



HYPERSEAL
SOLUTIONS SDN BHD

WELL INTEGRITY SOLUTIONS EXPERT

Integrated diagnostics, leak rectification and well monitoring for the global oil & gas industry — powered by proprietary, in-house OEM high-pressure sealants.

EST. 2018

KUALA LUMPUR

10 COUNTRIES

Integrated Well Integrity Solutions

HYPERSEAL SOLUTIONS is a specialist oil & gas service company and OEM sealant manufacturer dedicated to solving complex well integrity challenges — and to keeping wells producing. We combine in-house diagnostics, proprietary high-pressure sealants, production optimization and specialized chemical solutions to restore and sustain barrier integrity and deliverability, onshore, offshore, at surface and downhole.



OEM Sealants & Chemicals

High-pressure sealants and engineered chemistries manufactured in-house



Well Integrity Solutions

Diagnostics, leak rectification and monitoring across the well life



Production Optimization

Gas-lift enhancement, wax & scale management and idle-well reactivation



Specialized Chemical Solutions

Water shut-off, sand consolidation and surfactant systems

COMPANY AT A GLANCE

FOUNDED

2018

HEADQUARTERS

Kuala Lumpur, Malaysia

WORKSHOPS

Kemaman & Labuan

FOOTPRINT

Operations across 10 countries

TRACK RECORD

500+ leak repairs · 500+ diagnostics

CONTRACTS

15 long-term operator contracts

■ BY THE NUMBERS

A Proven Track Record

500+

Well leak repair cases
delivered globally

500+

Well diagnostics & logging
operations completed

15

Long-term contracts with
reputable operators

10

Countries served across our
operating footprint

Delivered for leading national & international operators including ExxonMobil, Petronas, Hibiscus, Petrofac and Genting Oil.

■ WHERE WE OPERATE

Global Footprint

OFFICES & PARTNERS

- 📍 **Malaysia — HQ**
Kuala Lumpur · Kemaman · Labuan
- 📍 **Indonesia**
PT Ideal Patra · TrueLogs
- 📍 **Vietnam**
Matco Vietnam — Ho Chi Minh City
- 📍 **Thailand**
Hyperseal Tanakom — Bangkok
- 📍 **Oman**
FOS Energy — Muscat
- 📍 **Qatar**
Jaidah Energy — Doha
- 📍 **Nigeria**
BAZ Sealing Solutions — Port Harcourt



Operations across 10 countries — Asia Pacific, the Middle East and West Africa.

Our Capability Portfolio

An integrated portfolio spanning the full well life — finding and sealing leaks, keeping wells producing, and engineering the chemistries that make it possible.



Well Diagnostics

A

Acoustic, flow, corrosion & cement-evaluation logging to pinpoint a leak's presence, path and severity.



Leak Rectification

B

In-house high-pressure sealants permanently isolating SCP, wellhead, tubing/casing, control-line & P&A leaks.



Well Monitoring

C

Distributed fibre-optic sensing (DAS/DTS) and remote, satellite-enabled real-time surveillance.



Production Optimization

D

Gas-lift enhancement, wax & scale management, flow assurance and idle-well reactivation to lift recovery & uptime.



Specialized Chemical Solutions

E

Engineered water shut-off, sand consolidation and surfactant chemistries tailored to well conditions.



Technology Platform

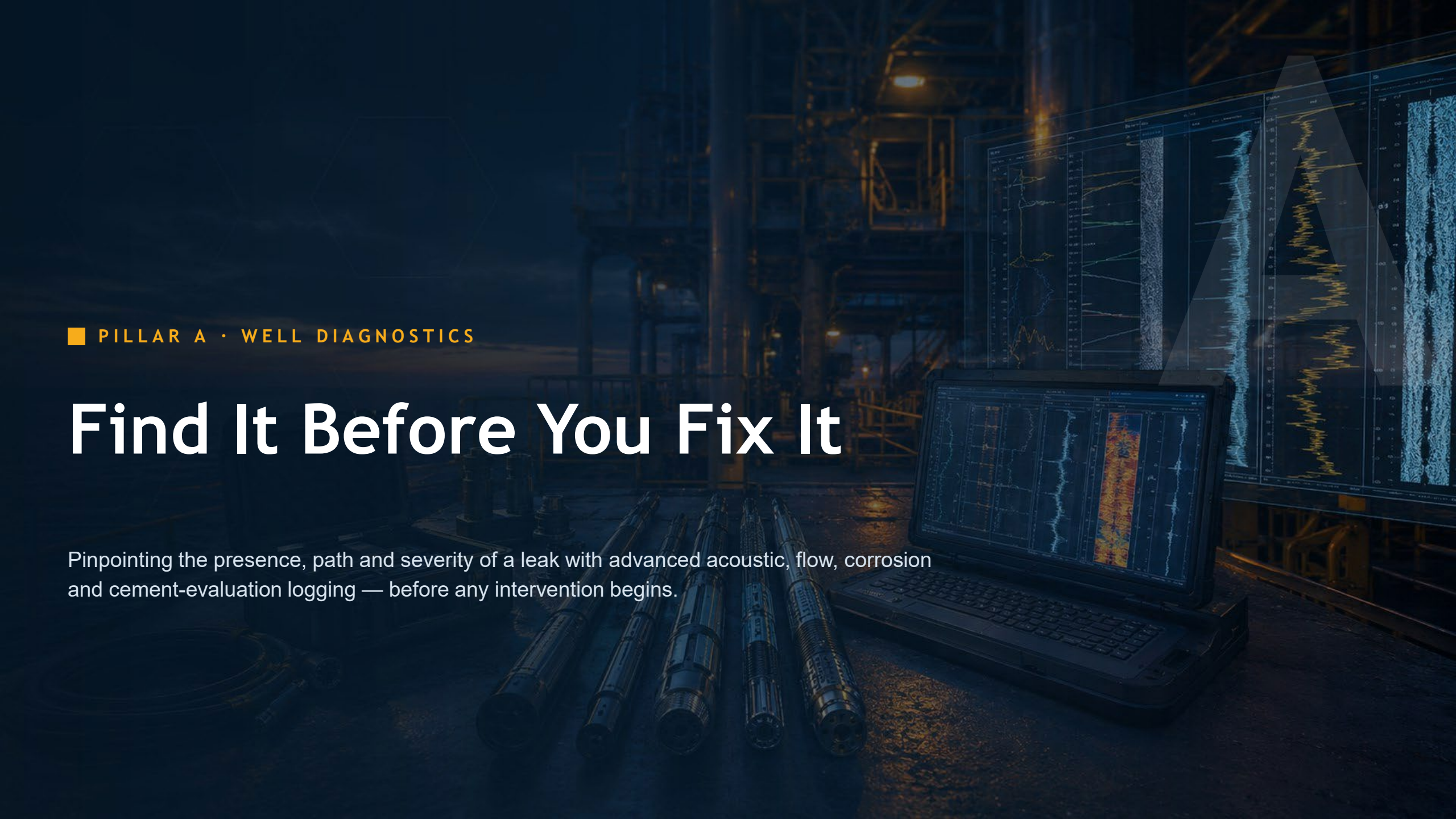
F

Local representation for leading global principals in production-enhancement and integrity technology.

■ PILLAR A • WELL DIAGNOSTICS

Find It Before You Fix It

Pinpointing the presence, path and severity of a leak with advanced acoustic, flow, corrosion and cement-evaluation logging — before any intervention begins.



A Complete Diagnostic Toolkit

Pressure & Flow

- ◆ Annulus Pressure Diagnostics
- ◆ Liquid Level Measurement
- ◆ Direct Flow Metering
- ◆ Micro-GC Analysis

Cased-Hole Logging

- ◆ Leak Detection Logging
- ◆ Corrosion Logging
- ◆ Sand Detection
- ◆ Cement Evaluation

Analysis

- ◆ Reservoir Flow Analysis
- ◆ Acoustic Leak Flow (ALFA)
- ◆ Multifinger Caliper (MFC)
- ◆ Magnetic Thickness (MTD)



Surface & Downhole Diagnostics

A full suite of acoustic, electromagnetic and flow-based tools deployed to quantify integrity threats and guide the rectification programme.

Acoustic Sounding & Direct Flow Metering



Liquid Level — SonoEcho / Echometer

- ◆ Acoustic pulse reflected by tubing collars & the liquid level
- ◆ Explosion or implosion mode; CO₂, N₂ or hydrocarbon gas
- ◆ Applicable to any vertical or horizontal well



Direct Flow Metering — Rheonik Coriolis

- ◆ Mass-flow measurement to estimate leak severity
- ◆ Verifies annulus condition against API 14B / 14C
- ◆ Alerts the well owner on action based on captured leak rate

Leak Rate Threshold (According to ISO10417/API14B, ISO10418/API14C & API14H)		
Maximum	Action	Alarm
Gas : 0.005 kg/s or 900 scf/hr	Gas: 0.004 kg/hr or 579 scf/hr	Gas: 0.003 kg/s, 482 scf/hr
fluid: 23.4 l/hr (0.39 l/min)	fluid: 15 l/hr (0.25 l/min)	fluid: 12.5 l/hr (0.2 l/min)

Leak-Rate Threshold & Annulus Pressure Management

SCP bleed-off and build-up testing regulates surface flow to match the downhole leak rate — establishing severity and the basis for sealant design.

Acoustic Leak Flow & Cement Bond Logging



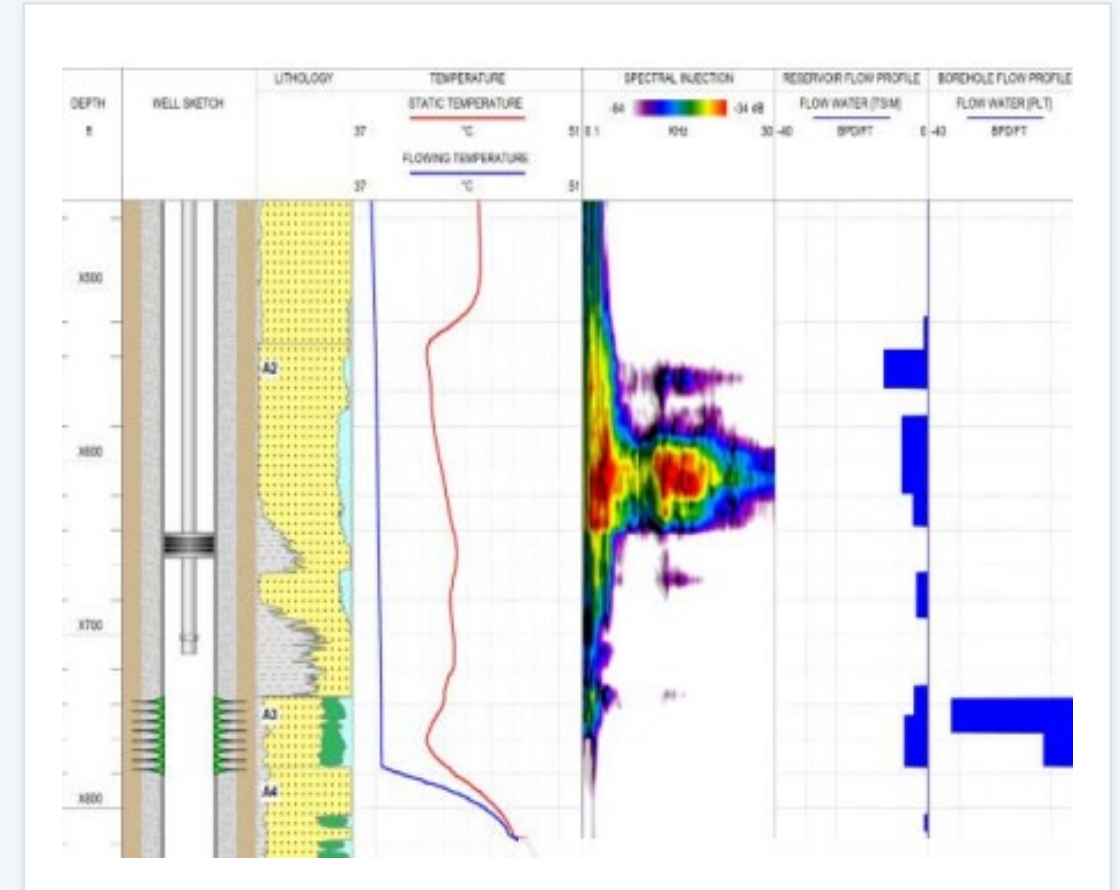
ALFA — Acoustic Leak Flow Analyzer

- ◆ Leak detection across tubing, casing, packer & accessories
- ◆ Identifies flow zones and channelling behind pipe
- ◆ Formation, reservoir & borehole performance characterization



RBL — Radial Bond Log

- ◆ Evaluates hydraulic isolation between producing zones
- ◆ Full circumferential resolution for channel identification
- ◆ Measures acoustic attenuation at casing-to-cement interface



Corrosion Imaging & Sand Detection



MFC & MTD — Calipers + Thickness

- ◆ Multifinger calipers: internal tubing & casing diameters
- ◆ Detects erosion, wear, pitting, holes & deformation
- ◆ Electromagnetic thickness across up to three concentric pipes



Sand Detection Tool

- ◆ Ultrasound counts sand particles, ignoring liquid/gas noise
- ◆ Combined with flow meter for reservoir-management decisions

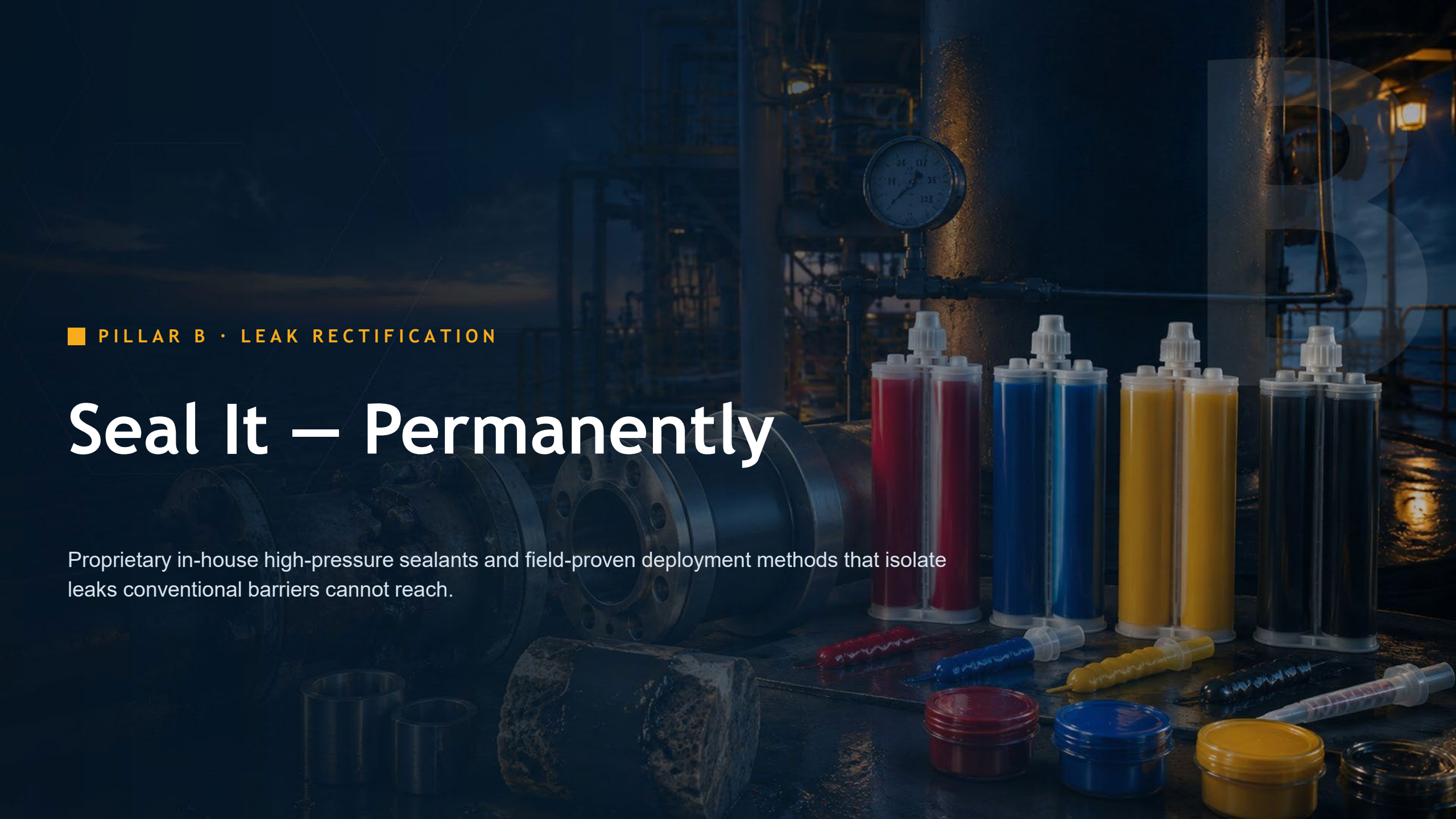
SAND DETECTION — SPECIFICATIONS

Max Pressure	15,000 psi (100 MPa)
Max Temperature	300°F (150°C)
Environment	Oil · Gas · Water
Sensitivity	Particle OD 0.1 mm
Range	0 – 16,000 impact/s
Memory	72 hr
Housing	Titanium
Outside Dia.	1¼"
Connection	¾"-16 UNF (Sucker Rod)

■ PILLAR B • LEAK RECTIFICATION

Seal It — Permanently

Proprietary in-house high-pressure sealants and field-proven deployment methods that isolate leaks conventional barriers cannot reach.



High-Performance Sealants for Oil & Gas Wells

PAS

Pressure Activated

Redseal

TAS

Time Activated

Blueseal

ER

Thermoset / Epoxy

Yellowseal · EX

SIP

Sealing Isolation
Paste

Vigor HC



HIGH-PRESSURE ISOLATION SOLUTIONS FOR

- ✓ Sustained Casing Pressure (SCP)
- ✓ Wellhead · Casing / Tubing Hanger · Packoffs
- ✓ Tubing & Casing Leaks
- ✓ Control Lines & Safety Valves
- ✓ Production Packers / Tiebacks
- ✓ Poor Cement & P&A Assurance
- ✓ Seal Stems & Stacks
- ✓ Subsea / MLS

Sealant Application Matrix

Application	PAS	TAS	Resin	Paste
SURFACE LEAKS				
Wellhead / Xmas Tree / Conductor	◆	◆	◆	◆
Gate Valve	◆	◆	◆	◆
MTM (SRL / SBMS) Seals	◆	◆		
Tubing & Casing Hanger Seals	◆	◆		
Packoff Seals	◆	◆	◆	
DOWNHOLE LEAKS				
Control Line	◆		◆	
Downhole Safety Valve	◆		◆	
Production Packer	◆	◆	◆	
Seal Stem / Polished Bore Receptacle	◆			
Tubing / Casing Connection Leak	◆	◆	◆	
Sliding Side Door / Side Pocket Mandrels	◆			
SCP — Micro-Annular Channeling	◆	◆	◆	
Poor Cement / P&A Assurance			◆	

LEGEND

◆ Suitable application

All sealants are engineered and manufactured in-house. Densities and viscosities are adjustable to suit specific well conditions and deployment methods.

Sealant Performance Comparison

Property	Pressure Activated	Time Activated	Thermoset Resin	Isolation Paste
Product Name	Redseal 500/1000	Blueseal 500/1000	Yellowseal · EX101/103	Vigor HC
Physical State	Liquid (1 part)	Liquid (2 part · 10:1)	Liquid (2 part)	Paste
Pressure Rating	10,000 psi	10,000 psi	10,000 psi	8,000 psi
Temperature	0–260 °C	0–260 °C	250 °C	-80 to 260 °C
Standard Density	12 ppg (adj.)	9 ppg	9.6 ppg (adj.)	16.6 ppg
Viscosity (mixed)	25 cps	10,000 cps	500–12,000 cps	100,000 cps
Curing Time	Instantaneous	16–48 hours	30 min–8 hours	n/a
Shelf Life	12 months	12 months	12 months	12 months
Activation	Pressure differential	Crosslinking	Exothermic cure	Injected & compacted

All sealants are engineered and manufactured in-house; densities and viscosities are adjustable to suit specific well conditions and deployment methods.

Pressure Activated Sealant (Redseal)

A single-part liquid sealant carried to the leak by wellbore fluid. It cures the instant it encounters a pressure differential across a leak path, sealing micro-channels and damaged connections without intervention.

TECHNICAL DATA

PHYSICAL STATE	Liquid (1 part)	PRESSURE	10,000 psi
TEMPERATURE	0–260 °C	DENSITY	12 ppg (adj.)
VISCOSITY	25 cps	SHELF LIFE	12 months

SEALING PRINCIPLE Activates on pressure differential — flows to the leak, then solidifies to blockade the leak path.

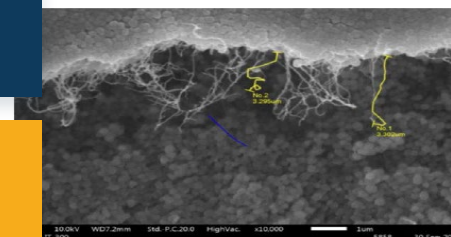


PAS in liquid form — multiple viscosity grades (25 / 200 / 500 cp)



Severely damaged 1/4" NPT connection — sealed by PAS treatment

* Photo - Leak on a severely damaged 1/4" NPT nipple cured by Pressure Activated Sealant



20,000× SEM micrograph of solidified PAS

Time Activated Sealant (Blueseal)

A two-part liquid sealant (10:1) that cross-links during a controlled polymerisation window. The curing time lets the sealant self-level and fill the leak cavity before setting under pressure into a tough, energised seal.

TECHNICAL DATA

PHYSICAL STATE	Liquid (2 part)	PRESSURE	10,000 psi
TEMPERATURE	0–260 °C	DENSITY	9 ppg
VISCOSITY	15,000 cps	CURE	16–48 hrs

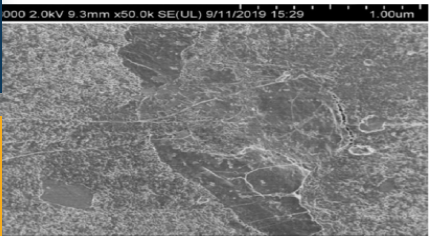
SEALING PRINCIPLE Crosslinking during polymerisation allows the sealant to cure under pressure and blockade the leak path.



Solidified TAS removed from test fixture after 24 hrs curing



TAS in liquid form prior to deployment



500× SEM micrograph of solidified TAS

Thermoset Epoxy Resin (HYPER-ER)

A two-part engineered epoxy resin that cures through an exothermic reaction into a very high compressive-strength plug. Density can be weighted on-site to exceed completion-fluid density, enabling controlled placement on top of cement and squeeze into leak zones.

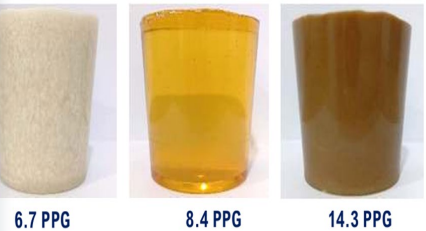
TECHNICAL DATA

PHYSICAL STATE	Liquid (2 part)	PRESSURE	10,000 psi
TEMPERATURE	250 °C	DENSITY	9.6 ppg (adj.)
VISCOSITY	1,000 cps	CURE	30m–3 hrs

SEALING PRINCIPLE Exothermic polymerisation creates a very high compressive-strength plug that blockades the leak path.



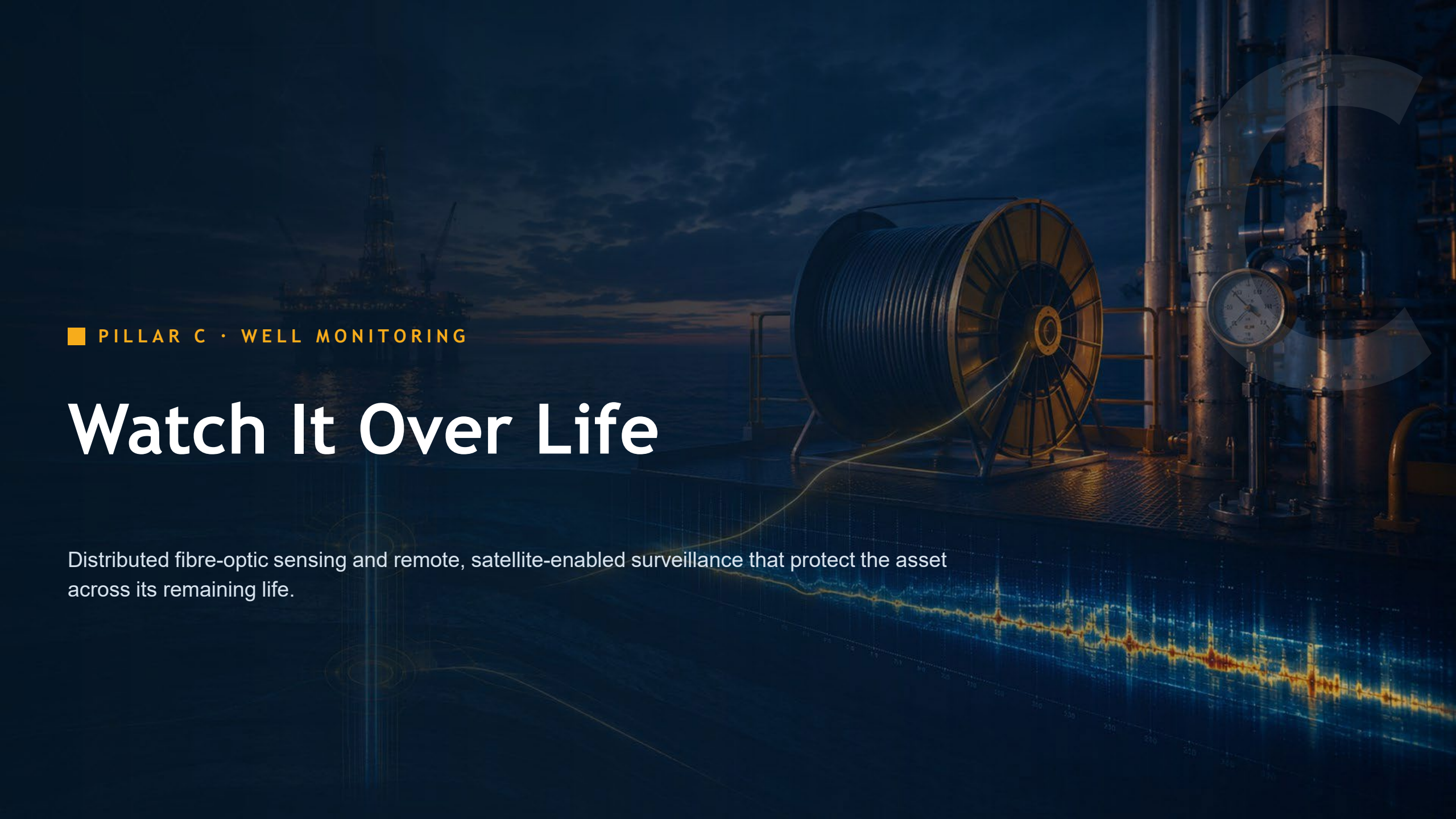
Cured resin plug — high compressive strength



On-site weighted slurry: 6.7 / 8.4 / 14.3 ppg



Field mixing of HYPER-ER weighted slurry



■ PILLAR C · WELL MONITORING

Watch It Over Life

Distributed fibre-optic sensing and remote, satellite-enabled surveillance that protect the asset across its remaining life.

Distributed Fibre-Optic Sensing



DAS — Distributed Acoustic Sensing

- ◆ Ultra-high-performance quantitative distributed fibre sensing delivering continuous acoustic output along the full well path.



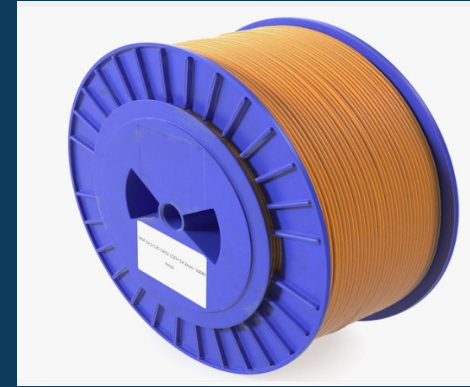
DTS — Distributed Temperature Sensing

- ◆ Accurate, continual, real-time temperature along the complete well — insight into reservoir and downhole completion condition.



Remote & Satellite Connectivity

- ◆ Portable power solutions and satellite links enable continuous surveillance of remote and unmanned assets.



Distributed Fibre-Optic Cable

12,000 ft
continuous sensing cable

5,000 m = 5,000 temperature / acoustic sensors

■ PILLAR D • PRODUCTION OPTIMIZATION

Keep Wells Producing

Lifting recovery and uptime through gas-lift enhancement, wax & scale management, flow assurance and idle-well reactivation.

D

Maximising Recovery & Uptime



Gas-Lift Enhancement

- ◆ Supersonic Gas Lift system (TRC Technologies) to improve lift efficiency and restore production.



Wax & Scale Management

- ◆ CPRS® mechanical wax & scale removal (TOP WELL) to protect the flow path and deliverability.



Flow Assurance & Annulus Management

- ◆ APARS® annulus pressure monitoring & relief, plus diagnostics to identify and remove production constraints.



Idle-Well Reactivation

- ◆ Combined diagnostics, integrity rectification and intervention to bring shut-in and underperforming wells back online.



Engineered to keep wells flowing

Production-enhancement technology and intervention expertise that restore and sustain well deliverability.



■ PILLAR E • SPECIALIZED CHEMICAL SOLUTIONS

Chemistry That Performs

Engineered in-house chemistries — water shut-off, sand consolidation and surfactants — tailored to well conditions, fluids and temperatures.

Engineered Production Chemistries

Beyond sealants, HYPERSEAL formulates targeted chemical systems that address common production threats — keeping the right fluids flowing and the wrong ones out.



Water Shut-Off

- ◆ Selective systems that cut unwanted water production
- ◆ Gels & relative permeability modifiers placed at water zones / channels
- ◆ Preserves hydrocarbon flow while reducing water cut



Sand Consolidation & Agglomeration

- ◆ Resin & chemical systems that bind unconsolidated formation sand
- ◆ Controls sand production without mechanical screens
- ◆ Built on our in-house thermoset-resin expertise

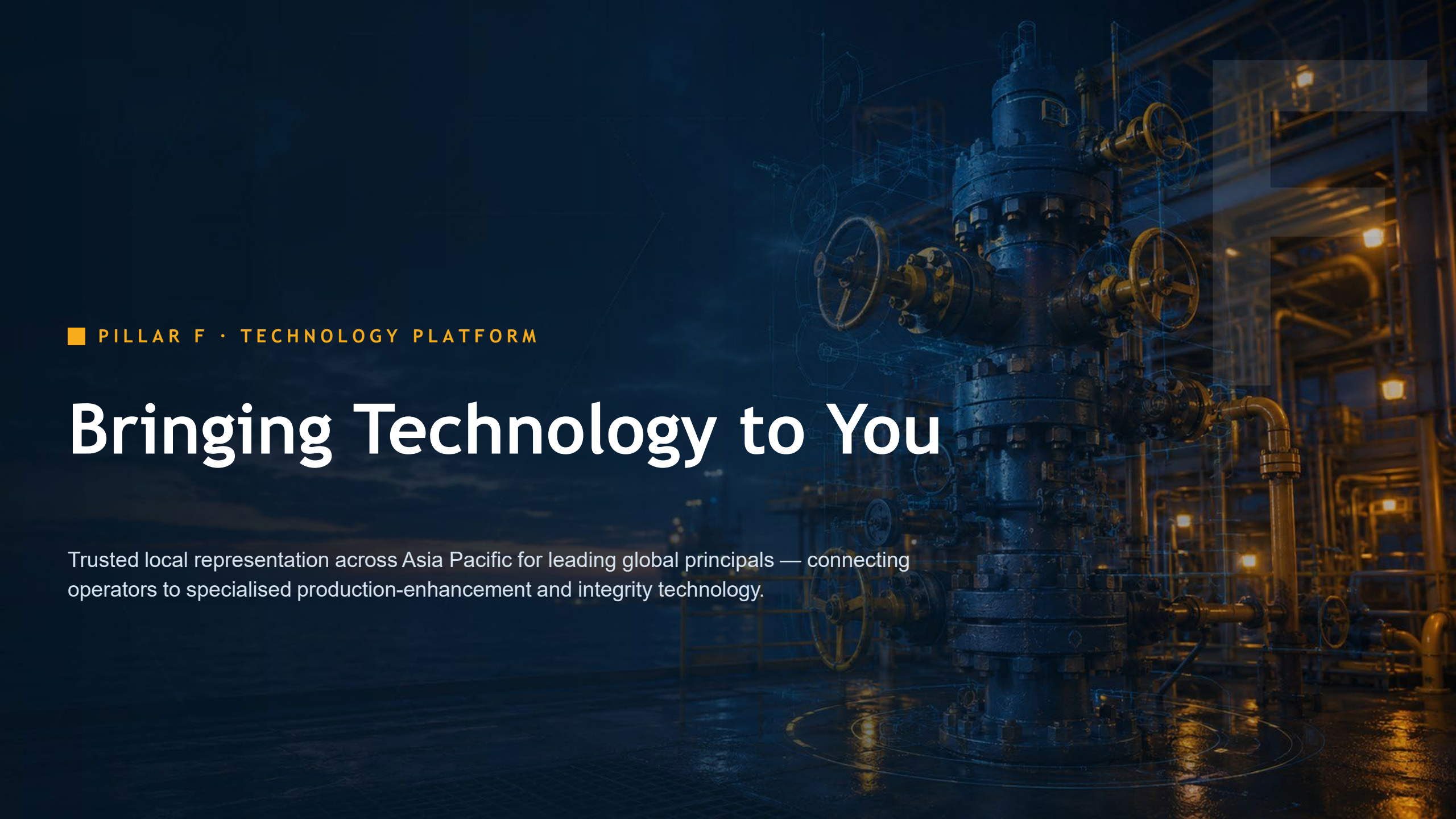


Surfactants

- ◆ Wettability alteration, well cleanup & flowback enhancement
- ◆ Foaming, emulsion & interfacial-tension control
- ◆ Improved injectivity and hydrocarbon recovery



All chemistries are engineered in-house and tailored to specific well conditions, fluids and temperatures — and can be combined with our sealant and diagnostics services.



■ PILLAR F • TECHNOLOGY PLATFORM

Bringing Technology to You

Trusted local representation across Asia Pacific for leading global principals — connecting operators to specialised production-enhancement and integrity technology.

Principal-Agent Technology Partnerships

As regional agent, HYPERSEAL provides trusted local representation for global principals — giving operators direct access to specialised production-enhancement and integrity technologies without managing multiple foreign vendors.



TRC Technologies — United States

- ◆ Supersonic Gas Lift Enhancement System



TOP WELL — China

- ◆ CPRS® Wax & Scale Management Tool
- ◆ APARS® Annulus Pressure Monitoring & Relief Skid



Wellhead & Xmas Tree Systems

Integrated solutions engineered for surface and subsea well architecture.



■ PROVEN IN THE FIELD

Selected Case Studies

Field-proven results for ExxonMobil, Petronas, Hibiscus, Petrofac, Genting Oil and PVEP — across surface, downhole, subsea and P&A applications. Three documented in published SPE papers.

Surface Leak Repair During P&A Campaign



THE CHALLENGE

- ◆ Surface leaks on several wells before/during a P&A campaign
- ◆ Uncertainty in leak severity; heavily ageing wellhead components
- ◆ Risk of delay, rising rig cost and jeopardised rig operations



THE SOLUTION

- ◆ Diagnostics to quantify presence, path & severity across 11 wells
- ◆ Multiple on-site treatment options using Time Activated Sealant



THE RESULTS

- ◆ 8 severe wellhead leaks successfully cured
- ◆ Operations sustained without interruption, as scheduled



CLIENT	Petronas Carigali — P&A Team
LOCATION	Pulai-Alpha, Offshore Terengganu
PROJECT	Tubing & Casing Hanger Leak Repair
YEAR	2019

36" Conductor & Landing Ring Leak



THE CHALLENGE

- ◆ Gas seepage at two conductors — leak at the landing-ring / base-plate gap above the 36" conductor
- ◆ Suspected channelling via top or bottom seals of the 13 $\frac{1}{2}$ " casing hanger



THE SOLUTION

- ◆ Diagnostics at every casing-hanger seal port
- ◆ Combined PAS & TAS sealant treatment
- ◆ Hyperwrap deployed as a secondary barrier



THE RESULTS

- ◆ All leaking casing-hanger seal ports rectified
- ◆ No gas at the section gap after wrapping; confirmed by soap test



CLIENT	Petrofac (Malaysia — PM304)
LOCATION	Cendor Alpha, Offshore Malaysia
PROJECT	36" Conductor, Casing Hanger & Landing Ring Leak
YEAR	2019

Control Line Diagnostic & Rectification



THE CHALLENGE

- ◆ Insert-valve well suffered two-way control-line leak communication
- ◆ CL unable to hold pressure; gas ingress into CL (PBU)
- ◆ IV sealing via SwellStack swellable O-ring system



THE SOLUTION

- ◆ Diagnostics quantified severe injectivity (616 ml/min @ 3,500 psi)
- ◆ Optimised volumetric PAS deployment to seal in-situ
- ◆ On-site Back-Pressure Manifold to resolve gas ingress



THE RESULTS

- ◆ Severe CL leak sealed after positive & negative pressure tests
- ◆ No gas on bleed-off; CL and TRSV functionality reinstated



CLIENT	ExxonMobil Malaysia (EMEPMI)
LOCATION	Tabu Bravo, Offshore Malaysia
PROJECT	CL Leak Diagnostic & Rectification
YEAR	2022

9⁵/₈" × 3¹/₂" Dual Production Packer Repair



THE CHALLENGE

- ◆ Production packer leak at 2,021 ft; ~13.5 scf/min leak rate
- ◆ Crane limitation — small pumping unit (DOS triplex)



THE SOLUTION

- ◆ 5 bbl of PAS displaced into the annulus & squeezed through the packer leak
- ◆ Over 50 lab & system-integrity tests for compatibility and pumpability



THE RESULTS

- ◆ Packer holding pressure since cure — zero A-annulus pressure increase
- ◆ Well back online after being shut-in for over three years



CLIENT	Hibiscus Petroleum
LOCATION	Saint Joseph, Offshore Sabah
PROJECT	Dual Production Packer Repair
YEAR	2019 & 2021

Surface Cement Plug Leak Rectification



THE CHALLENGE

- ◆ Temporarily abandoned wells with sustained casing pressure (SCP)
- ◆ Suspected micro-channel from isolation-plug or perforation-squeeze leak
- ◆ Max pressure on Sections C & D recorded at 1,000+ psi



THE SOLUTION

- ◆ Rig-less, small-footprint, fit-for-purpose equipment at a remote site
- ◆ Weighted engineered resin placed on top of cement via macaroni tubing



THE RESULTS

- ◆ 2 bbl resin plug injected and cured under surface pressure (24 hrs)
- ◆ No PBU recorded post-treatment; equipment performed as intended



CLIENT	Genting Oil Kasuri Pte Ltd
LOCATION	ASAP & BEDIDI, West Papua, Indonesia
PROJECT	Cement Plug Leak Rectification
YEAR	2022

Engineered Resin for SCP — Idle Well Reactivation



THE CHALLENGE

- ◆ Shut-in producer with wire fish, DHSV seal-bore damage & high surface SCP
- ◆ Reactivation target of ~400+ BOPD
- ◆ Independent 1,000 psi SCP — suspected washed-out shoe & micro-annulus



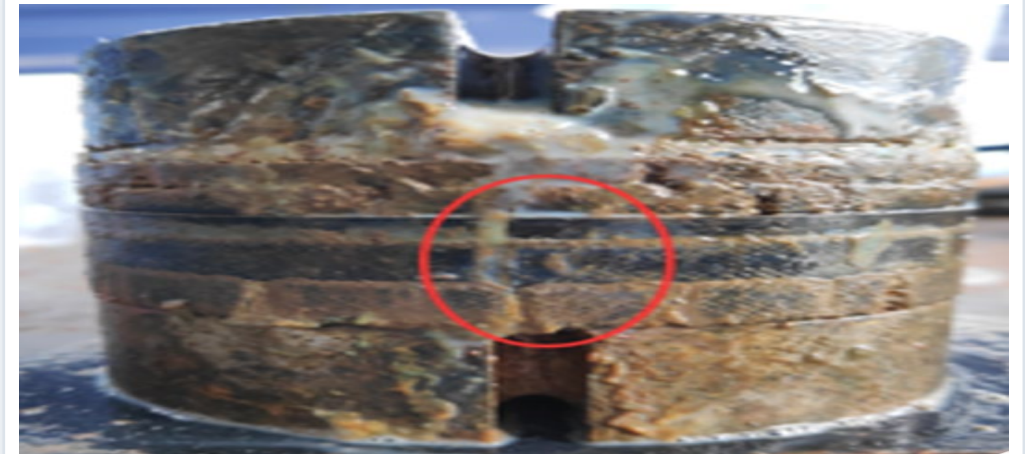
THE SOLUTION

- ◆ Diagnostics: fluid level, PBU rate & surface integrity tests
- ◆ Heavy 12 ppg slurry deployed by circulation
- ◆ Novel feed-thru intervention hose for uncontaminated resin placement



THE RESULTS

- ◆ 2.5 bbl resin injected — equivalent to ~12 m of plug
- ◆ Cured under surface pressure; manageable PBU post-treatment



CLIENT	Hibiscus Malaysia Limited
LOCATION	Bunga Kekwa, Peninsular Malaysia
PROJECT	Sustained Casing Pressure Rectification
YEAR	2024

Resin Plug Through Drill Pipe to Enable P&A



THE CHALLENGE

- ◆ 9 $\frac{5}{8}$ " casing cut for surface plug halted by A-annulus gas bubbling
- ◆ Multiple potential sources incl. micro-channel via casing crack
- ◆ Low injectivity even after gator perforation at cemented casing



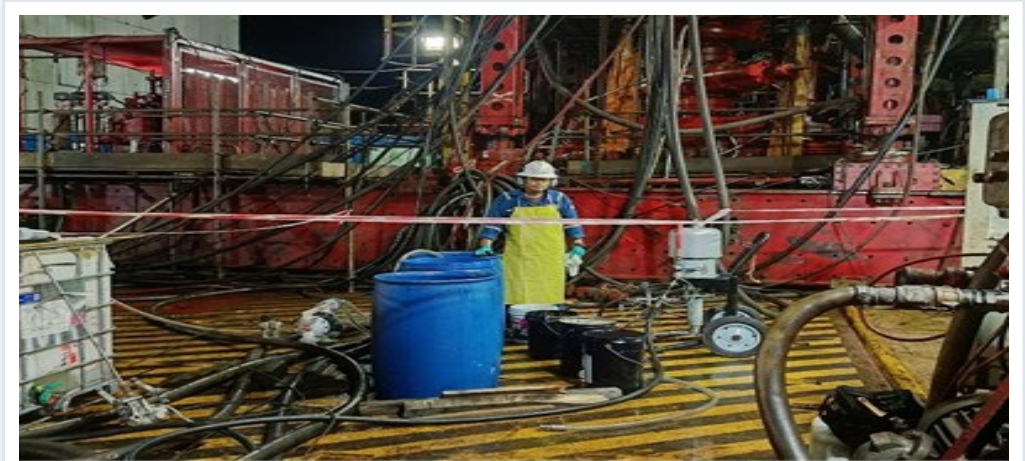
THE SOLUTION

- ◆ Gator perforation at target depth; cement bridge plug set
- ◆ Injectivity test 0.19 bbl/15 min @ 500 psi
- ◆ 1 bbl of 9.3 ppg resin squeezed via drill pipe (~1,500 m MD)



THE RESULTS

- ◆ 1 bbl resin squeezed vs ~4 bbl planned plug
- ◆ Circulation, build-up & leak-off rates reduced — enabling next PWC



CLIENT	ExxonMobil
LOCATION	Guntong Field, Peninsular Malaysia
PROJECT	SAP Diagnostic & Rectification via Drill Pipe
YEAR	2025

Leak Detection & Corrosion Logging Campaign



THE CHALLENGE

- ◆ Determine corrosion status of production tubing & outer casing
- ◆ Verify internal tubing diameter condition
- ◆ Identify tubing/packer leaks and flow behind casing



THE SOLUTION

- ◆ ALFA — Acoustic Leak Flow Analyzer logging
- ◆ MTD — Magnetic Thickness Detection logging
- ◆ MFC — Multi-Finger Imaging logging



THE RESULTS

- ◆ Leak/communication point & flow behind casing verified in 6 wells
- ◆ Clear corrosion levels established for tubing & production casing



CLIENT	PVEP POC
LOCATION	Dai Hung, Offshore Vietnam
PROJECT	Well Integrity Surveillance Campaign
YEAR	2024

Cement Integrity Evaluation Behind Monobore



THE CHALLENGE

- ◆ Determine cementing integrity behind a completed monobore prior to production
- ◆ Correlate tubing depth before perforation and identify offset



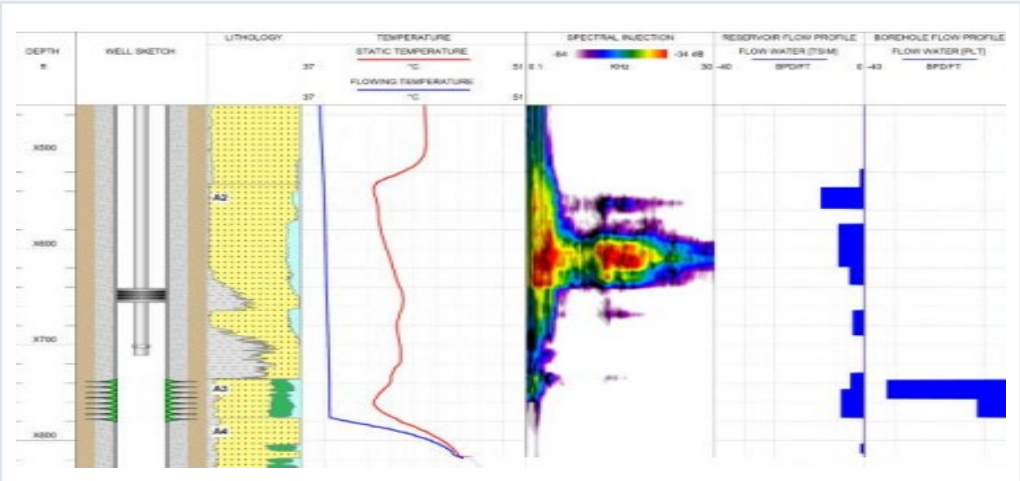
THE SOLUTION

- ◆ Radial Cement Bond Logging (RBL)
- ◆ Gamma-Ray Casing Collar Locator (GRCCCL) logging



THE RESULTS

- ◆ Reliable cement-evaluation logs delivered for quality assessment
- ◆ GRCCCL depths confirmed depth accuracy



CLIENT	Petronas Carigali
LOCATION	Gansar, Offshore Peninsular Malaysia
PROJECT	Gansar GFD
YEAR	2024

Published SPE Technical Papers

HYPERSEAL's well integrity solutions are documented in peer-reviewed Society of Petroleum Engineers (SPE) papers.



SPE-202404-MS

A Novel and Comprehensive Approach to Fix Conductor and Casing Hanger Leaks

Petrofac PM304 · Cendor Alpha — Conductor & Casing Hanger Leak (2019)



SPE 26SM02-P-342

A Practical Approach to Cost-Effective Reactivation of Idle Wells with Multiple Intervention and Integrity Issues

Hibiscus · Bunga Kekwa — SCP, Fish-in-Hole, Sand & Safety-Valve Seal-Bore (2024)



SPE-220572-MS

Unconventional Solution for Well Operation & Maintenance: Surface and Downhole Leak Repair Using Robust Chemical Sealant

Author: Mohamad Kamil Saharuddin



HYPERSEAL SOLUTIONS

Well Integrity Solutions Expert

Let's solve your well integrity challenge.



HEADQUARTERS

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59100 Kuala Lumpur, Malaysia



OPERATIONS

Asia Pacific · Middle East
West Africa · 10 countries



CAPABILITY

Integrity · diagnostics · rectification
monitoring · production · chemicals