



Northern Oil and Gas Annual Report 2005

The management of oil and gas resources on Crown lands north of 60° N. latitude in the Northwest Territories, Nunavut and the northern offshore is a federal responsibility carried out by the Northern Oil and Gas Branch of Indian Affairs and Northern Development.

Petroleum resource management on Crown lands is exercised under federal legislation. The *Canada Petroleum Resources Act* and its regulations govern the granting and administration of Crown exploration and production rights and set the royalty regime. The *Canada Oil and Gas Operations Act* governs the regulation of petroleum operations and associated benefits requirements. Land, royalty and benefit matters are managed by the department on behalf of the Minister of Indian Affairs and Northern Development while the National Energy Board takes the lead role in approval of operations.

Information on the northern oil and gas regime may be found on the web at: <http://www.ainc-inac.gc.ca/oil/>



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**Message from the Honourable Jim Prentice, P.C., M.P.
Minister of Indian Affairs and Northern Development and
Federal Interlocutor for Métis and Non-Status Indians**

Northern oil and gas development has the potential to make an important contribution to sustained economic activity, strong and healthy Aboriginal and Northern communities, and self-sufficiency for the North.

In 2005, important strides were made toward these goals.

Most significantly, the Government of Canada has been working hard to prepare for the \$7 billion proposed Mackenzie Gas Project (MGP) and has made investments aimed at facilitating a timely and rigorous regulatory and environmental review, and alleviating the socio-economic impacts of the planning and construction of the pipeline project on Aboriginal communities in the Northwest Territories.

In November 2005, Proponents of the MGP signaled that enough progress had been made on all fronts to proceed to Environmental Assessment and Regulatory Review hearings, which are now underway. The environmental assessment and regulatory review processes are key to ensuring that, if approved, the MGP proceeds with the proper conditions in place to protect the Northern environment and to bring benefits to Northerners and Aboriginal groups.

I am also pleased to note that overall exploration investment by the oil and gas sector was maintained through 2005. As a result, there were sustained opportunities for employment and business for residents of many remote Northern communities.

The year also saw two notable events in northern operations: the mobilization of equipment to drill the first offshore well in the Beaufort Sea since the end of the 1980s, and the announcement of new exploration success in the central Mackenzie Valley. Both augur well for continued interest in the oil and gas potential of the North.

I invite you to consult this report for details on the exploration and development of Canada's northern oil and gas resources over the past year.

In accordance with section 109 of the *Canadian Petroleum Resources Act*, I am pleased to table before Parliament this annual report on the administration of oil and gas lands in the Northwest Territories, Nunavut and the northern offshore for the year ending December 31, 2005.

May 3, 2006

Canada's Frontier Lands



**Area under the responsibility of the
Minister of Indian and Northern Affairs Canada**

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NORTHERN OIL AND GAS ACTIVITIES

Introduction

Oil and gas exploration has a long history in the Canadian North, dating back to the discovery oil well drilled at Norman Wells in 1920. The late 1940s and 1950s saw increased exploration in the southern Northwest Territories followed by exploration throughout the North in the period 1960 to 1985, activity stimulated by the "oil price shock" of 1974 and concerns for domestic supply.

Current interest in the North dates from the mid-1990s. Oil and gas exploration and investment began to flow North in 1995 with the issuance of new exploration licences by the Crown in the southern Northwest Territories, closely followed by the central Mackenzie Valley. Subsequently, in 1999 and 2000 companies acquired exploration rights to lands across much of the Mackenzie Delta and adjacent offshore. Although no interests have been issued in the southern Northwest Territories since 1996 and activity has tailed off, oil and gas leasing activities have been sustained through 2005 in the central Mackenzie Valley and in the Beaufort Sea - Mackenzie Delta regions.

The North is recognized as holding an important portion of Canada's undeveloped oil and gas potential. Canada's Northwest Territories, Nunavut and Arctic Offshore hold an estimated 33 percent of Canada's remaining conventionally recoverable resources of natural gas and 25 percent of the remaining recoverable light crude oil. About half of these potential resources are in the western Arctic -- strategically located north of existing infrastructure in the western Provinces. Today, with conventional crude and natural gas production entering decline in the

traditional producing areas of the western provinces, northern resources are of keen interest to oil and gas companies, an interest spurred by continuing high oil and gas prices.

In 2005, there were two focal points of activity; the Sahtu region of the central Mackenzie Valley and the Mackenzie Delta. In contrast to the high activity levels of only two years ago, the southern Northwest Territories saw no exploration in 2005 due to the lack of opportunity for industry to access new exploration lands. While the potential for sustained growth in industry investment in this region is excellent, matters outstanding between the Crown and First Nations in the southern Northwest Territories need to be resolved prior to initiating a new cycle of rights issuance in this region.

Given the high potential of Canada's Arctic for both oil and gas, continuing investment in new exploration can be a source of sustainable long term economic growth. However, much of this activity is contingent on the commitment to build the Mackenzie Gas Project (MGP), and the consequent opportunity to develop and produce new gas discoveries should they be made. The MGP comprises development of three anchor fields in the Mackenzie Delta, construction of gathering and processing facilities, and a 1200 kilometre gas transmission pipeline to Alberta. Although production will be initially from the Imperial Oil's Taglu, ConocoPhillips' Parsons Lake and Shell Canada's Niglintgak gas fields in the Mackenzie Delta, the infrastructure built for the project will serve to open up the western Arctic to investment in further petroleum exploration and development both onshore

within the Territories and subsequently in the Arctic offshore. By late 2005, the Project was preparing to enter regulatory hearings for facilities before the National Energy Board, and for environmental assessment before the Joint Review Panel.

Although overall drilling levels dropped slightly in 2005, the year saw two exciting developments on the drilling front. In the Beaufort Sea, Devon Canada began drilling the first offshore well in sixteen years at their Paktoa location, and in the central Mackenzie Valley Husky announced an oil and gas discovery at their Summit Creek B-44 well. This is only the second discovery of oil in the central Mackenzie Valley corridor since the discovery of the major field at Norman Wells in 1920. This well is relatively close to the Enbridge Norman Wells pipeline which has significant spare throughput capacity.

Drilling in the Mackenzie Delta-Beaufort Sea region increased slightly from 2004 levels (5

wells). Six wells were drilled in the Sahtu region of the central Mackenzie Valley – the same as the previous year. The issuance of six new exploration licences in the central Mackenzie Valley and nomination of six new parcels for the 2005-2006 Call for Bids augurs well for sustained exploration activity in this region.

At year end, six fields were in production in the Northwest Territories. No fields were producing from Nunavut or offshore Arctic waters. Of the producing fields, three gas fields and one oil and gas field are located in the southern Northwest Territories, the Norman wells oil field is in the central Mackenzie Valley, and the Ikhil gas field is in the Mackenzie Delta. Royalties for 2005 decreased by 22 percent due to markedly lower gas production from a major field in the southern Northwest Territories. High prices for both oil and gas served to partially offset lower production in determining the royalty amount.

Oil and Gas Resources

Canada's Northwest Territories, Nunavut, and Arctic Offshore hold an estimated 33 percent of Canada's remaining conventionally recoverable resources of natural gas and 25 percent of the remaining recoverable light crude oil (Drummond Consulting, 2002 – unpublished report).

Potential natural gas resources are roughly split between the Northwest Territories (2.3×10^{12} m³ or 82 trillion cubic feet – tcf) and Nunavut (2.0×10^{12} m³ or 71 tcf). (These numbers include the portion lying beneath offshore waters adjacent to the Territories). The Northwest Territories has an ultimate potential for crude oil estimated at 0.9×10^9 m³

(5.7 billion barrels) and Nunavut has a potential of 0.43×10^9 m³ (2.7 billion barrels).

Although remote from most existing production infrastructure, the most accessible of these potential resources lie between the border with the provinces at 60 degrees north (60°N) and the Beaufort Sea in a broad corridor running between the Rocky Mountains and the Canadian Shield. This region, comprising much of the Northwest Territories and adjacent Arctic offshore, is estimated to contain 49 percent of the recoverable gas and 58 percent of the recoverable oil in northern Canada with the Beaufort Sea-Mackenzie Delta Basin by far the largest potential contributor.

North of 60, aggregate production from fields in the southern Northwest Territories currently represents all gas exported south into the Provincial pipeline, and 96 percent of oil production comes from the Norman Wells oil field in the central Mackenzie Valley. In the Beaufort Sea-Mackenzie Delta Basin, major gas fields at Taglu, Parsons Lake and Nigintgak are the anchor fields proposed for the Mackenzie Gas Project. Some 50 other discoveries in this basin have potential for subsequent development, including Amauligak, a major offshore discovery of both oil and gas.

Although not currently under consideration for conventional development because they are so remote, discovered gas resources in the Arctic Islands are comparable to those in the Beaufort Sea-Mackenzie Delta region. The most promising discoveries are those in the Sverdrup Basin, where past exploration efforts have proven the existence of major gas fields at Drake Point and nearby Hecla with combined resources on $182 \times 10^9 \text{ m}^3$ (6.5 tcf). Significant oil discoveries and large unexplored oil potential is also present in this vast region of diverse and varied geology.

Table 1: Discovered Resource Inventory

Region	Crude Oil 10^6 m^3	Million barrels	Natural gas 10^9 m^3	Trillion cubic feet
Northwest Territories	70.5	(443)	178.3	(6.3)
Nunavut	0.9	(6)	190.7	(6.7)
Arctic Offshore	193.0	(1214)	506.5	(17.9)
Total	264.4	(1663)	875.5	(30.9)

Compiled and integrated from several published sources which may underestimate or overestimate actual field resources

Table 2: Commodity prices

	January 2005	December 2005	Average 2005
Oil - C\$ per m^3 (Average at Edmonton)	358.58	427.42	436.00
Gas - C\$ per GJ (Average AECO)	6.71	10.39	8.21

Sources: Natural Resources Canada

OIL AND GAS MANAGEMENT

Rights Issuance

The department provides industry with an annual opportunity to obtain exploration rights in the Northwest Territories, Nunavut and the northern offshore. The exploration rights are issued pursuant to the *Canada Petroleum Resources Act*.

A Call for Nominations precedes each Call for Bids. The Call for Nominations enables industry to specify blocks of land of interest for subsequent inclusion in a Call for Bids. Crown rights are issued pursuant to an open, competitive bidding process. A single bid evaluation criterion - currently the total expenditure that a bidder would spend on exploration of the land block - is used to determine the successful bidder who is issued an exploration licence of up to nine years. The successful bidder is required to spend the dollar value of the proposed work during the first four or five years of the licence and drill one well during this first period.

In accordance with the provisions of land claims settlement agreements, the department seeks the views and support of aboriginal communities and organizations prior to rights issuance on the terms and conditions of the issuance and related matters. The department is also working towards establishing measures that would meet the needs and provide economic opportunities for those areas without a land claim settlement, primarily in the southern Northwest Territories.

In recent years, the Government of Canada and the Northwest Territories government approved the Protected Areas Strategy (PAS) for the Northwest Territories, to conserve the biological diversity and associated natural and cultural resources in the Northwest Territories.

During the consultations with Aboriginal groups on rights issuance, a review is also completed to ensure that lands that may have been nominated through the PAS process are not included in the calls.

The results of the Calls for Nominations that closed late in December 2004 saw seven parcels nominated in the Central Mackenzie Valley. No nominations were received for the Beaufort Sea /Mackenzie Delta nor for the Arctic Islands of Nunavut. All seven parcels were posted in a subsequent Call for Bids which closed on May 17, 2005. On May 18, 2005, the successful bidders were announced and six new Exploration Licences were issued in the Central Mackenzie Valley (EL428 to EL433) covering 446,093 hectares and totaling \$58,125,837 of work expenditures. One parcel did not receive a bid.

Late in 2005, three Calls for Nominations were launched with closing dates of November 29, 2005 for the Beaufort Sea/Mackenzie Delta area and December 20, 2005 for the Central Mackenzie Valley, the Arctic Islands of Nunavut and surrounding offshore areas. These Calls for Nominations resulted in two parcels being nominated in the Beaufort Sea/Mackenzie Delta and six parcels being nominated in the Central Mackenzie Valley. No nominations were received for the Arctic Islands of Nunavut and surrounding offshore areas.

Nominated parcels were included in Calls for Bids launched in late December 2005 and early January 2006. The calls are in effect for the statutory minimum of 120 days.

Significant Discovery, Commercial Discovery and Development Plan approvals by the National Energy Board

Declarations of significant and commercial discovery are the basis for the issuance of significant discovery licences and production licences respectively.

The National Energy Board (NEB) issued eight significant discovery declarations during the calendar year 2005. All were in the Arrowhead area near Fort Liard (Southern Northwest Territories) for wells operated by

Anadarko Canada Energy Company. The Board also received two applications for significant discovery declaration during the calendar year 2005. These applications were by Encana Corporation for Umiak wells N-05 and N-16 on EL384 on the Mackenzie Delta.

No commercial discovery declaration or Development Plan applications were received or approved during 2005.

Interests Issued in 2005

Six new exploration licences were issued as a result of the successful Call for Bids in the Central Mackenzie Valley. These include: EL428 and EL430 to Apache Canada Ltd. and Paramount Resources Ltd.; EL429 and EL432 to BG Canada Exploration and Production Inc. and International Frontier Resources Corp.; and EL431 and EL433 to Petro-Canada.

the Mackenzie Valley (SDL123, SDL124 and SDL125) to cover these areas. There was no production licences issued during 2005.

During 2005, a total of eleven exploration licences either terminated by expiry or by surrender, and two licences were partially surrendered.

Although eight Significant Discovery Declarations were declared by the NEB, three Significant Discovery Licences were issued in

Table 3: Exploration licences issued as a result of calls for bids since 1995

Region	Number of Licences	Date issued	Licences time-limit (by years)
Southern NWT (Fort Liard)	4	April 1996	7 (4+3)
Central Mackenzie Valley	7	May 1997	8 (4+4)
	6	Aug. 2000	8 (4+4)
	5	Sept. 2001	8 (4+4)
	1	May 2003	8 (4+4)
	4	June 2004	8 (4+4)
	6	May 2005	8 (4+4)
Beaufort Sea / Mackenzie Delta	2	Jan. 1997	9 (5+4)
	4	Sept. 1999	9 (5+4)
	6	Aug. 2000	9 (5+4)
	2	May 2002	9 (5+4)
	1	June 2004	9 (5+4)

Table 4: Land disposition (in hectares) as of December 31, 2005

Region	Exploration Licence	Production Licence	Significant Discovery Licence	Total
Arctic Islands	0	1,224	332,882	334,106
Eastern Arctic Offshore	0	0	11,184	873,684 ^{1*}
Hudson Bay ⁵	0	0	0	126,376 ^{2*}
Beaufort Sea	864,260	16,618	169,350	1,050,228
Mackenzie Delta	454,337 ⁴	2,506	112,037	568,880
Mackenzie Valley	1,229,267	32,842	93,684	1,356,759 ^{3*}

* Former Permits and/or Pioneer Leases

¹ Includes 862,500 hectares in restricted area/under former rights

² Includes 126,376 hectares in restricted area/under former rights

³ Includes 28,149 hectares under former rights

⁴ Includes 148,577 hectares (consolidated EL427)

⁵ Permits under the administration of the Minister of Indian Affairs and Northern Development

Table 5: Land disposition by interest type as of December 31, 2005

Region	Exploration Licence	Production Licence	Significant Discovery Licence	Former Rights ¹
Arctic Islands	0	1	20	0
Eastern Arctic Offshore	0	0	1	30
Hudson Bay	0	0	0	8 ²
Beaufort Sea	3	1	31	0
Mackenzie Delta	6	1	34	0
Mackenzie Valley	16	21	32	17

¹ Former Permits and/or Pioneer Leases

² Permits under the administration of the Minister of Indian Affairs and Northern Development

Administration of Interests

Exploration licences

There were 25 exploration licences active at the end of 2005. This includes those exploration licences for which significant discovery licences have been applied for pending the National Energy Board's (NEB) decision or decisions on the application for significant discovery declaration(s) (SDD) based on the exploratory work conducted. The NEB reviews the data submitted by the applicant in support of its application for the SDD.

Each exploration licence issued as a result of a Call for Bids, requires the interest holder to submit 25 percent of the work expenditure bid as a deposit to ensure that the proponent fulfills the requirement to drill a well within

Period 1. During the remaining term of the licence (Period 2), rentals are paid.

Both the work deposit required for Period 1 and the rentals in Period 2 are refundable upon completion and approval of the work undertaken on the licence. Administration of the deposits includes the application of the allowable expenditures which are submitted as exploratory work is completed. Deposit administration is ongoing throughout the year as new deposits are received for the rentals due in Period 2 and / or amendments are made with respect to those already in the system.

Security deposits being administered as of December 31, 2005

Refundable work deposits of Period 1 (refunded at \$1 for each \$4 spent) = \$112,000,000

Refundable rentals of Period 2 (refunded at \$1 for each \$1 spent) = \$4,100,000

Benefits

Section 21 of the *Canada Petroleum Resources Act* (CPRA) requires a benefit plan for any work or activity on any frontier lands that are subject to an interest (primary examples of an interest are the Exploration Licences issued pursuant to CPRA). When oil and gas exploration and development are undertaken in the Northwest Territories, Nunavut and the northern offshore, the proponent must ensure full and fair opportunity on a competitive basis to employment, training and business opportunities for Northerners and other Canadians. The proponents generally will look to communities in close proximity to the project to ensure full and fair access to all opportunities is available. The seasonal nature of employment in the oil and gas industry's northern exploration activities fits well with the dual traditional economy/wage economy of many communities.

Late in 2005, after more than a decade of no activity in the offshore, industry returned to Beaufort Sea with an exploration well. Higher levels of exploration in the Central Mackenzie Valley and, to a lesser extent,

ongoing exploration in the Mackenzie Delta and development activity on existing fields in the Southern Mackenzie Valley have created significant employment, training and procurement opportunities for Canadians and northerners. The communities of Deline and Tulita saw increased oil and gas exploration activity leading to higher levels of local employment and business contracting.

The Northern Oil and Gas Branch works closely with the Petroleum Development Division (Division) in INAC's Northwest

Territories Regional Office in Yellowknife. Since 2001 the Division has had the lead responsibility for the administration of benefits plans for exploration activities in the Northwest Territories. The Division maintains open communications with the Inuvialuit, First Nations and northern communities and works

to better understand their benefits issues and concerns and to increase public understanding of the *Canada Oil and Gas Operations Act* (COGOA) benefits plan requirement. The Division has now taken on the lead role in the annual rights issuance discussions with northern communities.

Table 6: Exploration Licences

Licence Number	Area (ha)	Representative ¹	Issue date (y.m.d)	Well to be drilled by (y.m.d)		Expiry date (y.m.d)	Work bid amount (in \$)
Beaufort Sea/Mackenzie Delta							
EL317 ²	175,810	Talisman Energy Inc.	1986.10.05	n/a			n/a
EL329 ²	349,982	BP Canada Energy Resources	1987.09.05	n/a			n/a
EL384 ³	53,961	Encana Corporation	1997.01.06	2006.01.05	✓	2006.01.05	-
EL394	73,155	Chevron Canada	1999.09.18	2004.09.17	✓	2008.09.17	42,375,000.00
EL406	72,523	Petro-Canada	2000.08.15	2005.08.14	✓	2009.08.14	81,876,595.88
EL418	37,436	Devon ARL Corporation	2002.05.14	2007.05.13		2011.05.13	1,100,000.00
EL419 ⁴	72,311	Petro-Canada	2002.04.18	2004.09.17	✓	2008.09.17	105,293,760.00
EL420 ⁴	338,469	Devon ARL Corporation	2002.08.15	2005.08.15		2009.08.14	224,069,655.56
EL427-404 ⁴ Area "A"	73,608	BP Canada Energy Co.	2004.09.20	2005.08.14	✓	2009.08.14	151,758,288
EL427-417 ⁴ Area "B"	18,912	Chevron Canada Resources Ltd.	2004.09.20	2007.05.13		2011.05.13	
EL427-422 ⁴ Area "C"	56,057	Chevron Canada Resources Ltd.	2004.09.20	2009.06.07	✓	2013.06.07	
Mainland – Central Mackenzie Valley							
EL397	134,565	Husky Oil Operations	2000.08.01	2004.07.31	✓	2008.07.31	16,580,000.00
EL399	120,496	Apache Oil	2000.08.01	2004.07.31	✓	2008.07.31	8,400,000.00
EL401	50,188	EOG Resources Canada	2000.08.01	2004.07.31	✓	2008.07.31	12,750,000.00
EL413	80,464	Dual Exploration Inc.	2001.09.18	2005.09.17	✓	2009.09.17	2,000,000.00
EL414	84,880	Apache Oil	2001.09.18	2005.09.17	✓	2009.09.17	10,750,000.00
EL421	79,668	Cdn.Forest Oil Ltd.	2003.05.28	2007.05.28		2011.05.28	1,108,650.00
EL423	90,632	Husky Oil Operations	2004.06.08	2008.06.07		2012.06.07	24,800,000.00

Licence Number	Area (ha)	Representative ¹	Issue date (y.m.d)	Well to be drilled by (y.m.d)	Expiry date (y.m.d)	Work bid amount (in \$)
EL424	80,608	Paramount	2004.06.08	2008.06.07	2012.06.07	8,100,000.00
EL425	27,230	Petro-Canada	2004.06.08	2008.06.07	2012.06.07	22,000,000.00
EL426	36,728	Paramount	2004.06.08	2008.06.07	2012.06.07	8,100,000.00
EL428	81,008	Apache Oil	2005.05.18	2009.05.17	2013.05.18	3,200,000.00
EL429	82,880	BG Canada Exploration and Production, Inc.	2005.05.18	2009.05.17	2013.05.18	12,500,000.00
EL430	51,637	Paramount	2005.05.18	2009.05.17	2013.05.18	3,510,000.00
EL431	78,516	Petro-Canada	2005.05.18	2009.05.17	2013.05.18	2,787,792.16
EL432	64,048	BG Canada Exploration and Production, Inc.	2005.05.18	2009.05.17	2013.05.18	4,000,000.00
EL433	88,004	Petro-Canada	2005.05.18	2009.05.17	2013.05.18	32,128,044.96

¹ These representatives are current to date of draft i.e. February 2006

² Under work prohibition orders.

³ Land exchange for Cape Bathurst former permits.

⁴ Consolidation per s. 25(3) of the *Canada Petroleum Resources Act*

Note that on consolidated licences, one well may not be sufficient to hold all lands in the licence, depending on the terms and consolidation.

√ Well requirement met as of year end. The drilling of one exploratory or delineation well prior to the end of Period 1 of the term is a condition precedent to obtaining tenure to Period 2. Other drilling requirements may be required for licences issued in exchange of former permits.

Environmental Considerations

Consultations

Before issuing a Call for Nominations, consultations are held with northern Aboriginal groups to identify areas of environmental sensitivity, including ones holding special interest for cultural or spiritual reasons. The Department of Indian Affairs and Northern Development also consults with

other federal departments, territorial governments, and agencies. Environmental considerations play an important role when issuing land use permits, water licences, and all work authorizations. The terms and conditions of a Call for Nominations and Bids reflect the results of this consultation process.

Environmental Studies Research Funds (ESRF)

Under the *Canada Petroleum Resources Act*, the ESRF finances environmental and social studies related to the exploration and development of oil and gas resources on frontier lands.

Continuing with the resurgence of oil and gas activity in the North, as well as forecasting the

need for continuing state of the art research, the ESRF Management Board continued their study program for 2005, funded by a levy agreed to by industry representatives and approved by the Minister. The study program approved for the North by the ESRF Management Board for 2005 amounts to \$416,522.

EXPLORATION ACTIVITY IN THE NORTH

Northern Operations

Expenditures on oil and gas activities are estimated at \$395 million for 2005, compared with \$184 million in the previous year. The estimate includes costs for exploration, delineation and development drilling; well completion and abandonment; and geophysical and geological programs. New well costs amounted to \$192 million and re-entries of existing wells amounted to \$144 million with the balance of expenditures largely taken up by seismic surveys. New drilling was down, with only thirteen wells,

compared with nineteen in 2004. Eleven of these were classified as exploratory.

Overall, exploration drilling levels were sustained in the Mackenzie Delta, and in the central Mackenzie Valley (Sahtu). In contrast, there was no exploratory drilling in the southern Northwest Territories. In this region, only two new development wells were drilled at the Cameron Hills, a marked drop over the previous year. However, several wells were re-entered for work-overs to stimulate production.

Drilling operations are summarized in Table 7. Total metres drilled in the Northwest Territories (including both exploratory and development wells) dropped slightly to 24,893 m from 28,418 m in 2004. In comparison, 88 percent of drilling was exploratory compared with only 64 percent the previous year. There were no oil and gas drilling operations in Nunavut or the northern offshore.

In the central Mackenzie Valley, exploratory drilling was concentrated near Lac Maunoir, 50 kilometres northeast of the community of Colville Lake. Operator Apache/Paramount drilled 3 wells in this area on EL399. The same operator also drilled two wells on EL 414 near Turton Lake, some 75 kilometres north of Norman Wells. Two wells were also re-entered at the Nogha gas discovery.

On the Mackenzie Plain, 60 kilometres south of the community of Tulita, Husky Energy acting as operator with partners Northrock Resources, EOG Resources Canada, Pacific Roder Energy and International Frontier Resources, drilled 2 wells, one on EL397 and the other on Sahtu private land block M-38. The companies subsequently announced the Summit Creek B-44 well drilled on EL399 to be a discovery with significant flows of both gas and oil. Husky reported tests at combined rates of approximately 20 million cubic feet of gas per day ($567 \times 10^3 \text{ m}^3/\text{d}$) and in excess of 6,000 barrels per day of light oil and condensate ($954 \text{ m}^3/\text{d}$), with 1,000 barrels per day of water ($159 \text{ m}^3/\text{d}$) from one of the two tested intervals. The Summit Creek discovery is the first in the central Mackenzie Valley since Norman Wells was discovered in 1920. (Husky Energy Inc Press Release October 12, 2005)

Five exploratory wells were drilled in the Mackenzie Delta-Beaufort Sea area in 2005. Onshore, three exploratory wells (Olivier H-01, 2H-01 and 3H-01) were directionally drilled by Chevron from the same well pad on EL427 (western Richards Island). On the northeastern Mackenzie Delta, Encana followed up their 2004 drilling program with a second Umiak well on EL384.

In December, Devon Canada commenced an offshore well in the Beaufort Sea at the Paktoa well site on EL420. This well is the first to be drilled offshore in the Beaufort Sea in sixteen years. To drill the well Devon reconditioned and mobilized the Steel Drilling Caisson (SDC) offshore drilling unit. This was towed onto location in Fall of 2005 and ballasted down onto the seabed to await formation of land-fast ice prior to commencing drilling at year end. Water depth at the well site is 13.2 metres.

Drilling operations (re-entries) commenced December 28, 2004 in the southern Northwest Territories, with new wells commenced on January 31 in the central Mackenzie Valley and on December 19, 2004 in the Mackenzie Delta. Winter drilling operations ended on April 6, 2005 in the central Mackenzie Valley. Drilling operations on the Mackenzie Delta were suspended on April 23.

Twelve industry geophysical and geological programs were authorized by the National Energy Board in 2005. This total comprised six field seismic acquisition programs totaling 564 km of 2-dimensional (2D) in four programs and 635 km² of 3D seismic in two programs. In addition, one geotechnical program, three geological field parties and two gravity surveys were authorized. The geological/geophysical programs are summarized in Table 8.

Table 7: Drilling Statistics - 2005

WELL NAME	LAT	LONG	CLASS ¹	Total Depth (m)	Meters drilled in 2004	Begun	Rig Released	STATUS ²	RIG	LICENCE ³
Southern Territories										
PARAMOUNT ET AL CAMERON 2F-73	60.0401	-117.4914	D	1558	1562	6-Mar-05	17-Mar-05	P&S	Precision 247	PL004
PARAMOUNT ET AL CAMERON 2M-73	60.0479	-117.4922	D	1494	1522	20-Mar-05	28-Mar-05	P&S	Precision 247	PL004
Central Mackenzie Valley										
APACHE PARAMOUNT LAC MAUNOIR A-67	67.2677	-125.1912	E	937	1070	31-Jan-05	22-Feb-05	P&S	Akita 51	EL399
APACHE PARAMOUNT EAST LAC MAUNOIR L-80	67.3285	-124.9969	E	945.8	1221	15-Feb-05	11-Mar-05	P&S	Nabors 8	EL399
APACHE PARAMOUNT TURTON LAKE G-47	65.9403	-126.6381	E	1856.5	1465	24-Feb-05	30-Mar-05	P&S	Nabors 62	EL414
APACHE PARAMOUNT LAC MAUNOIR E-35	67.2410	-125.1211	E	937	1011	26-Feb-05	11-Mar-05	P&S	Akita 51	EL399
APACHE PARAMOUNT TURTON LAKE L-23	65.8772	-126.5861	E	1925.5	551	15-Mar-05	30-Mar-05	P&S	Nabors 62	EL414
NORTHROCK ET AL SAH CHOL L-71	64.5348	-125.7423	E	3700	3674	23-Jan-05	26-Mar-05	P&S	Akita 51	M38
Mackenzie Delta										
CHEVRON ET AL OLIVIER H-01	69.1719	-136.0040	E	3510	3480.5	19-Dec-04	9-Apr-05	P&S	Akita 63	EL422
CHEVRON ET AL OLIVIER 2H-01	69.1719	-136.0040	E	3140	3092	10-Mar-05	23-Apr-05	P&A	Akita 63	EL422
CHEVRON ET AL OLIVIER 3H-01	69.1719	-136.0040	E	3140	2696	9-Apr-05	25-Apr-05	P&S	Akita 63	EL422
ENCANA ET AL UMIK N-05	69.4157	-134.2722	E	3625	3549.4	23-Jan-05	8-Apr-05	P&S	Akita 62	EL384
DEVON PAKTOA C-60	69.6525	-136.4867	E	2165		5-Dec-05		P&S	SDC	EL420

¹ Class E=exploratory, D=delineation, P=production

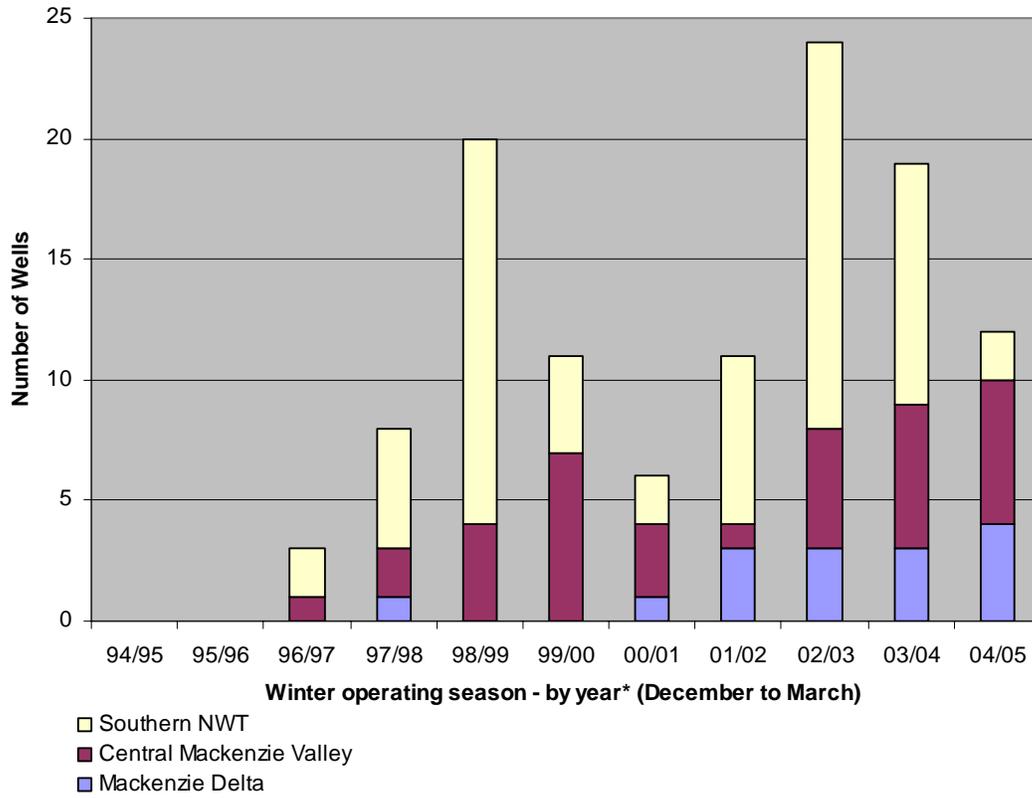
² Status P&S=plugged and suspended, P&A=plugged and abandoned, PR=production

³ Licence EL=Exploration Licence, SDL=Significant Discovery Licence, PL=Production Licence, SA=Sahtu Lands

Table 8: Seismic acquisition

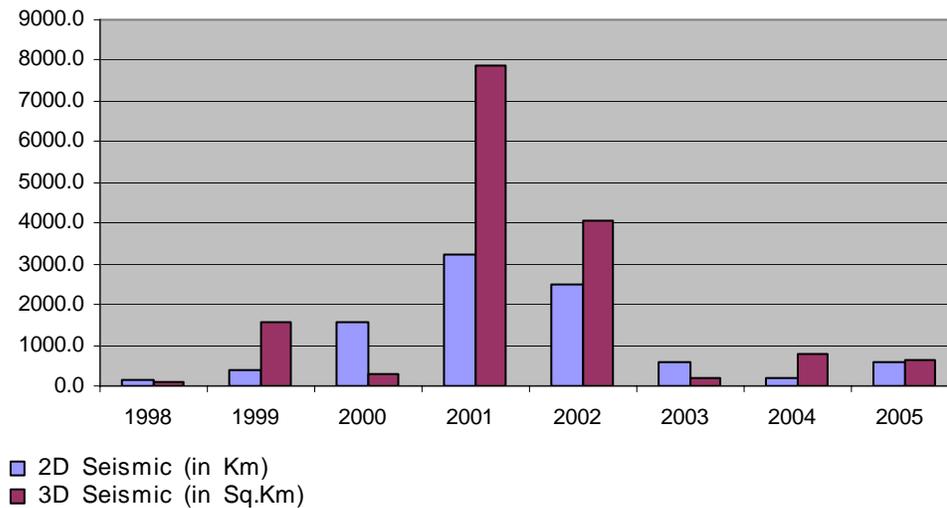
	1998	1999	2000	2001	2002	2003	2004	2005
2D Seismic (in Km)	171.0	381.0	1554.0	3251.0	2506.0	586.0	189.0	564.0
3D Seismic (in Sq.Km)	94.5	485.0	307.0	7893.0	4060.0	194.0	804.0	635.0

Figure 1: Wells drilled



*Excludes Norman Wells development drilling

Figure 2: Seismic acquisition



DEVELOPMENT AND PRODUCTION

At year-end, six fields were on production in the Northwest Territories. No fields were producing from Nunavut or offshore Arctic waters. Of the producing fields, three gas fields and one oil and gas field are located in the southern Northwest Territories. All are operated by Paramount Resources Ltd. One field near Fort Liard (Fort Liard "P-66A") was abandoned during the course of the year. These fields are connected by short trans-border pipelines to connect to the pipeline network in British Columbia for the three remaining gas fields near Fort Liard, and to Bistcho, Alberta for the Cameron Hills field. The large Norman Wells oil field in the central Mackenzie Valley is the northern anchor for the Enbridge Norman Wells oil pipeline which terminates in Zama, Alberta. The Ikhil gas field on the Mackenzie Delta produces gas through

a 50 kilometre pipeline to Inuvik where the gas is used for power generation and heating.

Total natural gas production in the Northwest Territories in 2005 was $467.2 \times 10^6 \text{ m}^3$ (16.5 billion cubic feet), a drop of 34.5 percent over the previous year. This can be mainly attributed to the 60 percent decline in production from the Fort Liard "K-29" field.

Total oil production was $1089.8 \times 10^3 \text{ m}^3$ (6.85 million barrels), a drop of 12 percent over the previous year. Of this amount, 96 percent was from Imperial Oil's Norman Wells field. The overall volume reduction represents the anticipated steady decline from Norman Wells. Paramount's Cameron Hills field in the southern Northwest Territories provided the remaining 4.3 percent.

Table 9: Oil and Gas Production

	2000	2001	2002	2003	2004	2005
Oil Production (thousands of m³)						
Norman Wells (G001 - Imperial Oil)	1434.3	1432.2	1375.4	1254.6	1186.7	1042.6
Cameron Hills (G010 - Paramount)			1.1	28.5	48.6	47.2
Total	1434.3	1432.2	1376.5	1283.1	1235.3	1089.8
Gas Production (millions of m³)						
Norman Wells (G001 - Imperial Oil)	125.6	130.2	123.3	108.6	103.7	102.4
Ikhil (G005 - AltaGas)	10.0	13.2	14.8	15.2	16.1	15.7
Fort Liard (G-006 - "F-36" - Paramount)	66.3	71.8	38.8	16.5	11.2	50.7
Fort Liard (G007 - "K-29" - Paramount)	490.1	1213.6	834.1	680.3	465.4	203.3
Southeast Fort Liard (G009 - "N-01" - Paramount)		33.2	61.9	51.1	48.1	38.8
Cameron Hills (G010 - Paramount)			124.1	98.9	68.5	56.3
Total	769.2	1472.9	1197.0	980.4	713.0	467.2

Figure 3: Oil production

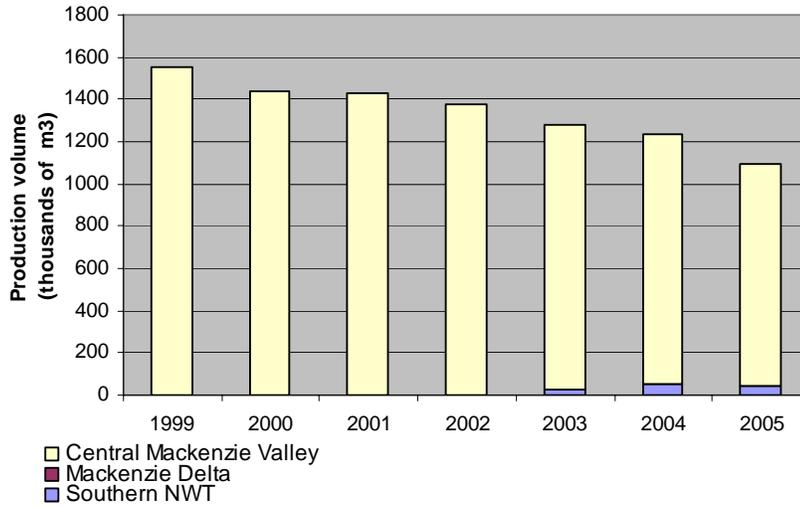


Figure 4: Gas production

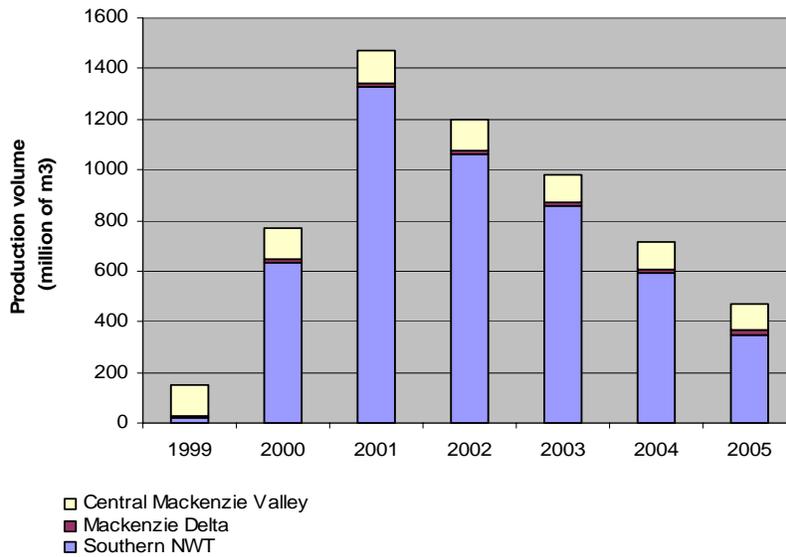
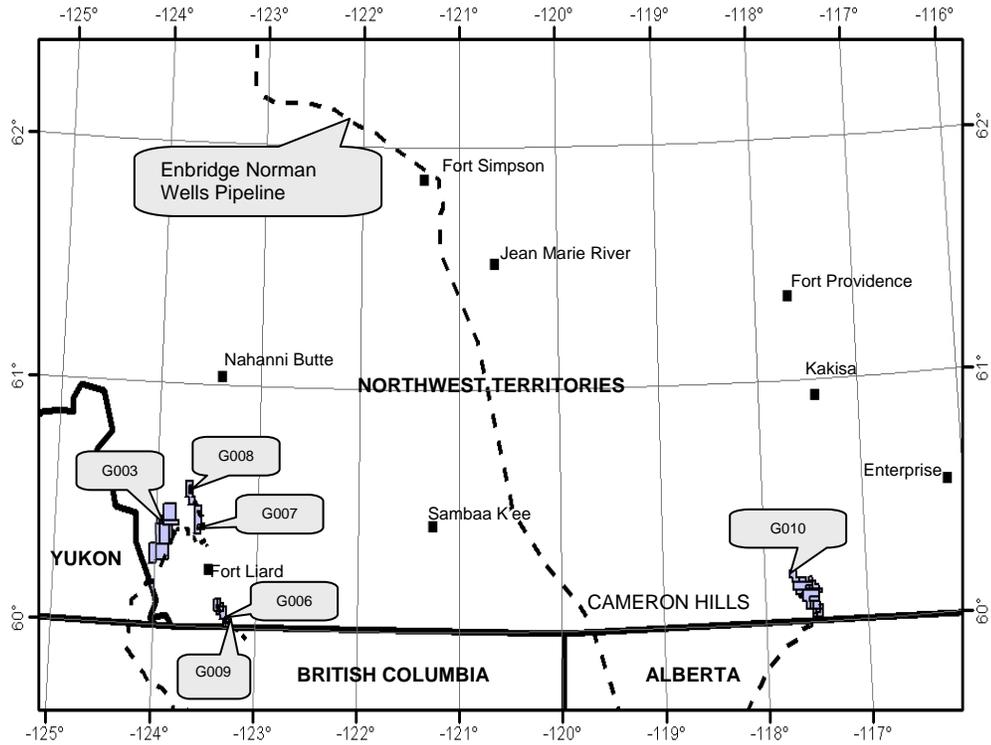


Figure 5: Production fields – Southern Northwest Territories



Field Code	Field Name	Licenses
G003	Pointed Mountain	PPL 01- 09
G006	Paramount Fort Liard "F-36"	PL 07, PL08
G007	Chevron Fort Liard "K-29"	PL09, PL11
G008	Canadian Natural Resources Limited Fort Liard "P-66A"	PL10
G009	Paramount Southeast Fort Liard "N-01"	PL12
G010	Paramount Cameron Hills	PL03-05, PL13-18

ROYALTIES

Royalties paid from northern oil and gas production for the calendar year 2005 were \$16,053,210. This 22 percent decrease in royalties is mainly attributable to lower oil and gas production from the southern Northwest Territories and central Mackenzie Valley.

Higher prices for both oil and gas served to partially offset lower production in determining royalty.

Table 10: Oil and gas revenues & forfeitures (C\$)

	2000	2001	2002	2003	2004	2005
Royalty	13,433,264	24,656,709	21,751,369	24,492,180	20,558,915	16,053,210
Rentals	2,800	993	2,621	978	61,111	66,500
Issuance/ Registration Fees	51,589	12,733	17,800	5,471	8,600	13,500
Work Deposit Forfeitures	1,342,385	0	2,392,150	954,812	16,933,374	26,228,000
Total	14,830,038	24,670,435	24,163,940	25,453,441	37,562,000	42,361,210

Regulatory Amendments

A project is underway to review and modernize the Frontier Lands Petroleum Royalty Regulations. The project's objectives are to identify areas where the regulations could be modernized to better meet today's

operating practicalities, to strengthen royalty accountability and assurance, improve fairness, and streamline royalty administration.

Audits and Assessments

One new audit was initiated in 2005. A second audit initiated in 2004 was also still ongoing.

One assessment was issued in the year based on an audit completed in 2004.

Royalty Administration

The initiative to develop of a new web-based royalty management system, including the redesign and streamlining of the royalty forms,

was ongoing. Industry representatives are active participants in both projects which are to be completed in 2007.

FURTHER INFORMATION

Northern Oil and Gas Branch

Please check our website first at www.ainc-inac.gc.ca/oil

Many sources of information on oil and gas, environmental, and land use matters originate with the Department of Indian Affairs and Northern Development. To obtain specific information, please include the appropriate contact listed in the sources below with the general mailing address for the department.

Mailing address:

Northern Oil and Gas Branch
Oil and Gas Management Directorate
Department of Indian and Northern Affairs
OTTAWA ON K1A 0H4

Courier only:

Northern Oil and Gas Branch
Oil and Gas Management Directorate
10th Floor, 25 Eddy Street
GATINEAU QC K1A 0H4
Telephone: (819) 997-0877
Fax: (819) 953-5828
Internet: <http://www.ainc-inac.gc.ca/oil>

Information on the resource management regime, calls for nominations and bids, and other related information: Land Tenure – Telephone: (819) 997-0221

Information on registration procedures and regulations, exploration, significant discovery and production licences, transfers, notices, and maps: Rights Administration/Registrar – Telephone (819) 953-8529

Information on northern exploration history and geological / geophysical activities: Senior Petroleum Geologist – Telephone: (819) 953-8722

Information on Benefits Plan requirements associated with new exploration programs on land in the Northwest Territories is available from the department's Northwest Territories Regional office – Telephone (867) 669-2618; and for Nunavut and northern offshore, the information is available from the Oil and Gas Management Directorate – Telephone (819) 994-0348.

Information on royalty policy and royalty submissions: Manager, Fiscal Policy and Royalty Administration – Telephone: (819) 953-9488

Petroleum Development and Benefits Division
Northwest Territories Regional Office
Department of Indian and Northern Affairs
4914-50th Street, P.O. Box 1500
YELLOWKNIFE NT X1A 2R3
Telephone: (867) 669-2618 / Fax: (867) 669-2409

Other Sources of Information

Through the offices of the National Energy Board at the address below, information on the following is available

- The Regulatory Support Office has information on exploration, development, production, pipeline transportation, and export.
- The Frontier Information Office provides access to maps, technical information, geological and geophysical reports, well history reports and records.
- The Environmental Directorate provides the Secretariat for the Environmental Studies Research Funds Management Board.

National Energy Board (NEB)
444 Seventh Avenue SW
CALGARY AB T2P 0X8
Telephone: (403) 292-4800
Fax: (403) 292-5503

Geological Survey of Canada Calgary provides public viewing and sampling facilities for cores and samples, and information on wells drilled north of 60°N at its offices at:

Geological Survey of Canada Calgary
3303-33rd Street NW
CALGARY AB T2L 2A7
Telephone: (403) 292-7000
Fax: (403) 292-5377

Information on wells drilled in the Baffin Bay – Davis Strait region is available from:

Iris A. Hardy, Curator National Marine Geoscience Collection
Geological Survey of Canada Atlantic
Core Storage and Laboratory
Bedford Institute of Oceanography
P.O. Box 1006
DARTMOUTH NS B2Y 4A2
Telephone: (902) 426-6127
Fax: (902) 426-4465
Email: ihardy@nrcan-rncan.gc.ca