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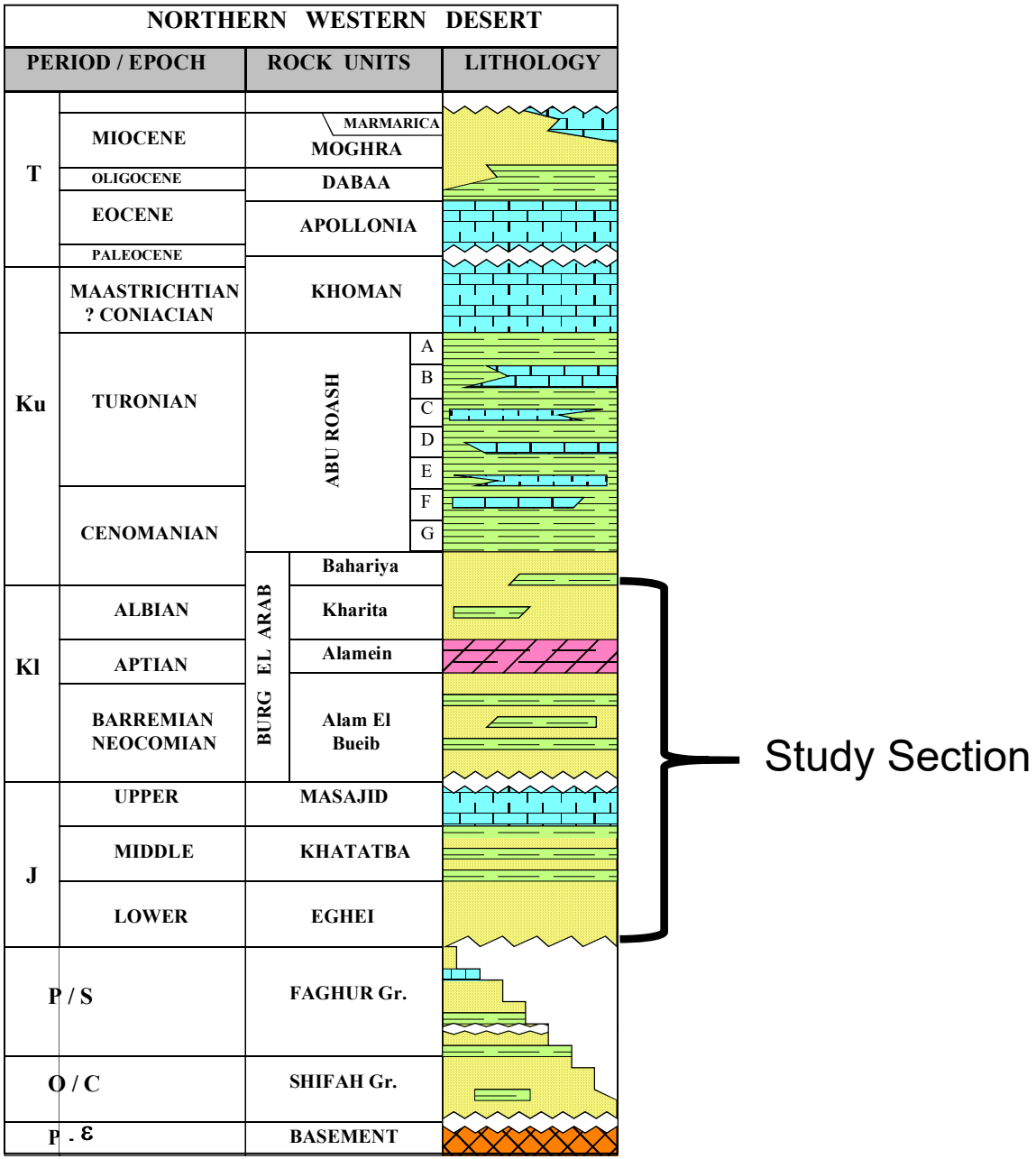
A Geochemical Evaluation Study of the

CRETACEOUS AND JURASSIC SEDIMENTS

North Western Desert, Egypt

A Study Carried out by
SCS
STRATOCHEM SERVICES

2022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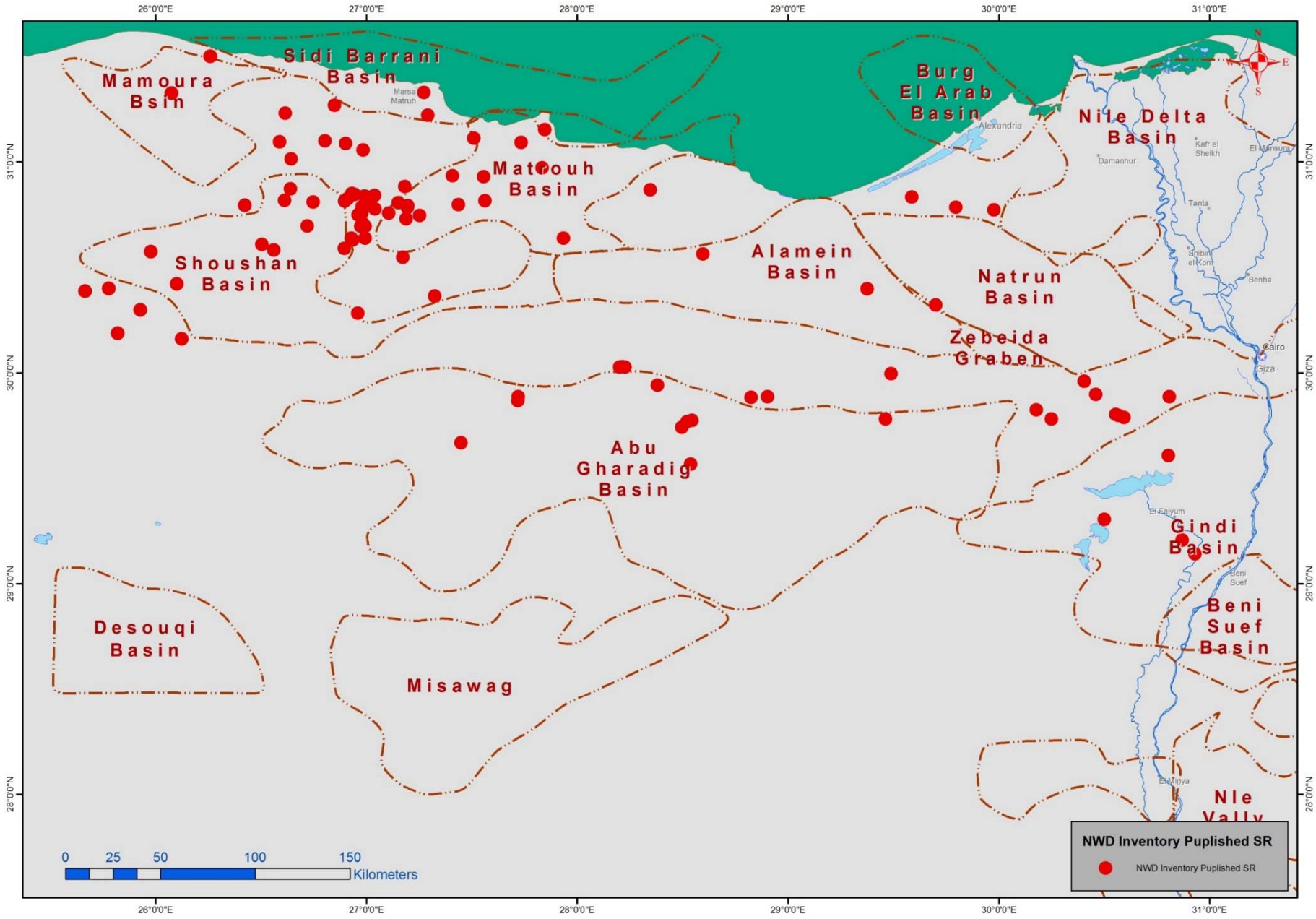
BASEMENT
Study Section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Mamoura Bsin
Burg El Arab Basin
Nile Delta Basin
Matrouh Basin
Alamein Basin
Natrun Basin
Shoushan Basin
Zebeida Graben
Abu Gharadig Basin
Gindi Basin
Beni Suef Basin
Desouqi Basin
Misawag
Nle Vally
Marsa Matruh
Alexandria
Damanhur
Kafr el Sheikh
El Mansura
Tanta
Shibin el Kom
Benha
Cairo
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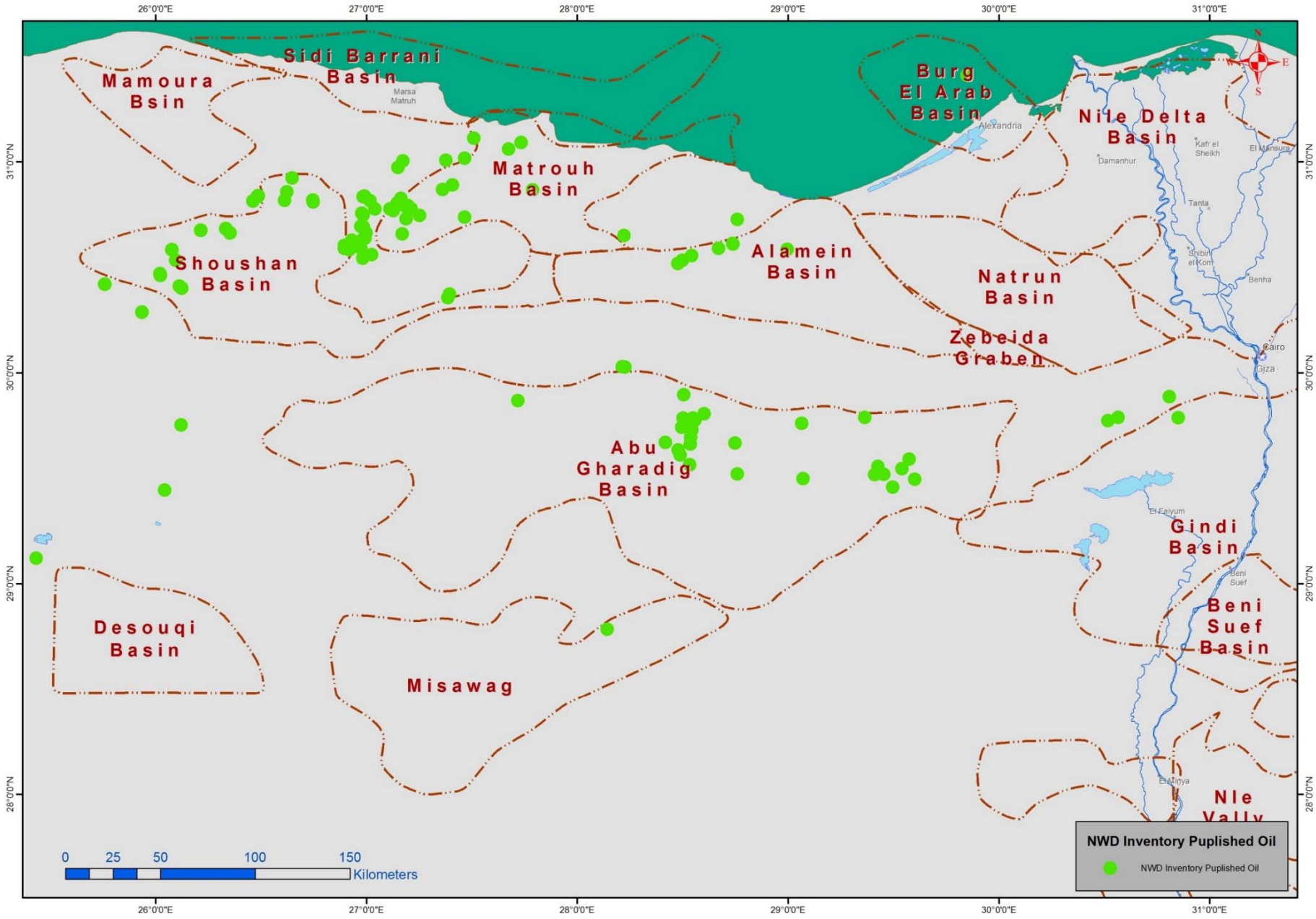
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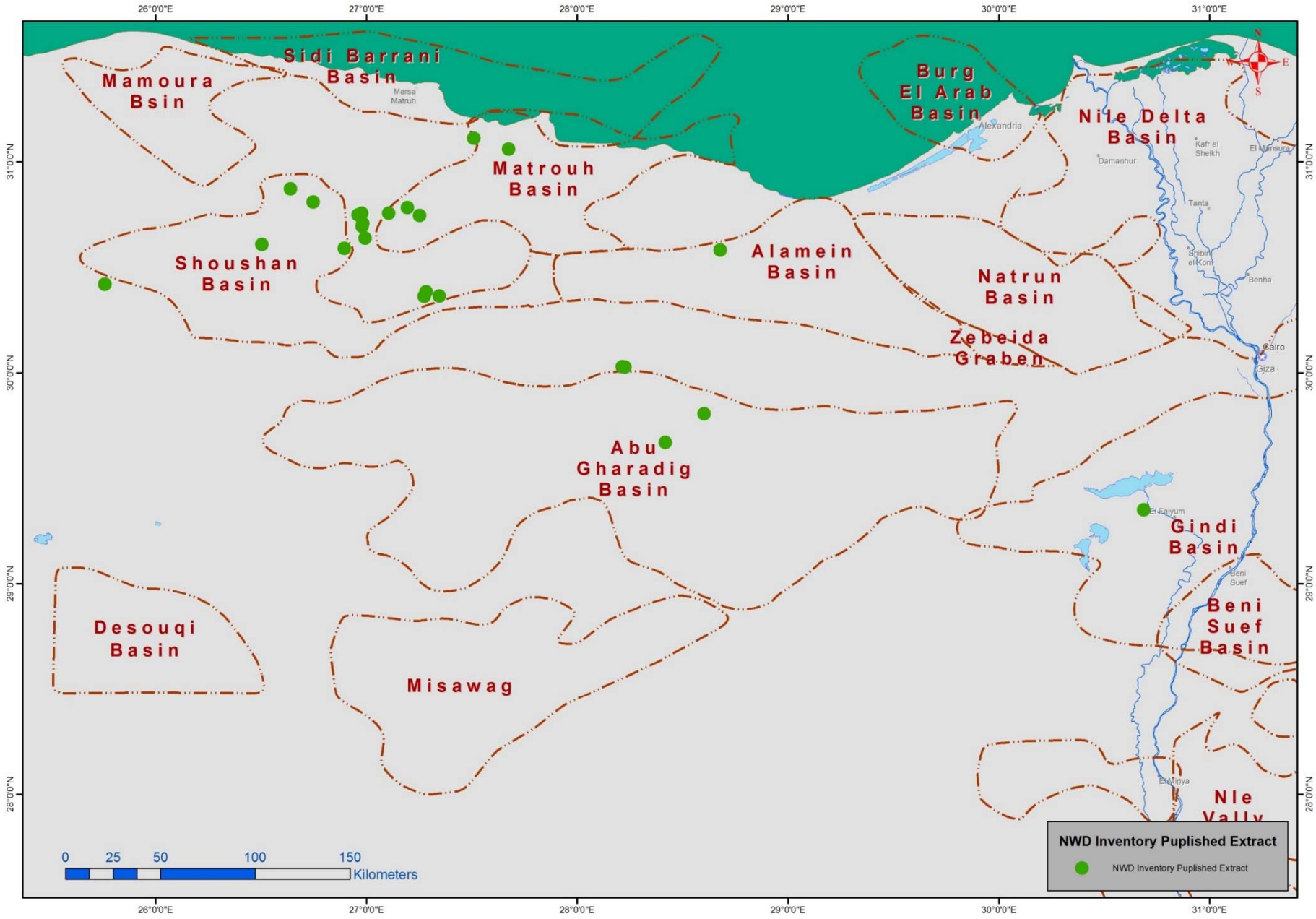
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Kilometers
NWD Inventory Puplished Extract
NWD Inventory Puplished Extract

OBJECTIVES

The first purpose of this study is to present the results on the nature, quality, distribution, and maturity of potential source rocks within the Cretaceous and older sediments throughout the northern part of the Western Desert of Egypt. A second objective is to geochemically characterize the oils recovered from different reservoirs from the north Western Desert, Egypt in order to determine their genetic origin, interrelationships, and maturities. The third objective is to examine source-oil correlation between reservoired oils, and the identified source rocks in the north Western Desert of Egypt. The objectives of this study are thus to carry out:

- Quantity of total organic carbon (TOC wt.%) and kerogen pyrolytic yield S2 (in *mgHC/gRock*).
- Quality of kerogen (Hydrogen Index and kerogen type).
- Evaluate the maturation of source rocks.
- Determine if there are multiple source rocks supplying hydrocarbons to the reservoirs in the North Western Desert.
- Evaluate the possible candidates for the source rocks for the reservoired oils, with emphasis the relationship between those oils and the proposed Cretaceous and older source rocks and speculation about other possible source rocks for those oils.

INVENTORY AND DELIVERABLES

A geochemical evaluation study was carried out on the Cretaceous and older sediments in the unstable shelf of the North Western Desert, Egypt. In this study, a geochemical investigation was carried out for published data of::

1) 6757 rock samples from 101 wells.

2) 136 oil samples.

3) 75 extract samples

INVENTORY AND DELIVERABLES

The raw data include:

1. **TOC results for 6757 Sample**
2. **Rock-Eval Pyrolysis for 4739 Sample**
3. **Ro Vitrinite measurements for 1238 Sample**
4. **Extract analysis for 75 samples**
5. **Oil analysis for 136 samples**

TOTAL ANALYTICAL COST **~ $630,000.00**

Quick Summary **~$100,000.00**

THE COST OF THE STUDY

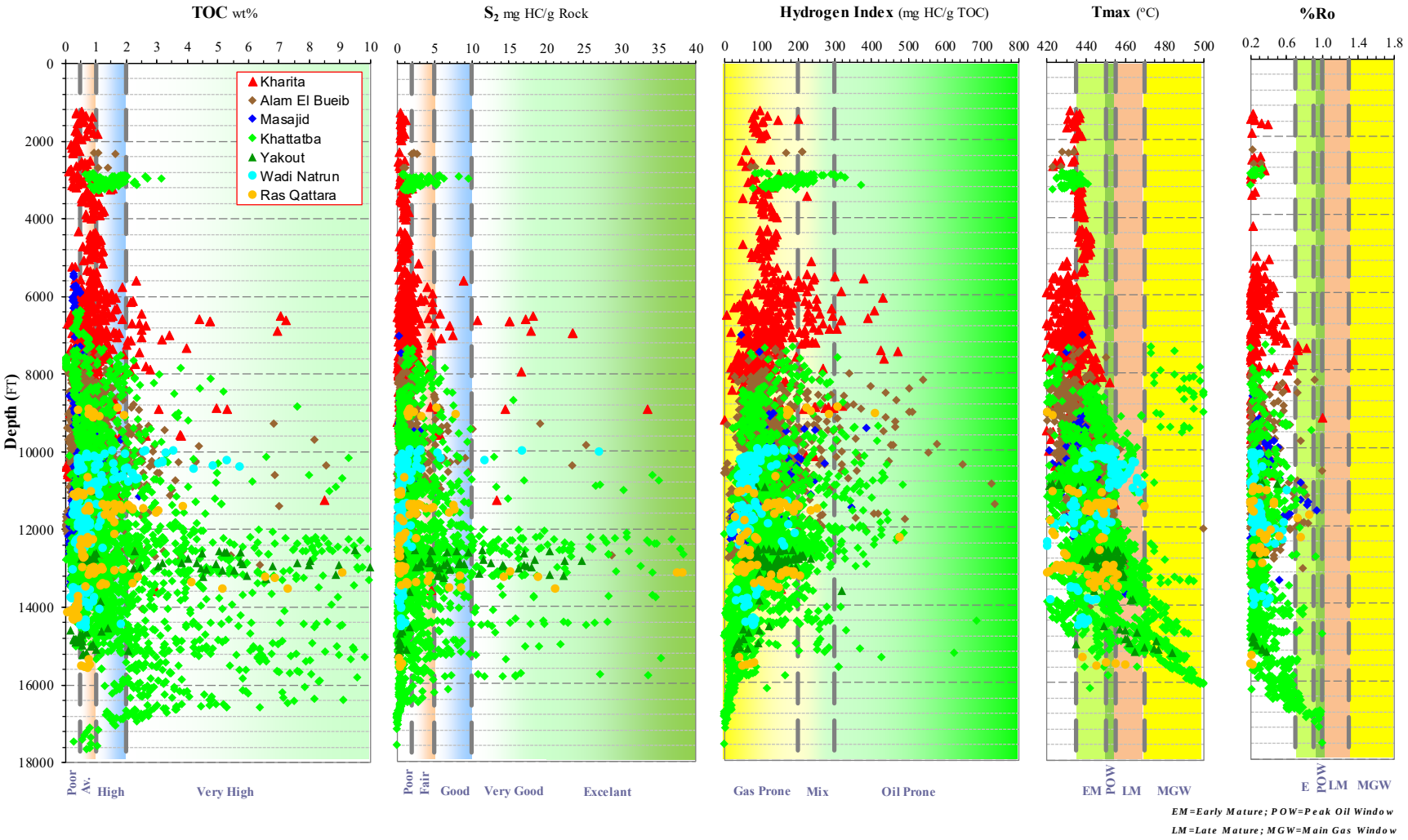
$60,000.00

INVENTORY AND DELIVERABLES

Deliverables (digital format zipped file) includes:

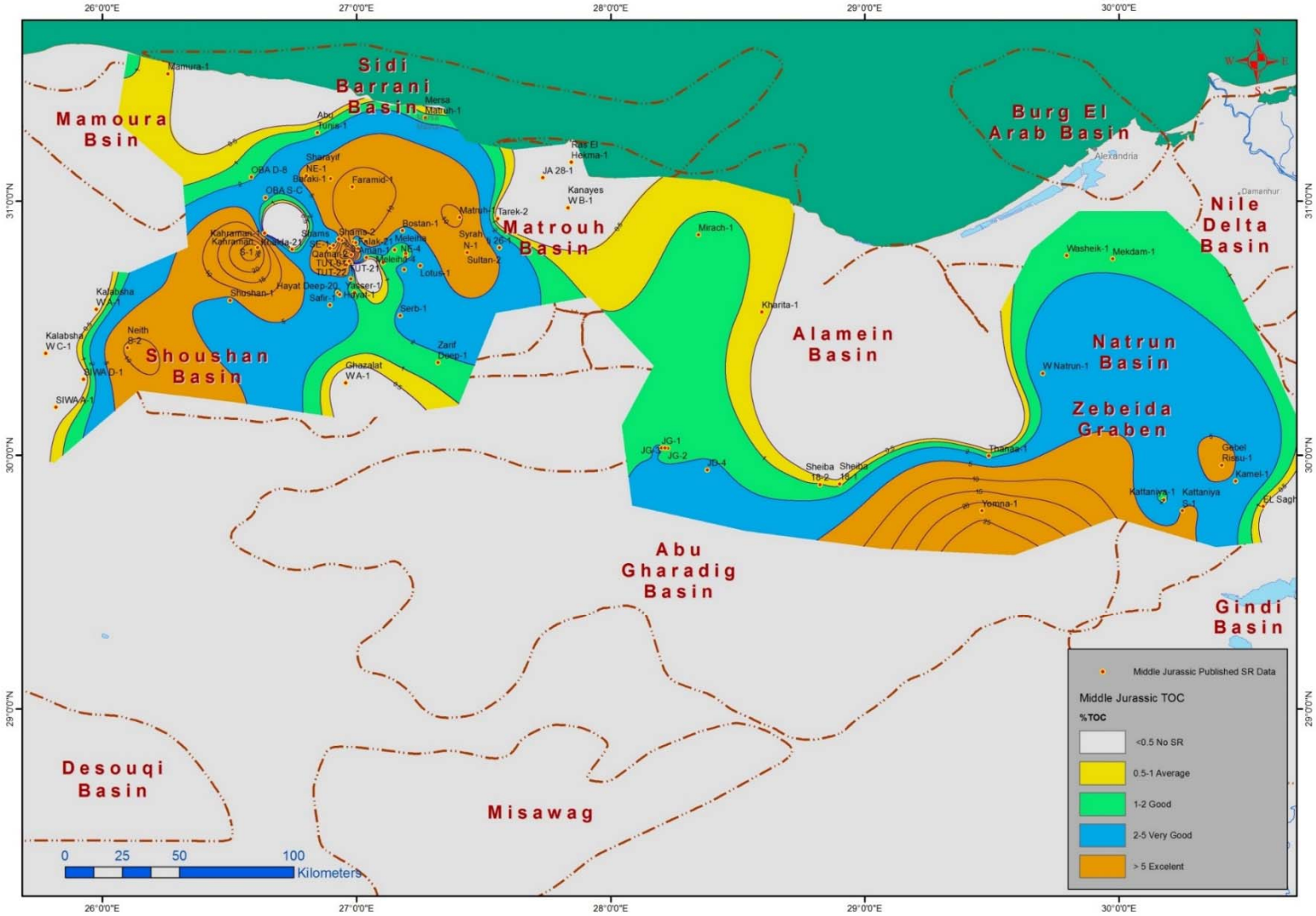
1. Quick General Evaluation as Word Document
2. Tables of various ratios
3. Raw data above (Excel, Power Point)
4. The whole report (pdf; with total 338 pages) including all above

RESULTS AND EVALUATION

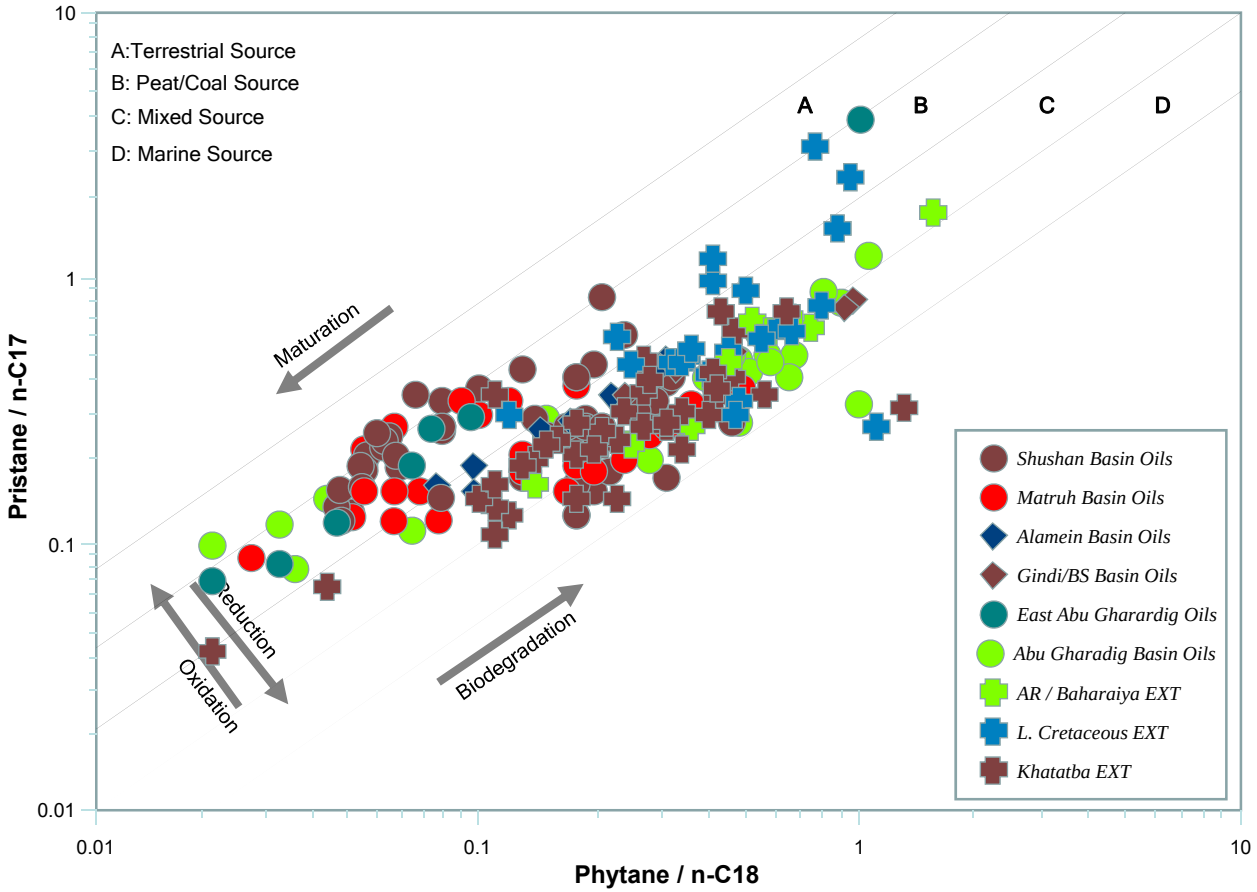


Source rock evaluation logs

Source rock evaluation logs for the Lower Cretaceous and Jurassic sediments.



TOC wt% map for the Middle Jurassic source rocks.



Plot of Phytane/n-C18 vs. Pristane/n-C17 (Modified after Shanmugam, 1985).

THANK YOU