

ASAF KHAN

Geologist

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SUMMARY

Geotechnical Engineer and geological investigation with 7+ years of experience in hydropower, infrastructure, and energy projects across Pakistan and Saudi Arabia. Skilled in soil and rock mechanics, rock mass classification (RMR, Q-system, GSI), tunneling, Core drilling, TV logging, geological mapping, slope stability, and grouting use (Art Level 3) and advanced Chinese instrument technology. Proficient in AutoCAD, Civil 3D, GIS, with experience in soil and rock testing supervising lab and field testing, water pressure tests, supporting design/drawings and field layout preparation.

Software's

- MS Office (Word, Excel, PowerPoint), ➤ Slide 6.0, Unwedge, Swedge, ➤ DIPS
- Google Earth ➤ AutoCAD, ➤ civil 3D ➤ TV Logging software
- Grouting Experts Analyzi ➤ TDMS (Tunnel Data Management System)

Geotechnical Investigations

✓ SPT ✓ CPT ✓ WPT ✓ TCR ✓ RQD ✓ SCR ✓ FDT ✓ Trial Pits ✓ Gradation ✓ Proctor
Compaction • Standard • Modified ✓ Atterberg Limits • Plastic limit • Liquid Limit

PROFESSIONAL EXPERIENCE

1. (CGGC) China Gezhouba Group Company

10/2020 - 04/2022

Senior Geotechnical Engineer | ID GC 3426

Mohmand Dam Project (840 MW)

- Led geotechnical investigations including drilling, logging, TV logging and sampling, collecting subsurface data essential for foundation design tunneling and slope stability analysis.
- Carried out RQD assessment and in-situ tests WPT (SPT, FDT,) to evaluate soil and rock conditions.
- Completed hydro testing, hydro jacking, probe drilling, endoscopic surveys, and MWD interpretation for the main dam and tunnels.
- Supervised Art Level 3 technology for grouting and drilling using micro-fine cement. Managed high-pressure (5 MPa) grouting in 5 m stages at powerhouse and tunnel sites controlled water ingress with surface sealing and completed grout tests (viscosity, bleed, density)
- Oversaw installation of bolts, shotcrete, mesh, and anchors, and supervised slope stabilization, strand anchors, and consolidation grouting at CMD, penstock, and powerhouse zones.
- Prepared geotechnical reports, borehole logs, lab data, and design maps in AutoCAD/Excel, coordinating with consultants and managing site quality and progress.

2. Environmental Support Science & Testing Company Project 01

07/2022 - 07/2023

Field Geologist |

Saudi Arabia

- Geotechnical investigation of Alwajh to Umluj transmission line (Client L&T)
- Prepared borehole logs for soil and rock site work and assisted drillers. Field tests SPT, ERT, TRT, permeability, and packer tests.
- Executed site investigations, soil testing, and environmental sampling (water and soil).
- Maintained reports in Excel and Word.
- Monitored groundwater using Drivers/Driver Office software and managed soakaway data.

3. Environmental Support Science & Testing Company Project 02

10/2023 - 12/2024

Field Geologist |

Saudi Arabia

Geotechnical investigation of transmission line, Duba to Alwajh. (Client L&T)

- Drilling operations, core sampling, and borehole stabilization.
- Measured soil permeability (variable/constant head) and assessed soil stability for design planning.
- Performed ground tests including ERT, TRT, permeability, and packer tests.
- Digitized borehole logs, data, and test results using Excel, Word, and geological software.
- Used GIS, AutoCAD, and mapping tools for digital geological maps and terrain models
- Ensured sample quality and data integrity through proper labeling, preservation, and QA/QC procedures.

4. Pakhtunkhwa Energy Development organization [Ⓔ] | PEDO

12/2019 - 08/2020

Field Geologist |

Pakistan

Koto Hydro Power project.

Rock Mechanics Engineer with experience in team management, geological data analysis, rock mass classification (RMR, Q-System, and GSI), support detailing, design review, and core drilling with logging, water pressure/Lugeon tests.

Skilled in geological mapping of tunnels and slopes, foundation stability evaluation, and digitizing site maps in AutoCAD. Experienced in supervising shotcrete, mesh, rock bolts, and anchors, Conducting lab/field tests (CBR, sieve analysis, Atterberg limits, UCS, direct shear, plate load) per ASTM/BS standards. Proficient in reporting, updating management records, and integrating geotechnical recommendations into project designs.

5. Natural Resources Exploration Company [Ⓔ]

(12/2018 – 11/2-2019)

Site Geologist |

Pakistan Concluded

geological mapping and exploration for potash, copper, phosphate, quartz, gold, and placer deposits. Identified drilling targets, logged core samples, and assessed mineral content, structure, and economic potential. Executed geochemical and geophysical surveys, stratigraphic and structural analyses to optimize resource evaluation and extraction strategies. Ensured environmental and safety compliance during field operations and prepared detailed reports and presentations on exploration results.

Education

Geology

Bacha Khan University, Charsadda, KPK, Pakistan

CGPA: 3.77/4.00

Diploma in Information Technology

Khyber Pakhtunkhwa Board of Technical Education [Ⓔ]

Final grade: 1095/1400

Training & Course

- **Google Data Analytic Certificate Coursers (2024):** Coursera
- Best Year Project Award Energy China (CGGC)
- Occupational Safety and Health Administration certification Occupational Safety and Health Administration

Laboratory Testing Expertise

Supervision **laboratory and Field testing** as per **ASTM and AASHTO standards**

- **Soil and Sand:** Sieve analysis, Proctor Compaction Test, CBR, (ASTM D1883)
- **Aggregate:** Sand equivalent, Water Absorption, Soundness, and Specific gravity tests.
- **Concrete:** Slump test, cylinder crushing, Cube Making, and Temperature monitoring; evaluated viscosity, bleed, and density.
- **Asphalt:** Bitumen extraction, GMM, and GMB. testing

Achievements:

Published research on Mohmand Dam and Murree landslides; created digital maps of tunnels, slopes, and boreholes using AutoCAD; applied Q-System, RMR, SMR, GSI, and geotechnical software (Slide, Unwedge, Swedge, Google Earth, Illustrator) for rock mass and slope stability analysis.

LANGUAGES

Arabic

Advanced



English

Advanced

