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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	1: Introduction
SUBJECT	1: Purpose

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## **PURPOSE OF APPLICATION**

This is an application for quarrying permits under Section 12 of the *Territorial Quarrying Regulations*. It is being submitted to Indian and Northern Affairs Canada (INAC), pursuant to Section 8 of the *Territorial Lands Act*, by Imperial Oil Resources Ventures Limited (Imperial).

The activities in this application pertain to the borrow sites that will be required in the Inuvialuit Settlement Region (ISR) and Gwich'in Settlement Area (GSA) on Crown land in the Northwest Territories for the Mackenzie Gas Project (the project). The map listed in Appendix C shows the proposed Crown borrow sites in the ISR and GSA.

The application is intended to permit removal of material from each borrow site for the period of time indicated for each site (see [Table 1-5](#) and [Table 1-6](#)).

This application is part of a suite of applications that are being submitted by Imperial which include:

- applications to the Inuvialuit Land Administration (ILA), and Indian and Northern Affairs Canada (INAC) for land use activities in the ISR
- applications to the National Energy Board (NEB) to permit the construction and operation of the gathering system and a natural gas transmission pipeline for the project
- land use applications to the Mackenzie Valley Land and Water Board (MVLWB) for development activities in the Mackenzie Valley
- applications to the Inuvialuit Land Corporation and Gwich'in Tribal Council to permit borrow site activities in the ISR and GSA on private land
- applications to the Gwich'in Land Use Planning Board (GLUPB) for an amendment and an exception to the approved land use plan for the GSA

In addition to the applications, an environmental impact statement (EIS) has been filed with the Joint Review Panel (JRP) for the project. The EIS addresses the biophysical and human environment aspects of the entire project, including this application.

## **LAND USE PLAN CONFORMANCE**

Some of the proposed borrow site development activities located in the GSA will take place on lands that have been designated for special management in the *Nānh' Geenjit Gwitr'it Tigwaa'in, Working for the Land – The Gwich'in Land Use Plan* dated August 2003 (Gwich'in land use plan).

Development of three borrow sites in the Transportation Special Management Zone – Dempster Highway: Mackenzie River to Inuvik (the special management zone), will require approval of an exception to the Gwich'in Land Use Plan. Accordingly, an application for an exception has been submitted to the Gwich'in Land Use Planning Board to address a visibility condition in the plan. The exception application will be amended to reflect all three borrow sites.

## **Preliminary Planning Framework for Granular Resource Management in the ISR**

A memorandum of understanding (MOU) has been reached between INAC and the IRC regarding the management of granular resources on private and Crown land in the ISR. The MOU sets out the broad outline for how granular resources should be managed in the region. It describes how the needs of communities, and other regional priorities, relate to the needs of industry.

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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	1: Introduction
SUBJECT	2: How to Use This Document

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## **GUIDE TO THE APPLICATION**

The contents of this document are structured by sections, with subjects in each section. These subjects are further divided into topics. Sections and subjects are listed in the Contents.

### **Definition**

For the purposes of this application, proposed borrow sites in the ISR and GSA are defined as follows:

Borrow sites are areas that might be excavated to provide material for use elsewhere and include sand and gravel pits and rock quarries. Twelve borrow sites have been identified on Crown land in the ISR and GSA. Six of these sites are located in the ISR and six are located in the GSA. Both ISR and GSA Crown borrow sites are described in this application.

### **Application Sections and Structure**

The sections in this application are summarized next.

#### **Introduction – Section 1**

This section outlines the purpose of the application and how to use this document. It also provides summary information about the proposed borrow sites and borrow site activities.

#### **Application for ISR Quarrying Permits – Section 2**

This section contains a completed INAC quarrying permit application form for each site within the region. Each form is supplemented by a site photograph, regional overview map, and site-specific satellite image. Maps specify the location of each proposed site and related site access.

#### **Application for GSA Quarrying Permits – Section 3**

This section contains a completed INAC quarrying permit application form for each site within the area. Each form is supplemented by a site photograph, regional overview map, and site-specific satellite image. Maps specify the location of each proposed site and related site access.

## References

This section contains a list of the references cited.

## Glossary

This section contains definitions of abbreviations, acronyms and terms used in this application.

## Appendices

This section contains:

- a detailed fee calculation for the application ([Appendix A – Fee Calculation](#))
- the land use designation under the Gwich'in land use plan and land management category classification under the Inuvialuit community conservation plans for the proposed sites ([Appendix B – Land Use and Land Management Classifications](#))
- a foldout map for the borrow sites to be developed in the ISR and GSA on Crown land ([Appendix C – Foldout Map](#))

## Overview Maps

The legends in the overview maps in Section 1, [Section 2](#) and [Section 3](#) include symbology for private settlement lands. All other lands, including Crown lands, are not identified with a specific symbol in the legends.

## Use of Terms “Quarry” and “Borrow Site”

In this application the term “borrow site” is more general than the term “quarry.” The terms “borrow site” and “borrow material” are used to describe excavations for gravel, sand or rock. “Borrow site” is also used to refer to rock quarries. The term “granular” is more limited and refers to sand and gravel. The term “quarry” is used to refer to an area that could be excavated to provide rock for the project. After crushing, the rock can be used as fill.

INAC uses the term “quarry” to refer to all borrow sites. Consequently, Imperial is filing an application for “quarrying permits” for removal of all types of material.

## “Borrow Site” and “Borrow Source”

A borrow site is an area that could be excavated to provide material, such as gravel, sand or rock. A borrow source is a location that has naturally occurring earth construction materials including sand, gravel, fine-grained material or rock.

A borrow source may contain more than one borrow site. A borrow site is a spot chosen for development within a borrow source.

### Estimated Borrow Material Supplies

Borrow material supplies are described using two terms: “proven reserves” and “probable reserves”. Proven reserves are granular materials whose occurrence, distribution, thickness, and quality is supported by ground-truth information, such as geotechnical drilling, test pitting, and/or exposed stratigraphic sections. Probable reserves are granular materials whose existence and extent has been inferred on the basis of several different types of direct or indirect evidence, including topography, landform characteristics, airphoto interpretation, extrapolation of stratigraphy, geophysical data and/or sampling.

### Earth Material Classification

Terms used to classify earth materials are explained in [Table 1-1](#) (DIAND 1986).

**Table 1-1: Earth Material Classification**

<b>Class 1</b>	Clean, well graded, structurally sound granular material. Suitable for high quality surfacing materials or asphalt and concrete aggregate with minimal processing.
<b>Class 2</b>	Good quality granular material composed of well-graded sands and gravels with limited fines. Suitable for base and surface course aggregates, embankments, or structural fill. Requires processing for concrete aggregate.
<b>Class 3</b>	Fair quality granular material composed of poorly graded sands and gravels with or without silt. Suitable for general fill.
<b>Class 4</b>	Poor quality granular material composed of poorly graded, fine sands with moderate to high silt content. Sometimes contains minor amounts of gravel. Suitable for general fill purposes only.
<b>Class 5</b>	Fair to excellent quality bedrock that is suitable for quarrying and processing into required grades of granular material.
<b>Non-Granular</b>	Non-granular material including fine sands, silts, and cohesive soils. It is unsuitable for most construction purposes, except non-structural fills.

### Terminology of Soil Properties and Qualities

Terms used to describe soil properties and qualities are explained in [Table 1-2](#).

**Table 1-2: Terminology of Soil Properties and Qualities**

<b>Boulders</b>	Particles of rock that will not pass a 300 mm square opening.
<b>Cobbles</b>	Particles of rock that will pass a 300 mm square opening and be retained on a 75 mm sieve.
<b>Gravel</b>	Particles of rock that will pass a 75 mm sieve and be retained on a No. 4 (4.75 mm) sieve.

**Table 1-2: Terminology of Soil Properties and Qualities (cont'd)**

<b>Coarse Gravel</b>	Particles of rock that will pass a 75 mm sieve and be retained on a 19 mm sieve.
<b>Fine Gravel</b>	Particles of rock that will pass a 19 mm sieve and be retained on No. 4 (4.75 mm) sieve.
<b>Sand</b>	Particles of rock that will pass a No. 4 (4.75 mm) sieve and be retained on a No. 200 (0.075 mm) sieve.
<b>Coarse Sand</b>	Passes a No. 4 (4.75 mm) sieve and is retained on a No. 10 (2.00 mm) sieve.
<b>Medium Sand</b>	Passes a No. 10 (2.00 mm) sieve and is retained on a No. 40 (0.425 mm) sieve.
<b>Fine Sand</b>	Passes a No. 40 (0.425 mm) sieve and is retained on a No. 200 (0.075 mm) sieve.
<b>Silt</b>	Passes a No. 200 (0.075 mm) sieve. A fine-grained soil, or the fine-grained part of a soil, with a plasticity index less than 4.0. It is non-plastic or very slightly plastic and exhibits little or no strength when air dry.
<b>Clay</b>	Passes a No. 200 (0.075 mm) sieve. A fine-grained soil, or the fine-grained part of a soil, with a plasticity index greater than 4.0. It has plasticity within a range of water content values and has considerable strength when air dry.
<b>Peat</b>	Material composed primarily of vegetable tissues in various stages of decomposition, usually with an organic odour, a dark brown to black colour, a spongy consistency, and a texture ranging from fibrous to amorphous.
<b>Organic Silt</b>	A soil that would be classified as silt except that its liquid limit value after oven drying is less than 75% of its liquid limit value before oven drying. It has sufficient organic content to influence the soil properties.
<b>Organic Clay</b>	A soil that would be classified as clay except that its liquid limit value after oven drying is less than 75% of its liquid limit value before oven-drying. It has sufficient organic content to influence the soil properties.

### Borrow Site Material Grades

The materials available from each borrow site, and their intended use, are indicated in [Table 1-3](#) and [Table 1-4](#).

**Table 1-3: ISR Crown Borrow Sites, Materials Available and Use**

<b>Borrow Site</b>	<b>Grade of Materials Available</b>	<b>Borrow Use</b>
1.002P	Class 3-2, well graded sand with some gravel and silt	Pipeline
2.022P	Class 3, unconsolidated Tertiary sand and gravel	Alternate <sup>a</sup>
2.020P	Class 3, poorly graded gravel and sand	Infrastructure, pipeline
2.029P	Class 2-1, sand and gravel with some silt	Pipeline
2.029PB	Class 2-1, sand and gravel with some silt	Pipeline
20.038P	Class 5, bedrock, weathered shale	Pipeline
NOTE: <sup>a</sup> Alternate borrow sites will be developed if insufficient material is available from the other sites.		

**Table 1-4: GSA Crown Borrow Sites, Materials Available and Use**

<b>Borrow Site</b>	<b>Grade of Materials Available</b>	<b>Borrow Use</b>
2.052P	Class 5, bedrock, limestone	Infrastructure, pipeline
2.061P	Class 3, sand and gravel with some silt	Facilities
20.073P	Class 5, bedrock, limestone	Infrastructure, pipeline
2.064BP	Class 2, gravel and sand with minimal fines	Pipeline
5.013P	Class 3, gravelly sand with trace silt	Pipeline
5.020P	Class 2-3, well graded gravel and sand with some silt	Infrastructure, pipeline



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TITLE       **ISR and GSA Crown Quarrying Permit Application**  
SECTION     1:   Introduction  
SUBJECT     3:   Summary of Proposed Borrow Sites

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**APPLICATION SUMMARY**

**Applicant:** Imperial Oil Resources Ventures Limited  
**Land Administrator:** Indian and Northern Affairs Canada  
**Application Type:** Quarrying permit  
**Location:** Inuvialuit Settlement Region and Gwich'in Settlement Area  
**Land Ownership:** Crown Land  
**Proposed Development: Description**

- develop six borrow sites in the ISR for materials to be used in the construction of the project
- develop six borrow sites in the GSA for materials to be used in the construction of the project

Table 1-5 shows the proposed Crown land borrow sites in the ISR. Table 1-6 shows the proposed Crown land borrow sites in the GSA.

**Table 1-5: Borrow Sites Proposed for Development on Crown Land in the ISR**

Borrow Site	Latitude	Longitude	Quantity of Extraction <sup>a</sup> (m <sup>3</sup> )	Probable Reserves <sup>b</sup> (m <sup>3</sup> )	Source Type	Expected Years in Use	Existing Improvements
1.002P	69.2064	-134.5678	51,000	780,000	Granular	2009-10	No
2.022P	68.9651	-133.9567	51,000	2,000,000	Granular	2009-11	No
2.020P	68.9274	-134.0469	15,000	500,000	Granular	2008-11	No
2.029P	68.8993	-133.8985	50,000	10,000,000	Granular	2008-11	Yes
2.029PB	68.8747	-133.9026	30,000		Granular	2009-11	Yes
20.038P	68.4633	-133.3296	13,000	See Note <sup>c</sup>	Quarry	2009-11	No

NOTES:

<sup>a</sup>Extraction is total over the years of use (not annual) and does not include anchor field requirements. It does, however, include a contingency factor.

<sup>b</sup>Probable reserves are estimated for the borrow source corresponding to the borrow site listed.

<sup>c</sup>Probable reserves of bedrock in the vicinity of the proposed quarry are considered unlimited (Hardy 1986).

**Table 1-6: Borrow Sites Proposed for Development on Crown Land in the GSA**

Borrow Site	Latitude	Longitude	Quantity of Extraction <sup>a</sup> (m <sup>3</sup> )	Probable Reserves <sup>b</sup> (m <sup>3</sup> )	Source Type	Expected Years in Use	Existing Improvements
2.052P	68.3079	-133.3311	188,000	Significant <sup>c</sup>	Quarry	2008-12	Yes
2.061P	68.2490	-133.2545	75,000	2,500,000	Granular	2008-12	Yes
20.073P	68.2008	-133.4112	176,000	Unlimited <sup>d</sup>	Quarry	2008-12	Yes
2.064BP	68.1265	-132.8397	62,000	Unknown	Granular	2009-12	No
5.013P	67.4844	-130.8502	69,000	1,500,000	Granular	2009-12	Yes
5.020P	67.3041	-130.7244	293,000	1,500,000	Granular	2008-12	No

**NOTES:**

<sup>a</sup>Extraction is total over the years of use (not annual). It includes a contingency factor.

<sup>b</sup>Probable reserves are estimated for the borrow source corresponding to the borrow site listed.

<sup>c</sup>Quarry sites have access to an unlimited quantity of material because of local geological characteristics.

<sup>d</sup>Probable reserves near the proposed quarry are considered to be unlimited, as classified by DIAND.

Figure 1-1 is an overview map of proposed Crown land borrow sites in the ISR.  
Figure 1-2 is an overview map of proposed Crown land borrow sites in the GSA.

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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	1: Introduction
SUBJECT	4: Borrow Site Activities

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## **BORROW SITE DEVELOPMENT**

A typical borrow site development is depicted in [Figure 1-3](#).

The development schedule for borrow sites will be determined by project needs during construction and, potentially, during project operations. The sites will be developed for the borrow material and will be reclaimed, as required.

The schedule at each site will be influenced by the ice content of the borrow material. Sites with a high ice content might be excavated at least one year in advance, with the borrow material likely to be excavated and stockpiled. The piles of high ice content material might be allowed to melt and drain over the summer for use the following winter. Other activities that might be required at various borrow sites during the summer include stripping overburden, excavating borrow material and stockpiling.

Most borrow sites contain material that will meet the applicable specifications for road and pad construction. However, where the material does not meet specifications for pipeline backfill, it might be crushed or screened during site excavation. Materials might be screened to separate borrow material for different uses.

Pit and quarry development plans will be consistent with the *Environmental Guidelines: Pits and Quarries* (DIAND 1982). The pit or quarry development sequence will depend upon site access and site-specific subsurface conditions as well as the overall construction schedule. Where terrain is thermally sensitive, most pit development work is expected to take place during the winter. In areas with stable terrain, significant work might also take place in the summer.

Additional information is available in the ISR Crown Lands Application for a Class A Land Use Permit, filed with INAC, and the GSA Crown Lands Application for a Type A Land Use Permit, filed with the Mackenzie Valley Land and Water Board. They include definitions of terminology, a summary of operations, a description of borrow site development, discussion of borrow site abandonment and reclamation, environmental and resource effects, and a discussion of pit development.

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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	2: Application for ISR Quarrying Permits
SUBJECT	1: Borrow Site 1.002P

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## OVERVIEW

This subject contains the application and location information for a quarrying permit for borrow site 1.002P. It includes:

- the application
- an overview map ([Figure 2-1](#))
- a site-specific map ([Figure 2-2](#))
- a site-specific photograph ([Figure 2-3](#))

 Indian and Northern Affairs Canada    Affaires indiennes et du Nord Canada		
<h2 style="margin: 0;">Application for Quarrying Permit</h2>		
Name:	<b>Imperial Oil Resources Ventures Limited</b> <b>237 Fourth Avenue South West</b> <b>P.O. Box 2480, Station "M"</b> <b>Calgary, Alberta T2P 3M9</b>	Sandy Martin Regulatory Manager Mackenzie Gas Project

<b>I hereby apply for a Quarrying Permit for the purpose of taking:</b>			
Cubic metres	Of:		
<b>51,000</b>	<b>Granular material</b>		
Location of pit:	<b>1.002P</b>	NTS map sheet no.	<b>107 C</b>
Co-ordinates:	Latitude <b>69.2064</b>	Longitude	<b>-134.5678</b>
UTM: <b>Zone 8</b>	E <b>517123</b>	N	<b>7677433</b>
1. Is any part of the land occupied?                      If yes, by whom and for what purposes?			
<b>No.</b>			
2. The only buildings or other improvements on the said lands are as follows:			
(A) Nature of improvements			
<b>N/A</b>			
(B) Value of improvements			
<b>N/A</b>			
(C) Owner of improvements			
<b>N/A</b>			
3. Is the land wooded?                                      If yes, describe species of trees and approximate size.			
<b>No. See Figure 2-3.</b>			
4. Attach a sketch plan of the site as required by the Territorial Quarrying Regulations			
<b>See Figure 2-2.</b>			

<b>Required fees are indicated below:</b>		
Quarrying Permit Fee: (\$150.00)	Total \$	<b>150.00</b>
Royalties on sand, gravel loam per cubic metre: (\$1.50)	Total \$	<b>76,500.00</b>
Royalties on other buildings materials: (\$1.25)	Total \$	
	Total Fees \$	<b>76,650.00</b>

Signature of applicant \_\_\_\_\_ Date: \_\_\_\_\_



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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	2: Application for ISR Quarrying Permits
SUBJECT	2: Borrow Site 2.022P

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## OVERVIEW

This subject contains the application and location information for a quarrying permit for borrow site 2.022P. It includes:

- the application
- an overview map ([Figure 2-4](#))
- a site-specific map ([Figure 2-5](#))
- a site-specific photograph ([Figure 2-6](#))

 Indian and Northern Affairs Canada    Affaires indiennes et du Nord Canada		
<b>Application for Quarrying Permit</b>		
Name:	<b>Imperial Oil Resources Ventures Limited</b> <b>237 Fourth Avenue South West</b> <b>P.O. Box 2480, Station "M"</b> <b>Calgary, Alberta T2P 3M9</b>	Sandy Martin Regulatory Manager Mackenzie Gas Project

<b>I hereby apply for a Quarrying Permit for the purpose of taking:</b>			
Cubic metres	Of:		
<b>51,000</b>	<b>Granular material</b>		
Location of pit:	<b>2.022P</b>	NTS map sheet no.	<b>107 B</b>
Co-ordinates:	Latitude <b>68.9651</b>	Longitude	<b>-133.9567</b>
UTM: <b>Zone 8</b>	E <b>541791</b>	N	<b>7650824</b>
1. Is any part of the land occupied?                      If yes, by whom and for what purposes?			
<b>No.</b>			
2. The only buildings or other improvements on the said lands are as follows:			
(A) Nature of improvements			
<b>N/A</b>			
(B) Value of improvements			
<b>N/A</b>			
(C) Owner of improvements			
<b>N/A</b>			
3. Is the land wooded?                      If yes, describe species of trees and approximate size.			
<b>No. See Figure 2-6.</b>			
4. Attach a sketch plan of the site as required by the Territorial Quarrying Regulations			
<b>See Figure 2-5.</b>			

<b>Required fees are indicated below:</b>		
Quarrying Permit Fee: (\$150.00)	Total \$	<b>150.00</b>
Royalties on sand, gravel loam per cubic metre: (\$1.50)	Total \$	<b>76,500.00</b>
Royalties on other buildings materials: (\$1.25)	Total \$	
	Total Fees \$	<b>76,650.00</b>

Signature of applicant \_\_\_\_\_ Date: \_\_\_\_\_



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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	2: Application for ISR Quarrying Permits
SUBJECT	3: Borrow Site 2.020P

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## OVERVIEW

This subject contains the application and location information for a quarrying permit for borrow site 2.020P. It includes:

- the application
- an overview map ([Figure 2-7](#))
- a site-specific map ([Figure 2-8](#))
- a site-specific photograph ([Figure 2-9](#))

 Indian and Northern Affairs Canada    Affaires indiennes et du Nord Canada		
<b>Application for Quarrying Permit</b>		
Name:	<b>Imperial Oil Resources Ventures Limited</b> <b>237 Fourth Avenue South West</b> <b>P.O. Box 2480, Station "M"</b> <b>Calgary, Alberta T2P 3M9</b>	Sandy Martin Regulatory Manager Mackenzie Gas Project

<b>I hereby apply for a Quarrying Permit for the purpose of taking:</b>			
Cubic metres	Of:		
<b>15,000</b>	<b>Granular material</b>		
Location of pit:	<b>2.020P</b>	NTS map sheet no.	<b>107 B</b>
Co-ordinates:	Latitude <b>68.9274</b>	Longitude <b>-134.0469</b>	
UTM: <b>Zone 8</b>	E <b>538244</b>	N <b>7646560</b>	
1. Is any part of the land occupied?                      If yes, by whom and for what purposes?			
<b>No.</b>			
2. The only buildings or other improvements on the said lands are as follows:			
(A) Nature of improvements			
<b>N/A</b>			
(B) Value of improvements			
<b>N/A</b>			
(C) Owner of improvements			
<b>N/A</b>			
3. Is the land wooded?                                      If yes, describe species of trees and approximate size.			
<b>No. See Figure 2-9.</b>			
4. Attach a sketch plan of the site as required by the Territorial Quarrying Regulations			
<b>See Figure 2-8.</b>			

<b>Required fees are indicated below:</b>		
Quarrying Permit Fee: (\$150.00)	Total \$	<b>150.00</b>
Royalties on sand, gravel loam per cubic metre: (\$1.50)	Total \$	<b>22,500.00</b>
Royalties on other buildings materials: (\$1.25)	Total \$	
Total Fees \$		<b>22,650.00</b>

Signature of applicant \_\_\_\_\_ Date: \_\_\_\_\_



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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	2: Application for ISR Quarrying Permits
SUBJECT	4: Borrow Site 2.029P

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## OVERVIEW

This subject contains the application and location information for a quarrying permit for borrow site 2.029P. It includes:

- the application
- an overview map ([Figure 2-10](#))
- a site-specific map ([Figure 2-11](#))
- a site-specific photograph ([Figure 2-12](#))

 Indian and Northern Affairs Canada    Affaires indiennes et du Nord Canada		
<h2 style="margin: 0;">Application for Quarrying Permit</h2>		
Name:	<b>Imperial Oil Resources Ventures Limited</b> <b>237 Fourth Avenue South West</b> <b>P.O. Box 2480, Station "M"</b> <b>Calgary, Alberta T2P 3M9</b>	Sandy Martin Regulatory Manager Mackenzie Gas Project

<b>I hereby apply for a Quarrying Permit for the purpose of taking:</b>			
Cubic metres	Of:		
<b>50,000</b>	<b>Granular material</b>		
Location of pit:	<b>2.029P</b>	NTS map sheet no.	<b>107 B</b>
Co-ordinates:	Latitude <b>68.8993</b>	Longitude	<b>-133.8985</b>
UTM: <b>Zone 8</b>	E <b>544254</b>	N	<b>7643530</b>
1. Is any part of the land occupied?                      If yes, by whom and for what purposes?			
<b>No.</b>			
2. The only buildings or other improvements on the said lands are as follows:			
(A) Nature of improvements			
<b>Existing improvements in the vicinity are consistent with previous borrow site development. However, a new access road will be required.</b>			
(B) Value of improvements			
<b>N/A</b>			
(C) Owner of improvements			
<b>N/A</b>			
3. Is the land wooded?                                      If yes, describe species of trees and approximate size.			
<b>No. See Figure 2-12.</b>			
4. Attach a sketch plan of the site as required by the Territorial Quarrying Regulations			
<b>See Figure 2-11.</b>			

<b>Required fees are indicated below:</b>		
Quarrying Permit Fee: (\$150.00)	Total \$	<b>150.00</b>
Royalties on sand, gravel loam per cubic metre: (\$1.50)	Total \$	<b>75,000.00</b>
Royalties on other buildings materials: (\$1.25)	Total \$	
	Total Fees \$	<b>75,150.00</b>

Signature of applicant \_\_\_\_\_ Date: \_\_\_\_\_



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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	2: Application for ISR Quarrying Permits
SUBJECT	5: Borrow Site 2.029PB

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## OVERVIEW

This subject contains the application and location information for a quarrying permit for borrow site 2.029PB. It includes:

- the application
- an overview map ([Figure 2-13](#))
- a site-specific map ([Figure 2-14](#))
- a site-specific photograph ([Figure 2-15](#))

 Indian and Northern Affairs Canada    Affaires indiennes et du Nord Canada		
<h2 style="margin: 0;">Application for Quarrying Permit</h2>		
Name:	<b>Imperial Oil Resources Ventures Limited</b> <b>237 Fourth Avenue South West</b> <b>P.O. Box 2480, Station "M"</b> <b>Calgary, Alberta T2P 3M9</b>	Sandy Martin Regulatory Manager Mackenzie Gas Project

<b>I hereby apply for a Quarrying Permit for the purpose of taking:</b>			
Cubic metres	Of:		
<b>30,000</b>	<b>Granular material</b>		
Location of pit:	<b>2.029PB</b>	NTS map sheet no.	<b>107 B</b>
Co-ordinates:	Latitude <b>68.8747</b>	Longitude	<b>-133.9026</b>
UTM: <b>Zone 8</b>	E <b>544137</b>	N	<b>7640781</b>
1. Is any part of the land occupied?                      If yes, by whom and for what purposes?			
<b>No.</b>			
2. The only buildings or other improvements on the said lands are as follows:			
(A) Nature of improvements			
<b>Existing improvements in the vicinity are consistent with previous borrow site development. However, a new winter access road will be required.</b>			
(B) Value of improvements			
<b>Unknown</b>			
(C) Owner of improvements			
<b>Unknown</b>			
3. Is the land wooded?                                      If yes, describe species of trees and approximate size.			
<b>No. See Figure 2-15.</b>			
4. Attach a sketch plan of the site as required by the Territorial Quarrying Regulations			
<b>See Figure 2-14.</b>			

<b>Required fees are indicated below:</b>		
Quarrying Permit Fee: (\$150.00)	Total \$	<b>150.00</b>
Royalties on sand, gravel loam per cubic metre: (\$1.50)	Total \$	<b>45,000.00</b>
Royalties on other buildings materials: (\$1.25)	Total \$	
	Total Fees \$	<b>45,150.00</b>

Signature of applicant \_\_\_\_\_ Date: \_\_\_\_\_



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TITLE	<b>ISR and GSA Crown Quarrying Permit Application</b>
SECTION	2: Application for ISR Quarrying Permits
SUBJECT	6: Borrow Site 20.038P

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## OVERVIEW

This subject contains the application and location information for a quarrying permit for borrow site 20.038P. It includes:

- the application
- an overview map ([Figure 2-16](#))
- a site-specific map ([Figure 2-17](#))
- a site-specific photograph ([Figure 2-18](#))

 Indian and Northern Affairs Canada    Affaires indiennes et du Nord Canada		
<b>Application for Quarrying Permit</b>		
Name:	<b>Imperial Oil Resources Ventures Limited</b> <b>237 Fourth Avenue South West</b> <b>P.O. Box 2480, Station "M"</b> <b>Calgary, Alberta T2P 3M9</b>	Sandy Martin Regulatory Manager Mackenzie Gas Project

<b>I hereby apply for a Quarrying Permit for the purpose of taking:</b>			
Cubic metres	Of:		
<b>13,000</b>	<b>Rock</b>		
Location of pit:	<b>20.038P</b>	NTS map sheet no.	<b>107 B</b>
Co-ordinates:	Latitude <b>68.4633</b>	Longitude	<b>-133.3296</b>
UTM: <b>Zone 8</b>	E <b>568425</b>	N	<b>7595446</b>
1. Is any part of the land occupied?                      If yes, by whom and for what purposes?			
<b>No.</b>			
2. The only buildings or other improvements on the said lands are as follows:			
(A) Nature of improvements			
<b>N/A</b>			
(B) Value of improvements			
<b>N/A</b>			
(C) Owner of improvements			
<b>N/A</b>			
3. Is the land wooded?                      If yes, describe species of trees and approximate size.			
<b>Yes. The black spruce/ground birch vegetation type is found on lower slope positions throughout the site and surrounding area. A scattered canopy of short, black spruce trees, with an average height of 5.8 m, tall ground birch and willows form the dominant component of this vegetation type (see Figure 2-18).</b>			
4. Attach a sketch plan of the site as required by the Territorial Quarrying Regulations			
<b>See Figure 2-17.</b>			

<b>Required fees are indicated below:</b>		
Quarrying Permit Fee: (\$150.00)	Total \$	<b>150.00</b>
Royalties on sand, gravel loam per cubic metre: (\$1.50)	Total \$	<b>19,500.00</b>
Royalties on other buildings materials: (\$1.25)	Total \$	
	Total Fees \$	<b>19,650.00</b>

Signature of applicant \_\_\_\_\_ Date: \_\_\_\_\_

