

STUDY OF THE OIL POTENTIALITIES OF DARAG BASIN, GULF OF SUEZ,
EGYPT, BASED ON SUBSURFACE GEOLOGIC STUDIES

BY

OSAMA AMIN EL-SHAARAWY
B.Sc. (GEOLOGY)
DIPLOMA (PETROLEUM GEOLOGY)

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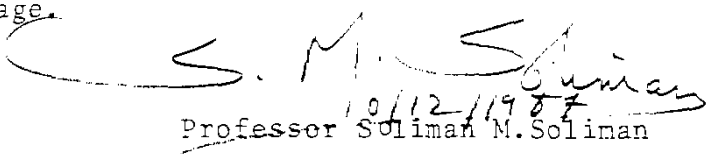


NOTE

This thesis is submitted to the Faculty of Science, Ain Shams University, for the partial fulfillment of the requirements of the degree of Master of Science in Geology. Besides the research work materialized in this thesis, the candidate has attended ten post-graduate courses in the following topics:-

- 1- Mapping.
- 2- Laboratory Techniques.
- 3- Structural Geology.
- 4- Geotectonics.
- 5- Petrophysics.
- 6- Reservoir Evaluation.
- 7- Elastic Wave Theory.
- 8- Seismic Prospecting.
- 9- Gravity Prospecting.
- 10- Magnetic Prospecting.

He successfully passed the final examination in these courses held in February, 1984. He also passed an examination in the English Language.


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Professor Soliman M. Soliman
Chairman, Department of Geology.

CONTENTS

	<u>Page</u>
LIST OF FIGURES	
LIST OF TABLES	
LIST OF PLATES	
LIST OF ABBREVIATIONS	
ABSTRACT	
CHAPTER	
I. INTRODUCTION	1
1- Location	
2- Objectives	
3- Types of the Used Data	
4- Previous Work	
II. GEOLOGY OF THE GULF OF SUEZ REGION	8
1- Geologic Setting	
2- Stratigraphy of the Gulf of Suez Region	
A- Pre-Miocene Rocks	
B- Miocene Rocks	
C- Post-Miocene Rocks	
3- Structural Setting of the Gulf of Suez Region	
4- Geologic History of the Gulf of Suez Region	
III. STRATIGRAPHY OF THE STUDY AREA	38
1- Stratigraphic Setting	
A- The Northernmost Province	
B- The Central Province	
C- The Westernmost Province	
D- The Southern Province	
2- Summary	
IV. SEISMIC STRUCTURAL ANALYSIS	60
1- Introduction	
2- Structural Characteristics	
A- The Darag Basin	
B- The October Basin	
3- Effects of the Structures on the Thickness and Facies of the Miocene and Post-Miocene Rocks.	
A- The Lower Miocene Rocks	
B- The Post-Kareem Rocks	

Chapter	Page
4- Oligo-Miocene Igneous Rocks	
5- Structural Analysis	
A- Fault Sets	
B- Surface and Subsurface Structures	
6- Structural Model	
7- Summary and Conclusions	
V. SUBSURFACE EVALUATION	102
1- Introduction	
2- Isopach Maps	
A- Upper Cretaceous Rocks	
B- Eocene Rocks	
C- Nukhul Formation	
D- Rudeis Formation	
E- Kareem Formation	
F- Post-Miocene Rocks	
G- Summary	
3- Facies Maps	
A- Shale Percentage Maps	
B- Clastic/Non Clastic Ratio Maps	
C- Sand/Shale Ratio Maps	
4- The Depositional Environments of the Study Area	
A- Upper Cretaceous Rocks	
B- Eocene Rocks	
C- Nukhul Formation	
D- Rudeis Formation	
E- Kareem Formation	
VI. PETROPHYSICAL CHARACTERISTICS	143
1- Introduction	
2- Determination of the Petrophysical Parameters	
A- Shale Content (Vsh)	
B- Rock Porosity (ϕ)	
C- Fluid Resistivities	
D- Rock Resistivities	
E- Water Saturation (Sw)	
3- Petrophysical Isoparametric Maps	
A- Shale Content (Vsh) Maps	
B- Isoperosity (ϕ) Maps	
C- Water Resistivity (Rw)	
D- Water Saturation (Sw)	

Chapter	Page
VII. OIL POTENTIALITIES OF THE STUDY AREA	165
1- Introduction	
2- Stratigraphic Sequence	
A- Source Rocks	
B- Reservoir Rocks	
C- Cap Rocks	
3- Structural Configuration	
VIII. SUMMARY AND CONCLUSIONS	172
REFERENCES	186
VITA	
ARABIC SUMMARY	

LIST OF FIGURES

	<u>Page</u>
Fig.1: Location map of the study area	2
Fig.2: Location map of the used wells	5
Fig.3: Location map of the used seismic lines.....	6
Fig.4: Structural map of the Suez rift.....	9
Fig.5: Generalized stratigraphic section of the Gulf of Suez Region.....	10
Fig.6: Generalized stratigraphic section of the Miocene rocks in the Gulf of Suez Region.....	18
Fig.7: Dip Province and hinge Zones of the Gulf of Suez.....	25
Fig.8: Possible shear zones in the Gulf of Suez area according to gravity interpretation.....	26
Fig.9: Basement structures of the Gulf of Suez Region interpreted from magnetic maps.....	27
Fig.10: Structures of the north eastern desert.....	29
Fig.11: Geologic history of the Darag Basin.....	30
Fig.12: Early Eocene paleogeographic map.....	31
Fig.13: Gravity map of the northern part of the Suez rift.....	32
Fig.14: Regional tectonic map of the northern part of the Suez rift.....	32
Fig.15: Miocene paleogeography of the Suez rift.....	37

	<u>Page</u>
Fig.16: Simplified stratigraphic sections of the wells in the study area.....	39
Fig.17: Location map of the suggested stratigraphic provinces in the study area.....	40
Fig.18: Line drawing of the seismic profile number 1.	63
Fig.19: Line drawing of the seismic profile number 2.	64
Fig.20 Line drawing of the seismic profile number 3.	65
Fig.21: Line drawing of the seismic profile number 7.	66
Fig.22: Line drawing of the seismic profile number 8.	67
Fig.23: Line drawing of the seismic profile number 9.	68
Fig.24: Line drawing of the seismic profile number 11	69
Fig.25: Line drawing of the seismic profile number 13	70
Fig.26: Line drawing of the seismic profile number 14	70
Fig.27: Line drawing of the seismic profile number 16	72
Fig.28: Line drawing of the seismic profile number 19	73
Fig.29: Line drawing of the seismic profile number 21	74
Fig.30: Dip angles and directions measured in some of the boreholes of the study area.....	77
Fig.31: Miocene and post-Miocene stratigraphic summary of the drilled wells.....	87
Fig.32: Oligo-Miocene dolerite sills drilled in the study area and basalt-dolerite surface occurrences.....	90

	<u>Page</u>
Fig.33: Three-dimensional representation of the structures of the top Eocene rocks	91
Fig.34: Three-dimensional representation of the structures of the top Kareem Formation.....	92
Fig.35: Major surface and subsurface structures affecting the top Eocene rocks.....	95
Fig.36: Isopach map of the Upper Cretaceous rocks..	107
Fig.37: Isopach map of the Eocene rocks	109
Fig.38: Isopach map of the Nukhul Formation.....	111
Fig.39: Isopach map of the Rudeis Formation.....	113
Fig.40: Isopach map of the Kareem Formation.....	114
Fig.41: Isopach map of the post-Miocene rocks.....	116
Fig.42: Shale percentage map of the Upper Cretaceous rocks.....	122
Fig.43: Shale percentage map of the Nukhul Formation	123
Fig.44: Shale percentage map of the Rudeis Formation	124
Fig.45: Shale percentage map of the Kareem Formation	125
Fig.46: Clastic/Non Clastic ratio map of the Upper Cretaceous rocks.....	129
Fig.47: Clastic/Non Clastic ratio map of the Rudeis Formation.....	130
Fig.48: Clastic/Non Clastic ratio map of the Kareem Formation.....	131
Fig.49: Sand/Shale ratio map of the Upper Cretaceous rocks.....	135

	<u>Page</u>
Fig.50: Sand/Shale ratio map of the Rudeis Formation	136
Fig.51: Sand/Shale ratio map of the Kareem Formation	137
Fig.52: Shale content (Vsh) map of the Kareem Formation	155
Fig.53: Shale content (Vsh) map of the Upper Cretaceous rocks	157
Fig.54: Shale content (Vsh) map of the Nubia Sandstone "A"	158
Fig.55: Isoporosity map of the Kareem Formation	159
Fig.56: Isoporosity map of the Upper Cretaceous rocks	161
Fig.57: Isoporosity map of the Nubia Sandstone "A"..	162

LIST OF TABLES

	<u>Page</u>
Table 1: Data of the used wells.....	4
Table 2: Seismic data obtained from the available V.S.P. logs of 9 wells in the study area	61
Table 3: Thicknesses of the different rock units encountered in the different wells of the study area.....	106
Table 4: Shale percentages of the different rock units.....	121
Table 5: Clastic/non clastic ratios of the different rock units.....	128
Table 6: Sand/shale ratios of the different rock units.....	134
Table 7: Average petrophysical parameters for the studied rock units of the study area....	153

LIST OF PLATES

- Plate 1: Top Eocene seismic structural map
- Plate 2: Top Kareem Formation seismic structural
map
- Plate 3: Miocene clastics isochron map (base
Nukhul Formation to top Kareem Formation)
- Plate 4: Post-Kareem rocks isochron map (top
Kareem Formation to sea floor)
- Plate 5: Geoseismic section across the study area

LIST OF ABBREVIATIONS

<u>Symbol</u>	<u>Meaning</u>
BHC	Borehole Compensated log
BHT	Bottom hole temperature
CL	Caliper log
CNL	Compensated Neutron log
di	Depth of invasion
F	Formation resistivity factor
FT	Formation temperature
GR	Gama Ray log
GR clean	GR log reading in front of clean SS bed
GR sh	GR log reading in front of shale bed
h	Bed thickness
hd	Hole diameter
hmc	Mud cake thickness
J	Pseudogeometrical factor
LDL	Litho-Density log
LLd	Latero-log deep
LLs	Latero-Log shallow
MLL	Microlaterolog
MSFL	Microspherically Focused log
PSP	Pseudo spontaneous potential
Rm	Resistivity of the drilling mud
Rmc	Resistivity of the mud cake
Rmf	Resistivity of the mud filtrate
Rt	True rock resistivity
Rxo	Flushed (invaded) zone resistivity

<u>Symbol</u>	<u>Meaning</u>
Rw	Formation water resistivity
SP	Spontaneous Potential log
SSP	Static spontaneous log
ST	Surface temperature
Sw	Water saturation
TD	Total depth
V mat	Velocity of waves in the included matrix
V sh	Volume of shale (shale content)
VSP	Vertical Seismic Profile
ρ_b	Bulk density in grams per cubic centimeter
ρ_{bsh}	Density reading of a thick shale bed
ρ_f	Fluid density (1.1gm/cc for salt water mud)
ρ_{bmat}	Matrix bulk density (2.65gm/cc for S.S)
ϕ_C	Total corrected porosity
ϕ_D	Porosity derived from the Density log
ϕ_N	Porosity derived from the Neutron log
ϕ_{Nsh}	Porosity reading in front of shale bed
ϕ_S	Porosity derived from the sonic log
ϕ_T	Total porosity
ΔT	Sonic transit time (micro second per ft.)
ΔT_f	Sonic transit time for the mud fluid (185 μ sc/ft for salt water mud)
ΔT_{sh}	Sonic transit time of a thick shale bed.
ΔT_{mat}	Sonic transit time of the matrix (55.5 μ sc/ft for S.S)