



02	12.08.2019	Final	Ø. Prytz <i>[Signature]</i> R. Håland <i>[Signature]</i>	K. M.T. Pedersen <i>[Signature]</i>	N. Lilleløyken <i>[Signature]</i>
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Title:

Wild Well Verification Report

Document number: SHRK-PGniG-S-RA-0128

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1 Introduction

1.1 Executive Summary

There is a PGNIg and legislative requirement to establish a contract for access to Capping Stack and related services for the upcoming Shrek well. Access to equipment to cap a flowing well is required by regulations and guidelines (PSA Activity Regulation § 86 and NORSOK D 010).

A verification of Wild Well Controls capping stack services for the Shrek well was therefore performed to ensure a high level of quality and commitment to the Shrek project. Focus for the verification has been on operational preparedness, personnel competence, HSEQ reporting and implementation of lessons learned.

No non-conformities were found, no improvement suggestions and 1 follow up action was registered.

The verification was conducted 26th June 2019 at Wild Well Control premises in Montrose, Scotland.

1.2 Verification Objective

The main objectives of the verification were:

- To provide assurance that all aspects in the defined sub-elements on a higher level for the delivery of the service incl. within budget and with due consideration for HSE are in place.
- To identify elements / steps in the processes for the subject service line and ensure such steps are followed, and by whom. Indeed also to identify PGNIg engagement and actions during the delivery of service.
- Confirming that Wild Well Control management system and organization is in accordance with PUN and Well Expertise's expectations with regards to robustness and HSEQ follow up

1.3 Criticality of the Service

Strategic	Primary well delivery supplier - extended part of PUN organisation or very high cost service line
Tactical	Drilling equipment and services
Transactional (commodity)	"rope, dope and soap" off the shelf products or services

The Capping Stack service is categorised as a 'Tactical' service.

1.4 Participants

Role	Name	Position	Company
Verification Lead	Nils H. Lilleløyken	Drilling Manager	PGNiG Upstream Norway AS
Auditor	Reidar Håland	Procurement and Contracting Specialist	PGNiG Upstream Norway AS
Auditor	Øystein Prytz	Senior Drilling Engineer	PGNiG Upstream Norway AS / Well Expertise
Auditee	Barry Moir	Managing Director	Wild Well Control
Auditee	John Eddie	Well Control Engineer	Wild Well Control
Auditee	Paul Webster	Response Technician	Wild Well Control

2 Findings

2.1 Deviations

Verification performed according to plan.

2.2 Warrant

The verification is warranted in the Shrek Verification Plan.

The verification is based on PUN supplier risk assessment which requires a verification of Wild Well Control services prior to start-up of the Shrek operation.

2.3 Non-conformances

There were no non-conformances registered during the verification.

2.4 Improvement suggestions

There were no improvement suggestions registered during the verification.

2.5 Follow up actions

Item	Actions	Responsible for follow up
1	Wild Well Control to provide with technical and logistical input to the Blowout Contingency Plan for Shrek.	Øystein Prytz / Barry Moir

The follow up action is transferred to the PUN 2019 Audit, Review and Verification Register, stored on Projectplace for further follow up: <https://service.projectplace.com/pp/pp.cgi/r1588228898>.

2.6 Scope of work with answers and comments

Id.	Reference	Finding	Category I / O / D
1.0	Presentation of PGNIg/Shrek well and Wild Well Control. Current Status.		
1.1	Intro	Nils H. Lilleløyken and Barry Moir.	
2.0	PGNIg verification of Wild Well Control Service Delivery		
2.1	Management system	Service company shall demonstrate Management system in place and confirm which legislative requirements adhered to. Operating system/manuals available for relevant personnel? PGNIg Comments / Observations: DNV-GL certified, ISO 14001:2015 and valid for Emergency Response, Firefighting, Well Control, Engineering and Training services. OHSAS 1800:2007 (Occupational Health Safe Mgmt. system). Vendor Audit regime in place.	
2.2	Operational support	Service company shall confirm its operational support during mobilisation, installation and operation of provided services. Service company shall name sub-contractors involved in the mobilisation, installation, operation and demobilisation of the equipment. Audit and follow-up of sub-contractors.	

		<p>PGNiG Comments / Observations:</p> <p>The Capping stack is mobilized from Montrose, where WWC provide support during the mobilization phase. WWC provide additional equipment and personnel throughout the entire incident, shipment, readiness, and deployment (and demobilization) in order to quickly resolve an incident. Personnel involved in Logistics planning to get equipment to the incident location.</p>	
2.3	Scope of work	<p>The contractor shall demonstrate capability of supplying necessary equipment to clear and cap a well on top of a non-functional BOP.</p> <p>PGNiG Comments / Observations:</p> <p>WWC have been `in business` for a long time, and provide competence and confidence that equipment are in good shape and certified for use. Required personnel seems very qualified and been through appropriate trainings (ref. competence matrix). Demonstrated good knowledge about transportation means and availability of appropriate transportation / lifting vessels.</p>	
	Personnel / Organisation	<p>Service provider to provide an organogram for the company. Document existence of a Training Competency and Experience matrix (or similar). Identify Key personnel and document a manning plan for the project in the event of mobilization.</p> <p>PGNiG Comments / Observations:</p> <p>WWC presented its personnel, and documented the educational process in the company (in-house training system rolled out from HQ, Houston). Competence and training matrix was presented. Supervisory personnel, in case of a mobilization situation was presented. Duty roster in place for on call personnel. Provided a robust organization UK / Houston. Learning Management System (LMS) drive training and evaluation. Training records are maintained in `Wild Well University`.</p>	
	Operations and maintenance management	<p>Document an Operations and Maintenance Management system in place. Company to document operational and technical standards adhered to.</p> <p>PGNiG Comments / Observations:</p> <p>Certification & Classing of equipment was demonstrated. Maintenance program in compliance with procedure and provide full documentation. System in place for QA/QC of purchased and rented equipment. Readiness, mobilization and QC routines during call-out.</p>	
	Capacity and support	<p>Numbers of Well Capping systems available? How many simultaneous events can be coped with? What Third-Party assistance and agreements are in place? What about long lasting events; any special arrangements?</p>	

		<p>PGNiG Comments / Observations: One 10K and one 15K Capping Stack is available in Montrose, UK. The 15K capping stack will be available for Shrek in case of incident. Personnel available in Montrose. Support and Specialist personnel available for HQ, Houston. Good oversight of vessel fleet (suitable for transportation and lifting of relevant equipment). Good understanding of BOP suppliers equipment.</p>	
	Contingency and relief well	<p>What if operational failure occur? In such events, contingency plans to be described. Company to describe delivery process and possible support that can be provided to PGNiG in a Relief Well situation.</p> <p>PGNiG Comments / Observations: Provided a substantial Relief Well Project list. Provide Personnel and Engineering support, incl. Improve of design, Contingency planning, Emergency Response planning, etc.</p>	
	Logistics and time line	<p>Company to provide overview of Time line and Logistics process and requirements through Mobilisation, Deployment and Demobilisation of the service, incl. Onshore, Marine & Subsea services.</p> <p>PGNiG Comments / Observations: Demonstrated good understanding of Logistics and Supply Chain in an incident situation. Will be available to provide support for vessel, personnel if requested.</p>	
	Cost	<p>Company to demonstrate a rigid cost control process, showing accuracy from budgeting to invoicing.</p> <p>PGNiG Comments / Observations: Provided details of cost impact in the event of mobilization for Capping stack and other relevant cost.</p>	
	Lessons learnt	<p>Company to demonstrate a Lesson Learned process and confirm typical lesson learnings from previous contracts.</p> <p>PGNiG Comments / Observations: The Service Company has a lesson learned process and tap into the Global organization for this process.</p>	
	PGNiG support	<p>Based on previous contracts; what can PGNiG do to ensure an optimal delivery of the Well Capping service.</p> <p>PGNiG Comments / Observations: WWC requested a close working relationship during the remaining part of the planning phase and throughout the operational phase.</p>	

3 Conclusion

Wild Well Control management system is compliant with regards to the subject of HSE reporting and follow up, lessons learnt and transfer of experience (DNV-GL and ISO 14001:2015 certified). The overall impression by the auditors is that Wild Well Control services are well prepared for the Shrek well. The technical solutions presented for the Shrek well in a contingency scenario seem robust.

4 Appendix A Wild Well Control verification presentation



June 2019

Agenda

1. Presentation of PGNiG
2. Presentation of WWC
3. View the Capping stacks – Tier 1 & Tier 2

LUNCH

4. Presentation on;
 - System for QA/QC of purchased or rented equipment
 - Maintenance and inspection of equipment
 - Readiness, Mobilisation and QC routines during call-out
 - Securing of Personnel Resources
 - Personnel Competence Requirements
5. Closing Summary / Actions

Representing PGNiG:
Nils Lilleløyken, Drilling Manager
Reidar Håland, Procurement and Contracting Specialist
Øystein Prytz, Drilling Engineer, Well Expertise AS

Representing Wild Well Control:
Barry Moir, Managing Director
John Eddie, Well Control Engineer
Paul Webster, Response Technician WellCONTAINED

Site Orientation, HSE Moment

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Wild Well Control

- Founded by Joe Bowden, Sr., in 1975
- World Headquarters in Houston
 - UK
 - Norway
 - MER
 - SEA
 - Strategic locations
- Acquired in 2001 by Superior Energy Services
- ISO 9001, 14001 & OHSAS 18001 certified

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Superior Energy Services

- Acquired in 2001 by Superior Energy Services
- NYSE listed Ticker reference SPN
- 14 Lead companies within the group



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Well Control Response

- Oil & Gas Well Blowout
 - First response
 - Well control
 - Well kill
 - Well recovery
 - Relief well
- Pressure Control
 - Kick resolution
- Unconventional Intervention
 - Cryogenic freeze
 - Hot tapping
 - Valve drilling
 - ControlSEAL

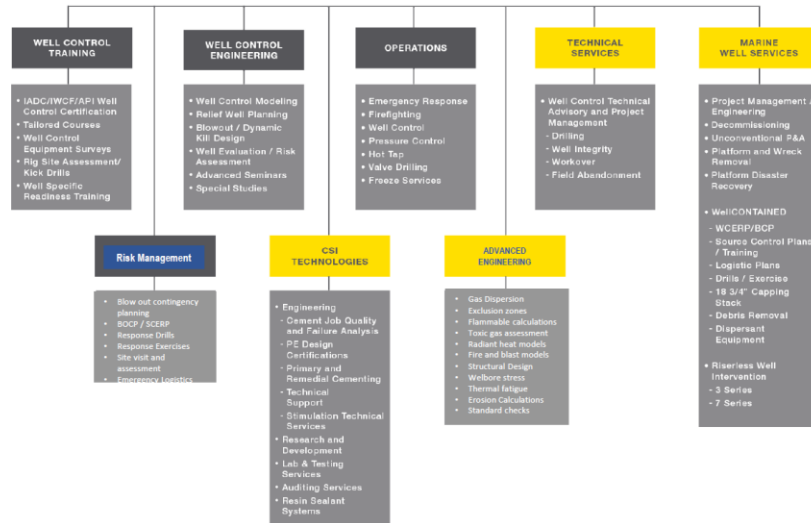
80%

of all well control incidents worldwide are resolved by Wild Well

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Complete WWC services...



SERVICES IN YELLOW ARE OUTSOURCED BY THE COMPETITION.

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Well Control Engineering

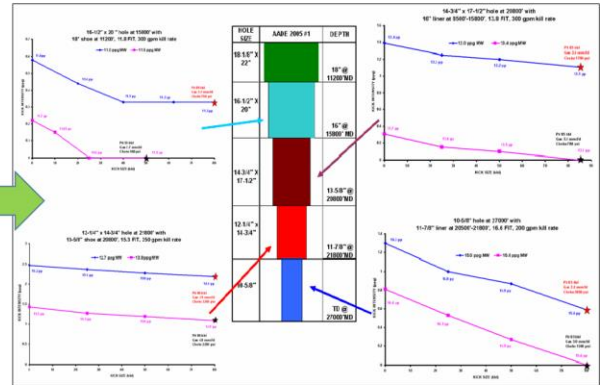
Prevention rather than cure



What makes Wild Well stand out



Operations



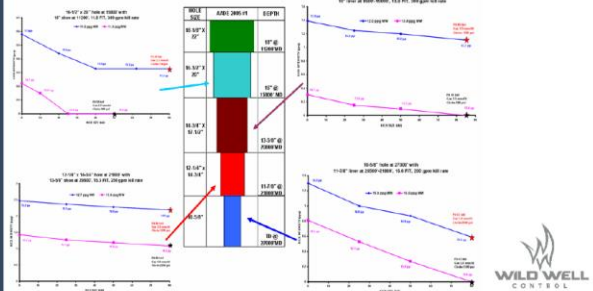
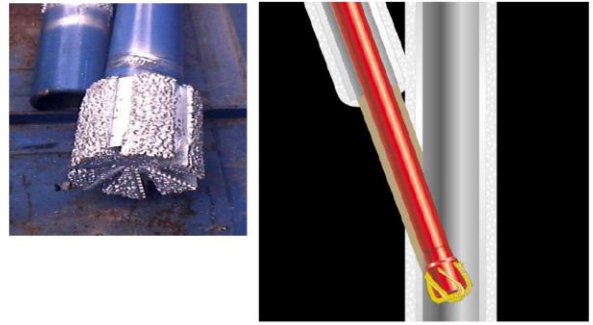
Engineering Services

Integrated Services

Well Control Engineering

- Used as a powerful tool in support of operations
 - Dynamic kill calculations
 - Kick tolerance
 - Pumping requirements
 - Kill option evaluation
 - Exclusion zone modelling
- More clients are now doing engineering work upfront
 - Improve well designs
 - Contingency planning – what may be required if an incident occurs
 - Emergency response planning, BOPC, SCERP

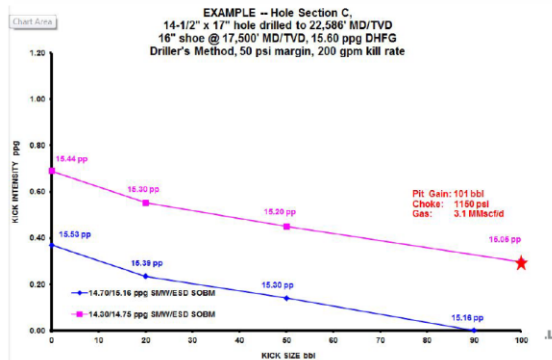
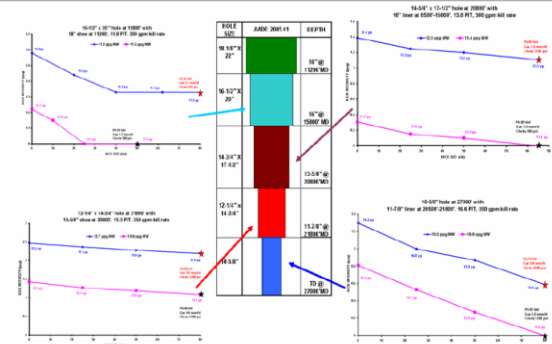
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Well Control Engineering

- Kick tolerance
 - Multiphase modelling tool
 - Simulate the well taking a kick while drilling
 - Circulate the kick using conventional Well Control techniques
 - Determine the maximum pressure / volume the well design can take
- Dynamic kill
 - Multiphase model for a relief well
 - Determine the required kill rate, wellbore pressure profiles, required volume and density of kill fluid
 - Operators feed the results into well plans – proving the well can be killed in a worst case

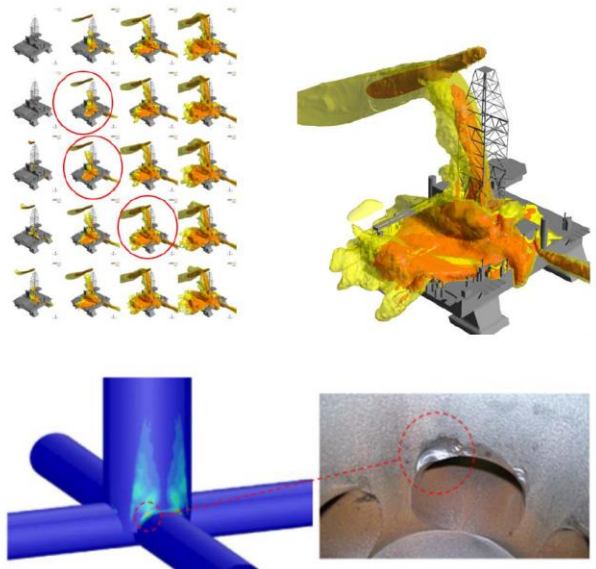
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Well Control Engineering

- Advanced Engineering studies
 - Gas dispersion / fire and blast
 - Macondo post investigation
 - Safety zones for operations
 - Radiant heat, noise modelling
 - Evacuation plans for wells in crowded communities
 - Structural analysis and design
 - Wellbore stress analysis, thermal shock
 - Erosion analysis
 - Capping studies – how does a cap withstand a well blowing at a high rate?

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Well Control Engineering

- In 2013, found there was a lack of experimental data for subsea plumes
 - Relief well placement – exclusion zones
- WW entered into JIP with SINTEF + operators in 2014
- Conducted experiments to gather data and validate modelling
- More experimentation complete & ongoing
 - 140m deep
 - 360m deep
- Mass transfer model for gas dissolution
- Results classified, but can get access to this technology by working with WW

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6/27/2019

Relief Wells

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Relief Wells

- The world's foremost team of Relief Well Experts
- Wild Well offers Project Engineering and Design services for the safe and successful execution of the Relief Well Operation
 - Relief Well Design
 - Relief Well Intersection Management
 - Hydraulic Kill Management
 - Wellsite Supervision

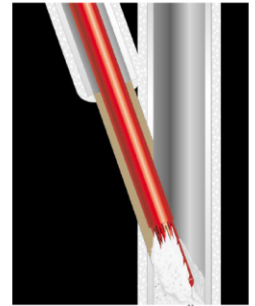
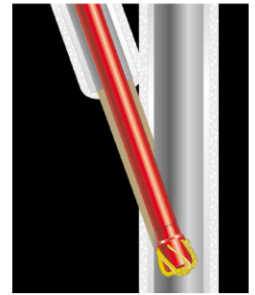
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Three Simultaneous Relief Wells Planned, Drilled and Executed - Intercept Successful Offshore Mediterranean



- WWC Personnel Relief Well Project List
- Since 1988
 - 139 Started
 - 74 Completed with Intersect
 - 70% non-blowout P&A
 - Personnel with 30 years experience drilling relief wells
- Most Recent
 - 2017 Offshore - South America
 - 2018 Offshore - UK North Sea
 - 2018 Delta - West Africa

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WILD WELL
CONTROL

WellCONTAINED

What is WellCONTAINED?

- WellCONTAINED is Wild Well Control's toolkit for subsea blowout response.
- More importantly, it includes Wild Well's personnel with experience in well control, subsea operations, debris removal, and relief well operations.
- There is no handoff of responsibilities – Wild Well is there with the equipment and personnel throughout the entire incident to assist Clients in successfully and quickly resolving an incident.
- The Capping stacks and shears included in the kit are based on 40+ years of experience in responding to blowouts.
 - Capping stacks purposefully designed to have 18 3/4-in. unrestricted bore.
 - Individual equipment components selected based on fit for purpose, robustness, and reliability.
 - Shears have an extensive track record of success in use for land and subsea debris removal in emergency response situations.

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Wild Well Control Invests in Expansion of Montrose Facility

Wild Well Control, a Superior Energy Services company and the global leader in well control and engineering services announces the expansion of its Montrose Facility at South Ferryden.

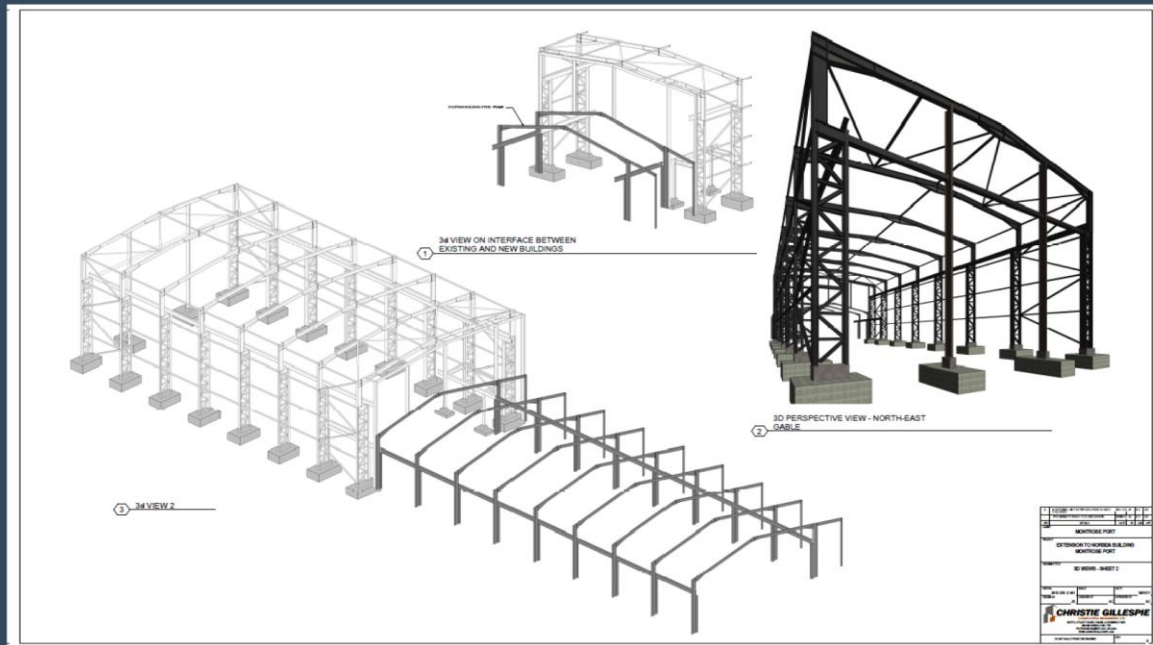
Wild Well maintains the WellCONTAINED™ subsea containment system at the Montrose Facility. WellCONTAINED™ provides the most comprehensive package of subsea emergency response services in the industry. The Montrose Facility equipment is staged in a ready-to-deploy state and includes full subsea well intervention systems, including a subsea capping stack, debris removal shears, hardware kits for the subsea application of dispersant and inhibition fluids, and other ancillary equipment.

"This facility investment reflects our long-term commitment to support our clients by providing the best-in-class response to a subsea capping and containment incident. Our commitment to the existing warehouse and extension build-out will provide an optimum working environment for our WellCONTAINED™ service line and will be central to our continued success" said Barry Moir, UK Managing Director for Wild Well. "We are very pleased to be working with the Montrose Port Authority on this exciting development. We look forward to building on our excellent working relationships held with all stakeholders and the community at-large through our commitment to the region" added Moir.

Along with dedicated subsea containment equipment, capping stacks, and support equipment, such as specialised debris clearing equipment and critical dispersant injection equipment, Wild Well's highly qualified emergency response well control and subsea engineering personnel deliver innovative solutions in a timely manner. Wild Well Control is the industry leading provider of well control response, subsea and well control engineering, and training services.

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WellCONTAINED – Tier 1 (for reference)

- Two complete 18-3/4" 15K Subsea Capping Stacks and Accessories
- The subsea capping stack staged in Montrose, Scotland consists of
 - Three (3) 18-3/4" 15K CIW Type TL BOPs, each with Shear Rams installed.
- The subsea capping stack staged in Singapore consists of,
 - Two (2) 18-3/4" 15K CIW Type U BOPs with Shear Rams installed in each
- Both stacks are fully assembled and fully pressure tested and inspected once a year. All Equipment is staged broken down into individual components and crated for immediate air shipment to any subsea well control emergency on a global basis
- Access to the WellCONTAINED membership is available across various subscription terms
- WellCONTAINED Equipment includes not only the Capping BOP assembly, but also Subsea Dispersant Application equipment, Debris Clearing equipment (hydraulic shears), ROV Hydraulic Power Units and multiple types of subsea connectors



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Tier 2 - Capping Stack –

General Specifications:

- Primary Bore Size: 13-5/8"
- Pressure Rating: 10,000psi (690 bar)
- Water Depth Rating: 10,000ft (3,000m)
- Primary Bore Barriers: (2) Blind Shear Rams
- Flow back Capability: (4) 3-1/16" Outlets
100,000 BPD
- Wing Barriers: (8) 3-1/16" Gate Vales
(2 per outlet)
- Chemical Injection: 17H High-Flow Hot Stab
- Overall Weight: 75 MT
- Overall Height: 22'-9" running configuration

Interfaces:

- Upper Interface: 13-5/8" HC Hub
- Lower Interface: 18-3/4" Cameron HC or H4 Connector
- Wing Interface: (4) 3-1/16" HC mini connectors
- ROV Controls: 17H High-Flow Hot Stab Manifolds & Class V Torque Buckets
- Tier 2 access includes Debris Clearing, Dispersant Injection & Subsea HIPU



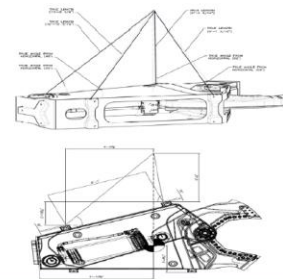
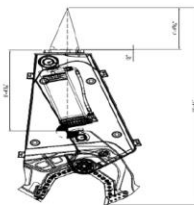
WellCONTAINED – Debris Removal System

Model 2500 Shears
46" Jaw Opening
Weight 21.3mt
Length 216"
Height 106"



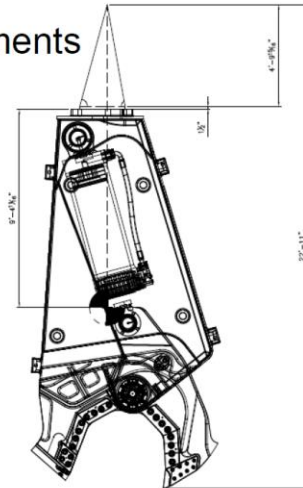
Debris Clearance

▪ Rigging Arrangements

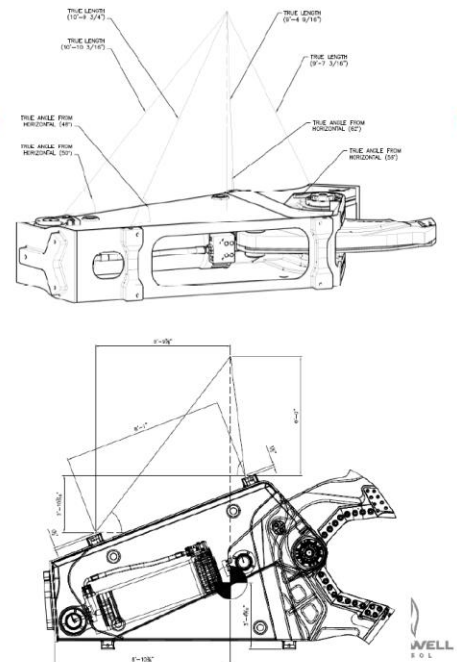


Debris Clearance

■ Rigging Arrangements



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Dispersant Equipment

- Initial Equipment on location to control oil reaching surface and coastlines.
- 3ea Skids
 - Dispersant Manifold
244x320x175cm, 1588kg
 - Dispersant Hose Frame
554x229x218cm, 3063kg
 - Dispersant Wands
381x122x23cm, 89kg



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Forum ROV Intervention Skids

- Skids at WWC warehouse in Montrose.
- Required minimum hydraulic input of 3,000psi at 60 GPM for optimal performance output
- Set up to work on all ROVs, regardless of manufacturer
- Rated to 3,000m water depth
- Output pressures up to 10,000psi



DEPLOYMENT PLANNING

Capping Stack Deployment

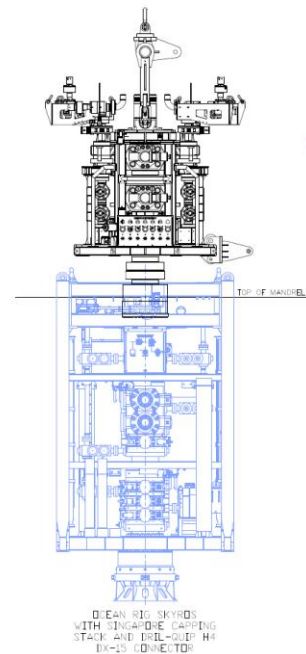
- Preplanning is a must
- Interface check with rig BOP
- Logistics planning to get equipment to location
- Pre-plan deployment vessels / options
- **Shallow environment** - additional considerations
 - Gas plume at surface
 - Deployment equipment – may require different techniques
 - Additional equipment to monitor and mitigate gas
- **Ultra deep water (>7,000ft)**– additional considerations
 - Availability of suitable equipment
 - Deployment equipment suitable for working depths
 - Rig deployment of capping stack and possibly debris removal equipment

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BOP / Wellhead Interface Checks

- Free service to all WellCONTAINED members to check interface to WWC stacks. We charge for alternative stacks.
- Check primary connection point (LMRP/BOP connection)
- Check secondary connection point (Wellhead)
- Check LMRP and BOP for subsea access to recovery rigging.



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VIEW CAPPING STACK

BREAK FOR LUNCH

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Presentation Topics to PGNIg



- System for QA/QC of purchased or rented equipment
- Maintenance and inspection of equipment
- Readiness, Mobilization, and QC routines during call-out
- Securing of Personnel Resources
- Personnel Competence Requirements

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Lundin Norway Audit

Audit team

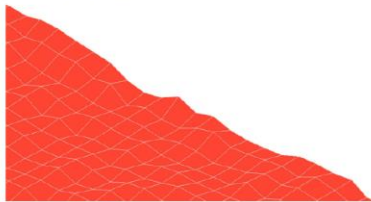
- Tor Egil Nielsen, HSEQ Advisor, Audit Lead, LNAS
- Geir Ivan Tangen, Drilling and Well Control Advisor, Audit team member, LNAS
- Harald Mortensen, Technical Support Drilling Manager, Audit team member, LNAS



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Audit Report Wild Well Control

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Audit Report - WWC		
Date:	Document no.:	Revision:
2018-08-28	005957	Final



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Approved:	Name:	Signature:
	Børn Hoff, HSEQ Manager Operations	<i>Børn Hoff</i>

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Systems for New Equipment (Purchased or Rented)

- First step is to define what it to be purchase or rented and have engineering develop a suitable specification.
 - Simple, I.E. 3" diameter x 29" long stud
 - Basis of Design Document
 - Full tender package with drawings, specification, etc
- Get with Purchasing Department to send out bids or to get list of qualified suppliers for Engineer to obtain bids directly. Suppliers must be in the purchasing system and have active status by **PR-QA-11**, Supplier Quality Requirement.
- Vendor Selected and Purchase Order Issued per **PR-PT-01** or **PR-PT-05**
- Approved purchase order sent to vendor and WWC Quality Department
- If required, a kick off meeting is held to review WWC Quality Requirements. If required, Quality Plans and Inspection Test Plans must be submitted for approval prior to start of production.
- Manufacturing process is monitored as per the QP and ITP with QA witnessing required inspection points per the ITP and **PR-QA-12**
- Approved record books stored in SharePoint.
- Maintenance and inspection requirements loaded into AE (Asset Essentials) for execution at required intervals.

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Maintenance and Inspection of Equipment

- 2017 – WWC acquired 13-5/8” equipment, moved to facilities in Montrose, and began detailed inventories.
- 2018 developed recertification plan with Cameron and began ordering recertification consumables
- May 2019 began stripping of all equipment for recertification
- June/July – component level recertification works with Cameron
- August – reassembly, testing, and completion of equipment refurbishment and recertification
- September 2019 – Equipment operationally ready, routine maintenance program per WWC systems will begin.

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Maintenance and Inspection of Equipment, Continued

- Maintenance program in compliance with WWC § **PR-AD-07**.
- Since equipment is more in long term storage mode than operational mode, vendors for critical equipment were contacted and specialized maintenance programs were developed based on the use of equipment and the criticality that it be ready for callout at a moments notice. (NO SUSPENDED COCs.)
- Cameron § **X-391670-01** procedure developed in this effort. Please note this is a proprietary procedure between Cameron and WWC. Similar procedures developed with Dril-Quip, Forum
- Lifting equipment recertification:
 - Done in accordance with WWC HSE Management System Section 6.3.5 and amended as necessary for local requirements
 - Aberdeen – rigging inspections done every 6 months as per UK Regulations

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Maintenance and Inspection of Equipment, Continued...

- Detailed procedures for each piece of equipment were developed for each asset and then uploaded into the AE Software. Time schedules for the maintenance are attached to the procedures.
- AE generates a work order in the system. The work orders are issued 30 days prior to maintenance due dated and 6 months prior to due date for recertification (New COC) works.
- The work orders are automatically sent via email to department GM and the lead technician responsible for the equipment:
 - Aberdeen – Paul Webster
 - Singapore – Will Hughes
 - Houston – Raymond VanWinkle
- Technicians must log into AE to close open work orders. The system logs completion dates and name of the technician that did the work. When additional documentation is received for completion of the work scope (i.e. rigging certificates, Cameron Reports) the documentation is sent to Anna O'Neal, project coordinator. The documentation is stored in SharePoint and the closed work order has a link included to the documentation.

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SharePoint Records

- The WellContained SharePoint has two different patricians, 1 for Client access, 1 that is internal only
- Client Side – partial documentation for Client Audit.
 - Current COCs
 - Cameron Reports

SharePoint

BROWSE FILES LIBRARY

Client Center

WILD WELL CONTROL Capping Stack - Certifications

Discussions Discussions

Libraries

Aberdeen Equipment

Singapore Equipment

Gulf of Mexico Debris Removal Equipment

Studies and Engineering

General Information

Animations and Videos

Site Contents

+ new document or drag files here

All Documents Find a file

Name	Modified	Modified By
Certificates of Conformance	March 29, 2017	Christopher C. LeCompte
Maintenance Records	March 29, 2017	Christopher C. LeCompte

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SharePoint Records

Internal Side – Full Documentation

- Full Data books
- COC records
- Cameron Reports
- Rigging Certificates
- Any other maintenance documentation generated.

Not all assets will have documentation in SharePoint as AE software keeps the logs of completed work orders.

- Currently have to work between the two systems to see the complete maintenance record.

SharePoint

Newsfeed OneDrive Sites Christopher C. LaCompte

Emergency: +1.281.784.4700

BROWSE FILES LIBRARY

Well Contained Client Center

Libraries

Aberdeen Equipment

Singapore Equipment

Gulf of Mexico Debris Removal Equipment

Project Management

Engineering

Clients

Presentations and Marketing

Data Books

Historical Server Data

Dispersant System III

Client Center

Recent

Shell Data Books

Management

Site Contents

Active Equipment: Capping Stack

+ new document or drag files here

All Documents Find a file

Name	Modified	Modified By
18 3-4in Blind-Lift Hange D16773	June 28	Douglas Snediker
Adjustable Padeye XS0873A XS0873A	June 28	Douglas Snediker
Cameron HC 18-3-4in BX164 Studded Top 112063047-1	June 28	Douglas Snediker
Cameron HC 18-3-4in BX164 Studded Top 112063047-2	June 28	Douglas Snediker
Cameron HCH4 18-3-4in BX164 Studded Top 112180770-01	June 28	Douglas Snediker
Clamp Assembly D11055-02-005	June 28	Douglas Snediker
Clamp Assembly Techlock H8 C216-1	June 28	Douglas Snediker
Clamp Assembly Techlock H8 C216-2	June 28	Douglas Snediker
Clamp Assembly Techlock H8 C216-3	June 28	Douglas Snediker
Clamp Assembly Techlock H8 C216-4	June 28	Douglas Snediker
Clamp Assembly Techlock H8 C216-5	June 28	Douglas Snediker
Clamp Assembly Techlock H8 C216-6	June 28	Douglas Snediker
Diverter Spool 18-3-4in CW 4 X 4-1-16in Studded Out 2788843-0	June 28	Douglas Snediker
Drill Pipe Running Tool D16775	June 28	Douglas Snediker

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Equipment Callout

- Call +1-281-784-4700. First responder will take the call and notify all key personnel at WWC.
- Submit completed EMOB form to WWC to initiate equipment movement.

Wild Well Control, Inc.
2202 Oil Center Court
Houston Texas 77073
Phone: 281-784-4700 Fax: 281-784-4750

Wild Well Control, Inc.
Subsea Containment Solutions

EMERGENCY MOBILIZATION AUTHORIZATION FORM ("EMOB")

Company	Requested By	Title	Contact No. (s)

Well Information		Rig Information	
Location:	Name:	Name:	Owner:
Water Depth:			

(("COMPANY") and WILD WELL CONTROL, INC. ("CONTRACTOR") are parties to Master Service Agreement or Equipment Access Agreement No. _____ dated _____ ("Agreement"), that provides COMPANY access to certain well containment equipment.

If the parties do not have a Master Service Agreement then COMPANY agrees to the terms and conditions set forth in the attached Purchase/Work Order.

CHECKLIST (Equipment Modules): 1) _____ 2) _____ 3) _____

AIRPORT/DOCK EQUIPMENT TO BE DELIVERED: _____

INCIDENT COMMAND CENTER LOCATION: _____

CONTACT INFORMATION: _____

NOTE: COMPANY'S acceptance of this Emergency Mobilization Authorization Order is expressly limited to the Master Service Agreement between COMPANY and CONTRACTOR.

AGREED AND ACCEPTED this ____ day of _____ 201 ____ ("Authorization Date").

COMPANY:

By: _____ Title: _____

Authorized Signature

Name Printed: _____

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2014-04-02

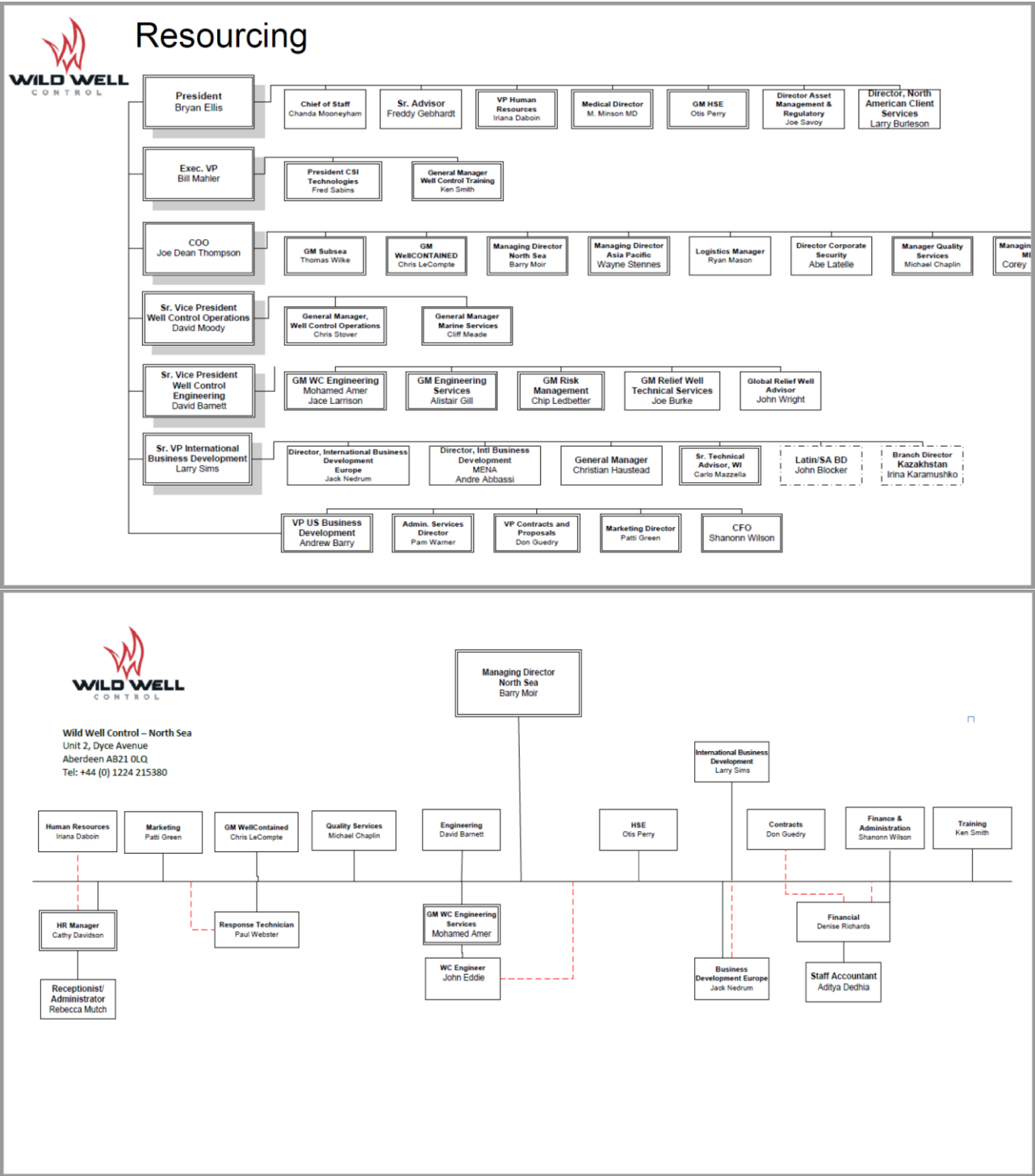
Wild Well Control, Inc.
Subsea Containment Solutions

Readiness, Maintenance, QC Routines During Callout

- All equipment is inspected for damage, readiness, etc.
- Capping Stack is checked to ensure proper connector on bottom for interface with incident BOP/Well.
- Capping Stack is tested per **WC-CS-SYS3-101** Annual Function and Pressure Test Procedure.
- Cameron to witness capping stack inspections, assembly, and testing operations.
- 3rd Party Surveyor (Lloyds) to witness the system testing.
- Stack is loaded onto deployment vessel and sea fastened as per sea fastening plan and vessel Master requirements.

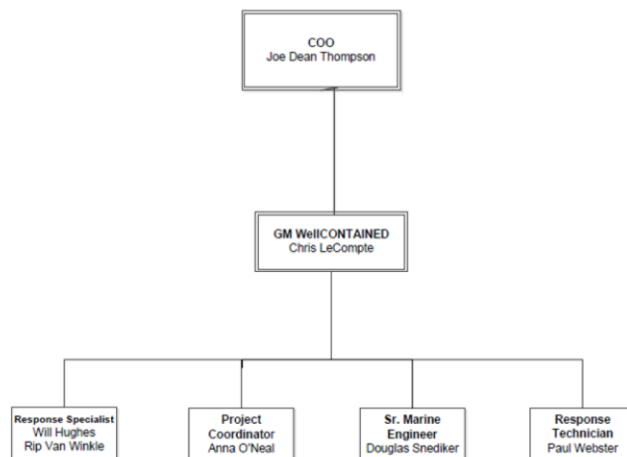
Securing of Personnel During Callout

- WWC maintains a duty roster for on call personnel.
- WellContained dedicated crew pulled first and then additional needs filled through the duty roster.
- Non WellCONTAINED personnel participate during annual stack-ups to cross train on the equipment.
- Cameron and Freight Forwarders have on call personnel to secure those resources. Callout lists are maintained in SharePoint.





WellCONTAINED
Services



WWC Operations Group

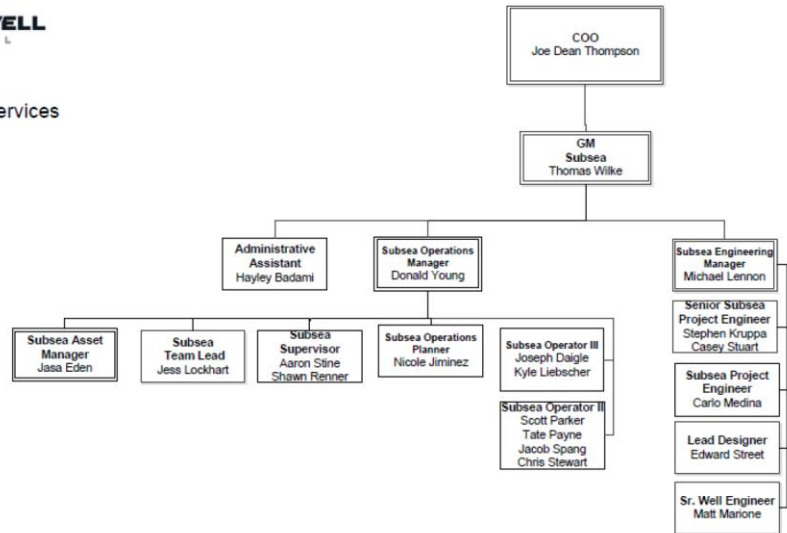
- Additional staff would be pulled from the following departments within Wild Well:
 - Subsea
 - Well Control Operations
 - Special Services
 - Marine
 - Well Control Engineering

Subsea



Subsea Services

- Subsea Staff
 - 10 Subsea Technicians
 - 6 Engineers

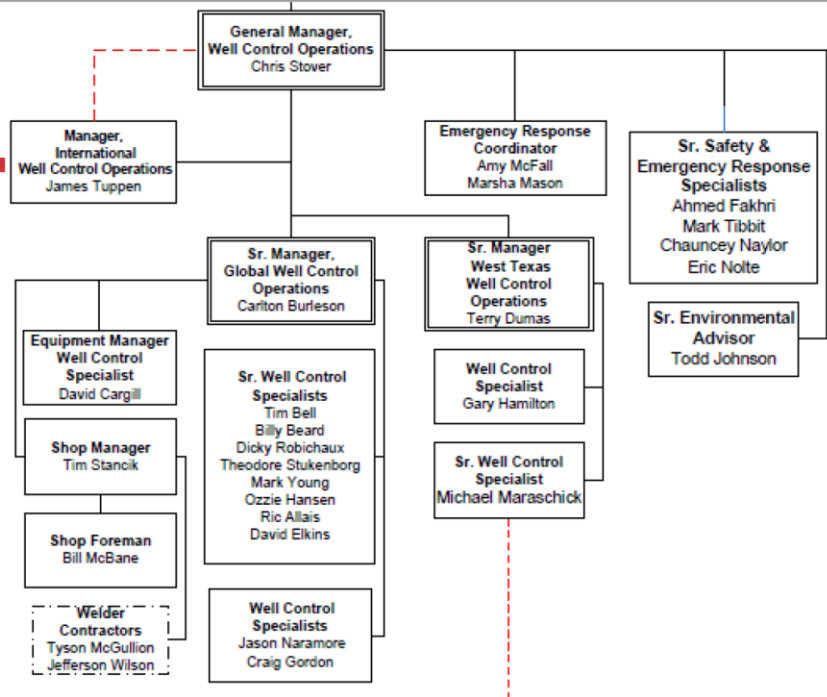


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Well Control Operations

- Well Control Operations Staff
 - 16 WC Specialists



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Special Services

Special Services Staff

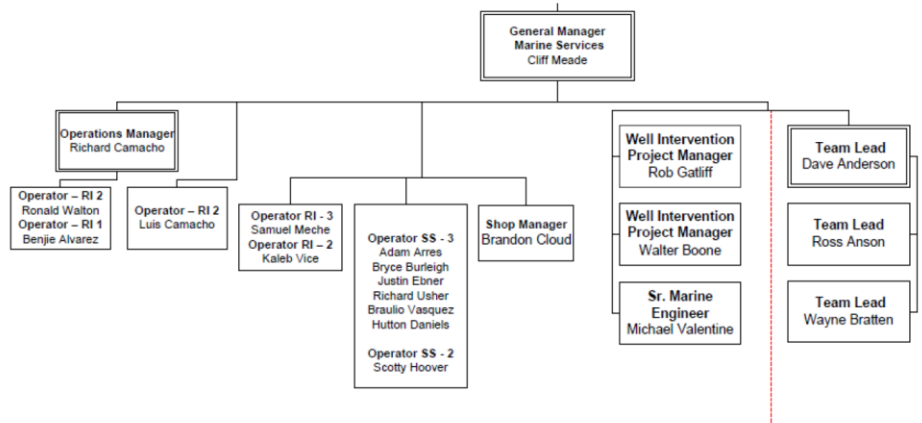
– 12 SS Operators

Marine Staff

– 2 Project Manager

– 1 Sr Marine Engineer

– 3 Team Leads

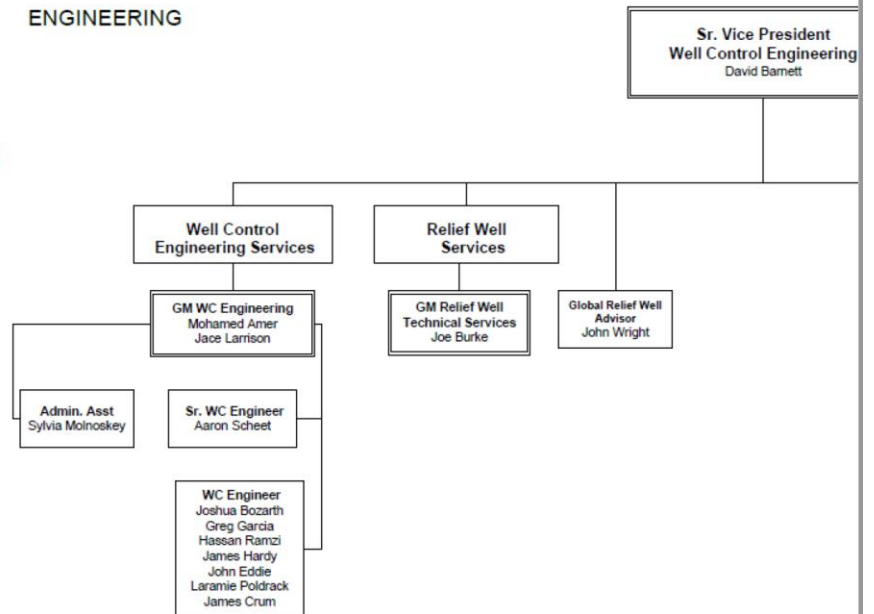


Well Control Engineering

ENGINEERING

WC Engineering

– 12 WC Engineers



Personnel Competencies

- There are 2 parts to the WWC Learning Management System (LMS) that drive training and evaluations
 - HSE Required Annual Training
 - Competency Program
- HSE training governed by WWC Training Matrix and is position specific. Base guidelines determined by US DOT requirements and BSEE SEMS requirements. International requirements are added for positions where international travel are required.
- The Medical Director also has a part in making sure all International Travelers are prepared (Fitness for Duty Program HSE Section 7.4); OGUK Physicals, Travel Immunizations, Medic Kits, etc.

Competency Program

- All WWC Positions have a competency matrix developed by the position manager and HR.
- Every employee has their competency assessed by their manager per **PR-HR-04**.
- Deficiencies identified during the assessment require the development of a training program. The program can include one or all of the following:
 - E-learning
 - On the job training
 - Classroom
 - Coaching / mentoring
- All training records are maintained in **Wild Well University**.



HSE Training Matrix

Refresher Periods	2	0	4	3	4	2	4	0	1	1	2	1	1	3	3	OSHA Annual Refresher Requirements (1)																	
If your position is not shown here, please contact the WWCI HSE Department for specific training requirements.	Well Control															Bloodborne Pathogens	Back & Lifting Safety	Defensive Driving	Drug & Alcohol Awareness	Electrical Safety	Emergency Evacuation	Spill Protection & Response	Environmental Awareness	Hazard Communication	Marine Debris Removal	Universal Waste	Hearing Conservation	SEMS Awareness	Permit to Work/ Lockout/Tagout	PPE			
	Rig Pass/Safe Gulf/Safe Land																																
	BOSIET w/HUET																																
	FOET (BOSIET Refresher)																																
	API Rigger																																
	First Aid/CPRAED																																
	Overhead Crane																																
	HAZWOPER-Specialist 40 hr																																
	HAZWOPER-Operations 8 hr																																
	Confined Space-Entrant/Attendant/Rescue/Supervisor																																
	Incipient Firefighting																																
	Fit Test																																
	H2S/Respiratory Protection																																
	Dot Hazardous Materials Transport																																
	Forklift Operator																																
	Fall Protection/Rescue Planning																																
Well Contained																																	
GM W/Contained	M	M	M	M	M	M		M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M			
Engr	O	M	M	M	O	O		M	M	M	M	M	M																				
Spec Response Wcontained	M	M	M	M	M	O	M	M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M			
Tech Response	M	M	M	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M			

Well Contained																																
GM W/Contained	M	M	M	M	M	M		M	M	M	M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Engr	O	M	M	M	O	O		M	M	M	M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Spec Response W/contained	M	M	M	M	M	O	M	M	M	M	M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Tech Response	M	M	M	M	M	M	M	M	M	M	M	M	M			M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

Notes: Supervisors must ensure that licensed Maritime personnel have STCW 95 and IMO Resolution A891 as required by the Flag Registry. Specific Regions, Operators, Government Agencies or Registries may also require additional/supplementary training courses, certifications or qualifications for personnel. Supervisors can contact WWCI HSE Department for guidance. All third parties provided training shall be documented and forwarded to the HSE Department for inclusion in the WWCI VTA (Virtual Training Assistant)

M = Mandatory Requirement O = Optional Training

Thank you.

Please visit wildwell.com