

Coastal Zone development

Engineering Geologic Studies may be performed:

- For housing developments
- For Coastal zone developments
- For public works
- For off shore outfall, drilling platform,
- Other types of facilities (Mining)
- Geo-hazard mapping and mitigation



Landslide at Wamai, Highlands Highway, Chimbu Province



Road Construction site visit to see the exposed engineering geologic parameters during the Poreporena Freeway construction.



Slugging it out in the bush, Bimin, Okapmin, Sandaun Province



**GEOLOGICAL SURVEY
DIVISION**

**Geotechnical
Mapping Branch**



Geotechnical Mapping Branch
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The Geotechnical Mapping Branch is one of the three Branches that make up the Geological Survey Division of the Mineral Resources Authority.

The branch consists of 3 staff; a Manager, Senior Engineering Geologist and an Engineering Geologist.

The field of Engineering Geology is closely related to Geotechnical Engineering and have large areas of overlap.

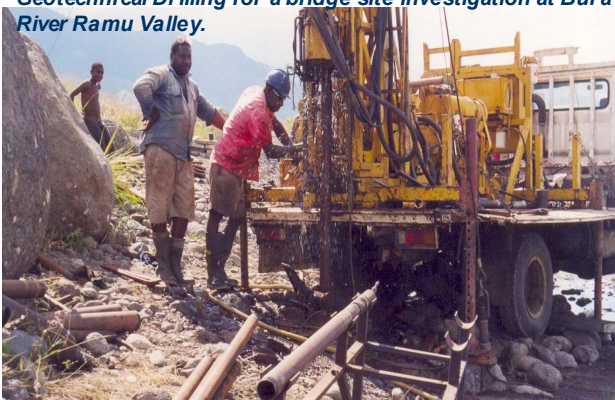
The branch applies geologic sciences to engineering practice to ensure that geologic factors affecting the location, design, construction, operation and maintenance of engineering works are recognized and adequately provided for.

Since moving from the former Department of Mining to MRA, the branch is working on establishing its soils and materials testing laboratory.

GEOTECHNICAL MAPPING FUNCTIONS

- To carry out site investigations to determine the engineering properties of soils and rocks and how they will react with the proposed constructions
- To determine and propose types of design, types of foundations, earthworks and pavements required by the proposed structures for residential, commercial and industrial developments.
- Perform Engineering Geologic studies for public works such as roads, bridges, power transmission lines, tele-

Geotechnical Drilling for a bridge site investigation at Bura River Ramu Valley.



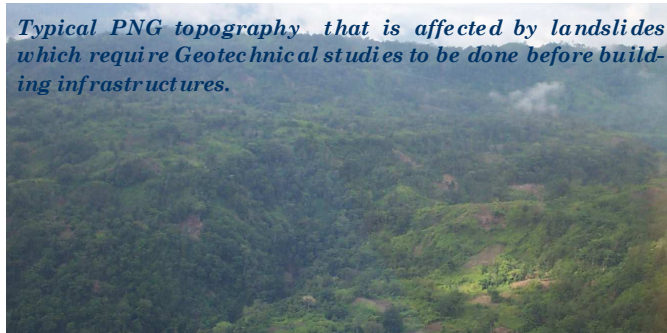
communication towers, dams etc.

- To assess risk to humans, properties and the environment from geo-hazards such as landslides, and earth quakes,
- Perform limited laboratory soils and materials tests for engineering purposes

WE PROVIDE THE FOLLOWING SERVICES

- Site investigations
- Foundation Investigations
- Construction material Investigations
- Engineering Geology Mapping
- Geo-hazard mapping and mitigation
- Soils and materials testing

Typical PNG topography that is affected by landslides which require Geotechnical studies to be done before building infrastructures.



WE PROVIDE THE FOLLOWING TESTS

- DCPT Tests
- Shear Vane Testing
- Atterberg limit tests
- Moisture Content
- Sieve Analysis
- Point load tests
- Resistivity Survey in collaboration with the Geo-Physics Branch
- Seismic Survey in collaboration with the Geo-Physics Branch

Soil erosion and slumping at an urban squatter settlement



SOME GEOTECHNICAL ENGINEERING MAPPING BRANCH PREVIOUS PROJECT INVOLVMENT

- Landslide studies, mapping and mitigation (Finisterre and Sarawaget Ranges Morobe Province)
- Road upgrade investigations (Highlands Highway)
- Building site Investigations (Mining House)
- Geo-Hazard Studies (Lae City)
- Aggregate Studies (Madang Town Area)
- Highlands Highway Geotechnical Mapping
- Road alignment geological studies

A washed out bridge structure and abutment founded on an eroding river bank.

