

2005 DEEPWATER SOLUTIONS & RECORDS FOR CONCEPT SELECTION

Going Deeper with Production Technology

Prepared by: E. Kurt Albaugh, P.E. of BHP Billiton Petroleum (Americas) Inc. and Tillie Nutter of Mustang Engineering

Assistance by: David Davis and Eldon Ball of Offshore Magazine

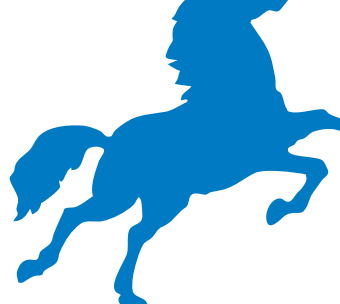
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Offshore

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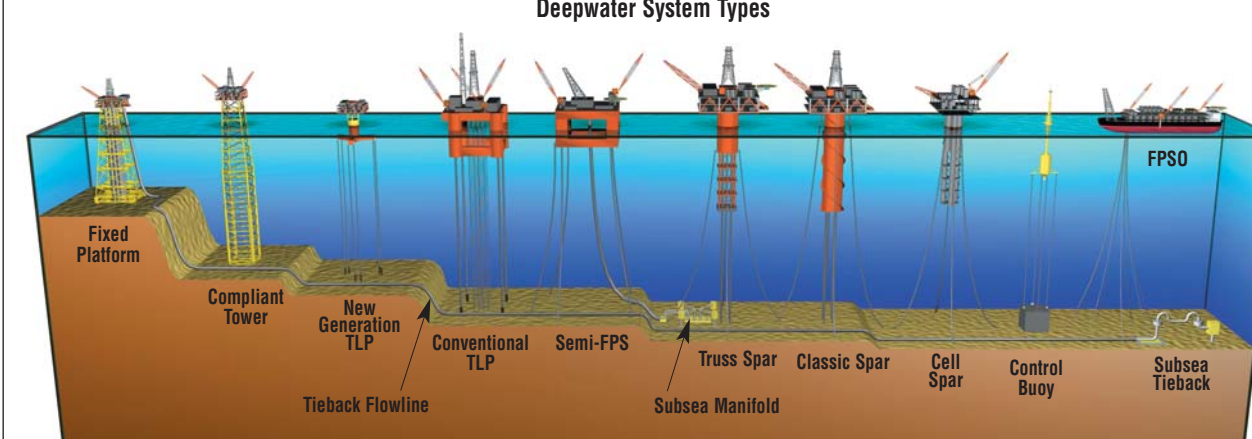
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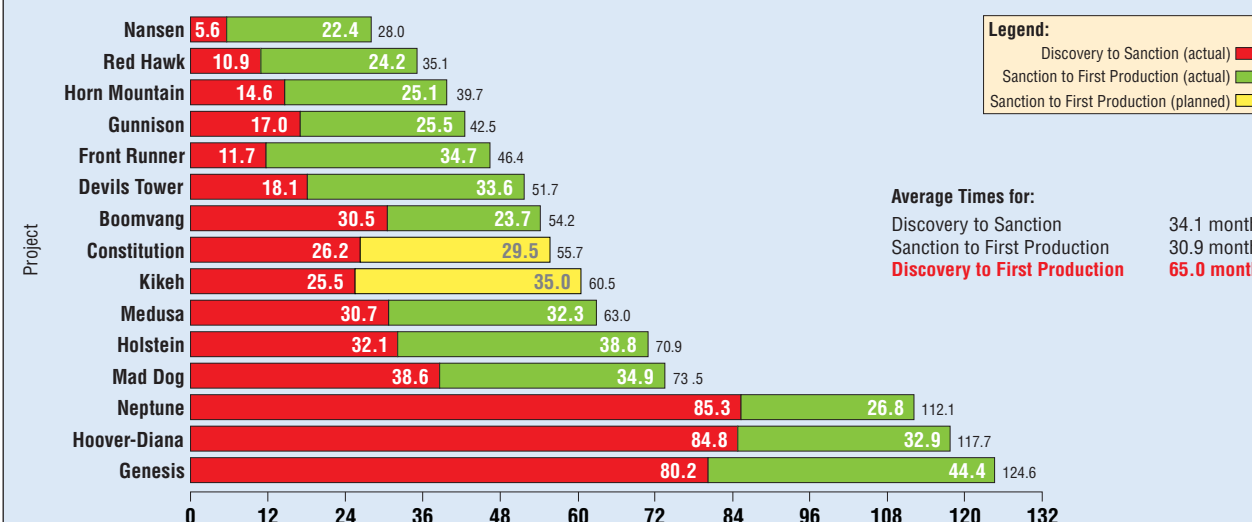
People Oriented...Project Driven™



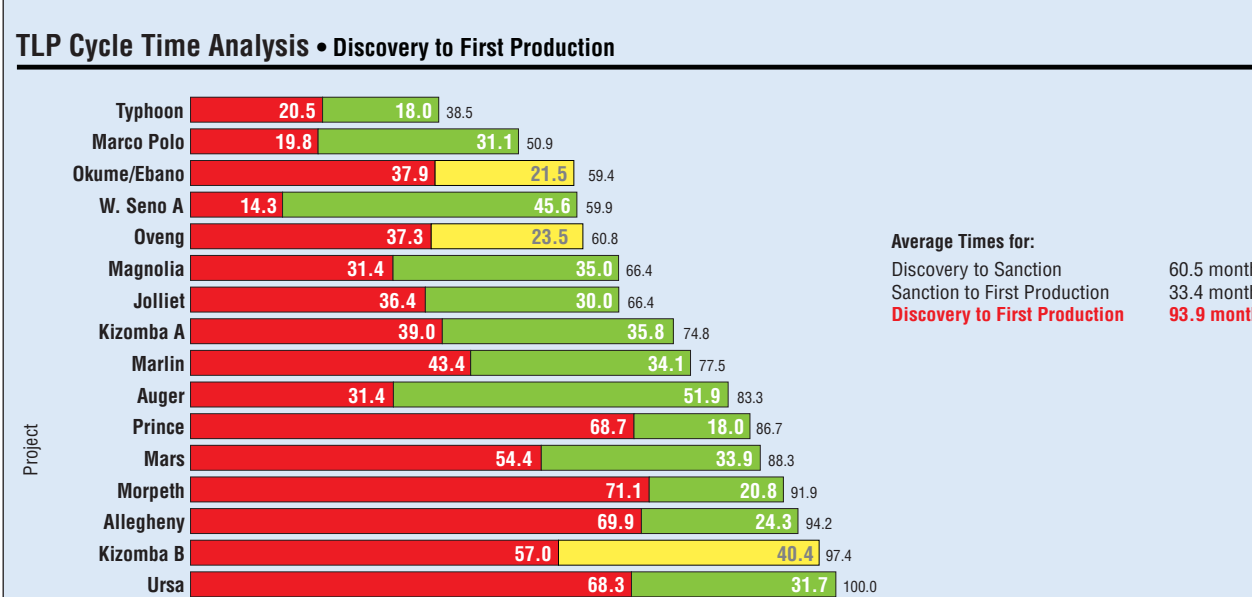
Deepwater System Types by Location									
Types	US Gulf of Mexico	UK North Sea	UK North Sea	UK North Sea	UK North Sea	UK North Sea	UK North Sea	UK North Sea	UK North Sea
Fixed Platforms	1,000	1	1	1	1	1	1	1	1
Compliant Towers	5	1	1	1	1	1	1	1	1
FPSOs or FPSOs	10	1	1	1	1	1	1	1	1
FPSOs (non-hull)	10	1	1	1	1	1	1	1	1
FPSOs (hull)	10	1	1	1	1	1	1	1	1
Conventional TLPs	8	2	1	1	1	1	1	1	1
New Generation TLPs	7	3	1	1	1	1	1	1	1
Spar, DDOs, & SCFs	14	1	1	1	1	1	1	1	1
Deep Draft Semis	1	1	1	1	1	1	1	1	1
Subsea Tiebacks	4	22	8	5	1	1	1	1	1
Subsea Manifolds	140	15	29	9	18	14	2	2	1
Subsea Production Systems	1	1	1	1	1	1	1	1	1
Wellhead Control Buoys	1	1	1	1	1	1	1	1	1

Note: 1. Data courtesy of Offshore Magazine/Offshore Magazine's Sept. 2004 Worldwide Survey of FPSOs and OOS Permits. 2. Data based on Offshore Magazine/Offshore Magazine's Sept. 2004 Worldwide Survey of FPSOs and OOS Permits. 3. Data based on Offshore Magazine/Offshore Magazine's Nov. 2004 Worldwide Survey of Spars.

World Record Subsea Tiebacks • Sanctioned, Installed, Operating or Future Tiebacks (Water Depth vs. Tieback Distance)



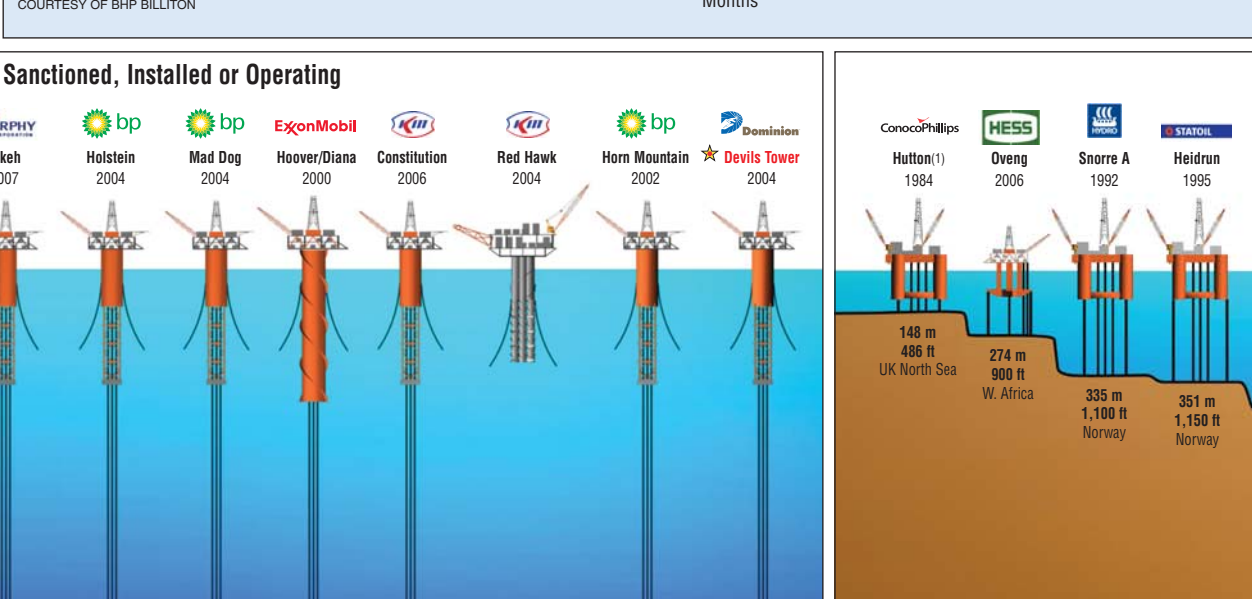
Worldwide Progression of Water Depth Capabilities for Drilling & Production • As of March 20, 2005



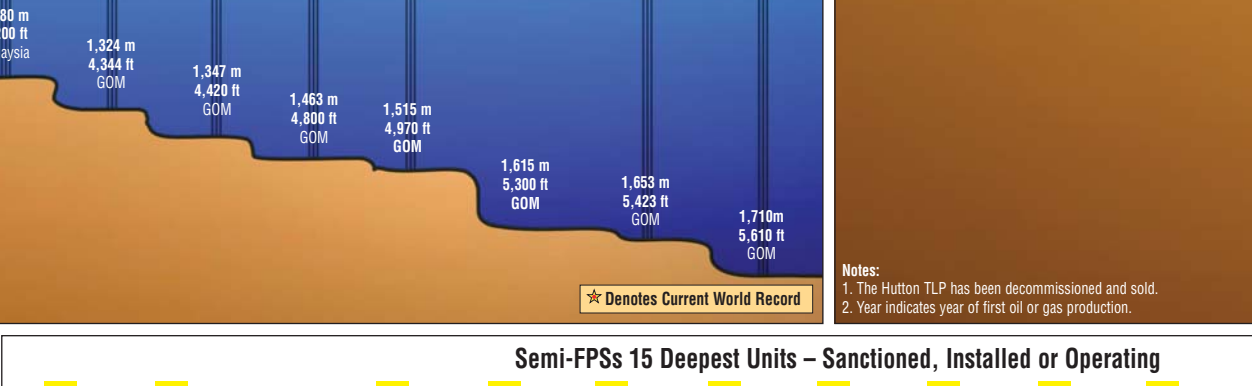
Current Worldwide Offshore Records • As of March 20, 2005

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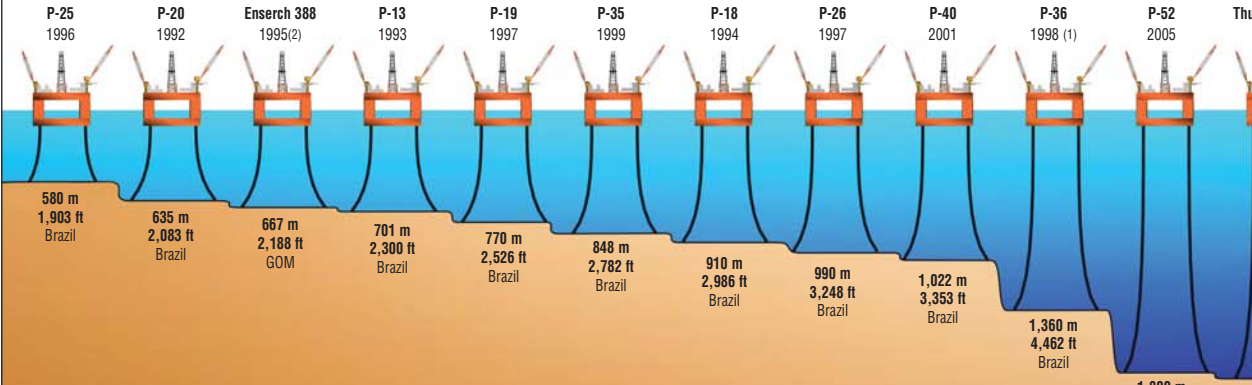
Progression of Spars and TLPs to Deepwater • Water Depth vs. First Operating Year



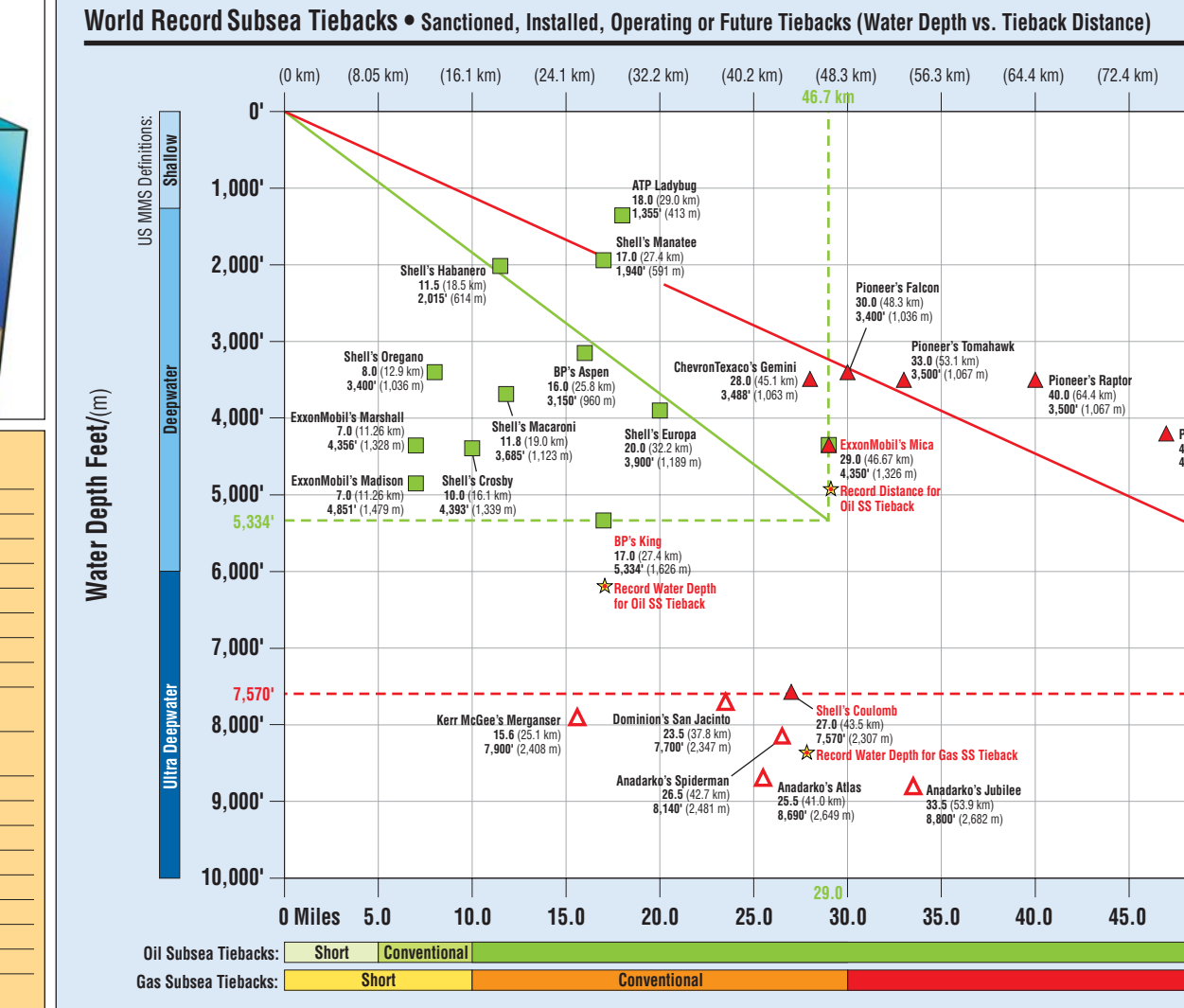
Field Size Ranges for Deepwater Systems (Approximate)



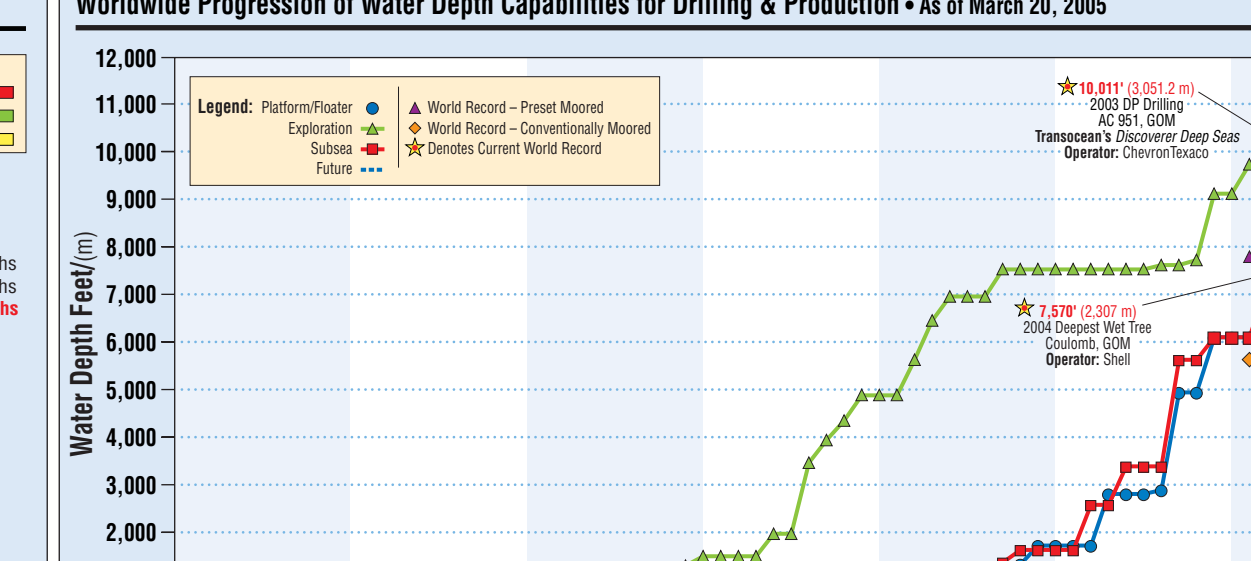
Spars, DDFs, DDOs, SCFs - Sanctioned, Installed or Operating



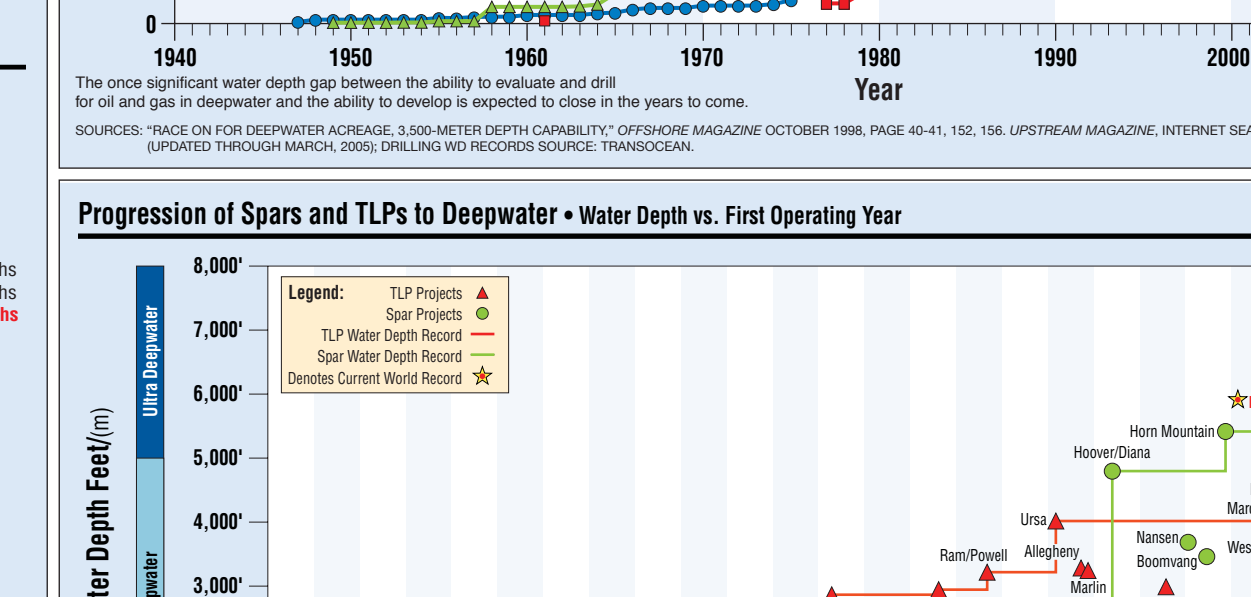
Semi-FPSOs 15 Deepest Units - Sanctioned, Installed or Operating



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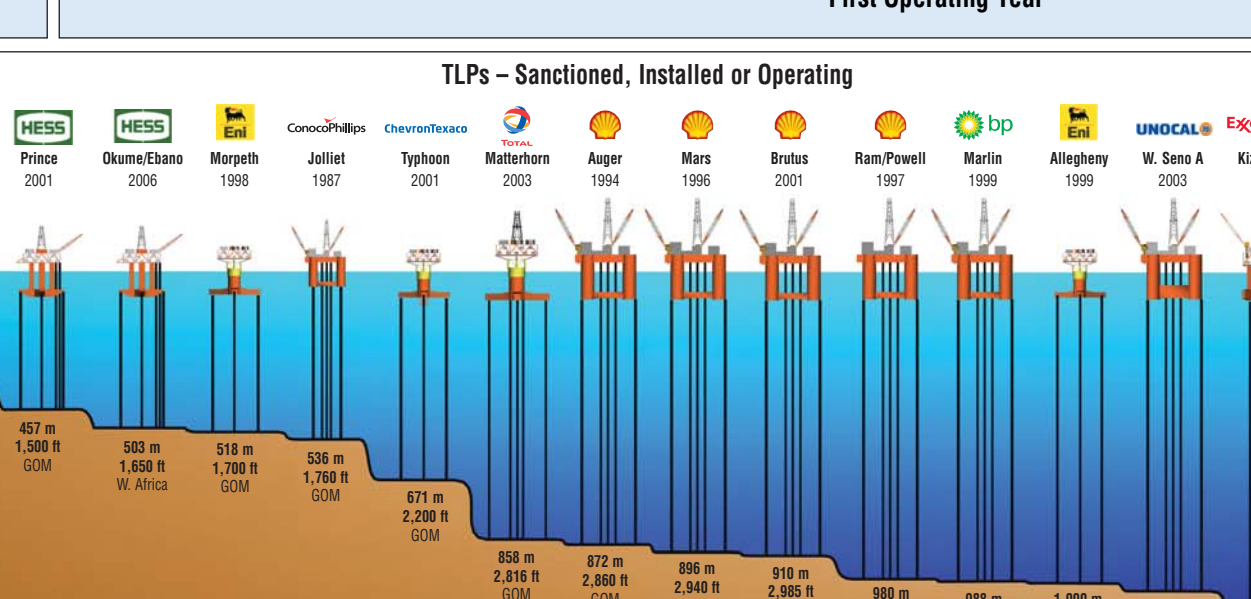
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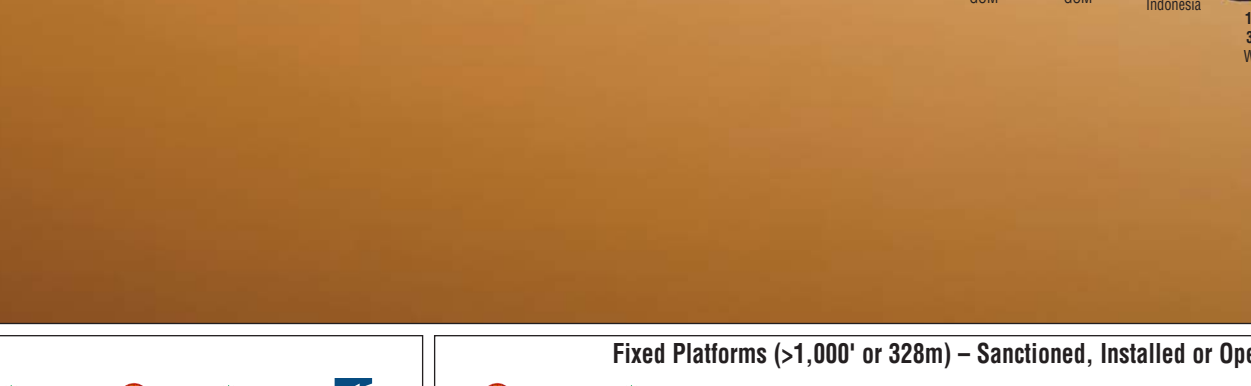
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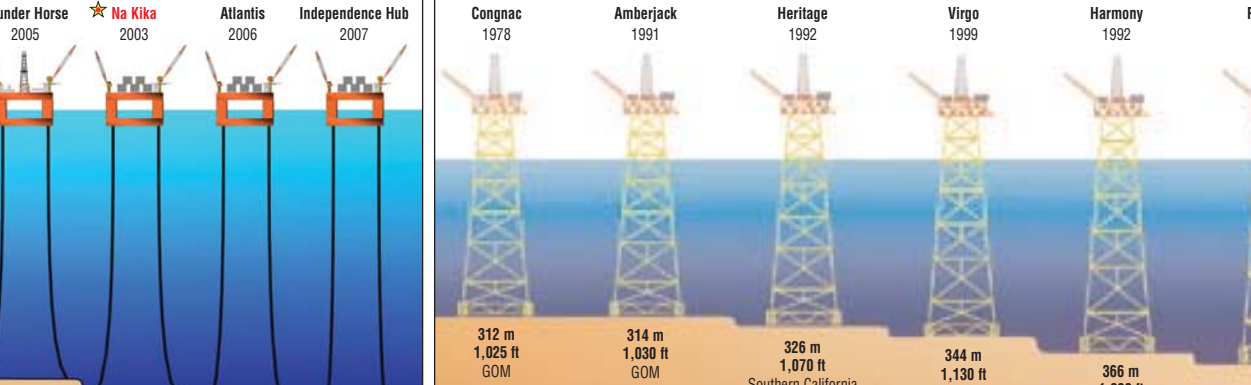
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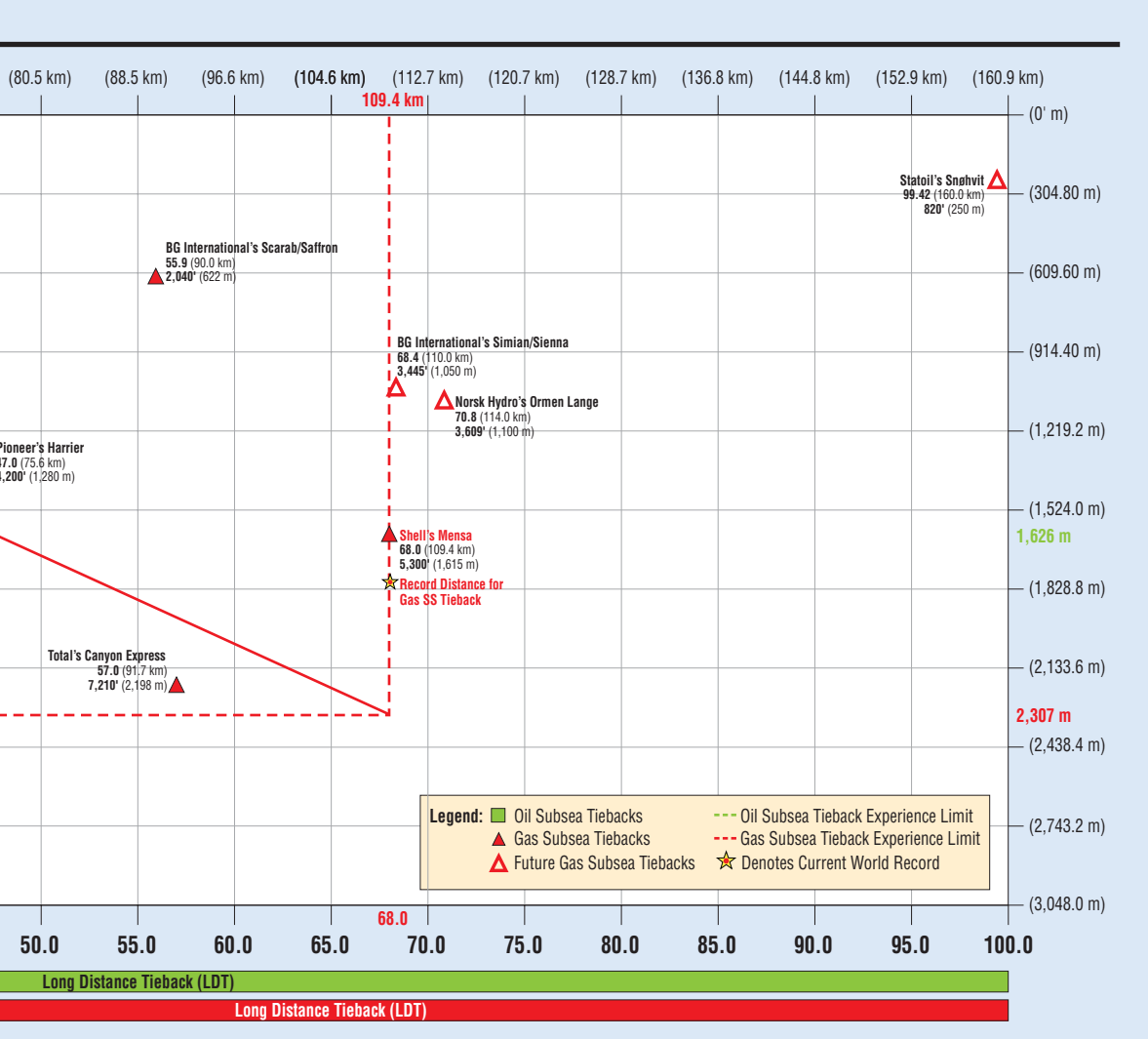
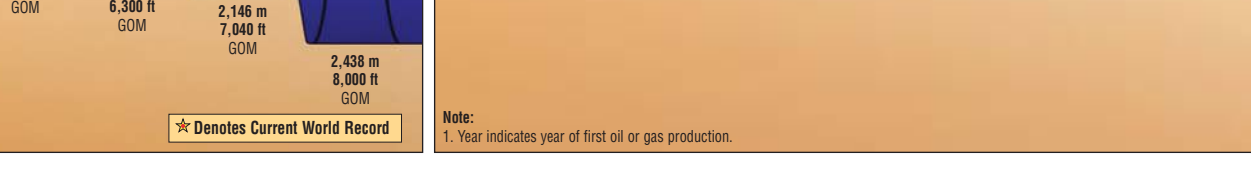
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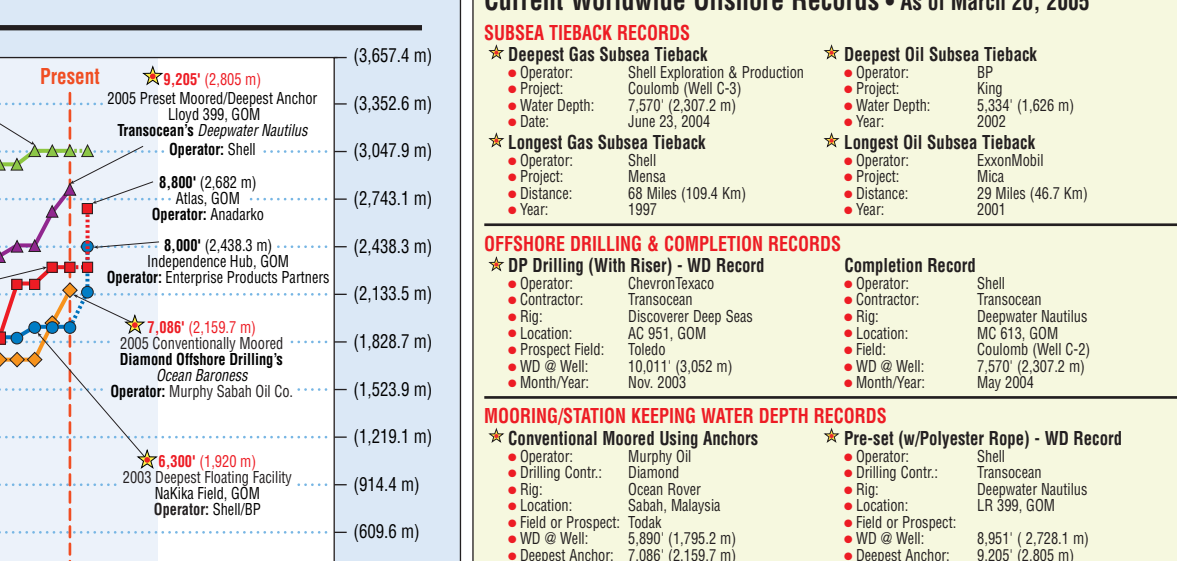
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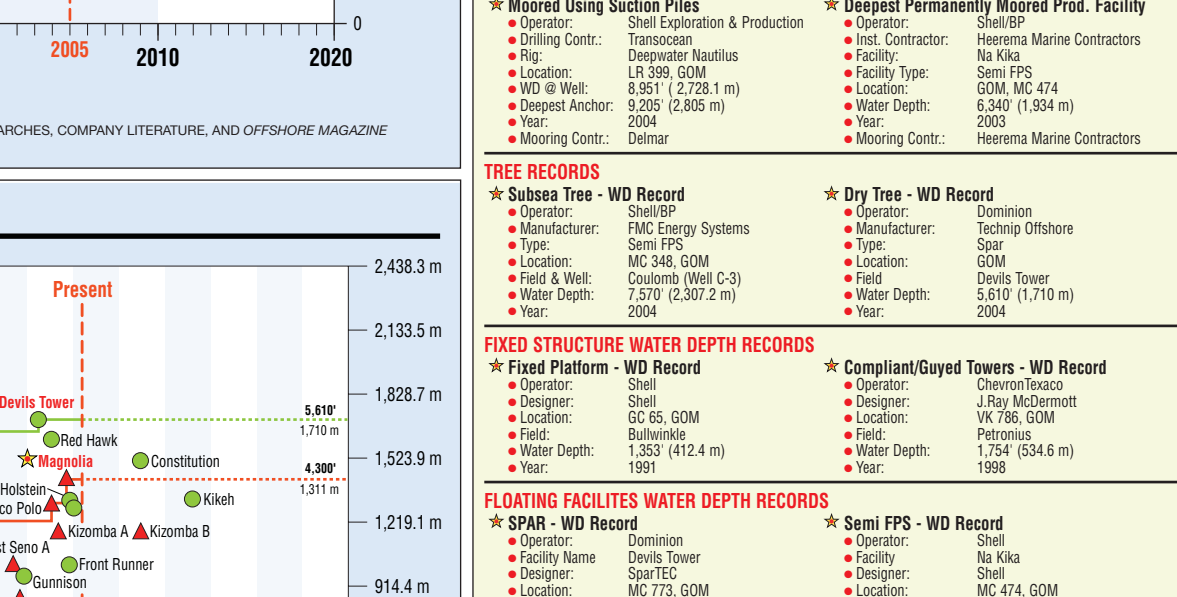
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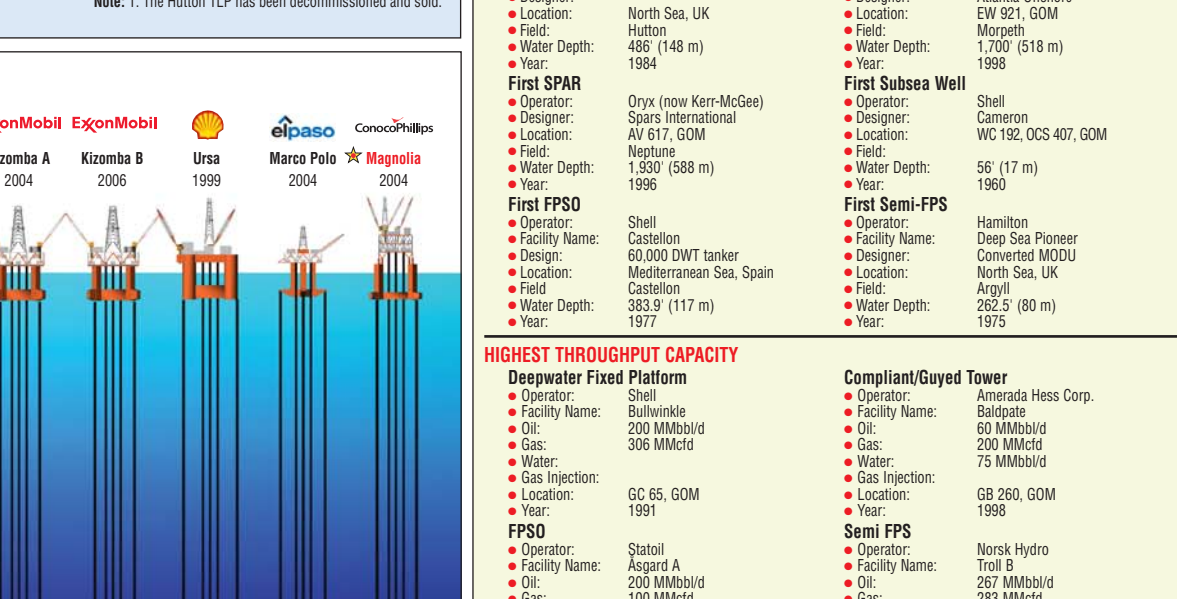
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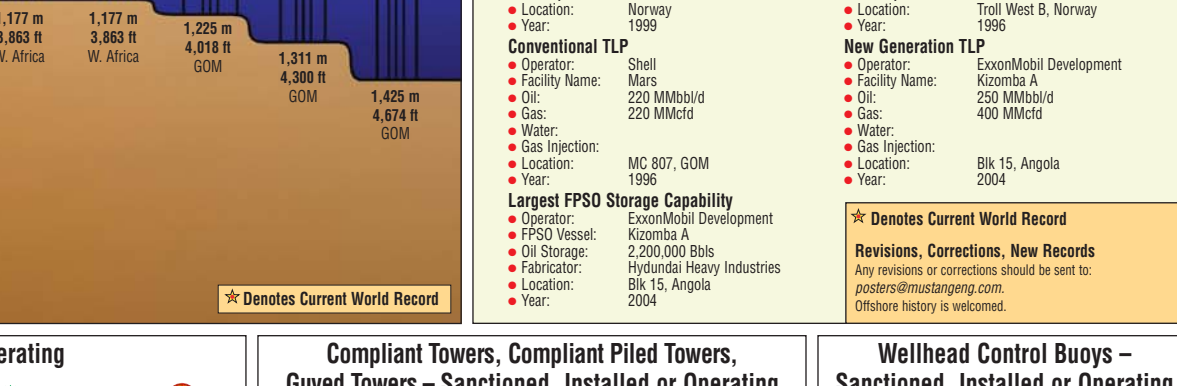
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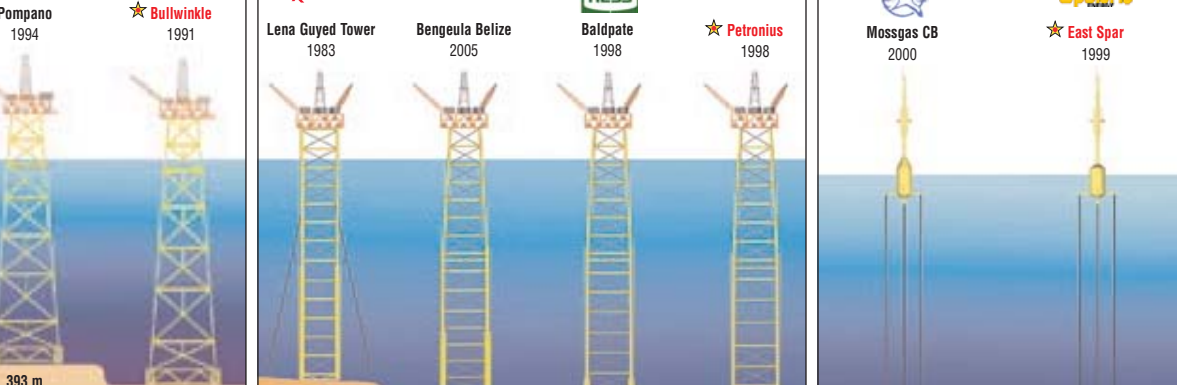
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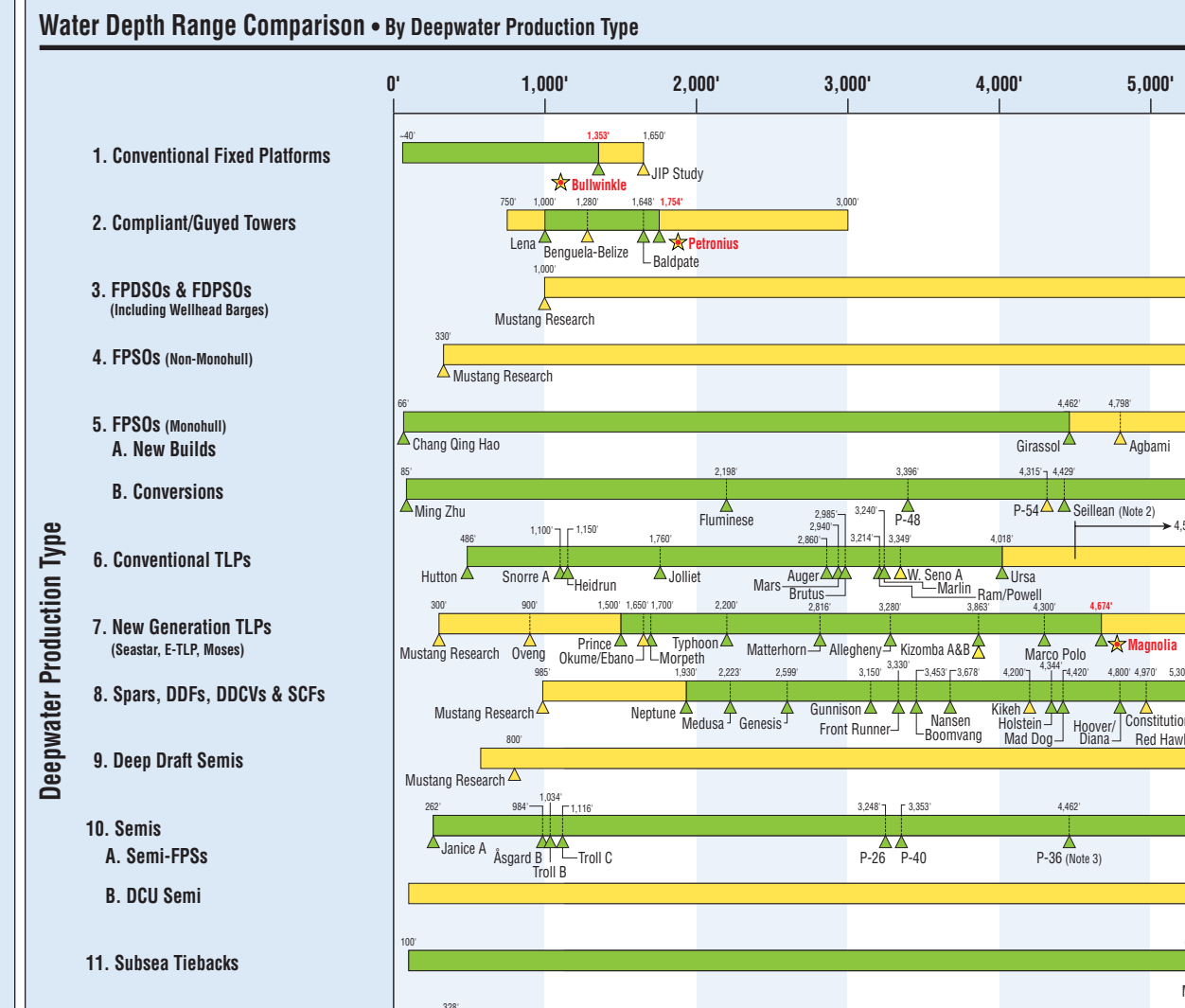
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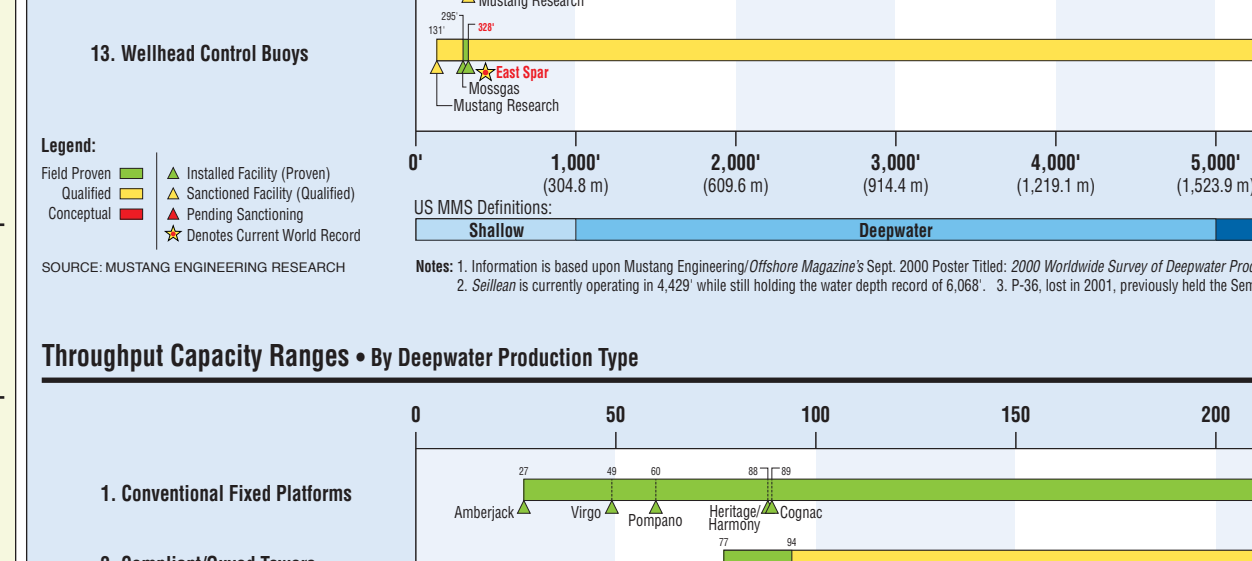
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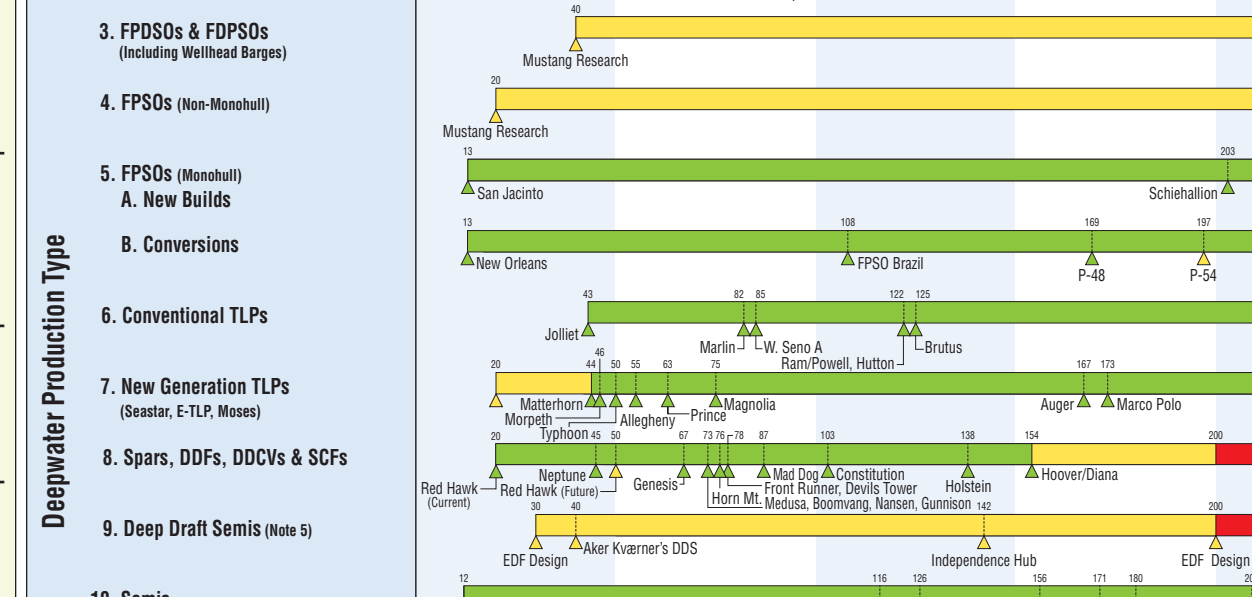
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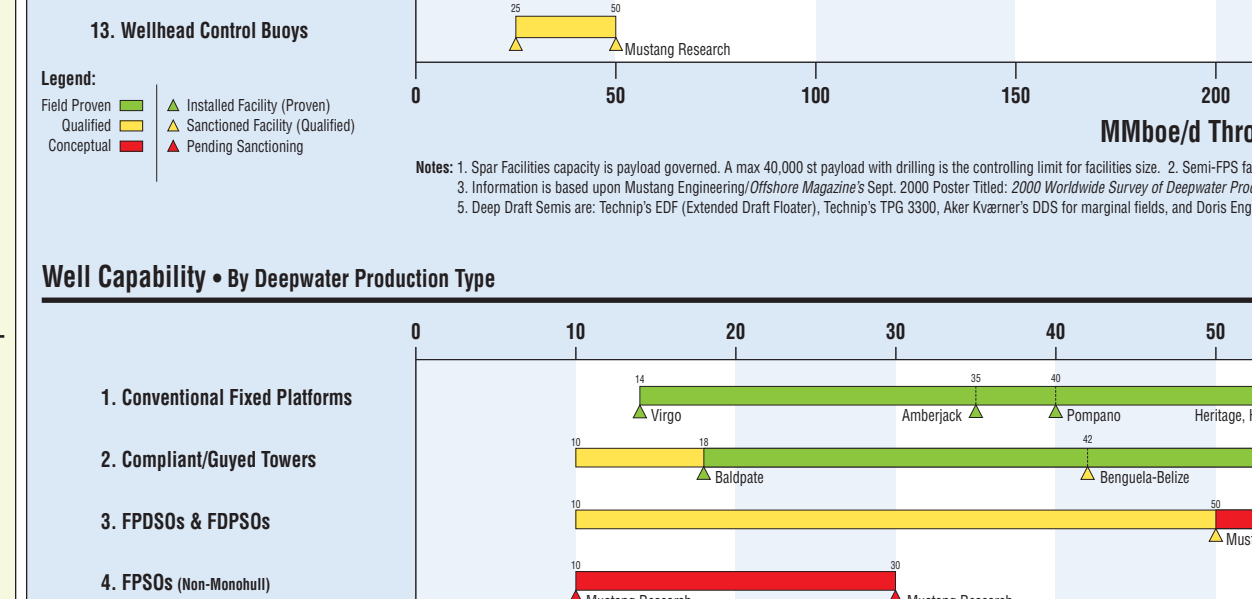
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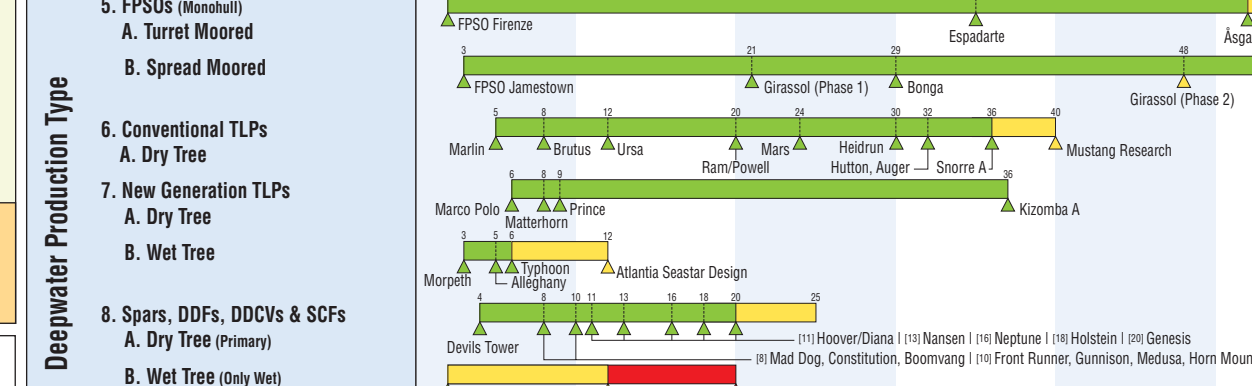
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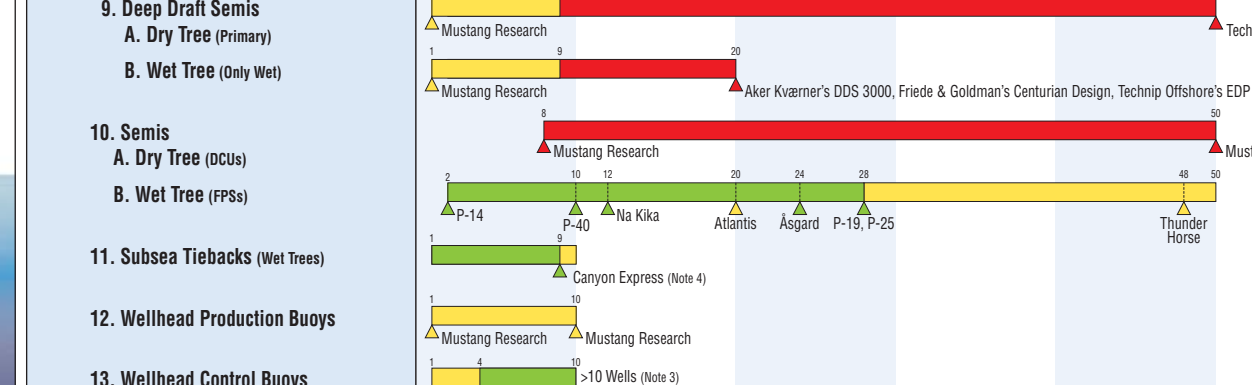
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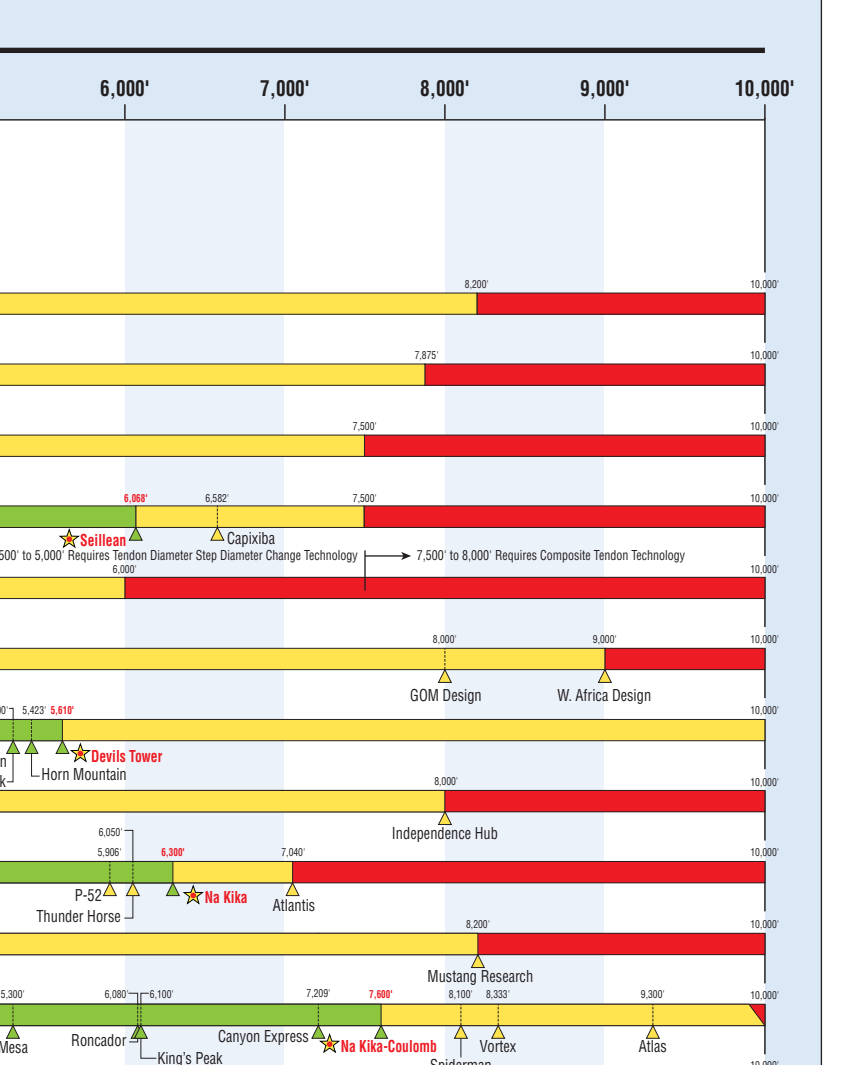
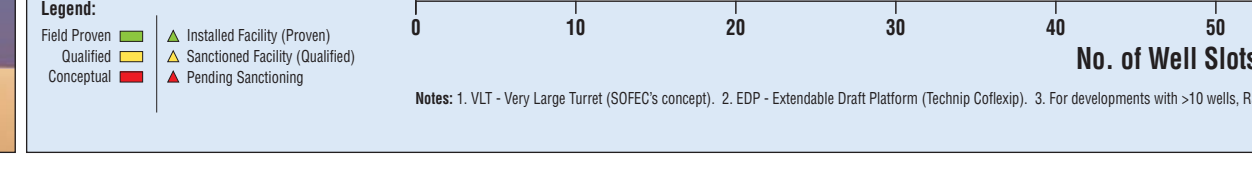
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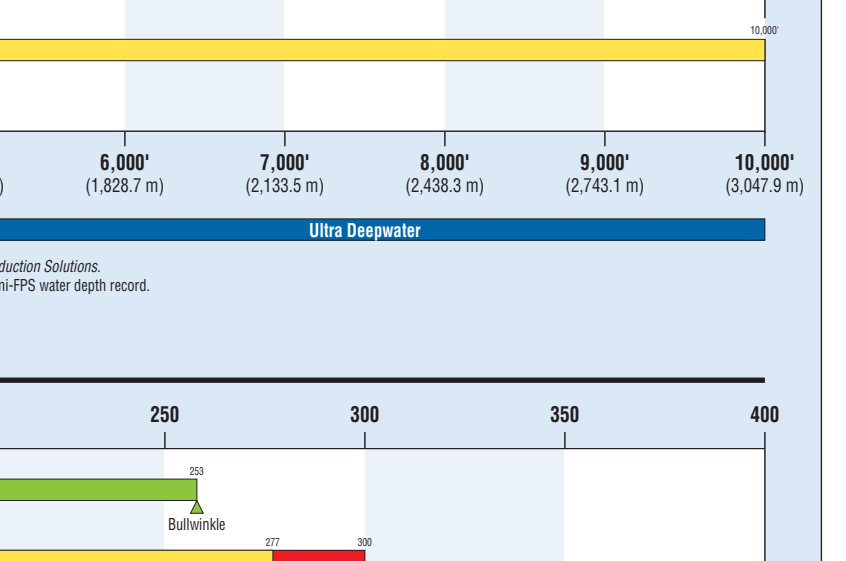
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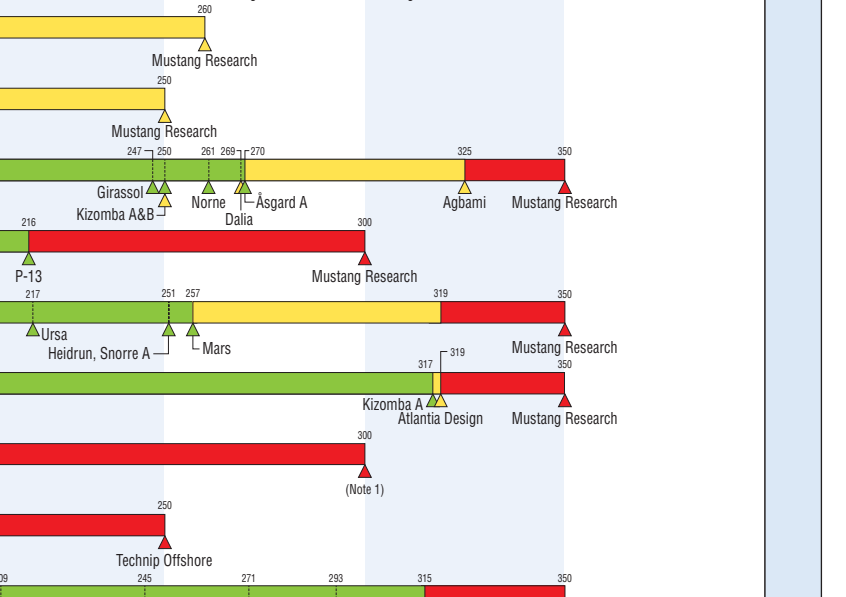
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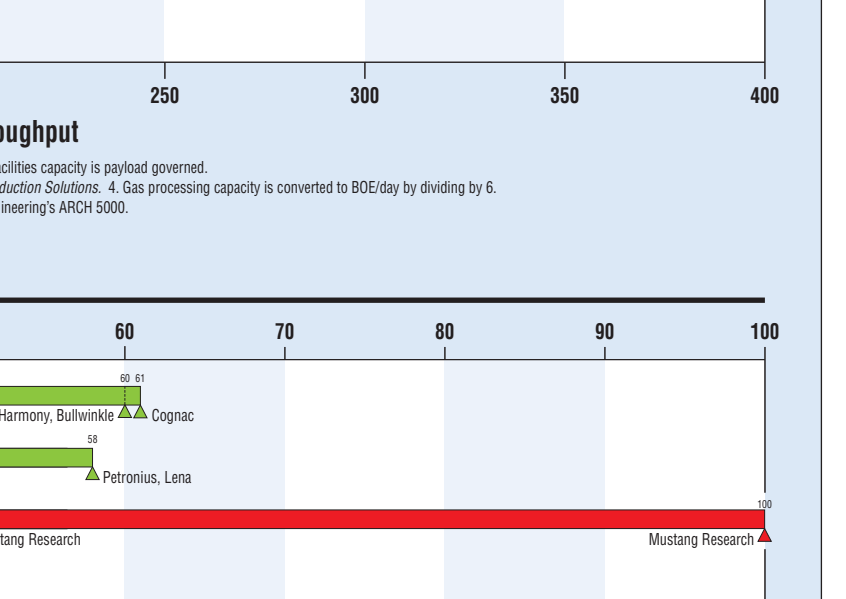
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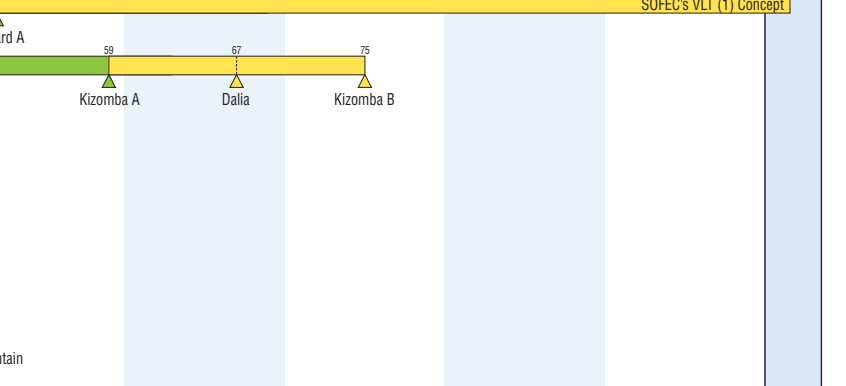
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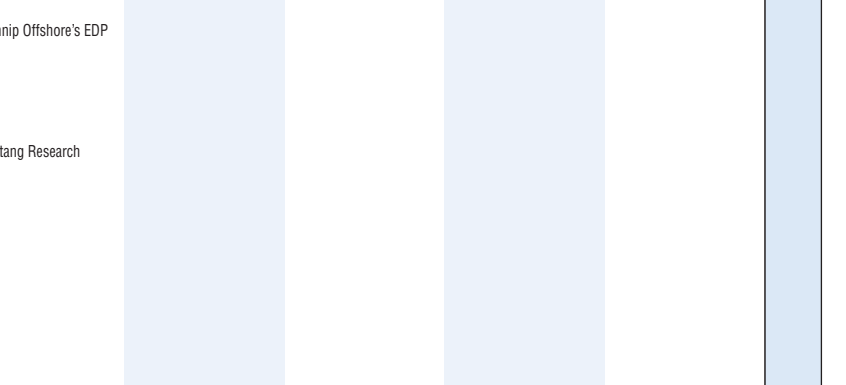
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