

Geological Report on Metamorphic Rocks

A Practical Example for Students

This report presents a practical example of a geological report focusing on metamorphic rocks. It provides descriptions of lithology, metamorphic conditions, structural geology, and mineralogical characteristics. The purpose is to serve as a simplified model for geology students.

Geological Context:

The studied area is considered a hypothetical training site containing a variety of metamorphic rocks formed under different pressure-temperature conditions. The area is chosen for its diversity of lithologies and its suitability for student training.

Lithological Description of Metamorphic Rocks

Rock Type	Color	Texture	Main Minerals
Schist	Gray to greenish	Foliated	Muscovite, Biotite, Quartz
Gneiss	Light and dark bands	Banded, Coarse-grained	Feldspar, Quartz, Biotite
Marble	White to gray	Granoblastic	Calcite, Dolomite
Quartzite	White to light gray	Non-foliated, Hard	Quartz

Types and Conditions of Metamorphism:

- Regional metamorphism produced schists and gneisses under medium to high grade conditions.
- Contact metamorphism resulted in marbles around intrusive bodies.
- Dynamic metamorphism along shear zones produced mylonites and cataclasites.

Geochemical Data (Hypothetical)

Sample	SiO2 %	Al2O3 %	FeO %	MgO %
S1 - Schist	65.2	17.4	6.1	2.3
G1 - Gneiss	72.5	14.2	4.2	1.8
M1 - Marble	2.1	0.8	0.5	0.4
Q1 - Quartzite	97.6	1.1	0.2	0.1

Conclusion:

This practical report provides a simplified example of describing metamorphic rocks, their field relations, petrographic features, and geochemical characteristics. It is designed to train students on how to prepare geological reports in a professional manner.