
Turkey
Discover
the potential
Keeping The Environmental Impacts
Under Control At All Times.
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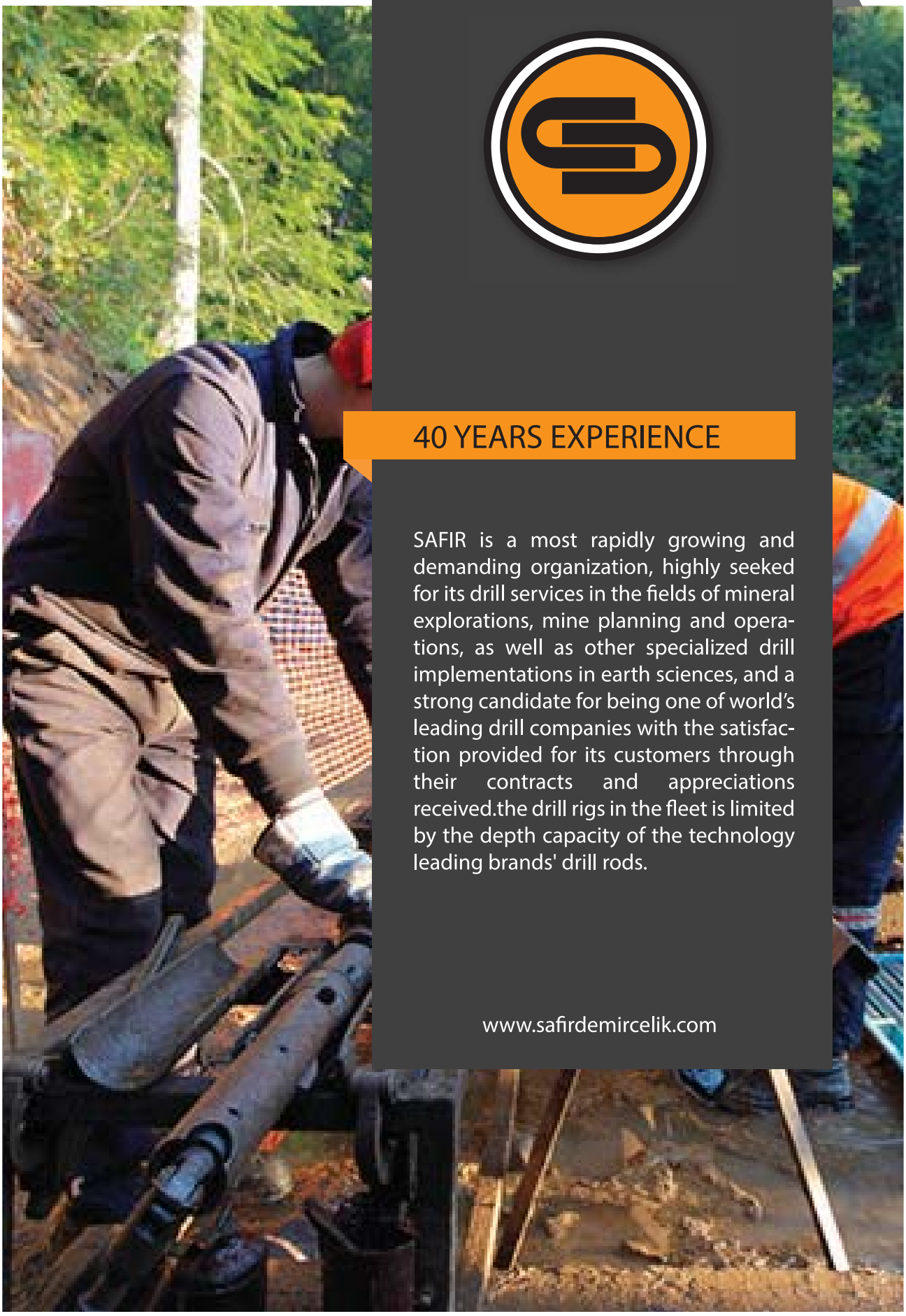

40 YEARS EXPERIENCE

SAFIR is a most rapidly growing and demanding organization, highly seeked for its drill services in the fields of mineral explorations, mine planning and operations, as well as other specialized drill implementations in earth sciences, and a strong candidate for being one of world's leading drill companies with the satisfaction provided for its customers through their contracts and appreciations received.the drill rigs in the fleet is limited by the depth capacity of the technology leading brands' drill rods.

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SERVICES

A- CORE DRILLING APPLICATIONS

- Wireline Core Drilling Applications
- Soil İnvestigations Drilling Applications
- RC(Reverse Circulation) Drilling Applications

B- GEOPHYSICS/GEOTECHNIC

- Seismic
- Resistivity
- Mikrotremör
- Ip
- Sp

C- GAS DRILLING/WATER WELL DRILLING

- Water Well Drillings
- Geothermal
- Drenage
- Gas

D- BORED PILES APPLICATIONS

- Bored Piles
- Mini Pile
- Anchors
- İnjection

E- MINE RESERVE CALCULATIONS BY 3D MODELLING

F- GEOPHYSICAL DOWNHOLE MEASUREMENTS

Employing experienced drillers devoted to their profession, SAFIR's main philosophy is a qualified, environmentally-friendly drilling service in co-operation with the customer by ensuring them that their targets are attained.

SAFIR provides services like surface diamond core, reverse circulation (air) and multi-purpose drilling. In summary, the maximum drilling depth capacity of the drill rigs in the fleet is limited by the depth capacity of the technology leading brands' drill rods.

CORE DRILLING APPLICATIONS

- Wireline Core Drilling Applications
- Geotehnical Drilling Applications
- Rc (Reverse Circulation) Drilling Applications

SAFIR trusts and believes that its vision and enthusiasm, supplemented and supported by the experience gained out various operations and applications are the basic reasons and main advantages for creation of new solutions and improvement of techniques for every single discipline the company involved in.

The vast experience, know how and the reputation accumulated on a strong and competent foundation since 1985; gained by skilled and competent staff & drill crews, high quality and standards supplemented by strict Rules and applications of HSEC terms in provision of services, innovative Drill Technologies and creative solutions for customer needs, supportive in-house facilities, rapid responses for customer demands and requirements, qualified management capabilities, are the main facts and cornerstones for the success of SAFIR .

REFERENCES

SERVICES

GEOPHYSICS/GEOTECHNIC

- Seismic
- Resistivity
- Ip
- Sp

Geophysical Applications, provides geophysical survey services that benefit environmental engineering, civil engineering and construction projects. We utilize our experience to design geophysical surveys that are likely to achieve the client's exploration objectives.

Our land survey services include: seismic, ground penetrating radar, (GPR), electromagnetic , magnetic, resistivity, and pipe locating. Our borehole geophysics services include conventional logs, (caliper, fluid temperature, etc.) acoustic and optical televiewer, heat pulse and spinner flowmeter, and multi-parameter fluid-property logging.

REFERENCES

SERVICES

GAS DRILLING/WATER WELL DRILLING

- Water Well Drillings
- Geothermal
- Drenage
- Gas

At Geothermal&Oil fields; Performing Gradient Drilling, Exploration Drilling, Re-Injection Drilling and Production Drilling are among our Company's services. Particularly GEFCO SS 185K hydraulic drilling rig may drill up to 2000 meters.

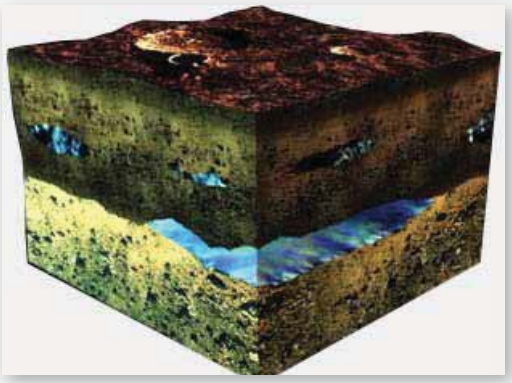
Geothermal&Oil drilling; Recieve services provided with searching diffirent rig&equipment which is suit well depth and well proporties.

Provide services of potable, irrigation, utility and process water supply from underground water.

In order to get the maximum efficiency on water well drilling, performing well development and yield test with compressors and pumps which have different capacity.

REFERENCES

SERVICES



BORED PILES APPLICATIONS

- Bored Piles
- Mini Pile
- Anchors
- İnjection

The bored piles are constructed by circular cross-section drilling and by placing reinforcement and concrete in the soil.
Bored piles can be constructed by using various capacity and sizes machinery and equipments, depending on factors such as; soil and groundwater conditions, diameter, capacity and the length of the pile. Bored piles are drilled by bentonite mud or casing depending on the ground conditions during the drilling, and length of the piles and the capacity of the equipment.
After drilling, bentonite mud is desanded the reinforcement cage is lowered into the drill with the help of a crane and is placed in the specified elevations.
Typically, the bored pile diameters are drilled by conventional drilling equipments to sizes between 65 cm to 300 cm.
The main quality conctrol during construction is provided by vertical and depth dimension control run by specially developed measuring instruments, positioning of reinforcement, concrete volume and after construction continuity (integrity) and load tests (static, dynamic, or Oesterberg cell).

REFERENCES

SERVICES

MINE RESERVE CALCULATIONS BY 3D MODELLING

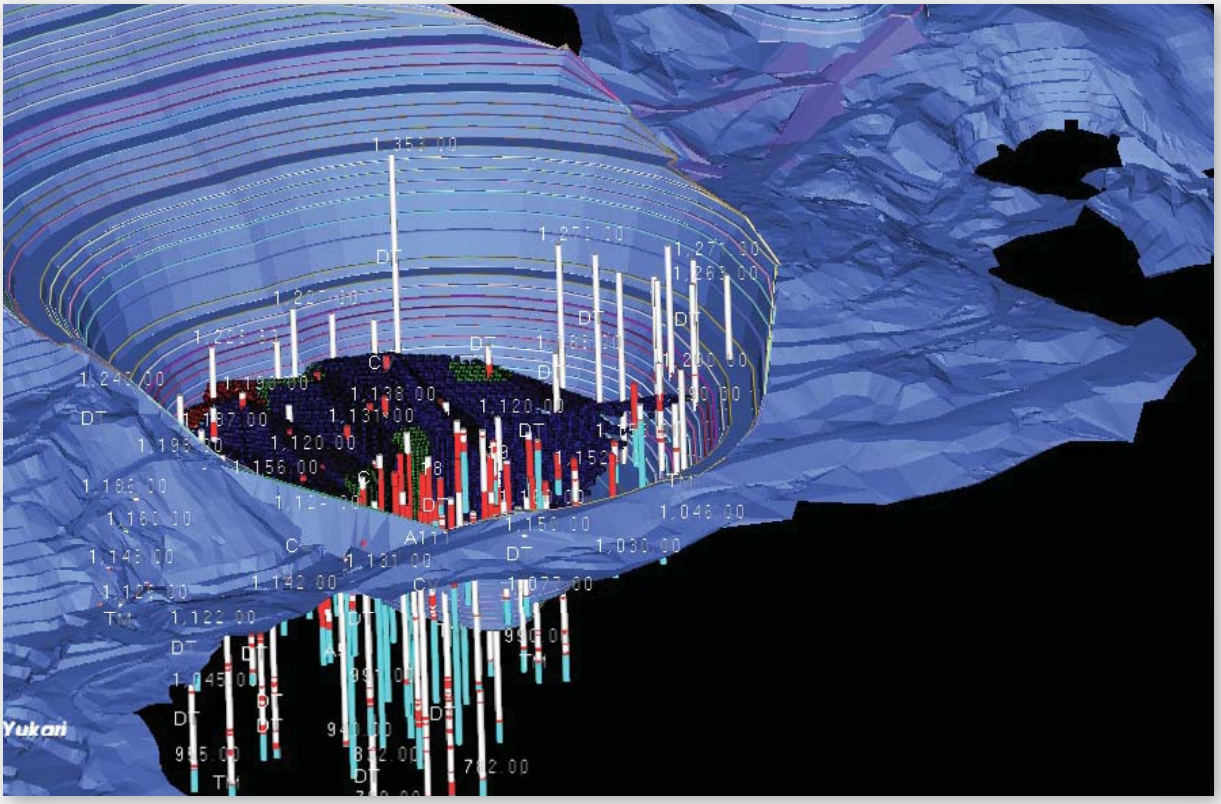
SAFIR provides professional services including; ability to interpretation, ability to harmonization mining systems with structural conditions , determination of systematic ore deposit, and 3D modelling.

- Establishing topographical, stratigrafic and analysis databases from drilling
- Shaft and bench composit calculations
- 2 dimensional log and 3 dimensional group shaft log cross section
- Equal height, equal depth, equal grade mapping
- 3D (Dimensional) surface modelling for topography, ore ceiling, ore basement
- Paralel transects from 3 dimensional surface
- 3D (Dimensional) ore modelling
- Area and volume calculations for ore deposit and open pit
- Developing variogram models for topographical data
- Open pit designing
- Underground preparation studies such as shaft, tunnel and sewage desings for vein type ore bodies

SAFIR can improve modelling to advanced skills via team work, expert staff and attandence of researchers which can perform scientific researchs.

REFERENCES

SERVICES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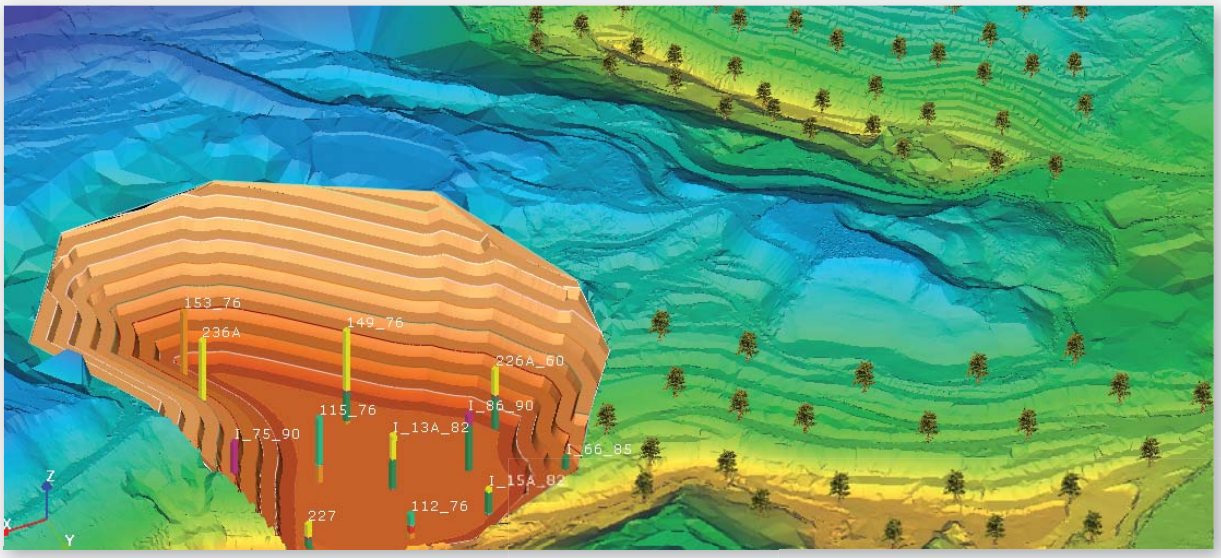
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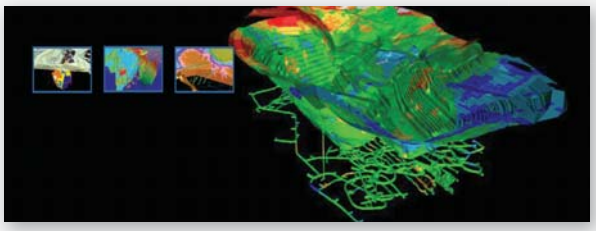
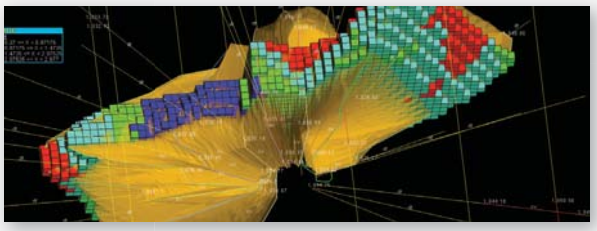




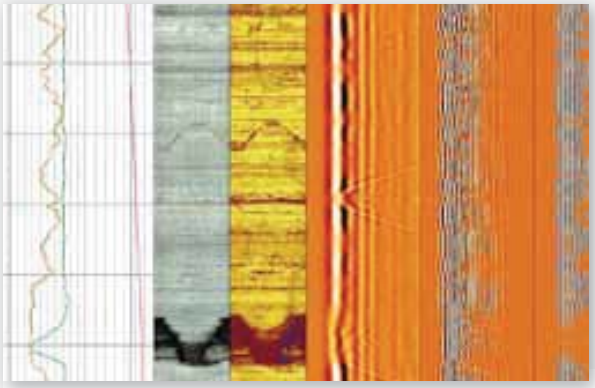
GEOPHYSICAL DOWNHOLE MEASUREMENTS

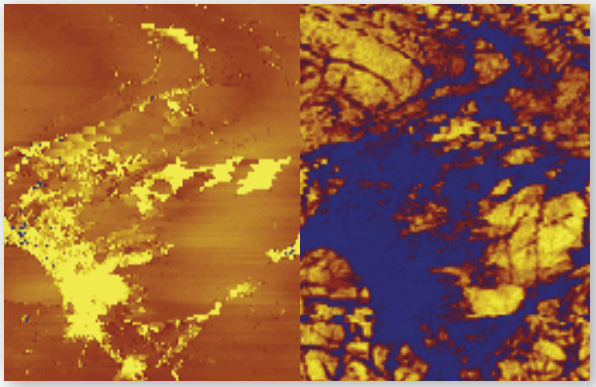
Our company SAFIR Ltd is in cooperation with the well-known companies in the world-wide, especially in the area of geotechnical and geophysical measurement and studies, exploration systems, equipment design and manufacture. We are the agent and in conjunction with the companies described below;

1. ROBERTSON GEOLOGGING / ENGLAND
Slim-hole digital borehole logging systems
Borehole Logging Analysis and Evaluation Software
Borehole Logging Field Services

REFERENCES

SERVICES





QL40 Elog

Normal Resistivity (8", 16", 32" and 64" - SP-SPR)

Temperature - Pressure
0 -70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
43 mm (1.7")
1.9 m (75")

Weight
9 kg (19.8 lbs)

Measurements/Features
- 8", 16", 32" and 64" Normal Resistivity in [Ohm-m]
- SP in [mV]
- SPR in [Ohm]

Bridles
QL40 IS 1
QL40 IS 2
QL40 IS 4

QL40 GR-CCL

Natural Gamma & Casing Collar Locator

Sensor
GR: NaI (Tl) crystal (1 x 3")
CCL: 32 x 280 mm coils & magnets assembly

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
40 mm (1.6") - 1.16 m (46")

Weight
5.9 kg (13 lbs)

Measurements/Features
- Total gamma counts in CPS and/or API unit
- CCL in mV

QL40 DEN

Formation Density Sonde

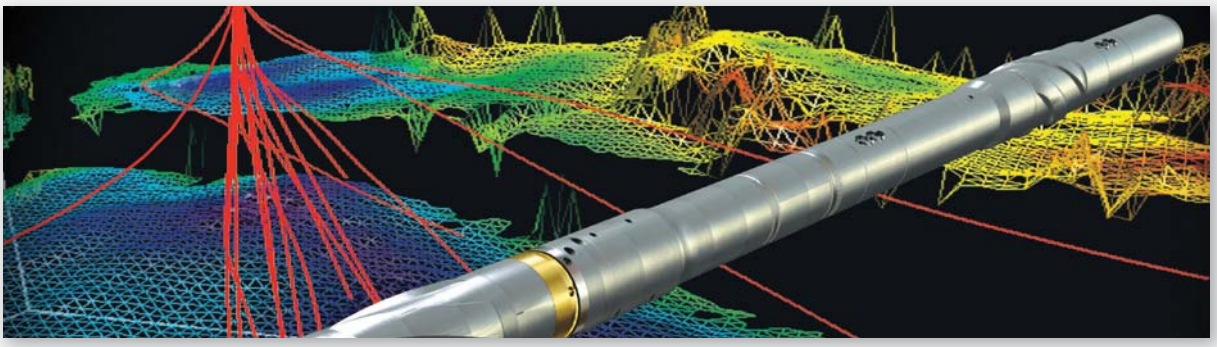
Sensor
CSI (Tl) crystals
SSD (20cm) and
LSD (35cm)

Temperature - Pressure
0-70°C (32-158°F)
200 bar (2900 psi)

Diameter - Length
50 mm (2") - 1.9 m (75")

Weight
20 kg (44 lbs)

Measurements/Features
- SSD : in CPS
- LSD : in CPS
- SSD density : in g/cc
- LSD density : in g/cc
- Compensated density : in g/cc
- Caliper : in mm or inch
- PE option



DRILL RIGS

GEMEX MP 1000

GENERAL SPECIFICATIONS
Gemex MP1000 is a high capacity drillrig which can drill RC (air) and wireline DC holes. Crawlers enable GEMEX MP 1000 to move along rugged terrain.

TECHNICAL SPECIFICATIONS
Drilling Angle : 45- 90 deg.
Drilling Capacity :
Wireline Diamond Core Drilling
PQ- 650 m
HQ-1000m
NQ-1550m
BQ-2050m
RC(air) :
4' - 400m
4 1/2'- 350 m

LF-90D

GENERAL SPECIFICATIONS
LF-90D, with its compact design and deeper drilling capacity along its competitors, is capable of completing wire-line diamond core drill holes. Crawlers enable LF-90D to move along rugged terrain.

TECHNICAL SPECIFICATIONS
Drilling Angle : 45-90 deg
Drilling Capacity:
Wireline Diamond Core Drilling:
PQ- 650 m
HQ-1000 m
NQ-1550m
BQ-2050m

DRILL RIGS

NL-12

GENERAL SPECIFICATIONS
NL-12 offers economical Gas and Water Well Drillings operations.

TECHNICAL SPECIFICATIONS
Drilling Depth
3000 meters with 4 1/2".
Hoist Capacity to 70 ton
14,50 meters working height above rotart table
NB 9 Mud Pump

PSM-8G

Max. Diameter (mm) : 60-260
Engine Power (kw) : 103
Max. Depth (m) : 320
Max. Tork (Kn.M) : 10
Weight (ton) : 9

BAUER BG 36H

Overall height	24.900 mm
Operating weight (approx.) (with kelly BK 40/47 0/3/30)	112.000 kg
Rotary drive	KDK 367 S
Torque (nominal) at 320 bar	367 kNm
Speed of rotation (max.)	46 U/min (RPM)
Crowd winch	
Crowd force push / pull	400 kN / 400 kN
Crowd force push / pull measured at the casing drive adapter	350 kN / 320 kN
Stroke (kelly system)	10.000 mm
max. stroke of sledge	17.400 mm
Speed (down/up)	6,5 / 6,5 m/min
Fast speed (down/up)	26 / 26 m/min
Main winch	
Winch classification	M6 / L3 / T5
Line pull (1st layer) effective/nominal	250 kN / 317 kN
Rope diameter / Length	32 mm / 80 m
Line speed max.	71 m/min
Auxiliary winch	
Winch classification	M6 / L3 / T5
Line pull (1st layer) effective/nominal	100 kN / 125 kN
Rope diameter / Length	20 mm / 70 m
Line speed (max.)	55 m/min
Mast inclination	
Backward / forward / lateral	15° / 5° / 5°

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