

An offshore oil rig is silhouetted against a bright, golden sunset over the ocean. The rig's complex structure, including its derrick and various platforms, is clearly visible against the glowing sky. The water in the foreground shows gentle ripples, reflecting the light from the sun.

Rig Stacking Strategies

August 2016

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Integrated Rig Stacking Solutions LLC



Comprehensive Integrated Services



UNIVERSAL
CORROSION SPECIALIST

E L D R I D G E

Ventilation and Noise Control

Since 1946



Full Sail Group, LLC

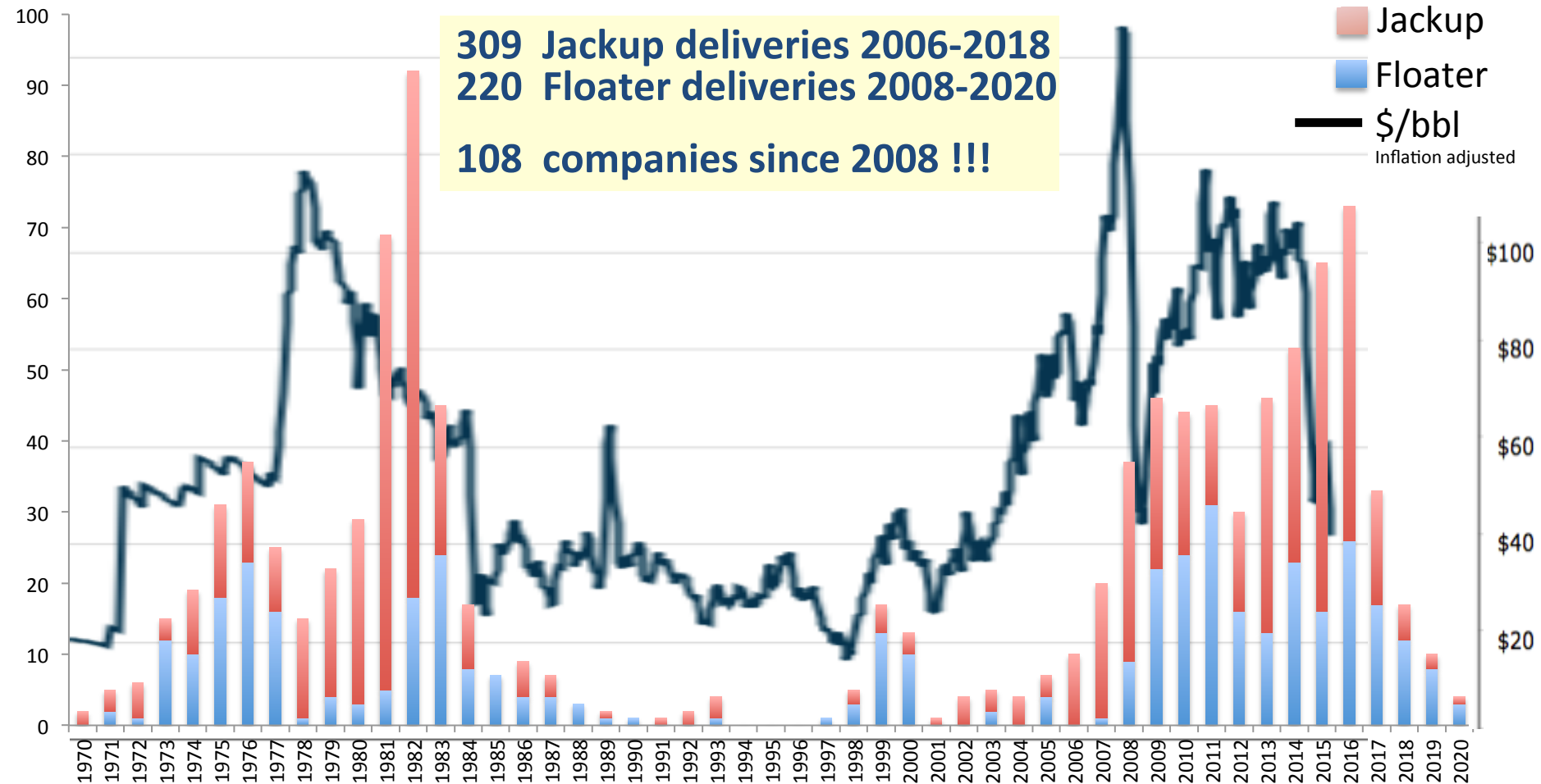
Charting the Course to Excellence

Management & support services:

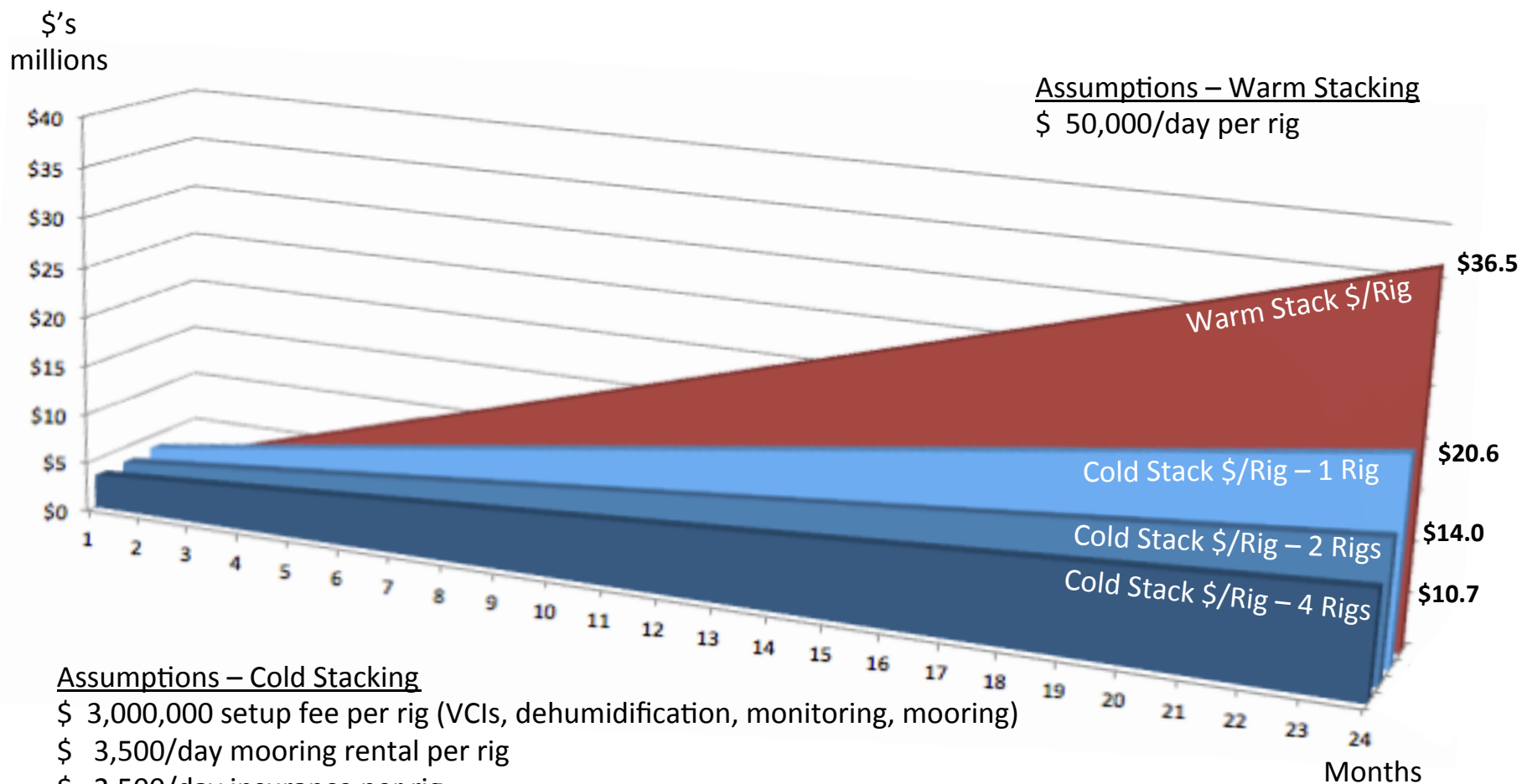
- project management & staffing
- guidance in maintaining sensitive equipment (e.g. volatile memory, software management)
- counsel in the maintenance & suspension of class & flag state certification
- underwriter engagement on insurance risk
- commissioning services on startup



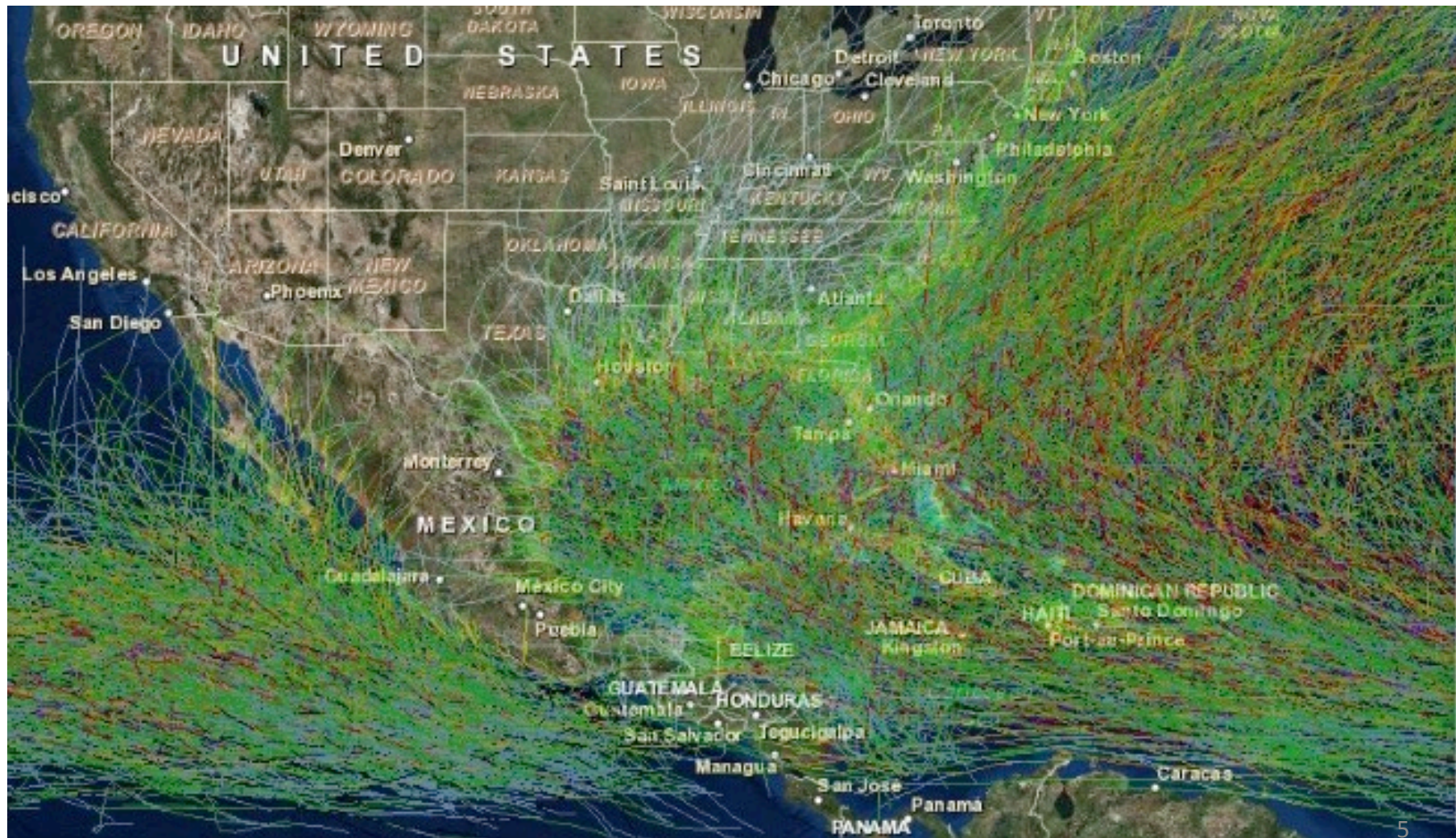
Oil Price vs Industry Build



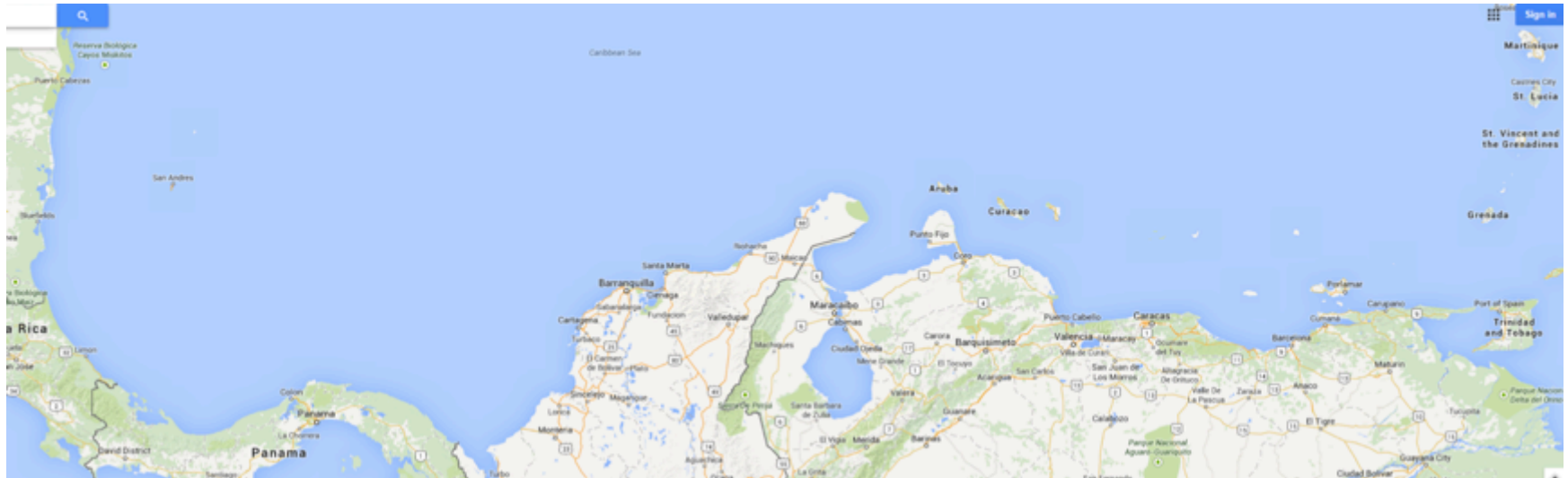
DP Floaters – Warm vs Cold Stack



Stack Locations



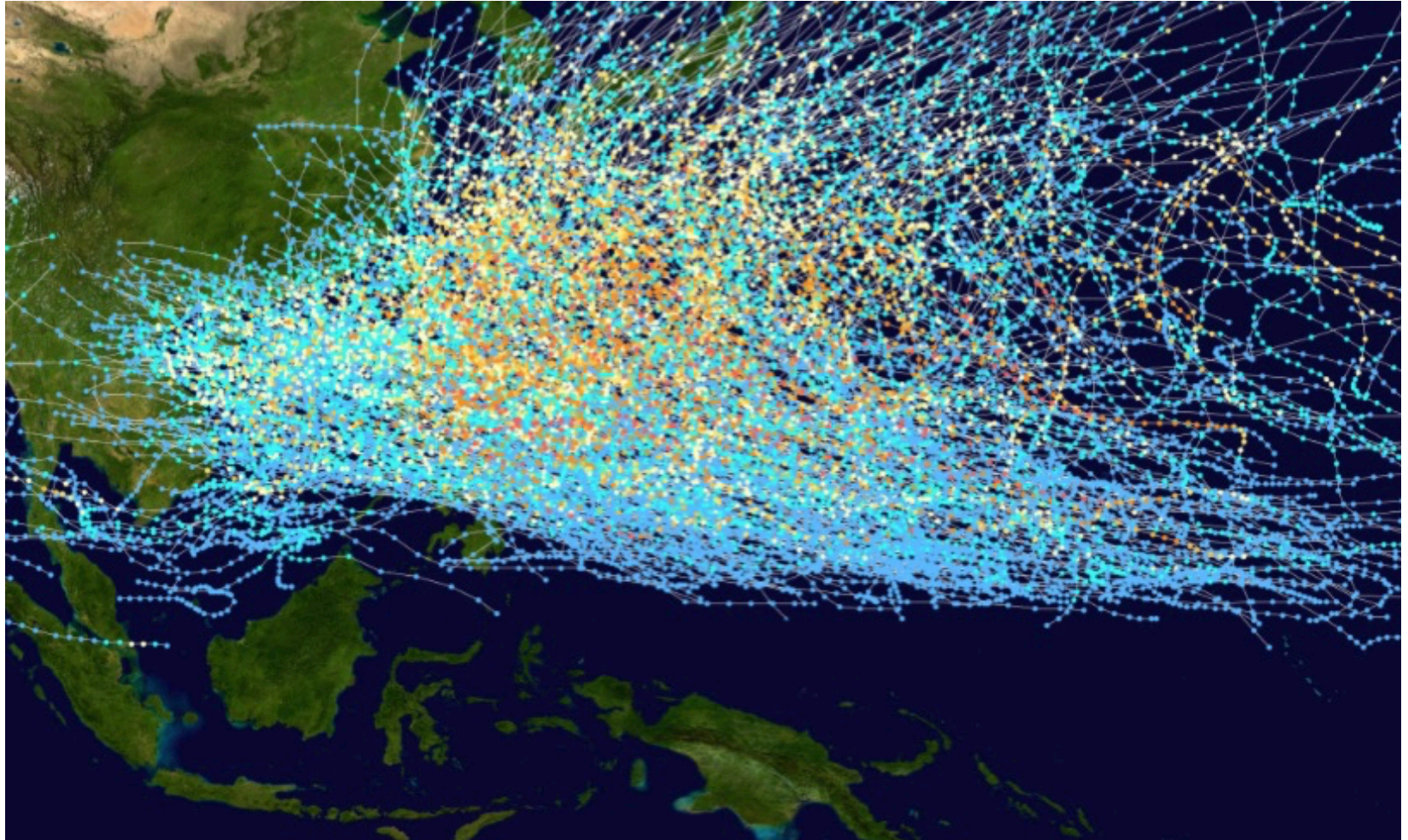
Stack Locations



The stack location must be vetted and approved:

- Surveyors
- Local Authorities (e.g. Port Authority / Coast Guard / Dept of Transport)
- Underwriters

Stack Locations

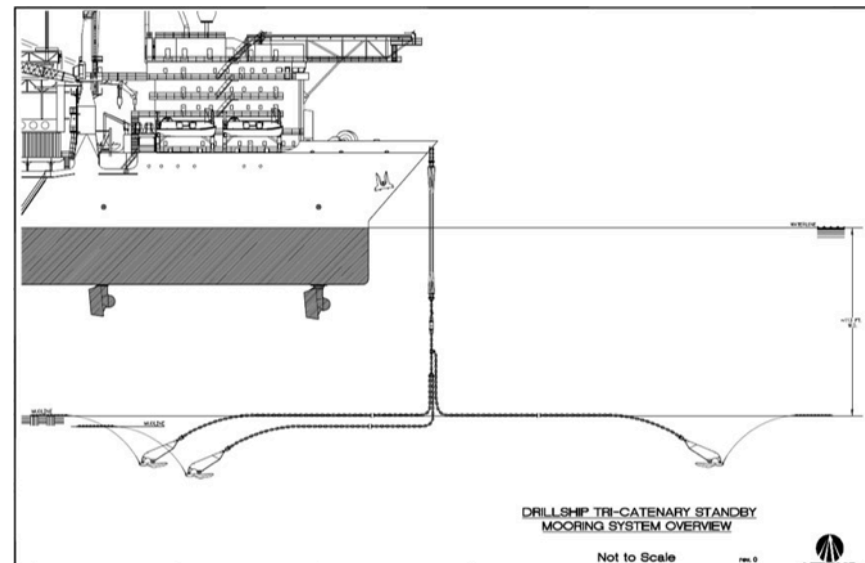


Mooring DP Rigs



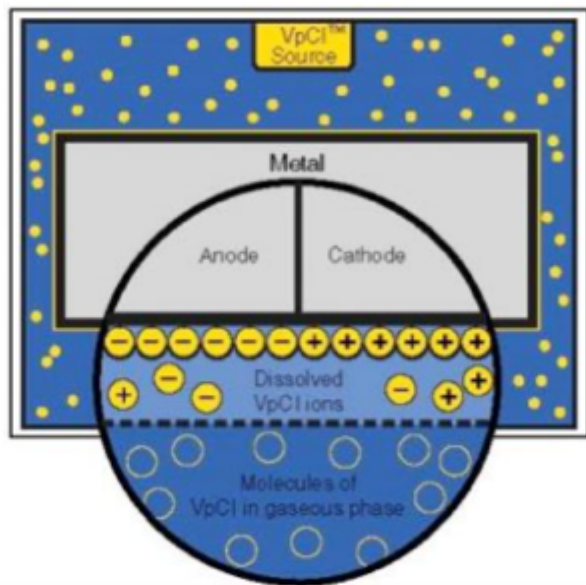
InterMoor's engineered solutions are based on METOCEAN criteria and client specifications for specific locations. In present applications in relation dynamically-positioned drillships, a "tri-catenary" mooring system has been deployed

... pre-setting three anchors in opposition on heavy chain, connected on the back of a boat to a tri-plate and then a heavy chain to a smit-bracket on the bow of the ship.



Global mooring industry leader, providing customized and effective solutions to moor dynamically-positioned rigs, particularly in scenarios where they may be unmanned www.intermoor.com

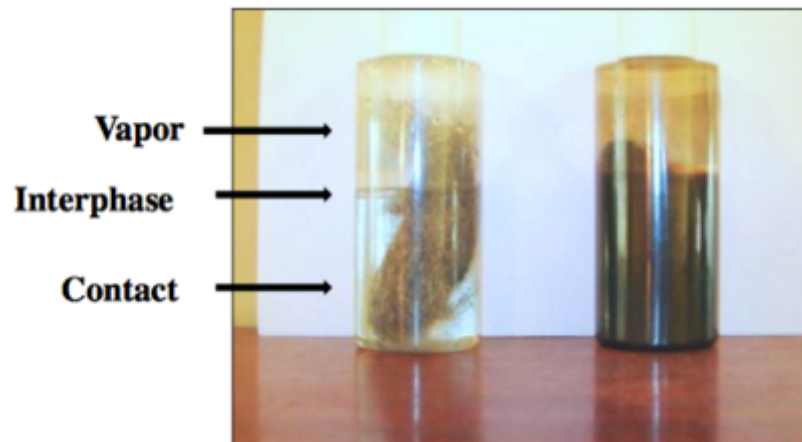
VCI – Volatile Corrosion Inhibitors



VCI powders can be dispersed through emitters; grenades; dusting; and fogging.

VCI liquids can be sprayed; brushed; rolled; dipped; fogged; and added to fuels, fluids, water, oils & lubricants.

VCI vaporize into a gas, diffuses, and is attracted to metal surfaces to condense as a thin molecular barrier.

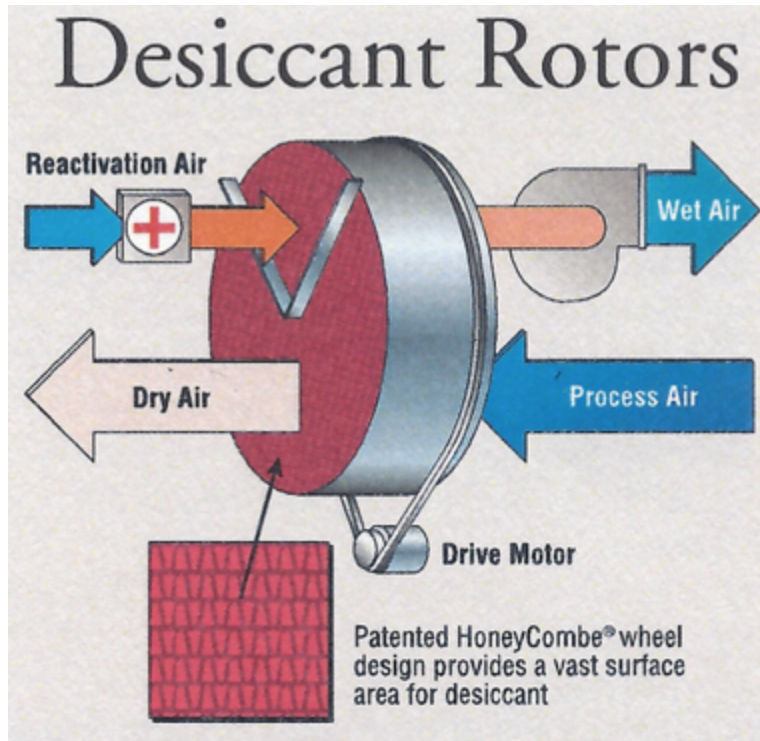


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CORROSION SPECIALIST

Experts in the application of Cortec VCI products,
with a wealth of experience in laying up rigs
www.universalcorrosion.com



Dehumidification



According to ABS, best results in preserving spaces and equipment are achieved with humidity levels between 35% - 45% RH (only achievable with desiccant dehumidification)

The Desiccant Wheel DH Unit uses a rotating, regenerative, matrix wheel that is impregnated with a hygroscopic, no-toxic element. A humidistat monitors the RH in the space and controls the DH unit.

E L D R I D G E

Ventilation and Noise Control

Since 1946™

www.eldridgeusa.com

150 years of combined experience in engineering marine ventilation systems. 70% of offshore rigs have ventilation systems engineered and furnished by Eldridge. They are the industry leader in delivering desiccant dehumidification solutions in offshore applications.

Remote Monitoring & Control

Remote Monitoring

- GPS Excursion
- Anchor Tensions
- Bilge Level
- Inclinator
- Intrusion Alarms
- Cameras
- Fire Sensor on Generator
- Fuel Level Sensor
- Dehumidification Levels



RigStat builds custom systems addressing each of the of the above as well as compliance with aids to navigation requirements while assets are stacked. They can have a worldwide reach and can link outputs wherever they are required.

www.rigstat.com

Unmanning (responsibly)

Fast Response Team

Sufficient in number & skills to deal with emergencies and perform necessary maintenance as required

- Remote Monitoring
- Competent Boat Operations
- Competent Crane Operations
- Able to Start Engines
- Familiarity with the Major Machinery (mud pumps, drawworks, propulsion, jacking system, BOP)





Unmanning (responsibly)

Emergency Procedures

- Mooring Failure
- List / Flooding
- Fire
- Intrusion
- Man Overboard
- Injury

Procedures addressed in detail and discussed in advance with the parties on the contact list.

Emergency Contact List

- Local Agent
- Port Authority
- Police
- Coast Guard
- Fire Department
- Department of Transport
- Helicopter Services
- Boat Services
- Dr / Hospital / Ambulance
- Company Contacts

Operations Readiness

1. Data interface with rig PM system – “Blue SPEAR”
2. Certification Schedule and Class & Flag State liaisons
3. OEM engagement on maintenance & preservation
4. Deferred maintenance schedule
5. A “dashboard” in summary of vessel readiness
6. Budget projections
7. Startup Execution Plan

Blue SPEAR is a proprietary database that can access SAP, Maximo or other rig PM system. The following may be loaded and tracked:

- OEM Services
- Class Periodic Surveys
- COC Compliance
- Continuous Maintenance Activities
- BOP / Control Inspection & Compliance
- PRV Schedules
- Software Management Regime
- Battery Lifecycle Schedule



FMOG Startup Performance

	Croft	Madden	Relentless
Startup Arrival to BOP latched & tested - RIH	27.3 days	27.0 days	22.5 days
Arrival GOM	2245 - 10 Jul 14 14.0 days	1330 - 8 Nov 14 13.1 days	0800 - 7 Jun 15 9.0 days
On Location	2245 - 24 Jul 14 1.5 days	1640 - 21 Nov 14 * 4.9 days	0800 - 16 Jun 15 * 2.8 days
RIH w/Spud Assy	1100 - 26 Jul 14 11.8 days	1330 - 26 Nov 14 9.0 days	0430 - 19 Jun 15 10.7 days
BOP latched & tested - RIH	0530 - 7 Aug 14	1300 - 5 Dec 14 * 2.5 days - WOW	2200 - 29 Jun 15 * 1.0 days - ROV NPT

Insurance Provisions

For those that work to our defined stacking protocols, the underwriters have made the following provisions:

- a preferred risk pool with \$750 mil coverage per rig, and a further \$200 mil allocated for casualty risk removal.
- warrant return-to-service performance for those that comply with our stacking protocols ... in practice, mapping the maintenance & compliance obligations on the forward timeline and insuring startup performance.
- pay-on-behalf options (i.e. a line of credit) immediately available in relation any claims.





Chip Keener, Rig Stacking Solutions, LLC

DRILLING
CONTRACTOR

SCAN ME to learn more about rig stack considerations from Rig Stacking Solutions President Chip Keener.



goo.gl/mo9KxF

