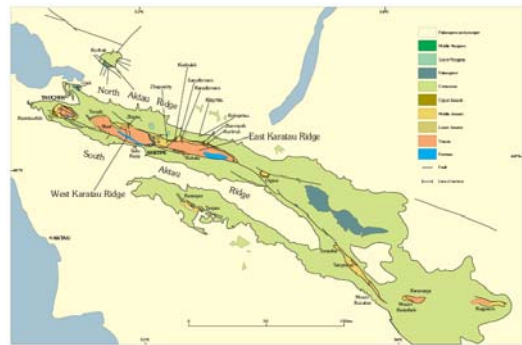




## Karatau Outcrop Study, Western Kazakhstan

### An Analogue for Jurassic (to Cretaceous) Reservoirs on the Buzachi Peninsula, South Mangyshlak Trough and Contiguous Offshore Areas, Western Kazakhstan

A Jurassic succession outcrops extensively to the north of the Karatau mountains of Mangyshlak, Western Kazakhstan. It is a lateral equivalent and direct analogue of sediments of the same age which form reservoirs both on the Buzachi Peninsula to the north, and the South Mangyshlak Trough to the south. The succession is also prospective over a large part of the North and Central Caspian Sea, and it also has relevance to overlying Early Cretaceous reservoirs.



A detailed quantitative analysis has been undertaken of key outcrops lying between the town of Shetpe and Mount Karadiirmen, where the Jurassic outcrop can be traced laterally for over 12km.

The work, initially undertaken as a proprietary study for Texaco (North Buzachi) Inc., was carried out to produce data on reservoir distribution, geometry, connectivity, net-to-gross values and other parameters within this important hydrocarbon-bearing succession. A detailed sedimentological analysis was also undertaken, which is of significance not only to local reservoir studies, but also to the understanding of the palaeogeography and reservoir distribution within the Central and Northern Caspian region.



Fieldwork was undertaken over 10 days in June 2000. The chief aim of the work was to study the three-dimensional reservoir geometry and sedimentological development of the succession. A series of about 20 distinct flooding surfaces were recognised within the Jurassic succession.

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A total of 26 potential reservoir sand bodies were identified and measured, and the nature of intervening deposits (including further reservoir facies) were described. The data were subsequently plotted and examined statistically. The data are presented as large-format plans and sections, with explanations, sedimentological interpretation, statistical summary, and conclusions provided in a relatively brief accompanying text.

### Report Contents

1. Introduction
2. Methodology
3. Outcrop Descriptions
  - 3.1 *Zharsu*
  - 3.2 *Kosbulak-Karadiirmen Section*
4. Depositional Environments and Facies Models
5. Distribution and Morphology of Channel Sands (including statistical data)
6. Conclusions
  - 6.1 *Depositional Environments*
  - 6.2 *Sand-Body Geometries*
  - 6.3 *"Background Deposition" (between main sand bodies)*
  - 6.4 *Reservoir Implications*

### Associated Report

Regional and background information on the outcrops is included in Blackburn Geoconsulting's non-proprietary study "**The Petroleum Geology of Mangyshlak and Adjacent Regions, Western Kazakhstan**".

Includes full-colour text figures with eleven annotated photographic panoramas of field sections, several with film overlays.

- *Enclosure 1.* Geology and Locations of Exposures Studied Between Mt Karadiirmen and Kosbulak, NE of Shetpe (A0-size base map with geological, geographic and GPS data); 1:12,500 scale
- *Sections 1-3.* Large-format measured horizontal sections along the outcrop, highlighting the sand-body geometries in side view in relation to major flooding surfaces; vertical scale 1:1000; horizontal scale 1:2000. Representing a total of about 6.5km of strike section
- *Overlays 1-4.* Large-format (A0) film overlays to Enclosure 1, illustrating plan view of measured sand bodies and their relationship to major flooding surfaces, with annotations and palaeocurrent indicators

### Timing & Cost

The full text, figures and enclosures of the report are provided on CD (single-company licence) for **US \$15,000** (for archive, on-screen viewing, or printing by client). Hard copies can be provided (in large-format (A3) binders, with film enclosures in a separate map roll) for an additional **US \$2,000** per set.

For further details, please visit [www.blackbourn.co.uk/reports/karatau-outcrop-study.html](http://www.blackbourn.co.uk/reports/karatau-outcrop-study.html) or contact Dr Graham Blackburn at:

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