

► **Our Clients**



► **Locations and Contact Information:**

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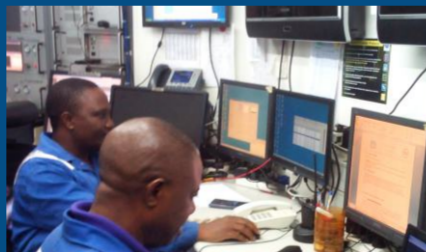


## ► Introduction

FREDRIKOV Petroleum Services Company Limited was incorporated in September 1996 with Registration Number RC: 299,435 and in Ghana in March 2010 (Ghana Registration Number CA-72,713), but since its start-up of active operations as a private limited liability company in September 2001, the Company has grown to become a respected leader in providing cost-effective, technically advanced high quality computerized logging services to the domestic oil and gas industry.

With her main operation office in Warri, Fredrikov petroleum services is able to serve the Niger-Delta environs with utmost efficiency. We also have our administrative offices in both Port-Harcourt and Lagos.

Looking into the future, we will provide customers with more flexible and cost-efficient rig integral solutions and better quality and comprehensively integrated services in its service system and supply chain. With the cutting-edge technologies, we are committed to becoming a globally competitive oil servicing company with best cost-performance ratio and a solution provider.



## ► The Company

Fredrikov Group is a foremost Nigerian indigenous oil and gas servicing organization with about 20 years of experience delivering best in class services to both Major and Marginal Exploration and Production companies. The company has grown to become a respected leader in the provision of cost effective, technically advanced high quality integrated/computerized mud-logging, MWD and Wireline services to the domestic oil and gas industries with technical partnership with Shenkai Petroleum China and Baker Hughes Inc. USA.

With well over 100 seasoned and dedicated professionals (Engineers and Geologists) in our organization, Fredrikov Petroleum is specialized in providing mud-logging, well planning, MWD/LWD and Wireline services for all kinds of wells. We recently opened operation bases in Saudi Arabia and Oman to enhance our presence in Middle East market.

## ► Corporate Mission

We are committed to providing high quality mud logging services to the oil and gas industry while providing a safe, challenging and rewarding environment for our staff. We will achieve this commitment through our staffs who have earned a reputation for effectively meeting customer needs. Consistent profitability will reflect the efficiency with which we provide services to our clients.

## ► Corporate Objectives

The objectives of FREDRIKOV Petroleum Services Company Limited are:

- i. To create shareholder value through growth in oilfield services and equipment business.
- ii. To market state-of-the-art equipment equal to or superior to competitors.
- iii. To deliver high quality, cost effective services and provide a speed of response to customer requirements superior to that provided by competitors.
- iv. To attract, hire and retain energetic, capable and competent people and to provide them with training support to achieve corporate and personnel objectives.
- v. To promote excellence in our operations with emphasis on timeliness, quality and safety.
- vi. To achieve profitability and maximize returns to investors through the pursuit of the above objectives and maintain a sound, conservative financial position.

## ► Our Strategies

- \* Focus on excellence in the provision of services responsive to the needs of our customers
- \* Grow our market values in Nigeria and other part of Africa.
- \* Maximize value of existing operations.
- \* Pursue attractive business opportunities while adding business segments which enhance existing operations.

## ► Our Services

### MUD-LOGGING SERVICES

Fredrikov Group incorporates the latest in computer, electronics and communication technology for the execution of mud-logging services in conjunction with Shankai Petroleum of Shanghai China.

SK - CMS is a mud logging system designed by Shenkai with the advanced international touch. The instrument integrate many advanced technology such as explosion-proof CAN bus technology, fast chromatographic techniques, field geological analysis instrument joint application technology and so on.

SK - CMS has been widely accepted by people who engaged in logging services and used in the United States, Russia, India, Pakistan and so on more than 10 countries and regions. It has become a real famous international brands.



These new skid mounted steel-shelled advanced mud logging units designed and constructed to accommodate equipment to perform computerized mud logging services and withstand all normally encountered onshore/offshore working conditions, all to Oil Company's specifications. We also have a fully equipped laboratory (maintenance workshop) with maintenance staff and a large amount of spares and supplies for an excellent base support for any mud logging operations. All standard equipment and services required for computerized (full) mud logging services are available.

### Services Outline & Capabilities

The business of providing surface measurements of drilling and geological characteristics at the well site while drilling to determine the presence or absence of oil or gas in the various formations penetrated by the drill-bit.

#### MEASUREMENTS

Gas Analysis (Total C<sub>1</sub> – C<sub>2</sub>)  
Cutting Analysis  
Shale Density  
Rate of Penetration  
Pump Strokes  
Pit Volume  
Flow Rate  
Mud Temperature

#### APPLICATIONS

Correlation  
Lithology Interpretation  
Evaluation of Show  
Pressure Detection  
Monitor of Drilling Activity

#### BENEFITS

Continuous monitoring of drilling operations, pressure evaluation and preliminary formation evaluation.

### SURFACE LOGGING OR TOTAL DRILLING CONTROL (TDC)

This is a "monitoring and evaluation system" which uses computerized surface unit that provides analysis of the drilling process from surface measurements taken during drilling and offers comprehensive well-site data processing and interpretation enabling real-time decision-making.

TDC is an efficient and effective method of ensuring that oil/gas wells are drilled maximizing drilling performance, formation evaluation, information management and safety. Information and services supplied to the Client personnel are needed to TDC is the heart of our data processing and interpretation services.

#### MEASUREMENTS

\* All mud logging measurements  
\* Mud Temperature In/Out  
\* Mud Density In/Out  
\* Conductivity In/Out  
\* Rotary Speed/Torque  
\* Pump Pressure  
\* Casing Pressure  
\* Hook Load  
\* H<sub>2</sub>S Detection  
\* Co<sub>2</sub> Detection

#### APPLICATION

\* Geological Correlation  
\* Formation Gas Analysis  
\* Pore Pressure Detection Analysis  
\* Drilling Control & Optimization  
\* Safety

#### BENEFIT

Continuous surveillance of key geological and drilling parameters. Data is automatically acquired, processed and organized for interpretation

### MONITORING AND EVALUATION

#### MECHANICAL

Depth  
Rate of penetration  
Rotary speed  
Rotary Torque  
Hookload/WOB  
Pump Strikes  
Pump Pressure  
Casing Pressure

#### GAS DETECTION

Chromatograph C<sub>1</sub> – C<sub>3</sub>  
Total Gas  
Gas Ratio Analysis  
Cutting Gas  
Show Interpretation  
H<sub>2</sub>S Detection  
Co<sub>2</sub> Monitoring

#### GEOLOGICAL

Cutting Description  
Sample Processing  
Fluoroscopic Analysis  
Lithology Interpretation  
Calcimetry  
Core Assistance  
Geological Analysis Programs

#### GAS CHROMATOGRAPH

High Speed Resolution  
C<sub>1</sub> – C<sub>3</sub> in 35 seconds  
Differentiate Gas/Oil/Water Contacts  
Isolate zones for horizontal drilling  
Accuracy to 10 ppm  
Provides analysis of CO<sub>2</sub>, H<sub>2</sub>S and other non hydrocarbons



► **WIRELINER SERVICES**

Fredrikov Shenkai group in conjunction with Shuangfeng Oilfield Service Co., Ltd. provide specialized logging, perforating and production logging service services with similar qualities like the major wireline companies at reduced/minimal cost. The company is currently equipped with two 5700 logging imaging systems, four Smart-Combo 560 logging imaging systems, one imported multipurpose pump-out memory logging system, 10 sets of production logging equipment, five perforating operation teams and a total of 22 logging teams.

**Technical Capabilities**

- Perfect Matching Openhole Logging Series
- Logging series for complex clastic reservoirs
- Logging series for fractured reservoirs
- Logging series for shale gas, coalbed methane and other special reservoirs
- Logging series and construction technology for slimholes, easily collapsing wells and complex trajectory wells

**Cementing Evaluation Logging Series**

- CBL and VDL
- SBT for deep gas, carbonate, high-angle and horizontal wells

**Through-casing Imaging Logging**

- For reservoirs with disqualified fracturing oil test results and comprehensive logging interpretation
- For old wells with incomplete data

**Production Logging Series**

- Injection profile logging for injection wells
- Remaining oil saturation monitoring of maturing field
- Casing damage monitoring
- Logging for production liquid profile of production wells

**Logging Data Processing and Interpretation Techniques Series**

- Reservoir evaluation and data interpretation module
- Fracture-cave quantitative analysis module for fractured reservoirs
- Semi-deep gas interpretation module
- Interpretation evaluation module for low-porosity and low-permeability reservoirs, low-resistivity reservoirs and magnetic resonance

**Thru-Bit Logging**

The thru-bit logging system provides slimhole cable transmission and memory logging mode. The logger only has an outside diameter of 2 1/8 in, which can pass through the drill at an inner diameter of 2 1/2in and can bear a pressure of 103Mpa and a temperature of 175 .

**Process**

- \* Non-wireline pump-out memory logging mode for horizontal wells.
- \* Conventional wireline logging mode
- \* Thru-drill pipe wireline logging mode for complex intervals

**Advantages**

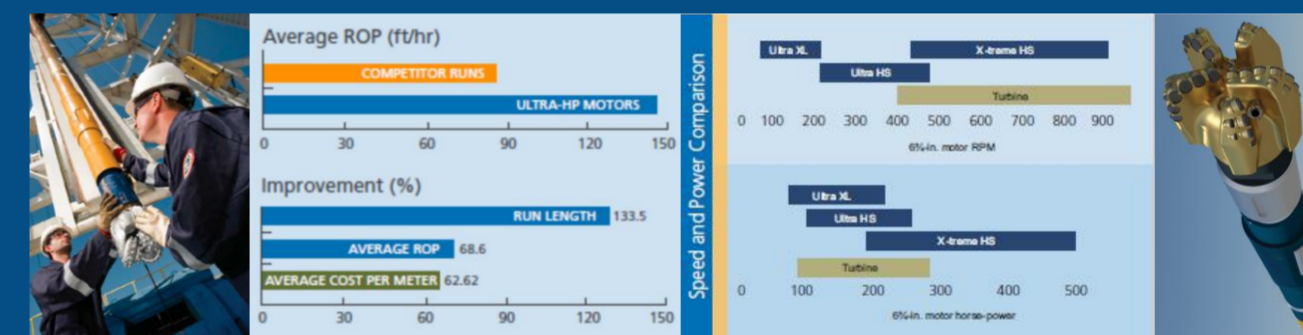
- \* Shortens logging time
- \* Reduces logging risks
- \* Compared with LWD logging continuity, drill-pipe transmission can be realized



► **DIRECTIONAL SERVICES**

Our Navi-Drill motors with technical partnership agreement with Baker Hughes Inc. are ideal for your directional, horizontal, and straight-hole performance drilling. Navi-Drill motors are known to be most reliable in the industry. Speed up hydrocarbon recovery with faster ROP, longer runs with greater reliability, and better steering response and hole quality.

Motors are available in tool sizes from 6 3/4 in. to 12 3/4 in. with specific features that can be varied for customized design. These include rotor-lobe configurations from 1/2 (high speed) to 9/10 (low speed), matched use of diamond and ball bearings packages, advanced elastomers, and unique stator designs that deliver power without sacrificing durability. Navi-Drill motors are integrated seamlessly with superior automated drilling systems for improved real-time drilling efficiency.

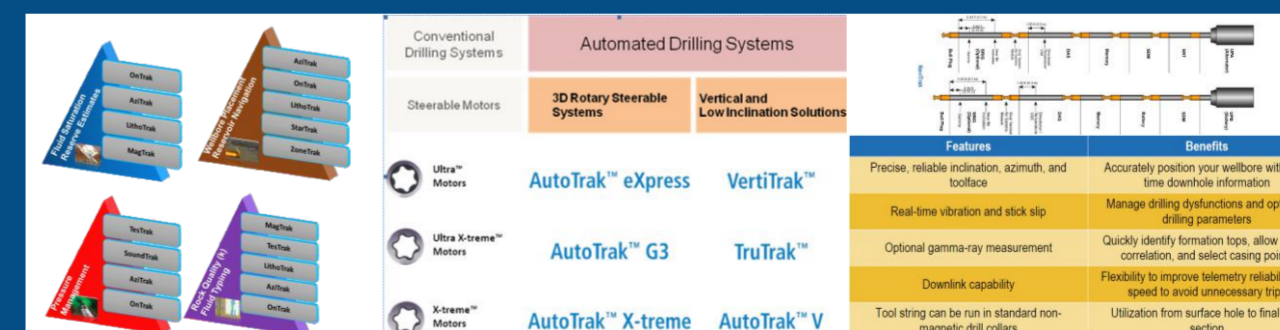


► **MWD /LWD**

NaviTrak MWD service delivers reliable, real-time downhole information including hole inclination, azimuth, and toolface orientation. These measurements, coupled with drilling dynamics and natural gamma-ray readings, reduce risk and enable precise wellbore positioning.

The NaviTrak platform is based on a sensor probe design which uses standard drill collars coupled with our proven telemetry modules. Power is generated down hole by a turbine-alternator assembly, but there is also the option to deploy with batteries in place of the turbine and alternator.

The NaviTrak service allows the accurate placement of the well and the determination of lithology in multiple drilling applications. The robust mud-pulse telemetry system transmits downhole information quickly to the surface, and trained personnel ensure service quality, allowing continuously drill ahead.



## ► Quality Safety and Environment.

Concern for environment, health and safety aspects of oilfield activity continues to be high priority for FREDRIKOV Petroleum Services Company Ltd. The Company's goal is to maintain the highest health, safety and environment (HSE) standards possible in order to eliminate personal injuries, and worse of all loss of life to our employees, clients, other contractors and vendors and reduction in efficiency. We subscribe to strong policies which support initiatives for the health and occupational safety of our employees, clients, other contractors and vendors and the protection of our environment. We, therefore, continue to implement Health, Safety and Environment (HSE) policies that are designed to successfully deal with the extensive regulations for the oil and gas industry. Developed over nearly five years ago, these policies are cornerstones to our success. All practices and procedures outlined in our HSE-MS manual are updated on any changes in practice. Management is committed to providing the resources required to ensure that all personnel knowledgeably pursue and meet these policy objectives. FREDRIKOV Petroleum Services Company Ltd remains a responsible citizen, committed to Health, Safety and Environment.

A complete set of quality control and assurance system has been established resulting in a sound quality assurance system in all aspects including inspection, technology, preparing materials, maintenance, testing, and Service delivery in accordance with relevant American Petroleum Institute (API) as well as international Standard Organization (ISO) technical standards, codes, specifications and customers' special needs. Every effort is made to constantly improve service quality, introduce and spread workmanship, employ advanced technology and new materials.

### **Commitment to Superior Customer Service**

FREDRIKOV Petroleum Services Company Limited has always put customer service first. The Company's first-class facilities, equipment and skilled employees are evidence of our commitment to providing our customers with quality services. In its short existence, we have remained true to our roots and the basic principles that have underpinned our success: an unrelenting commitment to superior customer service.



## ► Related Work History/Mudlogging Experience

Fredrikov Petroleum services is/had handling/handled Mudlogging (Total Drilling Control) / Geological services on the following Rigs:

- Parker Drilling Rig 73 (Swamp)
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- Noble Drilling Offshore Jack-Up Rig, Don Walker
- Sedco Transocean Swamp Rig, Searex 12
- Suffolk Rig 103 (Land),
- ENSCO Offshore Jack-Up Rig-100,
- Deutag Rig T-76 (Land)
- Zepeb Rig (ELF) Land
- DWC Rig (NDPR) Land
- Deutag T80A (Total) Land
- West Capella (Total) Deep Offshore
- Pacific Scirocco (Total) Deep Offshore
- Oando Integrity (NAOC) Swamp
- HPEB-119 (NAOC) Land
- HPEB-126 (SPDC) Land
- HPEB-129 (SPDC) Land
- Hilong-2 (SPDC) Land
- Hilong-19 (SPDC) Land
- Sedco-702 (Snepeco) Deep Offshore
- Sedco-709 (Snepeco) Deep Offshore
- Deutag T-43 (SPDC) Land
- Lone Star LS 203 (SPDC) Swamp
- Deutag T-57 / NRG-01 (Frontier Oil Ltd\_Goge JV) Land
- Sedco Express (NAE) Deep offshore
- Deep Water Discovery, DWD (SNEPCo) Deep Offshore
- West Capella (ExxonMobil) Deep Offshore
- Jack Haggin (NAOC) Swamp



► Our Partners



**Mud-Logging Services**

Shenkai Petroleum Corporation, a major oil field equipment manufacturer in Shanghai China, is our technical partner for mud-logging services.

SK Shanghai is a professionally managed company, with technocrats, managers, engineers and geologists drawn from leading educational institutions and with rich experience in a variety of field environments in South East Asia, Middle East, Far East, USA and Canada. Mud logging Engineers and Electronic engineers having decades of experience in working with the major international oil companies and of providing services in diverse Socio-Political and Environmental conditions.

SK Shanghai Professionals have worked on many Drilling and Exploration projects in various Oil and Gas fields and are put through a continuous process of training to sharpen their skills. All without exception, have graduate degrees and many have post-graduate degrees in Geology, Petroleum Geology, Geophysics, Engineering coupled with Computer Science disciplines.

With the-State- of- the- Art Real Time Data Acquisition and Monitoring tool and Web Enabled technology SK Shanghai Mud Logging units can deliver every conceivable information in Real time to the clients desktop for convenience of the decision makers like Geologists, Drilling Engineers, Mud Engineers and the Company men.

The new technology package is a result of continuous R&D done on developing a new suite of Hybrid Geological software, Individual transducers for data collection, & dedicated instruments like Total hydrocarbon analyzers complimented with high-speed gas chromatograph (30s). These Gas detectors are not affected by polymer mud, H2S, and reads hydrocarbons at a much more precise and sensitive range compared with the hot wire type filaments used widely in older instruments.

SK Shanghai Mud logging units are fully computerized and networked and have distributed control system. They are Modular in nature; hot swappable, pre-configured and Rugged to meet the toughest working conditions. Our partnership with SK Shanghai enables us to benefit from technology transfer, man-power training and research benefits, and does obviously satisfy local market development strategy.

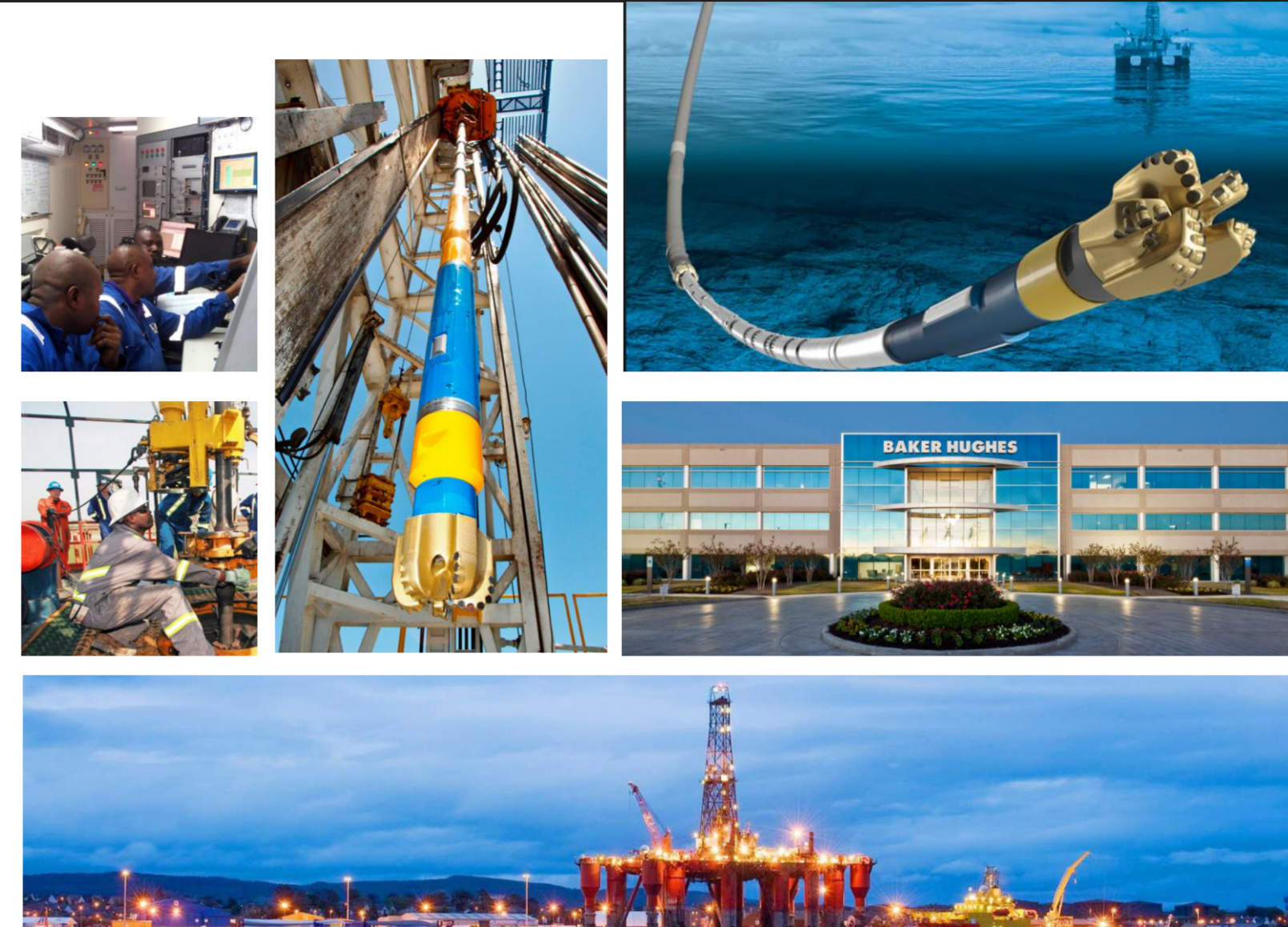


**Directional Service**

Baker Hughes is top-tier oilfield Service Company with a century-long track record, it delivers solutions that help oil and gas operators make the most of their reservoirs.

With 46,000-plus employees in more than 80 countries, the local geomarket teams work side by side with customers to engineer reliable application-specific products and services that create more value from the reservoir whether the application is deepwater, unconventional hydrocarbons or production and water management.

Baker Hughes collaborates with customers to jointly develop technology for specific industry needs at regional technology centers.



**Wireline Services**

Shuangfeng Oilfield Service Co., Ltd. is a specialized logging, perforating and production logging service company under the Group. The company is currently equipped with two 5700 logging imaging systems, four SmartCombo 560 logging imaging systems, one imported multipurpose pump-out memory logging system, 10 sets of production logging equipment, five perforating operation teams and a total of 22 logging teams. The company has the service capacity to carry out open hole logging 600 times, production logging 1,500 times and perforating 800 or more times annually. It is also able to independently process, interpret and evaluate the relevant logging data and able to provide customers with multi-well evaluation and logging reservoir evaluation services on the basis of delicate single well interpretation

