The Offshore Industry
-middle-aged, but still learning

Mike Utt

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Summerland, California
Production Platform
Summerland, California
Caspian Sea
Soviet Era
Up To 100 KM Offshore
When did the Offshore Industry begin?
Louisiana
September 9, 1947
Ship Shoal Block 32
There are 5 basic types of offshore “Oil Rigs”
1. Fixed Platforms
TRANSPORT JACKET TO LOCATION

II
SET JACKET ON BOTTOM

III
DRIVE BATTER PILES

IV
DRIVE SKIRT PILES

V
SET LOWER DECK SECTION

VI
SET UPPER DECK SECTION
Fixed Platforms (>1000’ or 328m) - Installed or Sanctioned

- Shell Cognac 1978 (312m or 1,025 ft. GOM)
- BP Amberjack 1991 (314m or 1,030 ft. GOM)
- Exxon Mobil Heritage 1992 (326m or 1,070 ft. Southern California)
- Total Fina ELF Virgo 1999 (344m or 1,130 ft. GOM)
- Exxon Harmony 1992 (366m or 1,200 ft. Southern California)
- BP Pompano 1994 (393m or 1,290 ft. GOM)
- Shell Bullwinkle 1991 (412m or 1,353 ft. GOM)
Compliant Towers (CTs), Compliant Piled Towers (CPTs), Guyed Towers - Installed or Sanctioned

- Exxon Mobil Lena Guyed Tower: Installed 1983, 304.8 m/1,000 ft. GOM
- Hess Baldpate: Installed 1998, 502.2 m/1,648 ft. GOM
- Chevron Texaco Petronius: Installed 1998, 534.6 m/1,754 ft. GOM
Mobile Offshore Drilling Units
2. Submersibles
World’s First Submersible Drilling Rig “Breton Rig 20”
HAYWARD-BARNSDALL
"BRETON RIG 20"
(TRANSWORLD RIG 40)
MOVABLE PONTOONS
1950

ODECO
"MR. CHARLIE"
HINGED PONTOONS
1954

CALC
"S-44"
RECESSED PADS
1954

ODECO
"JOHN HAYWARD"
FIXED HULL EXTENSIONS
1955

PENROD DRYDOCK
(PHILLIPS RIG 42)
FLOATING DRYDOCK
1955

OFSHORE "NO. 53"
FIXED HULL EXTENSIONS & SPUDS
1955

NATIONAL COAL BOARD
(ENGLAND)
CABLE CONTROLLED
1955

MAGNOLIA "RIG 52"
BIRD-ON-A-NEST
1956
3. Semisubmersibles
World’s First Semisubmersible
Bluewater I
4. Jackups
Offshore Company’s No. 51

World’s First Mobile Jackup
5. Drillships
World’s First Drillship: Submarex
Drillship Cuss-I
Mobile Offshore Drilling Units 2004 Fleet

- Jackups - 389
- Semisubmersibles - 166
- Drillships - 40
- Drill Barges - 22 (51 with Lake Maricaibo)
- Tenders - 24
- Submersibles - 10 (includes 3 Arctic rigs)
Floating Production Systems
World’s First Floating Production Platform - Transworld 58
Semisubmersible Floating Production Systems
15 Deepest Units - Installed or Sanctioned
Deepwater Systems Types

[Diagram showing various types of deepwater systems, including:
- Fixed Platform
- Compliant Tower (CT)
- Mini-TLP
- Conventional Tension Leg Platform (TLP)
- Semi-FPS (Floating Production Facility)
- Subsea Manifold
- Truss Spar
- Classic Spar
- Control Buoy (CB)
- Subsea Tieback]
Worldwide Progression of Water Depth Capabilities for Drilling and Production

- 10,011' (3,052 m) World Record DP Drilling, GOM Alaminos Canyon Block 951, Transocean Sedco Forex, Rig: Discoverer Deep Seas, Operator: Chevron Texaco
- 8,009' (2,441 m) World Record - Preset Moored, Deepest Anchor @ 9,100' (2,773.5 m), Transocean Sedco Forex, Rig: Deepwater Nautilus, Operator: Shell
- 7,210' (2,197.5 m) World Record - Subsea Prod., Marathon's Camden Hills SS Tree - GOM
- 7,000' (2,133.5 m) BP's Atlantis - GOM
- 5,610' (1,709.8 m) World Record - Conventionally Moored, Global Marine Drilling, Rig: Glomar Celtic Sea, Operator: Marine Energy

Legend: Platform/Floater, Exploration, Subsea, Future

Water Depth Feet (m) vs. Year (1940 to 2020)
Spars, Deep Draft Floaters (DDFs), Caisson Production Units (CPUs), Deep Draft Caisson Vessels (DDCVs), Single Column Floaters (SCFs) - Installed or Sanctioned
Red Hawk Cell Spar
Foinaven FPSO
If you know that there are different kinds of offshore “oil rigs”...
Drilling

• Platform Rigs
• Mobile Offshore Drilling Units
  - Drilling Tenders
  - Jackups
  - Submersibles
  - Semisubmersibles
  - Drillships
Production

• Fixed Platforms
  - Steel Jackets
  - Concrete gravity-based structures

• Floating Production Systems
  - Semisubmersibles
  - Tension-leg Platforms
  - Spar Platforms
  - Ship-Shaped FPSO’s
then you know more than most of the news reporters in the world.
• Since 1947, the offshore industry has moved from the first platform out of sight of land to safely producing in 7,000 feet (2,100 meters) of water and safely drilling in 10,000 feet (3,050 meters) of water.

• The industry is still learning, and there is more to come...
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A good book…

50 Years Offshore

Written by: Hans Veldman & George Lagers