



Independents to be released at RDC



Petroleum News' annual magazine, *The Independents*, will be released again this year at the Resource Development Council for Alaska's conference Nov. 20 and 21 in Anchorage. Subscribers will receive it via U.S. mail.

ConocoPhillips gives green light to Alberta oil sands project

A trio headed by ConocoPhillips, with Total and Devon Energy, has edged even closer to proceeding with a US\$1.1 billion oil sands operation in northern Alberta.

Six months after obtaining regulatory approval from Alberta's Energy and Utilities Board, the ConocoPhillips board of directors has given the green light to the venture, which is expected to start production at 25,000 barrels per day in 2006 and grow to 100,000

see **OIL SANDS** page A4

BP wants four rigs at Prudhoe; Forest lays off Alaska workers

A PETROLEUM NEWS SOURCE at BP Exploration (Alaska) said Nov. 10 that BP plans to put a fourth conventional rotary drilling in the "greater Prudhoe Bay area in the next couple of months."

A "tender" — request for proposal — was scheduled to go out to drilling companies "in

see **INSIDER** page A15



BREAKING NEWS

A6 Good news for Alaska LNG: California Energy Commission says California should coordinate LNG permitting

A9 Condemnation not the news: Sen. Ted Stevens says he now believes federal gas pipeline tax credit not necessary

B5 No nukes for Alberta oil sands: Smith scuttles using nuclear reactors as a power source for his province's oil sands

NORTHERN CANADA

Staying in the game

U.S. independents continue to chase growth in Canada's northern plays

By GARY PARK

Petroleum News Calgary Correspondent

Fort Liard in the Northwest Territories, northern British Columbia and Alberta and coalbed methane — all figure prominently in the immediate growth plans of U.S.-based "branch plants" in Canada. The subsidiaries of several U.S. independents show few signs of wavering in their Canadian commitments, regardless of the summer decision by Marathon Oil to exit Western Canada by selling its assets to Husky Energy.

Programs disclosed in third-quarter reports included:

Anadarko Petroleum

Like its U.S.-based peers, Anadarko Petroleum is see **GAME** page A16



Anadarko Canada drilling platform, Northwest Alberta.

ANADARKO CANADA

NORTH SLOPE

Alaska changes NPR-A road design, moves route to the east

Year-round road would extend drilling season; bridge design undecided

By LARRY PERSILY

Petroleum News Juneau Correspondent

State planners say the new proposed route for a year-round gravel road linking the untapped National Petroleum Reserve-Alaska with the existing North Slope road system is a little longer than the original plan but much better for several reasons.

"The trade-off was easy for us," says Mike McKinnon of the Alaska Department of Transportation and Public Facilities.

The administration sees all-season road access as key to promoting more oil and gas exploration and production on the slope.

"The department, working with industry and working with the North Slope Borough over the last year, has refined this route so that it accesses leases most efficiently and avoids impacts to Nuiqsut and the nearby river systems as much as possible," said McKinnon, the lead planner on the state's industrial roads program.

The proposed route would start 357 miles north

see **ROAD** page A11

GULF OF MEXICO

Drilling transforms Shenzi

Appraisal well uncovers 1,250 feet gross hydrocarbons, 500 feet net pay

PETROLEUM NEWS

Based on results from its first appraisal well the Shenzi prospect in the deepwater Gulf of Mexico appears to contain far more oil than the initial exploratory well indicated. It also can be ranked among the more robust discoveries in the Green Canyon-Atwater Valley area in terms of sheer pay thickness.

The Shenzi-2 appraisal well, operated from the drillship CR Luigs in 4,238 feet of water and drilled to a total depth of 25,000 feet, "significantly extended the scale of the oil accumulation discovered by Shenzi-1," Phil Aiken, chief executive officer for Shenzi operator BHP Billiton, said Nov.

see **SHENZI** page A15



The Shenzi-2 appraisal well was operated from the drillship CR Luigs (pictured above).

COURTESY GLOBALSANTAFE

Alaska - Mackenzie Rig Report

Rig Owner/Rig Type Rig No. Rig Location/Activity Operator or Status

Alaska Rig Status

North Slope - Onshore

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Doyon Drilling		
Dreco 1250 UE	14 (SCR/TD) Milne Point, drilling MPF-57A	BP
Sky Top Brewster NE-12	15 (SCR/TD) Stacked, Endicott Island	Available
Dreco 1000 UE	16 (SCR) Stacked, Deadhorse	Available
Dreco D2000 UEBD	19 (SCR/TD) Alpine, drilling CD2-27	ConocoPhillips
OIME 2000	141 (SCR/TD) Meltwater, drilling 2P-432	ConocoPhillips

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Nabors Alaska Drilling		
Trans-ocean rig	CDR-1 (CT) Stacked, Prudhoe Bay	Available
Dreco 1000 UE	2-ES (SCR) Prudhoe Bay, Y-23B	BP
Mid-Continent U36A	3-S Prudhoe Bay, 1D-129A	Available
Oilwell 700 E	4-ES (SCR) Prudhoe Bay, A-24 workover	BP
Dreco 1000 UE	7-ES (SCR/TD) Workover	BP
Dreco 1000 UE	9-ES (SCR/TD) Prudhoe Bay, V-114	BP
Oilwell 2000 Hercules	14-E (SCR) Stacked, Prudhoe Bay	Anadarko
Oilwell 2000 Hercules	16-E (SCR/TD) Stacked, Prudhoe Bay	Available
Oilwell 2000	17-E (SCR/TD) Stacked, Point McIntyre	Available
Emsco Electro-hoist -2	18-E (SCR) Stacked, Deadhorse	Available
OIME 1000	19-E (SCR) Stacked, Deadhorse	ConocoPhillips
Emsco Electro-hoist Varco TDS3	22-E (SCR/TD) Stacked, Milne Point	Available
Emsco Electro-hoist Canrig 1050E	27-E (SCR/TD) Stacked, Deadhorse	Available
Emsco Electro-hoist	28-E (SCR) Stacked, Deadhorse	Available
OIME 2000	245-E Stacked, Kuparuk	ConocoPhillips

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Nordic Calista Services		
Superior 700 UE	1 (SCR/TD) Pad S-102	BP
Superior 700 UE	2 (SCR) Drill site 7 well 33	BP
Ideco 900	3 (SCR/TD) Stacked, Kuparuk 1Q pad	Available

North Slope - Offshore

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Nabors Alaska Drilling		
Oilwell 2000	33-E (SCR/TD) NS29, Northstar	BP

Cook Inlet Basin - Onshore

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Marathon Oil Co. (Inlet Drilling Alaska labor contractor)		
Taylor	Glacier 1 Beaver Creek #13	Marathon

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Inlet Drilling Alaska/Cooper Construction		
Kremco 750	CC-1 Stacked, Kenai	Forest Oil

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Nabors Alaska Drilling		
Rigmasters 850	129 Stacked	Unocal
National 110 UE	160 (SCR) Stacked, Kenai	Available
Continental Emsco E3000	273 Kasilof, KS1	Marathon
	51 Steelhead platform, M-13	Unocal

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Aurora Well Service		
Franks 300 Srs. Explorer III	AWS 1 Stacked, Nikiski	Available

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Evergreen Resources Alaska		
Wilson Super 38	96-19 Stacked in yard	Evergreen Resources Alaska Corporation
Engersol Rand	1 Stacked in yard	Evergreen Resources Alaska Corporation

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Water Resources International		
Ideco H-35 KD	Trading Bay, spud Nov. 4 Nov. 13 at 550' using 9 5/8"	Pelican Hill

Cook Inlet Basin - Offshore

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
XTO Energy (Inlet Drilling Alaska labor contract)		
National 1320	A Idle	Idle
National 110	C (TD) Moved to C22-23 for a workover	XTO

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Nabors Alaska Drilling		
IDECO 2100 E	429E (SCR) Osprey, Redoubt Shoal RU #7	Forest Oil

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Unocal (Nabors Alaska Drilling labor contractor)		
Not Available		

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Kuukpik	5 Tyonek platform, B-3 workover	ConocoPhillips

Mackenzie Rig Status

Mackenzie Delta-Onshore

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Akita Equatak		
Oilwell 500	62 Stacked, Tuktoyaktuk, NT	EnCana
Dreco 1250 UE	63 (SCR/TD) Stacked, Swimming Point, NT	Chevron Canada
	64 Stacked, Inuvik, NT	Available

Central Mackenzie Valley

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Akita/SAHTU		
Oilwell 500	51 Stacked, Norman Wells	Apache Canada

Rig Owner/Rig Type Rig No.	Rig Location/Activity	Operator or Status
Nabors Canada		
	62 Stacked, Norman Wells	Available

The Alaska - Mackenzie Rig Report is sponsored by:



The Alaska - Mackenzie Rig Report as of November 13, 2003. Active drilling companies only listed.

TD = rigs equipped with top drive units WO = workover operations
CT = coiled tubing operation SCR = electric rig

This rig report was prepared by Wadeen Hepworth



Christy loading platform in Cook Inlet

Courtesy Offshore Divers

Baker Hughes North America rotary rig counts*

	October 24	October 17	Year Ago
US	1,090	1,115	856
Canada	389	391	235
Gulf	101	102	106

Highest/Lowest

US/Highest	4530	December 1981
US/Lowest	488	April 1999
Canada/Highest	558	January 2000
Canada/Lowest	29	April 1992

*Issued by Baker Hughes since 1944

Rig start-ups expected in next 6 months

Nabors	
7ES	In process of being moved to Prudhoe Bay.
Akita Equatak/SAHTU Drilling	
40	Drilling for Northrock Resources near Tulita, NT. December 2003 start-up.
51	Drilling for Apache Canada in the Colville lake area. December 2003 start-up.
55	Drilling for EnCana near Tulita, NT. January 2004 start-up.
Akita Equatak Drilling	
62	Drilling for EnCana this winter in the Mackenzie Delta. January 2004 start-up.
63	Drilling for Chevron Canada this winter in the Mackenzie Delta. December 2003 start-up.

CALGARY, ALBERTA

LNG part of Petro-Canada's crystal ball

Petro-Canada, immersed in grappling with the economic viability of its Alberta oil sands plans, is pursuing long-life liquefied natural gas assets as part of its long-term strategy. Chief Executive Officer Ron Brenneman said the Calgary-based integrated oil company has set a goal of becoming a "player in the whole (LNG) value chain, from upstream through marketing."

Its current focus is on the Atlantic basin, which produces about 700 million cubic feet per day of LNG, much of it destined for U.S. buyers.

"We understand the distribution system, we understand the players and the pricing mechanism," said Brenneman. "We feel we can bring something to the table there."

He said Petro-Canada could add to its toehold in the rapidly expanding LNG development in Trinidad and Tobago, starting with an expanded presence through an upcoming exploration round.

As well, the company could take a role in a regasification plant, which could "provide some opportunity openings for accessing some of the upstream supply pieces," he said.

Following its successful takeover last year of Germany's Veba Oil & Gas, Petro-Canada is eyeing other global prospects, including assets in Venezuela and low-cost Middle East oil, Brenneman said.

Having already decided that costs are too high to increase its natural gas operations in Western Canada, Petro-Canada is still unsure about restarting its plans for a multi-billion dollar oil sands program.

He said a review, including the fate of an upgrader at its Edmonton refinery site to process raw bitumen, will be released before Christmas.

Brenneman painted a gloomy picture, suggesting that huge budget overruns in the oil sands sector have dramatically altered projected returns on capital to the point where they would be fortunate to match the cost of capital.

"Even to get to cost-of-capital returns, you've got to have a lot of things going for

see PETRO-CANADA page A4

COOK INLET, ALASKA

MMS issues final EIS for inlet lease sales

The U.S. Department of the Interior's Minerals Management Service has issued a final environmental impact statement for Cook Inlet lease sales 191 and 199, scheduled for May 2004 and 2006, respectively.

The agency said that while it has prepared a single EIS for the sales, a separate decision on whether to proceed will be made for each sale. The proposal is to offer 517 whole or partial lease blocks in the 2.5 million acre Cook Inlet outer continental shelf planning area. Shelikof Strait is excluded from the sales area.

The agency's preferred alternative defers offering 34 blocks in the southeast portion of Cook Inlet and defers offering 36 blocks around the Barren Islands and Kennedy Entrance.

MMS said the deferrals were developed in part to reduce conflicts between subsistence users and offshore oil and gas operations and to reduce potential impacts to endangered and threatened species including beluga whale, Stellar sea lion, sea otter, humpback whale and other whales.

—KRISTEN NELSON, Petroleum News editor-in-chief

Issue Index

EXPLORATION & PRODUCTION	B5
FINANCE & ECONOMY	A7
GOVERNMENT	B3
NATURAL GAS	A9
NORTH OF 60 MINING	B9
ON DEADLINE	A3
PETROLEUM DIRECTORY	C1-C20

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GULF OF MEXICO

Anadarko reports Spiderman discovery

On Nov. 13 operator Anadarko Petroleum and partners Dominion Exploration & Production and Spinnaker Exploration announced a deepwater discovery on the Spiderman prospect in the Eastern Gulf of Mexico. (See related story about gas hub on page B1.)

The discovery well was drilled in 8,100 feet of water to a total depth of 18,065 feet targeting Middle Miocene sands between 14,000 and 17,000 feet.

It encountered more than 140 feet of net pay in its two primary targets, meeting pre-drill expectations, the partners said. The well is located on DeSoto Canyon block 621, about 180 miles southeast of New Orleans.

Evaluation and appraisal is ongoing and includes log analysis, core, pressure and fluid sampling. The partnership plans to immediately drill a sidetrack well at Spiderman to take conventional cores and complete the well in a higher structural position.

GULF OF MEXICO

Seminole's Liberty pipeline will move crude from Gulf of Mexico to Oklahoma

The Seminole Group said Nov. 12 that it will build a \$150 million, 280-mile pipeline, the Liberty Crude Oil Pipeline, to move Gulf Coast and Gulf of Mexico outer continental shelf crude oil from Longview, Texas, to the company's terminal in Cushing, Okla.

"The 20-inch pipeline will handle more than 200,000 barrels of crude per day and will provide lower PADD II refiners increased access to a continuous and reliable supply of deepwater and Gulf Coast crudes," said Tom Kivisto, Seminole president and chief executive officer. "We believe Liberty will help relieve the expected pressure on existing pipeline infrastructure as new deepwater production comes online and will play an important role in reducing lower PADD II refiners' dependence on long-haul foreign crude supply." Deepwater production is projected to increase steadily through 2006, peaking at 1.9 million barrels of oil per day, Seminole said, and the Liberty pipeline will connect with existing common carrier pipelines, creating a transportation corridor with access to multiple offshore Gulf of Mexico crude oil discoveries, including St. James and Mars, Poseidon, Eugene Island and HLS.

Liberty will also access strategic terminals such as St. James and LOOP, with long-haul foreign oil supplies as well as domestic crude. Seminole said the Liberty connection will provide "a means to eliminate weather-related delays now experienced by PADD II buyers of waterborne barrels. The Cushing terminal has delivery capability to all major pipelines and refiners in the area, the company said, and is tied directly and indirectly to more than 3 million barrels of storage capacity.

—PETROLEUM NEWS



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continued from page A3

PETRO-CANADA

you," he said, referring to a quality oil sands reservoir, easy access to favorably priced transportation and the right technology.

Brenneman said flatly that overruns in capital costs are now a fact of life in the oil sands.

—GARY PARK, Petroleum News
Calgary correspondent

continued from page A1

OIL SANDS

bpd by 2012.

The Surmont project will employ steam-assisted gravity drainage to extract the raw bitumen by injecting steam deep into the oil sands and melting the viscous bitumen, allowing it to flow to the surface.

It's a technology that has been developed in Alberta and is being used by EnCana and Petro-Canada for their own projects.

ConocoPhillips will be Surmont's operator with a 43.5 percent stake, with Total and Devon, both of them newcomers to the oil sands, holding 43.5 percent and 13 percent respectively.

ConocoPhillips believes it is less exposed to the kind of cost overruns that have sideswiped oil sands expansions by Syncrude Canada, Suncor Energy and Shell Canada, forcing companies such as Petro-Canada to shelve its C\$5.9 billion program while it searched for ways to keep costs under control.

The use of steam-assisted gravity drainage, rather than open-pit mining, and access to existing upgrading facilities in Montana and Illinois, give the proponents hope that they have an economically viable plan.

Surmont has been on the drawing board since 1997, when Gulf Canada Resources aimed to start pumping oil in 2002 before it was taken over by Conoco before it merged with Phillips Petroleum.

Since then the project has been bogged down in legal and regulatory squabbling with natural gas producers in the region that ended with some gas wells being shut in because they were depleting reservoir pressures and putting at risk the ability of oil sands operators to extract the bitumen.

—GARY PARK, Petroleum News
Calgary correspondent

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• NORTH SLOPE

Lots of funding options for NPR-A road

Possibilities include federal money, state bonds approved by voters and tolls

By LARRY PERSILY

Petroleum News Juneau Correspondent

There are a lot of funding possibilities for the all-season gravel road reaching to the border of the National Petroleum Reserve-Alaska, with the decision as to which option(s) to choose in part dependent on who will pay the bill. (See related story on page A1 of this issue.)

The list includes federal grant funds, state general obligation bonds approved by voters, state revenue bonds covered by future oil and gas tax and royalty revenues, state bonds covered by future federal highway aid, and direct tolls or new user fees paid by the oil and gas industry.

In addition to deciding how to pay for the estimated \$350 million to \$400 million construction budget, the state also needs to figure out how it will cover annual maintenance costs estimated at about \$3.3 million.

A key determination in deciding a financing plan is the project's potential to raise new state revenues, said Tom Boutin, deputy commissioner at the Alaska Department of Revenue. "The purpose of the road is revenue," he said.

Alaska Gov. Frank Murkowski strongly supports the road for the year-round access it would provide to undeveloped oil and gas leases on the North Slope.

State bonds a likely option

Unless the state is able to secure federal grant funds to



Alaska Gov. Frank Murkowski strongly supports the road for the year-round access it would provide to undeveloped oil and gas leases on the North Slope.

In addition to deciding how to pay for the estimated \$350 million to \$400 million construction budget, the state also needs to figure out how it will cover annual maintenance costs estimated at about \$3.3 million.

cover all of the project, or unless the Legislature decides to pay cash for the entire construction budget or the oil and gas industry agrees to pay a 100 percent toll or user fee, the state could be looking at borrowing at least some of the money.

For example, at full bond funding, Boutin said a \$350 million tax-exempt bond issue, at 6 percent interest over 20 years, would cost the state about \$38.5 million a year in debt service payments.

As much as the state would prefer to spend federal funds instead of borrowing the money, it might run into some troubles with federal funding if it wants to close off the road to the public, said Mike McKinnon, Alaska Department of Transportation and Public Facilities planner on the governor's industrial roads program. Generally, federal highway funds require public access to the roadway, he said.

But the oil and gas industry opposes unrestricted public access to its costly facilities along the route, while Nuiqsut residents worry that open access would bring too much pressure on fish and wildlife in their traditional subsistence areas. And security officials don't like the idea of anyone being able to drive up to an oil pipeline, McKinnon said.

That means at least partial state bond funding could be the most likely option at this time, he said. Highway planners are continuing to work with state Revenue officials and the governor's budget office to review all possible

funding sources.

It's a matter of who pays how much

"A discussion of financing mechanisms is really a discussion of the basic questions of who pays, how much, and when," said a report prepared for the state by engineering and economic consultants CH2M Hill of Anchorage.

One option on the list is what are called GARVEE bonds, where the state would issue bonds to be repaid by future federal highway aid. Such financing would allow the state to build the road later this decade by using federal highway money it's not scheduled to receive until the next decade. Alaska voters approved \$102 million in such bonds in November 2002 for eight projects statewide.

A drawback to GARVEE bonds is that some of the state's future federal highway funding would be committed to making the bond payments instead of being available for new projects.

New revenues could repay debt

A traditional government revenue bond is repaid from a stable source of outside funds, such as the state's 1987 financing for the road and port serving the Red Dog lead and zinc mine near Kotzebue.

The mine operator pays a fee to the state, which the state then uses to pay back the borrowing.

One problem with revenue bonds for the NPR-A road, however, is the debt payments likely would start several years before oil — and state revenues — would start flowing from any new wells.

The CH2M Hill report suggests it may take a blending of two or more funding sources to put together a financing package for the project. ●

"A discussion of financing mechanisms is really a discussion of the basic questions of who pays, how much, and when," says state project consultants CH2M Hill of Anchorage.

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• ATLANTIC CANADA

Atlantic Canada offers international LNG bridge

By GARY PARK

Petroleum News Calgary correspondent

Canada's East Coast could be the ideal bridge for shipments of liquefied natural gas and compressed natural gas to the United States, according to Doug Bloom, president of

Maritimes & Northeast Pipeline, the exclusive carrier of Sable gas to the U.S. Northeast.

He said two LNG projects rolled out earlier this year for Atlantic Canada could both proceed, partly because of the failure to make new gas discoveries offshore Nova Scotia to build on the Sable project.

Bloom said the region is an obvious landfall for international LNG shipments seeking ice-free deepwater ports and ready access to U.S. markets.

Irving Oil has indicated its intention of starting work in 2004 on a C\$500 million LNG terminal in New Brunswick with capacity for 500 million cubic feet per

day, while Access Northeast Energy is targeted January 2005 to proceed with a Nova Scotia terminal, costing up to C\$300 million and handling 750 million cubic feet per day.

In addition, he said Newfoundland would be an ideal

location to test compressed natural gas technology to exploit that province's untapped offshore gas reserves, where about 5 trillion cubic feet of discovered gas is stranded in several fields.

The gas is currently reinjected to maintain reservoir pressures in Newfoundland's oil fields, but industry interest is building in the prospects of recovering the gas with compressed natural gas technology, Bloom said.

The M&NP pipeline is currently carrying 500 million cubic feet per day, 100 million below capacity that could easily be raised to 1 billion cubic feet per day with more compression and minimal new pipeline construction in the U.S.

He said the bigger issue hinges on how confident LNG suppliers feel about increasing volumes without undermining prices. ●



Doug Bloom, president of Maritimes & Northeast Pipeline

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CALIFORNIA

California agency touts coordinated LNG permitting

In adopting its mandatory 2003 biennial report to the governor and Legislature, the California Energy Commission recommended the state establish a coordinated permitting process for liquefied natural gas receiving facilities proposed to serve the West Coast.

Alaska, which is sitting on trillions of cubic feet of gas with no way to get it to market, sees the proposed LNG receiving terminals in Southern California as a prime marketing opportunity.

The California report, however, also acknowledges the state needs to reduce its dependence on natural gas as a fuel for power plants in order to lessen the risk of volatile electricity prices when gas markets shoot up. To achieve that goal, California will need to reduce its overall electricity demand, and increase the use of renewable energy, the report said.

Natural gas powers more than one-third of California's electrical generation, with the amount expected to grow to 45 percent in 10 years, the report said. The commission adopted the report Nov. 12.

Major recommendations of the report include:

- More stringent energy efficiency targets for 2008, and the state implement real-time pricing of electricity to reduce peak load demands by 5 percent.
- Encourage more cogeneration and distributed generation in state, and examine the implications of retiring or replacing aging, inefficient power plants.
- Establishing the goal of reducing petroleum consumption used for transportation by 15 percent by 2020.



CANADA

Oil, gas prices expected to make sharp drop in 2004

Export Development Canada, a federal government agency, expects oil and natural gas exports from Alberta will rise by 4 percent by volume in 2004, but revenues will slide by 13 percent.

Export Development Canada predicts oil prices will drop to US\$24 a barrel from \$30 this year and natural gas will ease to \$5 per million British thermal units from \$5.50.

Chief economist for the agency Stephen Poloz said the major factor in oil's decline will be Iraq, which is currently 80 percent below capacity and should regain its place as a major supplier next year.

In addition, the completion of pipelines in the Caspian Sea region of central Asia will boost global supplies.

As oil prices decline, "gas prices will follow," as leading users switch back to crude, he said.

Poloz said the trend towards "just-in-time" deliveries of oil and gas means that storage levels can be much lower than in the past.

Not everyone shares Export Development Canada's view of commodity prices. Jason Myers, chief economist for the Canadian Manufacturers and Exporters group, said he expects "prices to stay high with declining supply", while CIBC World Markets is counting on oil to remain at \$30 through the winter and gas prices to grow as much as threefold.

CIBC based its prediction on low inventories, Organization of Petroleum Exporting Countries' policies to prop up crude prices and falling production.

—GARY PARK, Petroleum News Calgary correspondent

DENVER, COLO.

Forest buys Permian, South Texas assets for \$102 million

Exploration and production independent Forest Oil has agreed to purchase Permian basin and South Texas oil and gas properties from an undisclosed seller for about \$102 million, the company said Nov. 11. The deal is expected to close at year-end.

In addition to 102 billion cubic feet of gas equivalent reserves, the deal included land, pipelines, facilities and offices, Forest said. The properties currently produce about 25 million cubic feet of equivalent per day. Forest said it would use its credit facility to purchase the stock of the private company.

● JUNEAU, ALASKA

Economic time bombs ticking

Alaska Permanent Fund adviser does report on post-oil boom economy; three more money managers work on their own reports, all at no charge to state

By LARRY PERSILY

Petroleum News Juneau Correspondent

Most Alaskans have long known how dependent the state's economy is on oil and gas revenue, and how North Slope production is heading down, but that doesn't mean it's time to pack up and leave the state. Instead, says a report prepared by an investment adviser to the Alaska Permanent Fund Corp., it's time to "focus squarely on Alaska's most pressing challenges" and consider what's needed for an economically healthy future.

"Over 40 percent of Alaska's base economy ... is directly related to petroleum production," says the report by Kennedy Associates Real Estate Counsel Inc., an investment adviser to the Permanent Fund for almost 20 years.

"Although Alaska's economic base has diversified over the past decade ... the long-anticipated decline in North Slope oil production from its peak in 1988 will continue to have an increasingly dampening effect on economic growth and fiscal revenues."

Despite the state's relatively stable economy the past 15 years, the report cautions there are risks ahead. "There are ticking time bombs that threaten its employment base, fiscal health, levels of personal income, and overall quality of life."

Advisers prepare reports at no charge

Kennedy Associates prepared the report at no charge to the corporation, said Bob Storer, executive director of the state's \$26 billion, 26-year-old oil-wealth savings account. Though the Permanent Fund isn't looking to enter the political debate on how to best manage the state's economic future, it does see that maybe it can bring some information to the discussions, Storer said.

In addition to the Kennedy Associates' report, presented in September, three more of the fund's money managers — stock managers Dresdner RCM Global Investors, UBS Global Asset Management and Lazard Asset Management — are working on their own reports, Storer said.

"We can get insight from our managers on how companies evaluate Alaska and what impediments they see. We don't expect them to all provide the same thing.

"Maybe we can provide the state with how these firms evaluate those kinds of decisions," Storer said.

The Permanent Fund's Alaska Development



JUDY PATRICK

More than 40 percent of Alaska's base economy is directly related to petroleum production, says a report prepared at no cost to the state by Kennedy Associates Real Estate Counsel, an investment adviser to the Alaska Permanent Fund Corp. for almost 20 years.

Research Committee will meet sometime after the first of the year to review all of the reports. The committee includes board chair Carl Brady and fund trustees Gregg Renkes and Eric Wohlforth.

Information to help discussion

"I don't see the role of the Permanent Fund to guide economic development," Brady said. But perhaps the money managers' reports can help the discussion.

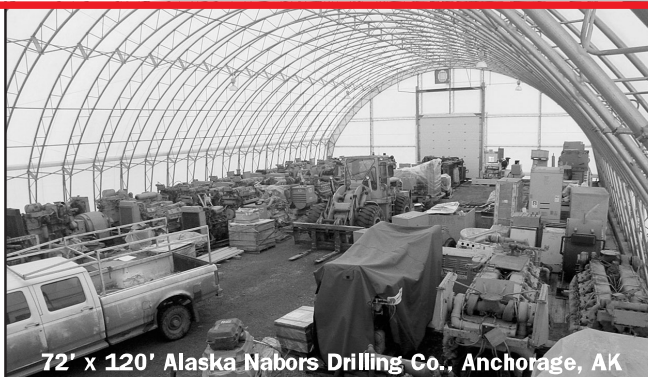
"If you don't have God-given natural resources to develop," Brady said, the alternative is to use ingenuity and technology to create and develop other economic opportunities. "Because of a depleting resource," he said, "we've got to take benefit of what we've reaped and do something to move into the future after natural resources."

In addition to living off oil resources, Alaska's economy has profited from growing federal spending. But, there's a downside to that combination. "Having 70 percent of state economic activity dependent on two major sectors (petroleum and the federal govern-

see TICKING page A8

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continued from page A7

TICKING

ment) means the state is particularly vulnerable," the Kennedy Associates' report says.

"Today, federal government spending provides one-third of personal income, and federal employees' wages and salaries alone are responsible for 13 percent of all jobs in the state." Looking past the increase in federal spending, the report also notes that practically all of the growth in average personal income in the state over the past decade came from the increase in Permanent Fund dividends — the annual payments from the state's savings account. "Real wages and salaries have actually fallen," the authors noted.

Report lists economic priorities

To plan for a stronger future, the report lists what it sees "to be the state's highest economic priorities":

- Address the fiscal gap between declining revenues and state budget needs.

This will involve raising new revenues from non-petroleum sources, and downscaling or eliminating entire state programs.

"The state must also eradicate the growth-inhibiting incentives of the 'Alaska disconnect,' where new non-oil producing employment is a net drag on state finances."

Without a broad-based tax to collect a share of economic activity, the report explains, "Each additional basic sector job added to the economy costs more to state finances than it generates. ... This 'disconnect' creates an unintended, though bizarre, incentive for state policymakers and legislators."

- Continue support for future petroleum and natural gas development.

The report lists as positive steps the state's ongoing efforts to win congressional approval for oil and gas development in the

Arctic National Wildlife Refuge and to promote construction of a natural gas pipeline to bring North Slope gas to market.

"Moreover, the state should continue to explore cost-effective and environmentally feasible infrastructure projects," such as the proposed extension of the North Slope Haul Road west toward the National Petroleum Reserve-Alaska.

- Emphasize retaining and attracting a skilled and educated workforce.

"Creating a pool of 21st century-skilled laborers is more than educating one's own — it also means welcoming outsiders and creating the right quality-of-life and other inviting place-based characteristics (such as cultural amenities and community-based programs)."

- Actively promote development of the state's telecommunications services, and recruit air cargo-related business to take advantage of Anchorage's role as an international hub.

"Alaska's fast-growing air cargo industry will soon be facing an important turning point," the report says. Either Anchorage will lose its role primarily as a refueling stop because of advances in aircraft technology and new polar routes, or it can develop a portfolio of cargo distribution and production roles to attract new business.

- Recognize that not every community can be saved.

"One of the most difficult challenges policymakers and economic development officials face is that of making choices between maximizing long-term returns on investment for a state or region at large and preserving communities and industries in decline, at large expense." The future will be an adjustment for Alaskans, Brady said, recalling the Legislature's decision in 1980 to abolish the individual income tax and the creation in 1982 of the annual Permanent Fund dividends. "How much better could it get?" he said. ●

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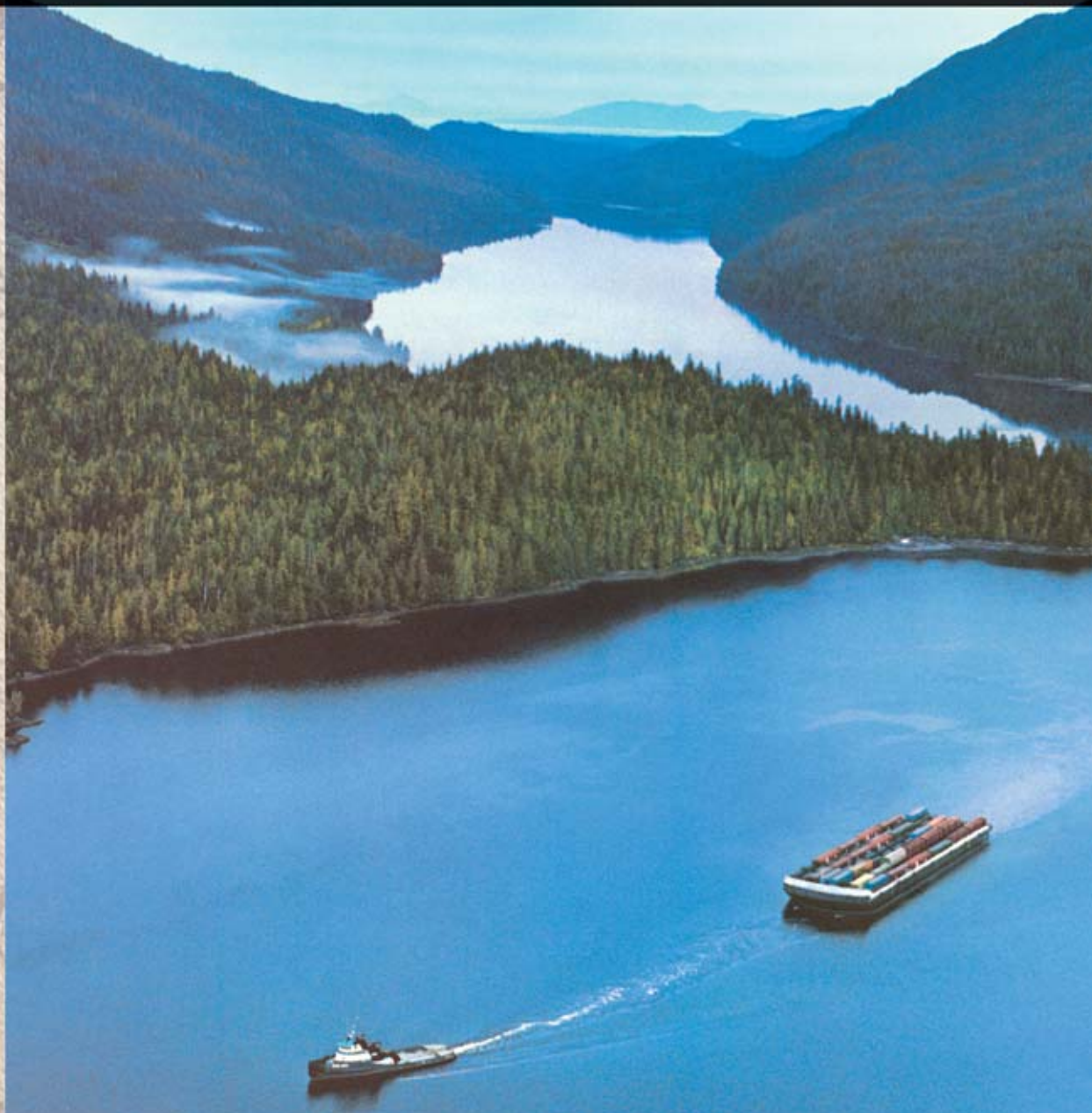
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CANADA

Mackenzie gas pipeline project still faces unresolved issues

The formal regulatory process will begin rolling in early 2004 on the Mackenzie Gas Project and could be completed within two years, allowing gas to start flowing as early as 2009 — assuming all the approvals are obtained, said a member of Canada's National Energy Board.

John Bulger told a Ziff Energy Group conference that some issues remain unresolved, including discussions among the responsible regulatory agencies that hope to coordinate the process.

He said the objective of averting duplication still needs an agreement along the lines of a previously negotiated agreement by the 13 agencies that share jurisdiction over a Mackenzie Valley pipeline.

Bulger also said he anticipates a comprehensive U.S. energy bill, if adopted, will offer subsidies for a pipeline from the North Slope to the Lower 48, although he is uncertain what impact that might have on the Mackenzie project and domestic Canadian markets.

Of Canada's other prospects to meet the North American gas demands, he said the East Coast holds the "promise of large resources" in the range of 22 trillion cubic feet, while coalbed methane could be an important piece in the supply equation.

But, despite its "enormous" potential, development of coalbed methane is "very dependent" on the industry finding coals with the capability to yield gas at acceptable rates and developing the technology to lower costs, Bulger said.

To date, he said, the 20 coalbed methane pilot projects operating in Western Canada are achieving mixed results, indicating it will take the next few years to "demonstrate how successful" the sector can be.

Bulger explained that the challenge for the Western Canada Sedimentary Basin is to step up well completions just to hold the line on production at a time when a doubling of gas wells through the 1990s yielded only a modest increase.

—GARY PARK, Petroleum News Calgary correspondent

TULSA, OKLA.

Vintage adds producing properties in Utah for \$52.5 million

Vintage Petroleum Inc. has bought producing properties in the Uinta basin of Utah from subsidiaries of El Paso Corp. for \$52.5 million. The deal, announced Nov. 10, was effective back on June 1.

Vintage, based in Tulsa, Okla., will operate the fields, totaling more than 200,000 net acres, with a working interest of about 80 percent.

The wells produce some 2,000 barrels of crude oil and natural gas liquids daily, along with 920,000 cubic feet of gas. Vintage plans to use waterflood and other methods to boost output.

The deal also involves majority interest in three gas plants. It's expected to close in December, with the money coming from Vintage's bank credit facility.

—ALLEN BAKER, Petroleum News contributing writer

WASHINGTON, D.C.

Gas condemnation a quick headline for Young, Stevens

State of Alaska likely producers' next step in determining gas line economics

By LARRY PERSILY

Petroleum News Juneau Correspondent

Although the headline-grabber was congressional talk of possibly taking North Slope natural gas by condemnation to supply a government-led pipeline, the more likely option for getting the gas to market could be state-producer negotiation of an overall tax package for a private-sector project.

Rep. Don Young, R-Alaska, started the talk of taking the gas by eminent domain, much like a government takes property for a highway right of way, with Sen. Ted Stevens, R-Alaska, adding his support for at least considering the move as an option for getting a gas pipeline built.

They made their comments to reporters asking about the apparent failure to win federal tax credits in the energy bill to protect producers from the possibility of low gas prices, a provision two of the three major North Slope producers say they need

Regardless of the talk of condemnation, the lack of federal price supports for North Slope gas could put the state in the position of deciding how much it is willing to share in the producers' financial risk.

before risking billions of dollars on the project.

Young suggested in comments Nov. 5 on the Alaska Public Radio Network that maybe it's time to push harder on the producers to commit to building the gas line. He said the first step would be a federal study to determine if it's in the nation's security and economic interests to send North Slope gas to the Lower 48 states.

Condemnation 'a hammer'

"And if it comes out that, yes, this is a national issue, then there would be the process where the

see CONDEMNATION page A12

MATANUSKA-SUSITNA BOROUGH, ALASKA

Evergreen wants core drilling treated as mining

Coalbed methane company submits core drilling operations plan designed to establish foundation for future core-drilling projects in south-central Alaska

By KRISTEN NELSON

Petroleum News Editor-in-Chief

Evergreen Resources Alaska's plans for mineral core hole drilling in the Matanuska-Susitna area are under review by the Alaska Department of Natural Resources Division of Oil and Gas and other state and local agencies. Evergreen said the plan of operations "is designed to establish a foundation for future mineral core-drilling projects that will be proposed periodically throughout the region."

The company is asking for exemption from some lease mitigation measures on grounds that

core drilling should be regulated as mineral coring, not as oil and gas drilling.

The state said Evergreen is proposing to drill mineral core holes at seven possible locations to gather information on coal seams in the Mat-Su area. (See map on page A10.) These holes are "for geological information only and do not involve dewatering the coal seams or gas production," the state said.

Evergreen's initial plans call for five core holes this winter. The program is expected to last approximately eight weeks, beginning in

see EVERGREEN page A10



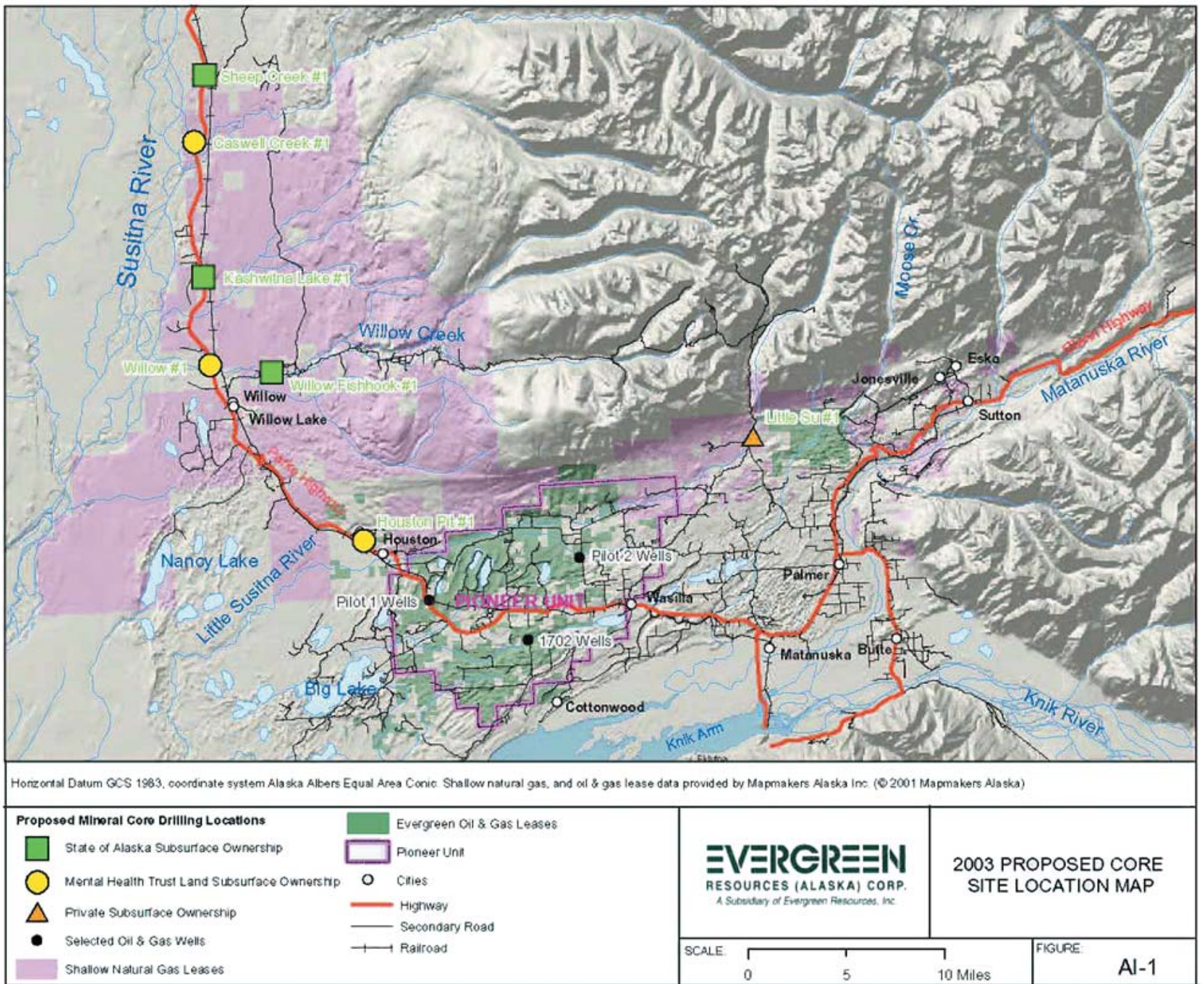
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continued from page A9

EVERGREEN

December.

Three of the locations, Kashwitna Lake, Willow Fishhook and Sheep Creek, require state plans of operations because they are on state-owned surface and sub-surface.

Coring rig to be used

Evergreen said its program will gather geologic information on coal seams in the upper Cook Inlet and eastern Susitna basins. "The purpose of the coring project is to gain geological information on the coal-bearing rock formations penetrated during the drilling, and to recover coal cores for further laboratory testing of

their mineralogical, geological, and engineering properties," Evergreen told the state.

Site preparation is expected to take a week or less at each location and coring each hole is expected to take one and a half to two weeks, with 24-hour per day operations.

Evergreen will use a core rig, similar to those used in the Alaska mineral indus-

try. The rig will be truck mounted, and the company said "the rig's small size makes it easy to move around and access drill sites along existing trails and easements and results in a small footprint with minimal surface disturbance."

The company said no gas production testing will be done during this operation, and the holes will not be drilled on the tops of identified geologic structures. "The proposed core-drilling program is directly comparable to mineral core drilling that coal exploration companies have done for many years in the lower Matanuska-Susitna Valley, through similar coal-bearing formations," Evergreen said.

Exemptions requested from mitigation measures

Evergreen is requesting exemptions from shallow gas lease mitigation measures because it will be "drilling mineral exploration core holes of small diameter."

Mitigation measures attached to shallow gas leases govern drilling waste. Evergreen said state statutes exempt mineral drilling from such requirements, and told the state it "believes this mitigation measure provides an excessive burden for the proposed coring operation, and requests an exception from requiring the drill cuttings to be removed from the drill site on the grounds that these discharges are statutorily exempt from requiring disposal permits, and will not constitute a new solid waste disposal site and therefore have been determined to not result in adverse environmental impacts."

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see EVERGREEN page A11

continued from page A10

EVERGREEN

Drilling additives which Evergreen will use in drilling the core holes — soda ash, cellulose fiber, bentonite and barite — “are widely used by Alaska’s water well and mineral coring operations,” the company said.

Evergreen said drilling waste from the coring operation will be small volumes of predominately native rock material. “The proposed core drilling is comparable to mineral exploration core drilling discharges that have been generally recognized to produce minimal consequences and are typically discharged directly to the surface,” Evergreen said.

Five proposed core holes, two alternate sites

One location is north of Palmer, the others are in the vicinity of the Parks Highway from northwest of Houston north to Sheep Creek, with one site northeast of Willow off the Willow Fishhook Road.

The proposed sites are Little Su No. 1, Houston Pit No. 1, Willow Fishhook No. 1, Kashwitna Lake No. 1 and Sheep Creek No. 1. The alternatives are Willow No. 1 and Caswell Creek No. 1. Evergreen’s proposed schedule shows the first core hole would be drilled at Little Su No. 1 beginning in December and the last core hole at Sheep Creek No. 1 in January. “Our preference is to drill the Little Su No. 1 well first (the outlying well which is north of Palmer), and then move progressively up the Parks Highway toward Sheep Creek with the last core hole,” the company said.

First site north of Palmer, rest near Parks Highway

Little Su No. 1 is the easternmost boring, approximately eight miles north of Palmer off the east side of Fishhook-Willow Road on a 110 acre privately owned parcel. The private landowner owns the subsurface oil and gas rights, but underground coal, for mining purposes, is the property of the state. Evergreen said that access to this site, a treeless meadow, will be via a Matanuska Electric Association power line corridor. The landowner has signed a letter of non-objection for the proposed activities.

The other proposed sites are from Houston north, along the Parks Highway.

Houston Pit No. 1 is just south of Zero Lake Road, across from the old Houston coal mine strip pit, and some 1.5 miles northwest of the Houston business district. “The actual drill site will be located on land previously disturbed by past mining operations,” Evergreen said, on surface land owned by the City of Houston and subsurface owned by the Alaska Mental Health Trust. There was an underground mine in the area in the late 1930s and strip mining in the 1940s and 1950s, and Evergreen said the core hole will be drilled in an area built up with tailings from the strip mining operations.

Four of five proposed sites associated with gravel

Willow Fishhook No. 1 is along the Willow Fishhook Road, north of the road on a 12-acre parcel owned by the state. A land use permit is in place on this parcel for extraction of gravel, Evergreen said, and the core site will be in the gravel pit. There is an access road, and the company said some “local leveling of the gravel pit may be necessary to accommodate the drilling and support equipment,” but no new disturbance will be made at the site.

Kashwitna Lake No. 1 is some 20 miles north of Houston on the Parks Highway on state property north of Kashwitna Lake and west of the highway. Evergreen said the surface of this area has been previously disturbed, “creating an access road to the small linear pond that appears to have been an old gravel pit.” The company said the Alaska Department of Fish and Game have determined there are no fish in the pond, which was probably excavated during highway construction, and has since filled with water.

“There is a small parking spot at this location, which may need to be enlarged slightly to accommodate the various pieces of drilling and supporting equipment,” Evergreen said.

Sheep Creek No. 1 is approximately 32 miles north of Houston on the Parks Highway in a large gravel pit west of the Parks Highway, about a half-mile south of the point where Sheep Creek crosses under the highway. The state owns both surface and subsurface rights.

Access is by an existing gravel road to the large state-owned gravel pit and the core site is near the eastern end of the large gravel pit.

“The area is significantly disturbed,” Evergreen said. ●

continued from page A1

ROAD

of Fairbanks, at a new junction with the North Slope Haul Road (Dalton Highway), then head west before turning north toward the village of Nuiqsut. The earlier plan had the road running more directly through the Itkilik River drainage system, McKinnon said, which provided good terrain but also presented a conflict with residents’ traditional hunting and fishing use of the area.

New route has several benefits

“We needed to get out of the area, so we moved east,” he said. The new route for the 40-mile-long, north-south portion of the road is less than 10 miles east of the original plan but, McKinnon said, it has more benefits than just getting out of the subsistence area:

It puts the route right on top of several good sand and gravel sites, helping to reduce construction costs.

It runs along a terrace, some 300- to 400-feet in elevation, allowing the wind to help clear the highway of snow, and

hopefully holding down snowplowing costs.

And it would provide better access to leases in the foothills area and the basin south of the Tarn and Meltwater fields.

The state expects to submit its wetlands development application to the U.S. Army Corps of Engineers within three to six months, McKinnon said, with about the same timetable for completing right-of-way work on state lands. In a perfect world, he said, the Army Corps’ environmental review and permitting would take two years, during which time the state would be working on project design.

Construction could start in 2006

That would set the start of construction for 2006, with the road and bridges to take three years to complete.

Total construction and design costs are estimated at \$350 million to \$400 million.

ConocoPhillips, which has been exploring in northeast NPR-A since the federal lease sale in 1999, is supportive of the project and believes it could help promote future exploration and develop-

see ROAD page A13

WASHINGTON, D.C.

U.S. launches ‘E-filing’ system for natural gas imports and exports

The U.S. Department of Energy has activated an internet-based filing system that streamlines the government’s process for authorizing imports and exports of natural gas, Energy Secretary Spencer Abraham announced Nov. 6.

Initially, the electronic process will be available for the most commonly requested natural gas import and export authorizations, specifically, short-term approvals to trade with Mexico and Canada, or for importing liquefied natural gas. These two-year “blanket” authorizations make up more than 90 percent of approvals issued by the department.

The so-called “E-filing” system will simplify the process especially for many of the smaller firms that have recently entered the natural gas market’s import and export sector, Abraham said, noting that the initiative is a key aspect of President George W. Bush’s Management Agenda.

Until now, the filing process required applicants to submit paper forms by mail or fax. With the online system, applicants can submit the necessary forms and pay online by credit card. Applicants also will have the option to file using a mail-in form and check.

Initially, the new system will not be available for longer-term import authorizations or for the export of LNG, although the Energy Department said it plans to incorporate these provisions in the future.

The online system is available by going to the department’s Fossil Energy web site at www.fossil.energy.gov and clicking on Natural Gas Regulation. An E-filing link will take users to the electronic application process.



U.S. Energy Secretary Spencer Abraham

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continued from page A9

CONDEMNATION

federal government would condemn the gas and build the pipeline for the nation as a whole," Young said. "There is some question whether this is the appropriate thing to do. But it is a hammer."

Under condemnation proceedings, governments generally are required to compensate owners for the property's fair market value. Lower 48 producers have recently sold proven reserves at around \$1.25 per thousand cubic feet, and the slope holds 35 trillion cubic feet of proven reserves. Though perhaps the federal government could argue North Slope gas is worth less because of the producers own statements that the pipeline's economics are marginal.

In addition to the cost of taking the property, the federal government would have to figure out how to condemn the gas without affecting the existing oil flow from the same lease areas.

Stevens said he had seen Young's proposal, and told the Fairbanks Daily News-Miner, "I would have no problem with it, providing it was well-articulated." Perhaps, he said, the solution to building the project is "a consortium of state and federal and private people, and Native organizations, getting together to build the line."

"Then one of the governments, either the state or the federal government, would have to condemn that gas if the producers didn't want to sell it."

Young, Stevens 'get excited' to make a point

Young and Stevens are "passionate" in their advocacy for the state, said Justin Stiefel, chief of staff to Alaska's other senator, Republican Lisa Murkowski. Alaskans have long seen Young and Stevens "get excited at times" to make their point, said Stiefel, who worked for both members of Congress before joining Murkowski's staff this year.

"You probably noticed that Sen. Murkowski hasn't made any comments on this," Stiefel said. "She has said her No. 1 job is to get a project built."

Regardless of the talk of condemnation, the lack of federal price supports for the gas could put the state in the position of deciding if and how much it is willing to share in the producers' financial risk.

ConocoPhillips, BP Exploration



Sen. Ted Stevens, R-Alaska, said he understands the opposition to the price support provision and now believes a federal tax credit is not absolutely necessary. Alaska's Stranded Gas Development Act allows the governor to negotiate a contractual set of payments with North Slope producers in lieu of state and municipal taxes on a gas project. That flexibility for the state to adopt a predictable schedule of payments in lieu of taxes could play a key role in whether the producers decide to move ahead with the project. Stevens said the solution to building the project is "a consortium of state and federal and private people, and Native organizations, getting together to build the line."

(Alaska) and the state have tried for two years to win congressional support for federal tax credits to provide a price guarantee for North Slope gas feeding the mid-America market.

Other gas pipeline provisions in energy bill

The federal energy bill, to be unveiled no sooner than the week of Nov. 17, is likely to contain several other federal tax incentives for the \$20 billion pipeline project but not the so-called commodity risk provision. Supporters expect the legislation will include accelerated depreciation, a federal loan guarantee for any bonds sold to finance the project, and tax credits for the gas treatment plant on the slope.

The measure also will include enabling provisions to speed up federal permitting for the project.

The job for the state could be to see if it can add to the federal package in hopes of convincing the companies to build the line. BP and ConocoPhillips fear that low gas prices in times of a down market could cost their companies a lot of money after paying the bill for moving gas through the expensive pipeline.

And although the federal loan guarantee would protect bondholders from possible default, it would not come into play to ease

producers' worries about their own cash flow during low prices. The price support mechanism would have kicked in if the wellhead value of North Slope gas dropped below \$1.35 per thousand cubic feet.

Stevens says federal tax credit unnecessary

Stevens said Nov. 6 he understands the opposition to the price support provision. "They say, look, the state of Alaska has a severance tax, they have a royalty and this is gas that's produced on state lands," he told the Anchorage Daily News.

He said opponents ask, "Why should we use a federal tax credit to guarantee in effect that the wellhead price would be maintained as high as it would be with that tax credit?"

"I now believe that it (federal tax credit) is not absolutely necessary," Stevens said.

Alaska's Stranded Gas Development Act allows the governor to negotiate a contractual set of payments with North Slope producers in lieu of state and municipal taxes on a gas project. That flexibility for the state to adopt a predictable schedule of payments in lieu of taxes could play a key role in whether the producers decide to move ahead with the project.

Stranded Gas Act comes next

"The Stranded Gas Act will come into play at some point or another," Stiefel said. The first item is to see exactly what is contained in the federal energy bill, said Sen. Murkowski's chief of staff. Looking at what the state could do to augment the federal enticements would come second.

Although the state had expected a project application under the Stranded Gas Act before this fall, the producers have not submitted an application and are not saying when it might happen — nor is the governor's office making any predictions.

"We don't have any dates at this point nailed down," said John Manly, press secretary for Gov. Frank Murkowski.

The governor still expects an application, and talks with the companies about the application process are ongoing, Manly said, adding that Murkowski has met with

the producers over the past few weeks.

Any producer can start negotiations

Under the law, any one of the major North Slope producers may submit an application to start the formal negotiations. The Stranded Gas Act does not require all three producers to submit a joint application. Whereas BP and ConocoPhillips have pushed for federal incentives for the pipeline, ExxonMobil has maintained its position that it does not want federal financial support for the project.

Stranded Gas Act negotiations would be the appropriate place for any discussions of state assistance in overcoming the project's financial risk, said Dave MacDowell, spokesman for BP in Anchorage. "Obviously, decisions will be made on the state's side during negotiations."

The contractual payment plan could replace any or all state and municipal sales, production or corporate income taxes. Legislative approval would be required of any contract negotiated by the administration.

Producers condemn condemnation

While supportive of the Stranded Gas Act, the industry had no kind words for the talk in Washington, D.C., of possibly condemning North Slope gas for a government-led project.

"Condemnation of resources would create a very uncertain environment for any future investment and would not be helpful to Alaska," MacDowell said.

ExxonMobil is of a similar opinion. "This would obviously set a very dangerous and disturbing precedent," said company spokesman Bob Davis of Houston. "It would amount to a government seizure of private property, and call into question the predictability and sanctity of contracts and agreements made with the state of Alaska."

The first the governor heard of the idea was when he read it in the newspaper, his press secretary said. "The governor questions why in the world you would enter into this kind of course of action," especially the years of litigation that likely would result, Manly said.

Governor says condemnation not first option

And even if the state wanted the gas for its own pipeline project, Manly said, it would make more sense to first try negotiating to purchase the gas from producers.

The Alaska Natural Gas Development Authority is looking at a state-owned and operated pipeline to supply North Slope gas to a liquefaction terminal at Valdez, where LNG would be exported to U.S. West Coast and Asian markets. Reaching a supply deal with North Slope producers is essential to the state-owned LNG project.

The condemnation talk may just come down to frustration over the producers' reluctance to commit to the project without the financial assurances they see as necessary to undertaking the risk. "I just know the governor pretty well. I'm not going to put him in a spot," Young said. "But he's pretty determined to build this pipeline and if not, he's going to make them pay for it, as he should." ●



Rep. Don Young, R-Alaska, started the talk of taking the gas by eminent domain, much like a government takes property for a highway right of way. He suggested in comments Nov. 5 on the Alaska Public Radio Network that maybe it's time to push harder on the producers to commit to building the gas line

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continued from page A11

ROAD

ment, said spokeswoman Dawn Patience.

The company holds leases on 500,000 acres in NPR-A, she said, and is working with the U.S. Bureau of Land Management on an environmental impact statement for development of Alpine satellite fields within NPR-A. The 100,000-barrel-a-day Alpine field is just east of NPR-A.

Although a lot of questions remain about the road project — including financing, public access and what type of bridge to build over the Colville River — a cost-benefits study completed in September by consultants CH2M Hill shows the project could produce combined savings for the oil and gas industry, and tax and royalty revenues for the state, far in excess of its construction costs.

Colville bridge design undecided

One of the larger questions — as measured in steel and concrete — is what kind of bridge to build over the Colville. The state is looking at two options for the 3,200-foot-long bridge, McKinnon said.

One would be a cable-stay design, similar to what most people call a sus-

One of the larger questions — as measured in steel and concrete — is what kind of bridge to build over the Colville River. The state is looking at two options for the 3,200-foot-long bridge, McKinnon said.

pension bridge. Its twin towers would stand 240 feet tall, with the longest road span measuring 1,100 feet. Though it would have several support piers, just two of the concrete structures would sit in the most active zone of the river.

The other option is a lower-profile, concrete-and-steel bridge, with the longest span measuring 400 feet. This design would put more supports in the river's most active zone.

In addition to cost and weight-bearing capacity for heavy oil field equipment, designers will need to consider the issue of heavy ice moving down the river, pushing against bridge supports, McKinnon said.

Warm weather helped survey crews

Unusually warm fall weather was a big plus for the project this year, he said, allowing an extended field season for wetlands, history and archaeology surveys. "We used that time to do materials site investigations along the entire route."

The road would be 32 feet wide, with five feet of gravel for a base. Though gravel sources can be a problem on some projects, McKinnon said field work has proven "we have enough sites that can accommodate it."

It's ironic in a way that the warm weather that has shortened the season for temporary ice roads on the slope — which, in part, has accelerated the need for year-round access to the area — has been such a help to field workers this year.

Whereas the ice road season across the frozen tundra lasted more than 200 days 30 years ago, it shrunk to 103 days in 2002, according to the Department of Transportation. The CH2M Hill consultants estimated year-round access to NPR-A could allow the completion of one additional exploration or delineation well per year for each rig in the area.

The state expects to submit its wetlands development application to the U.S. Army Corps of Engineers within three to six months. ... That would set the start of construction for 2006, with the road and bridges to take three years to complete.

Road would extend drilling season

"During a 20-year period, the effect of drilling two wells per year for each rig has a dramatic effect on the pace at which discovery and development occurs," the report said.

Under current conditions, explorers have just a couple of months to work after getting across an ice bridge on the Colville River before they need to dismantle their drilling rig and get back across the water.

Although planners have amended the route for the road, there is no change in plans to end the gravel road at the Colville bridge just south of Nuiqsut. The roadway would land on Native corporation property just across the river, thus avoiding the federal lease prohibition against connecting any gravel roads in NPR-A to the North Slope road system.

Companies would build winter ice roads from the end of the bridge, McKinnon said.

Nuiqsut, a community of 450 residents just north of the bridge site, sees year-round road access as a significant benefit to lower freight and fuel costs in the area, while also providing all-season access to the jet-aircraft airport at Deadhorse. Residents, however, are concerned that open access to the road could create conflicts over fish and wildlife resources, McKinnon said.

State to discuss access with residents

State officials will be working over the winter with North Slope Borough and Nuiqsut residents to answer their concerns, he said.

An open road is also a concern for the oil industry and federal security officials worried about unregulated access to oil and gas wells and pipe. Those concerns may require closing the road with a gate and a security staffer at the turn-off from the Dalton Highway, McKinnon said.

Although construction cost estimates are preliminary, the bridge is projected at around \$120 million. The state plans to drill more holes at the proposed Colville River crossing this winter to find the best sites for setting bridge foundations, McKinnon said. Cost of the 102-mile road, plus smaller bridges over the Toolik and Kuparuk rivers, is estimated at \$200 million. Contingencies and changes could push those costs higher.

The Department of Transportation believes it has sufficient funding — about \$5 million in state money — to cover the cost of route survey, road and bridge design and the federal environmental review, McKinnon said.

State planners knew in February 2002 the road was a real opportunity, he said. "In June 2002 we really set our teeth into it." ●

On the low end road to NPR-A could save companies \$1.25-\$1.40 per barrel, and boost state of Alaska revenues

A state consultant estimates savings to the oil and gas industry from a year-round road to the doorstep of the National Petroleum Reserve-Alaska at between \$1.25 and \$1.40 per barrel in development and operating costs.

And the lower costs, says the report by engineering consultant CH2M Hill of Anchorage, could lead to additional production, meaning more profits to producers and more revenues for the state.

"Economic theory suggests that the savings would encourage industry to further explore and develop fields that they would not otherwise accomplish," the report said.

Highway planners and other state officials are engaged in an effort to determine the route, cost and financing possibilities of building a 102-mile gravel road from the Dalton Highway, which serves the North Slope from Fairbanks, westward to the border of NPR-A, where the federal government in 1999 leased a large area for oil and gas exploration.

Road is a state investment

The NPR-A road is the most important of all the state's proposed industrial road projects "because of what it can return to the state in a revenue stream," says Mike McKinnon, Department of Transportation planner for the road.

"The question for us," he said, "is it worth the state's investment."

And that's a question the CH2M Hill report tries to help answer. Anchorage-based consultant Northern Economics assisted with the report.

The consultants started with the state Department of Revenue spring 2003 estimate that NPR-A possibly holds 1.9 billion barrels of economically recoverable oil if long-term market prices average \$22 a barrel.

By applying estimated savings from road access to the northeast area of NPR-A — to bring in drilling rigs and supplies, reduce the amount of expensive ice roads required, and longer drilling seasons in the region — the consultants prepared a range of total cost savings for industry.

Industry savings substantial

At the \$1.25- to \$1.40-per-barrel savings, the report said, if two fields are discovered that produced 100 million barrels each, the industry's savings would total \$280 million over the life of production. The consultants labeled that the "low scenario," with a "medium scenario" of two 100-million-barrel fields and one 200-million-barrel field and \$500 million in total development and operating savings.

The "high scenario" pegs potential savings at \$875 million for a 300-million-barrel field, a 200-million-barrel field and two 100-million-barrel fields.

Lower costs and better access could also translate into 80 million to 290 million additional barrels of NPR-A oil that would not be produced if the road did not exist, the report said.

The engineers and economists also looked at potential cost savings in the arctic Foothills region, near the route of the road to NPR-A, and estimated development and operating cost savings in the Foothills could average about \$1 per barrel with a gravel road into the area.

Even accounting for the fact that NPR-A leases are on federal lands, and the state receives just 50 percent of royalties as opposed to 100 percent on state lands, the report found the state still stands to gain significant new revenue if cost savings lead to more development.

State would gain from additional production

At the low-case scenario, assuming 80 million barrels of additional production at NPR-A because of the cost savings from the road, the report projects state and municipalities would receive an additional \$380 million in taxes and royalties over the life of the fields. At a mid-case of 170 million barrels of additional production, state and municipal take would climb to \$800 million.

The federal government also would gain several hundred million dollars in taxes and royalties if the road leads to additional production.

The job of state transportation and budget officials is to measure the benefits against the cost of the road project, estimated at \$350 million to \$400 million.

Bringing it down to a net-present-value comparison of costs and benefits in 2003 dollars, the report shows the cost of the NPR-A road and bridge project could exceed total benefits to the industry, state, municipal and federal governments under a low-case projection of additional production.

At the medium- or high-production calculations, however, the benefits would outweigh the costs.

It depends on oil prices and inflation over the next 25 years, and actual costs of building the road project.

—LARRY PERSILY, Petroleum News Juneau correspondent

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Business Spotlight

By PAULA EASLEY



Josh McDonell, graphic designer/art director

Salt and Light Creative

Salt and Light Creative, a graphic design firm owned by Judy Patrick, recently relocated to downtown Anchorage from Wasilla to better serve its statewide clientele. Now in its third year of operation, Salt and Light's services to industry include print advertisements, brochures, logos, stationery, banners — anything that can be printed to help publicize a company's activities.

Josh McDonell has been with the firm since its formation, armed with degrees in both commercial art and graphic design. Prior to joining Salt and Light, he worked five years as a graphic designer. Josh has lived in Alaska 17 years; says he loves the long days in summer and doesn't mind the long nights of winter. He's an accomplished painter who also enjoys photography, snowboarding and dabbling in real estate.



Ken Carroll, district manager

Well Safe Inc.

In business since 1984, Well Safe operates from nine cities in Alabama, Texas, Louisiana and Alaska (Anchorage). Its primary services include advanced remote medical support, expediting, poison gas systems, gas detection equipment and breathing air systems. It also provides safety consulting and customer training.

Ken Carroll has worked drilling, well control, plug and abandon, rail and barge loading operations since 1979; for eight years he has performed safety support and consulting, including four with Well Safe. He commuted to Alaska for two and a half years but lives here now. Ken is involved with The Alliance, the American Society of Safety Engineers and VFW Post 9981. He says his and Tina's wonderful, beautiful daughters — Crystal, April, LaJoy and Sherri — are "all grown, thank God."

JUDY PATRICK

FORREST CRANE

continued from page A1

INSIDER

the next day or so.”

Later this month BP put a third conventional drilling rig into service at Prudhoe (see story in Nov. 2 edition of Petroleum News). In 2002 and 2003 to date only two conventional drilling rigs were working in the greater Prudhoe Bay area. The addition of a fourth rig will bring Prudhoe’s conventional rig count back up to 2001’s three to four rig level.

Two of the rigs are doing in-field drilling as BP continues to look toward adding production from existing fields. BP spokesman Daren Beaudou said the third rig’s work could also include in-field drilling, but there has been no indication from BP what the fourth rig will be doing.

The bad news

THAT’S THE GOOD NEWS. The bad news is Forest Oil is laying off workers in Alaska.

Petroleum News has received three phone calls from Forest employees and their associates about “a few” Alaska staff members being laid off on Monday, Nov. 10. Leonard Gurule, Forest’s top executive in Alaska, said Nov. 13 that Forest does not comment on personnel issues. (See front page story about Forest in Alaska in last week’s Petroleum News.)

Homer residents want state to buy back shallow gas leases

AT A NOV. 12 PUBLIC FORUM in Homer put together by the Kenai Peninsula

Borough to discuss shallow-gas development in the area, several Homer residents urged state resource officials to buy back eight shallow gas leases issued to Lapp Resources in the hills around their town before exploration begins. Initially leased to Lapp, which has said it is contemplating coalbed methane exploration, six of the eight leases have since been acquired by Unocal in a private transaction between the two companies.

A panel of state officials was on hand to provide information and answer questions from local residents, including Mark Myers, director of the Division of Oil and Gas; Dick Lefebvre, deputy commissioner of the Department of Natural Resources; and Pat Galvin, DNR project manager for coalbed methane.

Bill Popp, oil and gas liaison with the borough, and Alaska Sen. Gary Stevens, R-Kodiak, who represents the Homer area, were also in attendance.

The Associated Press reported that Homer residents “were sharply critical of the state’s new fast-track laws for shallow-gas development.”

The program was designed to bring new royalties to the state and to provide a local source of relatively cheap, clean natural gas, DNR officials said.

Unocal looking at conventional gas wells near Homer

AP REPORTED THAT UNOCAL IS LOOKING at “conventional gas wells” on its Homer shallow gas leases.

That would mean Homer wouldn’t face the proliferation of small wells and roads that coalbed methane opponents fear in the

Matanuska-Susitna Borough. But it would mean conventional drill rigs would be used for drilling operations versus the smaller, water-drilling-rig-sized coalbed methane rigs.



MARK MYERS

Under the state’s shallow-gas leasing program, state officials said at the Nov. 10 public meeting (see above news item), exploration wells under the shallow gas leasing requirements would be exempt from Department of Environmental Conservation permits as well as local government comments, which are usually made through the coastal zone management process. Wells would also be eligible for waiver of other state permits as well, they said. Unocal officials did not attend the Homer meeting.

In the AP report, Alaska Division of Oil and Gas Director Mark Myers said Unocal’s plan to seek a shallow gas-bearing formation with conventional drilling equipment makes sense, given what’s known about the area’s well-mapped subsurface.

The Homer area also has potential for coalbed methane, with some of its shallow coal seams visible along the Kachemak Bay bluffs. But it’s hard for a company like Unocal to gauge that potential without extensive test drilling, Myers said.

Controversy in the Mat-Su area has resulted in what is expected to be a temporary moratorium from Gov. Frank Murkowski on shallow gas leasing by the state. (See earlier Petroleum News articles on this subject by searching the archives at www.PetroleumNews.com)

Gasoline price dropping to lowest level since July

THE NATIONWIDE AVERAGE PRICE FOR GASOLINE has fallen to its lowest level since mid-July, according to a survey by the American Automobile Association. But the number is still 3.9 cents above the price a year ago. The average price on Nov. 11 was \$1.504 per gallon for self-service regular gasoline, AAA reported. That was a decline of 5.6 percent from mid-October.

At the pump

Average mid-November prices for self-serve regular unleaded gasoline

2003	.....	\$1.504
2002	.....	\$1.465
2001	.....	\$1.206
2000	.....	\$1.547
1999	.....	\$1.282
1998	.....	\$1.055

Figures compiled by American Automobile Association

Gasoline prices reached \$1.737 per gallon over the Labor Day weekend, the highest ever recorded in the survey.

The price decline is mostly attributable to improving inventories, lower seasonal demand, and the end of special summer fuel formulations required in many areas to meet clean air rules, AAA said. Summer grade fuel is more expensive to make than winter gasoline.

AAA’s report was based on data from the Oil Price Information Service. ●

continued from page A1

SHENZI

12.

BHP said the appraisal well penetrated 1,250 feet of gross hydrocarbon column with about 500 feet of net oil pay, compared to a much smaller 465-foot column with 140 feet of net encountered in the Shenzi-1 discovery well.

Located on Green Canyon Block 653 about two miles southwest of Shenzi-1, the appraisal well uncovered net pay roughly equivalent to other major discoveries in the region, including BHP’s own Neptune prospect in nearby Atwater Valley. It’s also on par with Unocal’s recent St. Malo discovery southwest of Shenzi in Walker Ridge.

Confirmed prolific nature of Atwater

Shenzi-2 also reconfirmed the prolific nature of the Atwater Fold Belt trend, which produced Neptune and other major deepwater fields, including blockbusters Atlantis and Mad Dog.

In fact, the four-block Shenzi prospect

is located just north of the BP-operated Atlantis oil field, scheduled to come on stream in 2006 with platform capacity of 150,000 barrels per day.

Mad Dog is set to come on line in 2005 with facility capacity of 80,000 barrels per day.

Despite its obvious candidacy as a tie-back to Atlantis, Shenzi may be able to stand on its own feet. “The field looks appreciably larger and increases the potential for a stand-alone development,” a spokesman for BHP said.

Sidetrack needed

Because a sidetrack off Shenzi-2 will

be required to size the field, BHP was reluctant to discuss reserve estimates, something the company says it generally does only after a field is sanctioned for development.

“While further appraisal drilling will be required to fully define the reserve size, we will be working with our partners to begin studying possible development options,” BHP’s Aiken said.

However, a spokesman for Shenzi partner Amerada Hess said that for now Hess “probably would not be uncomfortable” with industry speculation that Shenzi may contain 250 to 500 million barrels of oil.

“But we need to do additional drilling to further evaluate the prospect,” he cautioned.

BP and Hess each hold 28% interest

In addition to being field operator, BHP has a 44 percent stake in Shenzi. Hess and BP each hold a 28 percent interest in the field. BHP also holds a 23.9 percent interest in Mad Dog, a 44 percent interest in Atlantis and operates Neptune with a 35 percent stake.

The company also is participating in the Puma exploration well currently being drilled just west of Mad Dog. ●

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F.G. Clark
Owner, F.G.C. Logistics

continued from page A1

GAME

eying the newer Canadian frontiers, with a winter program that is likely to see 20 to 22 rigs on active duty in all of the emerging growth areas.

In the lower Northwest Territories, Anadarko expects to complete two Fort Liard wells that were stalled by early thaw last winter, along with an exploration hole north of those prospects.

Devon Energy, North America's largest independent, aims to expand its Canadian operations by up to 6 percent a year, with its major hopes riding on British Columbia and Alberta, Canadian unit President John Richels told analysts in a conference call.

Canadian Vice President Bob Daniels said the Fort Liard operations all lead to a decision in 2004 to extend infrastructure into the region.

Other key winter exploration will focus on northeastern British Columbia, including a push into the Foothills; northwestern Alberta; and shallow gas/coalbed methane in southern Alberta's Wild River area.

Anadarko's Canadian gas production has climbed in the first nine months to 379 million cubic feet per day from last year's average 364 million, but oil and natural gas liquids output has shrunk to 17,000 barrels per day from 37,000 bpd in the same period of 2002.

Daniels said the latest quarter was affected by a plant turnaround that took longer than anticipated, but "we expect our fourth-quarter volumes to be ... the strongest of the year."

Devon Energy

Devon Energy, North America's largest independent, aims to expand its Canadian operations by up to 6 percent a year, with its major hopes riding on British Columbia and Alberta, Canadian unit President John Richels told analysts in a conference call.

Canadian gas output climbed to 761.5 million cubic feet per day in the third quarter from 725.3 million a year earlier, but slipped to 731.1 million for the first nine months from 772.9 million; oil volumes edged up to 37,400 barrels per day from 37,300 bpd in the latest quarter but dropped to 36,800 bpd over the nine months from 44,500 bpd; and gas liquids tapered to 12,700 bpd for the quarter and 13,500 bpd for nine months from 13,100 bpd and 15,000 bpd respectively.

Topping the list of prospects to achieve the growth objective, Richels gave priority to the highly-touted Deep Basin and the Foothills of British Columbia and Alberta.

He said Devon has poured major resources into various areas of the Western Canada Sedimentary Basin "particularly concentrated on the Deep basin, where we have a very large interest in the Foothills, northeast British Columbia, which includes a number of gas-prone areas."

The gains so far include 18 million cubic feet per day net to Devon from two new wells in northeastern British Columbia and the western Alberta Foothills, with net overall Foothills output at 136 million cubic feet per day.

With Devon hiking its Canadian rig count to 36, from 24 in the third quarter and just four in 2002, a heavy winter program is expected.

In addition, Devon is counting on regulatory approval in 2004 for its C\$400 million Jackfish steam-assisted gravity drainage heavy oil project in northeastern Alberta, which is targeting 35,000 bpd

when it becomes operational in 2008.

Murphy Oil

Ladyfern continues its rapid decline to extinction in northeastern British Columbia with no immediate hopes for Murphy Oil of finding replacement reserves.

Like some shooting star that has blazed across the sky, Ladyfern has plummeted from its peak 668 million cubic feet per day in May 2002 to a mere 187 million in August, reflecting the sharp drop in Murphy's Canadian production to 111.86 million cubic feet per day in the latest quarter from 192.59 million a year earlier.

Claiborne Deming, president and chief executive officer of the Arkansas-based company, said in a conference call that Murphy's Ladyfern hopes now hang on three Devonian prospects west of the field that will be drilled this winter.

However, the "sad but accurate truth" is that neither those wells nor active drilling in central Alberta will offset the Ladyfern losses, he said.

Some comfort came from improvements in Murphy's crude oil and liquids production in Canada, with third quarter crude and condensate averaging 49,902 bpd compared with 44,937 bpd a year earlier, while liquids increased to 1,245 bpd from 1,040 bpd.

EOG Resources

Having snapped up former Marathon Oil assets in a US\$320 million spin off deal with Husky Energy, EOG Resources is turning its attention to coalbed methane plays in southeastern Alberta.

Chairman and Chief Executive Officer Mark Pappas told analysts there is optimism that the coalbed methane reserves will actually be about 330 billion cubic feet, 150 billion more than originally estimated.

He said the 75,000-acre Twinning prospect, alongside a pilot coalbed methane project by EnCana and Quicksilver Resources, is similar to other coalbed methane plays in the United States, without the water production that has troubled the Powder River basin.

Pappas said favorable drilling results could see EOG launch a coalbed methane pilot program alongside a planned 1,000-well shallow gas drilling program scheduled for this winter, adding that coalbed methane is "nothing more than drilling shallow gas wells."

As well as Twinning, EOG has 35,000 acres in a separate Horseshoe Canyon coalbed methane prospect in southeastern Alberta.

For the third quarter, EOG logged production of 152 million cubic feet per day of gas in Canada, unchanged from a year earlier, accounting for 19 percent of the company's total gross volumes. Oil and gas liquids edged up to 3,100 bpd from 2,900 bpd, or 12 percent of EOG's total.

Pappas continues his upbeat view of the North American gas outlook, predicting "this will be the sweet spot in the North

American energy picture for at least seven years."

National Fuel Gas

Under-performing oil assets in Saskatchewan have been offloaded to enable National Fuel Gas to embark on full-cycle natural gas exploration in northeastern British Columbia.

The Saskatchewan sales, involving proved reserves of 117 billion cubic feet of gas equivalent, yielded an after-tax loss of US\$39.6 million because of the weakened U.S. dollar, with net proceeds of \$76.4 million used to pay down debt.

National Fuel Chairman, President and Chief Executive Officer Philip Ackerman said his company was "obviously not pleased" to incur the loss, but believes that a successful Canadian exploration program and the resulting reserve additions will help avoid any repetition.

On the upside, National Fuel has teamed up with Talisman Energy and Oiltec Resources in a Permian gas discovery in British Columbia's Monkman play and is aiming for a 150 percent reserve replacement next year at finding and development costs of about \$1 per thousand cubic feet equivalent.

Ackerman told a conference call that the company has "really cranked up the exploration component of our program. We have a number of very nice looking prospects in Canada ... and any could have a significant impact on production."

National Fuel is projecting total gross production of up to 62 billion cubic feet equivalent in 2004, with about 17 percent coming from Canada.

For the 12 months to September 30, it produced 5.77 billion cubic feet in Canada, down from 6.39 billion in 2002.

Forest Oil


Despite a downturn in Canadian production this year and wet-weather induced delays, Forest Oil had a "fairly active quarter," President and Chief Executive Officer Craig Clark said in a conference call.

The bright spots include continued record output at the company's Naraway field in the Foothills, where Forest has working interests of 50 to 100 percent and volumes were 28 million cubic feet equivalent per day in the third quarter. Two more wells are being completed and should soon contribute sales volumes.

Clark also said that in the Plains area his company is becoming "increasingly more active."

Progress in the Fort Liard area of the Northwest Territories hinges on a National Energy Board response to an application for a discovery license at the P-16 well drilled in partnership with operator Anadarko Canada. Until then, completion and testing work is on hold.

For the year-to-date, Forest has logged Canadian production of 33.8 million cubic feet per day of gas, down from 39.1 million a year ago and a drop in liquids to 2,800 bpd from 3,300 bpd. ●



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SpectrumGold trading high



COURTESY SPECTRUMGOLD

NovaGold Resources' Canadian subsidiary, SpectrumGold, hit the ground running late last month, as it began trading on the Toronto Stock Exchange on Oct. 27, opening at 75 cents a share and closing that same day at \$2.50. Four days later, SpectrumGold released drill results from its first round of field work on its remote Galore Creek project in northwestern British Columbia. An advanced-stage gold-silver-copper deposit acquired by the junior exploration company in August, Galore Creek is located about 60 kilometers west of the Cassiar Highway, about 75 kilometers east of Wrangell, Alaska. See story on page B9.

Devon production soars on merger

Record oil and gas production, together with higher commodity prices, pushed Devon Energy's 2003 third-quarter profit to \$412 million or \$1.76 per share, a nearly seven-fold increase over the \$38 million or 38 cents Devon earned for the same quarter last year, the company said Oct. 6.

Devon, the largest exploration and production independent in the United States, attributed the surge in production largely

see DEVON page B2



Devon Energy CEO
Larry Nichols

Anadarko Petroleum to move cash out of international arena

Anadarko Petroleum plans to shift some investment from the international arena to areas with better track records, including onshore U.S. Lower 48, Robert Allison, Anadarko's chief executive officer, said Nov. 6 at the Merrill Lynch Global Energy Conference in New York.

"We've taken a hard look at our portfolio projects," Allison said. "It's become clear that we've been chasing too many international ideas with too little focus, too little commitment and too little success."

see ANADARKO page B2

CANADA/ALASKA

Bilateral cooperation urged

Meyers pitches shorter Alaskagas line, idea eagerly received by Kvisle

By GARY PARK

Petroleum News Calgary Correspondent

Getting natural gas out of the Arctic — the North Slope or Mackenzie Delta — needs closer U.S.-Canada cooperation and regulatory streamlining on both sides of the border, say a number of industry and government experts.

The issues got a heavy workout in Calgary speeches the first week of November that explored ways to cut the costs of shipping gas out of the north and thus help avert future price spikes.

Topping the list was a vigorous case by ConocoPhillips Alaska President Kevin Meyers for passage of the U.S. energy bill before year's end to offer the needed financial incentives for an Alaska pipeline along with a scheme to slash US\$5 billion off the construction costs. (See news brief in last week's Petroleum News, page 3.)

Meyers told The Globe and Mail that building a
see COOPERATION page B2



JUDY PATRICK

ConocoPhillips Alaska President Kevin Meyers (said) ... that building a US\$20 billion delivery system from the North Slope to Chicago would not be necessary if the pipeline ended in Alberta and the gas was fed into TransCanada's network out of Alberta. ... The cost of building a line just to Alberta would be about \$11.8 billion ... another \$2.6 billion would be spent on a gas treatment plant in Alaska and \$600 million on a plant to remove gas liquids in Alberta.

GULF OF MEXICO

Eastern Gulf operators move ahead on deepwater gas hub

Allison says companies have banked enough gas reserves to make a go of it

PETROLEUM NEWS

A central production facility to handle natural gas from at least five deepwater discoveries in the remote Eastern Gulf of Mexico has moved a step closer to reality. Not only do the owners believe they have enough reserves to make a go of it, they are now bidding among themselves to see who gets to spearhead the project.

"The operators and their partners will have a seat at the table," Jim Emme, vice president of

exploration for Anadarko Petroleum, said during a Nov. 6 press briefing in Houston, Texas. "Everyone wants this to happen."

Anadarko, which holds title to 38 exploration blocks and 17 identified prospects in the Eastern Gulf, currently owns and operates Jubilee, Atlas and Spiderman, three of the discoveries that likely would be included in the joint venture. Anadarko announced the Spiderman discovery Nov. 13.

see HUB page B12

ANCHORAGE, ALASKA

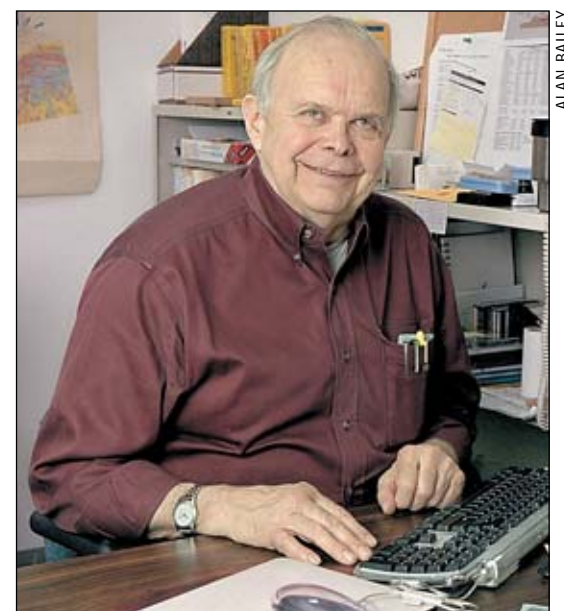
Veteran geologist Gil Mull retires

Career of more than 40 years started before discovery of Prudhoe Bay field

By ALAN BAILEY

Petroleum News Contributing Writer

Veteran geologist Charles G. (Gil) Mull has retired from the Alaska Division of Oil and Gas after working for the state for 22 years. Mull, with his vast knowledge of Alaska geology, has become something of an institution since he first arrived in the state in 1961. He was part of the team that discovered the giant Prudhoe Bay oilfield.



ALAN BAILEY

Gil Mull has retired from the Alaska Division of Oil and Gas after working for the state for 22 years.

see MULL page B7

continued from page B1

DEVON

to April's merger with Ocean Energy. However, low risk development projects also contributed to the increase, Devon said, adding that 2003 third-quarter output was significantly higher than that of Devon and Ocean combined in the prior quarter and last year's second quarter.

Daily production during the 2003 third quarter averaged 689,000 barrels of oil equivalent per day, a 41 percent increase over the 500,000 barrels of equivalent per day produced in the year-ago quarter.

"Our development projects and the merger with Ocean are delivering exactly what we anticipated," said Larry

Nichols, Devon's chief executive officer.

One development project that contributed significantly to Devon's third-quarter production was the company's Barnett Shale play near Dallas, Texas, which rocketed 12 percent from the prior quarter to 580 million cubic feet per day of gas equivalent. The company is operating 14 rigs at Barnett, half of which are dedicated to drilling highly productive horizontal wells.

Sales of oil, gas and natural gas liquids during the 2003 third quarter increased 111 percent over the year-ago period to a record \$1.6 billion, Devon said. However, because of expenses associated with a larger company, operating costs in this year's third quarter increased 61 percent versus last year's third quarter to \$1.2 billion.

continued from page B1

ANADARKO

He said that while Anadarko would continue to maintain a strong international program, "it will be more focused than it has been in the recent past. And we plan to spread the risk by taking on more partners. Foreign exploration will be by design, not by default."

Allison did not identify any of the projects that would be getting less cash and attention from the big independent. The company's published list of international frontier areas includes Australia, Gabon, Tunisia, Black Sea and North Atlantic. The company also operates in Canada, Qatar and Venezuela.

"Where you invest your time and money can have a big impact on your finding costs and reserve replacement, as well as your level of overhead," Allison said.

Allison did not identify any of the projects that would be getting less cash and attention from the big independent.

Algeria, Alaska and the Texas Bossier play are among Anadarko's "long-lived legacy assets," where production levels can be easily maintained and ultimately increased through additional exploration and field exploitation, Allison said.

But he said Anadarko would continue to "tweak" its portfolio, noting that over the past several years the company each year has sold \$100-to \$200 million in properties while purchasing assets of roughly the same amount.

"For us acquisitions are not about buying existing production, but they are about buying high potential drilling and potential upside," Allison said.

continued from page B1

COOPERATION

US\$20 billion delivery system from the North Slope to Chicago would not be necessary if the pipeline ended in Alberta and the gas was fed into TransCanada's network out of Alberta.

If the energy bill includes \$5 billion in tax credits for the Alaska project, the cost of building a line just to Alberta would be about \$11.8 billion, he estimated, adding that another \$2.6 billion would be spent on a gas treatment plant in Alaska and \$600 million on a plant to remove gas liquids in Alberta.

Such an arrangement would eliminate the need for about 1,400 miles of pipeline from Alberta to Chicago, leaving the proponents to concentrate on the 2,000-odd miles from Alaska to Alberta.

Only 'reasonable' tolls needed from TransCanada

The idea was eagerly received by TransCanada Chief Executive Officer Hal Kvisle, who has repeatedly warned that depletion of Western Canada's conventional gas fields threatens to leave his company with substantial unused capacity on its connections to Eastern Canada and the United States.

Meyers said the tie-in to TransCanada needs only "reasonable" tolls to gain the attention of ConocoPhillips, BP and ExxonMobil.

He reiterated the commonly held belief that the C\$5 billion Mackenzie Gas Project is likely to proceed first, but that both are vital to North America's needs.

On the regulatory front, Paul Cellucci, the U.S. ambassador to Canada, and Enbridge Chief Executive Officer Pat

Daniel both hammered on the urgent need to streamline approvals and clear away barriers.

Cellucci said Canada has a dominant role to play in U.S. energy security, although there are "many regulatory, technical, managerial and political challenges to sustaining the growth in cross-border energy trade."

"As the United States looks for secure and reliable energy sources to meet growth in future demand, Canada is positioned to be an increasingly important player," he said. "Canada looms large."

However, Cellucci, a close friend of President George W. Bush, said both governments must work to "break down barriers to investment both within and between our countries."

"It's not just a problem in the U.S., it's an issue here in Canada and both national governments have an important role to play in encouraging that positive regula-

tory climate so we can get this investment," he said.

Combined regulatory hearings

Daniel, echoing the view that the regulatory process hinders the growth of gas supply and promotes volatile commodity prices, called for multiple reviews of project applications.

Canada and the United States could set aside some of their sovereignty concerns and "try to combine some of our regulatory hearings around environmental issues, financial approvals and maybe even look at some joint hearings."

He suggested a joint National Energy Board-Federal Energy Regulatory Commission review could hasten the Alaska project, while further streamlining could have a similar outcome for the Mackenzie pipeline.

"This is where we need some leadership," Daniel argued. "Why can't we work together as two countries and get this done?"

"Without that leadership we are going to have a high degree of volatility and acrimony as we attempt to respond to that demand," he said.

Even so, Daniel conceded there would likely be political resistance to a combined approach to work normally done by independent agencies in both countries.

Daniel said he was not advocating a steamroller approach to the environment, but noted that land access and siting liquefied natural gas facilities can interfere with the operation of the marketplace.

Dave Collyer, Shell Canada's frontier vice president, cautioned that overlapping the Alaska and Mackenzie projects could have unwanted consequences.

If the two "start to butt into each other" there could be problems in ordering steel and hiring thousands of construction workers, he said. ●

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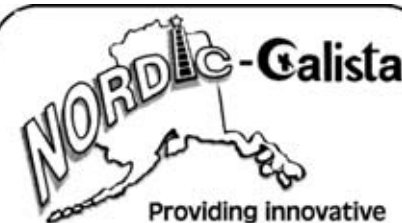
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MIDLAND, TEXAS

Texas to form state energy council; energy plan next

Declining crude oil production in Texas is prompting a re-examination of alternative energy sources, the state's top energy chief says.

Victor Carrillo's statewide energy policy would feature a blend of incentives to encourage oil and natural gas exploration and development and exploitation and redevelopment.

Accompanied by Carrillo, Gov. Rick Perry was scheduled to sign an executive order creating the Texas Energy Planning Council on Nov. 10 at the Petroleum Museum in Midland.

The council will work with the Clean Coal Technology Council toward the development of cleaner forms of energy, the governor's office said in a prepared statement.



VICTOR CARRILLO

First step in creating Texas energy plan

Carrillo, Texas Railroad Commission chairman, last month urged creation of the council as the first step in creating a Texas energy plan. The Railroad Commission is the state agency that regulates the energy industry.

Producers in the nation's top oil-producing state are caught on a "constant treadmill" trying to satisfy ever-increasing demand for fossil fuels with supplies that have been dwindling since the early 1970s, Carrillo told participants at the Permian Basin Petroleum Association's annual meeting in Midland last month after sending his proposal to Perry.

With Texas crude oil production dropping at about 5 percent per year, it's a "critical time" in the state's history, Carrillo said.

"We can't sit idly by. The time for action is now for a comprehensive, coordinated effort to find ways to find and produce new reserves," said Carrillo, who has announced his intentions to create an energy plan for the state.

It would maintain existing production incentives and create new ones, support advancements in exploration and production technologies and encourage energy conservation.

"Conservation is an important aspect of the mix," Carrillo said.

He urged that the plan include development of the renewable energy sector, but not at the expense of traditional energy sources.

"Texas has the largest renewable energy potential in the United States, but (renewables) won't replace the need for conventional energy sources anytime soon," Carrillo said.

He has said he believes that it's his duty as chairman to keep Texas' energy industry "strong for decades to come."

—THE ASSOCIATED PRESS

WASHINGTON, D.C.

Congress puts off energy bill to final week before adjournment

It wasn't supposed to happen this way, but the long-awaited national energy policy bill will not be released to the public and set for a vote in the House and Senate until the final days of the congressional session — and even that is iffy.

Adjournment is scheduled for Nov. 21.

The energy bill is on lawmakers' last-minute work list, along with several appropriation measures and always contentious Medicare legislation.

If lawmakers fail to finish their chores on time, the option is to take a week off for Thanksgiving and then return to the Capitol for more work before Christmas, said John Katz, director of the state of Alaska's Washington, D.C., office. The energy bill could be among those measures delayed until December, he said.

Congressional negotiators had expected to unveil the energy bill Monday, Nov. 10, with conference committee action by the middle of the week and then votes in the full House and Senate in plenty of time before Thanksgiving adjournment. But the failure of negotiators and congressional leaders to reach agreement on

see CONGRESS page B4

ANCHORAGE, ALASKA

DEC's Ernesta Ballard says enough is enough

Alaska commissioner is fed up with environmentalists, says too much time is spent in litigation, too little in land management

THE ASSOCIATED PRESS

The head of Alaska's Department of Environmental Conservation angered environmentalists by saying more than enough acres are being managed for conservation and land set-asides aren't necessary for environmental protection.

Ernesta Ballard also lambasted the media for being "eager apostles" of environmental activists. She made her comments during a speech Nov. 5 to the Alaska Miners Association, which was holding its annual convention in Anchorage.

Ballard was critical of the federal government's approach to tackling resource issues. She said the proliferation of wilderness areas and monuments "demonstrates that we have lost our national resolve to develop our resources."

Miners and other industry representatives welcomed Ballard's remarks.

Carl Portman, deputy director of the Resource Development Council for Alaska, said he appreciated Ballard's ability to "think outside the box."

"It's refreshing to hear somebody whose knowledge about permitting and environmental issues is



Ernesta Ballard, commissioner, Alaska Department of Environmental Conservation

so broad talk so frankly and straightforward about some of the problems that exist," said Steve Borell, executive director of the Alaska Miners Association.

Environmentalists disagree

Environmentalists found the speech disturbing. "How anyone with a straight face can complain about setting aside some of Alaska's incredible lands for everyone to enjoy, it's hard for me to fathom, especially when they're supposed to be the head of the Department of Environmental Conservation. Maybe it's just the first step in changing the name to the department of environmental development," said Tim Bristol, executive director of the Alaska Coalition, an environmental group.

He characterized Ballard's statements as "completely irresponsible."

Ballard, who has a master's in business administration from Harvard University, is the former chief executive of Cape Fox Corp., the Native village corporation for Ketchikan. Under her watch, Cape Fox extensively clear-cut its old-growth forest. Ballard, who has a long and accomplished resume, was also the U.S. Environmental Protection Agency's regional administrator for Alaska and the Pacific Northwest during the

see BALLARD page B4

ANCHORAGE, ALASKA

Ruedrich resigns from regulatory commission

The chairman of Alaska's Republican Party leaves post with the Alaska Oil and Gas Commission amid conflict of interest allegations

THE ASSOCIATED PRESS

Amid mounting pressure, Republican Party of Alaska chairman Randy Ruedrich resigned from his job as a state oil and gas regulator Nov. 8 after meeting with Alaska Gov. Frank Murkowski.

Prominent state GOP leaders had demanded that Ruedrich be removed from either the party chairmanship or his position on the Alaska Oil and Gas Conservation Commission, saying to stay in both constituted a conflict of interest. Ruedrich said he did nothing wrong, but decided it was best to step down.

"After discussing the matter with the governor, I felt it was appropriate to tender my resignation of the oil and gas conservation commission, effective immediately," Ruedrich told The Associated Press soon after his phone meeting with Murkowski. "I



Republican Party of Alaska chairman Randy Ruedrich resigned from his position on the Alaska Oil and Gas Conservation Commission.

think it's in the best interest of the Murkowski administration, the Republican Party and my own personal interest."

Murkowski spokesman John Manly said no replacement on the commission has yet been named.

Ruedrich was one of three members of the commission, a quasi-judicial state agency that regulates oil and gas development. He also is active in the Republican Party, including political fund raising from the industries he regulates.

Palin had threatened to resign as commission chair

Sarah Palin, chairwoman of the commission and also a well-known Republican, said Nov. 7 she might resign her job if the situation with Ruedrich was not resolved soon.



Sarah Palin, chairwoman of the commission, said Nov. 7 she might resign her job if the situation with Ruedrich was not resolved soon.

see RUEDRICH page B4

continued from page B3

CONGRESS

many of the usual suspects — plus some new ones — pushed the bill off the schedule for yet another week.

Without the energy bill to consider, the Senate moved along on its agenda and debated the backlog of the president's federal judicial appointments awaiting confirmation, said Justin Stiefel, chief of staff to Sen. Lisa Murkowski, R-Alaska. The House canceled its votes and shut down for the week, Katz said.

Fast track slowed down

Conference committee work on the energy bill started in early September, with several House and Senate conferees eager to proclaim the bill was on a fast track to adoption to show the public that Congress could respond quickly to the August electrical blackout that hit East Coast and Midwest states. The committee was set up to settle differences between separate energy bills adopted by each chamber earlier in the year.

The bill is a top priority for President Bush, who wants to boost domestic energy production.

Negotiators reportedly had reached agreement earlier this month on one of the largest problem provisions — federal tax credits to double the use of corn-based

ethanol in motor fuels, to the pleasure of farm-state lawmakers — with the more recent unresolved provisions including tax incentives for nuclear power and coal-burning power plants and other tax issues.

The measure includes an estimated \$16 billion in tax incentives for all sorts of energy production, including oil and gas, coal, nuclear and ethanol.

Small projects a problem, too

Local projects also were reported on the list of last-minute delays in bringing a final bill to the committee, including a tourism and education center in Iowa backed by Senate Finance Chair Charles Grassley, R-Iowa.

Perhaps not wanting to be singled out, Grassley said the Iowa center was one of five such projects in the bill and he would favor dropping all of the projects if needed to reach a compromise — but not just his home-state project.

Squeezing the bill into the final week before adjournment will exacerbate already angry Democrats, who complain of being shut out of the closed-door



"We need to have a bill, and getting that bill, even if it's not perfect, through the finish line is our priority." —Energy Secretary Spencer Abraham

Republican negotiations over the measure and protest they will not have adequate time to review the legislation. Senate GOP leaders said they intend to stick with their promise that the Democrats — and the public — will have the draft bill 48 hours in advance of the conference committee meeting, where Republicans will push to adopt the measure without amendments.

Congressional rules prohibit amending the bill on the floor of either chamber. If the Democrats are going to try changing any provisions, they need to take their shot in the conference committee.

It's been a high-profile political struggle throughout the negotiations. Leaders compromised on the ethanol-fuel tax credits only after Vice President Dick Cheney stepped in to push for a settlement.

No veto if bill does not include ANWR

The White House got involved again this past week when Energy Secretary Spencer Abraham told reporters the president would sign the bill even if it does not include opening Alaska's Arctic National Wildlife Refuge to oil and gas drilling. It was the first time the administration had said it would support the bill without one of the president's favored provisions.

"I don't think we've ever issued anything that we would veto legislation if it didn't have (ANWR drilling)," Abraham told reporters. "We need to have a bill, and

getting that bill, even if it's not perfect, through the finish line is our priority."

Democratic and environmentally supportive Republican opposition is expected to keep ANWR out of the bill, with the state of Alaska still waiting for negotiators to decide on another of its key requests for the legislation — an expansion of the \$3-per-barrel federal tax credit to cover North Slope heavy oil production.

Critics attack tax breaks

Meanwhile, environmental and taxpayer-watchdog groups do not share the energy secretary's enthusiasm for passing the energy bill. They have criticized the measure as too expensive, with too many tax credits for industry. And they say it falls far short of taking meaningful steps to conserve traditional energy sources or expand the use of alternative energy.

Sen. Robert Byrd, D-W.Va., said the bill is far too favorable and profitable for energy companies, without enough to benefit consumers in the long run.

"The administration's energy policy plan will do about as much to improve the nation's energy security as the administration's invasion of Iraq has done to stem the tide of global terrorism," Byrd said in a Senate speech, according to Reuters news service.

—LARRY PERSILY, Petroleum News
Juneau correspondent

continued from page B3

RUEDRICH

"It's distracting, it's confusing, it's frustrating," Palin told the Anchorage Daily News. "It's not fair to Alaskans to have these questions about a possible conflict hanging over the head of this agency."

Murkowski appointed both Palin and Ruedrich to the commission.

Tuckerman Babcock, a former state Republican Party chairman and current party central committee member, had said Ruedrich should resign from one post or the

other. Babcock was on the Alaska Oil and Gas Conservation Commission himself for three years in the mid-1990s.

Being party chairman is all about taking partisan positions, pushing candidates into office and raising money — sometimes from oil companies, said Babcock. And that cannot be separated from the commission job as a quasi-judicial officer who regulates the activities of oil and gas companies, he said.

Ruedrich, as the Republican Party chairman, was one of the architects of Murkowski's election last fall. The follow-

ing spring Murkowski appointed Ruedrich to the \$118,000 commission job, noting Ruedrich's extensive background in the oil and gas industry.

Ruedrich member of Republican National Committee

Ruedrich said at the time he would take himself out of state fund raising, and focus on federal issues. He has remained involved in state politics, however.

In September, Ruedrich joined with oil executives from such companies as Conoco Phillips, BP and Alyeska Pipeline Service Co., to co-host a fund-raiser for Fairbanks North Star Borough Mayor Rhonda Boyles' bid for re-election.

The clamor for Ruedrich to resign or to be fired swelled after his name showed up as party chairman and co-host for a fundraiser for the state House Republican Majority Fund. He said later that he had not realized it was a fund-raiser.

A new national campaign finance reform law forbids members of the Republican National Committee — Ruedrich is a member — from raising funds for candidates for state office.

Ruedrich remains the official chairman of the Republican Party of Alaska but party officials said he has delegated work on state campaigns to vice chair Paulette Simpson. Nov. 8, he said he will focus his attention only on federal activities for the time being. ●

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continued from page B3

BALLARD

Reagan administration.

When she was tapped by Gov. Frank Murkowski to be his environmental chief, Ballard had been running her own consulting firm in Ketchikan.

Unending litigation and media looking for bad news

In the speech, Ballard criticized the direction public land management agencies have moved since the 1960s and 1970s, when laws such as the Clean Air Act, the Clean Water Act and the National Forest Management Act were passed. She said

those laws gave the Interior Department unprecedented powers, and unleashed new requirements for scientific research and public involvement that have bogged down agencies' ability to manage lands.

"The planning process has consumed the agencies. By their account, staff spend almost half their time in planning at the expense of the important work of managing the land," she said. "The result is a pervasive distrust of the agencies and a widespread reluctance to engage in the process."

Public hearings required under laws like the National Environmental Policy Act have resulted in uncivilized meetings where opponents level attacks on one another, she said.

There's also unending environmental litigation, what Ballard refers to as "the new conflict industry." And she said journalists are much more interested in doing stories about bad environmental news than good.

Ballard also blasted environmental advocacy groups that she said keep painting an erroneous picture of the state of the environment.

Buck Lindekugel, a longtime lawyer for the Southeast Alaska Conservation Coalition, summed up Ballard's comments this way.

"She needs a reality check, I'm afraid," he said. ●

ALBERTA

No nukes for Alberta oil sands

Alberta Energy Minister Murray Smith has scuttled the idea of using nuclear reactors as a power source for his province's oil sands region.

"We would be very concerned at this time with respect to security of the installation," he told a Ziff Group North American Gas Strategies Conference in Calgary.

"Having a nuclear installation close to an asset that is so vital to Alberta's economic development is an absolute, legitimate concern."

Asked to identify the government's primary worry he said: "Terrorism."

The Canadian government agency, Atomic Energy of Canada Ltd., has been lobbying for the use of its Candu reactors as an alternative to the consumption of natural gas since early this year.

An Atomic Energy of Canada spokesman said Smith's concerns are a "typical reaction to nuclear when you're sort of unenlightened and we have to do a better job of enlightening people."

A C\$35,000 study completed in June said that the start-up capital costs of a reactor would be higher, but would quickly offset the costs of using natural gas in the extraction and processing of raw bitumen.

—GARY PARK, Petroleum News Calgary correspondent



Alberta Energy Minister Murray Smith

NORTH AMERICA

U.S.-Canadian drilling rig count rises by nine to 1,492

The North American rotary rig count increased by nine to 1,492 during the week ending Nov. 7, according to rig monitor Baker Hughes.

The number of rigs operating in Canada rose by two from the previous week to 378, and was up by 116 rigs compared to the same weekly period a year earlier.

In the United States, the number of all rigs operating increased by a net seven from the prior week to 1,114, and was up by 288 rigs compared to the same period last year. Land rigs during the recent week increased by seven to 990, while offshore rigs increased by four to 109 and inland water rigs decreased by four to 15.

Of the rigs operating in the United States during the recent week, 952 were drilling for natural gas and 160 for oil, while two were being used for miscellaneous purposes. Rigs were drilling 742 vertical wells, 272 directional wells and 100 horizontal wells.

Among the leading producing states in the United States, Texas added six rigs for a total of 471 rigs, Alaska's rig count increased by one to 11 rigs, while California added one rig for a total of 27 rigs. Louisiana's count fell by four to 164 rigs. Wyoming fell by four to 62 rigs. Oklahoma was down by two to 138 rigs. And New Mexico fell by one to 64 rigs.

CANADA

Fixing a 'deficit' in bilateral relations

EnCana CEO sees energy as cornerstone under new prime minister

By GARY PARK

Petroleum News Calgary Correspondent

A new prime minister is about to be installed in Canada and with that change there is the chance for a makeover in Canada-U.S. relationships, with energy trade as the "proven model to build on," says EnCana President and Chief Executive Officer Gwyn Morgan.

Former finance minister Paul Martin will be formally elected Nov. 15 as leader of Canada's governing Liberal party and will soon be sworn in as prime minister to succeed Jean Chrétien.

Given Martin's record of removing Canada's fiscal deficit, Morgan told a New York audience

Nov. 11 he has great confidence that the new leader will "act decisively to remove Canada's relationship deficit with the United States."

From this "new, more positive platform" he said the two countries can deal with the many issues that cause friction between the "world's two most naturally suited allies and most closely knit economies."

Morgan held up EnCana as an example of how the bilateral dealings can be made to work, noting that his company is the largest producer and exporter of Canadian natural gas to the United States, and its U.S. subsidiary is one of the largest explorers and producers in the United States.

"We have the largest North American oil and gas exploration program of any Canadian- or U.S.-headquartered company," ranging from Alaska through Western Canada, the U.S. Rockies, Canada's East Coast and the Gulf of Mexico.

see ENCANA page B7



EnCana President and CEO Gwyn Morgan

COOK INLET, ALASKA

Aurora applies to expand Nicolai Creek gas unit

Restarted gas production from old field with recompletion; now installing line to sidetrack and second recompletion; also evaluating seismic for deeper oil

By KRISTEN NELSON

Petroleum News Editor-in-Chief


Aurora Gas is putting in a pipeline to connect the southern area of its onshore Cook Inlet natural gas Nicolai Creek unit. The company has also applied to the Alaska Department of Natural Resources' Division of Oil and Gas to expand the unit, and one of its participating areas, and will continue to evaluate three-dimensional seismic shot earlier this year for more natural gas development locations, and also to determine what

deep oil potential may exist.

Natural gas was discovered at Nicolai Creek in the 1960s during exploratory drilling targeting deeper oil objectives.

The Nicolai Creek unit is on the west side of Cook Inlet, and includes uplands and tide and submerged lands west of Tyonek at the mouth of Nikolai Creek. The unit expansion will add some 94 acres, the state said, a portion of federal lease AA-8426, in sections 29-32 of township 11 north,


see AURORA page B6

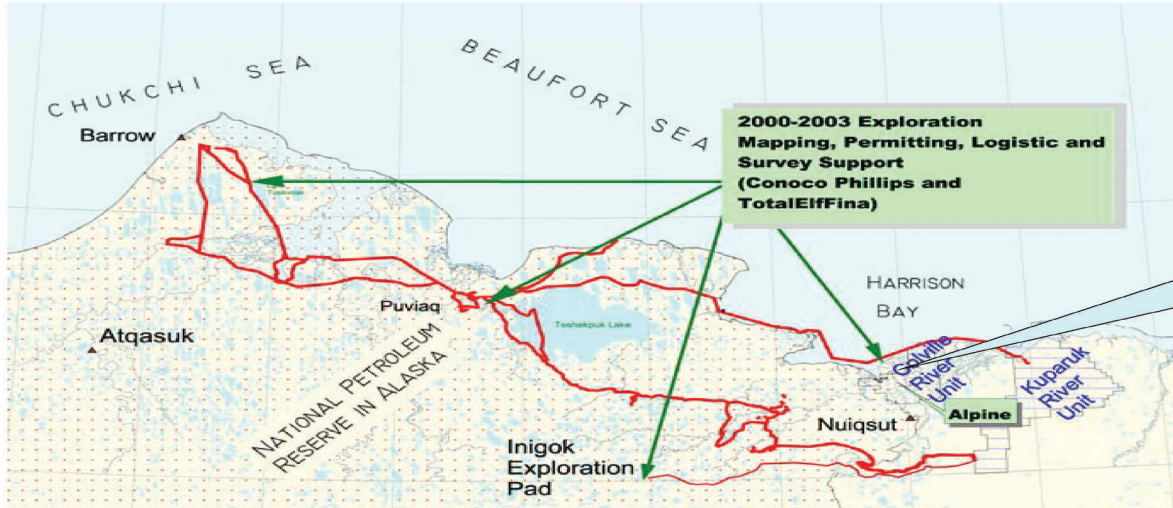




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continued from page B5

AURORA

range 12 west, Seward Meridian.

The Alaska Oil and Gas Conservation Commission told Aurora in September 2002 that it could drill and test wells in the southern portion of the unit, but could not put them into production until it resolved gas ownership issues because the wells are closer than 1,500 feet to a property line, so natural gas could be drained from adjacent acreage, in this case a lease controlled by

The No. 9 well was drilled to a depth of 2,102 feet, casing run and cemented, and the well perforated and tested in 100 feet of net Beluga sands between 1,320 feet and 1,447 feet. Aurora said that well is expected to produce about 3 million cubic feet of gas per day.

the U.S. Department of the Interior's Bureau of Land Management.

Aurora told the Division of Oil and Gas that it has acquired and interpreted a Nicolai Creek 3-D seismic program, and a redefinition of the extent of the unit is necessary to protect correlative rights. The company is proposing to add a portion of

that BLM lease to the unit.

Two shut-in wells in south participating area

The southern portion of the unit, the south participating area, has two wells, both currently shut-in. Aurora said it has successfully worked over those wells, the Nicolai Creek Unit Nos. 1B and 2, and has asked the Department of Natural Resources to advise the Alaska Oil and Gas Conservation Commission to lift its prohibition against production from the two wells while the application for unit expansion is being reviewed. Aurora said it attempted to agree on a revised south participating area with the Bureau of Land Management, but agreement was never achieved.

Aurora is also asking the state and the Bureau of Land Management for instructions on royalty deposits for the two wells, and said it agrees to temporarily "overpaying the royalty amounts attributable to the DNR and BLM by tendering to both parties 10.0 percent each of the gross revenue allocable to the 1B and 2 wells" while the state reviews the unit expansion application, "with an exact re-allocation to occur following DNR determination."

As an alternative resolution to the royalty issue, Aurora has suggested joint execution of an agreement by the Department of Natural Resources, BLM and the Alaska Mental Health Trust Authority (which is attempting to perfect 100 percent mineral conveyance from BLM for the portion of BLM lease AA-8426 which Aurora wants added to the south participating area).

North participating area currently producing

In the current plan of development for the unit, Aurora told the state, no new development wells are planned. No remedial work is planned either, but production from the north participating well, the Nicolai Creek Unit No. 3, "needs to become stabilized following remedial work performed" in 2003, and additional well work may be required to close off intervals because of water encroachment.

Aurora began gas production and sales

from the No. 3 well in 2001.

Installation of a single facility for the Nos. 1B, 2 and 9 wells — two-phase separation, glycol dehydration, compression and pipeline to the existing field sales meter — were installed this year, and Aurora said no additional major modifications or additions to field operations are planned.

The No. 9 well was drilled to a depth of 2,102 feet, casing run and cemented, and the well perforated and tested in 100 feet of net Beluga sands between 1,320 feet and 1,447 feet. Aurora said that well is expected to produce about 3 million cubic feet of gas per day.

Aurora said the No. 9 is a straight hole, adjacent to the Nos. 1B and 2 directional wells, "to evaluate the previously untested Beluga formation reservoirs." If the No. 9 well is successful, Aurora said it would propose a further expansion of the unit to include a third participating area, the Beluga PA.

Aurora said the field produced almost 1 billion cubic feet of gas prior to being shut-in in 1977, and has produced almost 1 bcf from just the Nicolai Creek Unit No. 3 since that well was recompleted and began producing in 2001.

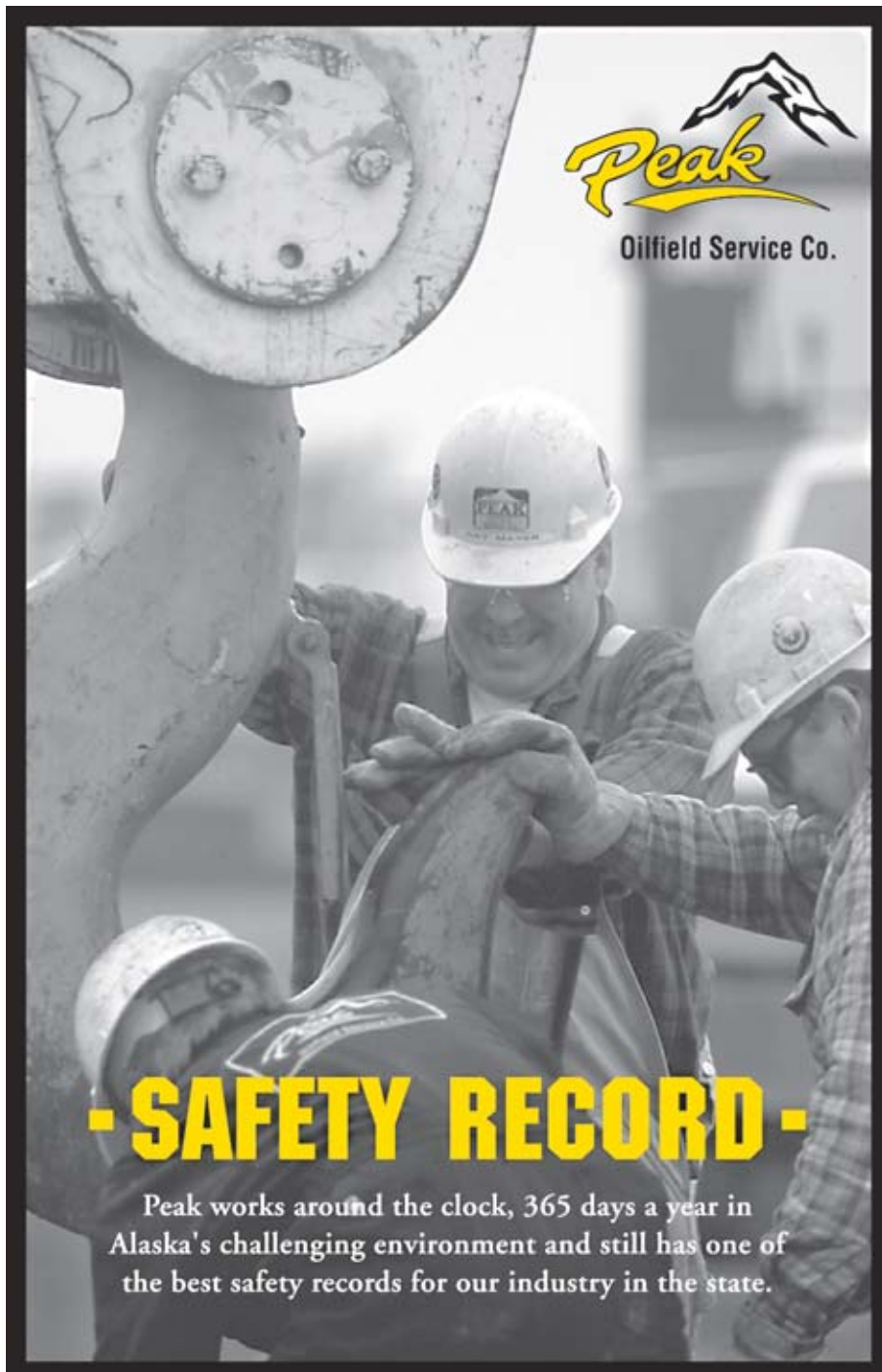
Aurora has produced more than 1 bcf from field

Aurora said the field produced almost 1 billion cubic feet of gas prior to being shut-in in 1977, and has produced almost 1 bcf from just the Nicolai Creek Unit No. 3 since that well was recompleted and began producing in 2001.

Aurora sidetracked the No. 1 well in the fall of 2002, drilling the 1B sidetrack below 2,200 feet. The No. 1B has been completed in three intervals, the company said, the original two plus a shallower, previously untested sand.

Aurora also recompleted the No. 2 well. Both wells are awaiting pipeline construction to tie production into the nearby pipeline. "Pipeline construction, which involves the drilling of a deviated hole between the top of the bluff next to the Granite Point tank farm and production facility to the beach, began in September," the company said, with first production from the area expected in late 2003.

Aurora said it will also evaluate additional development locations identified as a result of its 12 square mile three-dimensional seismic survey, shot in early 2003. The company said the 3-D program will also enable it "to further evaluate the deeper oil potential of the Nicolai Creek field." Texaco and Superior, drilling directionally for deeper oil objectives, found gas at Nicolai Creek and the unit has been in existence for 30 years, with gas used for field operations until the wells were shut-in in the 1970s. ●



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continued from page B1

MULL

Mull and his wife Yvonne are now moving to Santa Fe, N.M. However, his plans do not include retirement from geology.

"I tell people that I'm not retiring from geology, I'm just moving my files to a different location — I'm retiring from a regular pay check," Mull said. "... I just couldn't see myself in a sun-city sort of thing."

Mull expects to do Alaska-related geological consulting and will continue working with the U.S. Geological Survey on the preparation of new digital maps of Alaska.

Back to his roots

Mull's move to Santa Fe will take him back to his roots in the Southwest.

"I grew up in western Colorado ... not too far from Aspen," he said.

With the proximity of the then-new Aspen ski resort, Mull developed an early love for skiing and the mountains. At the same time, his father's work triggered an interest in geology.

"My father was a chemical engineer working in oil shales," Mull said. "I spent a lot of time around old ghost towns and mining camps."

In the 1950s, Mull went to the University of Colorado to study geology and do as much skiing as possible. He laughed as he recalled those days.

"Colorado was the country club for ski bums," he said. "I enjoyed it"

This little outfit called Richfield

Mull's eventual connection with Richfield Oil and Alaska came about by chance.

While doing his geology degree, Mull funded his winter skiing by working during the summer as a geological field assistant for oil companies. During the winter he earned his meals by working as a sorority house-boy.

"With summer income and meals supplied during the winter that left me with enough money to spend a lot of time skiing — life was pretty good," he said.

After doing a summer job in 1956 for Gulf Oil, Mull went to Casper, Wyo., to scout out a job for the next summer season. While waiting for an interview at one oil company he noticed that there was another company located in the same building.

"Upstairs there was this little outfit called Richfield. I'd never heard of it," he said. "I thought 'well, while I'm waiting I'll go up and talk to this little Richfield outfit' ... and I got a summer job (with them)." Mull did three successful summer seasons with Richfield in the Rocky Mountains.

A "temporary" Alaska assignment

In 1958 Richfield started sending field



Gil Mull came to Alaska with Richfield Oil Corp. (predecessor to Atlantic Richfield) in 1961 as a well site geologist. He first went to the North Slope and Brooks Range in 1963. In 1967 he was a well site geologist on the Prudhoe Bay discovery well.

parties up to Alaska as a follow up to the Swanson River discovery. After several unsuccessful attempts at landing a summer job in Alaska, Mull finally found an opportunity to see the Last Frontier after he joined Richfield as a full-time employee in the spring of 1960.

"They said 'well, we're sending people up for two years ... if you want to come back we'll ship you back to the Lower 48,'" Mull said, chuckling as he remembered thinking that two years would be ample time to see Alaska.

He arrived in Alaska in March 1961 and immediately took a liking to his new situation.

"Alyeska ski resort had just opened," Mull said. "The first time (my colleagues) took me down there ... it was 20 above, there was probably 15, 18 inches of fresh snow and there was probably all of 15 cars in the parking lot." This seemed a whole lot better than the crowded Aspen scene.

And work proved pretty exciting as well, with plenty of exploration funding for the new oil province.

"We got up here and they said 'here's \$20,000 and a helicopter and a floatplane — go pound on rocks,'" Mull said.

During his initial two-year assignment in Alaska, Mull became involved in several projects. His main job involved exploration and well geology around Cape Yakataga on the Gulf of Alaska. In 1962, however, he did some fieldwork on the Alaska Peninsula and in the Kandik basin along the Yukon, near the Canadian border.

"(We) chartered a river boat from Circle and steamed up the Yukon to Eagle," Mull said. "So, we'd camp on shore and then fly

see MULL page B8

continued from page B5

ENCANA

Big supply opportunity in Alberta oil sands

Canada is already the largest external supplier of oil to the United States at a time when "access to adequate energy supplies is an enormous economic and security issue for the United States ...

"While imports from Canada have grown a lot, so have offshore imports and current trends would make Americans more and more dependent on an increasingly unstable Middle East," he observed.

With conventional oil sources in the United States and Canada in irreversible decline, Morgan said the "big supply security" opportunity for the United States lies in the Alberta oil sands where "the potential

is enormous."

But to take advantage of that resource the United States needs to increase its pipeline capacity and upgrade its refining capability to handle heavy oil.

"Refineries need to be reconfigured to take more Canadian heavy oil," Morgan said. "I believe that it's in the American interest to provide incentives to refiners to achieve this, since it is the biggest single constraint to capitalizing upon the Canadian supply security opportunity."

On the delivery side, he said Canadian-based pipelines Enbridge and Terasen are exploring more projects out of the oil sands, but they need regulatory support.

"These are crucial actions, but they are relatively simple in the context of what's at stake in an unstable world. Canada and the United States share a vital interest in their achievement," he said. ●

NORTH SLOPE



ConocoPhillips and Anadarko Petroleum said Nov. 11 that the Alpine oil field has produced its 100 millionth barrel of oil

Alpine reaches 100 million barrel milestone

ConocoPhillips and Anadarko Petroleum said Nov. 11 that the Alpine oil field has produced its 100 millionth barrel of oil since production began at the field in November 2000.

Originally estimated to produce 80,000 barrels of oil per day, Alpine has maintained an average production of nearly 100,000 barrels of oil per day over the past two years, the companies said. The field was developed exclusively with horizontal well technology and employs enhanced oil recovery. Expected recovery from the field is estimated at 429 million barrels. The Alpine discovery was declared commercial in 1996 and was the largest onshore oil field discovered in the United States in more than a decade. The field is in the Colville River area, 34 miles west of the Kuparuk River field near the border of the National Petroleum Reserve-Alaska, and is the western-most producing oil field on the North Slope.

Phase 1 of the Alpine capacity expansion project is scheduled to start up in late 2004 and increase oil production by 5,000 barrels per day, increasing both the water and gas handling capacities of the plant. The companies said water and gas handling are important for increasing oil production and maintaining reservoir pressure.

In addition to technological advances, Alpine was also designed to meet special environmental challenges because it is in the Colville River delta. The companies noted that the 40,000-acre field was developed on just 97 surface acres, or two-tenths of 1 percent of the field area. Alpine is also a near-zero-discharge facility, with waste generated reused, recycled or properly disposed.

ConocoPhillips Alaska operates the Alpine field, which is owned 78 percent by ConocoPhillips and 22 percent by Anadarko Petroleum.


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continued from page B7

MULL

with the helicopter out to adjacent outcrops of rock.”

Mull saw no reason to return to the Lower 48 — life was becoming pretty good.

The discovery of Prudhoe Bay

In the early '60s, there were limits on how much exploration acreage an individual company could lease either north or south of the Alaska Range. With a full quota of leases in the southern part of Alaska, Richfield started picking up leases in the Interior and on the North Slope, Mull said.

“In June of '63 they sent a whole bunch of us to the North Slope,” Mull said.

Mull started working with another young geologist name Gar Pessel, doing broad reconnaissance mapping between Umiat and the Canadian border. After finding some oil seeps, oil sands and oil bearing sandstones, Pessel sent the following note to the district geologist for Richfield: “We have a good section with excellent reservoir possibilities and positive proof of the petroliferous nature of these sands. If one cannot get an oil field out of these conditions, I give up!”

Harry Jamison, a manager in Richfield's Los Angeles office, took decisive action by dispatching a seismic crew to the North Slope for the winter of 1963-64. In the following winter the seismic crew found the subsurface structure of the Prudhoe Bay field.

By the time of the Prudhoe Bay discov-



Prudhoe Bay State No. 1 well, gas flare, March 1968

ery well was drilled in the winter of 1967-68 Richfield Oil had merged with Atlantic Refining, to form Atlantic Richfield, and Humble Oil (predecessor to ExxonMobil), had bought into the leases.

Gil Mull was one of the well geologists at the Prudhoe Bay State No. 1 discovery well drilled in the winter of 1967-68 — he had quit from Richfield and joined Humble Oil in May 1967.

Continuing fieldwork

While seismic surveys and drilling activities moved ahead on the North Slope during the winters, the geologists continued their fieldwork during the summers.

“In '68 and '69 we were working mainly in the central and western Brooks Range,” Mull said. This phase of fieldwork in the Brooks Range and on the North Slope con-

tinued into the early '70s. Then in 1974 and 1975 Mull returned to Cape Yakataga, working down the coast to Yakutat, doing reconnaissance mapping in the Chugach Mountains and Mount St. Elias country.

“I spent part of the summer (of 1975) on the North Slope and then, about the end of July, went to McCarthy,” Mull said. “You could have flown anywhere at any time ... with day after day of sunny (weather). (We were) working up around Mt. St. Elias and Mt. Logan, up on the Bagley Ice field and the Malaspina Glacier — life was tough!”

Moving to the U.S. Geological Survey

By this time Exxon had taken over Humble Oil and had plans to centralize its exploration operations out of Houston, Texas. Mull started hearing hints that his boss was going to move him to an office job. On one occasion, after Mull had volunteered to lead another field party, his boss's words seemed particularly ominous: “You just talked yourself into another field program this summer, didn't you? You're going to have to settle down to a desk job one of these days — learn to be an oil-man.”

Realizing that this scenario did not fit his game plan, Mull decided to quit Exxon. In the summer of 1975 he joined the U.S. Geological Survey in Menlo Park, Calif.

When the Naval Petroleum Reserve Alaska became the National Petroleum Reserve-Alaska, the USGS started an NPR-A exploration program and in the spring of 1977 Mull

saw an opportunity to return to Alaska.

“I spent three years on the NPR-A operation and also worked for the (USGS) Branch of Alaska Geology,” Mull said. The Branch of Alaska Geology dealt with the whole of Alaska and tended to focus on mining and mineral studies.

The Alaska state survey

1980 brought the era of land withdrawals and the beginning of the ANWR controversy. And by 1981 the budgets for the USGS were running down. Mull decided to leave the USGS and join the Alaska Division of Geological and Geophysical Surveys. He worked for the state of Alaska from then until his recent retirement, moving from the DGGs to the Division of Oil and Gas in 2001.

In his years of working for the state, Mull has done fieldwork almost every summer, mainly in the Brooks Range and on the

North Slope. A list of more than 60 published reports and maps that he has authored or co-authored attests to his knowledge of Alaska geology; Mull regularly talks about Alaska geology at professional meetings.

Mull feels particularly strongly about the role of the government geological surveys. He thinks that in the past the state of Alaska could have provided more funding for the DGGs to prime the pump for future oil exploration.

“I don't think that there's any question the USGS work that had been done (prior to the discovery of Prudhoe Bay) ... probably advanced industry studies by 20 years,” Mull said, “... industry can take that (framework) and do more detailed studies and do seismic work ... focusing more on what they do.”

And industry tends to move geologists around to different parts of the world to broaden their experience, while the surveys provide a continuity of knowledge a single region.

“The continuity is something that generally the industry does not have ... so that's one of the real values of the publicly funded surveys — establishing a baseline, establishing a framework,” Mull said.

Back to the Southwest

So, more than 40 years after first arriving in Alaska, Mull is returning to live in the Southwest. Although he will greatly miss immediate contact with his many colleagues in Alaska, Mull is looking forward to Santa Fe's full four seasons and flourishing cultural scene.

“It's a diverse, multicultural community,” Mull said. “There's a big arts scene ... there's a diversity of people doing a diversity of things.”

In fact, Mull enjoys music and art, especially ethnic weaving and pottery. His new home will provide ample opportunity to follow up on these interests. He'll also be able to pick up again on a fascination with archaeology that he developed during his youth in Colorado.

However, his enduring interest in geology will ensure that he continues to play his part in the Alaska geology scene.

“Geology is a mixture of science and art ... nothing is fixed and determined,” Mull said.

“There's a lot of interpretation and uncertainty.”

Mull just loves to piece together the evidence from the rocks to try to make sense of Mother Nature.

“I guess that's why I like geology,” Mull said. “It's an intellectual challenge, combined with all the other good things that you get to do.”

Although the fieldwork can bring its own set of challenges.

“There's times when you think ‘what the hell am I doing here’ ... you're on a mountain top and the wind is blowing snow at you or your mountain tent is surrounded by six inches of snow that fell the night before — and it's July,” Mull said.

But days of clear weather and unparalleled Alaska scenery have made up for that, especially when coupled with piecing together the never-ending puzzle of how the earth evolved. ●

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Prudhoe Bay State No. 1 “Christmas tree” one year after the discovery.

GIL MULL

GIL MULL

ADMIRALTY ISLAND, ALASKA

Greens Creek tailings disposal expansion approved

The Greens Creek, Alaska, tailings disposal expansion project has advanced another step, as the U.S. Forest Service — the lead agency for the permitting approvals process — released the final environment impact statement and accompanying record of decision on Oct. 31.

The record of decision, signed by Tongass National Forest Supervisor Forrest Cole, approves a tailings expansion plan for the underground mine first proposed in January 2001 by operator Kennecott Greens Creek Mining Co.

A 45-day appeal period must be complete before permits are issued. Deadline for appeals is Dec. 29. Kennecott likely will receive permits and the go-ahead for construction next February.

Greens Creek, which produces gold, silver, lead and zinc, is located near Hawk Inlet on northern Admiralty Island about 18 miles southwest of Juneau, Alaska. Mining started at Greens Creek in 1989 and at current production rates, the company will run out of room for tailings in February 2005.

Another 20 years

The planned tailings expansion will allow the mine to operate another 20 years, a significant economic impact to the region's economy. Greens Creek employs 265 workers year-round. In 2002, the mine produced a record 733,507 tons of ore, according to the Alaska Mineral Industry report. That included 80,000 tons of zinc, 27,500 tons of lead, almost 11 million ounces of silver and 102,600 ounces of gold.

The agencies' preferred expansion alternative outlined in the environmental impact statement would increase the tailings footprint from the 29 acres allowed under existing permits to 62.2 acres. Total land leased to the company after the expansion would be 123 acres, up from 56 acres under the existing permit.

Part of the tailings disposal and leased land is within the Admiralty Island National Monument. Prior to its expansion, Greens Creek was leased 38 acres of monument land. Under the approved expansion, the mine would lease 68 acres of monument land.

Admiralty National Monument comprises 955,747 acres of which 937,396 acres are designated as wilderness, according to a Forest Service press release.

In addition to approving an expanded tailings disposal site, the record of decision requires Kennecott to add carbon to tailings to enhance sulfate reduction within the tailings pile.

The agency decision requires a 30-month study to determine how much carbon should be added to tailings, what form will be most effective and how to incorporate the material in tailings.

—PATRICIA JONES, Petroleum News contributing writer

FAIRBANKS, ALASKA

Geologic map released by Alaska for Delta mineral belt

The Alaska Division of Geological & Geophysical Surveys released geologic maps and a report on Nov. 5 covering approximately 400 square miles of mineral-rich lands in east-central Alaska.

Geologic data is concentrated within a corridor roughly 20 miles long and 10 miles wide that follows a northwest-southeast axis through the central map area.

Private companies conducting exploration in the area between 1976 and 2001 provided information for the maps and the accompanying 122-page booklet. Roughly \$20 million was spent by industry exploring for and evaluating base metal and gold deposits in the Delta mineral belt during that time. (See July 13, 2003 issue.)

The complex geology of the area is divided into seven mappable metamorphic units that identify and follow the time-stratigraphic horizons along which base and precious metal rich massive sulfides were deposited.

—PATRICIA JONES, Petroleum News contributing writer

Geologic data is concentrated within a corridor roughly 20 miles long and 10 miles wide that follows a northwest-southeast axis through the central map area.

BRITISH COLUMBIA

SpectrumGold trading high

Galore Creek project owned by Canadian subsidiary of NovaGold sparks investor interest, drill results show high grade mineralization over wide intercepts

By PATRICIA JONES

Petroleum News Contributing Writer

NovaGold Resources' Canadian subsidiary, SpectrumGold, hit the ground running late last month, as it began trading on the Toronto Stock Exchange on Oct. 27, opening at 75 cents a share and closing that same day at \$2.50.

Four days later, SpectrumGold released drill results from its first round of field work on its remote Galore Creek project in northwestern British Columbia, an advanced-stage gold-silver-copper deposit acquired by the junior exploration company in August.

"Most of the excitement is Galore Creek. It's such a large resource," said Greg Johnson, vice president of corporate development at NovaGold. "It looks like the market is excited to see the potential for a quality copper-gold sizeable project."

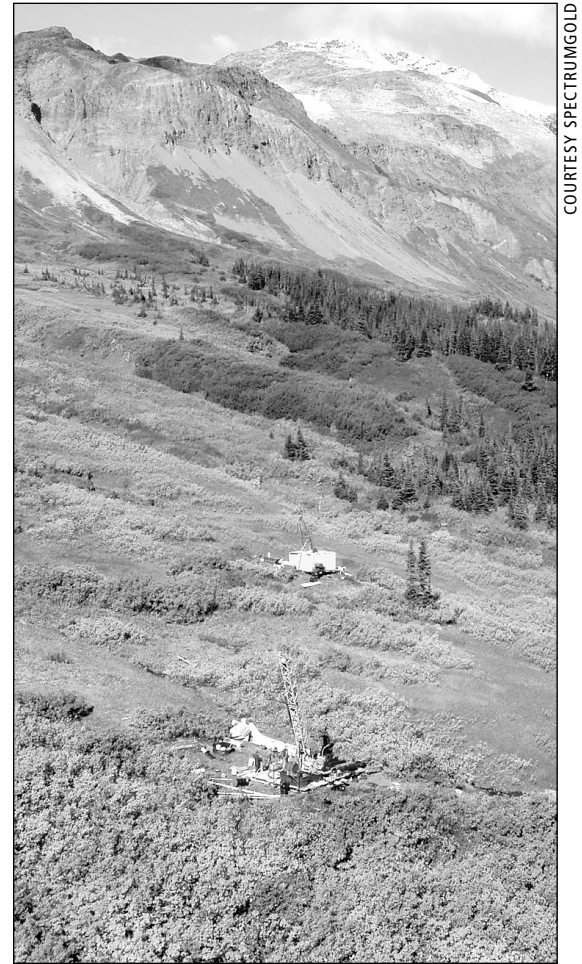
Past exploration work from the early 1960s to 1991 at Galore Creek outlined a resource of 5 million ounces of gold, 60 million ounces of silver and 5 billion pounds of copper. Mineralization occurs at surface and is open at depth, Johnson told Petroleum News on Nov. 4.

SpectrumGold is focused on increasing knowledge and definition of the precious metals portion of that deposit, viewing the copper mineralization as a complement to gold and silver production. "Previous work focused on the copper, but this has a high content of precious metals," Johnson said.

Confirmation drilling

After negotiating an earn-in agreement with previous owners, Rio Tinto and Anglo American, SpectrumGold hit the ground at Galore Creek with two core drills. About 10,000 feet of samples in eight holes were completed in late October, Johnson said.

The deepest hole was 1,200 feet, he said.



COURTESY SPECTRUMGOLD

Galore Creek is located about 60 kilometers west of the Cassiar Highway, about 75 kilometers east of Wrangell, Alaska. Current access is by air.

"Several of the holes ended in mineralization, but with the drill rigs we had there, we could not go deeper."

Significant results from four of those holes were released Oct. 31, with assays expected to be

see SPECTRUMGOLD page B11

ALASKA

Alaska mining industry tops billion-dollar mark

2002 exploration spending up 10 percent; 2003 should be even higher

By CURT FREEMAN

Petroleum News Contributing Columnist

It's official. The value of the Alaska mineral industry topped the billion-dollar mark again in 2002 and this at some of the lowest average gold, zinc and silver prices in 20 years!

Data recently released by the Alaska Division of Geological and Geophysical Surveys indicates that mineral exploration accounted for \$26.5 million of the total, development projects contributed \$34 million and production carried the lion's share of value at \$1,013 million.

For those of us geo-mercenaries watching the exploration markets with salmon-baited breath, 2002 exploration expenditures were up 10 percent over the previous year, the first year-on-year increase since 1998.

Although accurate numbers for 2003 are not yet in, the production value for 2003 should show a significant increase over 2002 since all of the major metals produced in Alaska, i.e., zinc, gold, silver, lead and copper, have enjoyed significant

Silverado Gold Mines reported that soil sampling has outlined a three-mile long gold-arsenic-antimony anomaly on the Solomon shear zone near its Nolan Creek gold mine in the Brooks Range. Streams draining the shear have produced upwards of 200,000 ounces of gold in placer form.

price increases in 2003.

In addition, renewed coal exports to Korea should bolster coal production figures for this year.

All in all, expect 2003 to surpass 2002 and if we can indulge in a little crystal ball gazing, 2004 is shaping up to be a bumper year for the Alaska mineral industry.

Western Alaska

TECK COMINCO reported third quarter prof-

see FREEMAN page B10

continued from page B9

FREEMAN

its of \$8 million at its Red Dog mine in western Alaska.

For the quarter, the mine generated 150,400 tonnes of zinc in concentrate and 31,600 tonnes of lead in concentrate, both figures up slightly over 2002 third quarter figures.

The mine also sold 131,800 tonnes of zinc in concentrate and 39,500 tonnes of lead in concentrate.

The increased revenue was due to higher head grades (21.8 percent zinc), reduced mine and smelter costs and an increase in the zinc price to 37 cents per pound during the quarter versus 34 cents per pound in the third quarter of 2002.

The company indicated that shipping of concentrates this season totaled 1,017,000 tonnes of zinc concentrate and 218,000 tonnes of lead concentrate.

NORTHERN DYNASTY MINERALS reported additional core drilling results at the Pebble property copper-gold project near Iliamna.

Results include 210.3 meters grading 0.44 grams gold per tonne, 0.45 percent copper and 0.041 percent molybdenum in hole 3082; 70.1 meters grading 0.68 grams gold per tonne, 0.51 percent copper and 0.023 percent molybdenum in hole 3085; 52.3 meters grading 0.50 grams gold per tonne, 0.67 percent copper and 0.017 percent molybdenum in hole 3108; and 27.1 meters grading 0.52 grams gold per tonne, 0.71 percent copper and 0.019 percent molybdenum in hole 3116.

The drilling also indicated potential for expansion of resources to the southeast (outside the current resource base) where hole 3114 intercepted 115.8

NovaGold hopes to submit initial permits (for its Rock Creek gold deposit near Nome) to the state of Alaska in the third quarter of 2004 with initial start-up in the first quarter of 2006.

meters grading 0.53 grams gold per tonne, 0.57 percent copper and 0.022 percent molybdenum.

Northern Dynasty expects to complete 65,000 feet of core drilling before the end of November with an updated resource estimate slated for release in December.

NOVAGOLD RESOURCES announced commencement of feasibility work at its Rock Creek gold deposit near Nome.

The author

Curt Freeman, CPG #6901, is a well known geologist who lives in Fairbanks. He prepared this column October 31.

Freeman can be reached by U.S. Mail at P.O. Box 80268, Fairbanks, AK 99708. His work phone number at Avalon Development is (907) 457-5159 and his fax is (907) 455-8069. His email is avalon@alaska.net and his Web site is www.avalonalaska.com



CURT FREEMAN

The company completed a 10,000-meter in-fill drilling program earlier this year and will use results of this drilling and other studies to complete a feasibility study by mid-2004.

A new sampling protocol initiated by the company suggests average grades may be higher than previously estimated due to significant nugget effect caused by coarse gold in the deposit.

These studies indicate that most of the samples containing more than 1 gram of gold per tonne contain significant amounts of coarse gold not normally reported by standard fire assay techniques.

Geotechnical and engineering work under way includes oriented core holes for pit and rock dump stability tests, completion of three of seven planned water monitoring wells and additional baseline environmental studies.

NovaGold hopes to submit initial permits to the state of Alaska in the third quarter of 2004 with initial start-up in the first quarter of 2006.

VENTURES RESOURCE released results from exploration on their Flat property in the Iditarod District. The drilling program included 5,500 feet of core drilling in eight holes at the Golden Apex, Divide and Golden Hornfels targets.

At Golden Apex, hole GA-2 intercepted 5.5 feet grading 0.208 ounces of gold per ton and 4 feet grading 0.391 ounces of gold per ton. At Divide, hole CM-25 intercepted 13 feet grading 0.032 ounces of gold per ton. At Golden Hornfels, hole GH-1A intercepted 5 feet grading 0.136 ounces of gold per ton.

Eastern Interior

Alaska-newcomer **GOLDEN SPIRIT MINERALS** said it has acquired a 90 percent interest in the Ester Creek placer gold prospect near Fairbanks. The company plans to conduct sampling, trench-

ing and technical evaluation of previously indicated mineralization on the property.

Welcome to Alaska Golden Spirit Minerals!

Alaska-newcomer **BRIGHT STAR VENTURES** has purchased a 35 percent interest in the West Pogo prospect in the Goodpaster District. The remaining 65 percent of the property is under option to AngloGold US Exploration.

Bright Star retains the option to be carried to production resulting in a decrease in its ownership interest to 25 percent.

Welcome to Alaska Bright Star Ventures!

Brooks Range

LITTLE SQUAW MINING CO. said it has acquired an additional 7,000 acres of state mining claims

at its namesake Little Squaw mine project in the Chandalar District.

The company also reported that previous drilling on Little Squaw Creek intersected potentially surface mineable placer gold resources downstream from the old lode gold workings.

Results from this drilling include 32 feet grading 0.058 ounces of gold per cubic yard in hole RCDH7 and 28 feet grading 0.073 ounces of gold per cubic yard in hole RCDH12. Weighted average drilling from two lines of drilling were 0.036 ounces of gold per cubic yard on line 1 and 0.057 ounces of gold per cubic yard on line 2 located 500 feet downstream of line 1.

Previous resource estimates suggest potential for upwards of 2 million cubic yards of gravel on Little Squaw Creek.

The company indicated it planned to raise capital for a definitive evaluation of the Little Squaw Creek placer prospect.

SILVERADO GOLD MINES reported that soil sampling has outlined a three-mile long gold-arsenic-antimony anomaly on the Solomon shear zone near its Nolan Creek gold mine in the Brooks Range. Streams draining the shear have produced upwards of 200,000 ounces of gold in placer form.

The company mobilized a reverse circulation drill to the project in September and intends to continue exploration in the fall and winter.

Silverado also said that summer surface drilling had outlined a small open pit

mineable placer gold resource containing an estimated 2,081 ounces of gold at a grade of 0.12 ounces of gold per cubic yard of gravel. Plans are under way to expand this zone for possible future mining.

Southeast Alaska

THE U.S. FOREST SERVICE has approved permits for the expanded tailing facilities proposed at the Greens Creek mine on Admiralty Island. The permits will allow mine owners Kennecott (70.3 percent) and Hecla (29.7 percent) to expand their surface tailing facilities and allow an additional 20 years of storage to occur.

The mine's current 29 acre site has only two years of capacity remaining so the additional 61.3 acres of storage capacity could not have come at a better time.

BRAVO

VENTURE GROUP released preliminary drilling results from the Lost Lake volcanogenic massive sulfide prospect on its Woewodski Island project near Petersburg.

Previous drilling by Amselco in the 1980s returned val-

ues up to six feet grading 6.47 ounces of silver per ton, 6.34 percent lead and 16.5 percent zinc. Shallow scout drilling conducted in 2003 included five holes over a 20 meter strike length and returned significant sulfide mineralization in all holes, including 1.2 meters grading 102 grams of silver per tonne, 0.42 percent lead and 6.8 percent zinc and 4.7 meters grading 67 grams of silver per tonne, 0.29 percent lead and 7.1 percent zinc.

Five additional massive sulfide targets were evaluated in 2003 with surface grab and channel sampling returning values up to 96.2 grams per tonne silver, 2.7 grams per tonne gold and 8.2 percent zinc.

Other

The annual **ALASKA MINERS ASSOCIATION CONVENTION** was held in Anchorage in early November.

For the first time in five years the atmosphere at the convention held a palpable excitement due to increased prices for gold, silver, platinum, zinc, lead, copper and nickel. Attendance at the meeting was up over last year and the organizers did their normally superb job of running the conference.

Congratulations to all involved! ●

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Mining industry tops \$1 billion — again

State releases Alaska Mineral Industry Report; commodity prices and exploration increase 10% compared to 2001 levels

By PATRICIA JONES

Petroleum News Contributing Writer

Alaska's mineral industry contributed an estimated \$1.073 billion to Alaska's economy in 2002, a slight increase compared to the prior year, according to the Alaska Mineral Industry report released Nov. 6.

A 10 percent increase in both exploration spending and in the total value of minerals mined and sold in 2002 helped offset a \$47 million decline in development spending by the mining industry.

Of the \$26.5 million spent for exploration in Alaska, more than \$17 million went to prospecting for gold and associated precious metals. About half of that was spent by NovaGold Resources on the Donlin Creek gold deposit in southwest

Alaska.

The estimated value of Alaska's mine production in 2002 was \$1.013 billion, a hefty increase compared to the \$917 million in minerals produced in 2001.

Gold miners produced about \$170 million worth of the precious metal in 2002, including 22,000 ounces reported by placer miners.

Despite sagging market prices, zinc contributed about \$500 million to Alaska's mineral production in 2002. The industrial metal is produced by Teck-Cominco's Red Dog mine, the world's largest zinc mine located in northwest Alaska, and also by the Greens Creek mine in southeast Alaska.

Included in Alaska's mine production is \$152 million for industrial minerals such as jade, soapstone, rock, sand and gravel, and \$37.6 million for coal and peat. ●

continued from page B9

SPECTRUMGOLD

released from the other four holes within the next two weeks.

All four holes showed broad swaths of mineralization intercepts, the largest in drill hole 437, which encountered 164.4 meters or 539 feet of mineralization. In that intercept, gold assayed 1.52 grams (0.048 ounces), while silver averaged 8.5 grams (0.273 ounces). Copper mineralization assayed 1.16 percent in that interval.

Drill Hole 436 also encountered a large intercept of mineralization, stretching 148.9 meters (488.5 feet). Gold averaged 1.86 grams (0.059 ounces), silver averaged 5.2 grams (0.167 ounces) and copper measured 0.7 percent.

"We're very excited about the results in terms of the widths and grades," Johnson said. "The drill holes seem to support our initial concept that there are higher grades of material within the deposit."

By targeting these higher-grade zones for production and scaling back the overall size of the target, economics for a mine plan can improve, he said.

Scoping study starts

SpectrumGold has hired Hatch

Engineering to complete an updated resource estimate and a preliminary economic assessment study, or scoping study, for Galore Creek. Results from this fall's drill program will be included with historical data for that resource update.

In addition, detailed metallurgical studies will be completed, using four 50-kilogram bulk composite samples taken from the drill program to characterize the recovery of copper and gold.

Results from that study will direct the 2004 drill program, Johnson said. Currently, the company plans to operate three or four core drills on the property, starting in June and running throughout the summer. An estimated \$5 million Canadian will be spent on next year's drilling, Johnson said. About \$1 million was spent this fall.

Four zones of mineralization were targeted by drilling, including a separate deposit located immediately south of the main deposit. About 80 percent of the known mineralization is contained within the Central Zone, which is about two kilometers long and about a half-kilometer wide.

Galore Creek is located about 60 kilometers west of the Cassiar Highway, about 75 kilometers east of Wrangell, Alaska. Current access is by air. ●



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continued from page B1

HUB

"We don't think any one of these discoveries is big enough to be a standalone or hub," Robert Allison, Anadarko's chief executive officer, told analysts at the Nov. 6 Merrill Lynch Global Energy Conference in New York. "But if you combine these with some of the announced discoveries made by other companies, we believe we have a real commercial project. We are already in talks with other companies to make this happen."

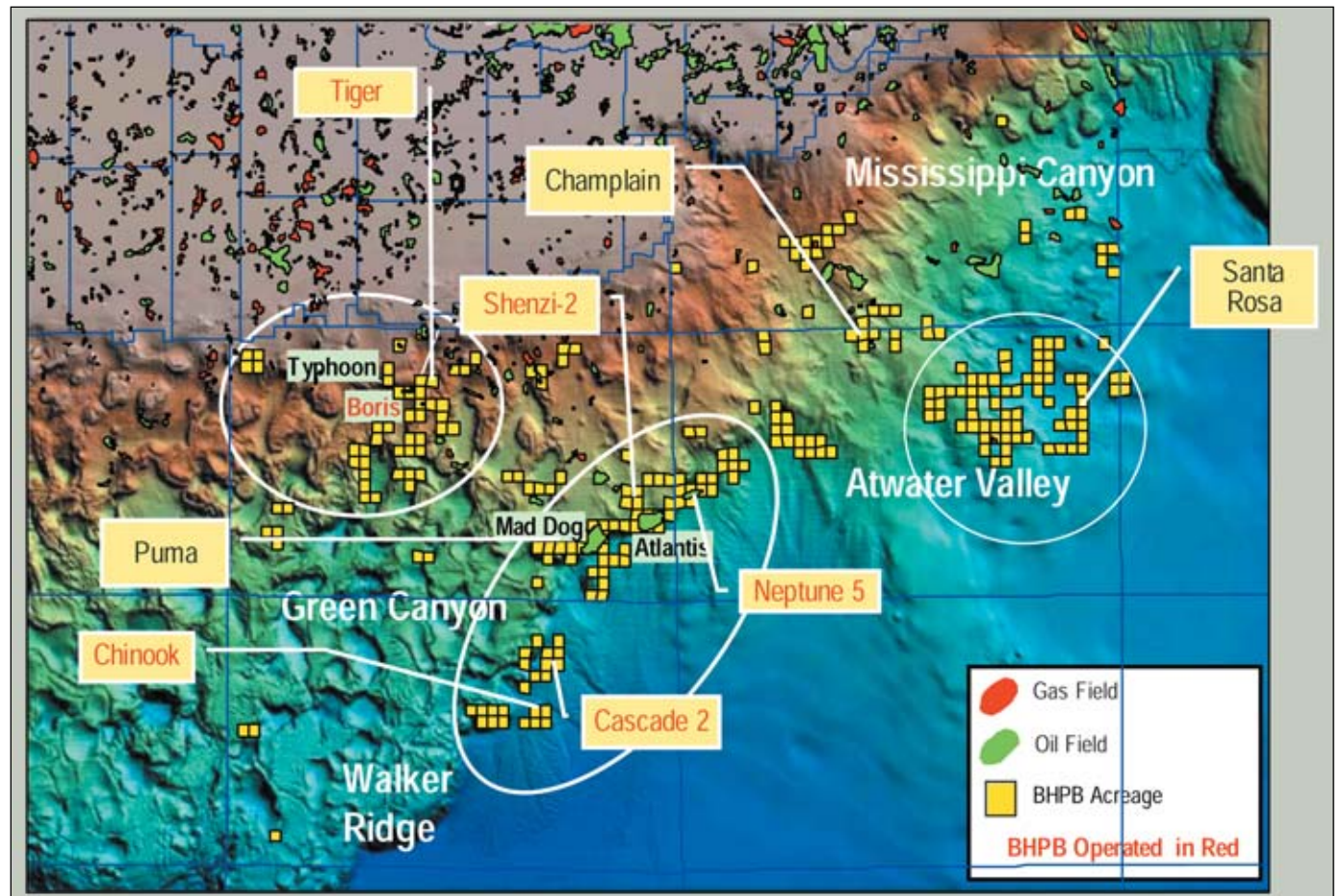
Kerr-McGee operates Merganser and BHP Billiton operates Vortex, the other

"We don't think any one of these discoveries is big enough to be a standalone or hub. But if you combine these with some of the announced discoveries made by other companies, we believe we have a real commercial project. We are already in talks with other companies to make this happen."

—Robert Allison, Anadarko Petroleum

Eastern Gulf gas discoveries that would be part of the group. Kerr-McGee also holds an interest in Vortex, while Devon Energy holds an interest in Merganser and Vortex. Other players that would be included in the group are Spinnaker Exploration and Dominion E&P, Anadarko's partners in Spiderman.

Allison said that "to advance the effort," Anadarko plans to drill a delineation well at Jubilee this fall to confirm the discovery and to better evaluate its potential. "We're pretty confident Atlas and Jubilee will be produced," he said.



BHP Billiton drilling activities in the next 12-18 months.

Reserves required for seat at the table

Emme said a joint venture agreement with the other field owners is a year to 18 months away and that others could join the group. "But they're not going to get a seat at the table unless they have potential reserves," he added.

Anadarko said four of the discoveries, not including Spiderman, have combined gas reserves of at least 500 billion cubic feet, enough to satisfy requirements for a commercial development that would be a long way from infrastructure and situ-

ated in water depths exceeding 7,000 feet.

Because the Eastern Gulf is thought to be largely gassy, the odds of additional discoveries to feed a central hub probably are better than even. Some 20 exploration plans have been filed with the U.S. Minerals Management since the region was reopened to leasing in late 2001. Another sale is scheduled for next month.

Discoveries to be included in the joint venture are situated within a large circle with a radius of 30 miles from the proposed hub in Atwater Valley. However,

Discoveries to be included in the joint venture are situated within a large circle with a radius of 30 miles from the proposed hub in Atwater Valley. However, the boundary could be expanded to accommodate future discoveries, Emme said.

the boundary could be expanded to accommodate future discoveries, Emme said.

Spiderman likely will be added to hub

One prospect that is outside the circle but likely would be added to the hub is Spiderman, located in DeSoto Canyon northwest of Anadarko's Atlas discovery in Lloyd Ridge and northeast of the company's Jubilee discovery in Atwater Valley. Spinnaker characterized Spiderman as a "significant discovery" with more than 140 feet of net pay encountered in two primary targets.

Despite the remoteness, deep waters and great distances between the discoveries and the proposed hub, development of a predominantly dry gas project would be relatively inexpensive compared to a hub project involving oil. That's partly because pipelines that carry dry gas can be stretched over longer distances.

However, by agreeing to pursue a joint development, the owners have resigned themselves to the fact that none of the four eastern gulf fields is commercial by itself.

That was also the case in the northern deepwater sector of the eastern gulf, where BP and other operators were able to tie together three relatively small fields — King's Peak, Aconcagua and Camden Hills — into a successful project that today feeds about 500,000-million cubic feet of gas into the Canyon Express pipeline system. None of these fields by itself was considered to be commercial.

However, discoveries in the southern portion of the eastern gulf promise to be more challenging to develop employing the hub concept. For one, the fields are spread across a much broader area than Canyon Express. The fields also are situated beneath ultra-deep waters ranging up 9,000 feet or greater, where extreme pressures on subsea pipelines and equipment can be menacing. ●

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PETROLEUM NEWS

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Providing information about companies that serve Alaska and Canada's oil and gas industry

Up Front

Photographer Judy Patrick puts an interesting perspective on these thermal transfer devices, found on the above-ground structures that support the trans-Alaska oil pipeline.

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Colville Solid Waste Division Lead Driver Dan Merchen saddles up to go get another load. He drives a hook truck capable of hauling three dumpsters at a time.

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Kuukpik/Veritas: Treading lightly, seismically speaking

By SUSAN BRAUND

Petroleum Directory Contributing Writer

The Cat train containing Crew 21 sinews across the frozen tundra — mile after mile — probing beneath the surface, measuring seismic waves and mapping the layers of the earth's crust — searching for economic oil or gas deposits. Crew 21 is a tightly knit group of men, many of them North Slope residents, who are long-term veterans of seismic exploration for Kuukpik/Veritas.

Formerly Kuukpik/Fairweather and Veritas, the company completed a three-year transition of ownership in September. In 2000, Veritas DGC Land entered into agreement to purchase the outstanding shares of Fairweather Geophysical LLC. The companies have been transitioning equipment and technical services since signing the agreement.

Fairweather formed a partnership in 1998 with the village corporation in Nuiqsut, Alaska, to provide seismic services on the North Slope. The Kuukpik/Veritas partnership will continue these operations with a commitment to raising the bar with respect to health, safety and environment. Kuukpik, the village corporation, owns approximately 146,000 acres of surface lands in and around the community.

"Our Nuiqsut partners choose their industry partners carefully. They not only consider how the residents of the North Slope can co-exist with development today, but also what consequences they may face a hundred years from now, when industry has taken its prize and left the land," says Jeff Hastings, general manager, Kuukpik/Veritas Alaska Operations. "Our efforts to collect the seismic data with minimal impact recognize and allay those fears and concerns."

The company meets with the community prior to the permitting process, listens to their concerns regarding subsistence and cultural impacts and develops a plan of operations that addresses them. "We work closely to understand traditional use. Once we are satisfied that we know local concerns and that they know our procedures, we submit a plan of operations with permits to various agencies."

Solutions, not just services

Helping customers reduce risk and achieve their exploration goals is a core philosophy at Veritas: "We listen, deliver and build long-term relationships based on mutual integrity."

"By supplying our clients with integrated services using the most current technologies for accurate imaging of subsurface geology," says Hastings, "they can choose drilling locations with confidence. We provide solutions by acting as a technology partner, not just a service provider."

Practical innovation

If the geophysical industry is founded on technology, then the industry's growth is determined by the pace of



Challenger Tundra Tracker 195 rubber-tracked cable truck provides seismic cable support. The ground pressure exerted is 4.67 psi and cable capacity runs at 800 channels.

technological improvements. Veritas is a company that aggressively pursues innovation and new technologies through ongoing research and development efforts.

To keep its promise to its Nuiqsut partners and the local community, the company worked closely with the CAT manufacturer to develop an improved version of the rubber-tracked equipment that has been effective on the North Slope and in Antarctica.

The new Tundra Tracker 195, the TT 195, can carry a crew of seven in its ROPS-certified cab and 800 channels of Sercel 408 equipment on deck. Automated handling gear and cable configurations require fewer people to operate each truck and dramatically reduce the risk of repetitive

motion injuries. Tundra Tracker 195 deck and cable deployment systems allow the crews to work in closer proximity to the unit, reducing their risk of exposure to the harsh climate and wildlife.

"The ability to deliver large payloads with the TT 195 reduces the number of transits required across the fragile tundra to move equipment. The entire compliment of Crew No. 21's 4,000 channels can be carried on five TT 195 carriers," says Rick Trupp, Permit and Regulatory Coordinator.

"Fully loaded, the unit exerts only 4.75 psi on the ground. Not only does it reduce direct impact on the tundra, it also means fewer vehicles and crew members, a smaller camp, less emissions and waste — overall a smaller footprint."

Tiger Nav, another development, is an integrated navigation network with real time kinematic survey quality. Remote file transfers enable in-field quality control staff, managers and clients to load hazards, program changes and a multitude of other information to the source and survey vehicles from the base camp. The navigation network also incorporates a system for tracking and recording vehicles from remote servers. Tiger NAV allows vibrators (source units) to locate source points and generate a real time center of gravity for each location without using stakes and surveyors.

"Our efforts are paying off," reflects Hastings. "Our client and its partners clearly recognize the improvements

we've made. Even more indicative of our success is that our Nuiqsut partners and the residents of the North Slope have a level of comfort with our methods and commitment. We have been allowed to access and explore areas that have not been accessible for years."

Data processing and software development

Accuracy, reliability and speed are crucial to the seismic data processing that links data acquisition to geophysical interpretation. To this end, Kuukpik/Veritas develops and maintains its own seismic processing software, giving them the flexibility to evaluate and incorporate the latest technological innovations. The technology is modular and portable, enabling decentralized seismic data processing. The company's range of seismic software for land and marine environments is capable of processing 2D, 3D and 4D data sets.

"With the resources and ability to use the latest seismic imaging technologies," says Hastings, "we can provide an integrated suite of acquisition, processing and interpretation products."

Internal excellence

The company believes that excellence is achieved through the commitment and cooperation of dedicated, responsive and competent employees and that consistent communication is crucial. To keep everyone on the same page and receiving the same message, they developed the Veritas Integrity Management System, or VIMS.

"The standards, procedures, plans, responsibilities and goals described in VIMS, and the contents of our health, safety and environment policy, gives us an agreed standard," explains Hastings. "It provides the framework to identify hazards, mitigate risk and audit/review activities. VIMS also encourages continuous improvement in all aspects of our business."

"There's lots of interaction company-wide," says Trupp. "VIMS allows us to manage business a lot closer by having information readily available. If a field manager wants to know a field policy on travel, for example, he can access it easily. It produces consistency across the company, from crew to crew."

Kuukpik/Veritas takes the stance that all accidents are avoidable. For the last three years the company has logged 750,000 man-hours without a lost time accident. "If we can remain on target, we'll meet our goal of one million man hours this winter!" enthuses the Alaska general manager.

"The idea of a safety culture is cliché; it's not a culture at all, it's the primary focus of our job. We have buy-in by the entire crew that our efforts are genuine to make all employees an integral part of the safety program."

Environmental responsibility

"When your operations traverse more than 500 square miles of new tundra every winter, your environmental management system and quality people to implement it are the difference between success and failure," say company representatives. "The partnership of Kuukpik/Veritas is working hard at raising the bar when it comes to environmental responsibility."

The company recently moved into new offices in the Fairweather Building, 2000 E. 88th in Anchorage. ●

Editor's Note: Susan Braund owns Firestar Media Services in Anchorage, Alaska.



The recorder known as "the doghouse" is the administrative center for recording activity.



Every two to three days camp and crew moves to a new location with the survey.

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Providing essential supplies and services on the North Slope

Colville plays a critical role in keeping industry and communities operating

By ALAN BAILEY

Petroleum Directory Contributing Writer

Blowing snow, near-zero visibility and frigid temperatures can all make delivering fuel or collecting waste on Alaska's North Slope a challenging proposition.

The demanding Arctic conditions require knowledge, experience and specialized equipment.

Deadhorse-based Colville Inc. has established decades of experience of servicing the North Slope. The company supplies bulk fuel in the Prudhoe Bay area, collects solid waste on the slope west of the Kuparuk River and supplies a wide variety of materials and parts for the oil industry.

Although the company's history goes back 50 years, the present-day form of the company emerged when President Jeff Helmericks started a fuel supply business in 1985, Keith Silver, Colville's vice president of finance, told Petroleum News recently. This fuel delivery service has been the backbone of the company as it has grown and expanded its operations throughout the years.

In 1990, with the evolution of the business, the company changed its name from Colville Environmental Services to Colville, Inc., Silver said.

In 2000, the company established a solid waste division and purchased Brooks Range Supply — Brooks Range Supply is a major provider of commodities and parts on the slope (see "A Far North niche" in the June 22, 2003 edition of Petroleum News).

Fuel delivery

Colville's specialized knowledge of how to handle and deliver bulk fuel in the Arctic has enabled the company to expand and consolidate its business over the years. The company builds its own custom-designed fuel trucks and employs a cadre of truck operators with years of experience of driving in Arctic conditions.

As well as supplying fuel anywhere on the road system on the North Slope, Colville delivers a variety of fuels, including Jet-A and Arctic heating fuel, to Everts Air Fuel for transportation to remote villages.

"We provide fuel to Everts Air Fuel ... they fly fuel out to the villages," Silver said. "We provide fuel to them of whatever type they need."

Colville's expertise in fuel handling has also enabled the company to land a contract to supply fuel for Alaska Division of Forestry aircraft in Alaska. The company's careful attention to quality control proved a critical factor in winning this Forestry contract. For example, Colville technicians test all aviation fuel for contaminants and specific gravity — if fuel doesn't meet its specifications the company refuses to accept it.

"When a truck comes in those guys have to go out and spend a fair amount of time checking out the truck to make sure that there's no water in the fuel and no other contaminants," Silver said.



Ramp Fueler/ Yardman Roy Valerin testing jet fuel for prop-specific gravity before accepting a new load of fuel.

Solid waste services

Colville's solid waste services division deploys hook trucks to pick up dumpsters from customer sites. The use of this type of truck enables the company to minimize travel time by moving three dumpsters in one trip.

Currently the company only provides solid waste services west of the Kuparuk River but the company hopes to extend its services to locations on the Dalton Highway in the future.



Colville yardman Pat Doren fueling a Beechcraft at Deadhorse

"We've received permission to expand the area of our operations down the Dalton Highway," Silver said.

Although the company delivers material such as kitchen waste and construction debris to the North Slope Borough's landfill in Deadhorse, recycling has become a major focus — the company picks up recyclable material such as used tires and metal from locations all across the North Slope road system.

Good tires go back to one of the tire manufacturers, Silver said. "Then we have places for the tires that are not so hot, that can use them to be recycled into, say, road material," he said.

Metal goes to Fairbanks

"We're working with the BP metal recycling program and sending all that to a place in Fairbanks that recycles metal," Silver said.

Colville has found a novel way of dealing with recyclable oily material such as oily rags.

"Recyclable oily material ... is all shipped to Spokane and put into a waste to energy plant," Silver said, "... they generate electricity that powers the city." Silver would like to see a similar plant in Alaska.

Integrating Brooks Range Supply

The purchase of Brooks Range Supply in 2000 has given Colville the opportunity to streamline and improve its services. For example, the two businesses can rationalize their product inventories between their facilities in Deadhorse — the two facilities are close together in town.

"We (in the Colville facility) are going to keep everything that you would normally forklift, like steel, pipes, barrels of oil ... large stuff, while Brooks Range will have the smaller things like the fittings and the batteries," Silver said.

At the same time, integration between the two businesses has led to a seamless service for customers. For example, there's an identical product list at either location — the company has installed data network and computer technology between the two locations to enable information and data processing to be shared.

"If somebody comes in wanting to buy something from Brooks and I happen to be here (in Colville) ... we can do the whole invoice here and they'll pick it up there (in Brooks)," Silver said.

Silver also commented that the use of the Brooks Range Supply's ordering and purchasing system has ratcheted up

the quality of the services for the whole of Colville Inc.

"Brooks Range Supply has always done a very good job from the initial order to creating a purchase order, sending the purchase order out and tracking the whole transaction all the way through to paying the bill to the vendor," Silver said.

A mature oil province

Faced with the challenges of making money in a mature oil province, Colville is constantly seeking ways to improve its efficiency.

"It's easy to make money in a growing oilfield," Silver said. "In a declining oilfield they're really concerned about cost."

It's all a question of creating more revenue by generating more business without significant cost increases — working out how to do more work with the same number of people.

"And that's kind of what we're trying to do," Silver said, "to challenge our people to find new and creative ways to do their jobs in less time ... be more efficient without sacrificing quality."

Although efficiency improvements have already resulted in some parts of the

company making more money than ever before, the company has recently hired a new manager to further expand the business and streamline operations.

"We've hired ... Smokey Norton and he is our vice president of operations," Silver said. "He's to take us to the next level." However, experience in dealing with the North Slope conditions remains one of the keys to Colville's success. The company's seasoned truck operators, for example, know how to judge the weather conditions.

"When you see these old hands hunker down and have a cup of coffee instead of going out, you know it's got to be pretty bad," Silver said. And Silver remembers one miserable winter day when a drilling rig in Deadhorse needed refueling. The visibility was so bad that a spotter had to walk in front of the fuel truck.

"It took them about four hours to get back here from about a mile and a half away," Silver said. "But they went because they had a customer who was going to go dry on fuel."

That's what Colville Inc. means by customer service. ●

Editor's note: Alan Bailey owns Badger Productions in Anchorage, Alaska

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Colville Director Teena Helmericks fueling her vehicle after a recent visit to the Colville facility in Deadhorse. Teena resides at the Helmericks compound on the Colville River delta north of Alpine.

COURTESY COLVILLE INC.

COURTESY COLVILLE INC.

The big birds fly safely year after year

Air Logistics of Alaska's stellar safety record shines

By **SUSAN BRAUND**

Petroleum Directory Contributing Writer

Man has been fascinated with vertical flight since the first toy helicopter — built from two wooden slats mounted on top of a stick — appeared in 12th century China. This germ of an idea has evolved over time into the well-designed practical vehicles that serve as tireless work horses for the oil and gas industry around the world.

Air Logistics of Alaska keeps these big birds busy around the state, striving to provide customers with the safest, most reliable and efficient helicopter transportation, no matter the location. The company's core contracts include support to pipeline operations, offshore and onshore exploration and drilling programs, remote construction projects, seismic programs, environmental studies, survey and permitting activities, and oil spill contingency and emergency response.

Established in 1977, Air Logistics of Alaska is a wholly owned subsidiary of Offshore Logistics Inc. of Lafayette, La., the world's largest provider of helicopter transportation services to the oil and gas industry — a \$560 million a year business. According to the company website, Offshore's mission is to provide the safest, most cost-effective and reliable service to customers in a diverse community of markets. The Air Logistics family of companies conducts business primarily in the Gulf of Mexico, Alaska, the North Sea, and a number of international markets including Brazil, Mexico, Colombia, Australia, Nigeria and China.

The Alaska operation is headquartered in Fairbanks and has support facilities in Deadhorse, Valdez and Anchorage.

Force of fleet

Through its parent group, Air Logistics has access to a combined fleet of more than 350 helicopters.

"We don't have to incur the costs of maintaining a large fleet in Alaska during slow periods," says Director of Marketing Dave Scarbrough. "We have the ability to ferry aircraft up from the Gulf of Mexico to augment our Alaska fleet as needed, so we can quickly ramp up to meet any viable business opportunity that arises."

Building a culture of safety

Over the last two-plus decades, Air Logistics has carefully crafted a deeply rooted culture of safety.

"We've spent lots of time, money and effort establishing a world-class safety program, and it has brought us great dividends," says Scarbrough. "Just look at our client base — we serve a large core group of oil and gas industry operators, and the primary reason is our longstanding record of project performance. Plus, our focus on safety has also offered other direct rewards: reduced aviation, general liability, and workers compensation insurance policy costs."

The company's attention to safety intensified in the 1970s when Alyeska Pipeline Service Co. challenged Air Logistics to raise the bar in how aviation service was provided in Alaska.

"Alyeska committed to receiving the highest level of aviation service available. To ensure the success of that commitment they established contractual and operational practices that allowed us to mutually achieve and maintain that goal."

For more than 23 years, Air Logistics has provided a



Air Logistics IFR Bell 212 crew change helicopter on the SDC Helideck, supporting EnCana's McCovey drilling program, winter 2002/2003.

full range of helicopter flight services to Alyeska, including surveillance and patrol, pipeline related operations and maintenance, and oil spill contingency and emergency response.

Five Air Logistics aircraft work the pipeline every day. Over the last 10-year period, the company has flown more than 40,000 flight hours in support of Alyeska's mission with no accidents or incidents and no environmental damage, spills or mishaps.



Air Logistics of Alaska Director of Marketing Dave Scarbrough and Safety Manager Francis Boisseau accept the Governor's Safety Award of Excellence for 2002 at the 2003 Governor's Safety Conference.

"I believe that Alyeska Pipeline Service Co., by way of their contractual mandate, has probably done more to promote and contribute to the growth and maturity of aviation safety in the oil and gas industry in Alaska than any other entity," comments Scarbrough. "And following their lead has been part and parcel the secret of our overall success. Because we model all of our company operations at this higher standard, we've been able to attract the attention of many other oil industry operators."

During the last calendar year Air Logistics provided North Slope helicopter support to Anadarko Petroleum, BP Exploration (Alaska), ConocoPhillips, ExxonMobil, EnCana, PetroCanada, and Total E&P.



For more than 23 years, Air Logistics has provided a full range of helicopter flight services to Alyeska Pipeline Service Co. in support of TAPS.

The company's safety culture has taken on a life of its own for both new and old employees. "New employees rapidly get spun up into the process through both management and peers and there's a clear appreciation from our

long-term employees that we're doing it right."

And, a string of aviation and industrial safety awards also says that they're doing something very right. The company's aggressive and proactive aviation safety program has resulted in a minimal aviation accident rate. During the past 10 years Air Logistics of Alaska has experienced only one limited accident, with no injuries, while accumulating more than 70,000 flying hours.

For the years 1998, 2000, 2001 and 2002 Air Logistics of Alaska received the Governor's Safety Award of Excellence and also received the Governors Special Recognition Award for the years 1998 and 1999.

In March 2001 OSHA/State of Alaska Department of Labor awarded the company VPP Program status at the highest attainable level — the Star Level — making it the first aviation company in the United States to achieve this standing and the third organization of any type in Alaska.

In April of this year, the American Red Cross of Alaska recognized the company's dedication to workplace safety at the 4th Annual Real Heroes Breakfast.

Taking care of the workforce

Air Logistics of Alaska has made it a focused mission to create a safe workplace for its employees and contractors. This commitment to workforce health and welfare is also a form of self insurance.

"Every Air Log employee has the right to expect that our work place will be as free from recognized hazards to life and good health as we can make it," explains Scarbrough. "It is, after all, the individual efforts of each employee that make our system work — it's simply good business to provide a workplace where people do not get hurt."

Why these big birds remain

"Our firm is a highly responsive, conservatively managed, client service-oriented business with a keen corporate safety culture as a cornerstone," stresses Scarbrough. "This culture encourages us to add real and measurable value to our customer's daily operations. More and more, most notably in the oil and gas industries, we are pleased to see health, safety, and environmental performance becoming a significant component of that value measurement."

Hello-Goodbye

As the majors pull back and Independents enter the state, Air Logistics is ready and waiting to provide the same solid and reliable service they have provided for years.

"As the oil and gas industry in Alaska undergoes change, we are fortunate to have the opportunity to provide support to many of the new players — that says a lot about who we are and what the industry thinks of our business," says Scarbrough. "We're excited to see the Independents coming to Alaska; their success is important to the state and to all of us that work and live here. We have a role to play in their success and look forward to being part of it!" ●

Editor's note: Susan Braund owns Firestar Media Services in Anchorage, Alaska.

JUDY PATRICK

COURTESY AIR LOGISTICS

JUDY PATRICK

The Power of Collaboration

Full service environmental and energy services company has depth of professionals

By **SUSAN BRAUND**

Petroleum Directory Contributing Writer

ENSR is environmental consulting's version of a genie in a bottle. Just make the request, and the exact expertise needed for any project appears, speedily. All ENSR offices operate with one unified philosophy: to provide rapid response and consistent service.

There's a lot of energy and intelligence compressed into the ENSR International domain —1,400 professionals from 60 different disciplines operating in 100 different countries, speaking 40 different languages — providing single-source, cost-effective, comprehensive environmental solutions to private and public sector clients for more than 35 years.

In Alaska, ENSR has served oil and gas and other industries since 1977, providing a subset of services including environmental assessment and permitting, integrated site closure, site assessment/contamination cleanup and compliance management.

Environmental assessment and permitting

"We do the environmental assessment activities up front, from simple assessments on a specific project to bigger environmental impact statements," says Chris Humphrey, ENSR Alaska general manager. "Our approach is state of the art — we develop some of the best impact statements going — hundreds of assessments every year."



ENSR Alaska General Manager Chris Humphrey

The Bureau of Land Management is currently preparing an amendment to the Northeast National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement, which was completed in 1998. As BLM's primary contractor, ENSR will be responsible for all major technical tasks in revamping the EIS, including scoping meetings and other public hearings and assisting BLM in responding to issues and public concerns. ENSR Alaska has unique capabilities in this area with an on-staff public participation specialist, Janet Wolf, who has more than 10 years of experience in issues



Excavating contaminated material at a spill site on the North Slope

that could provide access to significant new oil discoveries will be evaluated. Another reason for the amendment, according to BLM, is to consider changing the current stipulations so they more closely resemble the performance-based stipulations under development in the northwest portion of the NPR-A.

"We're excited to be part of this top priority and nationally important project; we definitely want to contribute and play an instrumental role in what's going on in North Slope development in Alaska," comments Humphrey.

ENSR's permitting activities often go hand in hand with EIS work, and the company demonstrates a depth of understanding of permitting issues and processes. ENSR has secured environmental permits in every one of the states, plus other countries, for complex project of many kinds. ENSR consultants negotiate with regulatory agencies throughout a project to resolve technical issues and develop favorable permit conditions.

"By anticipating and addressing permit requirements early on, we help our clients with a comprehensive permitting strategy, schedule and mitigation plans."

"ENSR has worked the largest natural gas pipelines in the United States, from preparing FERC applications all the way to state and federal permits and construction

to Humphrey. Using a risk-based analysis approach, ENSR determines the main issues, combining full assessment and remediation services in a comprehensive site closure strategy. ENSR can quickly draw on the expertise of its team of toxicologists, risk assessors, and a range of scientists to achieve regulatory site closures. Many ENSR staff who are not located in the state have Alaska experience. ENSR



Surface water sampling in support of a reserve pit closure program on the North Slope

has conducted over 2,200 risk assessments worldwide.

Innovation is also key to ENSR's site closure methodology. "We've worked with our clients and regulatory agencies on innovative risk-based approaches to reach agreements on closing sites based on actual risk to human health and the environment," says Humphrey. "One result is development of an effective ecological risk assessment tool that evaluates residual petroleum sheen on water, a major Department of Environmental Conservation compliance point. This tool gets DEC and other agencies over the hump by assessing actual risk posed by sheen and allowing risk-based closure decisions."

The company has performed site closure activities for all the majors on the North Slope at one point or another. A multiyear program involving inactive production reserve pits in Prudhoe Bay and Kuparuk has resulted in closure approvals for reserve pits at over 40 drill sites to date.

Site assessment and contamination cleanup

ENSR's site assessment and remediation process includes routine soil sampling and field screening. "These are baseline tasks that we're very good at; we're able to put people out on location and do sound

site assessments and sampling with accurate and time-critical results. Last summer, for example, we put multiple crews on 22 communication sites along the TAPS," says Humphrey. "We fast-tracked the project, did a lot of coordination of activities that would usually span a couple of seasons, doing site assessment and remediation simultaneously. This is a good example of our ability to put people at remote sites in short order, efficiently."

When spill sites on the North Slope need to be remediated and closed, ENSR has the technologies to accomplish it quickly and efficiently. Once again innovation pays off.

"We are having very positive results with an oxygen-releasing compound that is new to North Slope usage," says Humphrey. "It is a fast-acting oxygen enhancer that stimulates bioremediation in an environment that is frozen except for a couple of months a year."

Compliance management

In the environmental compliance management arena, ENSR offers a wide umbrella of services for a variety of clients, including planning documents, oil spill contingency plans, environmental management systems, training, and environmental audits.

One current compliance project of interest, ENSR's Jane Thomas has been assigned to audit cruise ships operating in Alaska, the Caribbean, Mexico, and other locations to determine each ship's compliance with local, national, and international environmental regulations.

"We also have a lot of client activity regarding storm water pollution prevention and oil spill prevention to meet the regulations of the Clean Water Act," says Humphrey. "We come up with best management practices to prevent

runoff industrial chemicals and pollutants from entering streams and lakes."

Data management services

As increasingly greater volumes of environmental data are required to understand environmental problems and attain regulatory compliance, ENSR has specialized in creating and finding the right tools to compile, analyze, and report large volumes of data. Tools such as web-based extranet sites allow the company to manage data in a collaborative process with its clients and other stakeholders to achieve project or program objectives.

Well-deserved recognition

ENSR won the Environmental Business Journal Gold Medal in 2001 and has twice been ranked in the top 10 in Engineering News Record magazine's annual ranking of environmental companies that perform solely environmental work. This recognition and success will no doubt continue if ENSR sticks to its company principles: hire and retain talented and dedicated people, build enduring client relationships, and focus on continuous improvement and innovation. ●

Editor's note: Susan Braund owns Firestar Media Services in Anchorage, Alaska.



Inventory and removal activities for a North Slope abandoned drum cleanup program

associated with the NEPA/EIS and CERCLA public processes in Alaska.

The analysis area includes all of the BLM-administered lands in the Northeast NPR-A planning area, approximately 4.6 million acres. Under the current EIS, no oil and gas leasing is allowed in the northernmost 600,000 acres, which contains the highest oil and gas potential. Decisions made in the EIS are being revisited, and exploration and development opportunities

oversight. We've been squarely focused on the Alaska natural gas pipeline for the last five years. It's an important project to us and we've dedicated a lot of resources to do what we can to get it up and moving."

Integrated site closures

Regarding site closures, going into contaminated sites and removing everything is not always the best thing to do, according

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Nabors Alaska Drilling: Celebrating 40 years in Alaska

From Prudhoe Bay in the '60s to NPR-A at the turn of the century, Nabors rigs have been there

PETROLEUM NEWS

Forty years ago BP's predecessor contacted Nabors Drilling Co. of Calgary, Alberta, and asked Clair Nabors if he'd be interested in drilling oil wells on Alaska's North Slope.

BP chose Nabors because it was one of the few drilling companies in the world with drilling experience north of the 60th parallel.

Clair Nabors put Jim Taylor, at that time a 10-year veteran with Nabors, in charge of bringing Nabors Rig 6 to the North Slope. Taylor would eventually head up the company's Alaska headquarters.

"The best way to get the rig to Alaska was to barge it down the Mackenzie River in Canada, across the Beaufort Sea, and then up the Colville River in Alaska as far as navigable."

About 40 miles up the Colville Taylor and his crew ran the barges aground and waited at the landing site for freeze up. When the ground froze the rig was transported to BP's first drilling location, some 100 miles overland to the foothills of the Brooks Range.

BP and its partner, Sinclair Oil Co., had already drilled one dry hole on the North Slope. Over the next three years, six more wells would be drilled by Nabors, with BP and Sinclair alternating as operator.

One month to move a rig

Taylor and his men were confronted with three major challenges: the unexpected difficulties of drilling through some 1,500 feet of sand and gravel, the bitterly cold arctic temperatures and the amount of time it took to move a rig, which was approximately one month.

The first surface hole drilled in the Prudhoe area took 51 days, Taylor said. The rigs were unprepared for and unable to cope with the solid sand and gravel they encountered. This improved somewhat over the next couple of years but remained a major problem until Nabors had better rigs built.

Moving and running casing in arctic conditions was brutal, Taylor said. The pipe rack was outside and to run casing meant having the V door to the rig floor open which allowed the rig floor to get as cold as outside.

"By today's standards it was primitive. ... The weather was bitter, but we were used to the cold," he said. "The wind, though, was more than we were used to. We'd never drilled much above the tree line in the Arctic, but the actual

Nabors Alaska



*The early years:
1963-1971*



Sag River confirmation well for Prudhoe Bay field, June 1968. The well was drilled by Nabors Rig 9.

drilling part of the operation was not that tough."

Fox bite and Good Friday earthquake

They used Nabors trucks to move the equipment and supplies "overland to the drill site because there wasn't anybody else that wanted to do it back then," Taylor said.

Taylor and his men had been on the North Slope for just a few days when a roughneck got bit by a fox. "The fox had rabies," recalled Taylor, "and the guy spent three weeks in Fairbanks getting shots."

The next incident came on March 27 when the 1964 earthquake hit Southcentral Alaska. It measured 8.4 to 8.7 on the Richter scale.

"No one felt anything at all except for the water hauler," Taylor said. "He came back right after it happened and said he heard a lot of snapping and cracking in the ice and couldn't figure what was going on."

But the Good Friday earthquake took its toll on Nabors' 30-man crew. Two-

thirds of them worked for service contractors and were based in Anchorage where many had families. "A lot of them had to head home for a bit," Taylor said. "That denuded us of people."

Except for a few problems with the huge snowdrifts caused by the high winds, the drilling and the construction of snow roads went relatively smoothly and that first winter Taylor drilled three shallow wells with Rig 6, which had a capacity of about 7,500 feet.

"By today's standards our progress was pretty slow, but it was viewed as a roaring success that we drilled at all. ... The world was amazed we got it done."

Taylor and his men worked late that first winter on the North Slope. "We had the rig sitting on pilings, so we actually operated up until probably late May."

They didn't find any significant amounts of oil, but BP and Sinclair contracted for more drilling work the next year.

Rig 6 was barged about 30 miles back down the Colville River to the landing site known as Pingo Beach to wait for the Nabors' crews to return the following winter after freeze-up.

Umiat became air hub for exploration

During the first winter, the Nabors' crew had had no air support, but the winter of 1964-65 Wien and Interior Airways supplied the camp periodically. The village of Umiat, near where they were drilling, became an air hub for the North Slope, particularly for seismic activity.

During that second winter Taylor drilled two more holes on the slope.

In the summer of 1965 Rig 6 was sent back to Canada and Rig 9, with 15,000 to 18,000-foot capacity, was barged to Pingo Beach.

Close to Kuparuk

The winter of 1965-66 Taylor and his men drilled one well at what is now the west side of the Kuparuk River field, which was later discovered to be North America's second largest oil field, second to Prudhoe Bay.

Although they were going deeper and some oil was discovered, Taylor said it was not the "elephant the oil companies needed" to justify the cost of building a

pipeline to take out the oil.

"Kuparuk in its entirety would never have built the trans-Alaska pipeline," he said. It took a field the size of Prudhoe Bay to do that.

Taylor ran into some unexpected problems at the deeper well.

"We were unprepared for the gravel and it took 10 times as long to drill as expected," Taylor said.

In April Nabors finished drilling what was to be the BP-Sinclair partnership's last exploratory well on the North Slope until Atlantic Richfield discovered oil nine months later at Prudhoe Bay.

It was back to Pingo Beach and home to Calgary to wait on the next phone call.

Things getting shaky for North Slope

"Things were getting pretty shaky for the North Slope from what we could see ... customers for the North Slope were few and far between," recalled Taylor.

All wells drilled on the slope between 1963 and 1966 were the same — not enough oil to be commercial, or dry holes.

"In 1966 we got a phone call from an unexpected source," Taylor said, "Unocal, which was Union Oil at that time. We drilled for them that next winter, barely missing Kuparuk again, but we were running out of customers after



Rig 18-E was Nabors' first purpose-built arctic drilling rig. It was placed into service in September 1975. This photo was taken in 1979. The 1970s were good years for Nabors. "It was a feeding frenzy in the 1970s throughout the Free World. ... Money was easy to come by and companies were overbuilding in all areas, from drilling rigs to pumps. ... Companies were spending money like there was no tomorrow," Jim Taylor said. The technology and design of Rig 18-E became the standard for all future North Slope rigs. Some of the innovations incorporated at the time were wheel-mounted components for rapid moves; totally insulated throughout; covered pipe racks; bridge cranes to handle blowout preventers; waste heat recovery systems to utilize engine heat; many smaller improvements to speed up operations. The time for pad-to-pad moves dropped to two days and well-to-well moves on the same pad dropped to hours.

COURTESY NABORS ALASKA



"We found the largest oil field in the free world (Prudhoe Bay) right below the biggest supply of gravel in the free world." —Jim Taylor (headed up Nabors first Alaska office)

GIL MULL

Good people make good Nabors — the changing face of North Slope drilling

PETROLEUM NEWS

The 1970s were boom years for Nabors Alaska Drilling and everyone else in the oil business. Oil prices were high and the North Slope was in its early years of development and production.

Skyrocketing prices, the expectation of future increases and the eagerness of investors to get in on the money to be made from oil, inflamed the global search for new oil supplies.

"I met a guy here in that time period who was fired from one of the Seattle banks," Taylor said, "because he didn't loan enough money to the oil industry. Well, heck, by the time I saw him, he looked like the only smart guy in town."

When the oil price crash came in the early 1980s, Taylor said it was "fast and devastating."

"One guy said he went to bed New Year's Eve of 1981 and had a booming business, he was a rich man, and he woke up the next morning in 1982 and he was broke. Silly as that sounds, that's what was happening throughout the oil industry," Taylor said.

Nabors Alaska survived "pretty well," according to Taylor, although its parent company, like many others, went through a Chapter 11 bankruptcy.

North Slope production begins to decline

North Slope production began to decline in 1989 and BP and ARCO, the main operators on the North Slope, wanted drillers to reduce drilling cost per foot by 30 percent by 1995, a goal that was reached in 1994.

In 1993 after 40 years with Nabors, Taylor started phasing out at the company and working with the new Nabors Alaska president and CEO, Jim Denney.

Under Denney's leadership Nabors helped change the image and the reality of working on the North Slope. In the last decade a new culture has taken root

— one where safety and efficiency are often trump cards.

Clyde Treybig, quality manager at Nabors under Denney, uses the phrase "continual improvement" with frequency.

"We're not drilling wells the way we did 20 years ago," he says. "And five years from now, we'll be drilling wells differently from the way we do today. ... We're moving ahead and going to get to a better place. ..."

"Cutting edge equipment is easily understood by all aspects of the industry," Treybig said, "because the results are tangible and immediate." However, Nabors is also committed to improving the human element of the drilling equation. According to Treybig, when an innovation is a good one, it will eventually take hold. "It's like seatbelts," he says. "At first, when the law required people to wear them, people felt uncomfortable. Now, most people feel uncomfortable without them."

It's the same, he says, with safety improvements on the North Slope. There was a time when the use of certain safety gear was erratic and looked upon by some as optional. "Now," he says, "you can't even go onto a rig without a complete set of safety gear. You would be stopped immediately."

A picture is worth a thousand words

Safety is a constant by-word at Nabors and safety policies are always under a microscope and subject to change.

In 2001, Denney made a significant change in the way operational procedures are followed. The operating instructions for each piece of equipment were augmented by pictures.



Environmental groups, Congress, the executive branch, the courts, Native groups, the oil companies and the state of Alaska battled over if, where and when the trans-Alaska oil pipeline would be built. The approval process took more than three years. During that time, oilfield service companies such as Nabors tried to hang on in Alaska. Many went broke. "We almost starved to death in that whole hassle," Jim Taylor said. "1969 and 1970 were still good for work, but by late 1971 we started getting panicky because rigs were shutting down on the slope." Eventually there was only one rig running on the slope and it belonged to Nabors. "We kept a little work going with Kodiak (Oilfield Haulers, predecessor to Peak Oilfield Services). A little construction, that type of thing," Taylor said. The pipeline was finally approved by Congress in the summer of 1973. "A lot of people never realized how close that pipeline approval vote was in the Senate," he said. "It was a tie vote. Spiro Agnew settled the tie."

see HISTORY page C20

continued from page C18

NABORS

so many dry holes."

Clair Nabors takes big gamble

Later that winter when Nabors finished the Union well Clair Nabors took what Taylor calls "a big gamble."

Nabors always had a "move-out clause" in its North Slope contracts, which required the customer to move the rig back to Canada when the drilling contract ran out. Nabors had had that with BP, Sinclair and Union, but had left its rig on the slope because they always had work lined up for the following winter. But this time there was no more work and prospects were "looking dim," Taylor said. After freeze up in the fall, the rig was stuck there for an entire winter drilling season.

"Clair Nabors had a choice of moving the rig back to Canada or taking one hundred and fifty grand in cash," Taylor said. "He took the money and left the rig up there."

The cash had come from Richfield Oil Corp., which would merge with Atlantic Refining to become Atlantic Richfield Co. (now part of ConocoPhillips), but it carried no guarantee of a drilling contract for the following winter because Richfield had not yet discovered oil on the North Slope.

By accepting Richfield's \$150,000 offer, Clair Nabors had forfeited his right to have Union bear the cost of transporting Rig 9 home to Canada.

Waiting for the phone to ring

Back to waiting for the telephone to ring. And ring it did. This time it was the

GIL MULL



C-130 Hercules at Susie No. 1 well at midnight, May 31, 1966

newly merged Atlantic Richfield, with a drilling contract.

"We got a call, the first or second call that ARCO made after the flare 100 feet in the air over there at the Prudhoe Bay discovery well," Taylor said. "They phoned Clair Nabors and told him to put the rig on standby. The rig was about 90, maybe 100, miles away from where they wanted us to drill."

"My wife Marion and I had just bought a home in Calgary and had lived in it for 11 days," Taylor said. It was early 1968.

Opening a Fairbanks office

But this call was different from the others. This time Taylor would not return to Alaska for just a winter drilling season. He and his wife were being transferred to Fairbanks to open Nabors' first Alaska office.

"There was no place to rent or buy in

the whole town. I went to Anchorage and bought the biggest house trailer in the state of Alaska and said 'move her to Fairbanks and set her up.' The trailer was 12-feet wide by 60-feet long.

The Taylors lived in Fairbanks almost three years before they moved to Anchorage and set up a permanent office for Nabors Drilling, which today houses Nabors Alaska Drilling.

Drilling the Prudhoe confirmation well

Nabors drilled the Sag River State No.1 well seven miles from the Prudhoe Bay State No. 1 discovery well where ARCO had hit gas.

"This time we hit oil and lots of it," he said.

In February 1968 ARCO had announced that it had cased the discovery well at 8,708 feet and found oil saturated sands in the lower 70 feet; in March, the company

reported that the discovery well flowed oil at a rate of 1,152 barrels a day.

On June 25, 1968, ARCO announced the discovery of oil at the Sag River well, confirming the Prudhoe Bay field discovery. Nabors later drilled BP's confirmation well for Prudhoe at Put River.

"We found the largest oil field in the free world right below the biggest supply of gravel in the free world," Taylor said with a grin.

"There were an awful lot of people that got on the North Slope in a hurry during that period of time. ... That fall in Fairbanks it was crazy. There were people all over the place."

The winter that followed was one the coldest in history. But the oil men kept coming.

Thirteen Hercs

"There were 13 Hercs flying through the place," Taylor said. "I don't know where they all came from, but there were camps and rigs and supplies being flown daily, or whenever the weather allowed it, to the North Slope."

Less than a year before, ARCO's Mo Benson had to move political mountains with the powers-that-be at Lockheed to get one Herc to Fairbanks to transport the rig that drilled the Prudhoe discovery well.

Nabors spent the next few years punching down wells to help BP and ARCO define the perimeter of the Prudhoe Bay field. ●

Editor's note: The above story is an abbreviated version of an article about Nabors Alaska Drilling that appeared in Petroleum News' special publication, Partners.

continued from page C19

HISTORY

"Each rig has over 200 procedures," he said, "and we're taking each one, breaking each task down, and attaching it to a visual." This, Denney said, creates a "more meaningful training document."

Nabors also modified its employee safety bonus program to encourage employees to report any unsafe conditions or practices on the rig and work toward improving safety skills and processes. The program no longer rewards workers for working accident-free, but rather for showing that they consistently use safe work practices.

"We don't want to punish workers who are involved in accidents," says Treybig. "We learn from every accident. We simply want to reward our workers for being safety conscious and proactively working to improve the safety on every rig."



JUDY PATRICK

In the mid-1990s Jim Denney took over from Jim Taylor as Nabors' top executive in Alaska

Treading lightly on the environment

Safety for people is the top priority, Denney said, but safety for the environment is also critical. He said the rigs themselves are always being modified to improve environmental performance.

"We put a lot of money into our rigs to improve the environmental aspect of the drilling," Treybig said. "We want our rigs working as new rigs."

He said Nabors' effective system of waste management is an example of the diverse services offered by the company: "We're able to build grind and inject facilities that we attach to our rigs. We can offer that kind of capability to reduce overall well costs and environmental impacts."

Size does count — growth leads to diversity

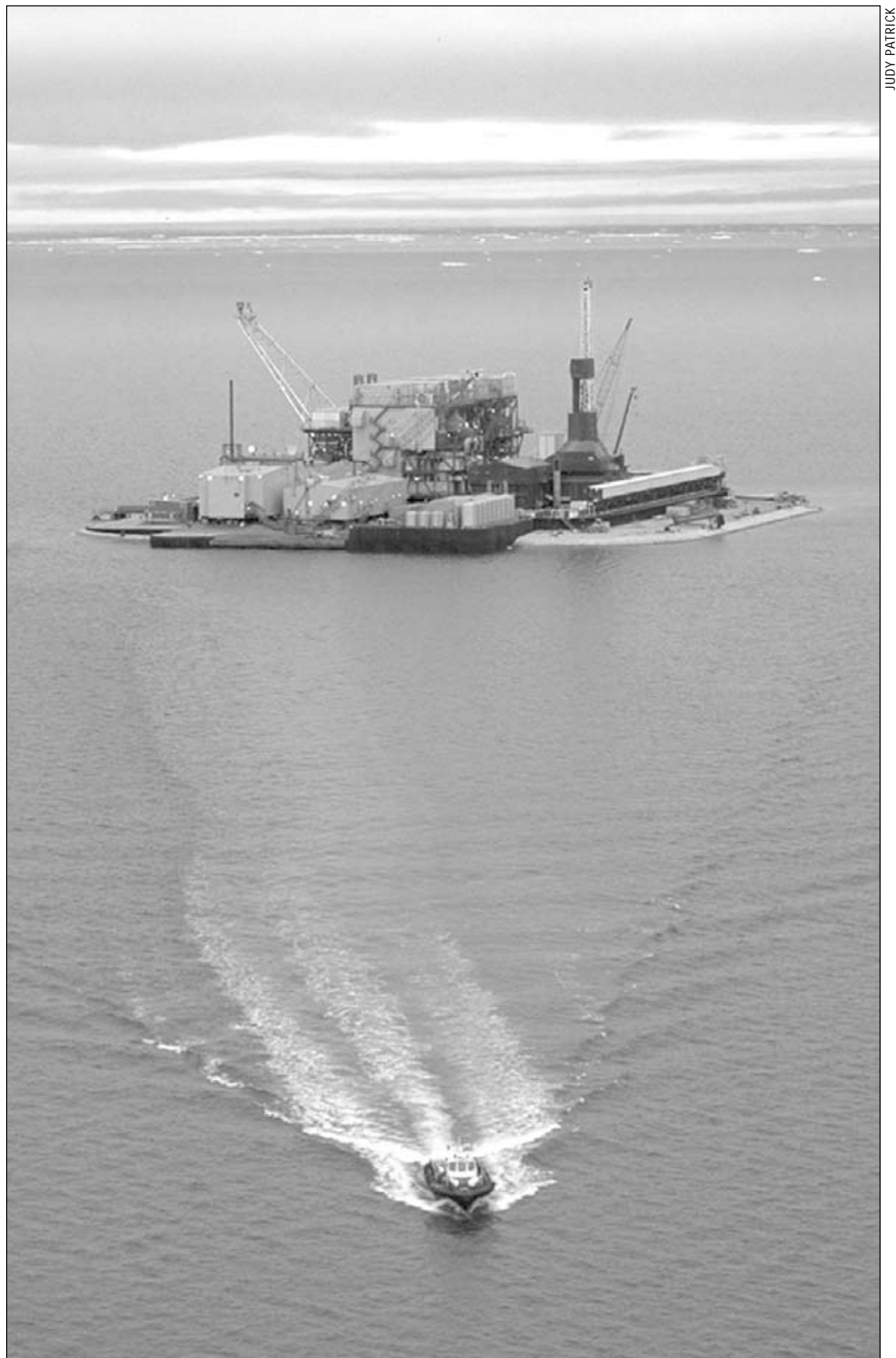
Diversity is at the heart of Nabors' history of success, Treybig said. "As the market changes we're able to adapt and apply our strengths to whatever is demanded of us."

He said that offering a wide range of services is the result of operating a wide range of equipment.

"We have something that the other guys really don't — we have the kind of diversity of equipment and experience that allows us to run anything from coil tubing to workover rigs to exploration rigs. ...

"It used to be, 'a rig is a rig — you tell us where to be and we'll drill a hole for you.'" It's not that way anymore, Treybig said. "Now we're looking at better equipment, better technology, better systems, and most importantly, more professional rig hands. We're looking at ways to do things safer and cleaner and more efficient. Now, we're a much more integrated part of how the whole process works." ●

Editor's note: Parts of the above story were taken from stories about Nabors Alaska Drilling in Petroleum News' special publication, Partners, and from the October 2002 Petroleum Directory.



JUDY PATRICK

In the 1990s Nabors Alaska Rig 33-E was modified to work on BP's Northstar development in the Beaufort Sea off-shore Alaska's North Slope. The field came online in 2001. 33-E continues to work at Northstar. Fritz Gunkel, BP's Northstar delivery manager at the time, told Petroleum News in the summer of 2002 that "a drilling operation is just like a baseball team. I mean let's put BP as the pitcher: if you don't have a catcher, first base, second base, third base and the outfield — you don't have a baseball team," he said. "And the baseball team out at Northstar is playing world-class baseball." The team concept at Northstar capitalizes on a quality program called technical limits, Gunkel said. The focus is on "improving the operation to make it safer, more efficient — without anybody doing anything faster." Throwing a ball faster doesn't necessarily get you anywhere, he said: "but if you throw it in the right place, you get a double play. And so what happens is the floor hands and the derrick men and the drillers and the mud men and the directional drillers look at our wells section by section and look at how they're going to do them and then how they improve them. ... BP rated Northstar as the best running team — and that includes engineering and implementation — of any team in North America and one of the two or three best in the world."

JUDY PATRICK

In the winter of 2002-2003 ConocoPhillips Alaska used Nabors Rig 16-E to drill its Puviaq prospect in the National Petroleum Reserve-Alaska. Drilling results have not yet been announced, but the Puviaq leases are west of Teshekpuk Lake and south of Smith Bay approximately 67 miles southeast of Barrow, some of the farthest west tracts so far leased in NPR-A.



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Petroleum
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Doyon Drilling: Meeting the challenges of a changing industry

Contractor adapts to the mature Alaska oil province

By ALAN BAILEY

Petroleum Directory Contributing Writer

The ever-changing Alaska oil and gas industry continues to bring fresh challenges and new opportunities for drilling contractors. Doyon Drilling Inc., an Alaska-owned contractor, overcomes the challenges through flexibility, innovation and operational improvement. The company first started its operations on the North Slope when it spearheaded use of self-propelled drilling rigs in 1981. Since then the company has established a fleet of five purpose-built, Arctic rigs.

Although Doyon Drilling built its rigs several years ago, the company continues to upgrade equipment to efficiently support the most advanced and difficult drilling operations, Ron Wilson, general manager of Doyon Drilling, told Petroleum News.

"We've done a lot of work keeping the rigs up to speed, with new equipment or whatever it takes to keep them in good shape," Wilson said. "We definitely need to keep the North Slope successful in the programs that we go after."

For example, the company recently upgraded the mud equipment and top drive on its Rig 14, to land a five-year drilling contract with BP.

"(This year) we signed a five year contract for ... rig 14 with BP to drill in the Milne Point and Prudhoe Bay fields," Wilson said. "That was pretty significant — we haven't seen long-term contracts like that for quite a while."

Modifications to Rig 19

Last year the company made some extensive modifications to its Rig 19 to enable this rig to cross ice bridges over land routes. The use of land routes eliminates the extra cost and time required to move the rig across the sea ice.

"We needed to reduce the weight (of Rig 19) from about 2.2 million pounds back to 1.1 million pounds," Wilson said. "... we came up with this idea ... to design some type of mechanism to slide the whole rig floor and derrick off in one piece." A transporter would then carry the derrick and rig floor separately from the rest of the rig, thus enabling the rig to move as two loads, each half of the weight of the entire rig.



Doyon Drilling's Rig 19 rig floor transporter carrying the rig floor and drilling derrick.

In a first-of-a-kind design, the company developed a scissors mechanism powered by hydraulic rams to lift the derrick off the sub-base and onto the transporter.

Last winter the modified rig crossed some ice bridges to move from the Alpine field into Kuparuk.

"For exploration purposes, time is a critical factor — we can ... have (the rig) down and ready to move in 12 hours," Wilson said.

New drilling techniques

Although drilling activity on the North Slope has diminished recently, companies like Doyon Drilling have been establishing new work by helping the oilfield operators find ways of developing new oil reservoirs. Much recent effort has focussed on developing heavy oil deposits in shallow sands.

"Ten years ago it wasn't economic — they weren't having real high success and

the (flow) rates ... to develop and go after this heavy oil," Wilson said. "Today with the success that we're having it's looking more promising that the sand with the heavy oil can get developed."

Horizontal directional drilling has proved the key to developing heavy oil, Wilson said. By drilling two or more wells horizontally through different sand bodies from a single well bore, it's possible to increase flow rates of heavy oil to a point where production becomes economic. Horizontal wells extend laterally several thousand feet — Doyon Drilling is currently stretching the limits by drilling a 7,000-foot lateral hole.

Todd Driskill, Doyon Drilling's operations manager, stressed that drilling companies, mud companies and the manufacturers of downhole tools have all contributed to the success of horizontal drilling. New oil production techniques such as the use of jet pumps have also played a pivotal role in the economics of developing heavy oil.

"A lot of the credit needs to go to the production side of it," Driskill said. "... it was an early, early issue — how do we get this oil out of the ground?"

Driving costs down

Reducing drilling costs has also become a critical factor in the North Slope's mature oil province — with Doyon Drilling's efficient rigs and experienced drilling teams, high-speed operations translate directly into cost savings.

"Getting these costs down is a critical piece," Wilson said. "If we can get these wells drilled cheap, successfully and with enough oil coming back, that's going to keep drilling open ... for quite some time."

Driskill sees careful planning as the key to improving efficiency.

"The main driver for (keeping costs down) is the planning side of it ... finding what's worked, getting input from all facets," Driskill said, "... then paying attention to that input and making that (part of) standard operating procedures for the next well." We've reduced costs by 30 to 40 percent just with improved operating procedures, he said.

Doyon has also been trimming costs by pioneering new ways of disposing of well cuttings — the rock fragments that come out of the well bore. There's a big cost associated with the traditional technique of grinding the cuttings in a ball mill and re-injecting them into the subsurface, Wilson said.

In some situations, Doyon has been able to wash and test the rock fragments for use as gravel on roads and pads. The company has also purchased an ultrasonic processor that pulverizes the clay and shale components of the cuttings, so that these components can be incorporated back into the drilling mud.

"It's been pretty successful and we've been able to drive down the costs on waste disposal," Wilson said.

The importance of people

With performance improvement mainly dependent on skilled and motivated staff, Driskill thinks that attitudes towards work have changed markedly over the years.

"A lot of our guys ... are really involved in the project — they really take a pride in what they're doing. It's not just a job to most of them," Driskill said.

As part of its focus on people, Doyon Drilling runs its own training program. Training covers the gamut from safety and environmental procedures to instruction in specific drilling techniques. Some training supports the safety and environmental requirements of individual customers.

Learning from experience and then providing thorough training both assist Doyon Drilling's environmental management system or EMS. In EMS, standard operational procedures and electronic document control ensure compliance with all environmental regulations.

And that, in turn feeds back to improved safety and operational efficiency.

"If you look at the (safety) statistics we're doing better than the average for land rigs for Alaska and the Lower 48," Wilson said. Information interchange throughout the industry in recent years has also made a major contribution to safety, Wilson said.

"Our industry's changed a lot for the better," Wilson said. "We work a lot closer with our operator and our competitors as well ... we share what took place, what we can do to make sure that this doesn't re-occur ... make sure that we've got the right things in place."

So, with the potential for future exploration in the National Petroleum Reserve-Alaska and the remoter parts of northern Alaska, Doyon Drilling can respond to whatever the industry needs. The company's depth of experience on the North Slope enables it to meet the challenges of Arctic drilling.

"We're Alaska owned and we're here to stay, we're not going anywhere," Driskill said, "and that's where our business has got to be." ●

Editor's note: Alan Bailey owns Badger Productions in Anchorage, Alaska.



A unique scissors mechanism lifts Doyon Drilling's Rig 19 rig floor and derrick onto a transporter.

COURTESY DOYON DRILLING INC.

COURTESY DOYON DRILLING INC.

company snapshots

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Colville Lead Fuel Driver Lanny Snow fills the Alaska Airlines fuel tanks at Deadhorse.



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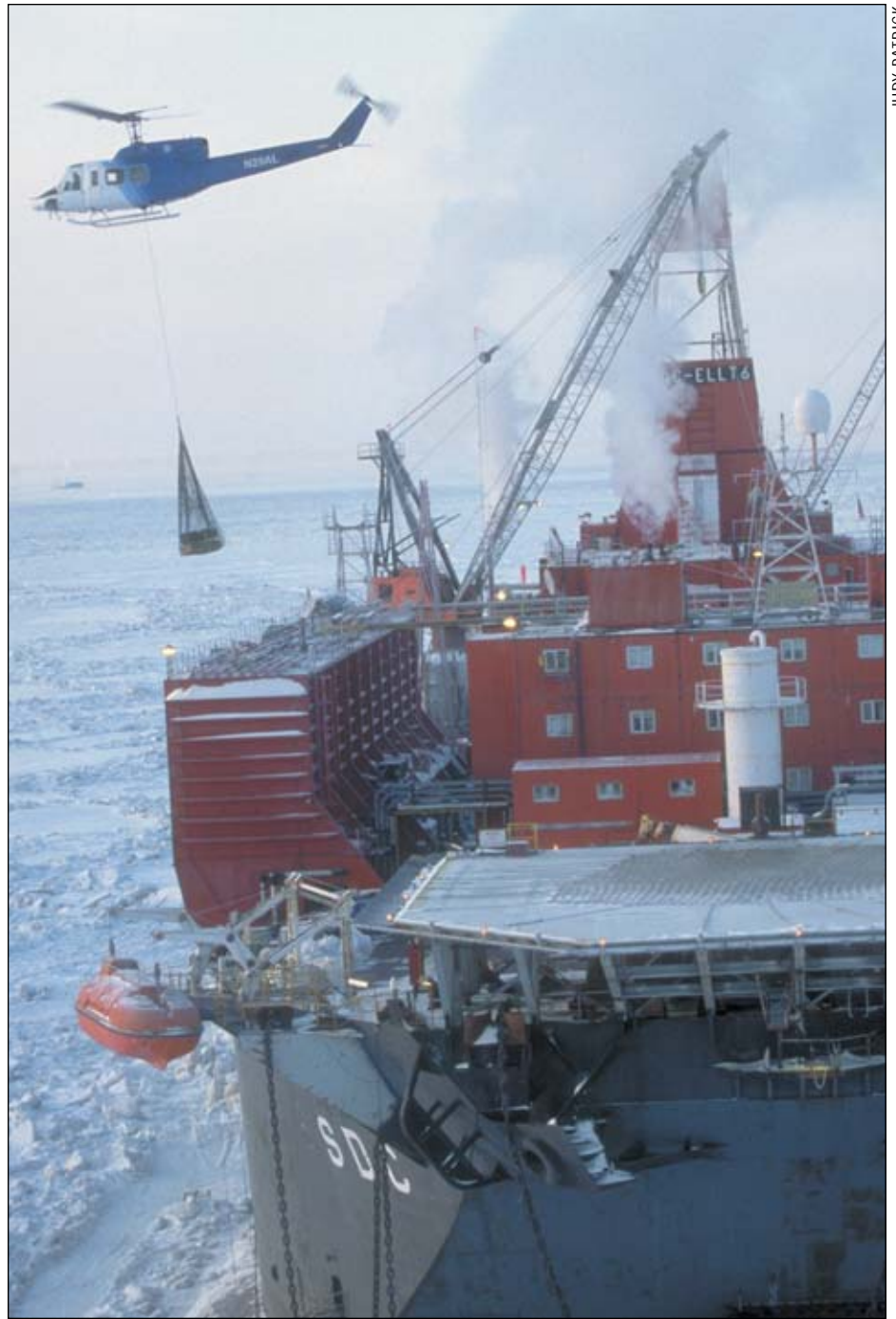
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ENSR workers pump an oxygen-releasing compound slurry for enhanced aerobic bioremediation at a North Slope site.

JUDY PATRICK



Air Logistics of Alaska IFR Bell departing the SDC rig and backhauling cargo to Deadhorse (external load), Beaufort Sea, winter 2003.

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A Kuukpik/Veritas X-Vibe makes its way across the tundra at sunrise.