

## Petroleum Geology and Prospectivity of the Russian Chukchi Sea

Hydrocarbons are thought likely to be widely developed across the Chukchi Sea. No deep exploration wells have been drilled in the Russian sector of the Chukchi Sea, but its geology is known from a moderately-spaced grid of regional seismic lines, correlated with wells drilled on the US sector of the Sea and in Northern Alaska.

Much of the structure and stratigraphy of the Russian sector is directly comparable to that of the prolific North Slope Province of Alaska.

This report is intended to provide a comprehensive introduction to the geology

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Chukchi Sea: Regional Structure & Location Map

and hydrocarbon prospectivity of the Russian sector of the Chukchi Sea.

Part I reviews the general geological development of the Chukchi Sea and surrounding areas. Section I.1 provides a brief description of the geography and climate of the region. Section I.2 describes the various models for the tectonic development of the area since the Precambrian, concentrating on the Late Palaeozoic to Cenozoic period when the main prospective basins were forming. Section I.3 describes in some detail the known and inferred stratigraphy of the main areas of the Chukchi Sea shelf, with reference to Northern Alaska.

Part II of the report considers the **petroleum geology** of the Chukchi Sea, reviewing the elements of potential petroleum systems in each of the basins.

The report includes palinspastic reconstructions, illustrative seismic lines and large-format enclosures. All maps are georeferenced and are available in ArcGIS format.

### PART I: Geology of the Chukchi Sea and Surrounding Areas; Structure, Stratigraphy and Palaeogeographic Development

- I.1. Overview of the Chukchi Sea; its Geography and Climate.
- I.1.1 Description of the report
- Brief description of the Chukchi Sea and its coastal belt; geography and climate. 1.1.2
- 1.1.3 Brief introduction to the petroleum geology of the Chukchi Sea.
- **I.2.** The Tectonic Development of the Russian Sector of the Chukchi Sea and **Surrounding Areas** 
  - I.2.1 Early development
  - I.2.2 Mid-Palaeozoic to Early Triassic development
  - I.2.3 Middle Triassic to Early Cretaceous development
  - I.2.4 Early Cretaceous to Cenozoic development
- **I.3**. Stratigraphic Development of the Chukchi Sea and Surrounding Areas
  - I.3.1 Franklinian
  - I.3.2 Ellesmerian
  - I.3.3 Rift (or Beaufort) Sequence
  - I.3.4 Brookian Sequence

# PART II: Petroleum Geology and Prospectivity of the Russian Sector of the Chukchi Sea

**II.1** Review of Known Hydrocarbons and Prospectivity in Northern Alaska and he US Chukchi Sea

- II.1.1 Northern Alaska
- II.1.2 US Chukchi shelf

#### **II.2** Prospectivity of the Russian Chukchi Shelf

- II.2.1 Exploration history of the Russian Chukchi shelf
- II.2.2 Kuvaeva Trough
- II.2.3 North Chukchi Basin
- II.2.4 Chukchi Horst-and-Graben System
- II.2.5 Wrangel-Herald Arch
- II.2.6 South Chukchi Basin
- II.2.7 Summary of the hydrocarbon prospectivity of the Russian sector of the Chukchi Sea

This report is available now at a cost of US \$20,000. For further details on this report, please visit www.blackbourn.co.uk/reports/chukchi-sea.html or contact Dr Graham Blackbourn at:

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