

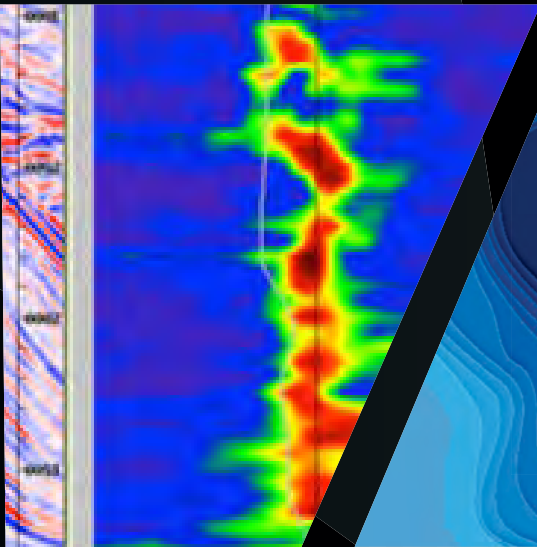


MARI SERVICES DIVISION

Seismic Acquisition

Gravity & Magnetic

Data Processing Center



P e r f o r m a n c e w i t h P u r p o s e



Mud Logging Unit



HSEQ Focused
Operations



Land Drilling Rigs

Mari Services Division (MSD) offers a comprehensive range of Oil Field services

We leverage our experienced teams and proven track record in executing campaigns and meeting the demanding needs of the E&P sector

<https://mpcl.com.pk/mari-services-division/>



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Gravity & Magnetic Survey

Enhancing basin-to-prospect opportunities



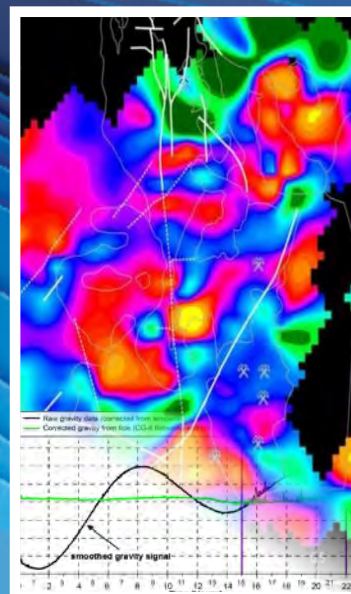
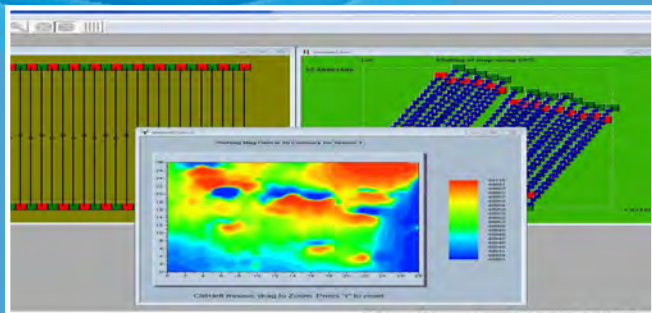
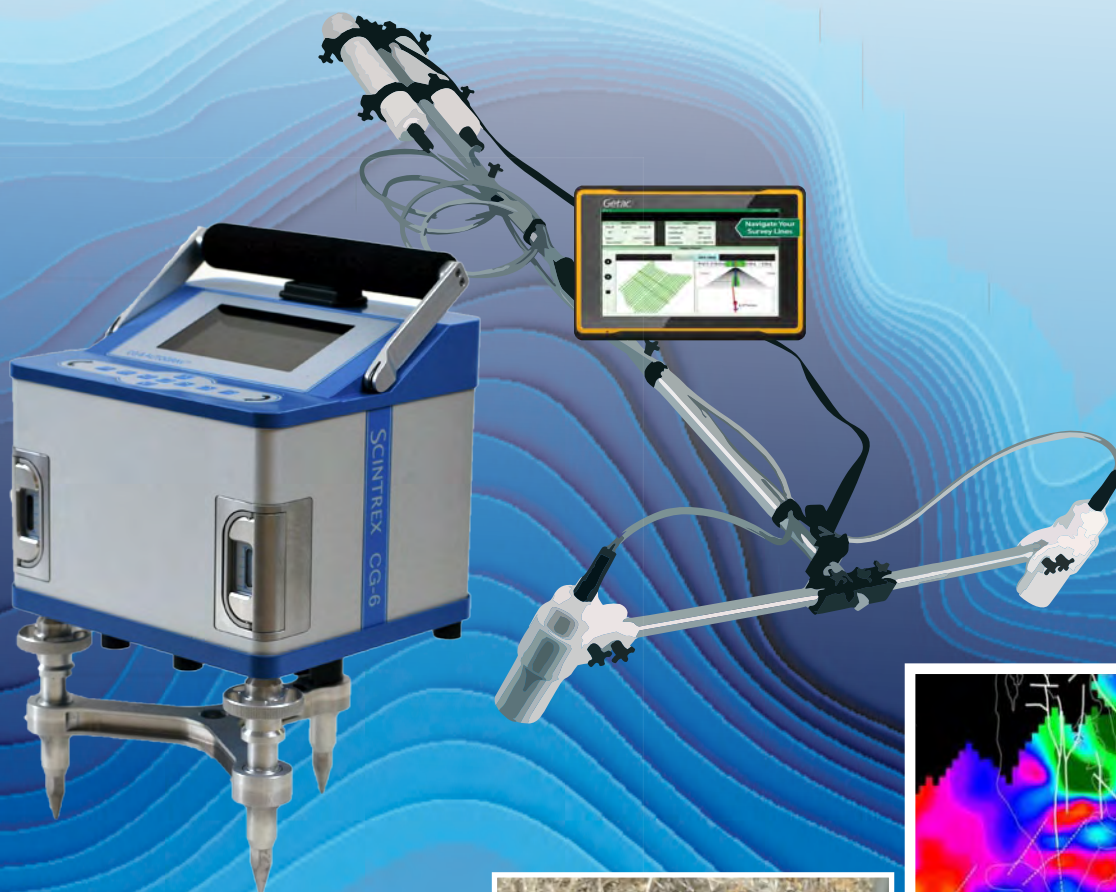
We utilize the latest Gravimeters & Magnetometers to determine the depth to basement of the sedimentary thickness and extent of the basin. This method enables better planning of Seismic design for delineating subsurface information to explore hydrocarbon potential of the basin. Magnetic method is also helpful in exploration of mineral deposits.

SURVEY GRAVIMETER SPECIFICATIONS

- Reduced Stabilization Time Between Readings
- All-Weather Operation (-40 to +45 °C)
- Robust Fused-Quartz Sensor
- Simplified Leveling Interface, On-Board Mass Storage
- Low Residual Drift (< 20 microGal/day)
- Tares Under 5 microGal for up to 20 g Shocks
- Low Drift Sensor (Uncorrected: < 200 microGal/day)
- Automated Corrections (Tides, Tilts, Drift, Temperature)

SURVEY MAGNETOMETER SPECIFICATIONS

- Sensor: Self-oscillating split-beam Caesium Vapour
- Operating Range: 20,000 nT to 100,000 nT
- Sensitivity: < 0.004 nT
- Absolute Accuracy: < 3 nT
- Data Output: Serial logger, removable USB memory
- Data storage: 22 days at 10 Hz and GPS at 1 Hz.
- Weatherproof: sealed for operation in rain or humidity
- Power: 10 to 36 VDC, 30 Watt or 110-220VAC (50-60Hz)



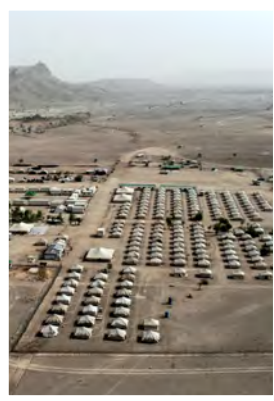
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Global Technology with Local Advantage

Mari Seismic Unit is equipped with state of the art technology acquisition systems which is tried and tested under diverse environmental and geological challenges. We collaborate with clients to ensure exploration goals are fully understood and delivered .



Crews and Camp

- 3 x Dedicated Crews equipped with state of the art acquisition systems



Survey Equipment

- Area Scouting
- Design & Pre-planning
- Permitting
- Land Surveying & GIS



Source Equipment

- Multi source operations including Vibrators & Explosives
- Drilling and explosives operations by manual, portable, rig solutions



Acquisition System

- Telemetry seismic data acquisition systems
- 3 x Sercel 508 XT
- 1 x Sercel 428 XL



Uphole/Infield Processing

- Near surface survey & interpretation, refraction, upholes, Quality control & quality assurance
- Data transcription, Harmonic Removal &
- Final Format conversion
- In-field and Fast Track data processing



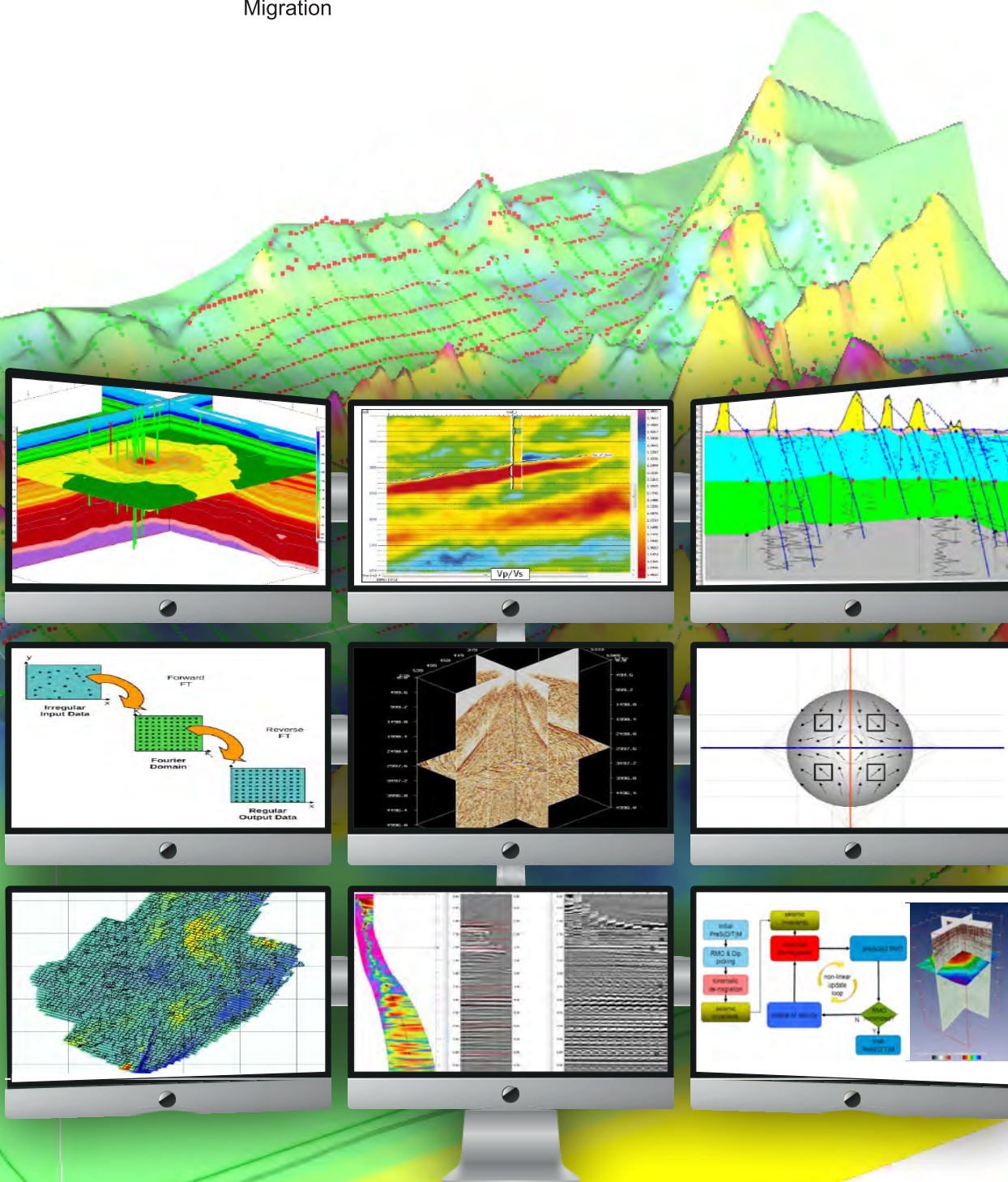
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The 2D/3D Seismic Data Processing Center is powered by CGG's Geovation Software Suite, which brings together the latest geophysical technology across the full spectrum of seismic processing and imaging to provide results that are best in class.

- Attributes Mapping & Seismic DATA
- Migration in COV Domain
- Velocity Analysis
 - 2D / 3D
- Depth Velocity Model Update & Migration
- Near Surface Modelling
- Seismic AVO Inversion
- Noise Attenuation (Surface Waves)
- Time & Depth Tomography
- Regularization & Interpolation



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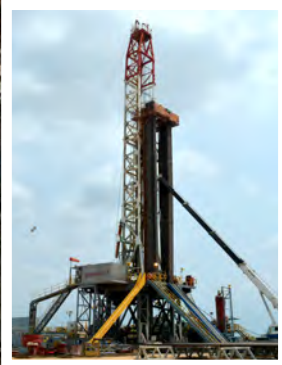
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Land Drilling Unit



Efficient and Cost effective land Drilling Operations

With five land Drilling Rigs in our fleet, we provide a field-proven portfolio of Land Drilling services that helps companies to achieve unmatched safety and cost savings.



Rig Mari 1

1500 HP Honghua
2007 Manufacture
ZJ 50 DB
4500 m Depth Rating
TDS NOV 11 SA
2 Mud Pumps
3 x Derrick Hyperpool
4 x 3512 B CAT

Rig Mari 3

2500 HP BOMCO
2014 Manufacture
ZJ 80 DB3
7000 m Depth Rating
TDS NOV 8S GB
3 Mud Pumps
4 x Derrick Hyperpool
4 x 3512 B CAT

Rig Mari 4

2000 HP BOMCO
2007 Manufacture
ZJ 70 DB
6000 m Depth Rating
TDS NOV 11 SA
3 Mud Pumps F 1600
3x MI SWACO
Mongoose
4 x 3512 B CAT

Rig Mari 5

2000 HP BOMCO
2007 Manufacture
ZJ 70 DB
6000 m Depth Rating
TDS NOV 11 SA
3 Mud Pumps F 1600
3x MI SWACO
Mongoose
4 x 3512 B CAT

Rig Mari 6

750 HP SJ PETRO
2024 Manufacture
ZJ 30 DBT
2500 m Depth Rating
TDS Tianyi
2x F-800 Triplex
2x Brightway BWZS104
3x CUMMINS KTA50-
GS8



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Improving real time performance and reducing costs

Mari Mud Logging Unit monitors drilling activities from spud till completion with critical mud logging data to enhance the drilling efficiency, becoming a hub for monitoring formation responses to the drilling process. The Mud Logging unit is certified for DNV 2.7-1 (Det Norske Veritas)

Hardware Configuration

Advanced Mud Logging Unit – 25 feet

- DNV 2.7-1 (A60) Pressurized ML Unit 25 feet -Slings
- Signal/Data Acquisition system (Hardware) equipped with N.2 UPS
- Signal/Data Acquisition system

Software Equipment and Sensors

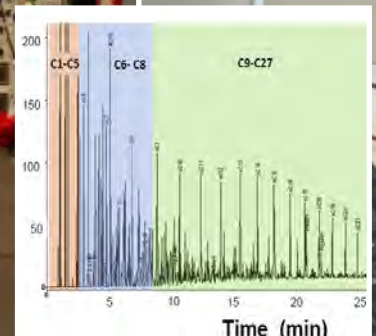
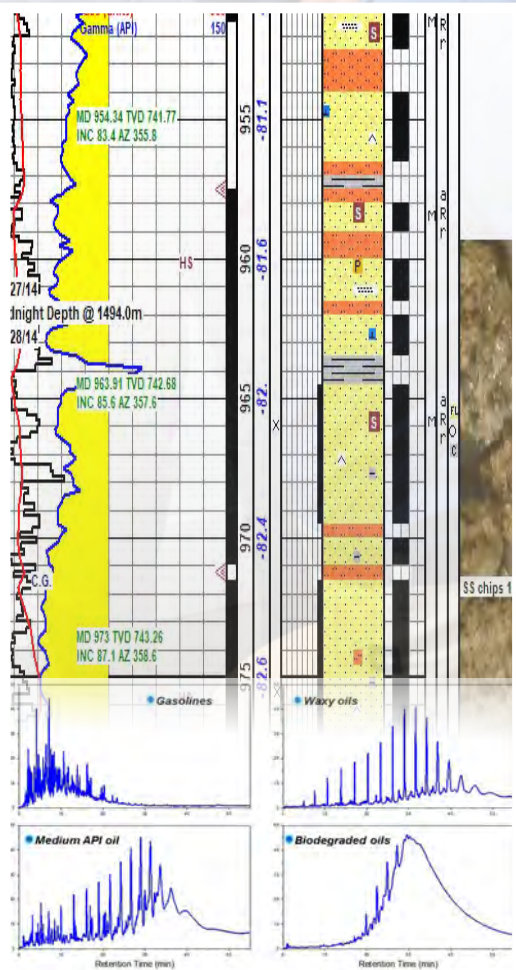
- Integrated Barrier System (IBS)
- Emergency Alarms System and Schematic
- Acquisition System
- Total Gas Detector (TGD)
- Dual FID Gas Chromatograph

Software Configuration

SAERT (System of Acquisition and Elaboration in Real Time) Architecture:

Integration of CompacRio for analog and digital slots with faster real time data treatment and more acquisition channel system with large amount of smart sensors in a single segment. Saert Virtual Machine consists of the following database programs.

- LGIMAS
- CATALOG
- GeoDesk
- GWM (Geolog Well Manager)
- Log Viewer
- DDE (Depth Data Editor)
- Virtual Printer
- GSR (Geolog Snap Recovery)
- Geolog Server



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