure test.
2 each 3" vertical circulating pumps overhauled, new 7.5 hp Ex motors.
All new electrical controls, breakers, thermostat, contactors, wiring and new 200 kW heater element.
Exterior of horizontal tank - new sheet metal, primed and epoxy coated. PRV serviced and certified. Large heat exchanger removed and extensively cleaned, tubing brushed, sealed, pressure tested, blasted and painted.
All associated piping removed, cleaned, are reinstalled with rebuilt valves.

✓ **Two Stage Gas Compressor; Superior White Model 62cd / Serial 315885 / 5 mmscf/Day @ 300 PSI.**

Open and inspect, installed new valves; torqued all connections.
New shims drive coupling – laser alignment.
Open and inspect oil injection reservoir and tubing, clean, refill with fresh oil, calibrate, test.
Blast and paint compressor and ancillary



- ✓ **Gas Compressor & Engine Cooling Tower – Air X Changer Model 108EH**
Replaced 300 each cooling tower finned tubes (3 heat exchangers). Pressure tested to 1000 PSI. Crop and renew steel, blast and paint structure of cooling tower; New fan bearings, drive belts.
Pipe, plumbing, valves and PRV all dismantled, rebuilt and reinstalled, tested and certified.
- ✓ **Gas Compressor Engine; Superior White / Model 8G825 / Serial 20426 / 900 hp**
Refurbished gas engine installed; Rocker arms tuned, rod and crankshaft bolts torque tested. New spark ignitors and plugs, replaced electronic engine monitor; new oil and engine coolant.
Exhaust silencer – opened and cleaned, blasted and painted.
- ✓ **Calibration Tanks; 2 Each at 150 Bbl**
Opened, cleaned, inspected and sealed.
New side glasses, refurbished and replaced valves, equipped with sprinkler system.
- ✓ **Piping Systems**
All piping systems including valves, brackets, flanges, bolts, gaskets were inspected, repaired or replaced as necessary.
Prepped, primed and colour coated.
- ✓ **Deck, Gas Scrubbers and Other Structures**
Entire above deck structures were sandblasted, or power tool buffed to remove all loose paint, scale or rust, and coated with Epoxy primer and Polyurethane top coat.

SEPARATION, STORAGE AND TRANSFER

The EAGLE II is designed for the Oil and Gas Industry. Its size, capacity, ease of mobility and high volume/ pressure discharge capabilities make it an asset for boosting exploration and production works including the production of compressed natural gas.

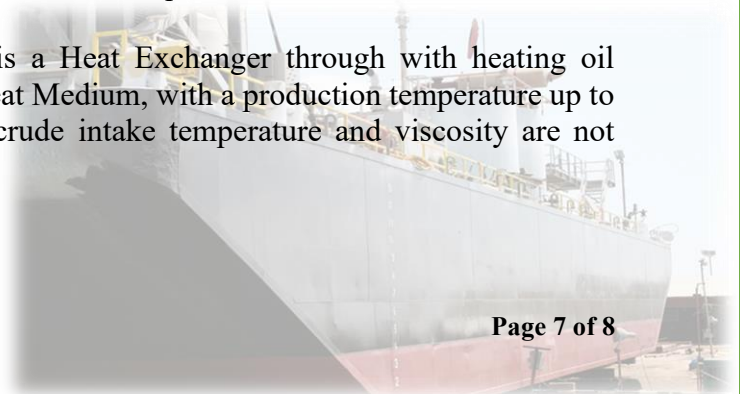
The refurbishment and refitting works completed, presents inspected and approved hydrocarbon processing equipment capable of being used for uninterrupted periods of time.

HYDROCARBON PROCESSING

The 8” Production Inlet Line located at the bow of the vessel accommodates crude at ***rate**** into the 20’ x 7’, 3-Stage Bulk Separator Vessel, which is internally designed to separate oil, water and gas properties.

It is equipped with an Automatic Shutdown Valve which is connected to 6 remote, manual ESD controls in the event immediate emergency shutdown is required.

Interstage of the Inlet and Bulk Separator is a Heat Exchanger through which heating oil circulates within a closed system, from the Heat Medium, with a production temperature up to 250 °F. The Heat Exchanger is used when crude intake temperature and viscosity are not optimal for separation to occur efficiently.



The Bulk Separator, furnished with level gauges, controls and back pressure valves, ensures the separation of oil, water and gas at volumes and pressures adequate for discharge, storage and transfer ashore.

Oil and Water bulk is discharged along piping fitted with flow safety check valves, into eight below-deck cargo storage tanks; 4 tanks port and 4 tanks starboard of the vessel with a total capacity of 10,000 Bbls.

Colour coded and labelled valves along the “Valve Alley” allow for the loading, unloading/suction, circulation between tanks, as well as equalizing of tank volumes. The Heat Medium also circulates heating oil along the base of the cargo tanks, ensuring temperature and viscosity are also adequate for shore transfer.

21-stage cargo pumps are used to discharge bulk ashore, at a rate of 13,500 Bbl/ day @ 700 PSI.

Natural Gas is discharged through an 8” line at 40 PSI which activates the opening of valves, allowing gas to flow through a gas scrubber and vented at the stack.

Upon stabilization of separation volumes and pressures as monitored by safety indicators at the bulk separator, gas is redirected to the gas compressor upon start, which scrubs, compresses and cools the natural gas at two stages, before discharge to shore at around 280 – 300 PSI, at 5 mmscf/day.

The Gas Compressor is fitted with a number of sensors and gauges which allow for automatic ESD along with 3 remote, manual ESD controls, all of which activates an audible alarm indicating shutdown.

The EAGLE II is fitted with 2 Calibration Tanks of 150 Gal capacities, for the option of well testing.

SAFETY AND EMERGENCY RESPONSE

The Eagle II is high risk work and the safety and security of its human and natural surrounding environment is paramount. A competent team ensures that all safe working procedures and protocols are adhered to, from personal responsibility to familiarity and experience with the equipment onboard.

The team is trained to manage, alleviate and respond to emergencies inclusive of safety at sea as well as equipment failure, fire, spill, gas detection and first aid. Adequate amounts, types and distribution of emergency controls and response equipment allows for quick responses which minimizes as far as reasonably practicable, any injuries, illness, damage to asset or equipment. Gas detection and monitoring equipment in equipment spaces and enclosed manned spaces, protects health and life from toxic gases

Guarded with a 95-gallon universal spill kit, spill rail and a 300 Bbl slop tank, all efforts are engaged in the prevention of pollution to the marine environment.

