

# GUL HASSAN

(Geologist  
Geotechnical Engineer/  
Tunnel Engineer)



## CONTACT:

**Cell**  
+966508874693

**Whatsapp**  
+923333504033

**E-Mail**  
gulhmk@gmail.com

**Location**  
KSA

**IQAMA**  
(Transferable)  
2623395973

## **Expertise/Skills**

- ✓ Surface Geological Mapping
- ✓ Scanline & Discontinuity Surveys
- ✓ Borehole logging (ASTM)
- ✓ Insitu & Laboratory Testing (Rock & Soil)
- ✓ Sampling (Disturbed & Undisturbed)
- ✓ Geotechnical Investigations planning & supervision
- ✓ - Geophysical Survey (Seismic/ERT)
- ✓ - Geotechnical Data Evaluation
- ✓ - Tunnels/Slopes Numerical Analysis
- ✓ - Tunnel (D&B) Construction Supervision
- ✓ - Geological Hazard & Risk Assessment
- ✓ - Excellent Report Writing

## **JOB SUMMARY:**

Dedicated **Geotechnical Engineer/Tunnel Engineer** with **+15 years** of experience on large scale infrastructure projects like Tunnels, Vertical shaft, Desender, Weir and Dams specializing in Execution, Construction Supervision, Quality Control, Tunnel Excavation, Tunnel Support recommendation and installation and supervising tunneling activities including drilling, blasting, NATM and ability to lead & manage teams, coordinate project activities, and resolve site issues.

Experienced in monitoring ground conditions, ensuring structural stability, and implementing safety and quality standards during tunnel construction. Proficient in coordinating with geotechnical, structural and construction teams to ensure project adhere to safety, budget and schedule requirements.

Expertise in geotechnical investigations, geological mapping, rock mass evaluation using Q-Classification, RMR, SMR & GSI, geological hazard assessment and slope stability analysis.

## **ACADEMIC QUALIFICATIONS:**

### **Master of Science in Geology, 2010**

Federal Urdu University of Arts, Science and Technology Karachi

### **Bachelor of Science (Hons) in Geology, 2008**

Federal Urdu University of Arts, Science and Technology Karachi

## **HSE CERTIFICATION:**

**NEBOSH IGC**

**NEBOSH UK**

## **HSE TRAINING:**

Risk Assessment

Qanmos College

First Aid

Qanmos College

Confined Space

Qanmos College

Work at Height

Qanmos College

## **WORK HISTORY:**

**(15 years)**

**1. Employer: Al-Marsad Al-Makani Geological Consulting, KSA**  
**6 months**

**Project: Slope Stability and Rockfall Hazard Assessment Project in the Holy Sites Makkah and their surroundings and implementation of Engineering protection measures.**

**Client: Royal Commission**

**Position : Geotechnical Engineer/Team Lead**

**Duration : 2<sup>nd</sup> September 2025 to Date**

### **Job Responsibilities:**

- ⇒ Conduct surface geological mapping and identified numerous geological anomalies, analyzed discontinuity data, and performing structural geology assessments to potential hazards.
- ⇒ Slope stability analysis and slope mapping using RMR, SMR and GSI.
- ⇒ Identified and evaluated geohazards, recommending mitigation measures such as rock bolting, wiremesh, shotcrete, netting, and drainage solutions.
- ⇒ Conduct site investigations, including borehole supervision, sampling, and in-situ testing.
- ⇒ Interpret soil and rock laboratory test results to evaluate engineering properties.
- ⇒ Perform geotechnical analysis for shallow and deep foundations.
- ⇒ Carry out slope stability, retaining wall, and excavation support design.
- ⇒ Assess ground improvement requirements and recommend suitable techniques.
- ⇒ Prepare geotechnical reports, calculations, and technical specifications.
- ⇒ Provide recommendations for earthworks, backfilling, and compaction control.
- ⇒ Identify and mitigate geotechnical risks such as settlement, liquefaction, and landslides ensuring safe and cost-effective engineering solutions.
- ⇒ Collect and transport selected rock samples for laboratory tests.
- ⇒ Supervised all Geotechnical team in field and coordinate with consultants and senior management.
- ⇒ Conduct Electrical Resistivity survey.
- ⇒ Conduct Seismic Refraction/Reflection Survey.
- ⇒ Preparing detailed geotechnical reports.
- ⇒ Prepared daily and weekly progress reports.

- ✓ Administrative Skills
- ✓ Tunnel excavation
- ✓ Drilling and Blasting
- ✓ Underground safety
- ✓ QA/QC of tunneling works
- ✓ Site Inspections
- ✓ Documentation & Reporting
- ✓ HSE Risk Assessment
- ✓ Team Player
- ✓ Team Builder
- ✓ Time Management
- ✓ Observations skills
- ✓ Analytical
- ✓ Good knowledge of minerals and rocks
- ✓ Able to work independently

#### Computer Skills

- ✓ MS Word
- ✓ MS Excel
- ✓ MS PowerPoint

#### INDUSTRY/ AREA OF INTEREST:

- ✓ Tunneling
- ✓ Construction
- ✓ Mining/Minerals
- ✓ Engineering
- ✓ Oil & Gas

#### FUNCTIONAL AREAS:

- ✓ Geotechnical Engineering
- ✓ Execution
- ✓ Field Operations
- ✓ Administration
- ✓ Monitoring & Evaluation
- ✓ Planning & Development
- ✓ Project Management
- ✓ Quality Control (QC)
- ✓ Safety & Environment

## 2. Employer: Frontier Works Organization (FWO)-Pakistan

7.0 years

**Project : 48 MW Jaggran-II Hydroelectric Project, AJ&K**

*Major Components are:*

Headrace Tunnel 3.8Km, Adit Tunnel 400m, Vertical Shafts 50m, Inclined Shaft 160m, Surge Shaft 50m, Desender 120m, Weir and Powerhouse

**Position : Tunnel Engineer**

Duration : 25<sup>th</sup> April 2018 to 25<sup>th</sup> April 2025

#### Job Responsibilities:

- ⇒ Supervise and execution tunnel excavation by NATM and Drill & Blast methods.
- ⇒ Planning of tunnel excavation by NATM and Drill & Blast method.
- ⇒ Evaluate geological conditions before and during construction.
- ⇒ Coordinate with design teams to resolve the technical and design issues.
- ⇒ Supervise and manage all onsite construction activities to ensure project progress according to the approved plans and schedule.
- ⇒ Execute and supervise the excavation of Tunnel, Vertical Shafts and Dam.
- ⇒ Manage site logistics including mucking, drilling patterns, blasting cycles, ventilation, and dewatering operations.
- ⇒ Supervise installation of initial supports (shotcrete, lattice girders, steel ribs, rock bolts, wire mesh, and rock anchor/spiles).
- ⇒ Supervise and execute Drilling and Control Blasting.
- ⇒ Manage the Manpower for the execution of tunnel excavation, Tunnel Support, Concrete lining, and mass concreting at weir/desender.
- ⇒ Execute final concrete lining (35cm thick), Concrete at Weir and Desender
- ⇒ Supervise Grouting i.e Contact, Curtain and compaction
- ⇒ Slope stability and landslide treatment.
- ⇒ Ensure compliance with project specifications, method statements and ITP
- ⇒ Coordinate with QC Team to prepare/implement quality Plans and quality issues.
- ⇒ Conduct site inspections to ensure adherence to quality and safety.
- ⇒ Ensuring that work carried out is in accordance with the Project specification.
- ⇒ Participate in technical /progress review meeting with the Consultants and contractor's representatives to resolve the issues regarding construction progress, quality and health and safety issues.
- ⇒ Coordinate with subcontractors & suppliers to ensure smooth execution of work.
- ⇒ Monitor material usage, site resources& ensure cost control measures are followed
- ⇒ Ensure health and safety at the workplace.
- ⇒ Review contractor submittals including ITP, shop drawings, and material approvals for tunneling works.
- ⇒ Identify geotechnical hazards (collapse, water ingress, Rock Fall and landslide).
- ⇒ Prepare daily, weekly, and monthly progress reports, documenting excavation advancement, support installation, and construction activities.

## 3. Employer: China Gezhouba Group of Companies CGGC-PK

(3.8 years)

**Project : 969 MW Neelum Jhelum Hydroelectric Project, AJ&K**

*Major Components are:*

Headrace Tunnel 28Km, Adit Tunnel, Vertical Shafts, Inclined Shaft, Surge Shaft and Powerhouse

**Position :Tunnel Engineer/Geologist**

Duration : 25<sup>th</sup> July 2014 to 30<sup>th</sup> March 2018

#### Job Responsibilities:

- ⇒ Supervise and manage all onsite construction activities to ensure project progress according to the approved plans and schedule.
- ⇒ Execute tunnel Excavation cycle and manage manpower & site resources.
- ⇒ Tunnel construction supervision and inspection.
- ⇒ Evaluate of Rock class by using RMR and Q-system.
- ⇒ Supervision of control Drilling and Control Blasting.
- ⇒ Conducted inspections of civil works including concrete, rebar and formwork.
- ⇒ Prepare and implement Method Statements.
- ⇒ Assist to Maintain QC documents, RFI, WIR, MIR, etc.
- ⇒ Witnessed onsite concrete tests such as slump test, temperature test, etc.
- ⇒ Coordinate with subcontractors for various construction and quality issues.

**PROFESSIONAL COURSES:**

- ✓ Measurements & Drilling Calculation
- ✓ Drilling & Mud logging Techniques
- ✓ Diploma in Information Technology

**LANGUAGES:**

- ✓ English
- ✓ Urdu

- ⇒ Execute and supervise tunnel support (initial and final support) decision, recommendation based on rock mass evaluation and to ensure proper installation of recommended support.
- ⇒ Review and validate design drawings, tunneling sequences, excavation stages, and temporary/permanent support details.
- ⇒ Slope Protection work at dam site.
- ⇒ Supervise tunnel initial Support like shotcrete, rock bolts and wiremesh.
- ⇒ Supervise dam foundation Grouting (Consolidation and Curtain), Contraction joint Grouting and Contact Grouting in tunnel.
- ⇒ Maintain progress record of construction activities on daily basis.

**4. Employer: AGES Consultants Peshawar-PK****(2.5 years)****Projects : Feasibility Study and Engineering Design of:**

- Gahrait Swir Lasht HPP Project (310 MW), Chitral, KPK
- Toren More - Kari Hydropower Project (350 MW), Chitral, KPK
- Jamshil - Turen More Hydropower Project (260 MW), Chitral, KPK
- Tirichan - Attahk Irrigation Water Project, Chitral, KPK
- Kalkot Patrak HPP (47 MW) Upper Dir, KPK
- Patrak Sheringal HPP (22 MW) Upper Dir, KPK
- Shigo Kas HPP (102MW) Lower Dir, KPK

**Position : Junior Geologist/Geotechnical Engineer**Duration : 1<sup>st</sup> Jan 2012 to 30<sup>th</sup> May 2014**Job Responsibilities:**

- ⇒ Managed and execute extensive drilling operations with multiple drilling rigs.
- ⇒ Supervised in-situ field tests, including Water Pressure Tests, Field Permeability Tests, Field Density Tests, Cone Penetration Tests and Standard Penetration Tests.
- ⇒ Boreholes logging (ranging from 10m to 220m deep) and documented excavated test pits, ensuring accurate geological characterization. Data Collection, Management & Reporting.
- ⇒ Collected and managed core samples for laboratory testing, ensuring data integrity and project continuity. Digitized, evaluated, corrected, and finalized all field data, including borehole logs, test pit logs, and field test results.
- ⇒ Surface Geological Mapping and Slope Mapping.
- ⇒ Effectively managed site operations, ensuring adherence to safety protocols, project timelines, and technical specifications.
- ⇒ Identify potential geo-hazards such as landslides, rockfalls, liquefaction, subsidence, sinkholes, instability, and seismic risks during site investigations.
- ⇒ Develop mitigation and stabilization solutions such as soil nailing, rock bolting, shotcrete, retaining walls, drainage systems, and ground improvement methods.

**5. Employer: Ministry of Petroleum & Natural Resources-PK****(1 year)**Duration : 15<sup>th</sup> December 2010 to 14<sup>th</sup> December 2011)

Position : Internee Geologist