

Stuart Wright Pte Ltd

Safe & Reliable Wells



Capability Statement

About Stuart Wright



Stuart Wright Pte Ltd is an independent well engineering specialist based in Singapore and Australia. We harness our collective experience to provide our clients with dedicated well engineering services - to date we have advised on over 100 well projects worldwide.

Through our particular focus on barrier validation (RTBC), well engineering, well integrity, well control, HPHT & deepwater and decommissioning we are committed to providing specialist, high value support to help our clients ensure the efficiency, safety and reliability of their well activities.

Our Core Services

	1. Consulting	2. Intelligent Risk Solutions	3. Training
Well Engineering	✓	✓	✓
Well Integrity	✓	✓	✓
Well Control	✓	✓	✓
HPHT & Deepwater	✓	✓	✓
Decommissioning	✓	✓	

1.1 Well Engineering Services



Conventional

Unconventional

Drilling Wells

Production Wells

Geothermal Wells

- Basis of design review
- Casing design assurance review
- Tubing stress analysis
- Subsurface HAZOP risk assessment
- Complex well management system review
- Competency assessment
- Offset well review
- Rig capability audit
- Well control assurance review
- Drilling program review
- Legislation compliance checks
- Corporate operations manual review
- BOCP/ BCP review
- WAI[®] process
- Incident investigation

- Well examination
- Corporate operations manual review e.g. WIMS, WIOMP
- WAI[®] process
- Well database integrity checks
- Production efficiency audit
- Reservoir performance review

- Casing design assurance review
- Casing design manual review
- Well drilling survey review
- Well Control assurance review
- Workover programme assurance review
- Geothermal well engineering mgmt system development
- WIMS development and rollout
- SCADA concept study for remote annular monitoring

Software Applications

- SW RTBC
- SW WAI[®]
- SW BHPM
- WELLCAT
- CASING WEAR
- WELLPLAN
- Stresscheck
- COMPASS Trajectory
- ECE5
- WELL CONTROL
- PRESMOD

1.2 Well Integrity Management



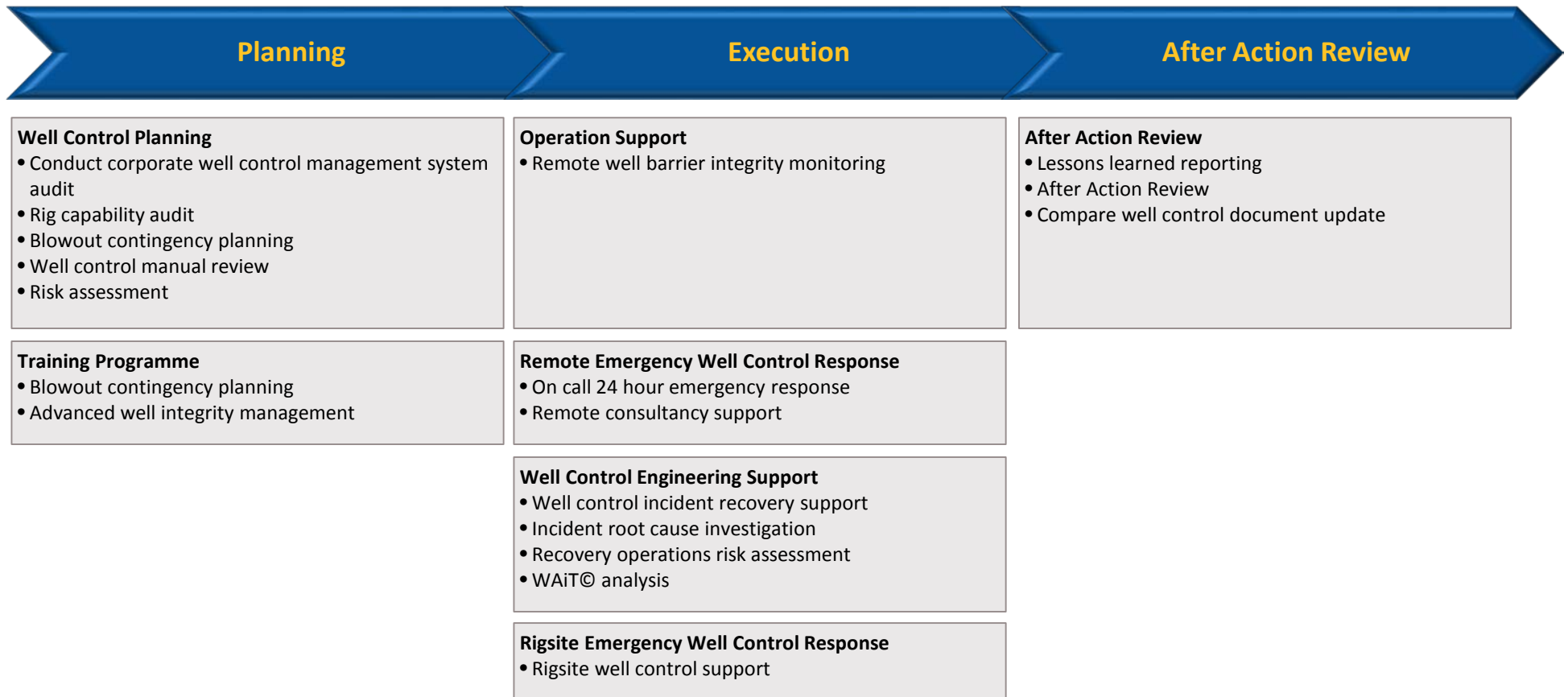
We help our clients to assess, monitor and maintain well integrity through a number of procedures which can be tailored to meet the individual client's needs.

Assess Well Integrity Documentation	<ul style="list-style-type: none">• Establish Management expectations
Assess Well Integrity Field Operations	<ul style="list-style-type: none">• Establish current implementation• Perform WAI[©] analysis on selected wells• Train production operators in basic site specific well integrity methods
Cold Eyes Review / Gap Analysis	<ul style="list-style-type: none">• Identify improvement opportunities• Final report with recommendations
WIMS/ICE Performance Standards	<ul style="list-style-type: none">• Develop agreed Well Integrity Management System/Performance Standards
WIMS Roll Out	<ul style="list-style-type: none">• Training, implementation and tracking
Due Diligence	<ul style="list-style-type: none">• Review of well integrity for M&A using WAI[©] methodology (pre and post deal)

1.3 Well Control Engineering



We have a deep knowledge and understanding of well control including incident prevention, blowout contingency planning and control response. Our team have experience working on a wide range of well control incidents and have harnessed this experience in our well control support and training.



1.4 - 1.5 Loss of Control Investigation and Expert Witness



Other consulting services provided include acting as an independent expert or witness into well control incidents.

We have worked with a range of government organisations in various countries to help understand the root cause of well control incidents.

1.4 Loss of Control Investigation

- Root cause investigation (on-site or remote)
- Independent technical review of evidence
- Deliver technical report and expert witness statement for litigation cases
- Court appearance of expert advisor

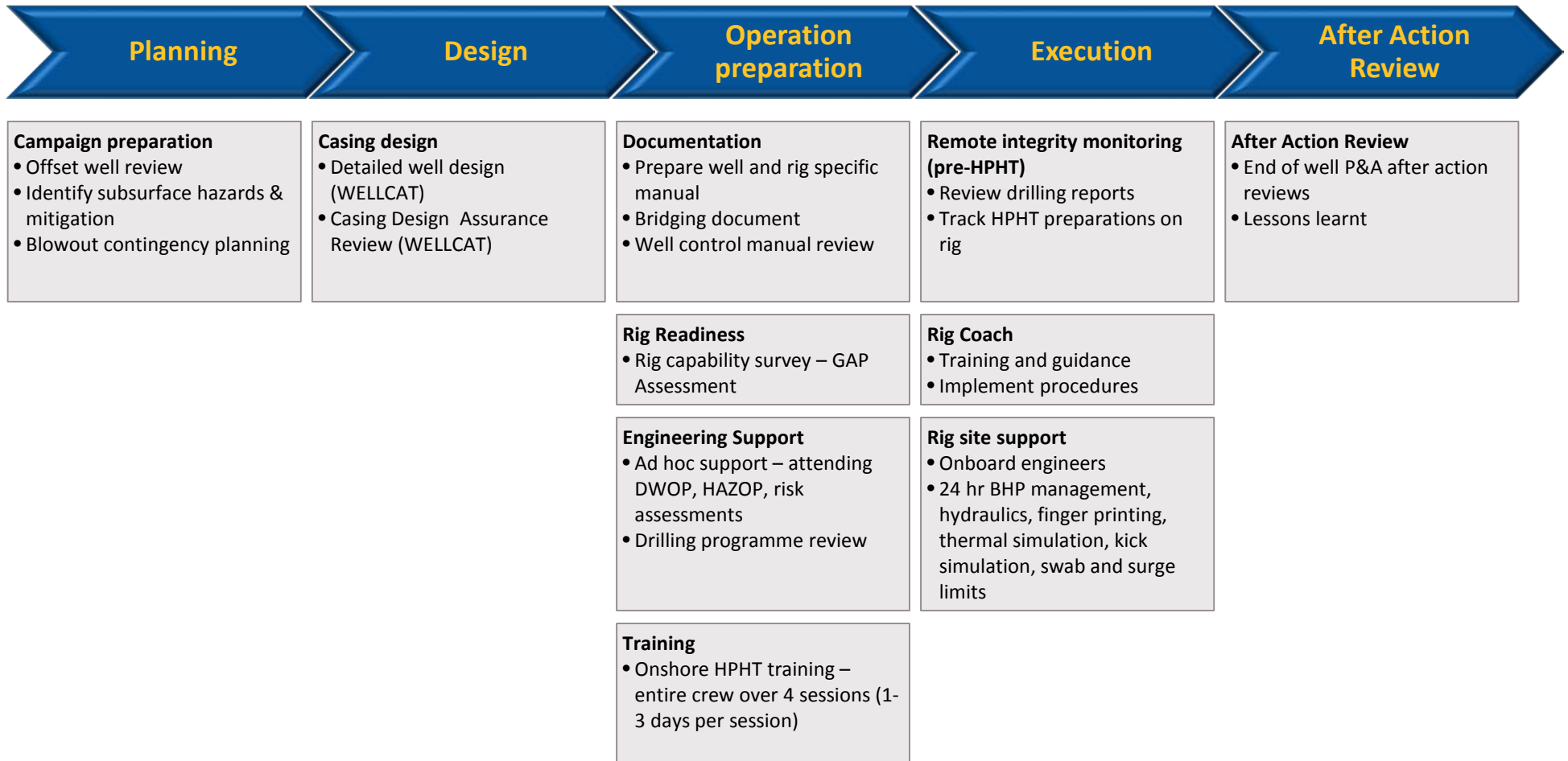
1.5 Expert Witness

- Expert witness services for government regulators, operators and drilling contractors
- Montara Blowout Investigator for Australian government
- Expert technical guidance for NZ government

1.6 HPHT & Deepwater Services



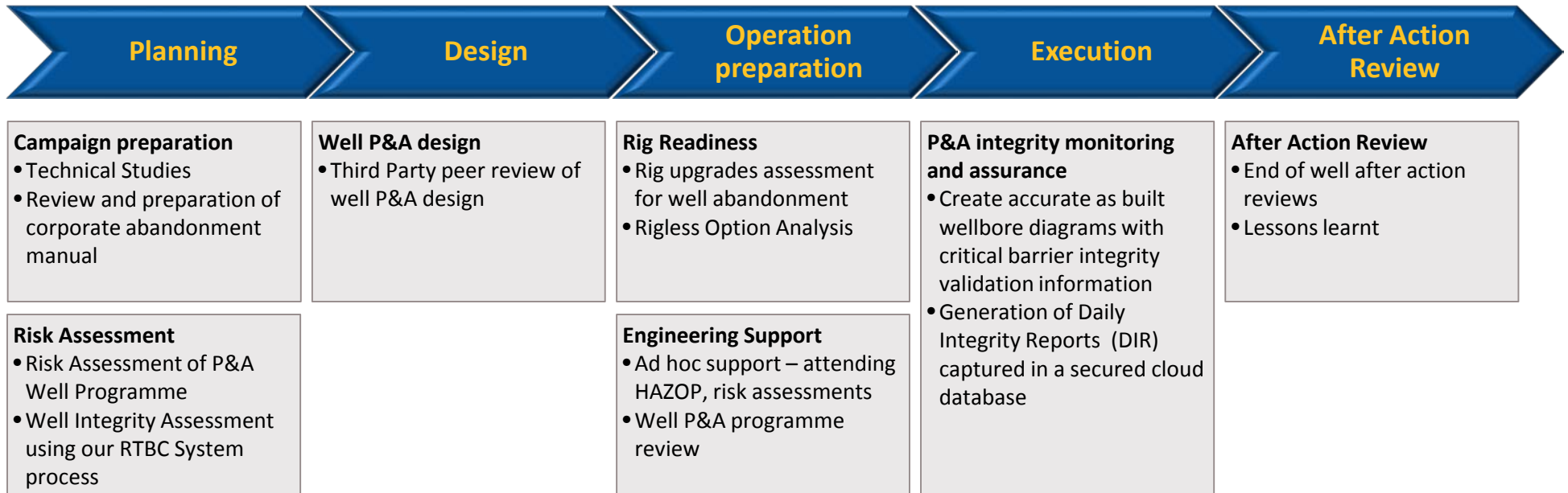
Stuart Wright provide a range of services to support clients through the planning, execution and review of HPHT and Deepwater wells.



1.7 Decommissioning Services



Stuart Wright provide a range of consulting and intelligent risk solution services to support clients through the planning, execution and review of decommissioning projects.



2. Intelligent Risk Solutions

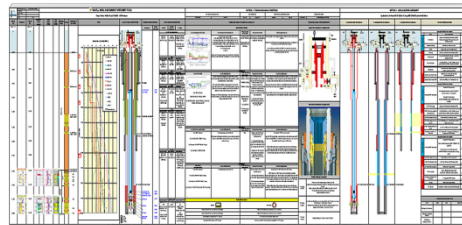


At Stuart Wright we like to think of taking Intelligent Risks and we have spent many man years of effort creating a range of oil and gas software solutions which all promote this mindset. The use of smart software can help companies to ensure they have accurate and available data to allow for well informed and responsive decisions.

Our Intelligent Risk division offers the following products in addition to a range of technologies currently under development:



2.1 Well Drilling Barrier Monitoring Software



2.2 Well Assessment Integrity Tool



2.3 Rig Site HPHT Monitoring Tool



2.4 Wellbore Visualisation Software

Proper Barrier Rules Implementation i.e. RTBC

RTBC is a unique **CLOUD BASED** well barrier validation and monitoring solution that helps to protect:

People



Assets



Environment



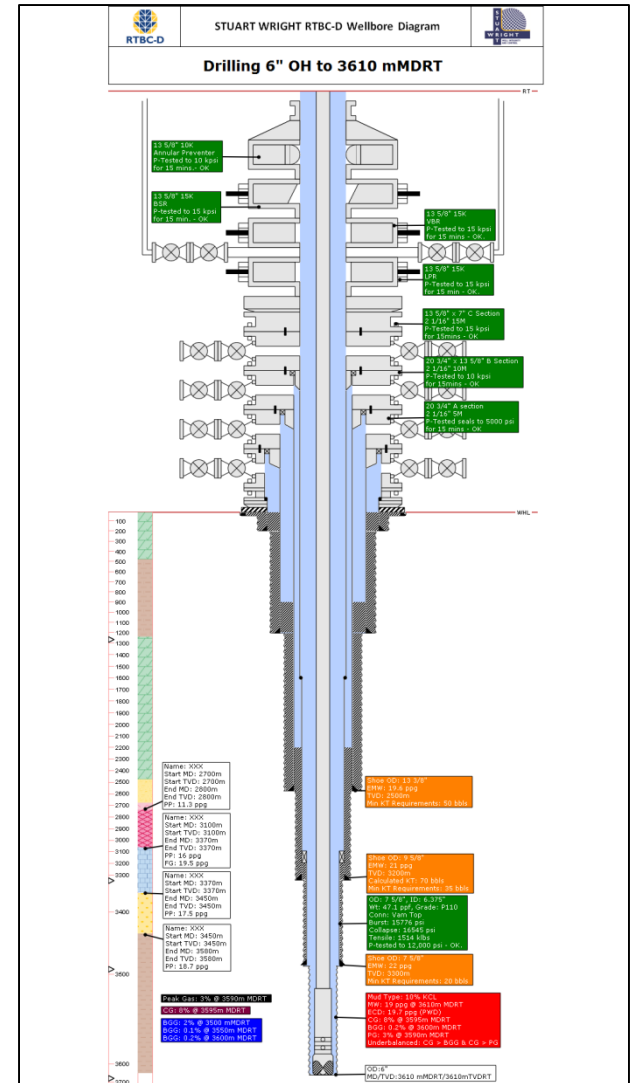
Introduction to RTBC



RTBC is a software **Barrier Validation System**, which ensures corporate Barrier Rules are verifiably applied during well construction

Significant benefits:

- Instantly available **accurate wellbore diagrams** via **cloud connectivity**
- Evidentiary **compliance** with the company barrier rules
- **Barrier validation evidence** during **well construction**
- **Secure cloud database storage** for all critical barrier validation information
- **Scalable wellbore diagram** giving accurate representation of the entire wellbore system including :
 - ✓ casing, cement, formation, wellhead, BOP's configuration , MPD network
- Provides the onshore management team with the same accurate wellbore status information as on the drilling rig



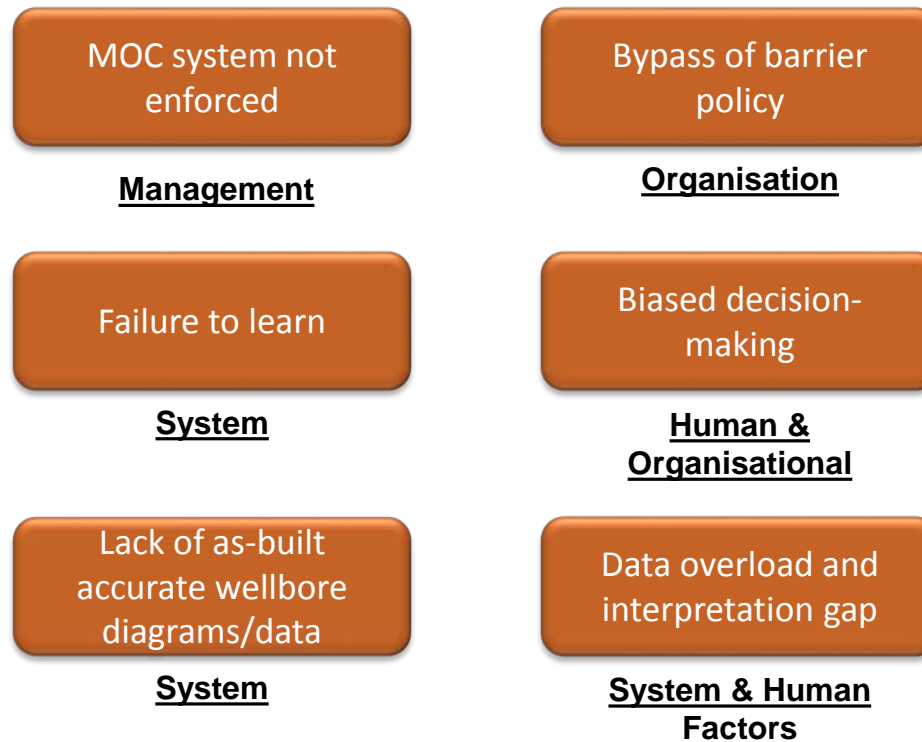
Introduction to RTBC

Development Drivers



The RTBC development drivers already discussed were complimented by findings derived from various blowout or loss of control **investigations performed by Stuart Wright** Pte Ltd

Common themes for Blowout root causes:



3. Training



Stuart Wright Training Academy conducts **Continuing Professional Development** training courses on well engineering design, planning and operations throughout the year.

Courses can be conducted by our experienced trainers at our offices in Singapore and Perth, Australia or at the client site.

Public courses are open to qualified professionals. We aim to reinforce theoretical knowledge with comprehensive materials, case studies and practical exercises. Candidates are also assessed for progress tracking.

Please contact us at training@stuartwright.com.sg / +65 9025 7248

Well Engineering	Well Integrity	Well Control	HPHT & Deepwater
3.1 Well Engineering I	3.5 Advanced Well Integrity Management	3.7 Rig Site Training Wellbore Monitoring & Control	3.8 HPHT Awareness
3.2 Well Engineering II	3.6 Well Integrity Course for National Regulators		3.9 HPHT Rig Coach
3.3 Advanced Casing Design			
3.4 Graduate Training Program			

4. Our Clients



Stuart Wright are trusted by a wide range of clients including independents, international operators, national oil companies and government regulators.

Conventional

- Apache Energy Limited
- Asset Energy
- Beach Energy
- BHP Billiton Limited
- BOEMRE
- BP Caspian Sea Limited
- BP Exploration & Production Inc.
- Brunei Operator Petroleum
- Bunga Mas International Company
- Cairn Energy PLC
- Carigali HESS Malaysia
- Chevron Australia
- Conoco Phillips
- Cooper Energy
- Eaglewood Energy Inc.
- ENI Australia Ltd
- Geodynamics Limited
- HESS Exploration Australia
- INPEX Corporation
- InterOil
- JVPC Vietnam
- Jx Nippon
- Keppel FELS Pte Ltd
- Kumal Petroleum
- Maersk Oil North Sea
- Mont D'Or Petroleum
- NOPSA
- Oil Search Limited
- Origin
- Pan American Energy
- Petronas Carigali Sdn Bhd
- PetroVietnam Drilling
- Premium Drilling
- PTTEP
- Quadrant
- Repsol YPF
- Santos Limited
- Shell Australia
- Strike Energy
- Talisman Energy Inc.
- TOTAL Indonesia E&P
- TOTAL Australia Pty Ltd
- TOTAL Denmark
- Todd Energy
- Thang Long Joint Op. Company
- Twinza Oil Limited
- UMW Oil & Gas Sdn Bhd
- Woodside
- YPFB Andina / YPFB Chaco

Unconventional

- Geodynamics Ltd (Geothermal)
- Santos Limited (Coal Seam Gas)
- Queensland Gas Company
- Star Energy
- KS Orka

Regulators

- BSEE
- Dept of State Development (DSD)
- Department of Industry, Tourism and Trade (NT, Australia)
- NOPSEMA
- Worksafe
- DNRME

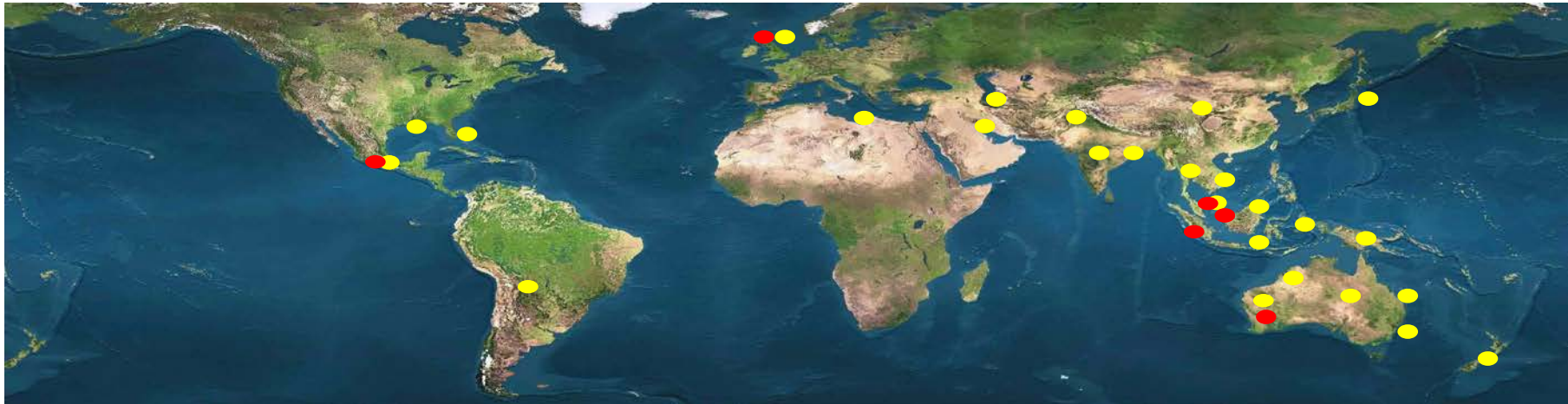
Assurance

- Aon Singapore Pte Ltd
- Brookes Bell
- Munich RE
- Gallagher

6. Our Offices



From our offices in Singapore and AU, we are able to provide support and services to clients worldwide.



- Stuart Wright office / representation
- Project experience



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