

Mesy (India) Pvt. Ltd.



DEDICATED TO ROCK MECHANICS

WE EXPERTISE

IN

ADVANCED BOREHOLE LOGGING INCLUDING THERMAL, SONIC,
ACOUSTIC/OPTICAL TELEVIEWER, WATER QUALITY AND WIRELINE
IN-SITU STRESS MEASUREMENT BY HYDROFRACTURING TECHNIQUE,
SEISMIC SURVEY PROFILING & TOMOGRAPHY
AND LABORATORY TESTS

WE OPERATE WORLDWIDE THROUGH CHANNEL PARTNERS

ABOUT US

Mesy (India) Pvt. Ltd. has been founded in the year 2001 to provide logging services to clients in the field of Geotechnical/Hydrogeology Investigations, Geophysical studies, etc to solve complex problems by an integrated approach in India and in other neighboring countries. Mesy (India) Pvt. Ltd. is a wholly owned subsidiary of MMRT Instrumentation Pvt. Ltd and it also act as a technical arm to government institutions in the conduction of scientific / geotechnical research projects, and stimulates new R&D projects in collaboration with Indian Research Institutions and International Organization in the field of geotechnics, advanced mining technologies, groundwater production enhancement underground storage, geothermal energy , or earthquake hazards or induced seismicity.

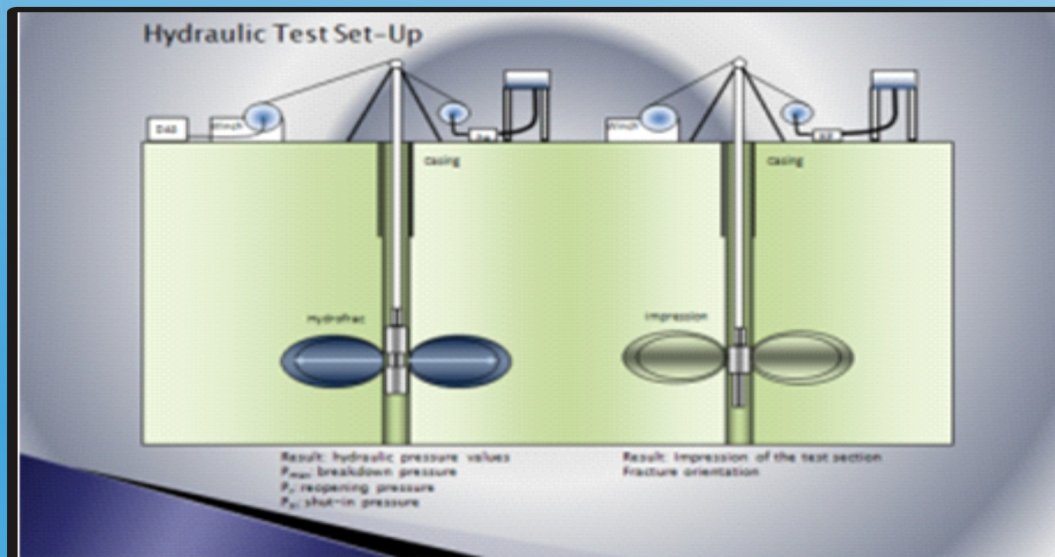
We are in to following dedicated services of Rock Mechanics:–

- Acoustic/Optical Imaging up to depth of 1000m depth Borehole
- Stress Field Logging up to the depth of 2500m
- Capable of doing logging tests in sub-horizontal & horizontal boreholes.
- Permeability Logging for Coal Bed Methane Borehole depth up to 2000m
- Ground Water Stimulation for productivity
- Density Logging up to Borehole depth 1000m
- Water Quality Logging up to Borehole depth 1000m
- Temperature Gradient Logging up to Borehole depth 1000m
- Dilatometer Test up to Borehole depth 100m
- Digital Caliper Logging
- Hydro-Jacking Test for Shallow and Deep Borehole
- High Pressure Injection Test for Stimulation

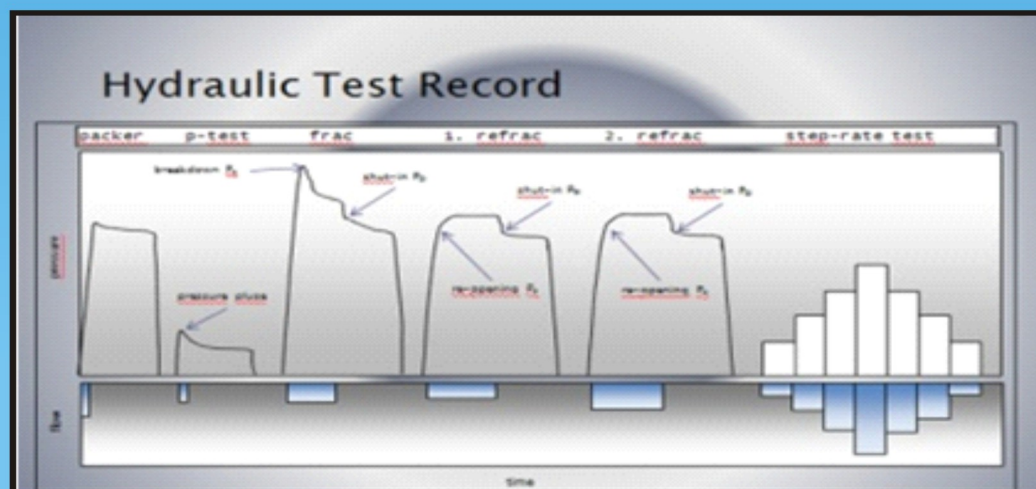
Mesy (India) Pvt. Ltd. own all modern, portable wireline and state of art technology equipments to provide high quality/professional services to all clients related to Rock Mechanics to solve complex problems by integrated approach in combination with new ideas and experienced team. Mesy (India) advisory board includes leading scientists & experts of rock mechanics from all over the world.

IN-SITU STRESS MEASUREMENT BY HYDRAULIC FRACTURING STRESS TESTING

Typically hydraulic fracturing is conducted in vertical boreholes. Therefore a short interval of the borehole is sealed off using a double packer system. Then the sealed off area is pressurized by water injection. The pressure is raised until the rock surrounding the bore hole fails in tension (breakdown pressure). Following breakdown, the injection of water is stopped (shut-in), the pressure within the test section drops until the fracture is closed fast (linear flow) and then slow (radial flow).



The shut-in pressure equals the rock stress, at which the hydro fracture closes completely under the action of the stress acting normal to the hydro fracture plane. In a vertical test hole the new induced hydro fracture is expected to be vertical and perpendicular to the minimum horizontal stress.

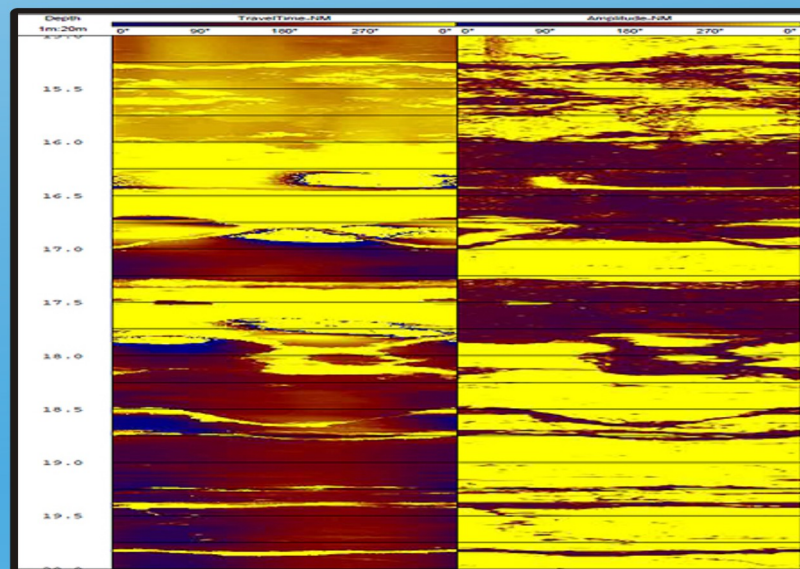


The hydraulic stress tests were conducted in close agreement with the ISRM - standard. The in-situ stress field components have been widely recognized as basic parameters in the engineering design of underground constructions. The most common method of measuring in-situ stresses is hydraulic fracturing.

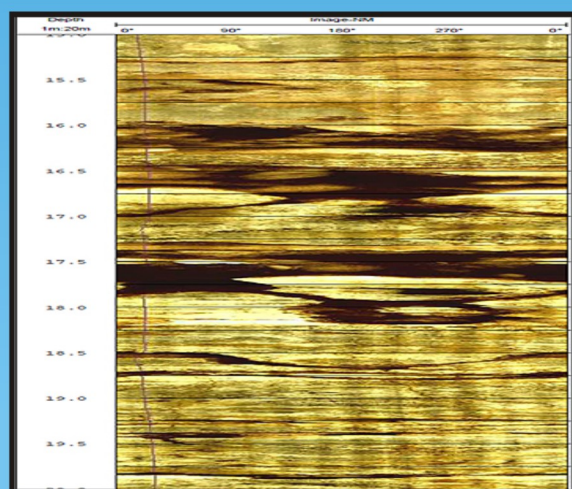
ACOUSTIC TELEVIEWER

The principle of Acoustic televiewer tools is based on the analysis of the reflected signal of an ultrasonic beam from the borehole wall (Zemanek, 1970). The resulting data are the travel time (proportional to the borehole radius) and the amplitude (proportional to the rock impedance). The analysis provides a high resolution caliper of the borehole as well as the rock impedance (rock density, rock p-wave velocity). Travel time data and amplitude values are converted into colorized images of the borehole wall. The advantage of the acoustical image is to receive additional physical properties of the borehole surrounding rock.

Due to the testing principle, it is necessary to have water filled borehole.



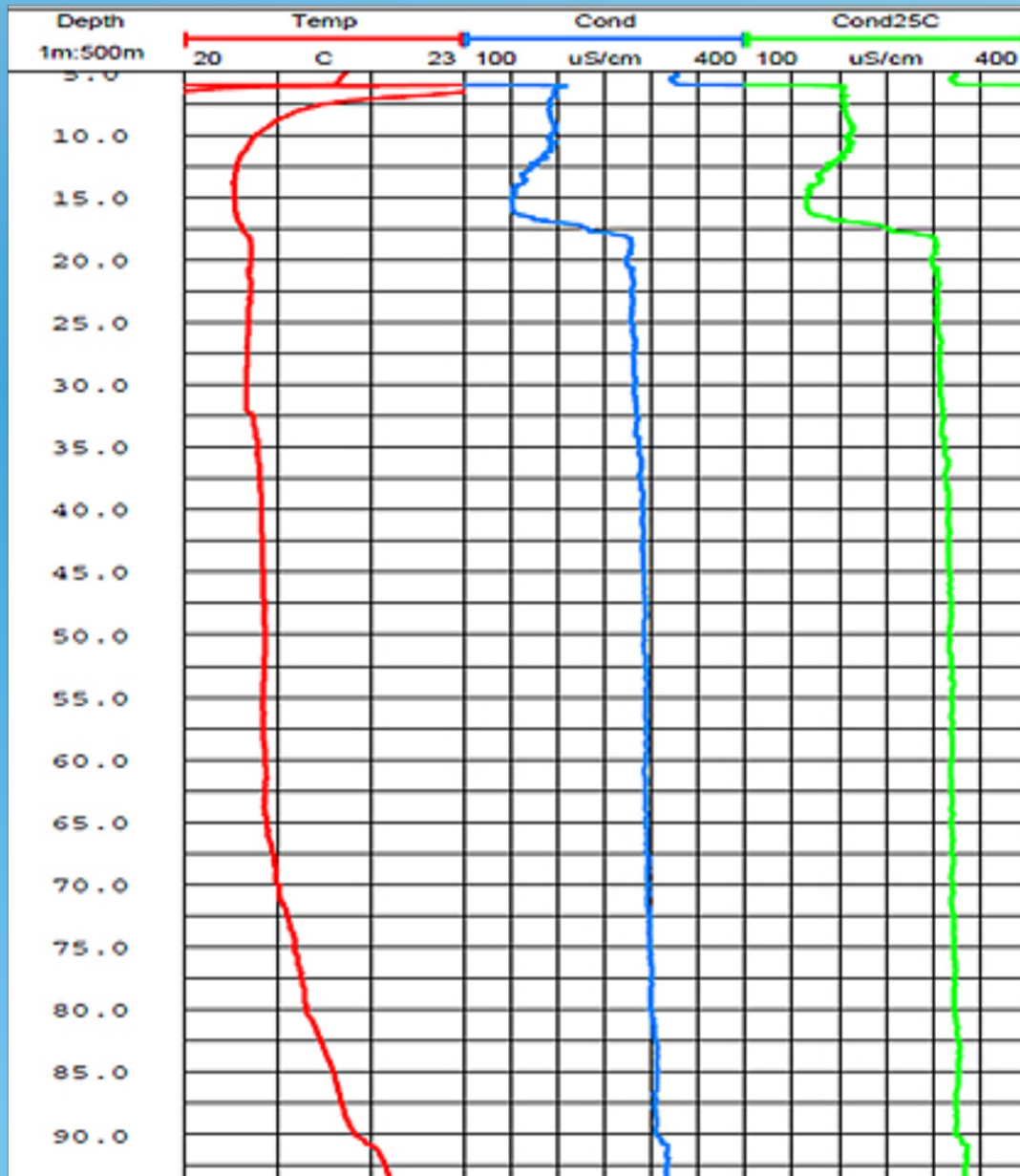
OPTICAL TELEVIEWER



Similar to the acoustic televiewer but using visible light optics, the **OPTV** probe provides a continuous detailed and orientated 360° true color image of the borehole walls using a unique optical imaging system. This can be rapidly interpreted, using data from the internal orientation module, to obtain a complete feature analysis that includes dip, strike, and frequency and fracture aperture.

THERMAL LOGGING

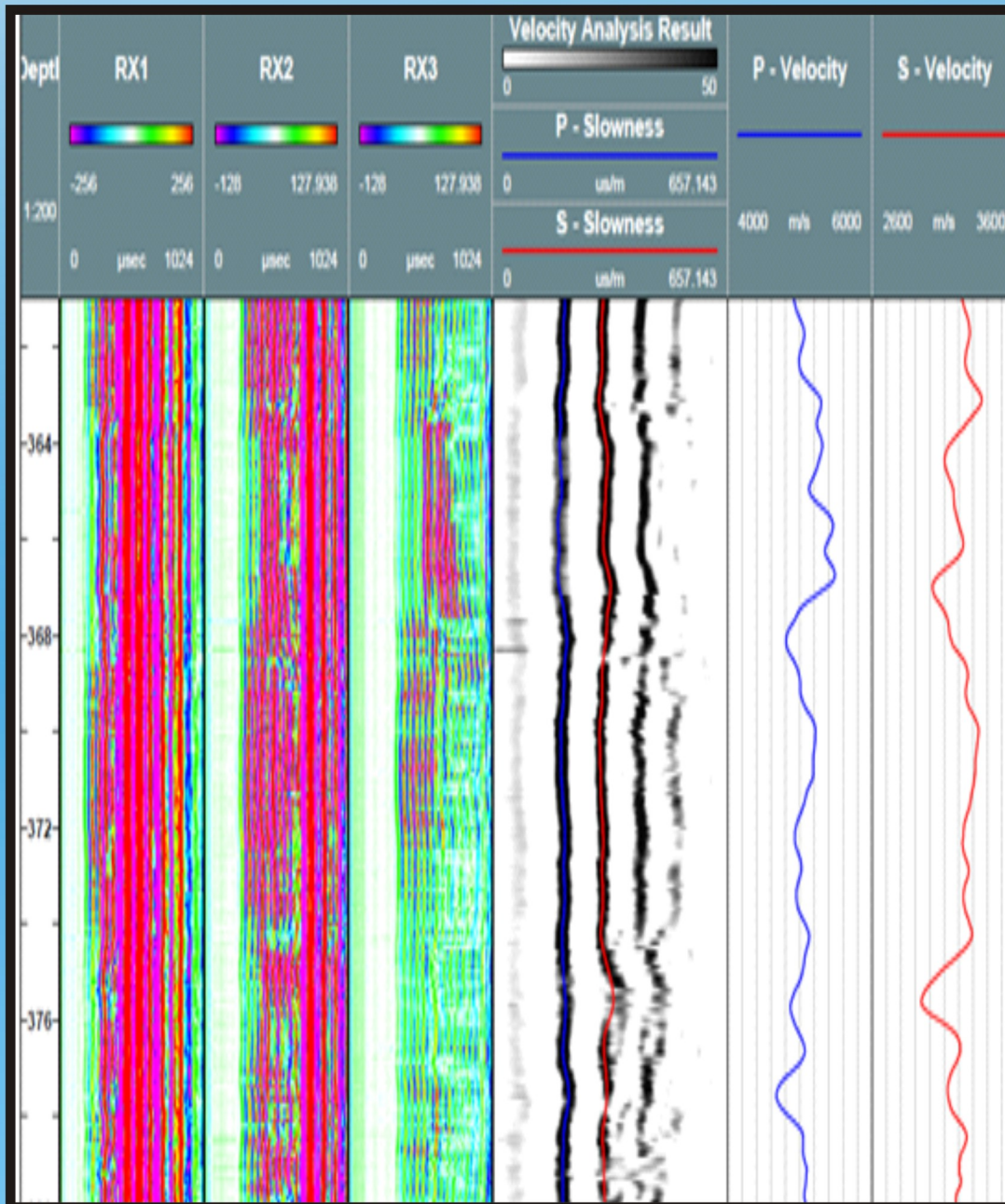
The temperature/conductivity logging probe is a standard logging tool for geotechnical investigations. It provides detailed information about the temperature/fluid conductivity distribution within the borehole. The borehole temperature is measured with a sensor based on a fast response semiconductor device whose output voltage changes linearly with temperature. The temperature sensor is located in a stinger at the top of sensor body in the center of the three exit ports where the borehole fluid return to the well bore.



The borehole fluid conductivity is measured using a seven electrode mirrored wenner array for measuring borehole fluid conductivity. The conductivity array is an internal cylindrical array open at the bottom of the probe. Borehole fluid passes by the array as probe is lowered in the hole. The array is completely shielded from the outside borehole, so that only fluid conductivity is measured.

SONIC LOGGING

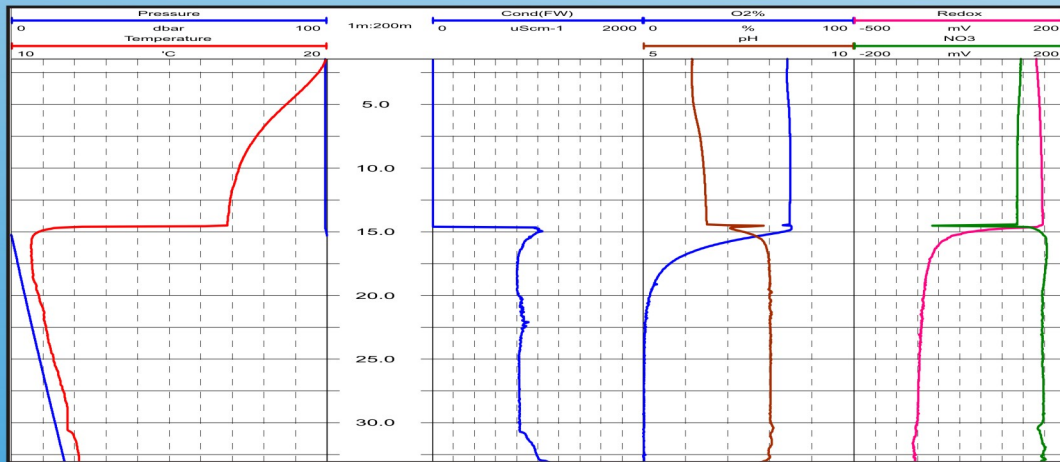
Sonic log will provide important information about the physical structure of a rock matrix. The ability of sound to travel within and through rock or sand and gravel depends on the physical structure of the matrix.



Because the total transit time from the transmitter to the receiver includes the path through the borehole fluid + formation + borehole fluid, borehole compensated (two or four receiver) logging tools are used. Borehole compensation is accomplished mathematically by subtracting the borehole transit time. It gives information resulting young's modulus, bulk modulus, shear modulus, Poisson ratio, and Porosity.

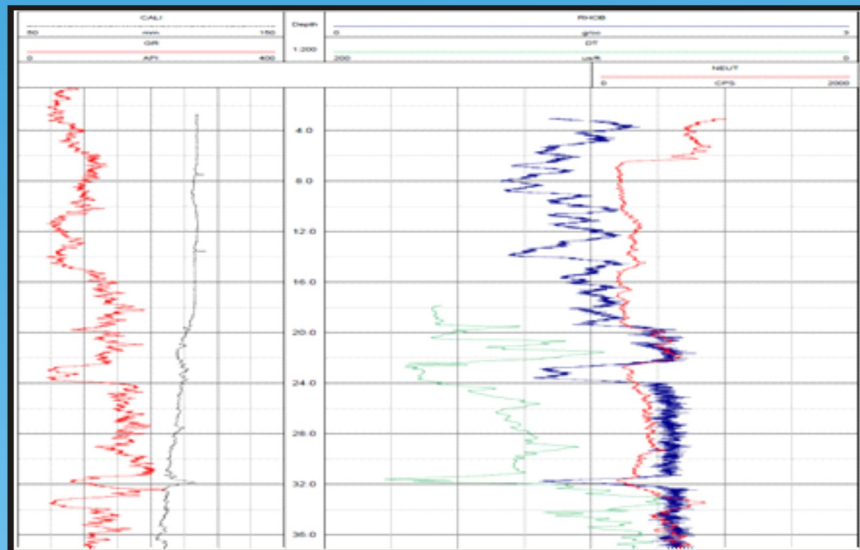
WATER QUALITY

Water quality analysis provides vital and necessary parameters of the water inside the borehole. It provides us the detail information of fluid temperature, conductivity, pH, dissolved oxygen(O₂ percentage) & oxidation reduction(REDOX), TDS etc.



NATURAL GAMMA LOGGING

Gamma ray logging is used to measure naturally occurring Gamma radiation for characterization of rock or sediment inside the borehole.



It is used in mineral exploration and water-well drilling but commonly used for formation evaluation in the borehole. It is based on principle that different types of rock emit different amount and spectra of natural gamma radiation. For example shales usually emit more gamma radiation than other sedimentary rocks, such as sandstone, gypsum, coal or dolomite because of radioactive potassium which is a common component in their clay content and also because of the cation exchange capacity of clay cause them to absorb uranium & thorium.

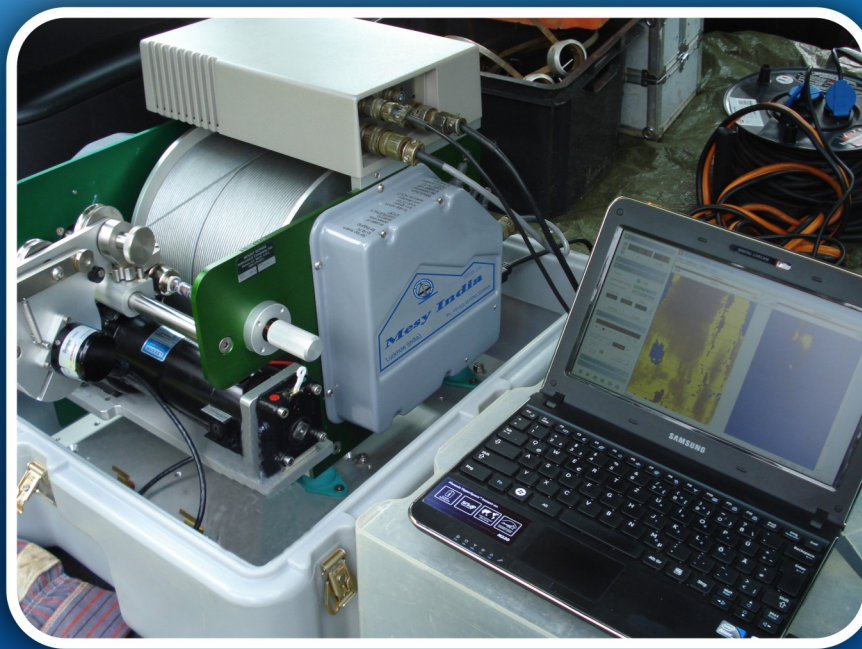
- DO CONTACT US FOR SEISMIC SURVEY PROFILING & TOMOGRAPHY
- RECENTLY STARTED DRILLING DIVISION ALSO

CUSTOMER SERVICE

Over the years, Borehole testing and logging has evolved dramatically to provide greater information.

We offer a full range of services. Mesy India Pvt. Ltd has expanded its testing capabilities to provide reliable services focused on the field testing by experienced team, acquisition and analysis for solutions. This includes a range of downhole test tools, data acquisition services, lab testing.

Our Testing/Analysis team continues its leadership in the field of geotechnical services and meets all input information required by our clients for designing a project.



81°04'02.84"E

26°54'55.18"N



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