

AIN SHAMS UNIVERSITY
FACULTY OF SCIENCE
GEOPHYSICAL DEPARTMENT

**AIRBORNE GAMMA-RAY SPECTROMETRIC STUDY
OVER GABAL MEATIQ, CENTRAL EASTERN DESERT OF
EGYPT, CORROBORATED BY AEROMAGNETIC
EVALUATION**

BY

ATEF ALY MAHMOUD ISMAIL

Geophysicist, Nuclear Materials Authority
B. Sc. 1988

A THESIS

Submitted in partial fulfillment of the
degree of Master of Science

In
(Applied Geophysics)

SUPERVISORS

Prof. Dr.

AHMED M. SABRIE

Prof. of Geophysics, and head of
The Geophysics Department
Faculty of science
Ain Shams University

Prof. Dr.

MAGDY L. MELEIK

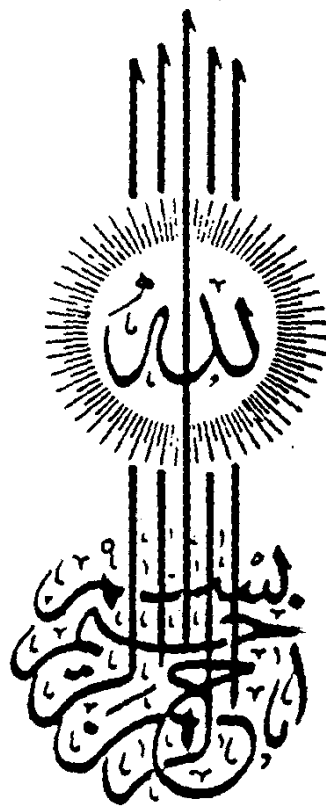
Prof. of Applied Geophysics,
and vice head of the
Exploration Division,
Nuclear Materials Authority

Dr.

EL SAYED M. EL KATTAN

Assistant Prof. of Applied
Geophysics, Exploration Division,
Nuclear Materials Authority

(1995)



قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ .
سَدَقَ اللَّهُ - التَّكْوِيمُ
البقرة - ٢٢٢



ACKNOWLEDGEMENTS

The author wishes to express his thanks and gratitude to Dr. Ahmed M. Sabrie, Professor of geophysics, and head of the Geophysics Dept., Faculty of science, Ain Shams University, Cairo, Egypt, for his supervision of this study.

The author is especially grateful to Dr. M. L. Meleik, Professor of applied geophysics, and vice head of the Exploration Division, Nuclear Materials Authority, Cairo, Egypt, for his continuous help, fruitful discussion and criticism as well as for his guidance and supervision of this study.

The author is especially grateful also to Dr. El Sayed M. El Kattan, Assistant Professor of applied geophysics, Exploration Division, Nuclear Materials Authority, Cairo, Egypt, for his sincere guidance, continuous help and supervision of this study

The author would like to express his appreciation to Prof. Dr. Ahmed A. Ammar, head of the Exploration Division, Nuclear Materials Authority, Cairo, Egypt.

The author would like also to express his appreciation to Prof. Dr. Nabil M. T. El Hazeq, president of the Nuclear Materials Authority, Cairo, Egypt.

The author is also greatly indebted to all members of the Geophysical & Geological Mapping Center and Exploration Division, Nuclear Materials Authority, Cairo, Egypt.

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CHAPTER I

INTRODUCTION AND PREVIOUS WORK

I.1 INTRODUCTION

Gabal Meatiq area is located in the Central Eastern Desert of Egypt ,northwest Qift-Al Quseir road. The area approximates 500 Km square and is located between lat. 26° and $26^{\circ} 10'N$ and Long. $33^{\circ} 40'$ and $33^{\circ} 55' E$ (Fig. 1).

Topographically, the area is of high relief, where the highest elevation is represented by Gabal Meatiq (1112 m) to the west. Other many land marks exist in the area; the most important of which are Gabal Baanib (1033 m), Gabal Um Aradah (913 m) and Gabal Al-Murr (780 m).The area is dissected by various Wadis as: Abu Ziran and Um Saghir in the lower right corner of the study area, Um Aysh Al-Hamrah in the lower left corner , As-Sadamayn , Al-Faydiyah , Um Raykah and Abu Zahlija in the north of the study area and Um Uruq to the east.

An airborne geophysical survey for the study area was carried out by Aero Service Division, Western Geophysical Company of America in 1984. It involved an aeroradiometric survey as well as aeromagnetic survey. Both surveys were conducted along nearly parallel flight lines that were oriented in a NE-SW direction at an approximately 1.5 Km space interval , while the tie lines were flown in a NW-SE direction at 10 Km interval. A Varian V-85 proton precession magnetometer, mounted in a tail-stinger configuration, and a high-sensitivity 256-channel airborne gamma-ray spectrometric were the primary sensor elements in the Aero Service CODAS/AGRS 3000 F computer-based digital data acquisition system (Aero Service Report, 1984). Measurements were taken at nominal terrain clearance of 120 m.

The purpose of this study is to delineate the regional geology, structural framework and to define the radiometric anomalous zones of the study area using the aeromagnetic and aeroradiometric data as the main sources of information. In order to attain this goal, the following steps were carried out in the area under study: