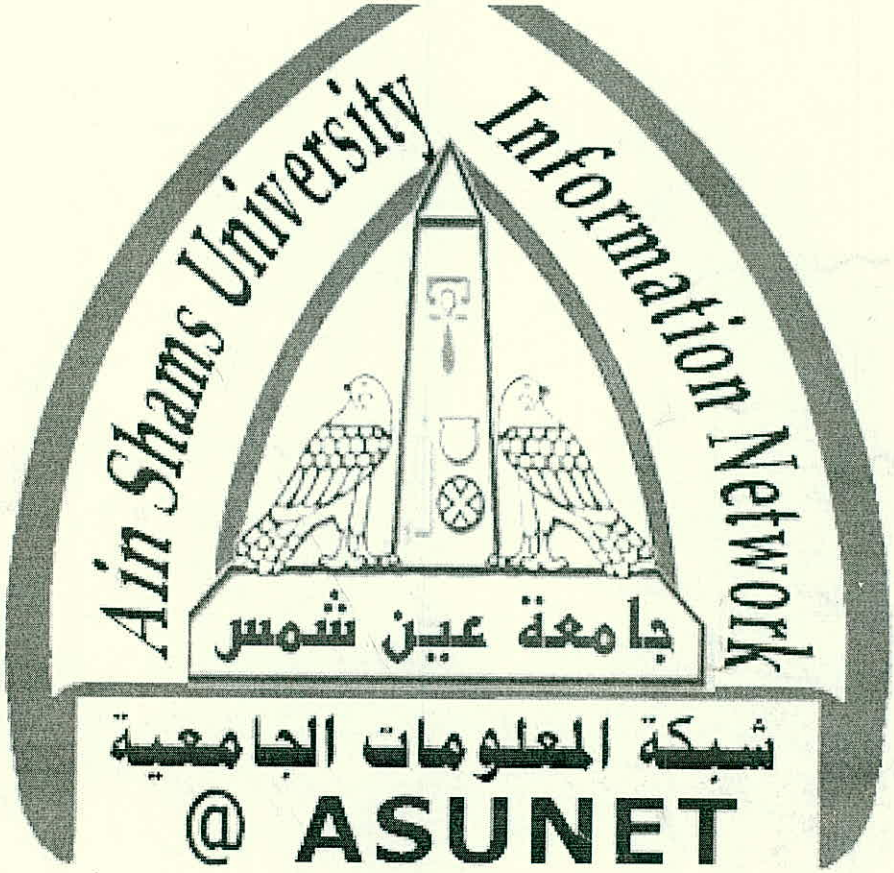
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قسم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

PETROGRAPHY, GEOCHEMISTRY AND PHYSICAL PROPERTIES OF CARBONATE ROCKS FROM ABU-ROASH AREA, NEAR CAIRO.

BY

ESMAT AHMED ABOU EL-ANWAR MOHAMED
B.Sc.-M.Sc.

A Thesis submitted
To

Department of Geology
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For

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APPROVAL SHEET

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Esmat Ahmed Abou El-Anwar Mohamed

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Ain Shams University

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ABSTRACT

The present work deals with the petrography, geochemistry and physical properties of the Upper Cretaceous carbonate rocks exposed at Abu-Roash area in the vicinity of Greater Cairo, Egypt.

The rocks consist mainly of mudstone, wackestone, packstone and grainstone facies. The rocks are subjected to extensive diagenetic processes, the most important of which are, micritization, cementation, neomorphism, compaction, internal filling, dissolution and dolomitization.

The most striking features of the majority of rock samples are the high calcia content, low magnesia content and low content of AIR. X-ray diffraction revealed that the carbonate fraction consists of low magnesian calcite, while the non-carbonate fraction consists of quartz, kaolinite and montmorillonite. A notable difference in the chemical composition of the Senonian and Turonian carbonates was observed in Sr and Na content, which can be attributed to the diagenetic processes including neomorphism and dolomitization.

The rock is slightly porous to semi porous and weak to moderately strong. The rock is very brittle to brittle with low modulus ratio. The highest ultimate strength was recorded in dolostone facies with effective porosity of 5.37 per cent, while the lowest ultimate strength was recorded in mudstone facies with effective porosity of 20.63 per cent.

The P-wave velocity varying from 1.54 to 2.19 km/sec with an average of 1.93 km/sec. The highest P-wave value was recorded in dolostone facies with effective porosity of 5.37 per cent, while the lowest P-wave velocity was recorded in mudstone facies with effective porosity of 20.63 per cent.

The resistivity of the carbonate rock samples was strongly affected by water content. The sharp drop in resistivity values of the saturated samples is mainly attributed to ionic exchange. The highest resistivity value was recorded in wackestone facies with effective porosity of 2.49 per cent, while the lowest resistivity value was recorded in mudstone facies with effective porosity of 17.79 per cent.

The relations between the ultimate strength, P-wave velocity and resistivity via effective porosity, bulk density and carbonate content were discussed.

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