



# NWT Oil and Gas Annual Report 2015





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## Minister's Message

I am pleased to present this report of oil and gas activities in the Northwest Territories for the year ending December 31, 2015.

2015 saw a marked slowdown in activity in the NWT oil and gas sector, the result of low oil and gas prices and associated uncertainty and instability in all areas of the global petroleum market place. Few producing jurisdictions were immune to the impact of low prices, and the NWT was no different.

With the administration of NWT petroleum lands firmly in the hands of the Government of the Northwest Territories through its Petroleum Resources Division in Inuvik, much of the work focused on processes and policies. In taking a look at the essential building blocks, we are looking forward to implement the key elements needed to ensure the future strength of the territorial oil and gas sector during this period of transition.

In many ways, having the time to step back and re-examine our processes and policies comes at an opportune moment. We have the understanding of what needs to be done, the people in place to make the change happen, and the luxury of time to create the sector we envision for the future benefit of all NWT residents.

The NWT will continue to look ahead, to move ahead, and to improve upon what has come before. Preparing for the future now will ensure we are in a solid position to take advantage of the next upswing in oil and gas prices and associated increase in oil and gas investment and activity in the NWT.

Robert R. McLeod  
Minister, Industry, Tourism and Investment  
May 2016



## NORTHWEST TERRITORIES OIL AND GAS PROGRAM SUMMARY

### OVERVIEW

With a slowdown in the oil and gas sector around the world, the NWT focused attention on creating a solid foundation and identifying the areas where improvements and changes could be made to pave the way for the sector in the years ahead.

Much of the information known about the true potential of the NWT has never been in doubt, but much of what was stated was based on estimation and the information known about how other similar shale plays have produced in recent years. The NWT Geological Survey (NTGS), in collaboration with the National Energy Board (NEB) had focused their efforts on conducting a number of resource assessments of the oil and gas potential of the NWT, starting first with the Central Mackenzie Valley — where the greatest interest had been shown by exploration companies over the last five years. In June 2015, the joint assessment indicated that the median estimate of unconventional oil-in-place reserves stood at 191 billion barrels of oil in the Canol and Bluefish shale basins.

In light of little activity in the sector in 2015, much of the work focused on the behind-the-scenes issues, including the NWT Environmental Studies Research Fund (ESRF). A fund designed to support research into the impacts of oil and gas exploration in the NWT, ESRF is funded by all interest holders in the NWT — those holding Exploration Licences, Production Licences, and Significant Discovery Licences.

The establishment of the Management Board, a five-member panel that determines the research priorities of the fund, sets the budget, and establishes the policies and practices ESRF would follow in the future. The Management Board, which held its first official meeting on September 29, 2015, consists of representatives from industry, the public sector and the general public, all with the required technical knowledge and/or experience to fulfill the mandate of the fund.

On other fronts, the GNWT began work developing an Oil and Gas Strategy, designed to reinforce its commitment to petroleum resource development in the NWT in a responsible, sustainable, and forward-looking manner. Building upon the successes of the past and the knowledge and understanding of the sector of those who work within it, this document will firmly guide the sector forward — even in such challenging times as the present.

### 2015 IN BRIEF

#### *Rights Management*

A Call for Bids was launched on January 30, 2015 and closed on June 2, 2015 for two parcels in the Central Mackenzie Valley. No bids were received.



There was no Call for Bids process launched for the Mackenzie Delta/Arctic Islands.

### ***Operations***

There were no new wells drilled in the NWT between April 1 and December 31, 2015.

There was no seismic work conducted in the NWT between April 1 and December 31, 2015.

### ***Production***

The total aggregate oil production between April 1 and December 31, 2015 was 4.2 million barrels. The total aggregate natural gas production in the NWT was 130,397 cubic feet between April 1 and December 31, 2015.

### ***Northwest Territories Environmental Studies Research Fund (NWT ESRF)***

The NWT Environmental Studies Research Fund (ESRF) took great strides forward in 2015, establishing its Terms of Reference, governance structure, and the Management Board. The five-member Management Board includes representatives from the oil and gas industry, territorial government and the general public, and is tasked with developing the research priorities and budget for the fund going forward. The first meeting of the NWT ESRF Management Board was held in September 2015 at Yellowknife.

### ***Northwest Territories Oil and Gas Strategy***

The Strategy will include the key elements that are required for a sustainable oil and gas sector in the territory that will enhance the prosperity of NWT residents, including transportation infrastructure, community education and outreach, marketing and promotion, resource characterization, land claim resolution and other factors that have constrained development of NWT's prodigious conventional and unconventional petroleum resources.

Focus group sessions were held with a cross-section of individuals from around the NWT, including residents, Aboriginal and municipal governments, business owners, oil and gas sector representatives, and environmental non-government organizations. Sessions were held in Inuvik, Norman Wells, Yellowknife, Fort Simpson, Hay River and Calgary between December 2014 and February 2015 to assist with the Strategy.

In addition to these focus group sessions, ITI created an online public survey, which was widely publicized and open to the public. The survey was made available from March 27 to April 30, 2015. In total, 169 individuals from the NWT completed the online survey.

A draft of the strategy was completed in December 2015. Work to finalize the NWT Oil and Gas Strategy is expected to continue in 2016 under the 18<sup>th</sup> Legislative Assembly.

## OIL AND GAS RESOURCES

There has been little doubt of the potential offered by oil and gas resources in the NWT, and in recent years there has been extensive work done by the National Energy Board (NEB) and now by the NWT Geological Survey, which was renamed (previously known as the NWT Geoscience Office) on April 1, 2015.

In November 2014, the NEB released an updated assessment of the conventional oil and gas reserves of the NWT, the first assessment of its kind conducted since 1999. Its findings indicated that natural gas estimates for the onshore and Beaufort Delta region were up by 40

TYPE	NWT Onshore	Arctic Islands	TOTAL
<b>Natural Gas</b>			
billion m <sup>3</sup>	213.8	75.2	289.0
(trillion cubic feet)	(7.6)	(2.6)	(10.2)
<b>Natural Gas</b>			
<b>Liquids</b>			
million m <sup>3</sup>	8.3	0.0	4.9
(million barrels)	(52.1)	(0.0)	(31.0)
<b>Oil</b>			
million m <sup>3</sup>	84.1	8.3	89.0
(million barrels)	(529.4)	(52.1)	(560.4)

National Energy Board, *Assessment of Discovered Conventional Petroleum Resources in the Northwest Territories and Beaufort Sea*, November 2014

In June 2015, the NEB and the NTGS released a joint energy briefing note entitled *An Assessment of the Unconventional Petroleum Resources of the Bluefish Shale and the Canol Shale in the Northwest Territories*, the first publicly released study examining the unconventional oil-in-place resources for the Bluefish Shale and Canol Shale basins, both located in the Mackenzie Plain.

The publication indicated that the unconventional oil-in-place reserves median estimate stood at 191 billion barrels of oil in the Canol and Bluefish shale basins.

**Table 2: Unconventional resource assessments of Canol and Bluefish shale**

billion cubic metres (billion barrels)	In-Place		
	Low	Expected	High
Bluefish	4.392 (27.634)	7.366 (46.346)	11.254 (70.808)
Canol	13.129 (82.605)	23.018 (144.825)	35.095 (220.811)

National Energy Board, *An Assessment of the Unconventional Petroleum Resources of the Bluefish Shale and the Canol Shale in the Northwest Territories*, June 2015

## OIL AND GAS MANAGEMENT

### RIGHTS ISSUANCE

In 2015, the Government of the Northwest Territories administered its 2014/2015 Call for Bids process, which was officially launched on January 30, 2015. When the Call for Bids process closed on June 2, 2015, no bids were received for the Central Mackenzie Valley.

Following the structure and process set out by the Government of Canada in previous years, the GNWT intends to manage rights issuance processes on an annual basis. However, due to the timing of the territorial elections on November 23, 2015, the GNWT decided to postpone its 2015/2016 rights issuance process. Furthermore, GNWT is moving to an always-open call for nominations with an annual reminder to proponents to submit nominations rather than having a separate “Call for Nominations” process with a start date and end date. More will be reported on this policy change in the 2016 Annual report, once this policy has been implemented.

### *Petroleum land disposition in the NWT*

The following series of charts show the current petroleum land dispositions in the NWT, all of which were transferred over from the Government of Canada as a result of the devolution process in 2014. In total, 126 licences (Exploration Licences, Production Licences, Significant Discovery Licences, Petroleum Land Leases) were transferred to the Government of the NWT, representing more than 1.58 million hectares in petroleum lands that are now managed by the GNWT.



**Table 3: Land Disposition as of December 31, 2015**

Region (number of interests)	Exploration Licence	Significant Discovery Licence	Production Licence	Petroleum Land Lease
Mackenzie Delta and Arctic Islands	0	38	2	0
Central Mackenzie Valley	15	11	0	0
Southern Northwest Territories	0	31	21	8

Region (hectares)	Exploration Licence	Significant Discovery Licence	Production Licence	Petroleum Land Leases
Arctic Islands	0	10,219	0	0
Mackenzie Delta	0	116,031	3,423	0
Central Mackenzie Valley	1,280,375	52,725	0	0
Southern Northwest Territories	0	65,729	32,842	21,107
<b>TOTAL</b>	1,280,375	244,704	36,265	21,107

These leases and licences were issued under former legislative regimes pursuant to Sections 99 and 101 of the *Petroleum Resources Act*.

### ***Issuance and Terminations***

There were no licences issued or terminated in 2015.

One Production Licence, held by Strategic Oil and Gas, was extended for an additional five years, extending its term to February 12, 2020. The extension was approved by the Minister under the conditions set out in Section 42(4) of the *Petroleum Resources Act*.

### ***Exploration Licences***

There were no Exploration Licences awarded in 2015. One Exploration Licence held by Husky Oil was amended to provide the company the ability to keep the interest in its Period 1 status and not be subject to forfeiture of its outstanding Work Bid Deposit, given that Husky completed the drilling requirement for Period 1.

### ***Oil and Gas Leases***

The Petroleum Resources Division maintains a public registry of all petroleum interests and instruments registered under Part 8 of the *Petroleum Resources Act*. The registry stands as the official record of rights holders, and any transfers or changes of ownership are to be duly recorded. A monthly activity report is available at <http://www.iti.gov.nt.ca/en/services/oil-and-gas-rights-management/oil-and-gas-activity-reporting>

The following series of maps show the locations of all current interests on petroleum lands that were held in the NWT both onshore and offshore as of December 31, 2015.

**Figure 1: Mackenzie Delta/Arctic Islands Petroleum Land Disposition Map**

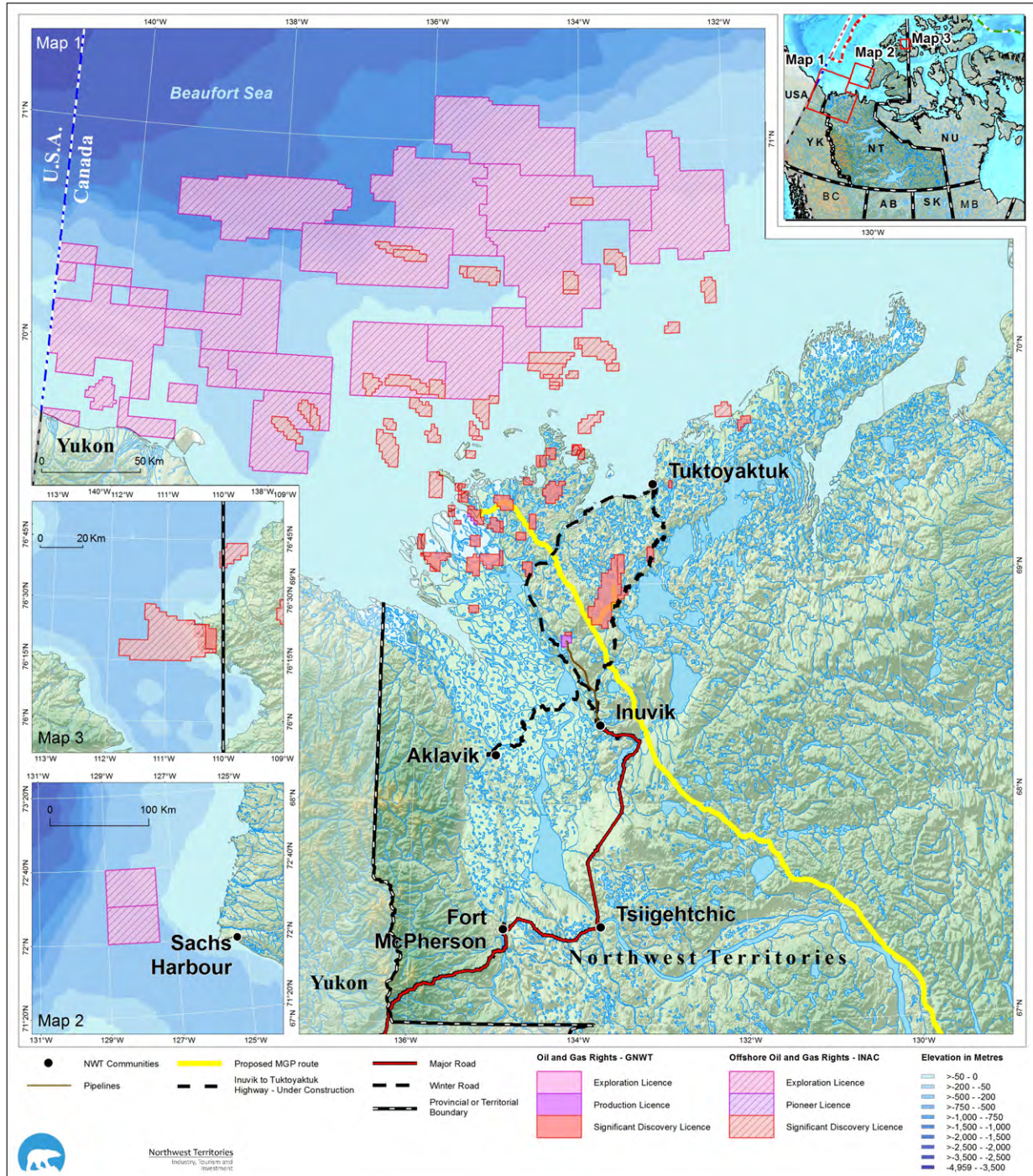


Figure 2: Liard Basin Land Disposition Map

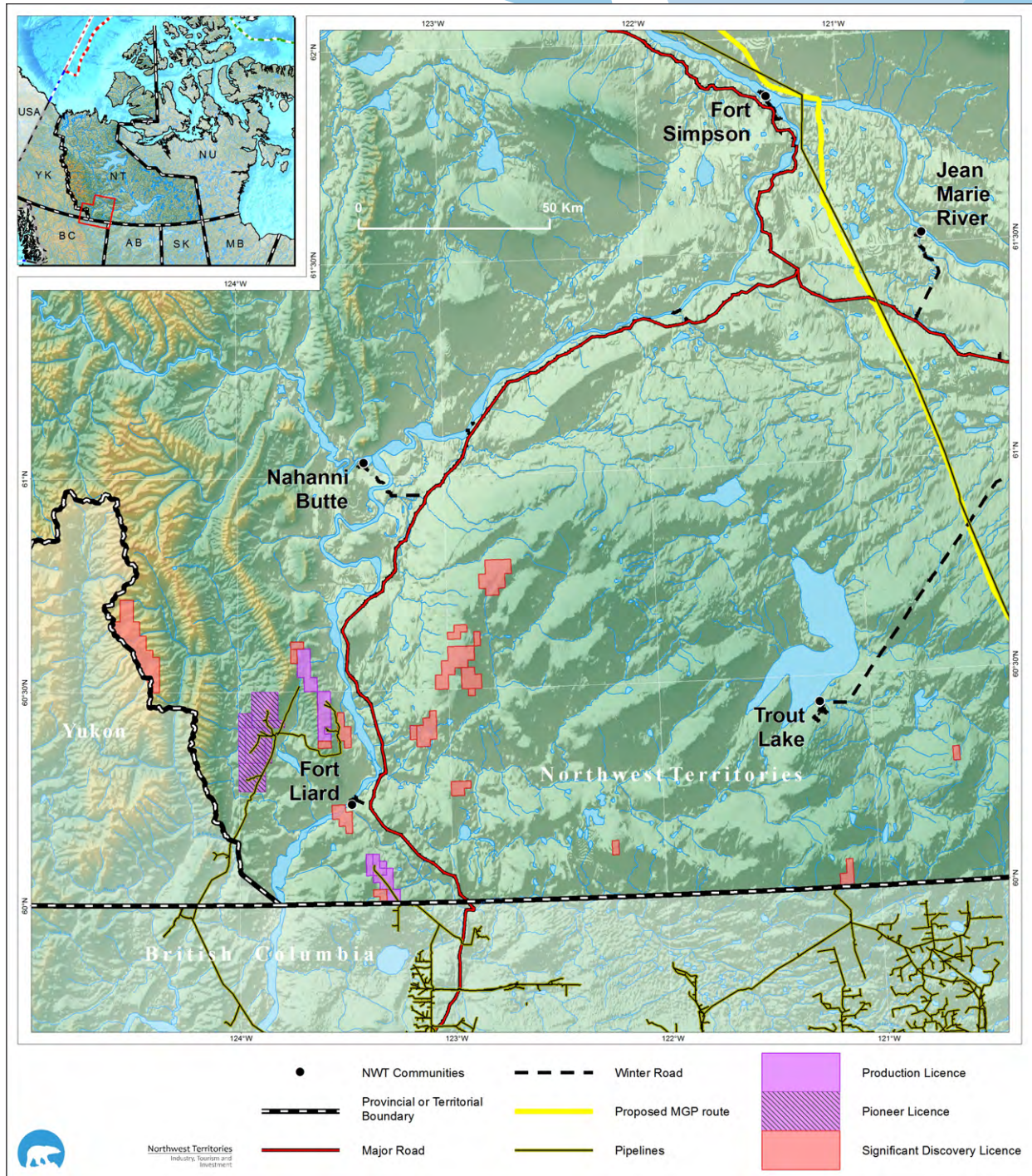


Figure 3: Norman Wells Land Disposition Map

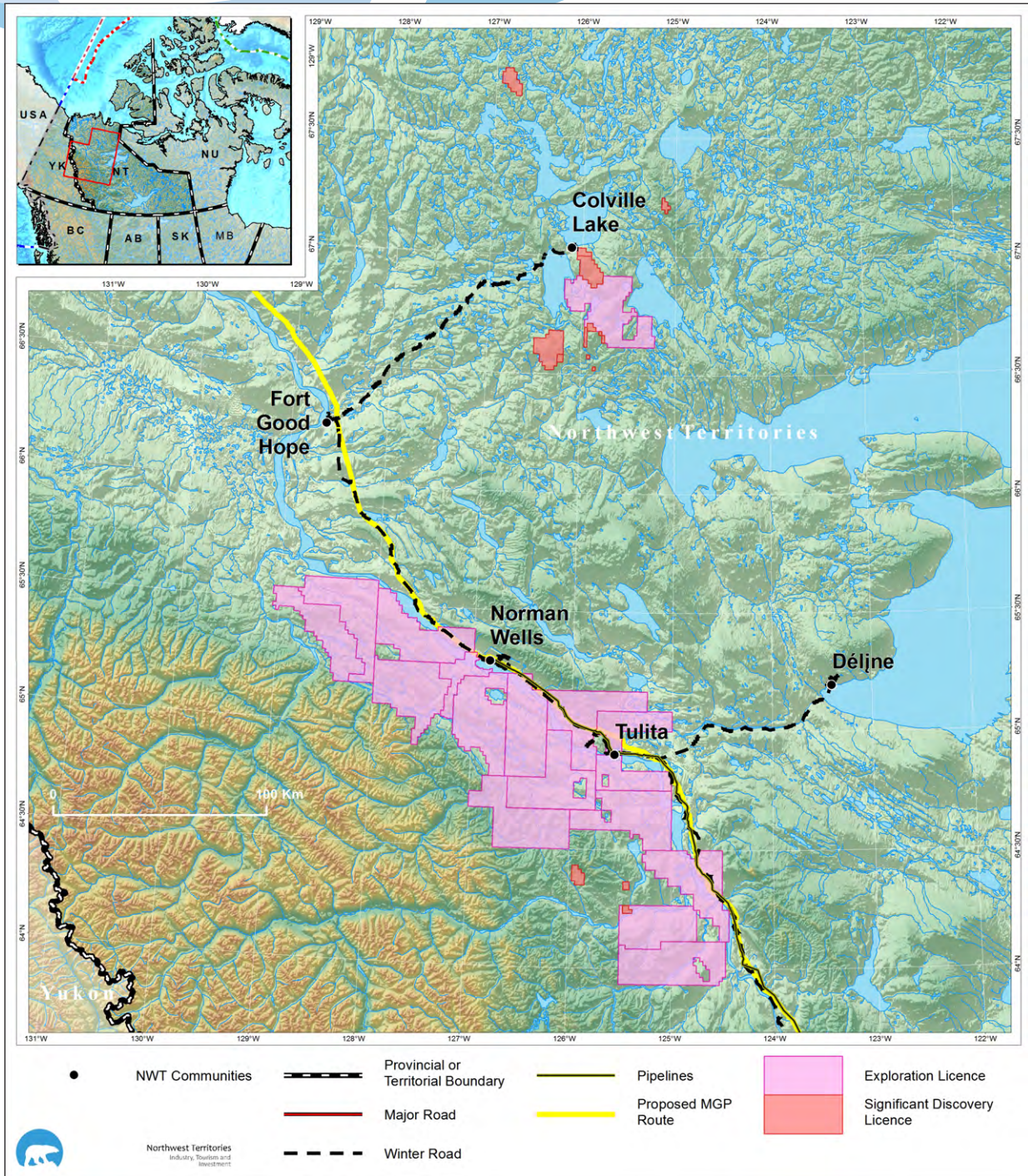
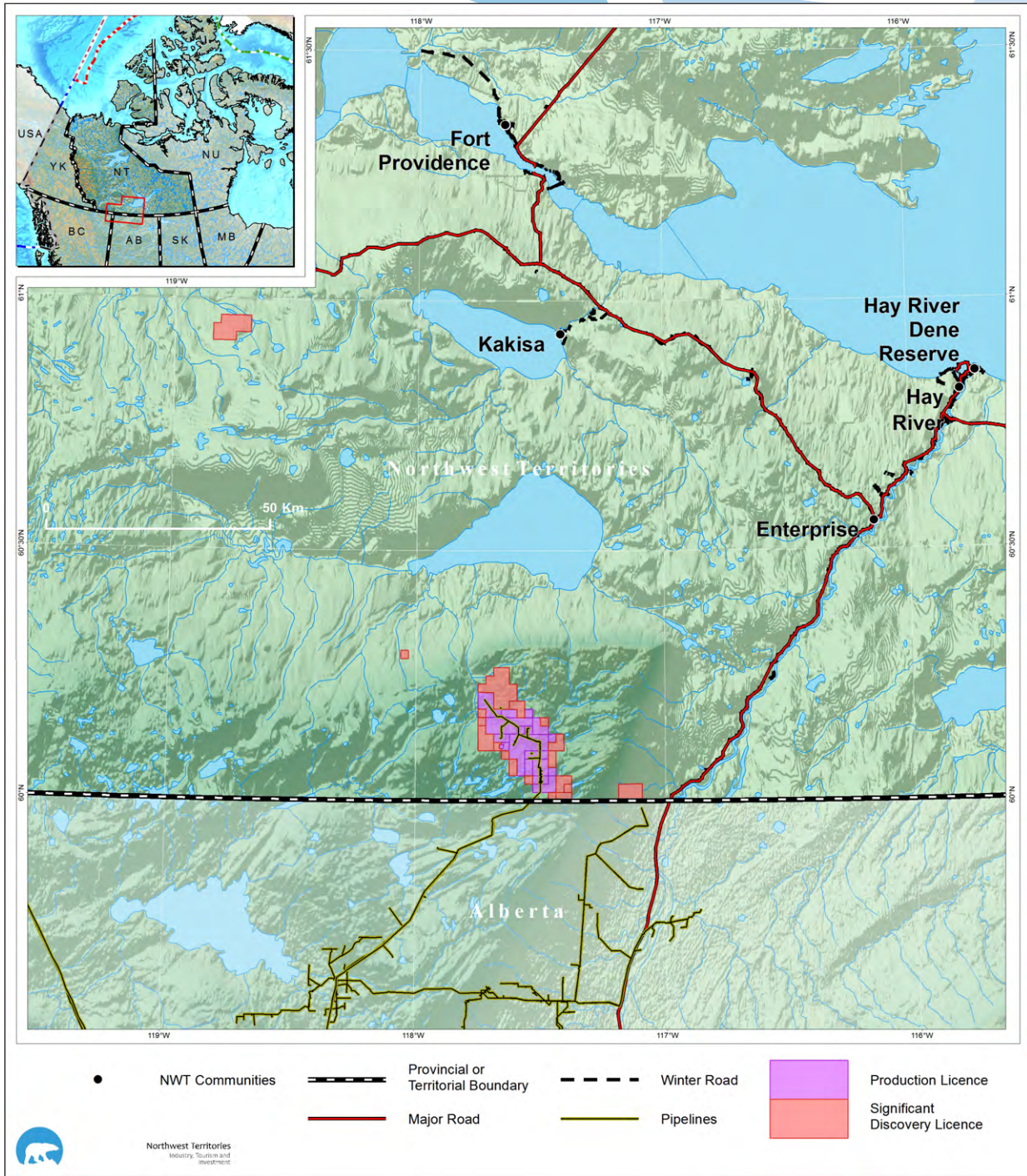


Figure 4: Cameron Hills Land Disposition Map



**Table 4: Exploration Licences in the NWT**

Licence	Hectares	Representative	Issue Date	End of Period 1	Expiry Date	Work Proposal Bid (\$)
EI455	80,240	MGM Energy Corporation	5/1/2011	4/1/2016	4/1/2020	1,699,990
EL466B	82,100	MGM Energy Corporation	15/01/2011	9/5/2012	9/7/2016	5,487,626
EI467	87,948	Shell Canada Limited	20/12/2011	19/12/2016	19/12/2020	18,296,208
EI468	87,117	Shell Canada Limited	20/12/2011	19/12/2016	19/12/2020	18,098,660
EI469	26,533	Shell Canada Limited	20/12/2011	19/12/2016	19/12/2020	7,049,269
EI470	87,495	ConocoPhillips Canada Resources Limited	20/12/2011	19/12/2016	19/12/2020	66,712,035
EI471	88,848	Imperial Oil Resources Ventures Limited	20/12/2011	19/12/2016	19/12/2020	5,375,000
EI472	90,632	Imperial Oil Resources Ventures Limited	20/12/2011	19/12/2016	19/12/2020	5,375,000
EI473	82,643	MGM Energy Corporation	20/12/2011	19/12/2016	19/12/2020	1,512,122
EI474	86,602	MGM Energy Corporation	20/12/2011	19/12/2016	19/12/2020	1,502,503
EI475	85,288	MGM Energy Corporation	20/12/2011	19/12/2016	19/12/2020	2,021,213
EI486	69,649	Shell Canada Limited	18/12/2012	17/12/2017	17/12/2021	76,864,864
EI487	84,504	Shell Canada Limited	18/12/2012	17/12/2017	17/12/2021	15,276,444
EL494A	87,748	Husky Oil Operations Limited	29/08/2013	29/08/2016	28/08/2020	188,000,000
EL494B	87,034	Husky Oil Operations Limited	29/08/2013	29/08/2016	28/08/2020	188,000,000
EI495	65,994	International Frontier Resources	16/3/2014	15/03/2019	15/3/2023	1,200,000
<b>TOTAL:</b>	<b>1,280,375</b>					

<sup>1</sup> Current representative as of December 31, 2015

<sup>2</sup> This date is as per the terms and conditions of the original licence.

<sup>3</sup> All amounts rounded to the nearest dollar.

√ indicates that a well has been drilled on the lands under licence and are eligible to move into Period 2.

## **Revenues from Administration of Interests**

Following the completion of a rights issuance process, successful bidders for Exploration Licences are required to post 25 percent of the Work Proposal Bid before the interest can be issued. Referred to as the Work Deposit, this amount is refundable as expenditures incurred through the Period 1 term of the licence. Approved expenditures are refunded to the interest holders at the prorated amount of 25 percent of the total amount of expenditures. Any work balance remaining at the end of Period 1 of an Exploration Licence is forfeited.

Provided an interest holder meets all terms and conditions set out in the Exploration Licence and is able to maintain the licence for an additional four years, they are then required to pay rental fees. As with Work Deposits in Period 1, rental fees are refundable as expenditures are incurred on a dollar-for-dollar basis.

Financial deposits held for Period 1 work as of December 31, 2015 amounted to \$138,677,721.38.

**Table 5: Revenues from Administration of Interests (\$)**

	2011	2012	2013	2014	2015
Non-refundable rentals (leases)	53,195	53,195	53,195	52,202	52,202
Fees	35,487	43,497	8,832	106	1,432
Forfeitures	25,784,658	1,631,597	50,000	0	0

### **Fees**

There were no forfeitures between January 1 and December 31, 2015. During this same period, a total of \$52,202.00 in non-refundable fees on lands under Petroleum Land Leases were paid.

Administrative fees, generally related to information requests made to the NWT Registry and other transactions, totaled \$1,432.00.

### **Rentals**

There were no rental fees paid between January 1 and December 31, 2015.



## **Benefits**

By definition, a Benefits Plan refers to an employment plan for Canadians that also provides Canadian companies with opportunities to supply goods and services to the oil and gas industry. In the NWT, Benefits Plans means training and employment opportunities for residents and new opportunities for Northern businesses by ensuring that as much of the economic spin-offs from work in the NWT stays within the territory.

Section 17 of the *Oil and Gas Operations Act* outlines all requirements of a Benefits Plan – and states that no approval for a proposed work plan can begin until the Minister has approved the Benefits Plan. Reference to the need for a Benefits Plan – as well as the need for ministerial approval – is also referenced in Section 20 of the *Petroleum Resources Act*.

## **EXPLORATION ACTIVITIES IN THE NORTHWEST TERRITORIES**

There was no new exploration drilling in the NWT in 2015, nor was there any development drilling for the same period. Additionally, there were no seismic programs conducted in the NWT during this period.

## **PRODUCTION**

The Cameron Hills field and the Ikhil gas field, while both located in onshore regions of the NWT, are subject to regulation under two distinct bodies – Cameron Hills under the Office of the Regulator of Oil and Gas Operations and Ikhil under the National Energy Board.

Production information in this report spans the period from January 1-December 31, 2015.

### *Ikhil*

Production levels at Ikhil J-35 continue to decline year over year as efforts to conserve reservoir pressure remain in place, with approximately 2.78 million cubic metres (98,352 cubic feet) of natural gas produced during 2015. Gas from this field is used as a back-up system for power generation in Inuvik.

### *Cameron Hills*

The Cameron Hills field only produced during the first two months of the year, and has been shut-in since February 2015 due to low oil prices and lack of an all-season access road. In that time, 63,348 barrels (10,061.8 cubic metres) of oil were produced by Strategic Oil and Gas Ltd.



**Table 6: Production Levels 2011-2015**

<i>Oil thousands of cubic metres (barrels)</i>	<b>Cameron Hills</b>	<b>Norman Wells</b>	<b>Ikhil</b>
2011	20.4 (128,312)	58.8 (369,840)	N/A
2012	15.5 (97,492)	74.1 (466,074)	N/A
2013	16.4 (103,152)	63.8 (401,789)	N/A
2014	8.2 (51,576)	63 (396,293)	N/A
2015	18 (113,216)	57.6 (362,293)	N/A
<i>Gas Production millions of cubic metres (cubic feet)</i>	<b>Cameron Hills</b>	<b>Norman Wells</b>	<b>Ikhil</b>
2011	59.4 (2,097,711)	86.4 (3,051,216)	17 (600,355)
2012	60.9 (2,150,683)	100 (3,531,500)	10 (353,150)
2013	44.5 (1,571,517)	83.8 (2,959,397)	4 (141,260)
2014	24.3 (858,154)	83.8 (2,959,397)	2.3 (81,224)
2015	28.8 (1,017,022)	79.7 (2,814,605)	2.8 (98,175)

<sup>1</sup>Data for Ikhil and Norman Wells courtesy National Energy Board

<sup>2</sup>Data for Cameron Hills from NEB (2011-2014) and Office of the Regulator of Oil and Gas operations for 2015



### *Norman Wells Proven Area*

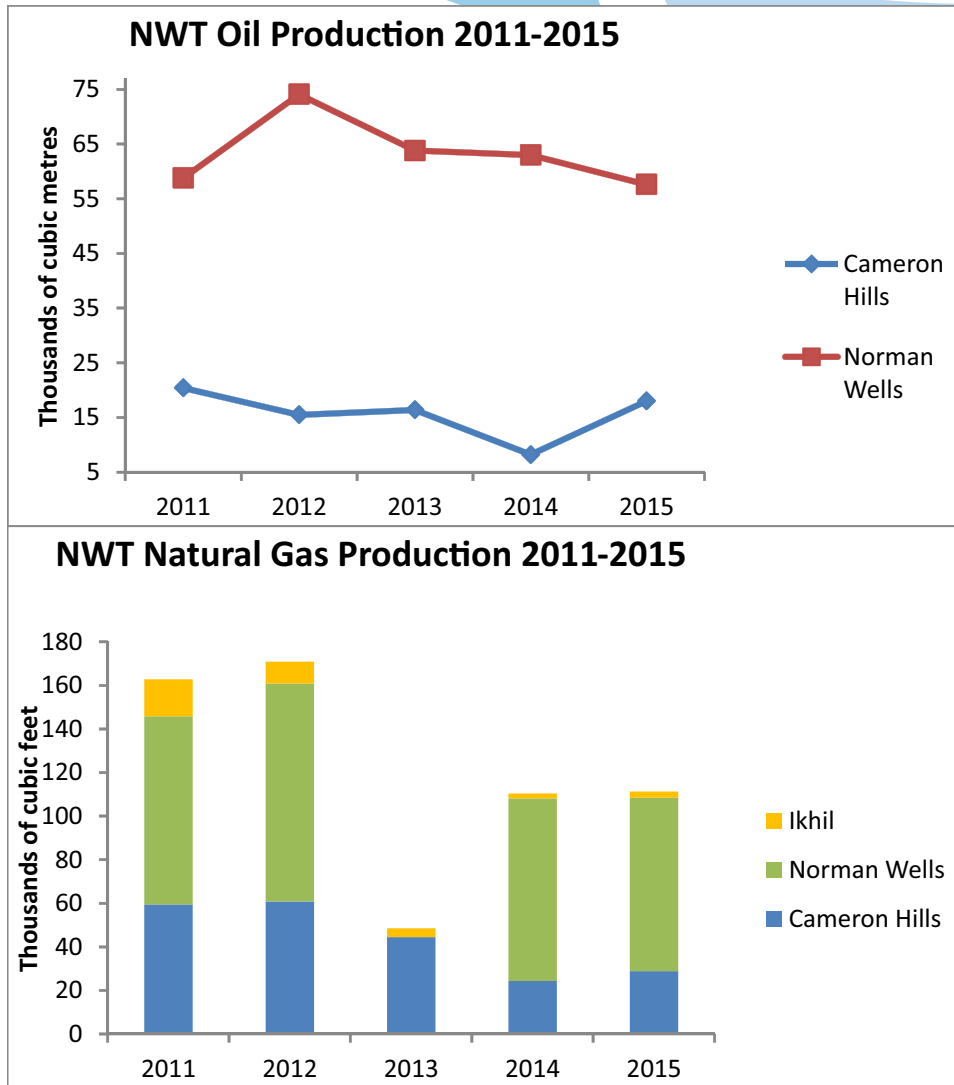
Production continues to decline year after year at Norman Wells, with a nine-percent decrease in output in 2015, with output totaling 3.62 million barrels (576,288.5 cubic metres). This area is still administered by the Government of Canada.

Output from the Norman Wells Proven Area is transported via pipeline to Zama, Alberta. Owned and operated by Enbridge Pipelines (NW) Inc., the system has a capacity of 50,000 barrels per day (bpd). The average throughput in 2015 was approximately 10,000 bpd.

### *Offshore Oil and Gas Activity*

The offshore areas of the NWT remain the responsibility of the Government of Canada. As per the terms of the *Northwest Territories Lands and Resources Devolution Agreement*, negotiations to transfer the administration of the offshore areas were to begin within 60 days of the execution of the *Devolution Agreement*. To date, those negotiations have not yet commenced.

Figure 7: NWT Production Volumes, 2011-2015





**FURTHER INFORMATION**

**PETROLEUM RESOURCES DIVISION**

Please visit our website at [www.nwtpetroleum.com](http://www.nwtpetroleum.com)

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Information on registration procedures and regulations, exploration, significant discovery and production licences, transfers and notices: Registrar, Oil and Gas Rights: Telephone (867) 777-7476

Information on Petroleum Resources Division maps and Geographic Information System (GIS) data: Telephone (867) 777-7483

Information on royalty policy and royalty submissions: Manager, Petroleum Royalty Administration: Telephone (867) 767-9207 ext. 63139





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