سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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بالرسالة صفحات لم ترد بالأصل

ZAGAZIG UNIVERSITY
FACULTY OF SCIENCE, BANHA
GEOLOGY DEPARTMENT

INTERPLY OF PLUTONISM, FAULTING AND MINERALIZATION, NORTHEN GABAL QATTAR PERIPHERAL ZONE, NORTH EASTERN DESERT, EGYPT.

By

MOHAMED ALI MOHAMED ZAKY ABDEL-HAMEED EL ZALAKY

B.Sc. IN GEOLOGY
NUCLEAR MATERIALS AUTHORITY.

SUBMITTED FOR DEGREE OF MASTER OF SCIENCE
(GEOLOGY)

FACULTY OF SCIENCE
ZAGAZIG UNIVERSITY
BANHA BRANCH
EGYPT

2002

بسم الله الرحمن الرحيم

سبحانك لا علم لنا إلا

ما علمتنا إنك أنت

العليم الحكيم

صدق الله العظيم

Note

The present thesis is submitted to Geology Department, Faculty of Science, Banha Branch, Zagazig University in partial fulfillment of the requirements for the degree of Master of Science in Geology. Beside the research work materialized in this thesis, the candidate *Mohamed Ali Mohamed Zaky Abdel-Hameed* has attended six post-graduate courses for one year in the following topics:

1- Sedimentary petrology and Sedimentation.

2- Stratigraphy.

3- Structure Geology.

4- Igneous petrology.

5- Metamorphic petrology.

6- Ore mineralogy.

He has successfully passed the final exam in the above mentioned courses, besides an English language course.

Professor Dr. Mohamed Sharaf El Din

M. Sharaf

Head of Geology Department
Faculty of Science
Zagazig University, Banha Branch

APPROVAL SHEET

TITLE OF THE M.S.c THESIS

INTERPLY OF PLUTONISM, FAULTING AND MINERALIZATION, NORTHEN GABAL QATTAR PERIPHERAL ZONE, NORTH EASTERN DESERT, EGYPT.

Name of the Candidate

Mohamed Ali Mohamed Zaky Abdel-Hameed

Submitted to the

Faculty of Science, Banha Branch

Zagazig Universiry

Supervision Committee

Prof. Dr. Abdel Aty Badr Salman
Professor of Geology0
Egyptian Nuclear Material Authority

A. B. Salman

Dr. Darwish Mohamed El-Kholy
Assistant Professor of Geology
Egyptian Nuclear Material Authority

Darwish

Dr. Zakaria Hamimi
Assistant Professor of Geology
Faculty of Science
Zagazig University, Benha Branch

Zakaria Hamimi

Professor Dr. Mohamed Sharaf El Din
Head of Geology Department
Faculty of Science
Zagazig University, Benha Branch

M. Sharaf

ACKNOWLEDGMENT

I am extremely grateful to my Allah

I am deeply grateful to ***Prof, Dr. A. B. Salman,*** *Ex Chairman of Nuclear Materials Authority, for his supervision, fruitful discussions and giving the facilities required for the completion of this work.*

I wish to express my gratitude to ***Asst. Prof. D. M. M. El Kholy*** *the head of Subsurface Geological Department, Nuclear Materials Authority, for supervising this work and for his kind advice and valuable guidance.*

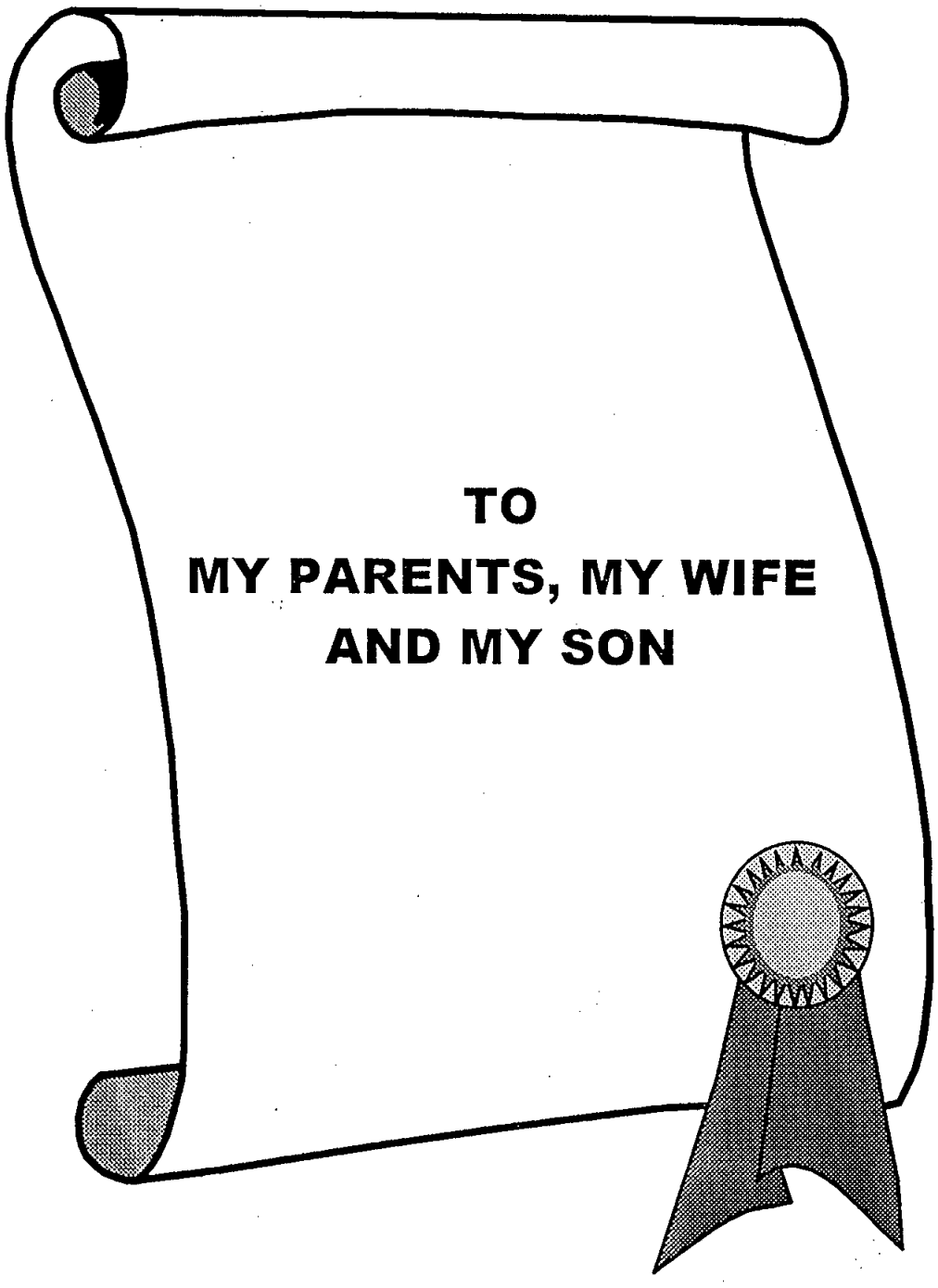
No word can express my gratitude and appreciation to ***Asst. Prof. Z. Hamimi,*** *Geology Department, Faculty of Science, Zagazig University, who assisted in the supervision of this work and sincere help, faithful guidance and advice.*

The author wishes to express his deep appreciation to ***Prof. Dr. Mohamed Sharaf El Din,*** *Head of the Geology Department, Faculty of Science, Zagazig University for cooperation.*

I would like to thank ***Prof. Dr. Hamdy Seef El Nasr,*** *President of the Nuclear Materials Authority, for encouragement and facilities during this work*

Grateful thanks are extended to ***all colleagues both in the field and the labs of Nuclear Material Authority,*** *for their cooperation, valuable and useful discussions and encouragement.*

Special deep thanks are due to ***Mr. A. A. Abo-Setat,*** *Nuclear Material Authority for his continuos guidance during all the phases of this research work.*


TO
MY PARENTS, MY WIFE
AND MY SON

ABSTRACT

The area of study lies at the northern Gabal Qattar peripheral zone in the Northern Eastern Desert of Egypt, bounded by latitudes 27° 02` and 27° 08` N, and longitudes 33° 14` and 33° 20` E. It is covered by the following rock units, arranged in a chronological order starting with the oldest: Hammamat sedimentary rocks, acidic and intermediate dykes, younger granites (Qattar granites) and basic dykes. The present thesis highlighted the relation between the plutonism, faulting and uranium mineralization in this particular area.

Field relations and observations revealed that the emplacement of the Qattar granitic pluton has led to the formation of weak zones, fractures and faults around the peripheral parts of the pluton. These fractures and faults play a signifcant role in ascending the post-emplacement hydrothermal solutions that carrying uranium mineralization.

Structural fabric elements in the area of study are represented by primary and secondary structural features. Structural field works were carried out including measuring of the attitudes of joints, fractures and faults in the different rock types in the area, besides bedding, cleavages, and folds in the Hammamat sedimentary rocks. These structural elements were statistically treated to delineate the predominant trends affected the investigated area.

The deformational history of the study area involves two phases of ductile deformations. The first phase is developed pre-dating the intrusion of the Qattar granites, while the second phase is related to, and formed due to the effect of, the emplacement of the Qattar pluton itself. Folds and other structural features referred to the second phase of ductile deformation are restricted to the exposures of the Hammamat sedimentary rocks encountered close to the contact with granites.

The gamma activity measurements of the area of study led to the discovery of four important uranium occurrences, namely: GI, GII, GV and GVI. These occurrences are located nearby and along the contact zone between the huge mass of Qattar granite and Hammamat sedimentary rocks.

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