

**BIOSTRATIGRAPHIC AND MECHANICAL
ANALYSIS OF KOHAT FORMATION KARRAT
HILLS, KARAK, KHYBER PAKHTUNKHWA,
PAKISTAN**



By

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DEDICATION

This dissertation is dedicated to our beloved Parents with whom support and unceasing encouragement this task has been completed.

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It is great satisfaction and we are grateful to **Allah Almighty** who is always with us and gave us the courage to complete this thesis successfully. We are extremely thankful to our **Holy Prophet Muhammad (S. A. W)**, for being a perpetual source of guidance for us in all aspects of life.

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ABSTRACT

The Eocene age Kohat Formation exposed in Karat hills, district Karak was studied to analyze its detailed biostratigraphy and mechanical properties on the basis of fossils assemblages and laboratory work. The studied formation is mainly composed of limestone and laminated shale with thin calcareous fossiliferous beds. The studied formation records a thickness of only 20-40 meters. The Kohat Formation

lies conformably over Kuldana Formation and upper contact is unconformable with the Kamli Formation of the Rawalpindi group that marks unconformity. On the basis of microscopic study of the thin sections different type of fossils and their species were recognized to construct biostratigraphy of the Kohat Formation. The identified fossils includes; *Nummulites subirregularis*, *Nummulites globulus*, *Nummulites ataticus* and *Nummulites mammillatus*, *Assilina exponens* and *Assilina granulosa*, *Alveolina stercus meris* and *Alveolina elliptica* with dispersed distribution of Gastropods and Bioclasts. The identified fossils suggest that the Kohat Formation is a carbonate sequence containing diagnostic larger foraminifera that confirm the Middle Eocene age. The Formation represents shallow shelf deposits because of the presence of larger foraminifera's i.e. Nummulites, Alveolina and Assilina. The mechanical tests carried out suggest that the limestone of the Kohat Formation can be preferably used for light constructions like small bridges, small dams and other small construction projects.

CONTENT

Page

Serial

	DEDICATION	i
	ACKNOWLEDGEMENT	ii
	ABSTRACT	iii
	CHAPTER 1	1
	INTRODUCTION	1
1.1	General Statement	1
1.2	Location and Accessibility	1
1.2.1	Geography of the Area	1
1.3	Tectonic setting of the area	1
1.4	Economic importance of the area	4
1.4.1	Hydrocarbon	4
1.4.2	Salt	4
1.4.3	Gypsum	5
1.5	Historical review	5
1.6	Aims and Objectives	6
1.7	Methodology	6
1.7.1	Field work	6
1.7.2	Laboratory work	6
1.7.3	Data compilation	7
	CHAPTER 2	9
	GENERAL STRATIGRAPHY OF AREA	9
2.1	EOCENE SUCCESSION	9
2.1.1	Bahaderkhel Salt	9
2.1.2	Jatta Gypsum	9
2.1.3	Kuldana Formation	10
2.1.4	Kohat Formation	10
2.2	MIOCENE SUCCESSION	11
2.2.1	Kamlial Formation	11

2.3	PLIOCENE SUCCESSION	11
2.3.1	Nagri Formation	11
	CHAPTER 3	13
	BIOSTRATIGRAPHY	13
3.1	INTRODUCTION	13
3.2	Biostratigraphy and Sediments types	13
3.3	Biostratigraphy of Kohat Limestone	14
3.3.1	Nummulite	14
3.3.1.1	Observed species of Nummulites in Kohat Limestone	15
3.3.1.1.1	<i>Nummulitesatacicus</i> (Leymerie, 1846)	15
3.3.1.1.2	<i>Nummulitesmammillatus</i> (Fichtel and Moll,1798)	16
3.3.1.1.3	<i>Nummulitesglobulus</i> (Leymerie, 1846)	16
3.3.1.1.4	<i>Nummulitessubirregularis</i> (De la Harpe, 1883)	16
3.3.2	Assilina	16
3.3.2.1	Specie of Assilina identified in KohatLimestone	16
3.3.2.1.1	<i>Assilinagranulosa</i> (d' Archiac, 1847)	16
3.3.2.1.2	<i>Assilinaexponens</i> (Sowerby)	17
3.3.3	Alveolina	17
3.3.3.1	Specie of Alveolina identified in KohatLimestone	17
3.3.3.1.1	<i>Alveolinaelliptica</i> (Sowerby, 1840)	17
3.3.3.1.2	<i>Alveolinastercusmeris</i> (Mayer-Eymar, 1886)	17
3.3.4	Gastropods and Bioclasts	17
	CHAPTER 4	27
	MECHANICAL PROPERTIES	27
4.1	INTRODUCTION	27
4.1.1	Scope and importance of present work	28
4.2	Laboratory work	28
4.2.1	Strength tsests	28
4.2.2	Unconfined Compressive Strength Test (UCS)	28
4.2.3	Unconfined Tensile Strength Test (UTS)	29
4.2.4	Shear Strength	30

4.3	Values of Compressive, Tensile and Shear Strength of the Studied Samples	31
4.3.1	Analysis	34
4.4	Specific Gravity	35
4.5	Water Absorption	37
4.5.1	Comparison among Values of UCS, Specific Gravity & Water Absorption	38

TABLES

PAGE	
Table 3.1. Scientific classification of nummulites.	
15	
Table 4.1. Details of the UCS testing of studied sample.	
32	
Table 4.2. Details of the UTS testing of studied samples.	
33	
Table 4.3. Details of the UCS, UTS, Cohesion and Angle of internal friction	33
values of studied samples of Kohat limestone.	
Table 4.4. Material grading based on Unconfined Compressive Strength.	34
Table 4.5. Dry density and porosity values.	
36	
Table 4.6. Details of specific gravity test on the studied samples.	
36	
Table 4.7. Details of Water Absorption test on the studied samples.	37
Table 4.8. Comparison of UCS, Specific gravity and Water Absorption.	38
CONCLUSIONS	44
REFERENCES	45