PHOTOGEOLOGY OF THE NORTH WESTERN DESERT, EGYPT

BY

NAGWA MOHAMMED IBRAHIM ZAKI

A Thesis Submitted in Partial Fulfilment of the Requirements of the Degree of Master of Science in Geology

DEPARTMENT OF GEOLOGY
FACULTY OF SCIENCE
AIN SHAMS UNIVERSITY
ABBASSIA, CAIRO,
EGYPT

1984

AIN SHAMS UNIVERSITY

FACULTY OF SCIENCE DEPARTMENT OF GEOLOGY

The M.Sc. Thesis submitted by Mrs. Nagwa Mohamed Ibrahim Zaki a candidate for the degree of Master of Science in Geology, and entitled "Photogeology of the North Western Desert, Egypt" was supervised and approved for submittal by :

Dr. Hassan A. El-Etr, Professor of Photo-Geology,
Department of Geology, Ain Shams University.

Endorsement :

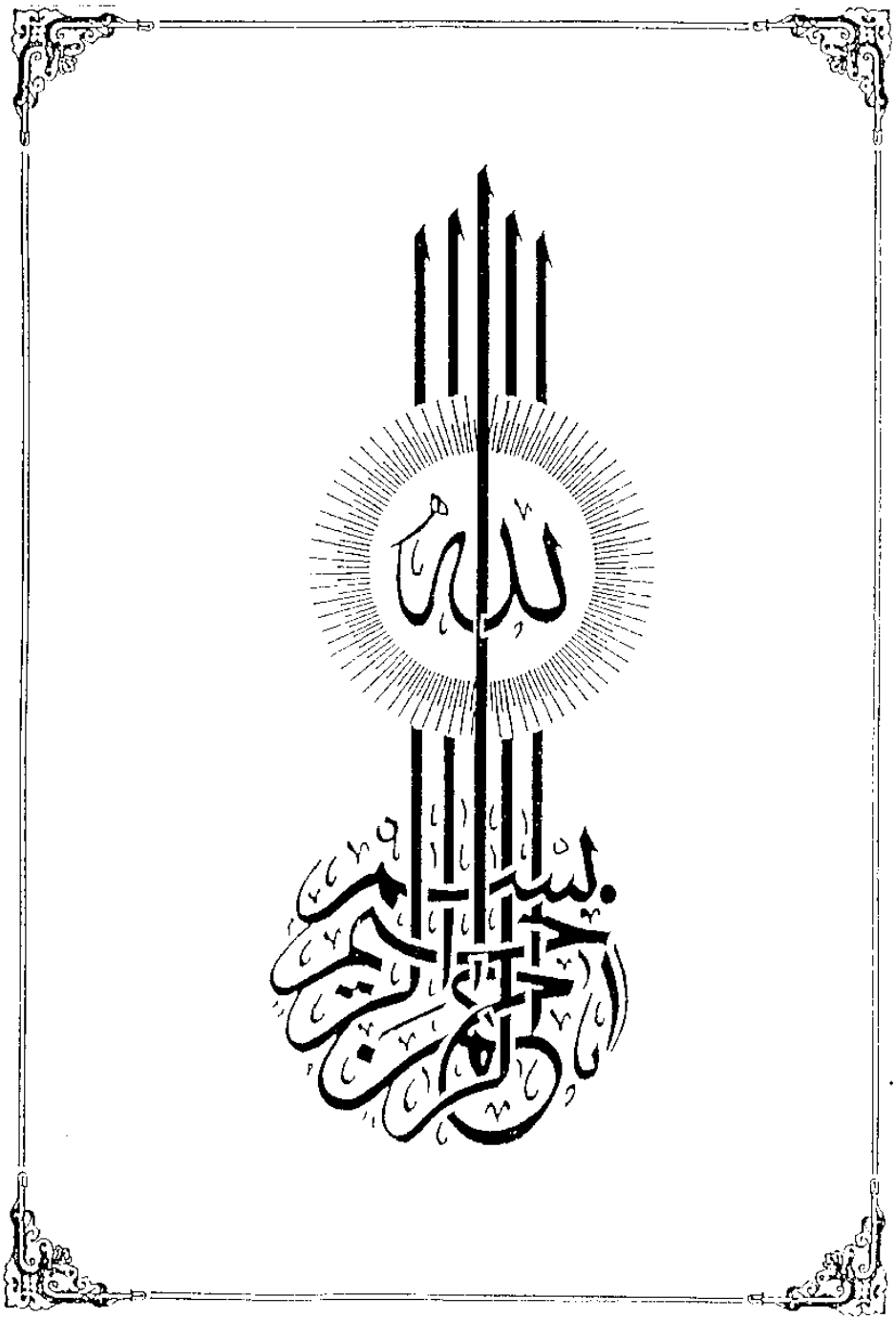
H. El-Etr

Noted :

Prof. Dr. Mohamed Ezzeldin Hilmy

Head of the Geology Department

Date : 1/ 9 /1984



NOTE

The present thesis is submitted to Ain Shams University in partial fulfilment of the requirements of the degree of Master of Science in Geology.

Beside the research work materialized in this thesis, the candidate has attended nine graduate courses for one academic year in the following topics :

1- Surveying
2- Photogeology
3- Sampling
4- Biostratigraphy
5- Sedimentation
6- Lithostratigraphy
7- Geomorphology
8- Structural geology
9- Geotectonics.

She has successfully passed the final examinations of these courses. Also and in fulfilment of the language requirement of the degree, she has passed the final examination of a course in the German language.

Prof. Dr. Mohamed Ezzeldin Hilmy

Head of the Geology Department

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ABSTRACT

Photogeologic and limited field study of the extreme northern part of the Western Desert (49,390 square kilometers) indicate the presence of a northwest preferred orientation of air photo lineations in the area south of Salum and the northern part of the Qattara Depression. Less predominant trends are NE, NNE, WNW, N, NNW, and ENE in the area south of Salum and NNW and WNW in the northern Qattara area. Landsat structural lineaments are also oriented likewise.

Analysis of field-measured joints indicates that they are mostly oriented NNW and less predominantly WNW and ENE. They control the location and orientation of the coastal zone protrusions (headlands).

Drainage lines of the coastal area are mainly controlled by gravity and to some extent by local structural features.

Quantitative analysis of drainage basins includes stream order classification, drainage density, stream

frequency and texture ratios, reveals that the studied basins are similar and characterized by low drainage densities and coarse texture.

Landform patterns of the area show a change from a plateau surface in the south to a coastal plain in the north with intervening scarp and a piedmont plain.

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ACKNOWLEDGEMENTS

The present research work was carried out under the supervision of Dr. Hassan A. El-Etr, Professor of Photogeology at Ain Shams University, to whom I am deeply indebted for his guidance, supervision, helpful suggestions, and final review of the thesis.

Grateful acknowledgement is expressed to Dr. Mourad I. Youssif, Professor of Geology at Ain Shams University, for guidance and interest.

Grateful acknowledgement is expressed to Dr. Mohamed A. Yehia, Assistant Professor of Geology at Ain Shams University for his help in supervision of this work and the writing of the thesis.

I am indebted to Dr. Mahmoud S. Youssif, Assistant Prof. of Geology and Mr. Hammed M. Dowidar, Assistant Lecturer of Geology (both at Ain Shams University) for their kind assistance in the field.

Special thanks and deep gratitude are extended to Dr. Adel R. Moustafa, Lecturer of Structural Geology at Ain Shams University, for his sincere help in reviewing the text.