



JOINT STOCK COMPANY «DRILLING SYSTEMS» well construction





DRILLING SYSTEMS

JSC, Drilling Systems is an independent drilling contractor established in 2005.

Our business is construction of exploratory and producing oil and gas wells including all the drilling process.

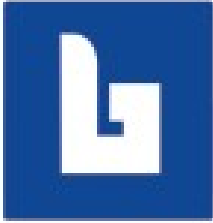
The company consists of 650 persons. We are proud that we partner up with the leading Russian operators such as Lukoil, Rosneft, Gazprom, Gazprom Neft, Russneft and others.

Drilling Systems is organized in accordance with international standards of management, registered in IADC. It has united the best specialists, that had drilled hundreds of wells in remote areas with different and complex climatic and geological conditions.

Scope of services:

- Well construction process management
- Drilling of oil and gas wells
- Engineering support of well drilling
- Horizontal sidetracking
- Drilling mud servicing
- Rigging-up operations



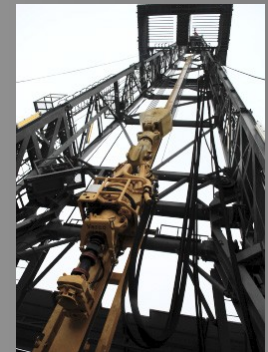


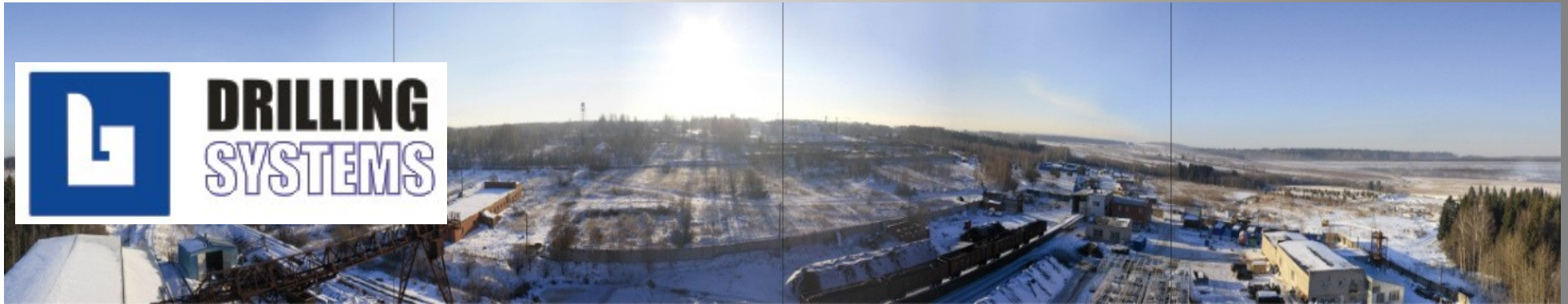
DRILLING SYSTEMS

Facilities

The company has own fleet of drilling units. Process Department of the company relies upon sections of Directional and Horizontal Drilling, circulating mud and slurry, kitted laboratory, and squeezing equipment and rig up shop. Drilling Systems is one of the few Russian contractors capable of sidetracking operations. Sidetracks require use of mobile drilling units arranged as per customer requirements, and the number of such units available in Russia is still small.

Consistent investments into upgrade of our tools and equipment are making us able to ensure high quality of our fleet. We have 10 drilling rigs of different capacity, represented by mobile, blocks and cluster units. Depending on project requirements a rig is equipped with TopDrive, enclosed circulating system with four stage mud conditioning system, high power triplex pumps, etc.





Drilling Systems is carrying out non-destructive examination of equipment and drill pipes, and wields the license for NDE service. Field support base and yard have all the required up-to-date logistics tools, with railway arranged with full process train, an airport and federal highway are located in close proximity as well. The company has 5-storeyed HQ building in Izhevsk.

In order to ensure efficiency and safety of our activities, DS operates a specialized world-class software and communication hub that is able to transmit online data from rig sites.

Intellectual and process potential of the company allows for implementation of any type of projects related to turnkey well construction, which, including process services under same ceiling, construes reliable platform for rendering complex services and solutions for our clients.





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Drilling fleet of the Company consists of domestic and foreign API-certified equipment.

Rig type	Available resources	Maximum hook load capacity, t	Capacity, HP	Depth of drilling, m.	Drive type	Design	Drill pump
TZJ 40	1	225	1300	4000	diesel	block	F-1000\2
ZJ 40	1	225	1300	4000	electric	echelon	F-1300\2
3000 ЭУК	1	200	700	3000	electric	echelon	УНБ-600\2
TZJ30	4	180	1000	3000	electric	Block, on trailer	F-800\2
TZJ20	2	125	650	2000	diesel	Block, on trailer	F-800\2
2500/100 ЭУ	2	160	740	3000	electric	block	F-800\2



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All the equipment is designed to address the challenges inherent in specific drilling applications. The drilling rigs are designed both for drilling of single exploration wells and pad drilling of development wells. Operating temperature range for the drilling rigs is from – 40 to + 50 degrees C.

Rig's equipment:

- high-performance **Caterpillar** generating plants;
- up-to-date electronic control **ABB, Siemens**;
- BOP with operating pressure from 21 to 105 MPa;
- highly reliable disk drawworks with air cooling;
- pumping system including 1600 H.P. triplex pumps with AC variable speed drive;
- 4-stage mud cleaning system manufactured by **Derrick**
- Landmark application software, **Halliburton**





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DRILLING RIGS

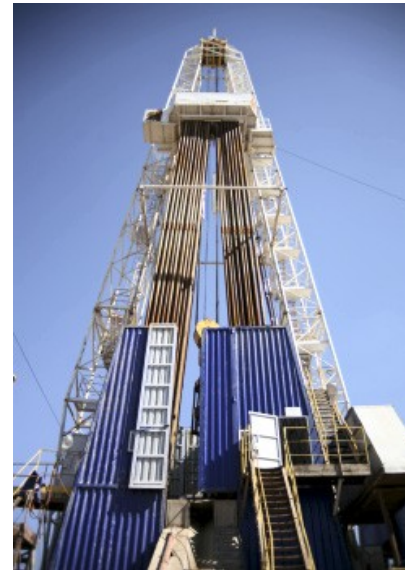
ZJ 40 T



Technical capability

Max.hook load capacity – 225 t
Drawwork power, HP – 1291,64
(950kWt)
Drilling depth – 4200m
Mast height – 43,265 m
Reeving – 5x6
Drilling pump – F1300/2
Rotary boom drift diameter – 700
mm
Rig floor height -10,5 m
Swivel – SL-225
Drive type – electric

BU 3000EUK



Technical capability

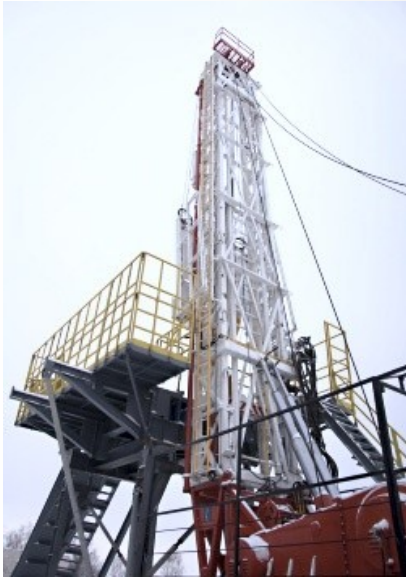
Max.hook load capacity – 200 t
Drawwork power, HP – 1200
(880kWt)
Drilling depth – 3500m
Mast height – 45 m
Wire cable diameter – 28mm
Drilling pump – F1000/2
Rotary boom drift diameter – 560
mm
Rig floor height -7,2m
Swivel – YB-250
Drive type – electric



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DRILLING RIGS

TZJ 20



Technical capability

Drilling depth 114/127 mWT - 2500 / 2000
Max.hook load capacity, API, TS - 125
Drawwork power, HP - 650
Mast height – 36m
Reeving - 4 x 5
Wire cable diameter – 28mm
Drilling pump - F-800 / 2
Rotary boom drift diameter – 560mm
Rig floor height – 6m
Swivel - SL160
Drive type - diesel

TZJ 30



Technical capability

Max.hook load capacity, API, TS - 180
Drawwork power, HP - 1 000
Drilling depth 114/127 WT - 3000 / 2500m
Mast height – 38m
Reeving - 5 x 6
Wire cable diameter – 32mm
Drilling pump - F-800 / 2
Rotary boom drift diameter – 560mm
Rig floor height - 6,8m
Swivel - SL250
Drive type – diesel



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LABORATORY

The company has own drilling mud laboratory (according with API standards) and backfill laboratory (according to RF State standards).

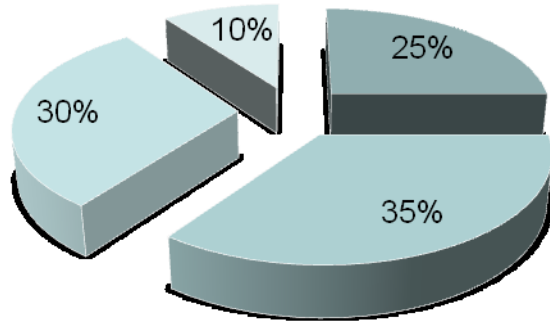




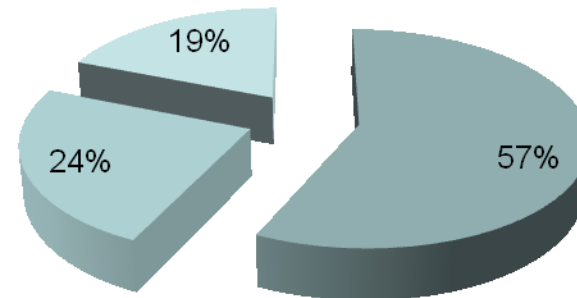
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70% of employees of the Drilling Systems have more than 10-year background in petroleum industry.

They have experience of work in various geological, geographical and climatic environment, in remote locations, with logistics constrains. The personnel has the required competence, types of the well construction works

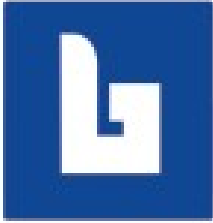


- 65% of staff have higher and technical secondary education
- 25% of staff have specialized secondary education



- 24% are from 40 to 50 y.o.
- 19% are older than 50

Many of employees have completed training abroad. At the present time engineering and operating staff undergoes special programs in **KCA Deutag Drilling GmbH, Caterpillar, Mobil Rig Service and Lukoil Educational Centers**



DRILLING SYSTEMS

Technologies

The Company has a vast experience in executing challenging projects and deploying novel technologies in drilling industry:

- Directional Drilling;
- Drilling Multilateral Wells;
- Sidetracking (directional and horizontal liners) using whipstocks or milling through casing;
- Cementing jobs on directional and horizontal wells using different equipment (including packers, collar cementing devices, stage cementing etc.);
- Applying different mud systems with water and HC base in order to preserve reservoir quality and ensure borehole stability;
- Lost circulation control including cross-sectional shutters;
- Horizontal well completion using multi-zone Frac jobs equipment, including selective ones.





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Experience

1. Exploration drill hole (including abnormally high formation pressure).

Depth – 4500 m.

Well ПО-5 of Nerutinskaya area (Nadym region).

Construction: 426x500 m.
324x1500 m.
245x3675 m.
184x3175–3865 m.
140x4200

Anomaly factor – 1,7

2. Vertical and directional wells

(production, injection, water wells). Depth - 4000 m.

Offset –2000 m.

Well № 1196 Sugmutskoye oilfield (Noyabrsk region)

Depth (of vertical line) – 2900 m.
Depth (of borehole) – 3850 m.
Offset– 1963 m.

3. Horizontal well.

Depth - 4000 m.

Lengths of horizontal part – 600 m.

Well № 2047 Romanovskoye oilfield (Noyabrsk region)

Depth (of vertical line)– 2787 m.
Depth (of borehole) – 3770 m.
Lengths of horizontal part– 560 m.

4. Sidehole with horizontal completion.

Depth – 4000 m.

Lengths of horizontal parts - 500 m.

Well № 112 Vostochno-Tarko-Salinskoye oilfield (Tarko-Salynsk region)

Depth (of vertical line) – 2860 m.
Depth (of borehole) – 3538 m.
Lengths of horizontal part – 250 m.

At the moment as a part of JSC Drilling Systems there are completed drilling crews, which worked on the equipment of Uralmash (DRILLING RIG 6500/450), and also have experience of construction the wells depth to 5500m (Yurkharovskay field, Russian Federation).



DRILLING SYSTEMS

Company's geography:





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Quality assurance

The Company's business is based on the unchanging values:

- Health and Safety
- Professional value of all employees
- Environment protection
- Business ethics and commitment to interests of customers

Relying on the main values, we implement our approach to business, demonstrating safe and effective activities. We believe that the team spirit and unity are the basis of our individual and corporate actions. Only well-coordinated and organized work, common goals, life values, which unite us, lead to the development of the company we are proud of.

- We believe in zero-incident performance of operations.
- HSE is a high-priority for us.
- We design and carry out high quality operations.
- We understand the requirements of our Customers.



www.drilling-systems.com