

# **MILNE POINT, SAG RIVER OIL**

## **Reference List**

Alaska Oil and Gas Conservation Commission, 1998, Conservation Order No. 423, available online at:  
[http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400\\_449/co423.htm](http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co423.htm)

Alaska Oil and Gas Conservation Commission, 2005, Production Database

# Milne Point, Sag River Oil

## Summary

The Sag River Oil Pool lies within the Milne Point Unit ("MPU"), and it is defined as the accumulation of hydrocarbons common to and correlating with the intervals between the measured depths of 8,810' and 8,884' in the Milne Point Unit A-01 well. Regular production from the pool began in 1995. Three wells and 3 sidetracked wellbores were drilled to develop the pool: 1 producer from MPU C-Pad, 1 sidetracked producer from MPU E-Pad, 3 wellbores from MPU F-Pad (1 producer, 1 sidetracked producer, and 1 sidetracked injector), and 1 producer from MPU K-Pad.<sup>1</sup> Well spacing within the pool is 40 acres.<sup>2</sup> Since 2002, only 1 well within the pool (MPU F-33A) has been on production. Water-alternating-gas injection began in MPU F-73A during July 2002 in support of MPU F-33A, but was halted in May 2004. During 2004, monthly production from the pool averaged 173 barrels of oil per day, 109 thousand cubic feet of gas per day and 186 barrels of water per day.<sup>3</sup>

## Geology

Within the pool, the Sag River consists of late Triassic to early Jurassic-aged, thin marine shelf sediments: At Milne Point, the Sag River is divided into four laterally extensive sub-zones that are named, from deepest to shallowest, A through D. The zones are fairly uniform in thickness and have similar reservoir properties. Zone D is non-reservoir siltstone and shale at the top of the Sag River; its average gross thickness is about 21 feet. Zone C is the uppermost sandstone interval. It is generally non-reservoir with porosity to 17%, permeability to 2.9 millidarcies, and an average gross thickness of 10 feet. Zone B is the primary reservoir interval, with porosity to 21%, permeability to 23 millidarcies, and an average gross thickness of 30 feet. Zone A is the basal sandstone unit, which unconformably overlies the Shublik Formation. At Milne Point, it is composed almost entirely of non-reservoir sandstone, with porosity to 18%, permeability to 1.2 millidarcies, and an average gross thickness of about 16 feet. The moderate to good porosity and poor permeability observed in zones A through C are the result of bioturbation and diagenesis. The trapping mechanism observed in the pool is predominately structural, consisting of three-way anticlinal closures sealed against the downthrown side of faults, with throws generally greater than 50 feet. Within the MPU development area, an orthogonal fault pattern segments the oil accumulation into three known equilibration regions, with known oil-water contacts at 9,150', 9,050', and 8,950' true vertical depth subsea.<sup>4</sup> Oil gravity in the Sag River is about 39 degrees API. Original oil in place ("OOIP") in the pool is estimated to be is about 62 million barrels.<sup>5</sup>

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<sup>1</sup> Alaska Oil and Gas Conservation Commission, 2005, Production Database

<sup>2</sup> Alaska Oil and Gas Conservation Commission, 2003, Conservation Order No. 423, available online at: [http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400\\_449/co423.htm](http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co423.htm)

<sup>3</sup> Alaska Oil and Gas Conservation Commission, 2005, Production Database

<sup>4</sup> Alaska Oil and Gas Conservation Commission, 2003, Conservation Order No. 423, available online at: [http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400\\_449/co423.htm](http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co423.htm)

<sup>5</sup> Alaska Oil and Gas Conservation Commission, 2003, Conservation Order No. 423, available online at: [http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400\\_449/co423.htm](http://www.state.ak.us/local/akpages/ADMIN/ogc/orders/co/co400_449/co423.htm)