STRATIGRAPHY OF THE MIOCENE DEPOSITS OF THE EL QAA PLAIN, WEST-SOUTHERN SINAI - EGYPT

THESIS SUBMITTED TO THE FACULTY OF SCIENCE, AIN SHAMS UNIVERSITY

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BY

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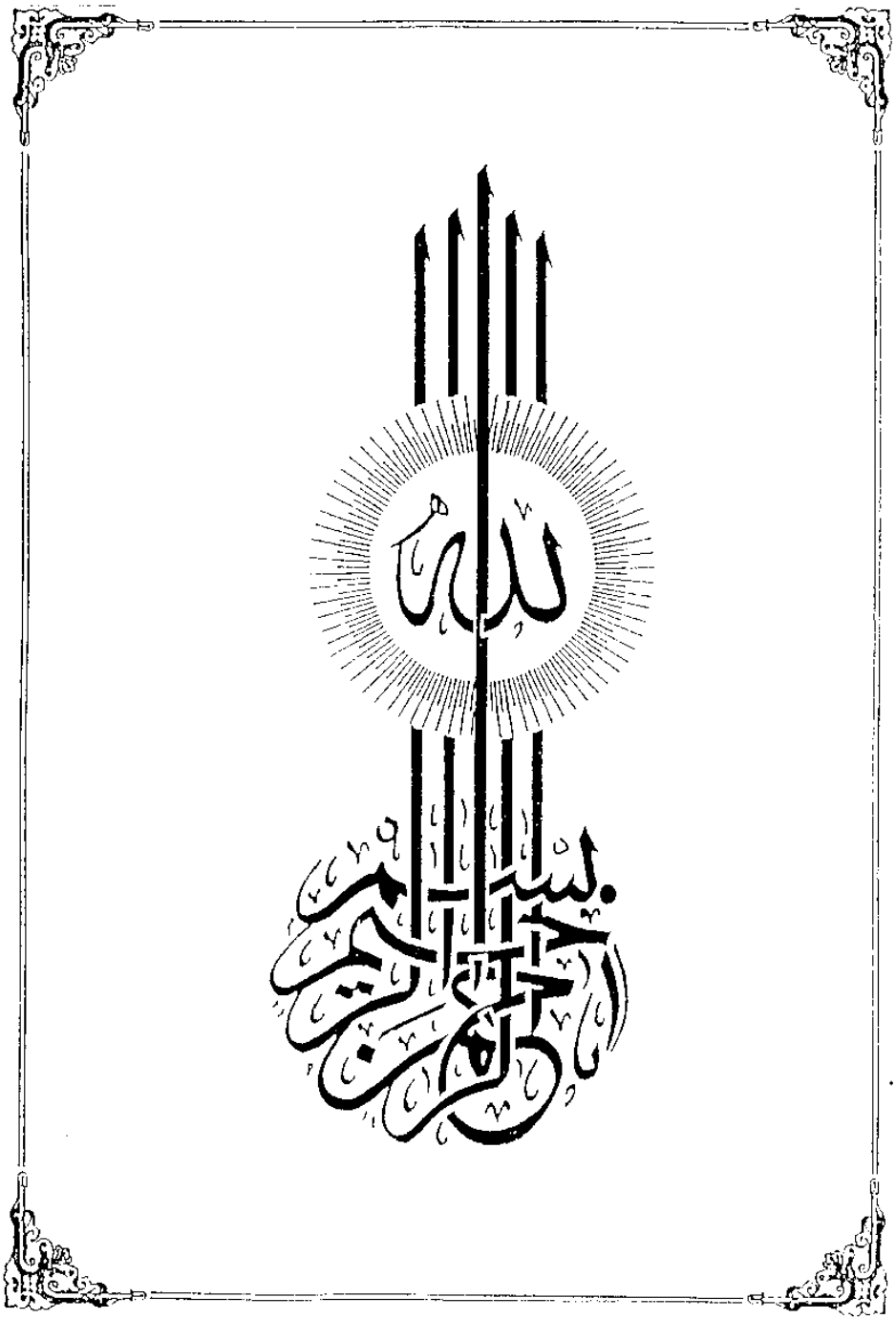

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						GENERAL TROUGH (MARINE FACIES)			RIFT MARGINS (NON MARINE & COASTAL FACIES)		
ERATHERM ERA.	SYSTEM/ PERIOD	SERIES/ EPOCH.		PLANKTONIC FORAMINIFERAL ZONE	STAGE/AGE	GROUP	FORMATION	MEMBER	GROUP	FORMATION	
CAINO-ZOIC	TERTIARY / NEOGENE	MIOCENE	LATE/ UPPER	N 17	MESSINIAN	RAS MALAAB GROUP	ZEIT FORMATION				
					TORTONIAN		SOUTH GHARIB FORMATION				
			MIDDLE	N11 - N16	SERRAVALLIAN		BELAYIM FORMATION	HAMMAM FARAUN MEMBER	ABU ALAQA GROUP	SARBUT EL GAMAL FORMATION	
								FEIRAN MEMBER			
				N 10	LANGHIAN			SIDRI MEMBER			
								BABA MEMBER			
				N 9			ATUM MUSA / KAREEM FORMATION	SHAGAR MEMBER		GEMSA FORMATION	
								MARKHA MEMBER			
			EARLY / LOWER	N 8		GHARANDAL GROUP	ATUM MUSA	MREIR FM.		GHARAMUL FORMATION	
				N 7	BURDIGALIAN		RUDEIS FM.	ASL FM.			
								HAWARA FM.			
				N 6				MHEIHERRAT FM.			
				N 5	AQUITANIAN		NUKHUL FORMATION	KHOSHERA MEMBER	GHARANDAL GROUP	ABU GIRFAN FORMATION	
								NEBWI MEMBER			
								SUDR MEMBER			
								RAS MATARMA MEMBER			

After Viel Et Al, 1977 and Garfunkel & Bartov, 1977.

After E.G.P.C. (1964) and the Stratigraphic Sub-Committee of the National Committee of Geological Sciences, 1974

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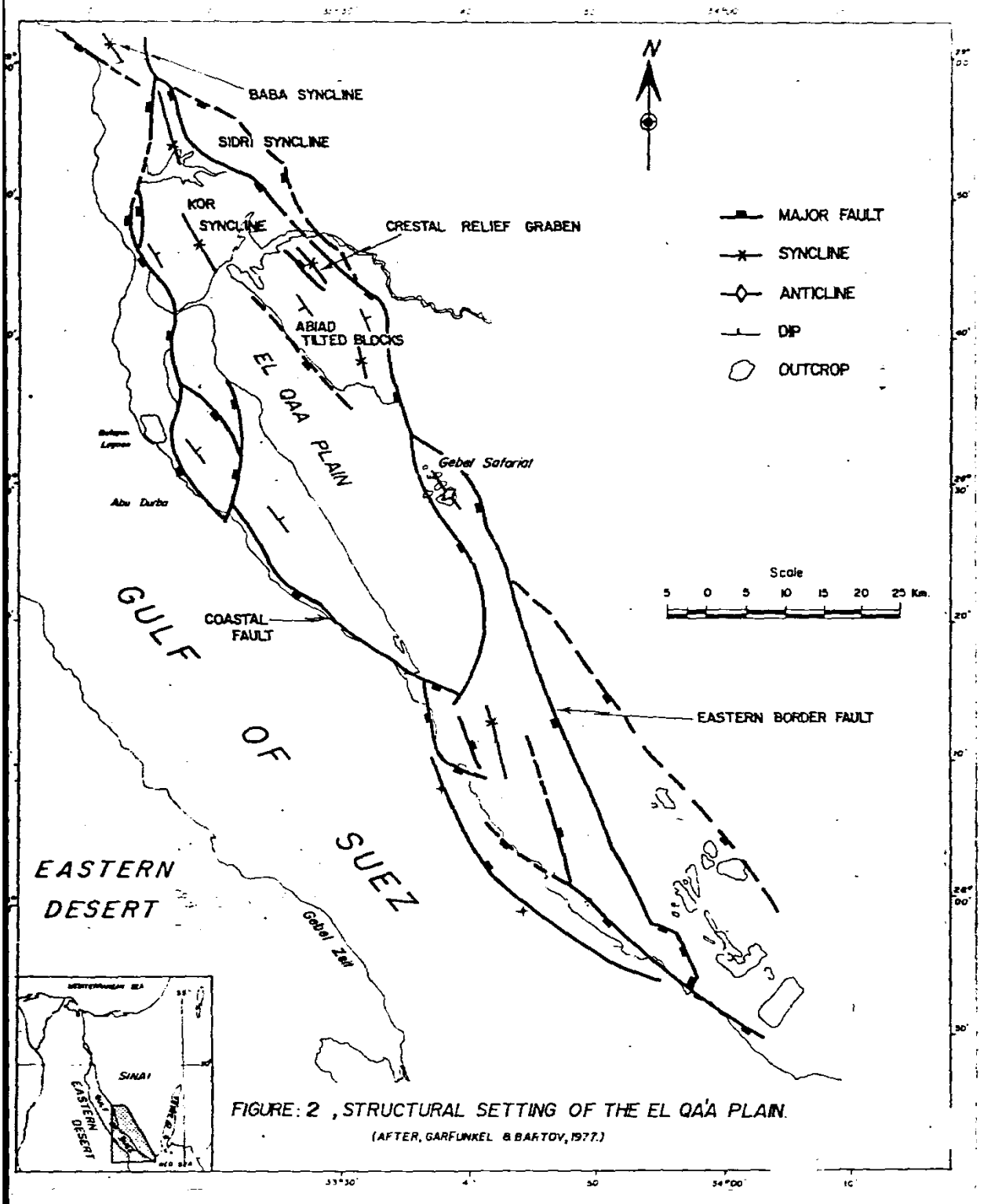

FIGURE: 2 , STRUCTURAL SETTING OF THE EL QA'A PLAIN.

(AFTER, GARFUNKEL & BARTOV, 1977.)

The average thickness of this formation in Southern Sinai is some 40 metres. The top of the formation is placed at the first major sandstone bed beneath the overlying mudstones of the Abu Qada Formation. The age of the Raha Formation is Genomanian (Ghorab, M.A., 1961).

Abu Qada Formation :

This consists mainly of secondary veining gypsiforous mudstones with occasional massive fossiliferous limestone at the base, generally rich in gastropods and Ostrea spp. and contains a rich foraminiferal assemblage with abundant Heterohelix ssp. The top is placed on the incoming of the massive limestones of the Wata formation. The average thickness of this Formation in South Sinai is some 15 metres. The age of the Abu Qada Formation is Late Cenomanian. (Ghorab, M.A. 1961).

Wata Formation :

This Formation is predominately a calcareous succession comprising shallow marine fossiliferous limestones rich in shelly fossils with subordinate mudstones and occasionally manganiferous sandstone. The top of this Formation is not exposed in South Sinai. The average thickness of the Wata Formation is some 75 metres in South Sinai. The age of the Formation is Turonian (Gharab, M.A. 1961).

Matulla Formation :

This Formation overlies the Wata Formation. It is predominately clastic comprising partly calcareous mudstones with several thin phosphate and manganiferous bands. The mudstones are intercalated with sandstone and carbonate beds. Further north the sequence becomes more marine, predominate carbonate. The top of the Formation is placed at the base of prominent persistent banded chert bed of two metres thick., underlying the Brown Limestone Formation. The average thickness of the Matulla Formation in South Sinai is some 185 metres. The age of this Formation is considered to be early senonian (Fahmy, S.E. 1980.appendix-2).

Brown Limestone Formation :

This Formation consists mainly of massive carbonate sequence very rich in fossil content. Towards the base of the carbonate section a very argillaceous carbonate sequence rich in Gryphaea spp. and other Ostrea spp. occurs. The top of the Formation is placed on the contact of diagenetic cherts and bedded limestone of the overlying Sudr Chalk and the massive carbonate of the Brown Limestone Formation. The average thickness of this Formation in South Sinai is some 22 metres. The formation is of late senonian age (Campanian), (E.G.P.C., 1964).

sandy mudstones and sandstones overlying the late Eocene sediments.) Garfunkel and Bartov. (1977)stated that the basal boulder conglomerate contains basalt and Eocene nummulitic limestone and chert pebbles. This Formation is considered to be of late Eocene to earliest Miocene age (possibly Oligocene). (Garfunkel and Bartov. 1977).

STRATIGRAPH

The first part of this work stratigraphy in the Suez Rift Ba studies on the Miocene successi

The second part is concer Wadi Sidri, Gebel Abu Alaqa, W and Gebel Hammam Sayidna Mus

The Field work began in th The Topographic maps publishe scale 1:100,000., the countary r the geological map of sourth-we 1977 were used to locate measur identification of stratigraphic un

The stratigraphic sections measure and Brunton compass. description of the out-crop chara rock unit at every measured sec The description of the measured 15. Some surface sections prev given in figures 17 and 18. Thes stratigraphic interpretations. A drawn by the author.

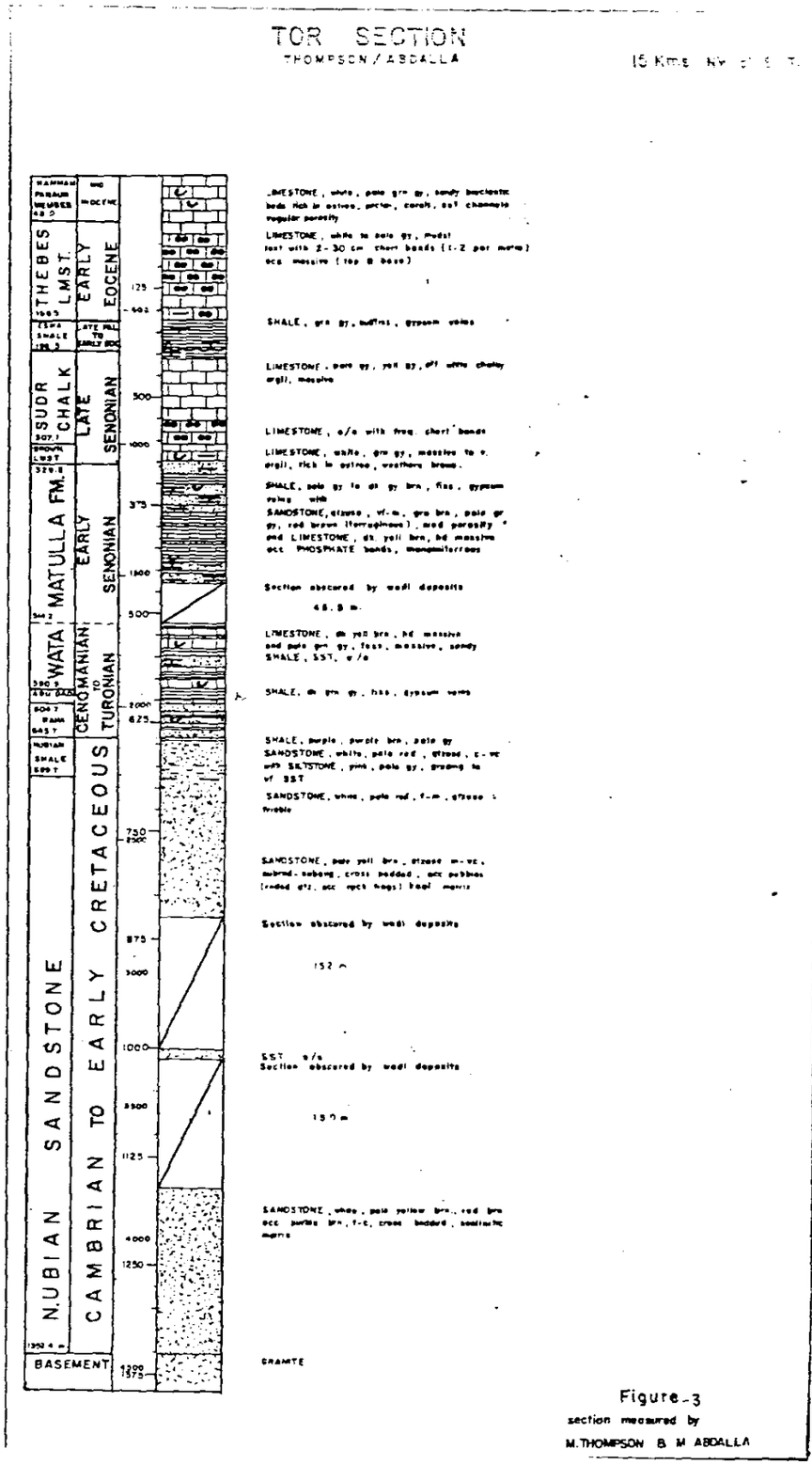

Figure-3
section measured by
M. THOMPSON & M ABDALLA