

KUPARUK RIVER, TABASCO OIL

Reference List

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BP, 1998, Companies to Increase Production from New 'TABASCO' North Slope Oil Field, BP Press Release, date: 27 August 1998;
<http://www.bp.com/genericarticle.do?categoryId=120&contentId=2001177>

Walker, J., 1998, Testimony in support of the Application of ARCO Alaska Inc. for a Public Hearing to Present Testimony to Define and Develop the Tabasco Oil Pool Rules, Alaska Oil and Gas Conservation Commission Conservation Order 435 file.

Tabasco Oil Pool

Summary

The Tabasco Oil Pool is one of the satellite pools that have been discovered and developed utilizing Kuparuk River Unit (“KRU”) infrastructure.¹ The pool was discovered in 1986 during development drilling of the underlying Kuparuk River Oil Pool from the KRU 2T-Pad.² The Tabasco Sandstone underlies a large portion of the southern and western KRU. Producing hydrocarbons were encountered in the Tabasco Sandstone between 3,352’ to 3,599’ measured depth (“MD”) in the KRU 2T-201 well.³ The Tabasco pool lies at approximately 3,000’ true vertical depth subsea (“TVDSS”)⁴, about 300’ to 400’ below the West Sak sands.⁵ Tabasco oil has an API gravity of 16 degrees, and it is highly viscous (253 centipoise). No definitive oil-water contacts have been delineated within pool. Original oil in place (“OOIP”) for the 2T-Pad area is projected at 48 to 131 million barrels of oil (“MMSTB”). A small gas cap of about 32 acres occurs in the 2T-201 area, with the gas-oil contact at 2,915’ TVDSS. The gas cap contains an estimated 100 MMSCF of gas in place, but is not expected to have a major impact on reservoir performance.⁶ Regular production began in April of 1998 from the 2T-Pad. Production peaked in May 1999 at an average of 7,913 barrels of oil per day (“BOPD”), and declined to 5,227 BOPD in December 2004.⁷

Geology

The Tabasco Sandstone is an informal member of the Late Cretaceous-aged (Campanian) Schrader Bluff Formation. It was deposited near a shelf margin as a prograding sequence of deltaic to near shore marine sediments. The sandstone is discontinuously distributed over a broad region, with sand thickness generally most significant along the shelf margin. Large-scale slumping and erosion are common. Two lithologies are present: a discontinuous thin-bedded sandstone facies with shale interbeds and an overlying amalgamated sandstone facies. The thin-bedded sandstone facies is more widespread; its gross interval thickness is about 80’ to 400’. The amalgamated sandstone facies ranges in thickness between 45’ to 350’ thick. The transition between the two facies is abrupt. Porosity ranges from 17 to 22% and averages 20%. Log water saturation ranges from 17 to 60%, with 20 to 25% representative of the 2T-Pad area. Pressure transient permeability ranges from 3 to 100 Darcies. The Tabasco structure is a monocline, dipping east to northeast and striking north to northwest in the western portion of the KRU and east to southeast in the southern portion.⁸ The hydrocarbon-trapping mechanism is a combination of stratigraphic and structural elements. The Tabasco accumulation is cut by a series of north-south and east-west normal faults, with throws typically ranging between 10’ to 50’ and maximum throws to 100’. Oil distribution appears controlled by the stratigraphic distribution of reservoir sands.⁹

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¹ Alaska Oil and Gas Conservation Commission, 2003, Conservation Order No. 435a, available online at: http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co435a.htm

² BP, 1998, Companies to Increase Production from New 'TABASCO' North Slope Oil Field, BP Press Release, date: 27 August 1998;

<http://www.bp.com/genericarticle.do?categoryId=120&contentId=2001177>

³ Alaska Oil and Gas Conservation Commission, 1998, Conservation Order No. 435, available online at: http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co435.htm

⁴ Walker, J., 1998, Testimony in support of the Application of ARCO Alaska Inc. for a Public Hearing to Present Testimony to Define and Develop the Tabasco Oil Pool Rules, Alaska Oil and Gas Conservation Commission Conservation Order 435 file.

⁵ Alaska Oil and Gas Conservation Commission, 1998, Conservation Order No. 435, available online at: http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co435.htm

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⁷ Alaska Oil and Gas Conservation Commission, 2005, Production Database

⁸ Alaska Oil and Gas Conservation Commission, 1998, Conservation Order No. 435, available online at: http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co435.htm

⁹ Alaska Oil and Gas Conservation Commission, 1998, Conservation Order No. 435, available online at: http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co435.htm