

## COMPANY PROFILE

FOR

# Quartz Drilling and Lab Pvt. Ltd. (Geotechnical and Geophysical Investigations)



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NEPAL

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## **1. Introduction**

Quartz Drilling and Lab (QDL) Pvt. Ltd. is an registered engineering investigation firm established under the act no. 18 of the year 2063 (2006) with the aim at providing engineering related investigation services. We deliver wide range of services that satisfy clients' needs for progressive geotechnical engineering, soil testing, core drilling, ERT survey developments works.

QDL has aimed to provide pragmatic and disruptive technology and cost-effective solutions to its clients. This in turn has helped QDL to earn reputation and business excellence in a very short period. QDL has highly qualified and experienced professionals on its rolls.

## **2. Services:**

QDL provides core drilling and laboratory services for soil and rocks in order to evaluate the engineering properties of the sub-surface materials.

### **Drilling works:**

QDL carry out the drilling works in every development works both in soil and rocks. We have two rotary drilling machines; one is XY-150, DW100, DW-50 and Voltas 35. XY-150, a Chinese rotary drilling machine can drill up to 150 meters. Likewise, Voltas 35 can easily drill up to 200m into the Himalayan rocks. Similarly, QDL has few percussion machines and Auger Boring Machines along with the accessories. Percussion machines are generally used to drill the soft sub surface materials mainly in the terai region and valley fill sediments.

## **Laboratory Tests:**

QDL aims to provide highly credible results for its clients that ultimately helps them to design a strong sub and super structures. Highly qualified and experienced lab technicians under the supervision of engineers, geotechnical engineers and geologist test the soil/rock materials in order to calculate the engineering properties of the sub surface materials.

We provide lab services for:

- Index Properties of Soil / Rock
- Standard and Modified Proctor
- California Bearing Ratio (CBR)
- Field CBR test
- UCS Test
- Point Load test
- Plate Load Test
- Unconfined Compression
- Direct Shear Test
- Consolidation
- Permeability

## **In- situ tests**

We provide in-situ tests for,

- SPT/DCPT
- Permeability (constant and falling head) tests for soil.
- Lugeon tests (Water pressure tests) for rocks.
- SPT for road
- Field CBR tests

### 3. Electrical Resistivity Tomography (ERT) Survey

QDL Provides electrical resistivity survey for the delineation of sub-surface geology, mineral layer identification, hydrological investigation, differentiate the overburden and bed rock. We had Geomative 10 (GD10) brand machine having 1200m long cable. We can reveal the sub-surface data up to 300m depth from the surface.

#### **GD-10 Series Geo-electrical System**

GD-10 series is a new electrical geophysical exploration system with highly engineered & cutting edge technology with a revolutionary change. It is promoted to market focusing the best solution to meet emerging technological advancements, cost affordability, flexibility in field practices, the greatest accuracy in geo-electrical exploration, the enduring sustainability for a basic user to a progressive researcher.

GD-10 series supports 1D VES, 2D ERI and 3D ERT Resistivity/IP measurement, which are the versatile geophysical method apply for a broad range of applications, as groundwater and mineral exploration, infrastructure site investigations and so on.

#### **Feature :**

- ✓ Can measure the resistivity, time domain induced polarization method (IP) and spontaneous potential (SP);
- ✓ High power, wide range, high precision;
- ✓ Transmitter and receiver designed in one unit, light and portable;
- ✓ The unique sub-level centralized cable system realized the electrode switching by CL-10 cable leader, no electrode limit on measurement, which features light, low cost and easy operation.
- ✓ Using a unique scrolling technology, which can detects deeper than comparable instruments with no repeated measuring point. And the scrolling function is realized during detection, which improve the working efficiency.
- ✓ The data management platform, Geomative Studio, breaks through the bottleneck of traditional embedded software, which enrich the software function greatly;
- ✓ Designed with built-in GPS, can accurately determine the measurement coordinates;
- ✓ Multi-electrode cable with bi-direction design and dual take-outs enable the parallel electrodes for high power applications;
- ✓ Powerful self-checking function for the high-quality data during measurement, including Grounding R test, switcher test and cable leader test.
- ✓ Communication port for USB data transfer;
- ✓ Real-time data valuation, the time window can be set in IP survey;
- ✓ High reliability, security and robustness, can use in extremely harsh weather.

**GD-10 Advanced 2D Multi-electrode Res Imaging System** is the 2D ERI system with functions of SP survey, 1D Resistivity/IP sounding survey and 2D Resistivity Imaging survey. The mainframe including GD-10 mainframe and CS-60 multi-electrode switching box.

Power: 800V/1600Vp-p, 4A, 3200W

GD-10 mainframe



#### 4. Working Areas:

We are expert in working different disciplines of development works.

Some defined working areas have been outlined below.

- Drilling and in-situ testing for **Hydropower**
- Drilling and in-situ testing for **Mines**
- Drilling and in-situ testing for **Bridges and Buildings**
- **Transmission lines** tower foundation soil testing
- **Sub-station** site soil testing
- **Soil resistivity measurement** of TL tower foundation
- **Mine investigation** and Quarry site investigation
- Geological and engineering geological mapping
- Electrical Resistivity tomography (**ERT**) survey for Hydropowers, Mines, Bridges, Slopes
- Soil and Rock testing laboratory.

## 5. Completed Projects

<b>General Construction Experience</b>				
<b>Starting Month Year</b>	<b>Ending Month Year</b>	<b>Year</b>	<b>Contract Identification and Name and address of Employer Brief Description of the Works Executed by the Bidder</b>	<b>Client</b>
Nov	Dec	2022	<b>ERT survey of Mugu Karnali Hydroelectric Project, Mugu</b>	Department of Electricity Development (DOED), Nepal
April	Dec	2022	<b>Core drilling and geotechnical investigation work of Super Budhigandaki Hydroelectric Project, Gorkha</b>	Department of Electricity Development (DOED), Nepal
May	Dec	2022	<b>Core drilling and geotechnical investigation work of Tom Dogar Hydroelectric Project, Gorkha</b>	Department of Electricity Development (DOED), Nepal
Aug	Oct	2022	<b>Geotechnical Investigation of Kaligandaki-Ridi 132kV Transmission Line Project, Palpa</b>	Nepal Electricity Authority
June	Aug	2022	<b>ERT survey of Upper Mugu Karnali Hydropower Project, Mugu</b>	Golyan Group
July	Aug	2022	<b>ERT survey of Super Budhigandaki Hydroelectric project, Gorkha</b>	Department of Electricity Development (DOED), Nepal
Mar	May	2022	<b>ERT Survey of Tom Dogar Hydroelectric project, Gorkha</b>	Department of Electricity Development (DOED), Nepal
July	Aug	2022	<b>Core drilling and geotechnical investigation work of Bhotekoshi-1 Hydropower Project, Sindhupalchok</b>	Shailung Power Company Limited
July	July	2022	<b>ERT and MASW survey of Myagdi Khola Hyropower Project, Myagdi</b>	Hydro Village Pvt. Ltd.

June	June	2022	<b>ERT survey of Daraudi Khola Hydropower Project, Gorkha</b>	Epicenter Engineering Solution Pvt. Ltd.
June	June	2022	<b>ERT survey of Daraudi Khola Hydropower Project, Gorkha</b>	Epicenter Engineering Solution Pvt. Ltd.
April	June	2022	<b>Geological Mapping and ERT survey of Bakan Khola Hydropower Project, Shankhuwasabha</b>	Epicenter Engineering Solution Pvt. Ltd.
April	June	2022	<b>Geological Mapping and ERT survey of Chujung Khola Hydropower Project, Shankhuwasabha</b>	Epicenter Engineering Solution Pvt. Ltd.
May	May	2022	<b>Geotechnical investigation of Tribhuvan International Airport Terminal Building, Kathmandu</b>	Tribhuvan International Airport Authority, Nepal
Mar	May	2022	<b>Geological mapping and report preparation of Super Budhigandaki Hydroelectric project, Gorkha</b>	Department of Electricity Development (DOED), Nepal
Mar	May	2022	<b>Geological mapping and report preparation of Tom Dogar Hydroelectric project, Gorkha</b>	Department of Electricity Development (DOED), Nepal
Mar	Apr	2022	<b>Core drilling work of Madhya Mailung Javidhyut Ayojana, Rasuwa</b>	Mathillo Mailung Khola Jalvidhyut Limited
Feb	Mar	2022	<b>Electrical Resistivity Tomography (ERT) survey of Bhotekoshi-1 Hydropower Project, Sindhupalchok</b>	Shailung Power Company Limited
Jan	Feb	2022	<b>Core drilling work of Mathillo Mailung 'B' Javidhyut Ayojana, Rasuwa</b>	Mathillo Mailung Khola Jalvidhyut Limited
Aug	Sep	2021	<b>Electrical Resistivity Tomography (ERT) survey of Rauje Khola Hydropower Project, Solukhumbu</b>	Cepad Hydroconsultants Pvt. Ltd.



July	Aug	2021	<b>Electrical Resistivity Tomography (ERT) survey of Luja Khola Hydropower Project, Solukhumbu</b>	Silk Power Pvt. Ltd.
Feb	May	2021	<b>Geotechnical Investigation of Balefi-Bahrabise 132 kV Transmission Line Project, Sindhupalchok</b>	Nepal Electricity Authority
Jan	June	2021	<b>Core drilling work of Lower Apsuwa Khola Hydropower Project, Shankhuwasabha</b>	Golyan Group
Jan	Jan	2021	<b>ERT survey and Geotechnical investigation of Zipline foundation and YoYo Resort, Bhaktpur</b>	YoYo Zipline Pvt. Ltd.
Jan	Jan	2021	<b>ERT Survey of Bhujung Khola Hydropower Project, Lamjung</b>	Bhujung Hydropower Company Pvt. Ltd.
Dec	Dec	2021	<b>ERT Survey of Dar Khola Hydropower Project, Myagdi</b>	Dar Khola Hydropower Company Pvt. Ltd.
Nov	Nov	2021	<b>ERT Survey of Khani Khola Dolakha Hydropower Project, Dolakha</b>	SASA Engineering Company Pvt. Ltd.
Sep	Nov	2020	<b>Geotechnical Investigation of Mainhiya-Sampatiya 132 kV Transmission Line Project, Nepal Electricity Authority</b>	Nepal Electricity Authority
June	Aug	2020	<b>Geotechnical Investigation of Burtibang Paudi-Amarai Tamghas Sandhikharka Gorushinge 132 kV Transmission Line Project, Nepal Electricity Authority, Contract No. BPTSG-074/75-01</b>	Nepal Electricity Authority
Sep	Oct	2020	<b>Electrical Resistivity Survey of Upper Brahmayani Hydropower Project, Sindhupalchok</b>	Ekikrit Byapar Company Pvt. Ltd.
March	May	2020	<b>Geotechnical Investigation of Hitar-Sitalpati (Arun Coridor) 400 kV Transmission Line Project</b>	RGPCL
February	March	2020	<b>Core drilling works of Lower Likhu Hydropower Project, Ramechhap</b>	Swet Ganga Hydropower and Construction Limited

August	September	2019	<b>Geotechnical Investigation of Proposed Building Foundation at Jarankhu, Kathmandu</b>	School
July	August	2019	<b>Geotechnical Investigation of Proposed Building Foundation at Boudha, Kathmandu</b>	Kapan Gumba
March	April	2019	<b>Geotechnical Investigation of Proposed Chitwan Rangshala Foundation at Ratnanagar, Chitwan</b>	District Sports Development Committee
May	June	2019	<b>Geotechnical Investigation of Proposed Building Foundation at Kuleshwor, Kathmandu</b>	Sunrays Trading Pvt. Ltd.
Jan	Feb	2019	<b>Geotechnical Investigation of Likhu IV-New Tamakoshi 220 kV Transmission Line Project, Green Ventures Pvt. Ltd. Contract No. Likhu-IV/GVN/Package 05/2018</b>	Green Ventures Pvt. Ltd.
March	May	2019	<b>Geotechnical Investigation of Burtibang Paudi-Amarai Tamghas Sandhikharka Gorushinge 132 kV Transmission Line Project, Nepal Electricity Authority, Contract No. BPTSG-074/75-01</b>	Nepal Electricity Authority
August	October	2019	<b>Resitivity Survey of Soti Khola Hydropower Project, Manang</b>	Cepad Hydro Consultants Pvt. Ltd.
November	December	2019	<b>Electrical Resistivity Survey of Rauje Khola Hydropower Project, Solukhumbu</b>	Cepad Hydro Consultants Pvt. Ltd.
October	June	2019	<b>Core Drilling works of Khara Limesone Deposit, Rolpa</b>	Samrat Cement Pvt. Ltd.
May	July	2019	<b>Electrical Resistivity Survey of Brahmayani Hydropower Project, Sindhupalchok</b>	Ekikrit Byapar Company Pvt. Ltd.
March	September	2018	<b>Core Drilling works of Thara Limestone Deposit, Dang</b>	Samrat Cement Pvt. Ltd.
March	July	2018	<b>Geotechnical Investigation of Hongu Khola Hydropower Project, Solukhumbu</b>	CEBDL Hydro Fund Limited
August	September	2018	<b>Electrical Resitivity Survey of Chepe Khola Hydropower Project, Lamjung</b>	
November	December	2018	<b>Resitivity Survey of Richet Khola Hydropower Project, Gorkha</b>	Richet Khola Hydropower Company Pvt. Ltd.

October	October	2018	<b>Electrical Restivity Survey and Geotechnical Investigation of Dudhkunda Khola Hydropower Project, Solukhumbu</b>	Cepad Hydro Consultants Pvt. Ltd.
August	December	2017	<b>Geotechnical Investigation of Dudhkoshi-6, Dudhkoshi-9 and Dudhkoshi-10 Hydropower Project, Solukhumbu</b>	Cepad Hydro Consultants Pvt. Ltd.
July	August	2017	<b>Geotechnical Investigation of Proposed Medical Building at Tandi, Chitwan</b>	Bakulahar Ratnanagar Hospital
June	August	2017	<b>Geotechnical Investigation of Middle Marsyandi-Dumre-Damauli 132kV Transmission Line &amp; Substation Project, Nepal Electricity Authority, Contract No. MMDD/NCB/73-74/TL-1</b>	Nepal Electricity Authority
August	September	2016	<b>Geotechnical Investigation of Proposed Residential Building at Sitapaila-5, Kathmandu</b>	
January	May	2016	<b>Geotechnical Investigation of Liping Khola Hydropower Project, Sindhupalchok</b>	Swacha Urja Pvt. Ltd.

## 6. Ongoing Projects

1. Geo-technical investigation of proposed building foundation at Bhaktapur
2. Geo-technical investigation of proposed building foundation at Maharajgunj
3. ERT survey of Salque Khola Hydropower Project, Manang

## 7. Manpower

<b>Manju Kandel</b>	<b>Managing Director</b>
<b>Dilandra Raj Pathak</b>	<b>Senior Geologist</b>
<b>Bishow Bastakoti</b>	<b>Geotechnical Engineer</b>
<b>Gyanendra Raj Sapkota</b>	<b>Engineering Geologist</b>
<b>Ramesh Joshi</b>	<b>Civil Engineer</b>
<b>Subash Pousel</b>	<b>Civil Engineer</b>
<b>Manoj Damai</b>	<b>Accountant</b>
<b>Urmila Rana</b>	<b>Lab Technician</b>
<b>Suraj Pathak</b>	<b>Administration</b>
<b>Lila Bahadur Rana Magar</b>	<b>Driller</b>
<b>Krishna Nagarkoti Shrestha</b>	<b>Driller</b>
<b>Ram Nagarkoti Shrestha</b>	<b>Driller</b>
<b>Nabin Magar</b>	<b>Driller</b>
<b>Ram Lal Tamang</b>	<b>Driller</b>
<b>Bikash Tamang</b>	<b>Driller</b>
<b>Krishna Thapa</b>	<b>Driller</b>
<b>Shukra Thapa Magar</b>	<b>Driller</b>

**Drilling work in Different sites**







## ERT Survey at different sites







