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

BY

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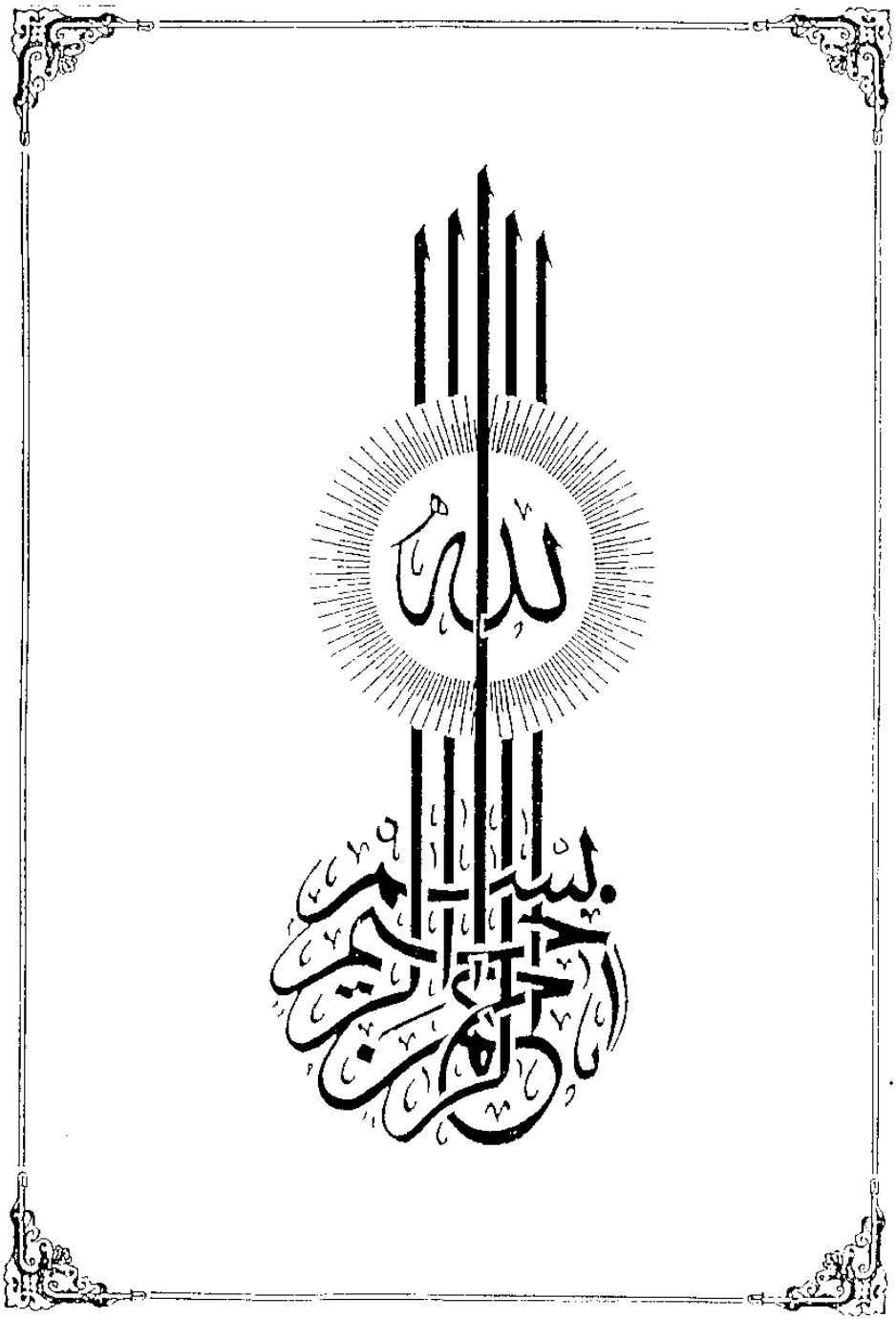

NOTE

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.

10/12/1987

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LIST OF ABBREVIATIONS

Symbol	Meaning
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 filterate
Rt	True rock resistivity
Rxo	Flushed (invaded) zone resistivity

Symbol	Meaning
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)
ØC	Total corrected porosity
ØD	Porosity derived from the Density log
ØN	Porosity derived from the Neutron log
Ø N sh	Porosity reading in front of shale bed
ØS	Porosity derived from the sonic log
ØT	Total porosity
ΔT	Sonic transit time (micro second per ft.)
ΔT f	Sonic transit time for the mud fluid (185 μsc/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 μsc/ft for S.S)