# **Stuart Wright Pte Ltd**

Safe & Reliable Wells





### **About Stuart Wright**



Stuart Wright Pte Ltd is an independent well engineering specialist based in Singapore and UK. 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, well examination, geothermal, 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	✓	✓	✓
Well Examination	✓	✓	
Geothermal	✓	✓	
HPHT & Deepwater	✓	✓	✓
Decommissioning	✓	✓	

### **Our Core Services**



	1. Consulting	2. Intelligent Risk Solutions	3. Training
Well Engineering	1.1 Well Engineering Services	2.1 RTBC-D: well barrier integrity management system	3.1 Well Engineering I 3.2 Well Engineering II 3.3 Advanced Casing Design 3.4 Graduate Training Program
Well Integrity	1.2 Well Integrity Management	2.2 WAiT©: well risk assessment methodology	3.5 Advanced Well Integrity  Management  3.6 Well Integrity Course for  National Regulators
Well Control	1.3 Well Control Engineering 1.4 Loss of Control Investigation 1.5 Expert Witness	See 2.1 above	3.7 Rig Site Training – Wellbore Monitoring & Control
Well Examination	1.6 Well Examination Services	See 2.1 above	
Geothermal	1.7 Geothermal Services	See 2.1 above	
HPHT & Deepwater	1.6 HPHT & Deepwater Services	2.3 BHPM: HPHT well monitoring tool	3.8 HPHT Awareness Training 3.9 HPHT Rig Coach
Decommissioning	1.7 Decommissioning Services	2.4 RTBC-A: P & A Integrity Monitoring and Assurance	

### 1.1 Well Engineering Services



#### Conventional

#### **Unconventional**

#### **Drilling Wells**

- Casing design assurance review
- Tubing stress analysis

Basis of design review

- 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
- WAiT© process
- Incident investigation

### **Production Wells**

- Well examination
- Corporate operations manual review e.g. WIMS, WIOMP
- WAiT© process
- Well database integrity checks
- Production efficiency audit
- Reservoir performance review

#### **Geothermal Wells**

- 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 WAiT<sup>©</sup>
- 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	Establish Management expectations
Assess Well Integrity Field Operations	<ul> <li>Establish current implementation</li> <li>Perform WAiT© analysis on selected wells</li> <li>Train production operators in basic site specific well integrity methods</li> </ul>
Cold Eyes Review / Gap Analysis	Identify improvement opportunities     Final report with recommendations
WIMS	Develop agreed Well Integrity Management System
WIMS Roll Out	Training, implementation and tracking
Due Diligence	Review of well integrity for M&A using WAiT© 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.

Planning	Execution	After Action Review
Well Control Planning  • Conduct corporate well control management system audit  • Rig capability audit  • Blowout contingency planning  • Well control manual review  • Risk assessment	Operation Support • Remote well barrier integrity monitoring	After Action Review  • Lessons learned reporting  • After Action Review  • Compare well control document update
Training Programme  • Blowout contingency planning  • Advanced well integrity management	Remote Emergency Well Control Response  On call 24 hour emergency response Remote consultancy support	
	Well Control Engineering Support  • Well control incident recovery support  • Incident root cause investigation  • Recovery operations risk assessment  • WAIT© analysis	
	Rigsite Emergency Well Control Response • Rigsite well control support	

### 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

### **Select Regulator Project Experience**



Services: Root Cause Investigation, "Independent Risk Assessment of Well Abandonment on 26 Platform Wells"

Client: BOEMRE, USA Year: 2011 - 2012

Location: Mississippi Canyon, GOM

Rig/Asset/Well: MC20 Platform



#### Scope of Work:

In June of 2011 the Bureau of Ocean Energy Management, Regulation and Enforcement ("BOEMRE") appointed Stuart Wright Pte Ltd ("SWPL") to perform an "Independent Risk Assessment" of the "Risk Factors" that an Operator has identified in a "Departure Request" to BOEMRE to drill any further "Intervention Wells" (IW) on sixteen (16) un-abandoned wells, from the site of their downed platform "MC 20A", at Mississippi Canyon Block 20 during Hurricane Ivan in 2004.



#### Client Value Outcomes:

SWPL's findings were instrumental to the regulator in identifying whether the intersection methods employed by the operator were effective in safe abandonment of 9 leaking wells, and whether the remaining 16 wells require intervention based on a detailed root cause investigation or provided documents

### **Select Regulator Project Experience**



Services: Investigation into the Uncontrolled Release of Hydrocarbons from the Montara WHP– Expert Witness Report

Client: NOPSEMA, Australia

Year: 2012

Location: Offshore Western Australia

Rig/Asset/Well: Montara Wellhead Platform/H1/H1-ST1



#### **Scope of Work:**

On the 29 September 2011, NOPSEMA of Australia appointed Mr. Colin Stuart, Managing and Technical Director of SWPL as Expert Witness in relation to NOPSEMA's investigation into the uncontrolled release of hydrocarbons from the Montara Jacket Platform on the 21 August 2009.

The role of Expert Witness as defined by NOPSEMA was:

- to thoroughly review and analyze all documents provided by NOPSEMA;
- to form an expert opinion on nine (9) omissions identified by NOPSEMA on the part of the Operator "PTTEP Australiasia (Ashmore Cartier) Pty Ltd" (PTTEPAA) that led to the eventual uncontrolled release of hydrocarbons; and
- to document the findings within a written report.

#### **Client Value Outcomes:**

SWPL's findings were instrumental to the regulator in identifying the root causes leading to the blowout event which led to NOPSEMA's first successful prosecution follows a lengthy and technically complex investigation process into the incident.



### **Select Regulator Project Experience**



Services: Well Engineering Support (Call-Off Contract Basis)

Client: WORKSAFE, New Zealand

Year: 2012-Present



Scope of Work	Deliverables
Assess whether local operators well abandonment	Produce guidance notes on well abandonment
practices follow industry best practice	Review and highlight any well abandonment deficiencies by local operators
Assess whether the operators Drilling Program for 12-	Produced a Proposed Program Query for the Regulator. The document covered:
1/4"hole complied with good drilling operational	✓ Well specific information
practices, especially in using a diverter	✓ Difference between FIT and LOT
	✓ Information on when a BOP or Diverter is required
	✓ Diverter requirements and best practices
Provide industry guidance regarding a brake failure event	Review of similar incidents including 8 IADC safety alerts regarding draw works failure worldwide
	Summary of most common root causes of such failures
	Summary of relevant standards, specifically API 17K and ISO 14693
Provide assessment of a fluid release event, with possible	Provided a technical evaluation of the failure that led to the fluid release event and possible mitigation measures
breach of well integrity	
Train E&P operators/regulator inspectors on the well life	Deliver AWIMS public courses for E&P operators and regulator inspectors
cycle from a WI perspective	
Expert witness in a prosecution case	Provide expert witness statement regarding the preparation and drilling of oil and gas wells
Provide industry guidance on internationally accepted	Review 5 relevant international standards in the identification of suspension best practices
best practices for a suitable time frame a well can remain	Provide conclusions and recommendations on well suspension timeframe and best practices
suspended before re-entry or abandonment	
To review an operators well abandonment scheme and its	Review operators well abandonment scheme, including:
compliance to regulatory standards	✓ Compliance to regulatory standards
	✓ Barrier failure risk identification for different stages of operations
	Provide conclusions and recommendations
To review an Operators notification of operations	• Determine if sufficient information has been provided for the proposed well intervention operations via a gap analysis
document and determine whether it provides sufficient	Determine if all risks and mitigations identified in the risk matrix are thorough
details	$ullet$ Discuss requirements for stage diagrams based on critical stages of intended well activities, as well as an end ${\mathfrak c}^{10}$

### **1.6 Well Examination Services**



Stuart Wright has supported Regulators, Operators and Insurers globally by performing Well Examination services.

Our delivery mechanism for performing the Well Examinations involves the use of our proprietary flagship well barrier software, RTBC, to independently verify that the well is compliant with regulatory requirements and corporate standards.

Recent projects	Well Design Examination	Well Construction Examination	Regulatory Compliance Examination	Standards Compliance Examination
2018: Well Examination, Australia (see slide 12)	•	•	•	
2018: Well Examination, Australia (see slide 13)	•	•	•	•
2018: Well Examination, Indonesia (see slide 14)	•			
2017: Well Examination, Indonesia	•			
2017: Well Examination, Indonesia	•			
2016: Well Examination, Indonesia	•			
2016: Well Examination, Indonesia	•			
2013: Well Examination, Australia	•			

### **Select Well Examination Project Experience**



Services: Well Examination – Design & Construction Phases

Client: Quadrant Energy

Year: 2018

Location: Offshore Western Australia

Rig/Asset/Well: Transocean Development Driller 1 / Phoenix South – 3 (PS-3)

#### Scope of Work:

SW were engaged by Quadrant Energy (QE) to provide an independent well examination review of the PS-3 appraisal well, to demonstrate that it was designed and constructed in accordance with good industry practices, Quadrant standards, and NOPSEMA regulatory requirements. The well examination process had three main areas of focus:

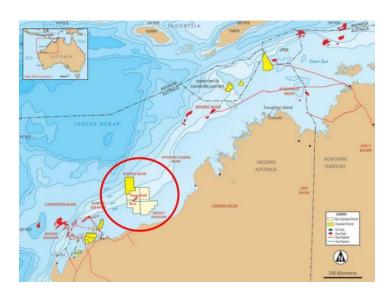
- **1. Design and Planning** Establish that the design work, planning documentation and all critical well control barrier equipment was appropriate for the predicted maximum boundary conditions for PS-3.
- **2. Procedures** Establish that the management and control plan, and detailed well procedures developed for the drilling of PS-3 provided appropriate clear instruction for the well construction team to reduce risks of a well control incident to ALARP.
- 3. Well Construction Barrier Monitoring and Validation oversee well construction against the plan in the well execution stage. In particular to carry out well barrier monitoring and validation using SW's RTBC well barrier monitoring system.

#### **Client Value Outcomes**

A range of useful findings and recommendations arose from the Well Examination including:

- 1. Identification of areas where the well design was compliant with the required standards and regulatory requirements, and recommended actions to address any areas where compliance was not fully demonstrated.
- 2. Daily well barrier monitoring and verification that the well was constructed in accordance with QE standards, NOPSEMA regulatory requirements and final approved procedures.





### **Select Well Examination Project Experience**

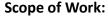


Services: Well Programme Assurance Design & Construction (WEPA DCR) Review

Client: Department of Natural Resources, Mines & Energy (DNRME)

Year: 2017-18

Location: Brisbane, Australia



The objectives of the WEPA DCR were to understand, by observation, how operators are meeting the relevant statutory provisions in the legislation; including subsidiary mandatory safety requirements, the Queensland Code of Practice and recognised industry standards.

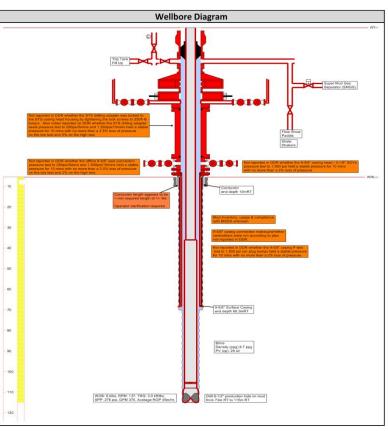
Following consultation and dialogue with industry, seven (7) Operators were selected as suitable candidates for the well programme assurance review. The programme was conducted in three stages:

- 1. Understand with the petroleum operator, their well design protocols and standards, and agree specific well selection;
- 2. Engage in well design and planning process of the selected well programmes; and finally;
- 3. Oversee well construction against the plan in the well execution stage. In particular to carry out well barrier monitoring and validation using SW's proprietary Right Time Barrier Condition (RTBC) well barrier monitoring system.

#### **Client Value Outcomes**

A range of useful findings arose from the WEPA study and, in particular, the use of RTBC to track barrier validation during well construction provided close monitoring and feedback which was beneficial to both the Regulator and Operator.





### **Select Well Examination Project Experience**



Services: Well Drilling Pre-Spud Survey
Client: Munich Re Insurance Company

Year: 2017-18 Location: Indonesia



#### Scope of Work:

To perform a pre-spud survey of two onshore geothermal exploration wells in Indonesia. The surveys were performed in accordance with the "Joint Rig Committee Drilling Well Review Surveyors' Code of Practice 2018."

#### **Client Value Outcomes**

Provided the client with an overall qualitative risk ranking for each well based on a review of the well summary, forecast subsurface conditions, drilling hazards, casing design, drilling program, rig and drilling equipment, operator and drilling contractor experience.

Produced a summary of key findings and recommended mitigations to reduce the overall qualitative risk ranking of the wells.

All surveys performed were assessed against national standards and, where appropriate, references were made to the New Zealand Code of Practice for Deep Geothermal Wells (NZS 2043:2015) as examples of best practice.



### **1.7 Geothermal Experience**



Recent projects	Well Engineering	Risk Assessment	Standards Review	Well Control Support	Concept Study
2017: Geothermal Well Barrier Monitoring for Insurance Study, Singapore					<b>~</b>
2017: Geothermal Well Control Incident & Workover Plan Review, Indonesia	•	•		•	
2017: Geothermal Well Drilling Review, Indonesia	~	~			
2016: Geothermal Well Drilling Review, Indonesia	~	~			
2016: Geothermal Well Drilling Review, Indonesia	~	~			
2016: Geothermal Workover Review, New Zealand	~	~			
2010: Geothermal Energy Development Pilot, Australia	•	•	•		<b>~</b>

### 1.8 HPHT & Deepwater Services



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

Planning	Design	Operation preparation	Execution	After Action Review
Campaign preparation  Offset well review Identify subsurface hazards & mitigation Blowout contingency planning	Casing design  • Detailed well design (WELLCAT)  • Casing Design Assurance Review (WELLCAT)	Documentation  • Prepare well and rig specific manual  • Bridging document  • Well control manual review	Remote integrity monitoring (pre-HPHT)  Review drilling reports Track HPHT preparations on rig	After Action Review • End of well P&A after action reviews • Lessons learnt
		Rig Readiness • Rig capability survey – GAP Assessment	Rig Coach • Training and guidance • Implement procedures	
		<ul> <li>Engineering Support</li> <li>Ad hoc support – attending DWOP, HAZOP, risk assessments</li> <li>Drilling programme review</li> </ul>	Rig site support  Onboard engineers  24 hr BHP management, hydraulics, finger printing, thermal simulation, kick simulation, swab and surge limits	
		Training • Onshore HPHT training – entire crew over 4 sessions (1- 3 days per session)		

### 1.9 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.

Planning	Design	Operation preparation	Execution	After Action Review
Campaign preparation • Technical Studies • Review and preparation of corporate abandonment manual	Well P&A design • Third Party peer review of well P&A design	Rig Readiness • Rig upgrades assessment for well abandonment • Rigless Option Analysis	P&A integrity monitoring and assurance • Create accurate as built wellbore diagrams with critical barrier integrity validation information	After Action Review • End of well after action reviews • Lessons learnt
Risk Assessment • Risk Assessment of P&A Well Programme • Well Integrity Assessment using our WAiT© process		<ul> <li>Engineering Support</li> <li>Ad hoc support – attending HAZOP, risk assessments</li> <li>Well P&amp;A programme review</li> </ul>	Generation of Daily     Integrity Reports (DIR)     captured in a secured cloud     database	

### 2. Intelligent Risk Solutions

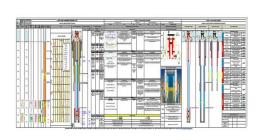




At Stuart Wright we like to think of taking Intelligent Risks and we have spent many man years of effort creating a range of oil and gas software solutions which all promote this mindset. The use of smart software can help companies to ensure they have accurate and available data to allow for well informed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

### 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 <a href="mailto:training@stuartwright.com.sg">training@stuartwright.com.sg</a> / +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
- 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
- Keppel FELS Pte Ltd

- Maersk Oil North Sea
- Mont D'Or Petroleum
- NOPSA
- Oil Search Limited
- Petronas Carigali Sdn Bhd
- PetroVietnam Drilling
- Premium Drilling
- PTTEP
- Quadrant
- Repsol YPF
- Santos Limited
- Shell Australia
- Talisman Energy Inc.
- TOTAL Indonesia E&P
- TOTAL Australia Pty Ltd
- 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)
- NOPSEMA
- Worksafe
- DNRME

#### **Assurance**

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

### 5. Our Recent Projects - Well Engineering & Control



Recent projects	Well Engineering	Risk Assessment	Lab Testing	Well Control Support	Contingency Planning
2018: Well Examination Program Assurance, Australia	<b>✓</b>	<b>~</b>			
2018: Well Control Support & Incident Investigation, PNG		~		~	
2017 : BMG Well Abandonment Program, Offshore Australia	<b>✓</b>	~			
2017: Insurance Geothermal Well Design Review, Indonesia	<b>✓</b>	~			
2016: Re-abandonment of leaking well, Malaysia		~			
2015: Preparation of blow out contingency plan, PNG					<u> </u>
2015: Preparation of blow out contingency plan, Middle East					~
2015: Well control engineering support, Middle East				~	
2015: Review of well control system, Singapore	<u> </u>	~			~
2014: Review re-entry procedure and remote monitoring, Middle East	~			~	
2014: Well control engineering support and risk assessment, PNG	<u> </u>			~	
2014: Rig operability assessment and BHA mechanical analysis, PNG	<u> </u>	~		~	
2013: Well examination, Australia	<u> </u>			~	
2013: Well Kill Feasibility Assessment, Australia					<b>~</b>
2012: Well control engineering support, PNG	~			~	
2012: Fixed Platform Gas Well Blowout Investigation Support, Indonesia	<u> </u>				
2012: Asphaltene Study (Problem Definition And Concept Study), Indonesia	<u> </u>				
2012: Well Control Program for construction of exploration well, Cuba	•	•			<b>✓</b>
2012: Blowout & Relief Well Contingency Plan, S.Africa					<b>✓</b>
2009: Drill String Failure, Root Cause Investigation, Vietnam	•		•		
2009: Risk Assessment On The Use Of Rig 103, Papua New Guinea	~	•		~	

### 5. Our Recent Projects - Well Integrity Management



Recent projects	WIM Training	Well Integrity Assessment (WAIT©)	Risk Assessment & Management	Production Well History Review	WIMS Review & Develop- ment	WIMS Roll-Out Operator Training
2018: Well Integrity Peer Review, Rang Dong Field, Offshore Vietnam			•			
2018: Well Engineering Technical Advisory services for Regulators, Australia			<b>✓</b>			
2017: WI Training for National Regulators, New Zealand	<b>~</b>					
2016: WI Training for National Regulators, Australia	~					
2015: Ichthys Field, Australia			<b>✓</b>		~	
2014: Oyong Field, Offshore, Indonesia		~	<b>✓</b>	~		
2014: Ichthys, Annulus Pressure Management Study, Australia			<b>✓</b>			
2014: Moran-15, ADD-1, ADT-4, Onshore, PNG		~			~	
2013: Coal Seam Gas Gladstone LNG Project, Onshore, Australia	<b>~</b>				~	<b>✓</b>
2013: Gas Producing Asset, Onshore, PNG		~	<b>✓</b>		~	
2013: Bass Straits, Offshore, Australia		~				
2013: Henry-2, Netherby-1, Casino-4, 5, Otway Basin, Australia		~				
2013: Patricia-1,2, Sole-1,2, Baleen-4, Patricia-2, Gippsland, Australia		~				
2012: Mengoepeh Field, Onshore, Indonesia				~		
2011: Regulator, Offshore, Australia		~	<b>✓</b>			
2011: Ravva & Rajasthan Fields, Onshore & Offshore, India	<b>~</b>	~	<b>✓</b>			
2011: Atlantis Platform, Offshore, Gulf of Mexico, USA		~	<b>✓</b>			
2011: Regulator, Offshore, Gulf of Mexico, USA		~	<b>✓</b>			
2010: Worldwide Assets, International, Japan	<b>~</b>					
2010: Geothermal, Onshore, Cooper Basin, Australia	<b>~</b>					<b>✓</b>
2008-2010: ACG Platform, Offshore, Caspian Sea, Azerbaijan						<b>✓</b>
2008-2010: Shah Deniz, Offshore, Caspian Sea, Azerbaijan	<b>~</b>		<b>✓</b>	~	~	<b>✓</b>

### 5. Our Recent Projects - HPHT & Deepwater



Recent projects	Well Design & Assurance	Temp. & Hydraulic Modeling	Drilling Program & Ops Planning Support	Risk Assessment	HPHT Rig Audit	HPHT Rig-Based Engineer	HPHT Rig Coach
2018: Phoenix South 3, Offshore Australia	<b>~</b>		<b>y</b>	<b>~</b>			V
2017: Swell Campaign, Offshore, Australia			<b>~</b>				~
2016: RGD-X1001, Onshore, Bolivia	<b>✓</b>				~		
2016: Naga 6 & 8 Jackup, Offshore, Malaysia					<b>~</b>		<b>✓</b>
2015: CJ 46 Jackup, Offshore, Indonesia					<b>✓</b>		
2015: Naga 6 Jackup, Offshore, Malaysia					~		
2015: Seeker Jackup, Offshore, Indonesia					<b>✓</b>		
2015: San Miguel, Onshore, Bolivia	<b>~</b>		<b>~</b>		<b>✓</b>	<b>~</b>	~
2014: Lasseter, Offshore, Australia			<b>✓</b>			<b>~</b>	~
2014: Hannover South-1, Offshore, Australia			<b>✓</b>			<b>~</b>	~
2013: Bulan Deep, Offshore, Malaysia					~		~
2013: Keppel-1, Geoffrey-1, Redland-1, Etty-1, Australia	<b>→</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>~</b>	~
2013: HT Ewan Shoals, Offshore, Australia			<b>→</b>		<b>✓</b>	<b>~</b>	~
2013: Winchester-1, Offshore, Australia		<b>✓</b>	<b>✓</b>	<b>✓</b>	~	<b>✓</b>	~
2013: Basset-1, Dufresne-1, Offshore, Australia							<b>✓</b>
2013: Olympus-1, Bianchi-1, Offshore, Australia		<b>✓</b>			~	<b>~</b>	<b>~</b>
2012: Crown-1, Offshore, Browse Basin, Australia	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>~</b>
2012: Basset-1, Offshore, Browse Basin, Australia			<b>~</b>				<b>~</b>
2012: Gaschnitz-1, Onshore, NTUZ Basin, Australia	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>~</b>
2012: West Supetau-D, Onshore, Tajikistan	<b>✓</b>			<b>✓</b>			
2011: Emerson-1, Offshore, Browse Basin, Australia		<b>✓</b>		<b>~</b>	<b>✓</b>	<u> </u>	¥
2011: Bunga Mawar-1, Onshore, Indonesia	<b>✓</b>		<b>✓</b>				
2010: Geothermal, Onshore, Cooper Basin, Australia	<b>✓</b>						
2010: Sabah-1, Offshore, Sabah, Malaysia	•						

### **5. Our Recent Projects - RTBC**



Recent projects		Sentinel (Independent Assurance) Service	
2018: Quadrant Energy, Exploration Subsea Well, Offshore, Australia		✓	
2018: Origin Energy, Exploration & Appraisal Land Well, Onshore, Australia		<b>✓</b>	
2018: Santos, Coal Seam Gas Well, Onshore, Australia		<b>✓</b>	
2017: Shell, Coal Seam Gas Well, Onshore, Australia		<b>✓</b>	
2017 - ongoing: Well Examination Program Assurance, Australia, Department of Natural Resource Mines & Energy (DNRME)		~	
2016 – ongoing: Maersk Oil (a company of Total), Culzean HPHT Development, Offshore, UK	<b>✓</b>		
2015: Shell, Crux-4 Well Abandonment, Offshore (Subsea), Indonesia		<b>✓</b>	
2015: Mont D'or Well Assurance, PLT-H Land Development, Sumatra Indonesia		<b>✓</b>	
2015: Mont D'or Well Assurance, PLT-B Land Development, Sumatra Indonesia		<b>✓</b>	
2015: Mont D'or Well Assurance, Land Exploration, Salawati, Indonesia		<b>→</b>	
2014: Santos, Oyong Field, Offshore, Indonesia		•	

### 6. Our Offices



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



Stuart Wright office / representation

Project experience



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