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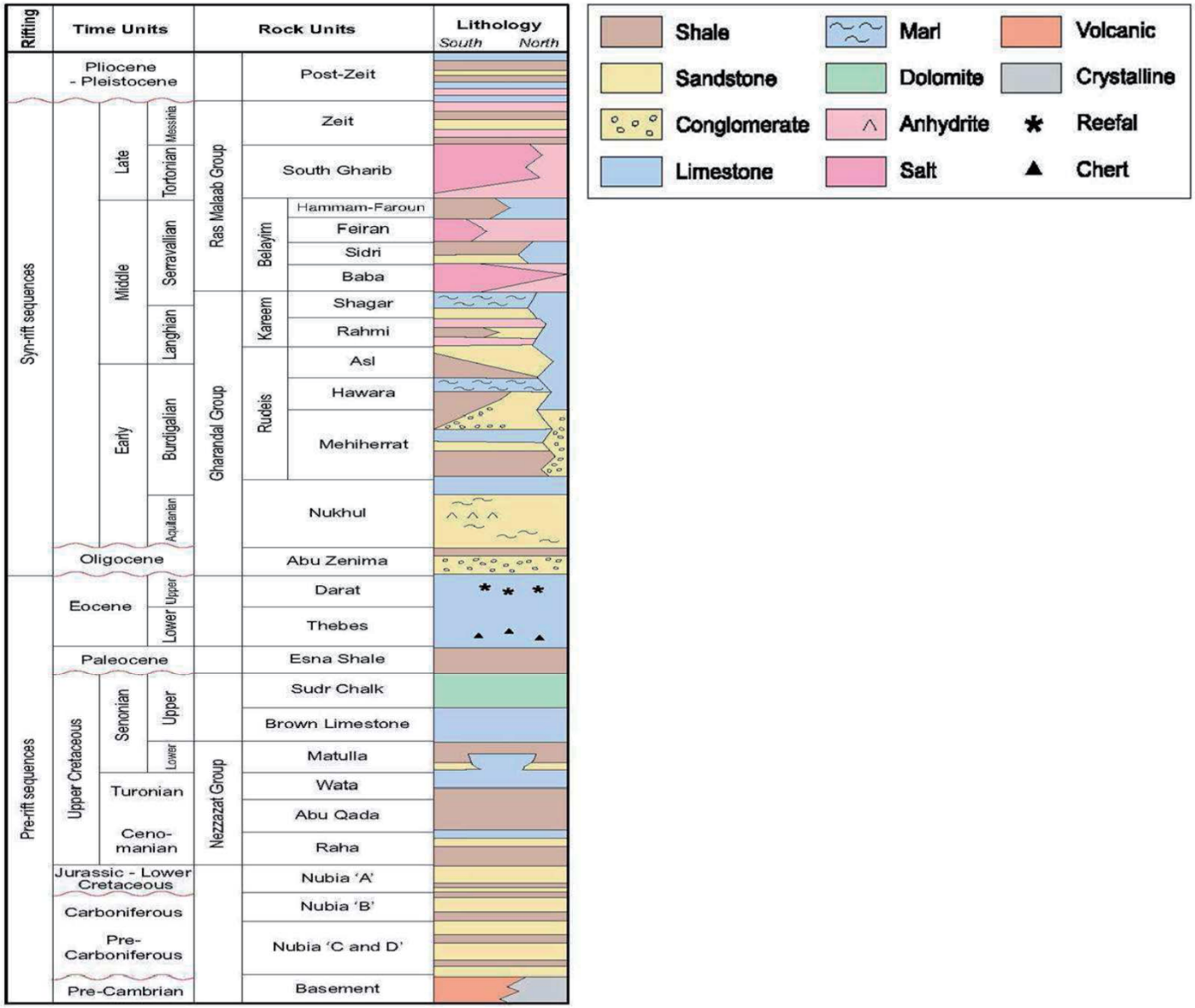
A Geochemical Evaluation Study of the

GULF OF SUEZ

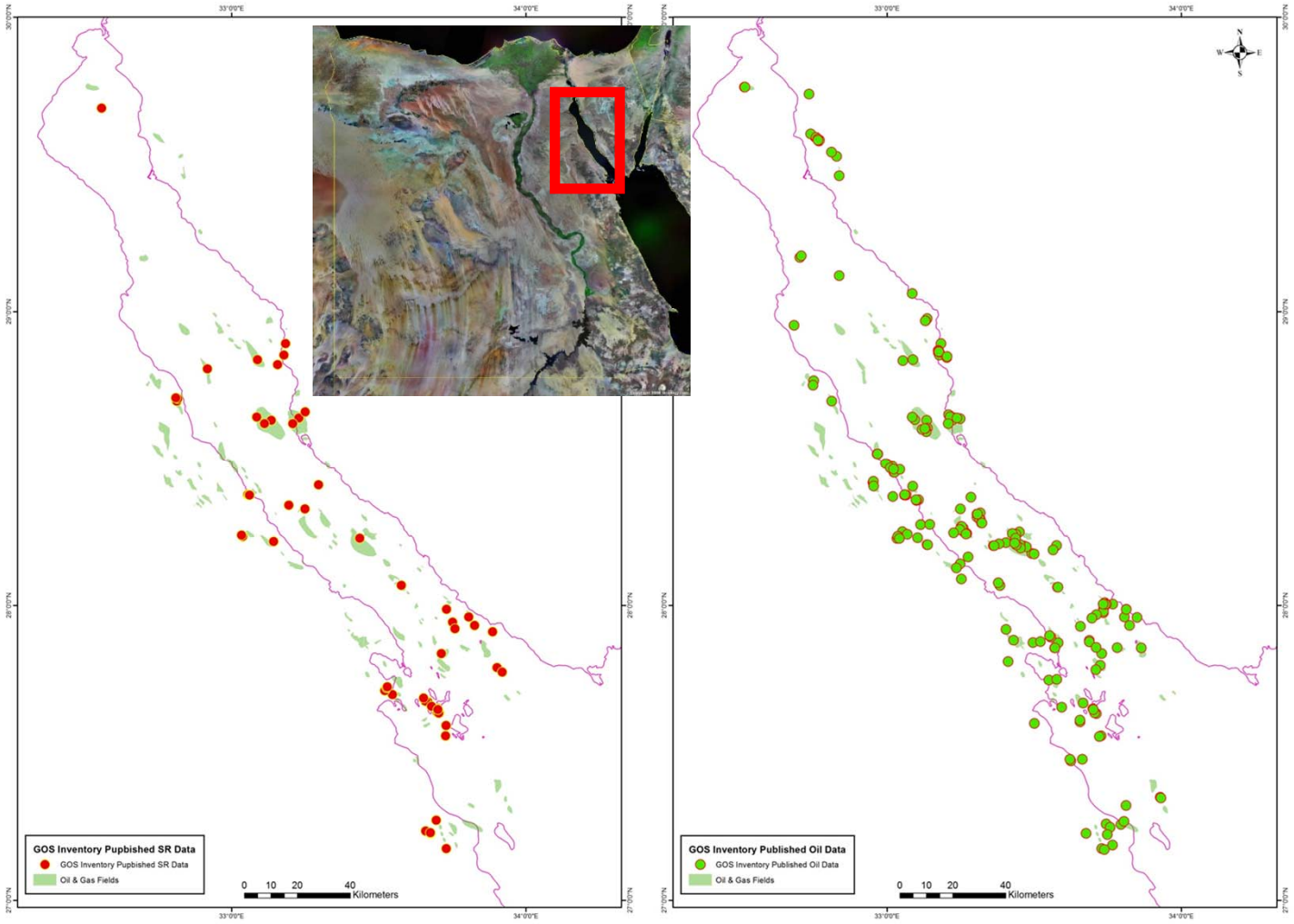
Egypt

A Study Carried out by
SCS
STRATOCHEM SERVICES

2022



Stratigraphic Column of the Gulf of Suez Province (modified after Schlumberger, 1995; Abd El-Naby et al., 2009).



Location map for study area.

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 younger sediments throughout the Gulf of Suez of Egypt. A second objective is to geochemically characterize the oils recovered from different reservoirs from the Gulf of Suez, 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 Gulf of Suez 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 GOS.
- Evaluate the possible candidates for the source rocks for the reservoired oils, with emphasis the relationship between those oils and the proposed Miocene 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 younger sediments throughout the Gulf of Suez of Egypt. In this study, a geochemical investigation was carried out for published data of::

1) 1190 rock samples from 63 wells.

2) 245 oil samples.

3) 150 extract samples

INVENTORY AND DELIVERABLES

The raw data include:

1. **TOC results for 1190 Sample**
2. **Rock-Eval Pyrolysis for 969 Sample**
3. **Ro Vitrinite measurements for 268 Sample**
4. **Extract analysis for 150 samples**
5. **Oil analysis for 245 samples**

TOTAL ANALYTICAL COST **~ $420,000.00**

Quick Summary **~$100,000.00**

THE COST OF THE STUDY

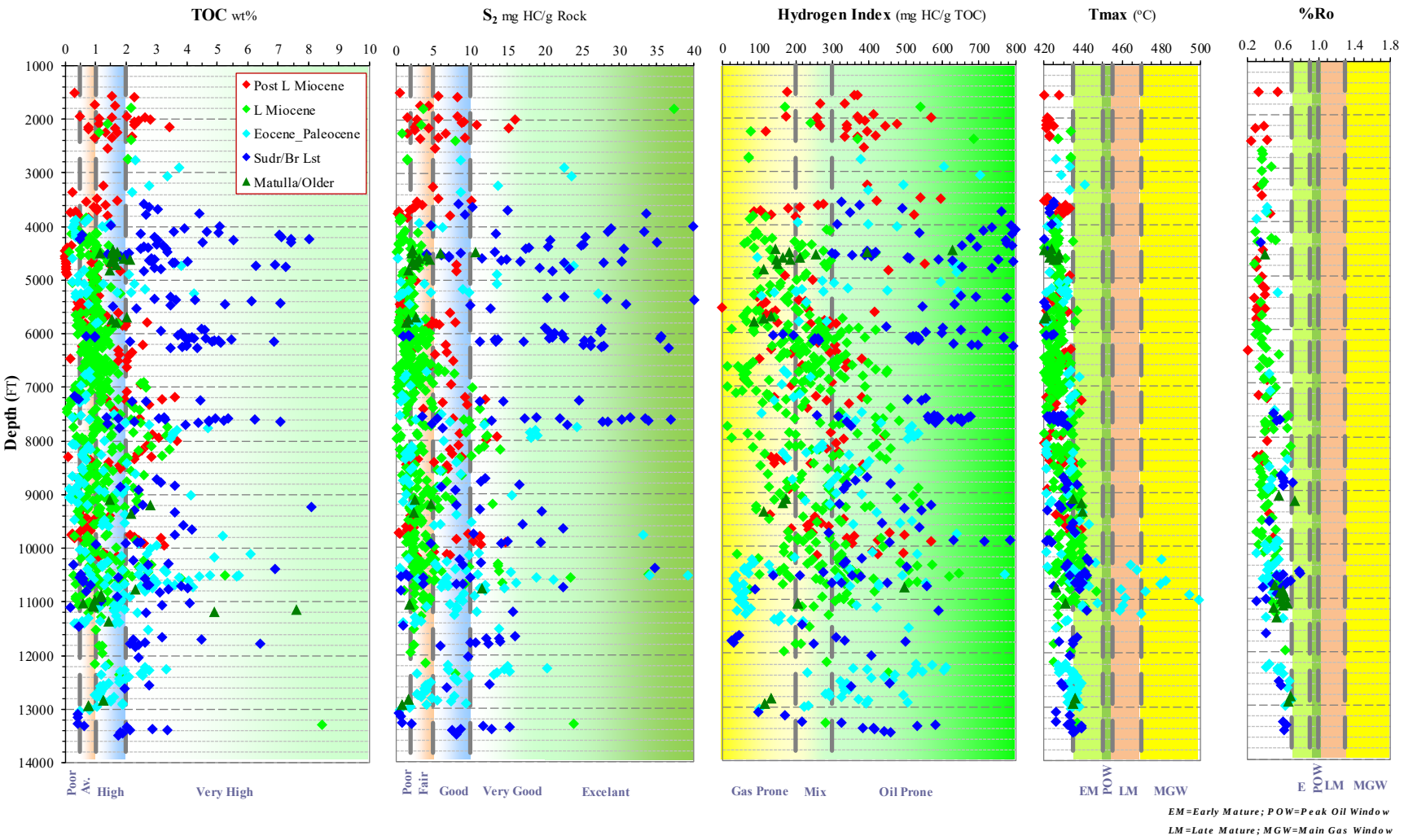
$60,000.00

INVENTORY AND DELIVERABLES

Deliverables (digital format zipped file) includes:

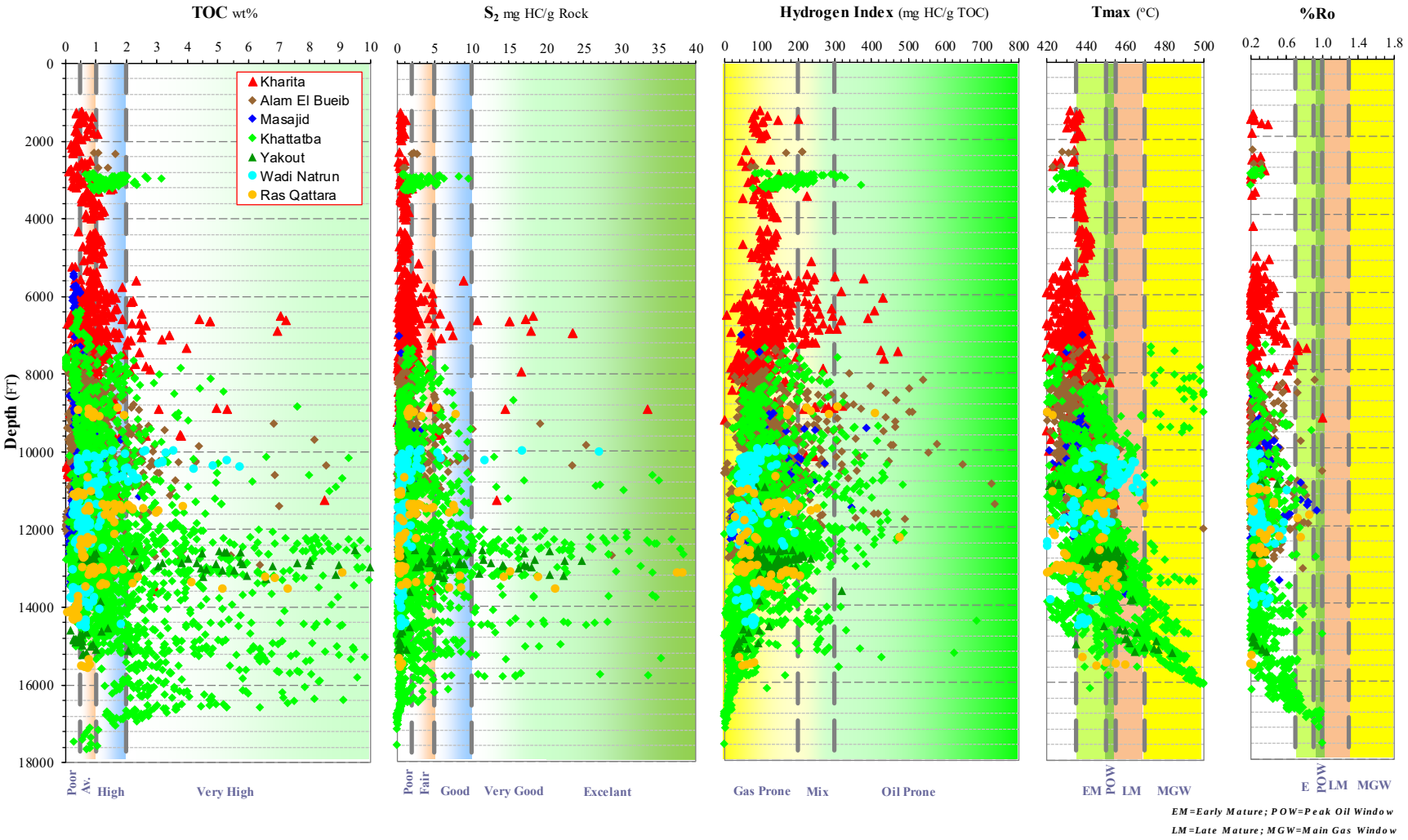
1. Quick General Evaluation as Word Document
2. Tables of various ratios
3. Raw data above (Excel, Power Point)
4. The whole report (pdf; with total 290 pages) including all above

RESULTS AND EVALUATION



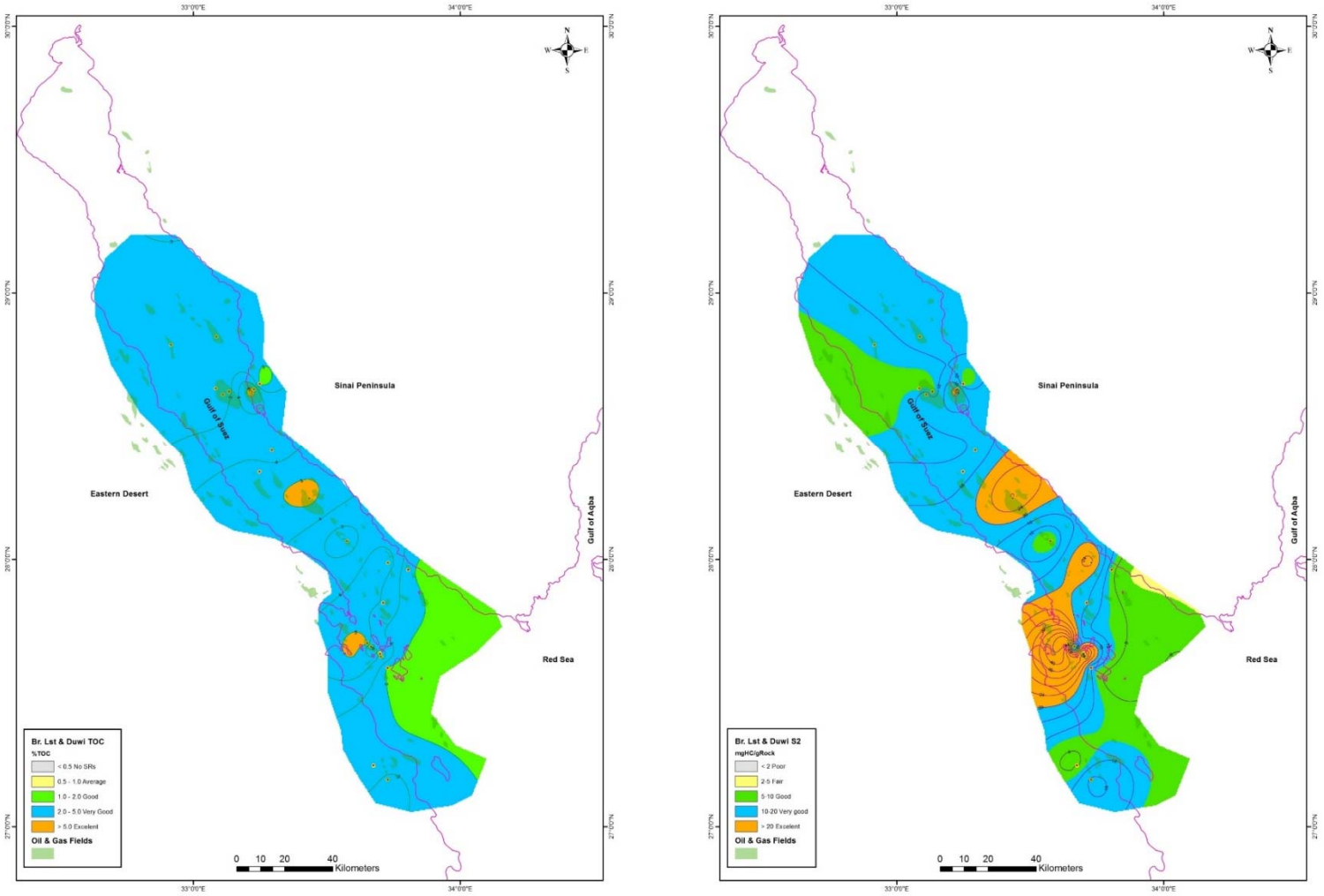
Source rock evaluation logs

Source rock evaluation logs for the Post Miocene and older sediments in the Gulf of Suez, Egypt.

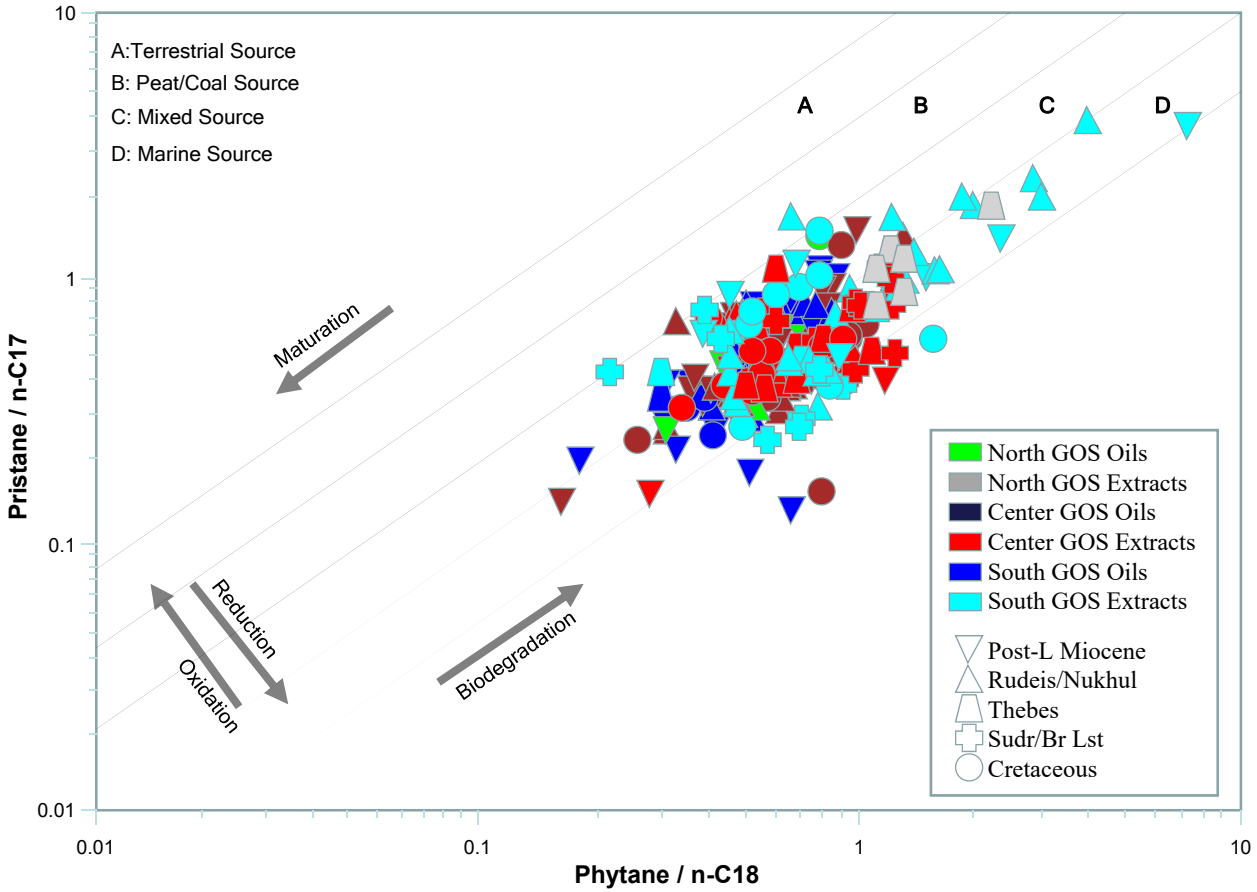


Source rock evaluation logs

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



TOC wt% and hydrocarbon potential (S2; *mgHC/g/TOC*) maps for the Br Lst source rocks.



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

THANK YOU