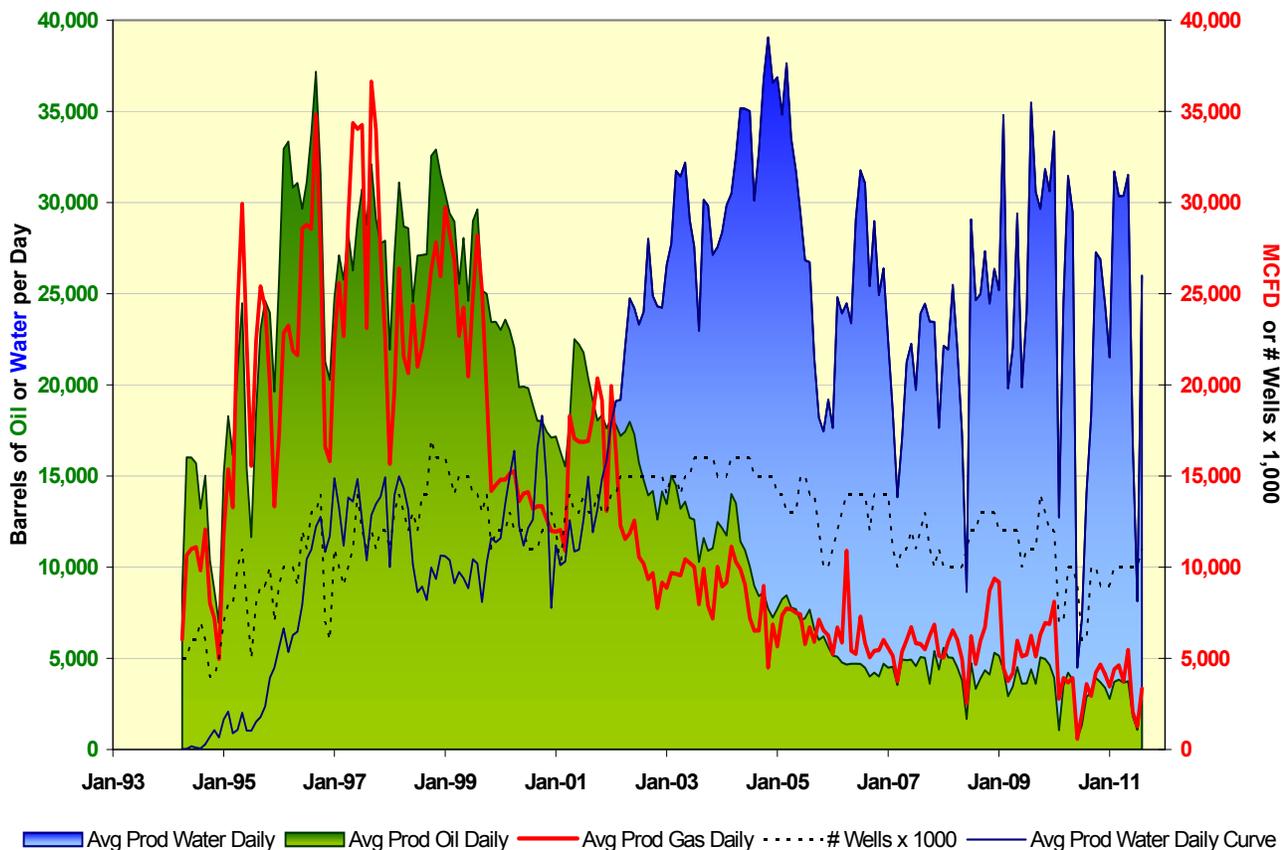


# Niakuk Oil Pool

## Summary

The Niakuk Oil Pool is defined as the accumulation of oil and gas in the Kuparuk River Formation ("Kuparuk") that correlates with the interval between 12,318 feet and 12,942 feet measured depth (9351 feet and 9842 feet true vertical depth subsea) within well Niakuk No. 6.<sup>1</sup> Regular production began from the pool in April 1994, and peaked at 37,172 barrels of oil per day in September 1996. During December 2004, Niakuk averaged 7,239 barrels of oil per day, 36,565 barrels of water per day, and 6,861 MCF of gas per day. In December 2009, the pool averaged 4,640 barrels of oil per day and 6,890 MCF of gas per day. For the first five months of 2011, production from the pool has averaged 3,540 barrels of oil per day. Two drill sites contribute production from this pool: Niakuk (96.4% of production) and Lisburne L5 (3.6% of production). Since January 2006, the sharp decline in production for this pool has greatly diminished.<sup>2</sup>

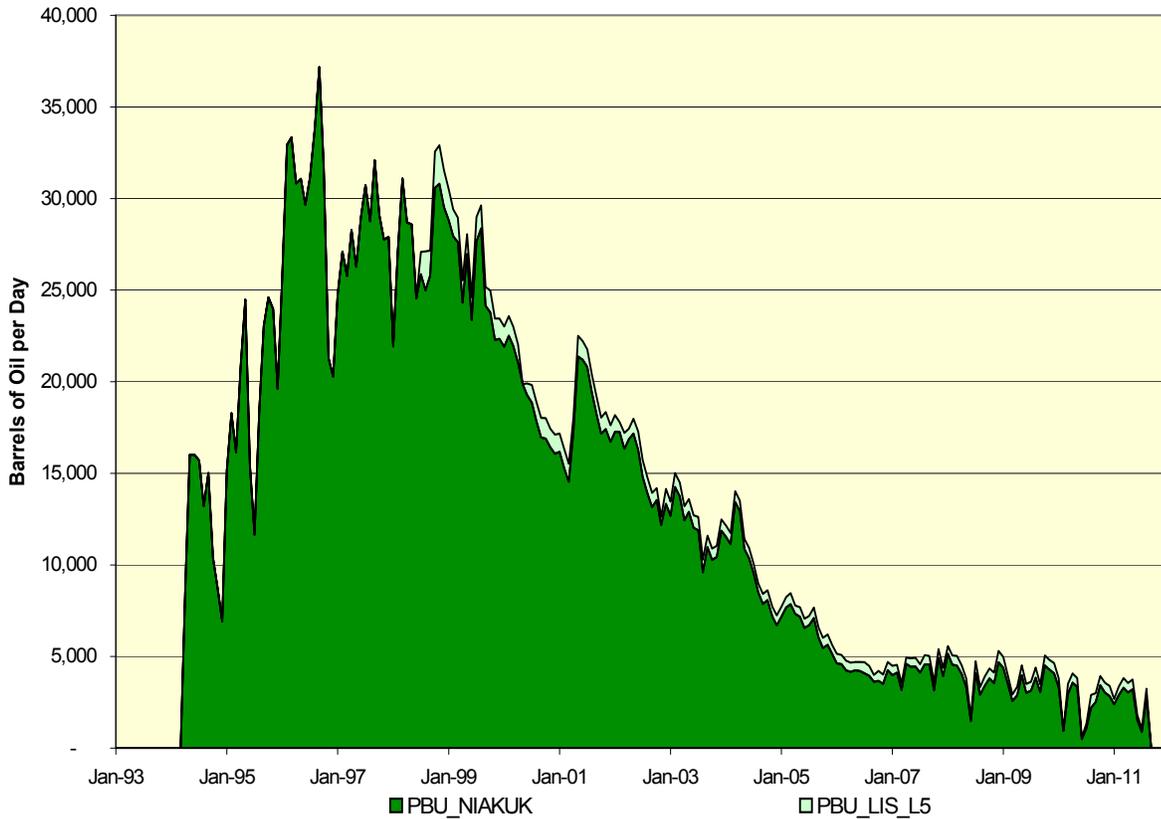
### Average Daily Production Rates



<sup>1</sup> Alaska Oil and Gas Conservation Commission, 1994, Conservation Order No. 329, Prudhoe Bay Field, Niakuk Oil Pool

<sup>2</sup> Alaska Oil and Gas Conservation Commission, 2010, Well and Production Information Database

### Average Daily Oil Production Rate by Pad



### Geology

Lateral heterogeneity and abrupt facies change characterize the Kuparuk in this area. The Niakuk reservoir contains two elongated, oil-bearing segments that do not appear to be in hydraulic communication. Normal faults bound the two segments on the north and south, and numerous moderate-displacement normal faults cut the reservoir. The western segment ("Segment 1") contains approximately 545 acres. The eastern segment ("Segment 2") contains approximately 1,310 acres. Porosity in Segment 1 varies from 15.2% to 24.4%, permeability varies from 6 to 1,250 millidarcies, and oil saturation ranges from 66% to 75%. In Segment 2, porosity ranges from 19.5% to 23.0%, permeability varies from 1 to 3,008 millidarcies, and oil saturation ranges from 67% to 79%. Reservoir temperature is 181° F, oil gravity measures 24.0 degrees API, and the estimated bubble point pressure is 3,835 psia. A gas-oil-contact has not been identified in the Niakuk wells.<sup>3</sup>

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<sup>3</sup> Alaska Oil and Gas Conservation Commission, 1994, Conservation Order No. 329, Prudhoe Bay Field, Niakuk Oil Pool; available on line at [http://www.aogcc.alaska.gov/orders/co/co300\\_399/co329.htm](http://www.aogcc.alaska.gov/orders/co/co300_399/co329.htm)