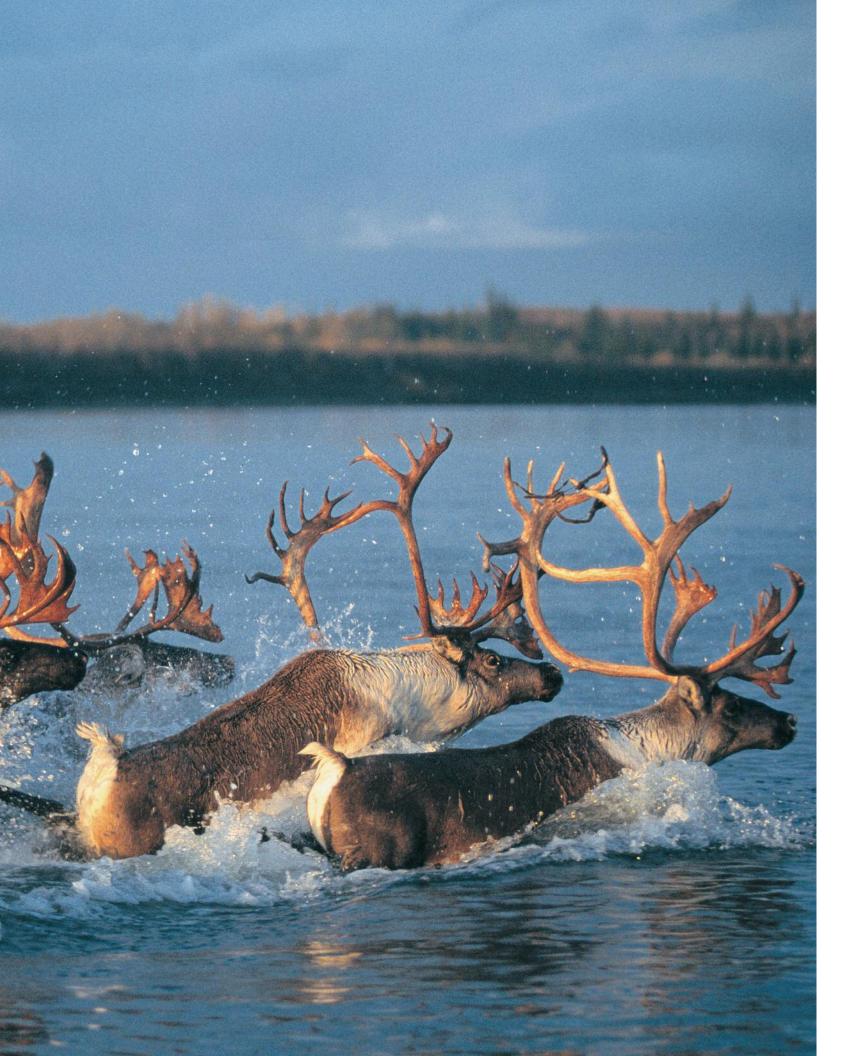




# Arctic nergy

For Today and Tomorrow



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Information in this publication was taken from the following sources: State of Alaska annual reports and forecasts (DNR, DOR), USGS, ConocoPhillips Fact Book, BP Review of World Energy.

## North Slope oil and gas - a short history

Oil and gas development brought statehood for Alaska, a large and consistent revenue stream for state and local governments, a \$33 billion savings account for Alaskans to enjoy and indoor plumbing and schools for many rural residents, including those who live on the North Slope.

Most of Alaska's oil comes from the 24 producing fields on the North Slope, including Prudhoe Bay, one of the largest oil fields in the world. North Slope production totals about 900,000 barrels of oil per day. While the huge Prudhoe Bay field is in gradual decline, North Slope oil fields still provide a significant amount of U.S. domestic production.

An 800-mile-long pipeline carries North Slope oil to tidewater where it is transferred to tankers for transport to downstream markets.

Oil was first discovered on the North Slope thousands of years ago. Native Eskimos cut blocks of oil-soaked tundra from natural seeps to use as fuel. But the first real search for oil didn't begin until the late 1920s when hearty explorers traveled by dog team, foot and boat.

The first geologic surveys took place on Alaska's North Slope in the late 1950s and early 1960s and in 1968, after nearly a dozen unsuccessful wells, or "dry holes," a major discovery was made. ARCO (now ConocoPhillips Alaska) and its co-owner, Humble Oil (now ExxonMobil), announced a discovery at Prudhoe Bay State No. 1 in March 1968. Sohio (now BP) drilled the confirmation well three months later.

The Prudhoe Bay field was initially estimated to contain 9.6 billion barrels of recoverable crude oil and more than 26 trillion cubic feet of natural gas. Through the use of gas reinjection, enhanced recovery techniques, and technology advances, the estimate of recoverable oil has been revised to approximately 13 billion barrels.

ARCO, Sohio and their co-owners began development of the Prudhoe Bay field in 1969. The first oil flowed on June 20, 1977, more than 20 years after geologists first probed this remote part of the world.

Prudhoe Bay development led to the discovery and development of other oil fields: Endicott, Lisburne, Point McIntyre, Milne Point, Schrader Bluff and nearby satellites. To the west of Prudhoe Bay, Kuparuk began producing in late 1981, followed by satellite fields in 1998. Even farther west, Alpine was discovered in 1994 and started up in late 2000. Today, five of the United States' 10 largest producing oil fields — Prudhoe Bay, Kuparuk, Point McIntyre, Alpine and Northstar — are on Alaska's North Slope.

## Viscous oil - the Slope's next major proven oil opportunity

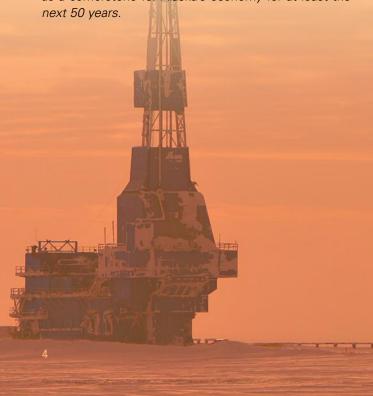
With more than 20 billion barrels of known resource in place, viscous and heavy oil represents one of the biggest development opportunities for Alaska oil over the next decade. It can be a vital source of long-term jobs, business opportunities and state revenues for the next half century.

BP, ConocoPhillips and ExxonMobil have spent more than \$1 billion developing the viscous oil resource and today it accounts for more than 5 percent of all the oil produced in Alaska. Viscous oil production is expected to double over the next several years.

But viscous oil is difficult and expensive to produce. It's cold and thick and doesn't flow to the surface as easily as oil from the main reservoirs, resulting in low well productivity. The reservoir rock containing the resource crumbles easily and comes to the surface with the fluids.

The producers have worked closely together to devise solutions to the commercial and technical obstacles to large-scale viscous development. Drilling multiple laterals from the same wellbore boosts well productivity. Using water or emulsifiers enhances the oilwater separation process.

The technical challenges are significant but if we're successful, viscous oil will help to sustain a strong and competitive North Slope oil and gas business and serve as a cornerstone for Alaska's economy for at least the



# Most frequently asked questions

#### What is the North Slope?

The North Slope is a flat, treeless plain that covers 88,000 square miles, an area slightly larger than Idaho. It extends north from the foothills of the Brooks Mountain Range to the Arctic Ocean and west from the Canadian border to the Chukchi Sea.

#### How far is Prudhoe Bay from Anchorage and the North Pole?

Prudhoe Bay is about 600 air miles north of Anchorage and about 1,200 miles south of the North Pole. It is about 250 miles north of the Arctic Circle.

### How large is the developed area on the North Slope?

The entire developed area encompasses about 312 square miles.

### How cold does it get in winter? How hot in summer?

Winter temperatures across the North Slope frequently dip to minus 30 degrees Fahrenheit with winds to 30-40 miles per hour, resulting in severe chill factors. The lowest recorded temperature was minus 68 degrees Fahrenheit. Temperatures can rise to 80 degrees Fahrenheit during July.

#### Can I visit the North Slope oil fields?

Yes, but you need to take a commercial tour. The North Slope oil fields are not open to the public due to security and safety considerations. You can book a tour through the Arctic Caribou Inn/Prudhoe Bay Hotel that takes you out to East Dock and the Beaufort Sea. These tours run several times a day during the summer only. Information on these tours is available at www.prudhoe-bayhotel.com or by calling toll-free 877-659-2368.

## There are no trees on the North Slope yet there are large pieces of driftwood near Prudhoe Bay and Kuparuk. What is their origin?

The Mackenzie River in Canada, which flows from south to north, deposits most of the wood into the Beaufort Sea. There it becomes captured in the clockwise current known as the Arctic Gyre. Summer storms wash the wood onshore.

## Facts about Alaska

- Alaska's population is about 630,000, and nearly half live in or near Anchorage. About 75,000 are Alaska Native indigenous peoples.
- Within Alaska's 586,412 square miles, you could fit 2.2 states of Texas, or 483 Rhode Islands.
- Alaska is the union's most northern, western and eastern state (most eastern because part of the Aleutian Islands crosses the International Dateline and lies in the Eastern Hemisphere).
- There are 57 Alaska volcanoes in the Pacific "Rim of Fire." Some are active, such as Mt. Spurr, Mt. Redoubt and Mt. Augustine.
- Seventeen of the tallest mountains in the U.S. are in Alaska, and the state has one glacier larger than Rhode Island.
- Alaska's 33,904 miles of saltwater coastline border two oceans. This comprises two-thirds of the entire U.S. coastline. Also contained in the state are three million lakes larger than 20 acres and 10,000 rivers and streams.

### Economic impact

From providing the vast majority of funds to operate the state to the millions it spends on charitable giving, the oil industry overshadows all other non-governmental entities in its impact on Alaska's economy.

BP and ConocoPhillips are the state's largest taxpayers. Taxes and royalties collected from the oil industry account for more than 85 percent of the state's general fund and have provided more than \$100 billion in state revenue (adjusted to today's dollars) since production began. In 2004, the Alaska oil industry contributed more than \$1.1 billion in taxes to state and local governments and another \$1.4 billion in royalties to the state. Taxes included corporate income tax, production taxes, property taxes and other fees

Part of the revenue from each barrel of oil pumped from the North Slope goes into the state's Permanent Fund, which is now valued at more than \$33 billion. Each year the Fund pays a dividend to every eligible Alaska resident, regardless of age.

The oil industry generates about 34,000 jobs and about \$4.4 billion in payroll in Alaska. This represents about 12 percent of private sector jobs and about 20 percent of private sector payroll in Alaska.

The oil industry directly spends more than \$2 billion per year on goods and services in the state, roughly equal to the state's general fund budget spending.

Both BP and ConocoPhillips are committed to hiring qualified Alaskans whenever possible, and the companies participate in a number of local job training and career programs.



## Who we are

### ConocoPhillips Alaska, Inc.

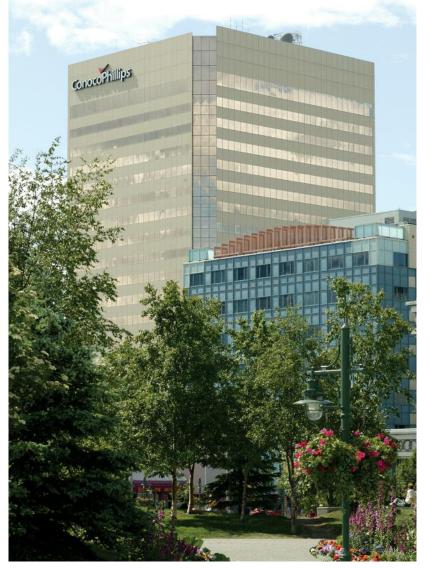
ConocoPhillips, with about 1,000 Alaska employees, has major ownership in the Prudhoe Bay Unit, the Kuparuk River Unit and the Colville River Unit (Alpine). ConocoPhillips operates the Greater Kuparuk Area and Alpine oil fields, as well as the Kenai Liquefied Natural Gas Plant, North Cook Inlet platform and Beluga River Unit gas field. It owns 28 percent of the Trans Alaska Pipeline System (TAPS).

ConocoPhillips is Alaska's largest oil and gas producer and in 2005 invested about \$1.6 billion in Alaska. From 2000 to 2005, ConocoPhillips contributed more than \$40 million for Alaska communities. ConocoPhillips and its heritage companies have more than 50 years of business history in Alaska.

ConocoPhillips is also the largest holder of federal and state leases in Alaska. The company holds interests in 1.9 million gross acres of leases in the National Petroleum Reserve - Alaska, and nearly 2.9 million gross undeveloped acres in total outside of producing fields.







ConocoPhillips' headquarters is located in downtown Anchorage.

### BP Exploration (Alaska) Inc.

BP opened its first office in Alaska in 1959 and today operates 13 North Slope oil fields, four North Slope pipelines and owns a significant interest in six other producing fields and the Trans Alaska Pipeline System (TAPS). BP Exploration (Alaska) Inc. is an "upstream" business unit of the BP Group, Plc.

BP employs about 1,400 employees in Alaska, about half of whom work on the North Slope. BP Alaska owns 47 percent of TAPS.

BP has been Alaska's largest private investor for the past 30 years, with a capital budget of \$600 million for 2006, and more than \$20 billion since 1970. It spends about \$1 billion annually with Alaska contractors and vendors, and supports Alaska's communities with millions of dollars of charitable contributions each year along with an active employee involvement program.

BP's office is located in mid-town Anchorage.



## Natural gas

## Alaska's North Slope gas resource

A world-class, stranded natural gas resource exists on Alaska's remote North Slope, with more than 35 trillion cubic feet (TCF) of known gas resources. In addition, the federal government estimates that perhaps three times the known gas resources remain to be discovered in onshore and offshore areas on the North Slope. These resources can help fill North America's growing need for a long-term, reliable, clean-burning source of energy.

As the three main leaseholders of natural gas on the North Slope, BP, ConocoPhillips and ExxonMobil are working diligently to develop a commercially viable, environmentally responsible Alaska Natural Gas Pipeline project to serve North American markets.

Since startup, Prudhoe Bay's gas has been produced with the oil and re-injected into the field to enhance oil recovery as well as conserving the gas for later commercialization. The re-injection of the produced gas has resulted in the incremental recovery of about 3 billion barrels of oil over the life of the field.

The pipeline project is estimated to cost more than \$20 billion (2001 dollars) and will require the producers to make long-term financial commitments to ship Alaska North Slope gas.

There are many risks associated with the pipeline project, including market or commodity price risk, government or regulatory risk (assuring timely permitting and avoiding unproductive delays), and technical or capital risk (inherent challenges that could cause cost overruns).

In 2006, BP, ConocoPhillips, ExxonMobil and the State of Alaska reached agreement on the gas portion of a fiscal contract and a new oil tax structure that would support progression of an Alaska Gas Pipeline project. A durable oil and gas fiscal contract is essential to the financing and construction of the Alaska Gas Pipeline - one of the largest projects in the world.

The producers have evaluated many options to commercialize North Slope natural gas over the years including liquefied natural gas (LNG) and gas to liquids (GTL). These evaluations show that a gas pipeline to the lower 48 states is the most promising option, delivering the greatest benefits to the State of Alaska.

## Gas: Clean energy and sustainable development

The American Gas Association research shows more than 60 million American homes use natural gas heat. This demonstrates consumers' strong preference for this efficient, cleaner burning fuel. Developing Alaska's natural gas continues to be a top priority for BP and ConocoPhillips.

The construction and operation of a natural gas transportation system (including the gas treatment plant and pipeline) will occur within existing industrial or transportation corridors — the Prudhoe Bay oil field, the Trans Alaska Pipeline System (TAPS) route, and adjacent to the Alaska Highway. Unlike TAPS, the gas pipeline will be buried below grade for more than 90 percent of its length. The design, installation and operation of the pipeline will benefit from our 40+ years of Arctic oil and gas exploration and development experience. For example, we will use state-of-the-art restoration methods during construction to minimize the environmental footprint of surface facilities and the pipeline corridor.

## Natural gas pipeline project overview

- Pipeline Design Rate 4.5 billion cubic feet/day
- Expansion Potential
  1 billion cubic feet/day
- Compressor Stations
  24
- Total Pipeline Compression Horsepower
   1.2 million
- Pipeline Diameter 48-52 inches
- Operating Pressure 2,000-2,500 pounds per square inch
- Tons of Steel
  5-6 million
- Construction Man Hours
  54 million



North Slope oil fields

### Prudhoe Bay

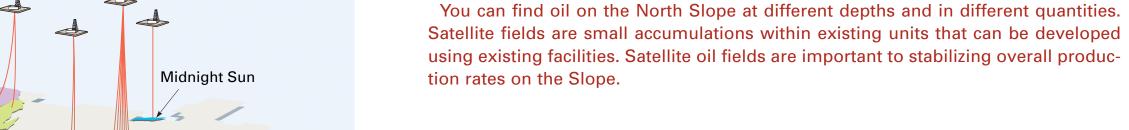
The Prudhoe Bay field is the largest oil field in North America and ranks among the 20 largest fields ever discovered worldwide. Of the 25 billion barrels of original oil in place, approximately 13 billion barrels can be recovered with current technology. The field has produced more than 10 billion barrels, with 2004 production at 475,000 barrels per day. The field also contains an estimated 26 trillion cubic feet of recoverable natural gas (in place) in an overlying gas cap and in solution with the oil.

The oil at Prudhoe Bay is trapped in the Sadlerochit sandstone formation nearly 9,000 feet underground. The oil-bearing column was 500 feet thick in some areas during the field's early life, and today averages less than 50 feet.

The Prudhoe Bay field came on-stream June 20, 1977, and produced more than 1.5 million barrels of oil and gas liquids per day for more than a decade. Production began to decline in 1988, but the field still contributes about 5 percent of total U.S. production.

Development of Prudhoe Bay and the transportation system necessary to move its crude oil to market cost more than \$25 billion. Almost 1,400 wells have been drilled.

Ownership in the Prudhoe Bay field includes ConocoPhillips and ExxonMobil Alaska Production Inc. with about 36 percent each, BP at 26 percent and others at 2 percent. BP operates the field.



#### Prudhoe Bay satellite oil fields

Five Prudhoe Bay satellite oil fields produce about 45,000 barrels per day and help offset the giant oil field's decline.

#### Midnight Sun and Aurora

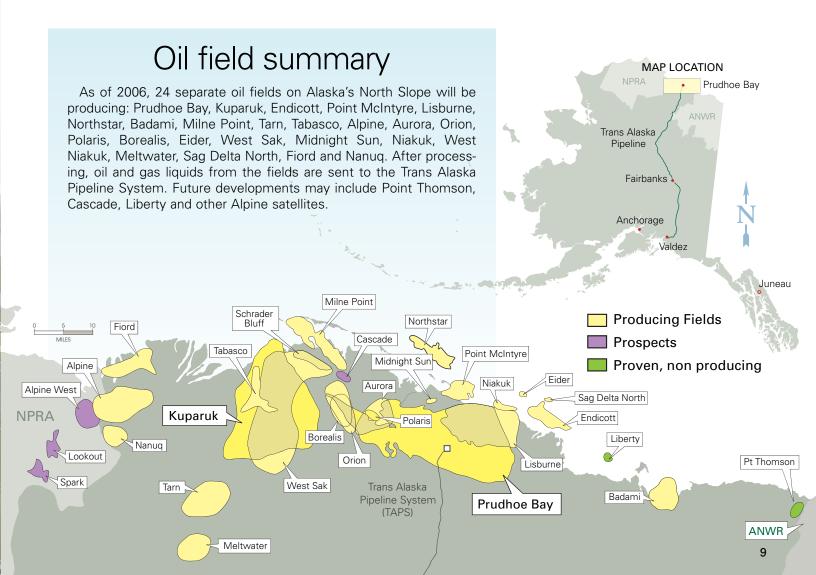
Midnight Sun came on line in October 1998 and produces about 5,500 barrels per day. Aurora started production in February 2001 and was one of the first fields in Alaska to use horizontal wells for initial development. Daily production is about 9,000 barrels per day.

#### **Borealis**

Borealis produces a light oil from a fault-isolated sandstone formation between 6,000 to 7,000 feet below sea level. Daily production is about 19,000 barrels per day.

#### Orion and Polaris

Orion and Polaris access viscous oil in the Schrader Bluff formation using advanced drilling technologies to unlock this difficult, but expansive, resource. Daily production is about 11,000 barrels per day.





Orion

Polaris

Aurora

**Borealis** 

## North Slope oil fields

### Greater Kuparuk Area

The Greater Kuparuk Area (GKA), including the satellite fields of Tarn, Tabasco, Meltwater and West Sak, produces about 180,000 barrels of oil per day gross. More than 950 wells have been drilled, and more than 1,000 wells will be required to fully develop the field.

The Kuparuk field is the second-largest producing oil field in North America. More than 2.6 billion barrels of the estimated 6 billion barrels of original oil in place are expected to be recovered. Kuparuk reached a milestone in July 2005 when cumulative production reached 2 billion barrels.

Discovered in 1969, Kuparuk began production in December 1981 and achieved a record average rate of 322,000 barrels per day in 1992. Today the Kuparuk field produces about 140,000 barrels per day.

Kuparuk's miscible injectant Enhanced Oil Recovery (EOR) will increase ultimate oil recovery by 200 million barrels while helping to offset the natural decline in Kuparuk field rates

The producing reservoir is composed of Cretaceous-age Kuparuk sands at depths of 5,500 to 6,500 feet. Average thickness of the oil-bearing rock is about 100 feet.

Kuparuk's major field installations include three separation facilities, called Central Production Facilities (CPF), that separate the oil, gas and water. Natural gas liquids from Prudhoe Bay are blended with Kuparuk natural gas liquids for injection into the reservoir to add pressure and enhance oil recovery. Seawater and produced water (water that is produced from the reservoir) are also injected through wells into the formation. Processed oil from Kuparuk is piped 26 miles to Pump Station 1, the beginning of the Trans Alaska Pipeline System.

Kuparuk and its satellites are operated by ConocoPhillips. The Kuparuk Field is owned by ConocoPhillips with about 55 percent of the working interest, and BP with approximately 39 percent. The remainder is owned by Union Oil Company of California (recently acquired by Chevron U.S.A. Inc.) and ExxonMobil.

#### Kuparuk satellite fields

The Greater Kuparuk Area satellites are Tarn, West Sak, Tabasco and Meltwater. All satellite production is processed through Kuparuk facilities.

#### Tarn

Tarn produces about 22,000 barrels of oil per day and is one of the 30 largest oil fields in the U.S. It began producing in 1999 and is located southwest of the Kuparuk field

#### West Sak

The West Sak field was discovered in 1971, began production in 1997 and produces about 12,000 barrels of oil per day. The field is a shallow viscous-oil reservoir situated above the Kuparuk field. The oil is very thick and difficult to produce, with an average 19-degree oil gravity, similar to the consistency of molasses.

In mid-2004, ConocoPhillips announced plans for the largest-ever heavy oil development program in Alaska at West Sak. This development will increase West Sak oil field production to approximately 40,000 barrels per day gross production by 2008. The increased production from West Sak will nearly double the amount of current North Slope heavy oil production.

#### Tabasco

Tabasco is the second Greater Kuparuk Area heavy oil development, discovered in 1986, with first oil in 1998. Current average daily production from Tabasco is about 4,000 barrels per day.

#### Meltwater

Meltwater, 10 miles south of Tarn, was discovered in May 2000. Production began in late 2001, and the field currently produces 5,000 barrels per day. All development occurs from a single drill site.





### Alpine

The Alpine oil field, declared commercial in 1996, began production in late 2000. Developed at a cost of more than \$1 billion by ConocoPhillips and its partner Anadarko Petroleum Co., Alpine is the largest onshore oil field discovered in the United States in more than a decade. The average annual gross production at Alpine is about 125,000 barrels per day.

The field is located in the Colville River area, 35 miles west of the Kuparuk River field, and eight miles from the Inupiat village of Nuiqsut. Alpine resides on both stateowned and Native-owned lands. Oil from Alpine was the first produced from Native-owned land on Alaska's North Slope.

The original 40,000-acre oil field was developed from two drill sites on just 97 acres, or two-tenths of 1 percent of the field area. The Alpine development from the onset incorporated the use of water alternating with miscible gas injection (generated from the existing gas in the field) to sweep oil towards wells and achieve a high recovery efficiency of the oil. Forty years of arctic technological advancements, including the use of extended reach and horizontal drilling, have dramatically reduced the size of our footprint and made it possible to access more of the subsurface area.

Alpine is a near zero-discharge facility. The waste generated is reused, recycled or properly disposed. There is no permanent road to the field, and in the winter ice roads are constructed to allow transportation of

equipment and drilling supplies to the site. These roads minimize environmental impacts, because in the spring the ice roads melt, leaving no trace on the tundra. Aircraft provide service to the field year round, and is the only method for field support when ice roads are gone.

ConocoPhillips has initiated several projects since 2003 to increase oil production at Alpine by expanding the processing capacity of the facility. The projects involved design and construction of new processing modules, expanding the oil, gas and water handling capabilities, increasing injection capacity and optimizing the composition of the gas injectant.

In addition, ConocoPhillips began development of two Alpine satellite fields in the winter of 2005: the Fiord oil field north of Alpine (CD3), and the Nanuq oil field south of Alpine (CD4). Combined production from the Alpine field and these two satellites will help maintain peak annual average production at 125,000 barrels of oil per day in 2007. ConocoPhillips is also pursuing or plans to pursue state, local and federal permits for the three remaining Alpine satellite developments within the National Petroleum Reserve-Alaska. They are Alpine West, Lookout and Spark (CD5, 6 and 7.) ConocoPhillips Alaska is operator of

and holds a 78 percent interest in the Alpine field, while Anadarko Petroleum holds a 22 percent interest.

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## North Slope oil fields

## Greater Pt. McIntyre Area

The Greater Pt. McIntyre Participation Area includes six fields north of Prudhoe Bay that produce about 60,500 barrels of oil per day and process most of their fluids through the Lisburne Production Center.

#### Pt. McIntyre

Discovered in 1988, Pt. McIntyre contains about 900 million barrels of oil in place, of which about 500 million barrels is recoverable with existing technology. Current production is about 34,000 barrels per day from the lower Cretaceous Kuparuk River formation. BP produces the field from two pads. Owners include ConocoPhillips and ExxonMobil at 36 percent each and BP at 26 percent. The Pt. McIntyre area also includes the West Beach and North Prudhoe Bay State participating areas.

#### Niakuk and Western Niakuk

The Niakuk fields lie offshore and contain about 300 million barrels of oil in place. Current production is about 8,000 barrels per day from the lower Cretaceous Kuparuk River formation, a structurally and stratigraphically complex formation. A 2004 well set a world record length for coiled tubing drilling of 17,515 feet. BP operates the field and owns a 26 percent interest. Other owners include ConocoPhillips and ExxonMobil at 36 percent each.

#### 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 came onstream in late 1986 and contains an estimated 1.8 billion barrels in place. Current production is about 9,000 barrels per day from the Wahoo and Alapah formations. BP operates the field. Owners include ConocoPhillips and ExxonMobil at 36 percent each and BP at 26 percent.



#### **Endicott**

Located about 10 miles northeast of Prudhoe Bay, Endicott is the first continuously producing offshore field in the Arctic and the first model of the oil industry's "reduced footprint." Endicott's footprint is 70 percent smaller than the traditional pad and the field was developed with deviated wells drilled from two artificial islands.

Of the field's original 1 billion barrels of oil in place, almost 440 million barrels had been produced by early 2004, and the field is producing about 20,000 barrels per day.

Endicott's oil-bearing rocks lie in the Kekiktuk formation, a shale and sandstone formation similar to the Sadlerochit in the Prudhoe Bay field. The oil column lies about 10,000 feet beneath the surface and consists of the highest quality reservoir rock currently producing on the North Slope.

Discovered in 1978, the field began production in October 1987, and by mid-1992 was producing about 120,000 barrels per day. Development costs for Endicott were slightly more than \$1 billion and included 100 wells.

A five-mile, man-made gravel causeway connects the two gravel islands that sit in 14 feet of water. The 45-acre Main Production Island contains the operations center and processing facilities. Processed oil is sent through a 24-mile pipeline to the Trans Alaska Pipeline System.

BP owns about 68 percent interest and operates the field. Other equity owners include ExxonMobil, 21 percent; Chevron, 10 percent; and NANA Regional Corp., Doyon Ltd. and ConocoPhillips with smaller interests.

#### **Endicott satellites**

Two satellite fields drilled off Endicott's Main Production Island access oil from the Ivishak formation. Eider consists of two highly deviated wells that produce about 700 barrels per day, while Sag Delta North produces 200 barrels per day.

#### Milne Point

Milne Point lies 35 miles northwest of Prudhoe Bay and includes production from three oil-bearing formations: the Sagavanirktok River at a depth of about 9,000 feet, the Kuparuk at a depth of about 7,000 feet and the Schrader Bluff at about 4,000 feet. The field was first discovered in 1969, came on-line in 1985 and has an estimated 1 billion barrels of oil in place.

BP acquired a majority interest in the field in 1994 and more than doubled production with a \$180 million development project in 1995-96. Since then, Milne has become an innovator in the application of new reservoir technology to enhance oil recovery. Milne produces about 44,000 barrels of oil per day or more than four times its initial production.

Milne also leads the North Slope in the development of viscous crude, a large but challenging resource due to its much cooler temperature and the way it has accumulated in the formation. Some 40 percent of Milne's total production comes from the viscous Schrader Bluff horizon.

BP owns 100 percent of Milne and is upgrading its production facilities to handle the colder, viscous crudes.



Milne Point Operations Center is west of Prudhoe Bay.

#### Badami

Badami is located on the shore of Mikkelsen Bay about 35 miles east of Prudhoe Bay and is the first BP field to be developed remotely from Prudhoe Bay infrastructure. Production began in 1998 and the field is currently producing 2,000 barrels per day. BP has a 100 percent interest in Badami.

#### Northstar

Located about six miles northwest of Prudhoe Bay, Northstar is the first arctic offshore field connected to shore only by pipeline. The field, with 176 million barrels of oil in place and a daily production of 64,000 barrels, was discovered in 1983 but not developed until BP acquired a major interest in 1995.

BP designed a state-of-the-art facility that produces and processes the field's fluids from a five-acre production island, with a footprint of about .05 percent of the reservoir's area. The six-mile pipeline has a wall thickness triple those of typical onshore North Slope pipelines and has three separate leak detection systems, including one that can detect a leak as small as a single barrel per day.

Northstar is a zero-discharge facility. Waste is reused, recycled or taken ashore for proper disposal.

Northstar oil production facilities were built in Alaska and barged to the North Slope. The modules were the largest oil production facilities ever fabricated in Alaska and required a peak workforce of 1,000 workers.

BP operates the field and holds about 98 percent interest. Murphy Oil Co. owns less than 2 percent.



## Drilling technology

### New technology reduces impact

To reach the oil and gas under the North Slope, the producers use a number of drilling techniques, many of them developed in Alaska by BP and ConocoPhillips. This new, smart technology significantly reduces the environmental impact, lowers the cost of oil production and encourages the creation of an Alaska-based industry to manufacture in-state oil field modules previously built outside Alaska. It also has been key to bringing the Slope's huge viscous oil resources on-line.

### Better tools to see underground

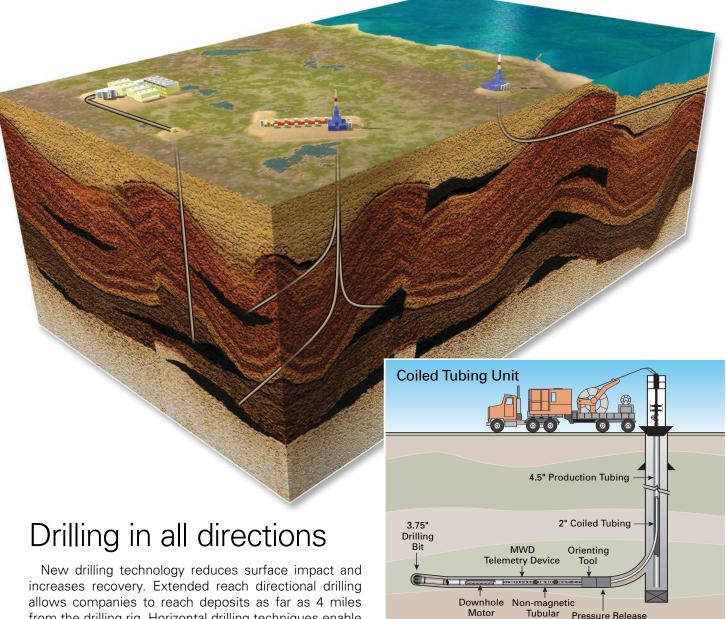
To locate underground structures that may contain oil, geologists survey the land with technologically sophisticated gravity meters and magnetometers. They use seismographs similar to those that measure earthquakes to explore what they cannot see by sending sound waves underground and measuring how long it takes the waves to reflect off rock layers and return to the surface. They measure the strength of these "reflections" to estimate the type of rocks. Geologists feed that data into computer models to create three-dimensional pictures of underground formations. With CAT scans and magnetic resonance imaging - the same technology doctors use to peer inside the human body

- they visualize the flow of oil through



ConocoPhillips uses 3-D imaging to produce more oil from existing fields and to explore for new fields on the North

BP and ConocoPhillips use the geological information to decide where to drill. Today's drilling techniques are smart and sophisticated, based on real time information about what is happening down-hole. These technologies improve drilling success, enabling the industry to pinpoint the best locations to most efficiently produce the resource and lower overall cost. This results in a higher level of success, fewer wells, less surface disturbance, enhanced recovery and fewer, more strategically placed production facilities.



from the drilling rig. Horizontal drilling techniques enable companies to open up more of the oil reservoir, which increases the production rate of wells.

Drilling advances make it possible to reach parts of a reservoir once considered uneconomic and to tap the North Slope's huge viscous reserves.

Horizontal production wells allow producers to run long sections of horizontal casing through a layer of oil as thin as 6 feet, draining the deposit through openings in the casing. At least 90 percent of the wells now drilled at Prudhoe Bay, Kuparuk and Alpine are horizontal and this technology helps keep production up by tapping into deposits once thought not producible.

Horizontal wells expose more of the reservoir, which results in higher production rates. An historic vertical well might expose 200-300 feet of reservoir rock. The new wells can use multiple horizontal sections to expose more than 20,000 feet of reservoir rock in one

BP and ConocoPhillips began experimenting with multilateral horizontal wells at the turn of the decade to increase viscous oil production. These are multiple wells

drilled off a common hole to the surface. BP drilled Alaska's first five-legged well in 2005 into the viscous oil Polaris pool. Multilateral wells are key to raising the North Slope's viscous oil production to 100,000 barrels per day by the end of the decade.

The advent of new generational down-hole directional equipment and drilling motors made it possible to drill new wells with coiled tubing units that have been used for years to perform maintenance work on North Slope wells. With this method, new wells are drilled through the production tubing of existing wells, eliminating the need to pull the tubing out of the ground as a conventional drilling rig must do. Also, the job can be done with the well's "Christmas tree" - the surface assembly of valves – in place. Coiled tubing wells can be drilled for a fraction of the cost of drilling with traditional rotary rigs.

Slim-hole and ultra slim-hole wells with smaller bores help drillers reduce penetration costs by as much as 50 percent.



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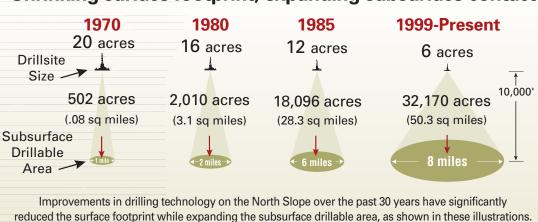
## Drilling technology



### A smaller footprint

Drilling advances and improved waste management techniques enable the producers to significantly reduce the land area needed for oil field development. Wells that once were spaced about 120 feet apart are now drilled as close as 10 feet. With grind and inject technology, drilling waste is safely reinjected underground into isolated geologic formations, eliminating the need for surface reserve pits.

**Shrinking surface footprint, expanding subsurface contact** 



The fields themselves affect much less surface acreage. Prudhoe Bay field development directly covers about 5,000 acres or less than 2 percent of the field's total surface acreage. The 40,000-acre Alpine field has been developed from facilities covering about 97 acres, or less than two-tenths of 1 percent of the land.

The smaller developments also benefit Alaskans. Alaska businesses now construct most of the production modules used on the North Slope, adding a new, high-value industry to the state's economy.

### Minimizing impact

Exploration drilling is limited to a brief window each winter when ice roads can be built in remote locations.

Instead of constructing a gravel pad for exploration drilling, companies now build temporary pads of ice that disappear after the well has been drilled, leaving virtually no trace. Temporary ice roads have long been used to support winter exploration drilling on the North Slope and some of the newer oil fields - including Alpine, Northstar and Badami - have no permanent road to the fields. The use of ice roads and ice pads significantly reduces the impact on the environment by protecting the tundra.





The exploration drilling rig in the top photo was moved to this location in the National Petroleum Reserve-Alaska via an ice road. It's sitting on an ice pad more than 12 inches thick. When drilling operations are complete, the ice melts, leaving no trace that the rig was there. The bottom image shows the same exploratory well in the summer months after drilling operations were suspended. This is our picture of modern exploration - small impact and



## Oil production

Wells at Prudhoe Bay and other North Slope fields produce a mixture of oil, natural gas and water — these three streams need to be separated before the oil can enter the Trans Alaska Pipeline System. Prudhoe Bay has six oil separation facilities designed to process a maximum of 1.8 million barrels of liquids per day.

Recovered gas and water goes back into the formation to help maintain reservoir pressure and enhance oil recovery. The Seawater Treatment Plant processes additional water for injection into the reservoir as part of a field-wide, waterflood program to maintain pressure and sweep oil from the reservoir rock.

Gas goes to the Central Gas Facility and the Central Compression Plant, located in the northern part of the Prudhoe Bay field. It is the largest gas-handling system of its kind in the world.

A refrigeration process extracts about 75,000 barrels per day of natural gas liquids (NGLs) for shipment down the pipeline. A portion of the NGLs and 350 million square cubic feet per day (MMSCFD) of miscible injectant are used for enhanced oil recovery at Prudhoe Bay. Some of the NGLs are also sent to Kuparuk for enhanced oil recovery. The remaining gas goes to the Central Compression Plant where it is compressed for reinjection into the gas cap to maintain pressure and preserve it for future use. A small portion of the processed gas supplies field fuel needs.

Each separation facility contains sophisticated gas detection, fire and trouble alarm systems; several fire suppression systems, and firewater storage tanks. Each facility can shut down rapidly should the need arise.



Ho

Gas and water are removed from the crude oil at facilities called flow stations and gathering centers.

Two control centers orchestrate the production process. Aided by sophisticated computers handling tens of thousands of data points, production controllers

monitor and control the flow of oil from well sites to production facilities, the pipeline, as well as gas sent to the two gas facilities.

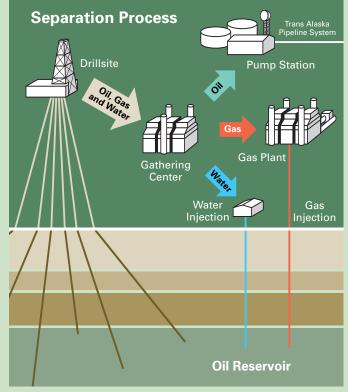
Controllers can quickly shut down the field by remotely closing valves at the wellhead, the perimeter of the drill sites and at the production facilities. A surface safety valve at the wellhead automatically shuts in a well if operational problems arise.

The Central Power Station provides electrical power for all operations. Natural gas produced from the field fuels the station's seven turbine generators, which can generate up to 160 megawatts - enough to power a city of 80,000.

The Lisburne Processing Center handles fluids from Lisburne, Pt. McIntyre and Niakuk fields.

#### How does oil flow?

North Slope oil lies trapped within microscopic pores of the rocks in underground formations. It flows under its own pressure similar to what happens when you open a bottle of soda. When you pop the cap, the gas escapes, bringing up fluid with it. In the case of the Prudhoe Bay reservoir and other North Slope fields, that gas also brings up oil and water. Crude oil reaches the surface at a temperature averaging 160 degrees Fahrenheit. From the surface wellhead, oil flows into a manifold building, where it is tested for the oil, gas and water content. Produced fluids from all the wells on a single drill site are pumped into gathering lines for delivery to processing facilities. Wellheads and manifold buildings are built on gravel "pads" to protect the permafrost. Once oil is processed to pipeline specifications, it goes to Pump Station 1, the beginning of the Trans Alaska Pipeline System.



After the oil is separated, it is sent to Pump Station 1, while natural gas and water are injected into the reservoir. Some natural gas is used for field operations, and some is sent as natural gas liquids through the trans-Alaska pipeline with the crude oil stream.

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## Getting oil to market



About half of the 800-mile trans-Alaska pipeline is built above ground to protect the permafrost (permanently frozen ground).

### Trans Alaska Pipeline System

Almost three decades after startup, the Trans Alaska Pipeline System (TAPS) is receiving a major upgrade to extend the system's economic life and improve its efficiency. Originally constructed between 1974 and 1977 at a cost of more than \$8 billion, the 48-inch pipeline stretches 800 miles from the North Slope to the ice-free port of Valdez. More than 15 billion barrels of oil and gas liquids have been sent through the line. The volume of liquids peaked at 2.1 million barrels per day in 1988 and today averages about 900,000 barrels per day. It takes the liquids about 8.5 days to make the long trip across three mountain ranges and over 800 streams and rivers.

#### **TAPS FACTS:**

(Pump Station 1 to Valdez)

Length of TAPS

800 miles

Crosses

3 mountain ranges > 800 rivers/streams

Pipeline diameter

48 inches

Total cumulative throughput 15 billion barrels

(Pump Station #1 to 12/21/2005)

Reliability factor (2004)

99.4%

TAPS throughput 2004

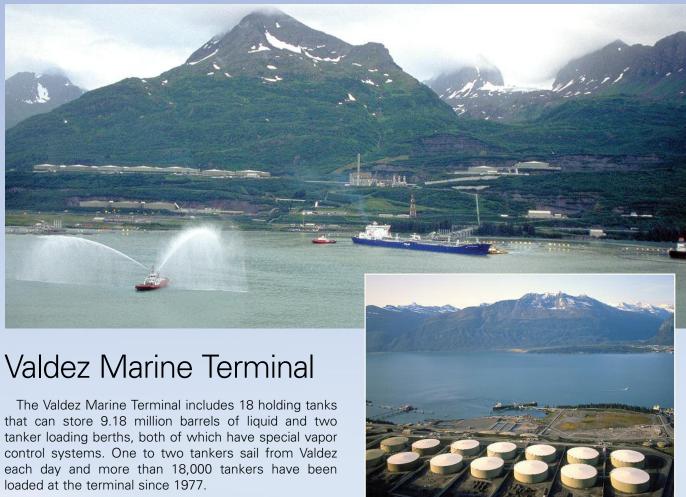
Average bbls/day 935,108

Cummulative bbls/year 342,249,701

> \$8 billion Construction cost



that can store 9.18 million barrels of liquid and two tanker loading berths, both of which have special vapor control systems. One to two tankers sail from Valdez each day and more than 18,000 tankers have been





## Double hull tankers



BP's and ConocoPhillips' new double hull tankers have set standards for tanker technology and environmental performance.

#### A new era of tankers

Tankers transport the oil from the Valdez terminal to refineries in Washington, California and Hawaii and their movements are closely monitored by the U.S. Coast Guard and other oversight agencies. Alyeska Pipeline Service Company's Ship Escort/Response Vessel System (SERVS) provides tug escorts to ensure that all loaded ships are safely accompanied as they move through Prince William Sound. These powerful, highly maneuverable, state-of-the-art tugs can tow vessels in distress and are equipped with oil spill response equipment that can be rapidly deployed. Highly trained oil spill response crews in Valdez are on standby 24 hours per day.

In accordance with the Oil Pollution Act of 1990 (OPA 90), all non-double hulled tankers in the Alaska crude oil trade must be phased out of service. BP and ConocoPhillips have put into service technologicallyadvanced, double hull tankers to carry Alaska oil — ships with twin steering systems and twin propulsion systems designed to prevent oil spills. The vessels are equipped with highly sophisticated, dependable navigation and control systems; cargo, fuel and lubricating oil tanks that are isolated from the ship's outer hull by ballast tanks or void spaces; hulls painted with tinfree, anti-fouling paint to protect the ocean environment; and the latest electronics to ensure safe and efficient operation.

Polar Tankers, a part of ConocoPhillips Marine, built five Endeavour Class tankers at a cost of \$1 billion as part of its pledge to OPA 90. Four of the new tankers are currently in ser-

vice in the Alaska trade; the fifth tanker is under construction and will be in service in 2006. Polar Tankers is phasing out its remaining ships on average a year ahead of the requirements of OPA 90, and its fleet will be composed entirely of double hull ships by late 2008. Each

Endeavour Class tanker can transport just over one million barrels of oil at full capacity.

BP is investing \$1 bil-

lion in four state-of-the-art Alaska Class tankers that will help to transform the company's Alaska fleet to double hulls by 2006. Three of the four tankers ordered - the Alaskan Frontier, the Alaskan Explorer and the Alaskan Navigator - are already in service. The fourth tanker is scheduled for delivery

in mid 2006.



BP and ConocoPhillips are investing about \$2 billion in the new fleet of tankers. These state-of-the-art ships are the most environmentally friendly oil tankers ever built.

The U.S. Jones Act requires producers to transport their North Slope crude oil between American ports on U.S.-built and flagged ships operated by American crews who are employed by American companies. To comply with the law, BP charters a fleet of ships for its Alaska trade but rigorously oversees transportation performance. The Alaska Tanker Co. (ATC), based in Beaverton, Ore., operates BP's tankers. BP owns 25 percent of ATC, and as an owner/director, establishes HSE performance criteria based on BP standards.

Most of BP's Alaska oil goes to BP refineries in Cherry Point, Wash., and Carson City, Calif. ConocoPhillips' oil goes to refineries in Washington, California and Hawaii.







The new double hull tankers exceed regulatory standards and dramatically reduce the risk of oil spills to the environment.

## People and materials



BP Base Operations Center at Prudhoe Bay.



### Logistics

The remoteness of the North Slope creates major logistical challenges for people and materials. Logistics is coordinated in Anchorage, and needed parts, people and equipment can be expedited within hours.

Most oil field supplies are transported to the North Slope by truck over the 73-mile Elliot Highway to the Yukon River and then over the 360-mile, all-weather Dalton Highway to Prudhoe Bay (at Deadhorse).

BP and ConocoPhillips rely heavily on aircraft for movement of personnel, mail and rush cargo. The Shared Services Aviation department is operated as a corporate flight service by ConocoPhillips. Both ConocoPhillips and BP lease Boeing 737 jets that are used exclusively for employees, contractors and guests. They fly directly from Anchorage and Fairbanks to Prudhoe Bay and Kuparuk several times daily. Smaller passenger planes, including a CASA 212 and a de Havilland Twin Otter, provide air transportation services in and around the North Slope, and are also used for medevac/utility purposes. Daily jet service to Deadhorse from Anchorage and Fairbanks is also available through commercial airlines.

The paved 6,500-foot, state-operated airstrip at Deadhorse is equipped with modern navigational aids and can accommodate aircraft of all sizes. Deadhorse is the only area open to the general public. The Kuparuk oil field has a private 6,000-foot gravel airstrip which can also accommodate large aircraft.





Aircraft and trucking provide a critical link to the North Slope.

At either end of the North Slope, both Alpine and Badami each operate a 5,000-foot gravel airstrip which hosts small commuter and larger freight aircraft. As roadless developments, their supplies are brought in during the winter over more than 30 miles of ice roads that are built each year.

Since 1968, large oil production modules and other oil field facilities weighing thousands of tons have been brought to Alaska's North Slope by barge sealift. These sealifts are conducted in the summer during the sixweek period when the Arctic Ocean ice moves offshore. With the advent of smaller, truckable oil production modules built in Alaska, future sealifts will be smaller and less frequent.



Barge sealifts, both from Anchorage and the U.S. west coast, deliver oil field production facilities to the North Slope.

#### Living conditions

North Slope workers work long hours under challenging conditions. Comfortable living quarters and plenty of good food help relieve the rotating shifts and claustrophobic feeling workers can experience in the dark, sub-zero winter.

The producers maintain living facilities for more than 3,500 employees and contractors on both the east and west sides of Prudhoe Bay, and at Kuparuk, Alpine, Milne Point, Endicott, Northstar and Badami. There is also a 673-bed construction camp at Prudhoe Bay. All have dining rooms and 24-hour snack centers.

The facilities are brightly lit and colorfully decorated and include an array of recreational facilities that range from exercise rooms and saunas in the smallest facilities to movie theaters, basketball courts and a swimming pool at the largest facility. All facilities have a television lounge equipped with satellite TV.

Most of the facilities are completely self-contained, with their own power, water and wastewater systems. There is medical staff at each facility, along with well-trained volunteer fire fighters and emergency response teams.





Recreational and dining facilities are an important part of camp life.



## Safety

Safety is priority number one for BP, ConocoPhillips and their contractors, which is why the North Slope oil-fields are among the safest work locations in the world. Injury rates on the North Slope are a fraction of the injury rates experienced in the average Alaska workplace due to well-maintained facilities, stringent operating procedures and extensive worker training.

Four North Slope facilities – Central Power Station, Central Gas Facility, Central Compression Plant and Endicott – have been officially recognized for exemplary health and safety performance by OSHA, the Occupational Safety and Health Administration.

BP and ConocoPhillips instituted several initiatives to further improve safety, including advanced safety auditing, process safety management, behavior safety training, near-miss reporting and daily toolbox meetings.

The producers encourage their contactors to meet their own high safety standards, and to train and provide their workers with appropriate tools to perform their work safely.



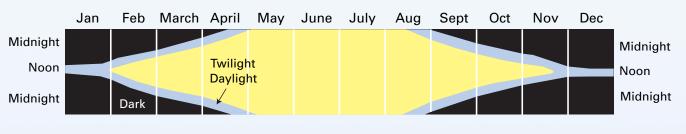
### Weather

For 56 days in midwinter, the sun never rises above the horizon on the North Slope. But in the summer, the arctic coast enjoys 75 days when the sun never sets

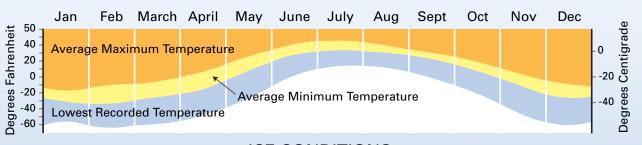
Winter air temperatures as low as minus 68 degrees Fahrenheit have been recorded, and high winds can drive the chill factor to minus 115 degrees Fahrenheit or lower. In summer, temperatures can occasionally top 80 degrees Fahrenheit, however, it can snow any day of the year along the arctic coast.

With annual average precipitation of less than 10 inches, the North Slope is considered an arctic desert. Although winter snowfall is generally less than 3-1/2 feet, snowdrifts can be more than 20 feet high. Twelve inches of snow equals about one inch of rain.

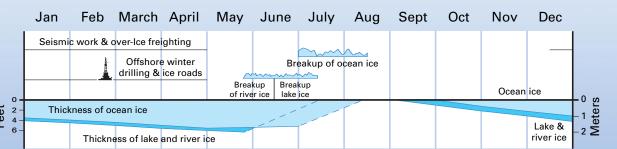
#### DAYLIGHT



#### **TEMPERATURE**



#### ICE CONDITIONS





## Protecting the environment

#### Wildlife

Responsible development of Alaska's resources is an exercise in balance. While contributing to economic growth, we must also protect the environment and limit our impact on the land, work closely with our neighbors and respect their subsistence way of life, and safeguard wildlife. BP and ConocoPhillips work closely with government policymakers and regulatory agencies to ensure that operations are environmentally responsible. ConocoPhillips regularly conducts the following:

Environmental studies document baseline conditions prior to new developments and the data is used to assist project engineers with the routing and placement of gravel roads and pads to minimize environmental impacts. Examples of such studies include mammals and bird surveys and habitat mapping to determine important wildlife habitats.

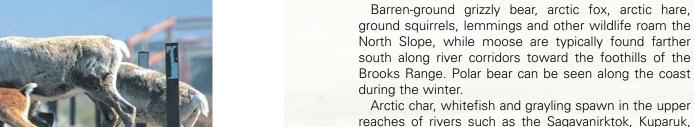
**Studies to support permits** for exploration activities and to comply with environmental laws and regulations. Examples of such studies include water source sampling for ice road construction and cultural resource clearance to ensure that activities avoid known cultural or historic sites.

Wildlife studies to assess the impact of our ongoing operations. Examples include aerial surveys of spectacled eiders as a threatened species and acoustic surveys

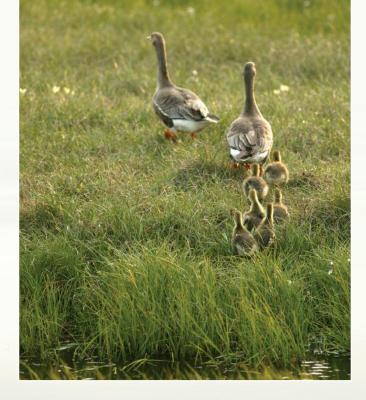


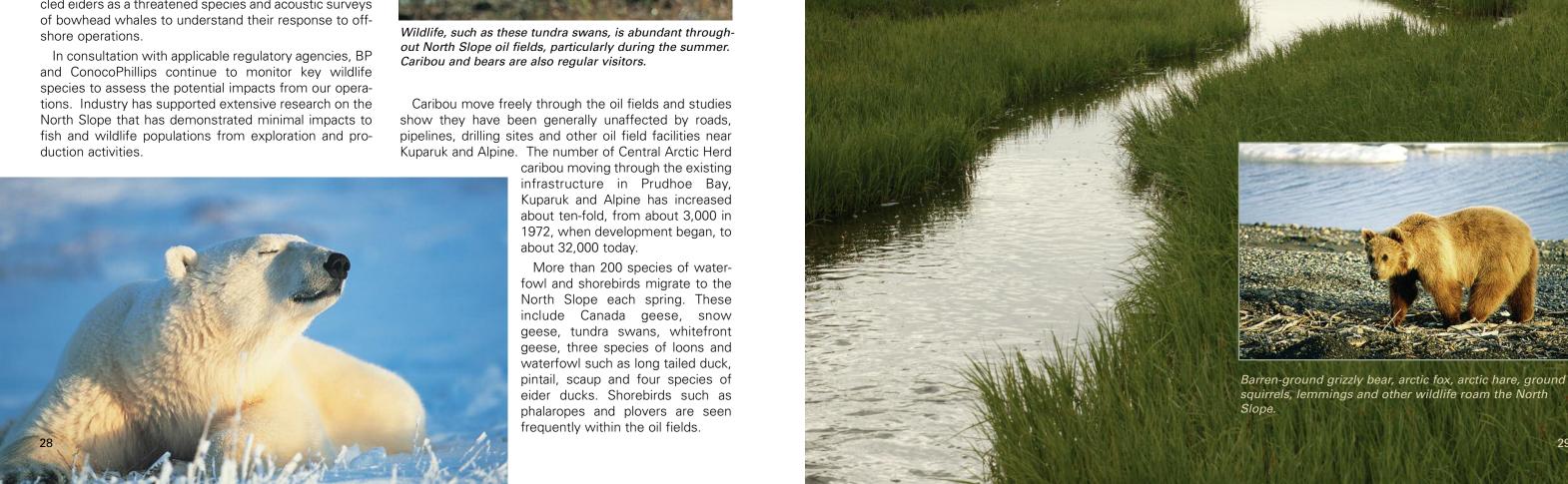
Animals have the right-of-way on the North Slope. When a vehicle encounters wildlife, the vehicle slows down or stops to allow safe passage.





Arctic char, whitefish and grayling spawn in the upper reaches of rivers such as the Sagavanirktok. Kuparuk. Canning and Colville. Considerable effort is spent by industry to identify fish habitat important for all life cycle periods (spawning, overwintering, movement corridors) before any activity begins. These activities are closely coordinated with the Alaska Department of Natural Resources' Habitat Division, and other interested agencies such as the National Marine Fisheries Service.









## Emergency response

BP and ConocoPhillips support and fund a strong North Slope spill response preparedness and prevention program. Spill response training ensures that our statewide workforce is prepared to respond wherever they are needed. The producers also fund research to find better spill response techniques, better technology and better solutions should an incident occur.

While the goal is to have no spills, all spills are taken very seriously. Most that do occur are small, ranging from a few cups to 10 gallons in size. No matter the size, all spills are cleaned up and reported as appropriate to regulatory agencies. The vast majority of spills never reach tundra or surface water because they are contained on the gravel pads on which oil field facilities are constructed. Also, the North Slope operations area is snow-covered and frozen for nearly nine months of the year. As a result, any spills that do occur off pads usually contact snow and ice and are easily removed.

Part of BP's and ConocoPhillips' spill response training commitment includes supporting and funding Alaska Clean Seas (ACS), an independent spill response organization. ACS is available to assist field-based response teams with additional equipment and response personnel. Training and drills are conducted frequently to keep response crews at a high level of readiness.

Oil spill response exercises are a vital part of North Slope operations.



### Regulations

Federal, state and local governments regulate oil field activities on the North Slope. Major development projects require more than 100 permits that regulate every aspect of the project, from food service, to animal control to air emissions. A producer may deal with as many as 26 agencies on one project.

From design through construction and operation, there is a continual dialogue between the industry and agency personnel to ensure the best methods are used to minimize environmental impacts.



### Air quality

BP and ConocoPhillips have operated air monitoring stations on the North Slope for several years to measure wind speed and rainfall, as well as the levels of pollutants such as nitrogen oxides, Drilling sulfur dioxide, ozone and particulates. Rig Monitoring indicates that the air quality on

the North Slope is consistently better than national standards.

Most air emissions from North Slope oil operations come from large turbines that power production facilities. These turbines burn natural gas, which has low sulfur content and is produced in large quantities on the North Slope along with oil.

In 2005 BP and ConocoPhillips signed an agreement with the State of Alaska to dramatically reduce sulfur dioxide emissions on the North Slope. New federal rules require the use of ultra low sulfur diesel (ULSD) fuel in certain highway vehicles and in non-road engines, primarily construction and earthmoving equipment. Under the agreement, BP and ConocoPhillips will produce ULSD fuel on the North Slope and use it in all vehicles and combustion equipment beginning in 2008. The agreement will eliminate approximately 400 tons of sulfur dioxide released to the atmosphere on the North Slope between 2008 and 2010.

### Waste management

BP and ConocoPhillips work aggressively to reduce the amount of waste generated by their operations. Better waste management reduces the cost of operations, saves energy, lessens air pollution and preserves natural resources.

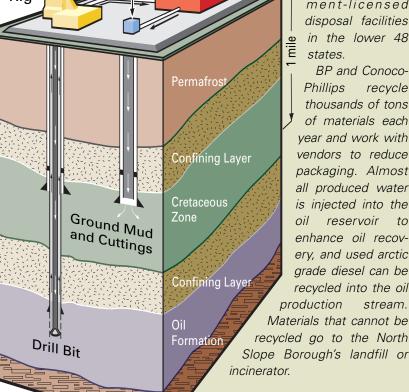
Grind-and-inject technology ended the need for surface reserve pits, decreasing environmental impact and dramatically reducing the footprint of new developments. Grind-and-inject takes solid drilling wastes, crushes and slurries it in a ball mill, adds in drilling mud and then injects the waste stream into specially permitted disposal wells where subsurface formations trap the wastes. Non-hazardous liquid wastes also are reinjected. The Prudhoe Bay grind-and-inject plant processed nearly 500,000 cubic vards of abandoned drilling waste in 2004.

As part of its commitment to Alaska, BP and ConocoPhillips voluntarily spend several million dollars each year to clean up contaminated sites left by others. remove abandoned barrels and close inactive pits.

The industry continues to develop new, non-hazardous materials and solvents to reduce the small amount of hazardous

Cuttings waste generated by oil field operations. Grinder Plant The existing waste goes to government-licensed disposal facilities in the lower 48

> states. BP and Conoco-Phillips recycle thousands of tons of materials each year and work with vendors to reduce packaging. Almost all produced water is injected into the oil reservoir to enhance oil recovery, and used arctic grade diesel can be recycled into the oil production stream.



Injection

Well

31



## Today



## Challenges ahead

Almost 40 years after oil was discovered at Prudhoe Bay, millions of barrels remain untapped, enough to sustain a significant level of production for decades if it can be economically developed.

The North Slope's viscous oil resources rival Prudhoe Bay in size but are costly and technically difficult to recover. New drilling and recovery techniques tested by BP and ConocoPhillips are producing encouraging results.

BP and ConocoPhillips sanctioned two large heavy oil expansion projects in 2004. The West Sak field is a shallow reservoir situated above the Kuparuk field. The development program will include drilling from two existing drill sites within the Kuparuk River Unit and is expected to cost approximately \$500 million.

The Orion viscous oil reservoir sits immediately west of the main Prudhoe Bay field and may contain more than 150 million barrels of recoverable oil. The field is being developed from existing well pads but may require significant capital investments over the next few years.

A key element of sustaining oil production is development of satellite accumulations around the Slope's major oil fields. These relatively small pools of oil can be produced from existing facilities and could yield upwards of 300 million barrels of recoverable oil.

New drilling technologies, sophisticated enhanced oil recovery programs and new, innovative well maintenance techniques are coaxing more oil from existing fields. A collaborative effort among the North Slope producers to drive down costs and add hundreds of millions of barrels of recoverable oil is making real progress. In the case of Milne Point, technology doubled production.

But the real prize is Prudhoe Bay and the nearly 10 billion barrels of oil that cannot be produced with current technology. A technological breakthrough that taps even a small fraction of that oil would be the equivalent of a major new oil field.



## The future

### Continuing to invest in Alaska

Oil and gas will continue to define Alaska's future for decades to come. While natural gas promises to become an important new revenue source for the state, it will take an estimated \$20 billion investment (2001 dollars) to build a gas line to move this resource to market.

The industry has invested more than \$40 billion in Alaska since the 1970s and billions more will be required to keep oil production levels steady over the next few years through development of satellites, heavy oil and new exploration. Alaska must compete for these investment dollars with projects around the world. It is important that the state maintain a healthy and competitive investment climate.

#### **Exploration**

The National Petroleum Reserve - Alaska (NPR-A), located west of the Alpine field, has shown great potential. Since the area was reopened to drilling in 1999, ConocoPhillips has drilled or participated in more than 17 wells. The first NPR-A discoveries were announced in 2001. As the state's most aggressive explorer, ConocoPhillips has drilled more than 50 exploration wells since 1999, and has access to more than 2.9 million gross undeveloped acres.

#### Managing the base

Extracting as much oil as possible from Prudhoe Bay and the other mature North Slope fields remains a top priority for BP and ConocoPhillips. Using advanced imaging technology, BP remapped much of Prudhoe Bay in 2003. The new data helps the company reach small pockets of oil through sidetracks, which are wells drilled with great precision through existing well bores. BP drills more than 100 new well penetrations each year and the program has significantly reduced production declines at Prudhoe Bay.

ConocoPhillips is investing almost half a billion dollars to develop two satellites at Alpine to increase production to 135,000 barrels of oil per day by 2007 and expand the field's production facilities. The expansion project, which increased the field's oil, water and gas handling capabilities, employed more than 400 Alaskans in design, engineering and construction. Another 550 construction workers will be needed to bring on-line the two Alpine satellites: Fiord and Nanuq. The company is currently seeking permits for additional Alpine satellite develop-

#### Heavy (viscous) oil

The Slope's massive heavy (or viscous) oil deposits offer the largest, proven oil reserve left to develop. This oil is very difficult – and very expensive – to produce, but thanks to an unprecedented cooperative working agreement among the producers, the industry is bringing this resource to market.

To date, BP, ConocoPhillips and other industry partners have spent more than \$1 billion developing the heavy oil resource, and today, it accounts for more than 5 percent of all the oil produced in Alaska. Heavy oil production plays an increasingly important role in offsetting the steady decline in light oil production and keeping overall production stable.



Our skilled and professional workforce is maturing. Many of our most experienced people are considering retirement. We must find and train a new generation of workers while we have the benefit of our current workforce's knowledge and experience.

> The workforce demands for a natural gas pipeline project will create extreme challenges for Alaska, and pressure the entire North American workforce. The pipeline project will require 6,500 trained and skilled workers in Alaska alone, along with an estimated 200 permanent positions.

> BP, ConocoPhillips and their co-owners are working now to train Alaskans for these jobs by supporting many professional and vocational training programs, including the Alaska Process Industry Careers Consortium (APICC), the Alaska Native Science & Engineering Program (ANSEP) and the Alaska Vocational Technical Center (AVTEC).

Heavy oil brings many challenges that require continued investment and advances in technology. The use of multi-lateral wells – wells with a single well bore but several horizontal legs to access more producing zones - are one way of increasing heavy oil production. Producers may also test the use of heat and gravity drainage technology to increase recovery rates. Surface facilities that separate the oil, water and gas must be modified to handle the kind of sediment that accompanies heavy oil production.

Viscous oil production could double over the next several years and provide more than 10 percent of Alaska's total oil production by 2010. In 25 years, it could amount to half of all the oil flowing through the Trans Alaska Pipeline System. A \$500 million investment program at the ConocoPhillips-operated West Sak development will increase production to 40,000 barrels per day, which is nearly double the total current North Slope heavy and viscous oil production.

### A partnership for tomorrow

#### Natural gas

The other large, virtually untapped resource is the North Slope's natural gas reserves, which the industry has reinjected for more than three decades to maintain reservoir pressure, increase oil production and save for the day it became marketable.

A sponsor group consisting of BP, ConocoPhillips and ExxonMobil wants to move this resource to market through a \$20 billion (2001 dollars) pipeline system that will create an estimated 6,500 direct jobs for Alaskans and generate billions of dollars of new revenue for state and local governments.

With a stable tax and regulatory climate, continued cooperation among federal, state and local governments and the industry, and reasonable oil and natural gas prices, BP, ConocoPhillips and their co-owners will invest the billions of dollars it will take to commercialize the North Slope's vast natural gas resources, maximize oil recovery from existing fields and explore for and develop new sources of oil and gas. This investment means Alaska's North Slope will provide energy for America for decades to come.

#### CAUTIONARY STATEMENT FOR THE PURPOSES OF THE "SAFE HARBOR" PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

This brochure contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that contain projections about ConocoPhillips' and BP's revenues, income, earnings and other financial items, their respective plans and objectives for the future, future economic performance, or other projections or estimates about our assumptions relating to these types of statement. These statements usually relate to future events and anticipated revenues, earnings business strategies, competitive position or other aspects of their respective opera tions or operating results. In many cases you can identify forward-looking statements by terminology such as "anticipate," "estimate," "believe," "continue," "could," "intend," "may," "plan," "potential," "predict," "should," "will," "expect," "objective," "projection," "forecast," "goal," "guidance," "outlook," "effort," "target" and other similar words. However, the absence of these words does not mean that the statements are not forward-looking. The forward-looking statements are based on the respective companies' management expectations, estimates and projections about the companies and the petroleum industry in general on the date this statement was released. These statements are not augrantees of future performance and involve certain risks. uncertainties and assumptions that are difficult to predict. Further, certain forward looking statements are based on assumptions as to future events that may not prove to be accurate. Therefore, actual outcomes and results may differ materially from what is expressed or forecast in such forward-looking statements. Economic, business, competitive and regulatory factors that may affect ConocoPhillips' and BP's business are generally as set forth in the respective companies filings with the Securities and Exchange Commission (SEC)

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