2016 WORLDWIDE SURVEY OF FLOATING PRODUCTION, STORAGE AND OFFLOADING (FPSO) UNITS

Organized by Vessel Name – Operating and Anticipated 2016 First Production

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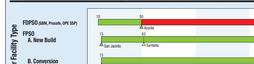
WOOD GROUP MUSTANG

Graph 1: NEW BUILD vs CONVERSION FPSOs



Graph 2: OPERATOR vs CONTRACTOR OWNED FPSOs

TOTAL FPSOs – 169
(As of July 1, 2016)

COURTESY: WOOD GROUP MUSTANG

MOORING SYSTEM TYPE:

IT	Internal Turret
ET	External Turret
BTM	Buoy Turret Mooring
SM	Spread Mooring
RTM	Riser Turret Mooring
SALS	Single Anchor Leg System
CALM	Catenary Anchor Leg Mooring
SALM	Single Anchor Leg Mooring
JBT	Jacket Soft Yoke
TY	Tower Yoke
DPS	Dynamic Positioning
STP	Submerged Turret Production

Every attempt has been made to identify and collect data on all FPSO vessels operating around the world. No owner(s) or FPSO contractor(s) were intentionally excluded from the survey. In some cases the owner or vessel has not been included because information was not supplied in time. We have attempted to make the survey as complete and accurate as possible. However, we make no guarantee that it is all inclusive. The information was collected from company brochures, websites, personal interviews, phone interviews, and in major part by owner-supplied data and World Energy Reports. Neither Wood Group Mustang Inc. nor Offshore Magazine guarantees or assumes any responsibility or liability for any reliance on the information presented.

POSTER 126
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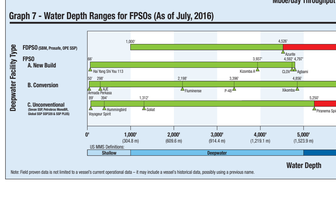
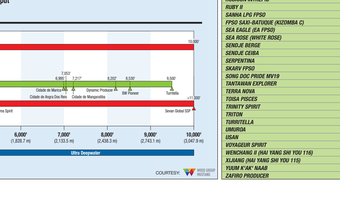
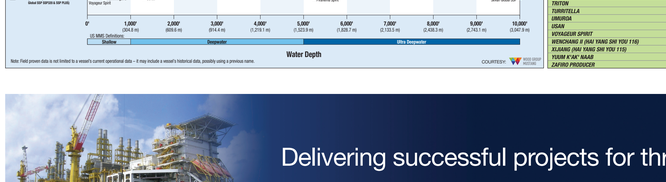
Graph 3: Ranking of Operators by Fleet Size



Graph 4: Ranking of Contractors by Fleet Size



Graph 5 - Subsea Wells Capability for FPSOs (As of July, 2016)



Graph 6 - Total Production Throughput (Mboe/Day) for FPSOs (As of July, 2016)

Graph 7 - Water Depth Ranges for FPSOs (As of July, 2016)

Note: Field proven data is not limited to a vessel's current operational data – it may include a vessel's historical data, possibly using a previous name.

CONSTRUCTION TYPE: N - Newbuild C - Conversion

COMPANY ABBREVIATIONS:

ABB Ostrom	ABB/Ostrom/Coflexip/UE
AENR	Agip Energy & Natural Resources
AESA	Astilleros Espanoles SA
Aker BO	Aker Borgestad Operations
Aker FP	Aker Floating Production
AMEC	Aker Maritime Contractors
APL	Advanced Production & Loading
APS	Apex Process Systems
AWE	Australia Worldwide Exploration
BLT	Bertam Lajo Tanker
Bumi Armada	Bumi Armada Berhad
CACT	CNOOC, Chevron, Agip
CNOOC	China National Offshore Oil Corporation
Dallan	Dallan New Shipyard
DDD	Dubai Dry Docks
DD	Dry Docks
DSME	Daewoo Shipbuilding & Marine Engineering
FES	Flexible Engineering Solutions
FPS	Floating Production Systems
FSTP	Keppel FELS - Technip Consortium
GPS	Global Process Systems
GSI	Gas Services International
HES	Halliburton Energy Services
HHI	Hyundai Heavy Industries
Ikdam	Ikdam Production BV
IVI	Industria Versilme Ishibras
KNV	Kidstrans Mek Nemen BV
KOS	Kiewit Offshore Services
LMC	London Marine Consultants
MAS	Maersk, AMEC, SBM
McNulty	McNulty Offshore Construction
MDRI	Marine Design & Research Institute of China
MHI	Mitsubishi Heavy Industries
MISC	Malaysia International Shipping Corp
MMHE	Malaysia Marine & Heavy Engineering
Newport News	Newport News Shipbuilding & Dry Dock
NSSC	National Steel & Shipbuilding Company
PGS	Petroleum Geo-Services
PNR	Pioneer Natural Resources
SBMO	SBM Offshore
Segen Contstro	Segen/Ishokseijima/Kuro/Japao
Shanghai Hudong	Shanghai Hudong Shipyard
Sonaga	Songa Floating Production
Tsunoshi	Tsunoshi Shipbuilding Co
UC	United Consortium
VOPT	Vietnam Offshore Floating Terminal

Worldwide Distribution of FPSO Vessels

Total Vessels: 169 NOTE: Only vessels that are currently producing or anticipating 2016, first production are included in this map.

| VESSEL NAME | FIRST OIL MONTH | FIRST OIL YEAR | FPSO/OWNER | FPSO OPERATOR | FIELD OPERATOR (MAJORITY) | LEASED AS FPSO (CONTRACTOR OWNED) | CURRENT LEASE PERIOD (YRS.) | OPERATING WATER DEPTH (M) | FIELD or LOCATION | COUNTRY | BUILT | MAIN CONTRACTORS: DETAIL ENGINEERING: HULL | MAIN CONTRACTORS: DETAIL ENGINEERING: TOPSIDES | MAIN CONTRACTORS: FABRICATION YARDS: NEW BUILD HULL | MAIN CONTRACTORS: FABRICATION YARDS: TOPSIDES | MAIN CONTRACTORS: GENERAL CONTRACTOR (EPC) | MAIN CONTRACTORS: CONVERSION / INTEGRATION | MAIN CONTRACTORS: REPAIR | MAIN CONTRACTORS: TURRET SUPPLIER/ SWIVEL MANUFACTURER | WELLS: TOTAL WELLS | WELLS: PRODUCTION WELLS | WELLS: GAS INJECTION WELLS | WELLS: WATER INJECTION WELLS | HULL INFORMATION: DIMENSIONS: LENGTH (M) | HULL INFORMATION: DIMENSIONS: WIDTH (M) | HULL INFORMATION: DIMENSIONS: DEPTH (M) | HULL INFORMATION: MAX OPERATING DRAFT (M) | HULL INFORMATION: HULL CONSTRUCTION MATERIAL (STEEL, CONCRETE HULL, SPHERICAL HULL, SPONSON HULL) | HULL INFORMATION: DISPLACEMENT (DWT) (Tonnes) | HULL INFORMATION: CONSTRUCTION TYPE (CONVERSION OR NEWBUILD) | HULL INFORMATION: ORIGINAL HULL FABRICATION YEAR | HULL INFORMATION: LATEST INTERNATIONAL/UPGRADE YEAR | PROCESS AND STORAGE CAPACITY: MAX OIL PRODUCTION (MBOPD) | PROCESS AND STORAGE CAPACITY: MAX GAS PROCESSING (MMscfd) | PROCESS AND STORAGE CAPACITY: TOTAL THROUGHPUT (MBOEPD) | PROCESS AND STORAGE CAPACITY: GAS INJECTION (MMscfd) | PROCESS AND STORAGE CAPACITY: GAS EXPORT & GAS LIFT (MMscfd) | PROCESS AND STORAGE CAPACITY: MAX WATER PRODUCTION (MBOPD) | PROCESS AND STORAGE CAPACITY: PRODUCED WATER (MBOPD) | PROCESS AND STORAGE CAPACITY: WATER INJECTION (MBOPD) | PROCESS AND STORAGE CAPACITY: STORAGE CAPACITY (MBBLs) | RISER INFO: TOTAL RISERS | RISER INFO: PRODUCTION | RISER INFO: WATER INJECTION | RISER INFO: GAS INJECTION | RISER INFO: GAS LIFT | RISER INFO: IMPORT / EXPORT RISERS | RISER INFO: OTHER | RISER INFO: MWA SCALS | TOPSIDES INFO: GAS DEHYDRATION UNIT (Y/N) | TOPSIDES INFO: TYPE OF FLARE (E.G. ENCLOSED GROUND FLARE, ELEVATED FLARE, OPEN FLARE) | TOPSIDES INFO: TYPE OF FLARE (E.G. ENCLOSED GROUND FLARE, ELEVATED FLARE, OPEN FLARE) | MOORING: TYPE (E.G. TURRET, SPREAD MOORED, TOWER YOKE, ETC.) | MOORING: SEE "MOORING SYSTEM TYPE" FOR DEFINITIONS/MORE INFORMATION | MOORING: PERMANENT OR DISCONNECTABLE | MOORING: NUMBER OF ANCHOR LEGS |
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