

Regional PhaseFinder Package Gulf of Mexico

GEOS4'S EXCLUSIVE PHASEFINDER TECHNOLOGY

This science-based technology accurately predicts charge timing, fluid volume and composition rapidly and inexpensively, based on calibrations from major petroleum provinces worldwide using PhaseKinetics*.

Exploration in the Gulf of Mexico has proven the occurrence of all petroleum fluid types, extending from biogenic gas to heavy oil. We have obtained representative source rock samples from the Atwater Valley 336, Garden Banks 754 and DSDP leg 77 Site 535 wells and provide thus a unique set of PhaseKinetic data for petroleum system modelling.

The GEOS4 Gulf of Mexico package provides

- representatives of eight key immature source rocks,
- kinetic parameters for timing predictions using slow heating rates,
- Petroleum Type Organofacies for predicting bulk petroleum types,
- 2- and 4-component gas/oil ratio prediction in time and space,
- 14-component physical property/PVT prediction in time and space,
- kinetic data provided as tables as well as digital files for direct import into PetroMod® (SLB).

Available upon request:

- PhaseKineticsPlus includes stable carbon isotopes on C₁-C₄ components in addition to the above.



* di Primio, R. and B. Horsfield, 2006, From petroleum type organofacies to hydrocarbon phase prediction: AAPG Bulletin, Vol. 90.

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PURCHASE THIS PHASEFINDER**

MEXICO

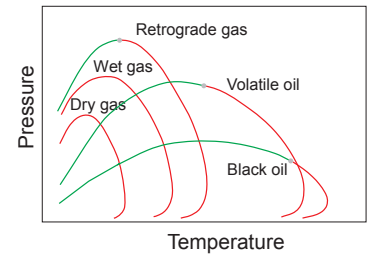
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GULF OF MEXICO

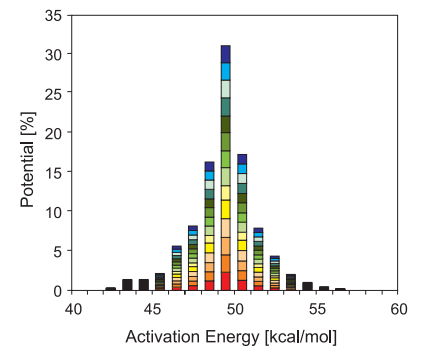
PETROLEUM POTENTIAL

The Atwater Valley 336, Garden Banks 754 and DSDP leg 77 Site 535 wells drilled through immature source rock sequences extending from Miocene to Kimmeridgian age. Out of a larger sample set we have selected 8 representative samples for this study.

Exploration in the Gulf of Mexico has proven a large range of fluid GORs, explained by variable contributions from different source rocks and in-reservoir mixing. The highly dynamic migration history with multiple charge events makes fluid phase and property prediction difficult. Our unique dataset will aid in reducing pre-drill fluid type uncertainty.



Sample	Epoch / Series	Origin	Depth interval (m)	OM Type
1	Miocene	BR ATW 336	5,236 - 5,496	Type II/III
2	Miocene	BR ATW 336	5,321 - 5,349	Type II/III
3	Upper Jurassic	BR ATW 336	6,093 - 6,124	Type II
4	Upper Jurassic	BR ATW 336	6,124 - 6,143	Type II
5	Upper Cretaceous	GB 754	2,280 - 2,307	Type II/III
6	Upper Jurassic	GB 754	2,719 - 2,746	Type IIS
7	Upper Jurassic	GB 754	2,746 - 2,774	Type IIS
8	Paleogene	DSDP 77 / 535	0.25 - 0.28	Type II/III



GEOS4's Gulf of Mexico PhaseFinder package allows the combination of source specific compositional predictions of petroleum with petroleum system modelling. The correct reproduction of petroleum phase behaviour represents a major step forward in modelling fluid generation, migration and accumulation in this complex setting.