Ensuring Integrity. Enhancing Production

Trusted by Industry Leaders Worldwide

ABOUT US

Vanguard Reservoir Surveillance services (VRSS) is a leading company in well integrity diagnostics, using cutting edge technologies to provide solution driven recommendations to enhance the life cycle of your wells.

Established in
2006

Based in
Muscat

Proven Track Record

Over 5,500 logging jobs completed since 2011, averaging around 500 logs per year.

logging jobs completed since 2011
5500

Average Jobs per year
500

Our Values

- Safety is our Priority
- Environment and Social Responsibility
- Integrity and Ethics
- Growth and Development of our Employ
- Quality and Consistency

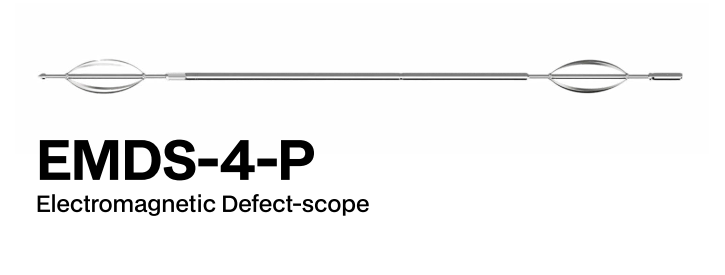
Our Strength

- Cutting EdgeTechnology
- High Temperature Capability
- Customer-Focused Solutions
- Vision-Driven Excellence
- Proven Track Record

Our Solutions

Downhole Integrity Solutions

EMDS Multibarrier Corrosion Logging Tool | EPST Enhanced Passive Sonic Tool | High Temperature Logging Tool | MultiFinger Caliper Logging Tool | Downhole Measuring tool PG-32T-C | Downhole Measuring tool SDT-42T (Type 786T)



EMDS-4-P

Electromagnetic Defect-scope

Pulsed electromagnetic defect-scope is non-destructive corrosion logging tool which was designed to measure the individual wall thickness of concentric pipes in a single run that makes it the most cost-efficient corrosion evaluation tool in the market. The tool provides quantitative wall thickness measurement for up to 4 pipes and makes it possible to conduct thru-tubing corrosion survey in both single and double completions.

Applications:

Quantitative 4 pipes corrosion evaluation	Allocation of holes, cracks, "worn-out" areas, parted casing	Allocation of casing/ tubing completion accessories, perforated intervals	Applicable for single and dual completion design	Time lapse corrosion monitoring

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Real-time Enhance Passive Sonic Tool

Applications:

Wellbore inflow/injecting profile	Formation active intervals	Crossflow between active formation intervals.	Qualitative analysis of formation saturation across non-perforated intervals.	Upwards and downwards crossflow.
Quantitative 4 pipes corrosion evaluation	Allocation of holes, cracks, "worn-out" areas, parted casing	Allocation of casing/ tubing completion accessories, perforated intervals	Applicable for single and dual completion design	Time lapse corrosion monitoring

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Real-time High Temperature Tool

The High Temp Downhole Tool is designed to conduct logging in hush wellbore environment. Tool includes following sensors: Temperature, Pressure, Casing Collar Locator, Gamma Ray and conventional flowmeter (spinner, turbine type). Tool work in real time with mono-conductor cable. Acquisition system allows to monitor all recorded data in real time and take decision with no extra time to make decision.

Applications:

Identification of steam injection profile across perforated intervals. Steam phases distribution along wellbore.	Identification of production profile in geothermal wells.	Leak point hunting.	Cross flow identification.

EMDS Multibarrier Corrosion Logging Tool | EPST Enhanced Passive Sonic Tool | High Temperature Logging Tool | MultiFinger Caliper Logging Tool | Downhole Measuring tool PG-32T-C | Downhole Measuring tool SDT-42T (Type 786T)

Real-time Multi Finger Caliper 40 Logging Tool

The High Temp Downhole Tool is designed to conduct logging in hush wellbore environment. Tool includes following sensors: Temperature, Pressure, Casing Collar Locator, Gamma Ray and conventional flowmeter (spinner, turbine type). Tool work in real time with mono-conductor cable. Acquisition system allows to monitor all recorded data in real time and take decision with no extra time to make decision.

Applications:

Internal metal loss of pipe (general, holes, cracks, wears, "worn-out" areas).	Pipe deformation	Scale accumulation on inner wall of the pipe	Identification of perforated intervals

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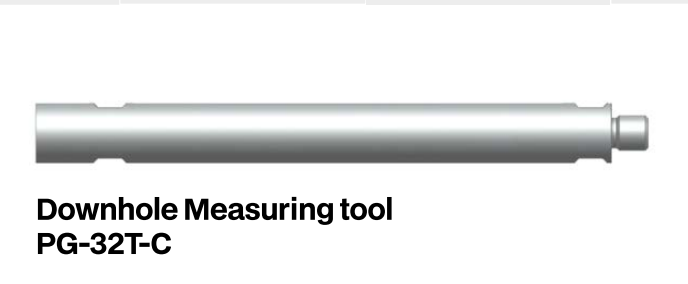


Downhole Measuring tool PG-32T-C

Downhole Measuring tool **PG-32T-C** is a memory pressure gauge designed to deliver reliable and accurate downhole pressure data.
With proven piezo-sapphire sensor technology and a robust design, the tool ensures stable long-term performance in demanding well...

EMDS Multibarrier Corrosion Logging Tool | EPST Enhanced Passive Sonic Tool | High Temperature Logging Tool | MultiFinger Caliper Logging Tool | Downhole Measuring tool PG-32T-C | Downhole Measuring tool SDT-42T (Type 786T)

Downhole Measuring tool SDT-42T (Type 786T)

Downhole Measuring tool **SDT-42T** is a standalone memory logging tool that operates on the principle of acoustic impact sensing. As sand particles travel through the wellbore and strike the surface of the tool's high-frequency sensor, they generate mechanical impulses.

Applications:

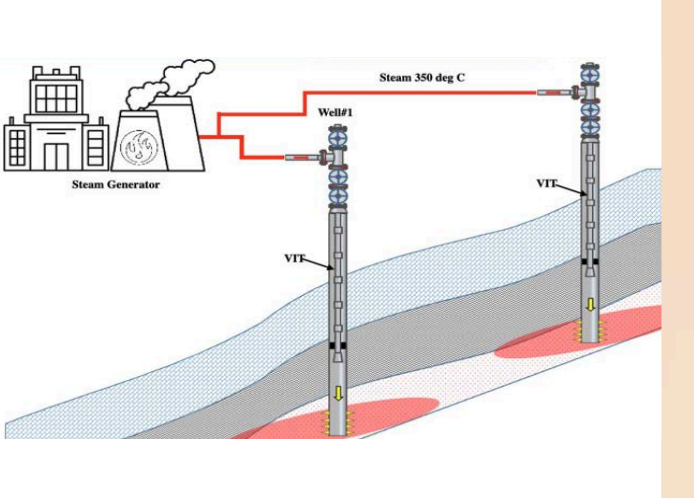
Zonal Sand Entry Identification Identification of intervals contributing to sand production for targeted intervention planning and sand control strategies.	**Production Optimization** Analysis of sand production data to determine the safest and most efficient production regimes, minimizing erosion risk while maintaining output.	**Flowback Analysis** Monitoring sand and proppant returns during post-fracturing flowback operations to assess formation behavior and completion efficiency.	**Erosion Risk Assessment** Evaluation of erosion risks to downhole and surface equipment based on measured sand intensity and particle load.

Our Solutions

DTS Application

DTS Application | DAS Application

Integrity Status of VIT collars | Steam Leak below TD | Temperature Profile Across Entire Logging Interval



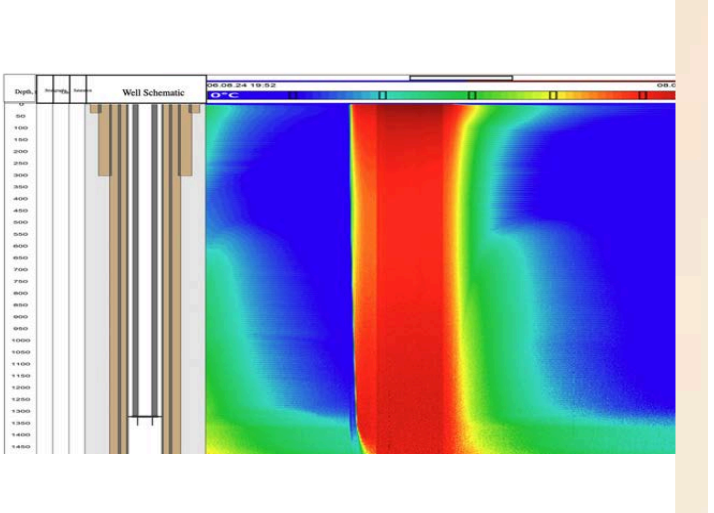
Integrity Status of VIT collars

Applications:

Integrity status of VIT collars	Integrity status of completion string & casing accessories	Temperature distribution profile across logged interval	Injection & Production zones across perforated interval	Quantitative Calculation of injection & production profile

DTS Application | DAS Application

Integrity Status of VIT collars | Steam Leak below TD | Temperature Profile Across Entire Logging Interval



Steam Leak below TD

Applications:

Integrity status of VIT collars	Integrity status of completion string & casing accessories	Temperature distribution profile across logged interval	Injection & Production zones across perforated interval	Quantitative Calculation of injection & production profile

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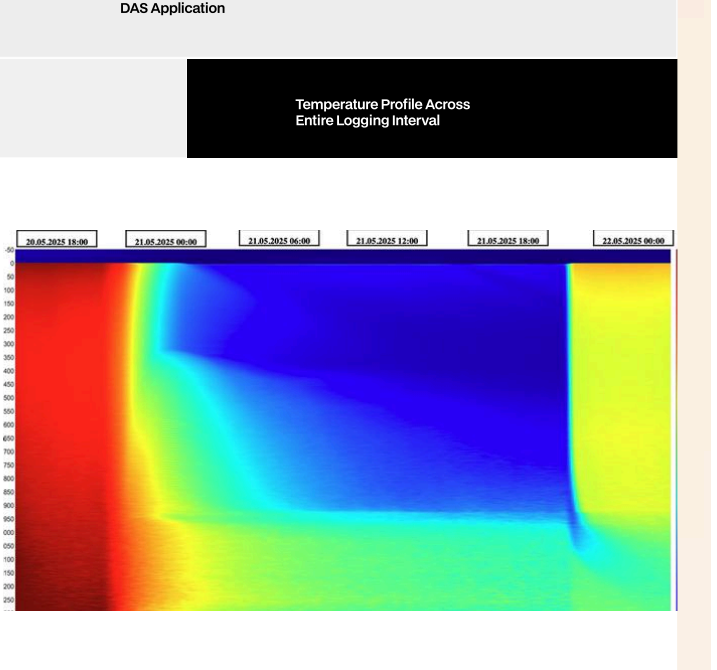

Temperature Profile Across Entire Logging Interval

Applications:

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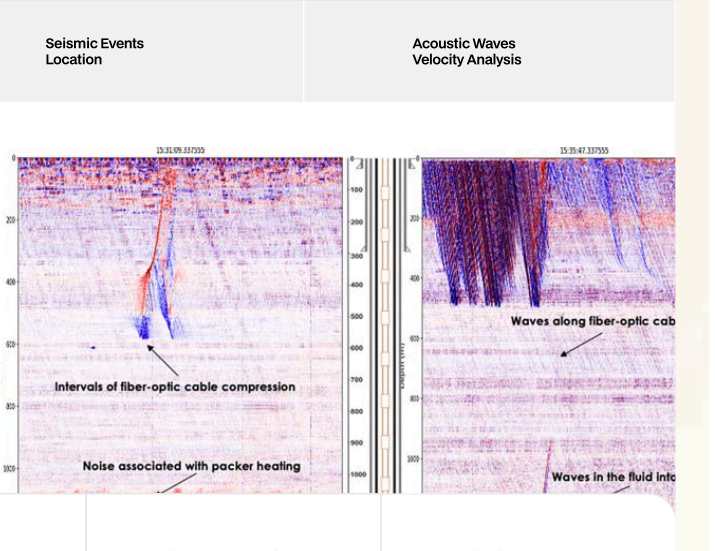
Our Solutions

DAS Application

DTS Application | DAS Application

Noise Method | Interferometry Method | Seismic Events Location | Acoustic Waves Velocity Analysis



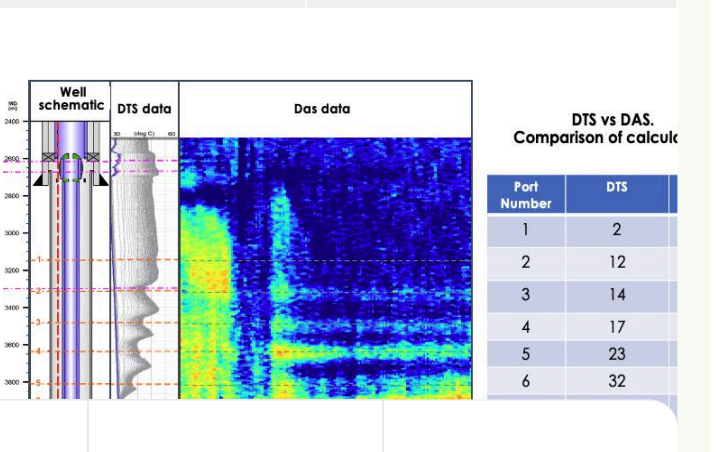
Noise Method

Applications:

DAS status of VIT collars	Integrity status of completion string & casing accessories	Type of fluid across entire logging interval	Injection & Production zones across perforated interval	Quantitative Calculation of injection & production profile
Different regimes of two-phase flow	Quality of cement bonding	Fluid level in the wellbore		

DTS Application | DAS Application

Noise Method | Interferometry Method | Seismic Events Location | Acoustic Waves Velocity Analysis



Interferometry Method

Applications:

DAS status of VIT collars	Integrity status of completion string & casing accessories	Type of fluid across entire logging interval	Injection & Production zones across perforated interval	Quantitative Calculation of injection & production profile
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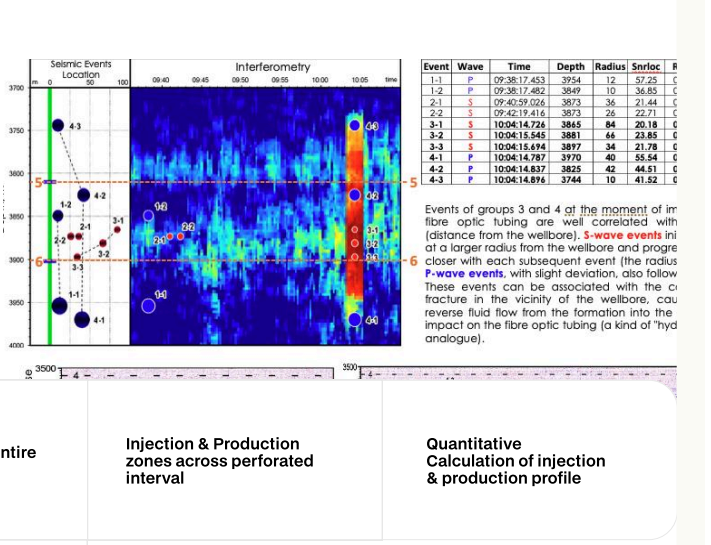
DTS Application | DAS Application

Noise Method | Interferometry Method | Seismic Events Location | Acoustic Waves Velocity Analysis



Seismic Events Location

Applications:

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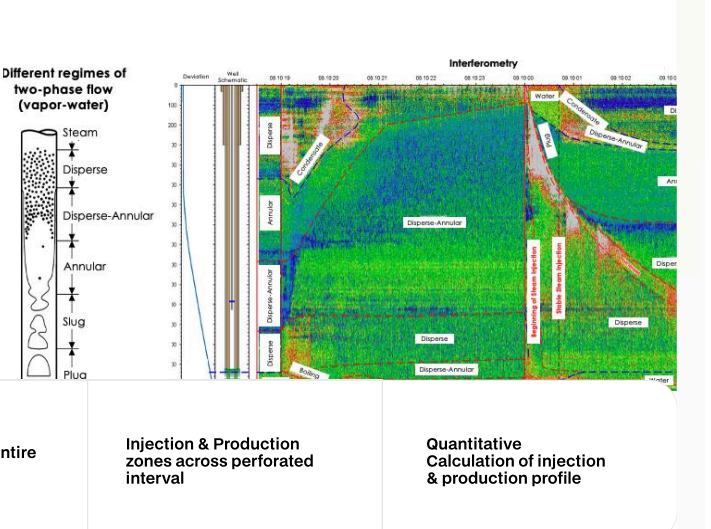
DTS Application | DAS Application

Noise Method | Interferometry Method | Seismic Events Location | Acoustic Waves Velocity Analysis



Acoustic Waves Velocity Analysis

Applications:

DAS status of VIT collars	Integrity status of completion string & casing accessories	Type of fluid across entire logging interval	Injection & Production zones across perforated interval	Quantitative Calculation of injection & production profile
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Our Products

Corrosion Logging EMDs

Integrity Challenge

Drilling a zone with losses can lead to poor cement quality or in severe cases a total absence of cement behind the casing resulting in free pipe. If there is a corrosive aquafer, the possibility of external corrosion is increased drastically. It is critical to understand the integrity of the pipe across these areas. Regular logging is recommended to identify when corrosion will migrate from the outer to internal pipes. This will enable a remedial program such as installing a scab liner to be instigated before a catastrophic failure.

Acoustic Logging EPST

Accurate Dynamic Reservoir Modelling

A PLT is a common logging tool which provides flow profile inside the wellbore only. This type of tool cannot provide the formation flow profiles as well as crossflow above-between-below perforated intervals. If only PLT log data is used for 3D dynamic modeling this could lead to discrepancies in the dynamic reservoir model which could affect further field development. The log data from the SNL acoustic tool can identify which intervals are accepting water in water injection wells and which intervals are producing in production wells. With the log data from the combination tool this will improve the accuracy of the dynamic reservoir model and ultimately improve recovery such as identifying un-swept oil saturated areas which could be targets for future infill drilling.

High Temperature Logging

PLT and Temperature Logging

The well is a vertical barefoot steam injector which was drilled in 2009. After drilling the well was completed with a 13 3/8" conductor, 9 5/8" surface casing and 7" intermediate casing. A 4.5" pre-drilled liner (PDL) was installed across the barefoot section. The steam was injected through vacuum insulated tubing (VIT).
A PLT was conducted in 2022 with the main objective to obtain the injected steam profile and distribution across the barefoot section. In addition, several relaxation temperature passes were recorded to understand the formation intake zones. The relaxation passes were recorded as follows: after 72 hours, 80 hours, 96 hours, 104 hours, 120 hours, 128 hours, 134 hours, and 144 hours of shut-in.

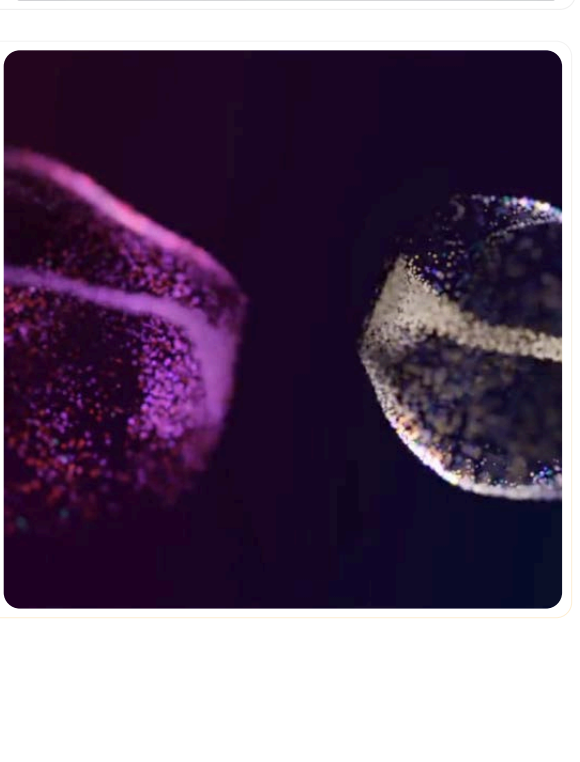
MFC

DAS and DTS

Passive Seismic: v151/178 wells confirmed hydrocarbon presence (85% accuracy)

Hydraulic Fracturing: v151/178 wells confirmed hydrocarbon presence (85% accuracy)

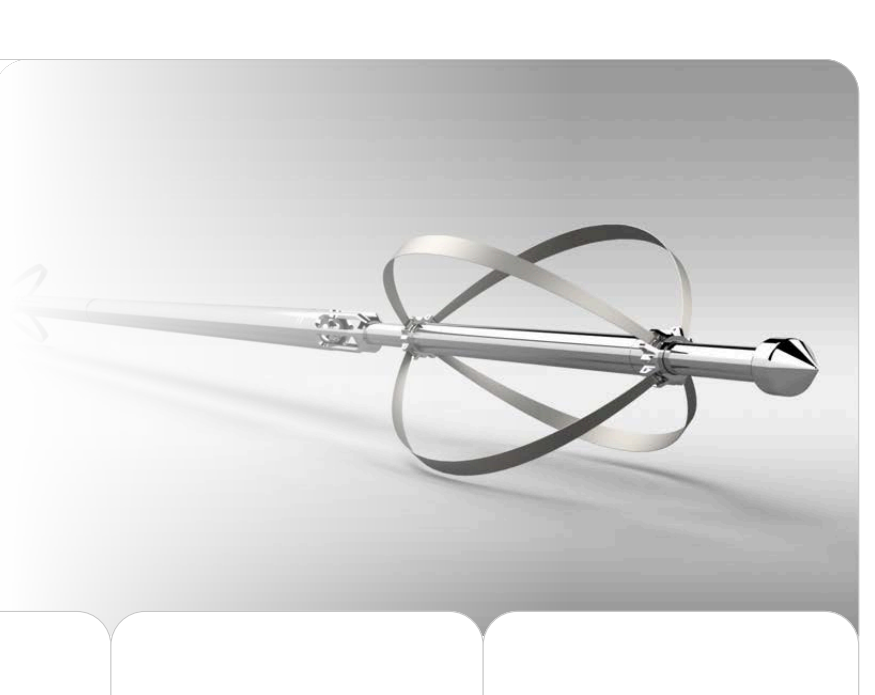
DAS Injection Monitoring: Absorption intervals & crossflows identified



R & D Capabilities

Developing advanced and modular downhole technologies

With a goal to increase the depth and accuracy of investigation and tool behavior in myriad of pipe configurations, an advanced calibration facility was built in the Nimr operational base of VRSS situated south of Oman. Numerous series of tests have been conducted using different sizes and grades of API standard pipes to find the optimal magnetic field to cater depth of investigation, vertical resolution, number of measurable pipes, types of defects.



Calibration Facility –
The Backbone of Our R&D

- Purpose-built facility enabling precise tool calibration for EMDS multibarrier tools
- Uses physical modeling for accurate metal loss calculation, improving interpretation quality
- Facilitated the next level of tool accuracy and developments
- Client-focused workshops held regularly to explain EMDS technology, metal loss evaluation, and field applications

MILESTONE OF

SUCCESSFUL JOURNEY

2006
VRSS Established

2007
High Temperature Tool

2009
First Generation of Multi Barrier Corrosion Tool EMDs (Two barriers)

2011
First Long-Term Corrosion Service Contract Signed

2014
Second Generation of Multi Barrier Corrosion Tool EMDs (three Barriers)

2015
VRSS Expanded Services in GCC

2016
First Generation of Acoustic Modular Tool

2017
Calibration facility established in NIMR for Multi Barrier Corrosion tool

2018
VRSS Expanded Services in North Africa

2019
Third Generation of Multi Barrier Corrosion Tool EMDs (Four Barriers)

2020
Introduction of Multi-Finger Caliper tool (MFC) combination with EMDs

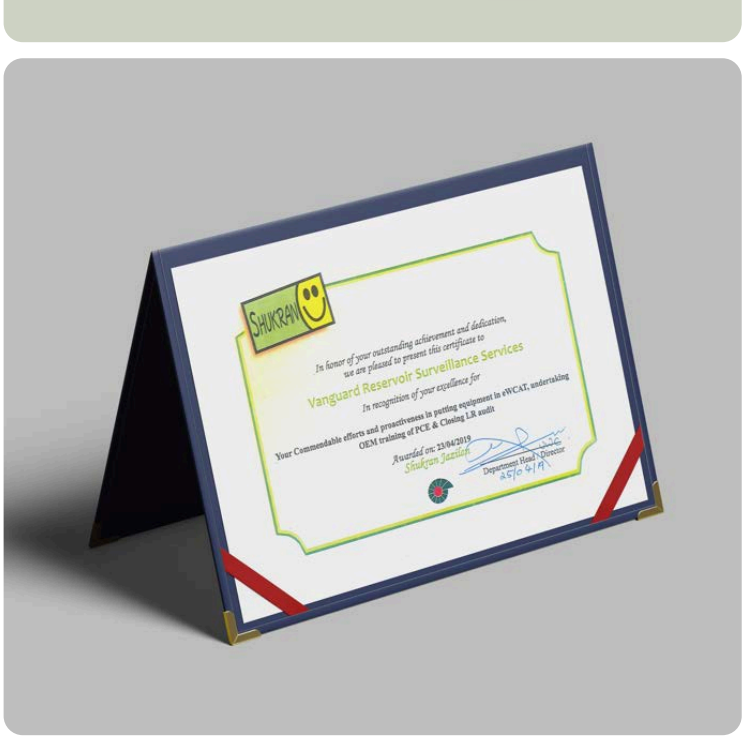
2022
Enhance Passive Sonic Tool

2024
Pre-qualified VRSS technologies in ADNOC

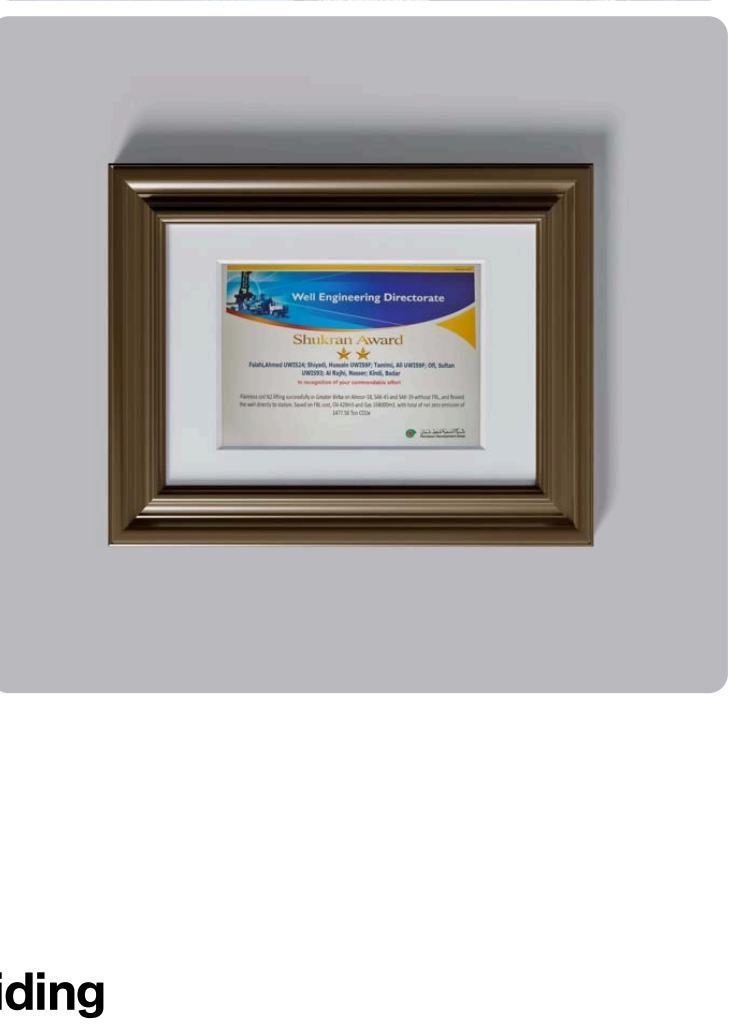
2019
- Introduced new generation of EMDS
- Introduced new solutions – Sand Detection and Downhole Gauges
- Introduced Fiberoptic DAS and DTS solutions

Media

2017 الدورة التاسعة لجائزة محمد بن راشد آل مكتوم للأعمال
9th CYCLE OF THE MOHAMMED BIN RASHID AL MAKTOUM BUSINESS AWARD 2017
In recognition of business excellence in the
Services Category
awarded to
Vanguard Reservoir Surveillance Services LLC
DUBAI CHAMBER



SHUKRAN
In honor of your outstanding achievement and dedication, we are pleased to present this certificate to
Vanguard Reservoir Surveillance Services
In recognition of your excellence for
Your Commendable efforts and proactiveness in putting equipment in sWCAT, undertaking OEM training of PCE & Closing LR audit
Awarded on: 23/04/2019
Shukran Sealed
Department Head/ Director



Well Engineering Directorate
Shukran Award

> "VRSS is dedicated to providing top-tier services while upholding the highest HSE standards. We recognize the persistent challenge of corrosion and its potential catastrophic consequences and tackle it head-on by providing cutting-edge tools that will deliver accurate data and solutions."

Executive director's message

VRSS

CONTACT US

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CONNECT WITH US

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