## **GREATER PRUDHOE BAY**

After more than 30 years of production, Prudhoe Bay remains the largest oil field in North America and ranks among the 20 largest fields ever discovered. When production started at the Prudhoe Bay field the recovery rate of the 25 billion barrels of oil in place was expected to reach 40 percent. Today, using new technologies that estimate



has increased to more than 60 percent.

The initial producing area of Prudhoe Bay field has produced more than 12 billion barrels, of which BP's net cumulative production is approximately 4.6

billion barrels of oil equivalent (BOE). Production from the Prudhoe Bay initial producing area averaged approximately 314,000 BOE per day in 2008. The Energy Information Administration estimates the field also contains an estimated recoverable 26 trillion cubic feet of natural gas in an overlying gas cap and in solution with the oil.

Prudhoe Bay produces from the Sadlerochit sandstone formation, nearly 9,000 feet below sea level. The oil bearing column is 500 feet thick in some areas. The Greater Prudhoe Bay Area, which includes the fields of Prudhoe Bay, its satellite fields and the Greater Point McIntyre Area fields, in total produce about 392,000 BOE per day. Cumulative production has exceeded 13 billion barrels; BP's net share is 4.8 billion barrels. BP's net production from Greater Prudhoe Bay Area averages approximately 98,000 barrels of oil equivalent per day (BOED). Prudhoe Bay was discovered in 1968 and came on-stream June 20, 1977. Production averaged more than 1.5 million barrels of oil and gas liquids per day for more than a decade.

### **Prudhoe Bay satellites**

Satellite fields are smaller accumulations of oil that can often be developed using existing infrastructure. The average daily production from Prudhoe Bay satellites is about 45,700 barrels of oil equivalent per day. BP's net share of that production is about 8,600 barrels. There are five satellite fields currently producing and the liquids are processed through the field's main facilities. Aurora and Borealis satellite fields produce from similar formations. Midnight Sun produces from a sandstone formation at 8,000 feet below sea level. Orion and Polaris fields both produce the difficult heavy oil from the Schrader Bluff formation, at depths of 4,000 to 5,000 feet below sea level. By using advanced drilling technologies we are growing this important resource. The Prudhoe Bay satellite fields have produced more than 118 million barrels of oil equivalent. BP's net cumulative production is approximately 23.4 million barrels of oil equivalent.

### Prudhoe Bay renewal

BP completed replacing 16-miles of oil transit lines and put these lines into service in late 2008. The project included rebuilding the main Prudhoe Bay oil delivery system, pigging modules, corrosion inhibitor injection facilities, state-of-the-art leak detection, metering facilities and all the affiliated electrical and emergency systems. This \$500 million project incorporates the best technology and materials to ensure safe operations. BP will continue to invest in safe, reliable and efficient operations through infrastructure renewal.



# Greater Point McIntyre

The Greater Point McIntyre Area encompasses Point McIntyre field and the nearby satellite fields of West Beach, North Prudhoe Bay, Niakuk and Western Niakuk. The Lisburne Production Center processes fluids from Point McIntyre Area fields and the Lisburne field. Production averaged about 40,900 barrels per day in 2008. Cumulative production from the Greater Point McIntyre area is 717 million barrels of oil equivalent. BP's cumulative net production is approximately 165 million barrels of oil equivalent.

### Point McIntyre

Located seven miles north of Prudhoe Bay, the Point McIntyre field was discovered in 1988 and came on-line in 1993. Point McIntyre contained an estimated 900 million barrels of oil in place, of which about 500 million barrels is recoverable with existing technology. The field's production peaked in 1996 at 170,000 barrels per day. Production averaged about 27,000 barrels per day in 2008. BP produces the field from two gravel drill site pads. Production rates are maintained through drilling new wells, enhanced oil recovery methods and upgrades to facilities.



Drill rig at Point McIntyre.

### Niakuk and Western Niakuk

The Niakuk fields lie offshore and contain about 300 million barrels of original oil in place. Production in 2008 averaged about 5,500 barrels per day from the lower Cretaceous Kuparuk River formation, a structurally and stratigraphically complex formation.



Lisburne Processing Center

#### Lisburne

The Lisburne field is a complex, fractured carbonate reservoir that lies underneath and adjacent to the main Ivishak reservoir at Prudhoe Bay. The field was discovered in 1968 along with the Prudhoe Bay field and came on-stream in late 1986. The field contained an estimated 1.8 billion barrels of oil in place. Production averaged about 8,400 barrels per day in 2008. Cumulative production from the Lisburne field is is nearly 189 million barrels of oil equivalent. BP's cumulative net production from the field is approximately 44 million barrels of oil equivalent. Horizontal drilling technology using coiled tubing drilling, along with geosciences techniques to identify fracture and fault locations, have increased production rates in recent years.





The Niakuk and Western Niakuk fields lie offshore of the Prudhoe Bay.

Oil Fields	Point McIntyre	Niakuk	Lisburne
Owners	BP (Operator) ~26% ConocoPhillips ~36% ExxonMobil ~36% Chevron ~2%	BP (Operator) ~26% ConocoPhillips ~36% ExxonMobil ~36% Chevron ~2%	BP (Operator) ~26% ConocoPhillips ~36% ExxonMobil ~36% Chevron ~2%
Field Data			
Participating Field Area Original Oil in Place Original Gas in Place	10,834 acres 0.8 billion barrels 0.9 trillion SCF	6,443 acres 0.2 billion barrels 0.1 trillion SCF	79,929 acres 1.8 billion barrels 0.3 trillion SCF
Cumulative Oil Production	Gross Field	Gross Field	Gross Field
Production (12/31/08) (millions of barrels of oil equivalent)	434	91.3	188.5
Current Rates (12/31/08)	Gross Field	Gross Field	Gross Field
<b>Oil</b> (thousands BOE/day)	27	5.5	8.4
Number of Wells			
Oil Producers Gas Injection Water Injection WAG Injection*	61 1 9 6	18 0 7 0	79 4 0 0

\* Water Alternating Gas Injector