

ShaleGasFinder Carboniferous, Northern Europe

II. Petroleum Generation Characteristics

GEOS4's EXCLUSIVE SHALE GAS FINDER TECHNOLOGY

This science-based technology provides the basin modelling parameters needed for predicting charge timing, fluid volume and composition, rapidly and inexpensively. Additionally, Late Gas Potential is evaluated.

Here we provide analytical results on representative Carboniferous sequences from Germany and the UK, supplementing and expanding GEOS4's ShaleGasFinder "Carboniferous Northern Europe I. General Data Package and Review of Marine Carboniferous Black Shales in North Germany".

The GEOS4 ShaleGasFinder Carboniferous Northern Europe II package provides

- ten representatives of proven and potential candidates for unconventional HC production,
- four representatives of key immature shales,
- 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,
- six representatives of key late liquid to gas mature shales,
- Late Gas Potential evaluation.



ShaleGasFinder ^{UK} Carboniferous, Northern Europe

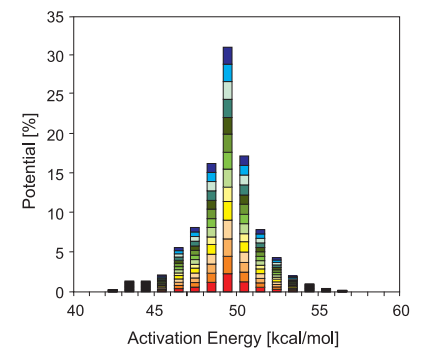
GERMANY

II. Petroleum Generation Characteristics

CAREFULLY SELECTED CORE AND OUTCROP SAMPLES OF NAMURIAN AND VISEAN SEQUENCES COVERING A BROAD MATURITY RANGE

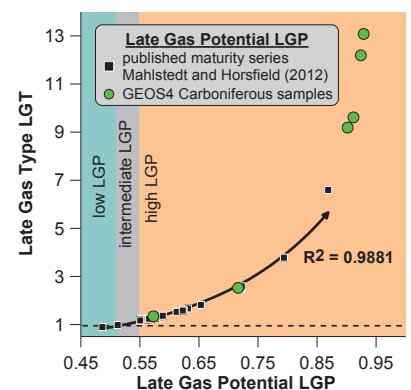
Ten samples from the Visean and Namurian of northern Germany and the UK representing proven and potential candidates for hydrocarbon production from shales have been analysed following the PhaseKinetic* approach. Additionally, Late Gas Potential has been addressed.

Formation	Age	Origin	Depth (m)	Maturity Rr (%)
No Fm. Name	Namurian	Peck 7/5	4,517	3.4
No Fm. Name	Namurian	S1001/22	1,591	3.4
No Fm. Name	Namurian	BA 1/16	5,498	3
No Fm. Name	Visean	Rn 2/3	1,994	1.1
No Fm. Name	Visean	Sagd 1/10	1,988	0.7
Alum Shale	Visean	Central Germany	outcrop	1.34
Alum Shale	Visean	Central Germany	outcrop	1.37
Bowland Shale	Namurian	SSK 11455	216	~0.5
Bowland Shale	Namurian	SSK 11455	303	~0.5
Bowland Shale	Namurian	SSK 11455	410	~0.5



Late Gas Potential

The Late Gas Potential of mature source rocks has profound implications for conventional and especially unconventional gas prospects in that significant additional charges of methane can be expected to be generated from neo-formed thermally stable moieties.



We use a rapid closed-system pyrolysis method, characterising the main stage of Late Gas generation under laboratory conditions.

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