



OIL AND GAS COMMISSION

Guidelines for Application Submission

Besa-Prophet Pre-Tenure Plan, Phase I
Muskwa-Kechika Management Area

September, 2003

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OIL AND GAS COMMISSION

The Oil and Gas Commission (OGC) regulates oil and gas activities and pipelines in British Columbia, to provide for the sound development of the oil and gas sector, by fostering a healthy environment, a sound economy and social well being. A Commission goal is to provide transparency and consistency in regulatory delivery. A series of operating codes and guidelines are developed to assist our clients, First Nations and stakeholders.

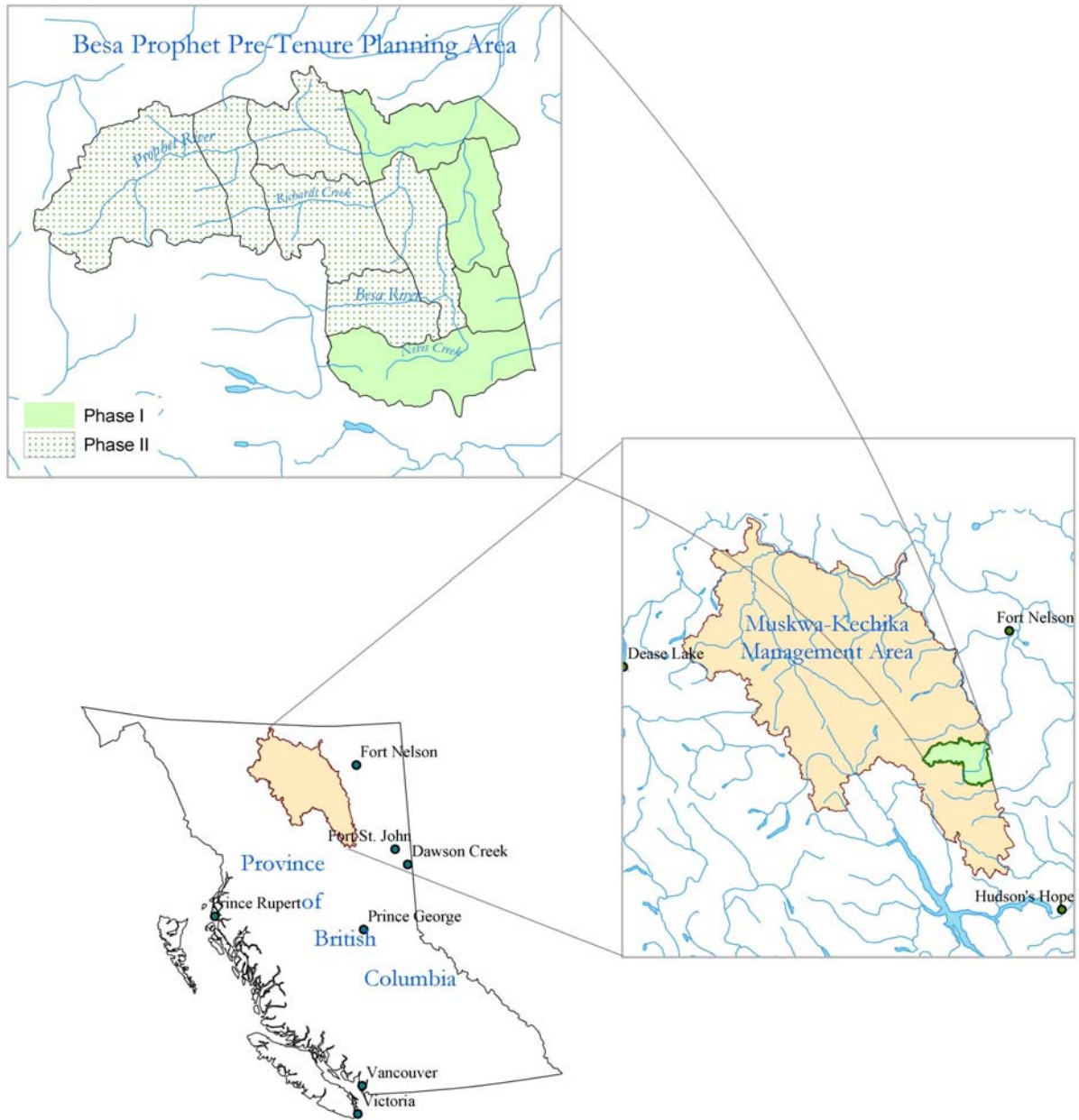
The responsibilities of the Oil and Gas Commission (relevant acts, specified enactments and regulations) include:

- *Oil and Gas Commission Act*
- *Petroleum and Natural Gas Act*
- *Pipeline Act*
- *Water Act*
- *Forest Act*
- *Forest Practices Code of British Columbia Act*
- *Land Act*
- *Waste Management Act*
- *Heritage Conservation Act*

Copies of the regulations are available at the Oil and Gas Commission, or on our website at www.ogc.gov.bc.ca/handbook.asp

Oil and Gas Commission
200, 10003-110 Ave.
Fort St. John, BC, V1J 6M7
Phone: (250) 261-5700
Fax: (250) 261-5744

Figure 1: Besa-Prophet Pre-Tenure Planning Area



PURPOSE OF THE GUIDELINES

These guidelines are intended to clarify operator application submission requirements described in the Besa-Prophet Pre-Tenure Plan, Phase I (BPPTP) of the Muskwa-Kechika Management Area (MKMA). The guidelines should not be viewed as prescriptive or limiting, such that an operator would be precluded from seeking continuous improvement and efficiencies in meeting the objectives and strategies contained in sections 5 and 6 of the BPPTP. Rather, the guidelines should be used as a tool to assist the operator in understanding the BPPTP and the intent of specific technical and procedural requirements. The guidelines will also facilitate a common understanding of submission requirements among the operator, the regulator, First Nations, and stakeholders.

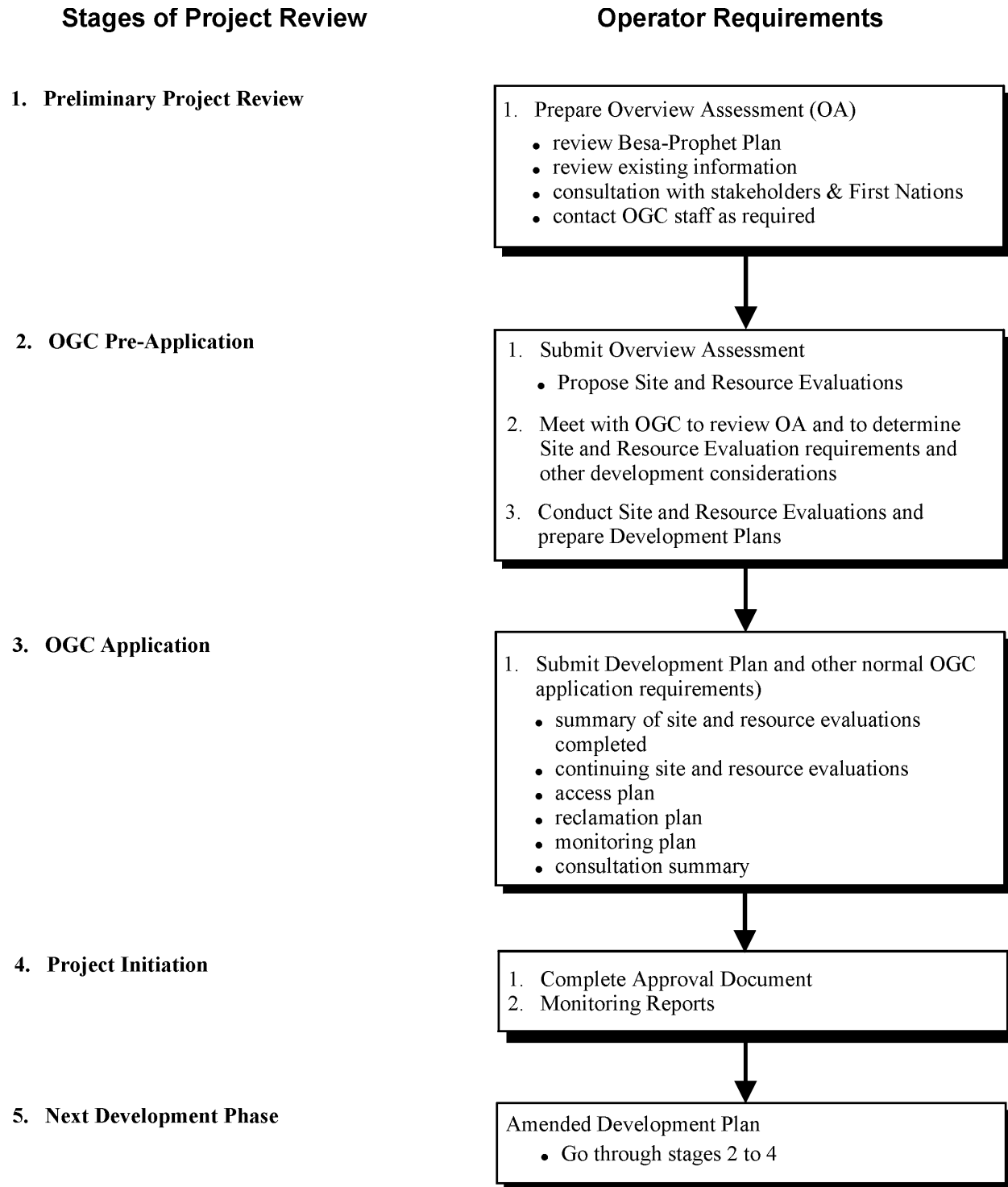
The OGC may apply the principles and process of these guidelines to appropriate applications in the foothills region of Northeast BC outside of the MKMA.

COLLECTING RESOURCE INFORMATION

Requirements for individual operators to gather and assess resource information in the Besa Prophet Phase I Area will occur at different scales, in different locations, and over varying time frames. This is because:

- Information has already been collected for most resource values in the plan area (though some of this information may have to be supplemented to satisfy BPPTP requirements). Resource-specific data sets for the Besa-Prophet are referenced in table 1 on page ten.
- In the absence of current information, operators may be required to conduct site and resource evaluations, which may include inventories of fish and wildlife.
- Over time, resource data sets and assessments will become more complete, relieving operators of many requirements to collect and interpret new information.
- Collection of very detailed resource information for the whole of a tenure area, as opposed to only those areas that are to be accessed and developed, may not be in the interests of the operator or the Province. Funds available to collect and assess resource information may be directed primarily at gathering information that will help avoid, limit, or mitigate impacts.
- The BPPTP requires that an adaptive management approach be encouraged, and that management activities be treated as, "...opportunities for learning how to manage better." For some resource values, field information will continue to be collected over the full cycle of oil and gas activities, to inform both adaptive management and monitoring requirements. A description of an adaptive management approach is included in appendix D of the BPPTP.

Figure 2: Operational Planning and Application Submission Process



1. PRELIMINARY PROJECT REVIEW

Objective(s):

- Preparation of an Overview Assessment with regard for the binding objectives and strategies contained in section 5.2.1 of the BPPTP and the additional guidance provided in Appendix C.

Operator Requirement(s):

1. Review the Besa-Prophet Pre-Tenure Plan document, from the strategic to the area-specific and resource-specific considerations as follows:
 - Review management direction for the plan area – p. 15
 - Section 5.0
 - Section 5.1 Goals
 - Identify in which planning unit of the Besa-Prophet the project is located
 - Maps: pp. 47-50; p. 65
 - Review Management Direction by Planning Unit – Section 6 – pp. 43-46
 - Section 6.1 Nevis Planning Unit
 - Section 6.2 Pocketknife Planning Unit
 - Section 6.3 Lower Besa Planning Unit
 - Section 6.4 Lower Prophet Planning Unit
 - Review Management Direction for Plan Area – Section 5 – p. 15-42
 - Section 5.1 Goals
 - Section 5.2 General Management Direction
 - 5.2.1 Proponent Requirement
 - 5.2.2 Access
 - 5.2.3 Phase-Specific
 - 5.2.4 Activity-Specific
 - 5.2.5 Environmental Values
 - 5.2.6 Socio-Economic and Cultural Values
 - Section 5.3 General Objectives and Strategies by Zone
2. Review air photos, existing biophysical mapping, and government tenure maps.
3. Conduct an overview flight of: a) the tenure area, b) areas adjacent to the tenure where there is a potential for off-tenure impacts, and c) potential access routes.
4. Contact OGC staff as required to:
 - Clarify the intent and/or operator requirements associated with specific objectives and strategies in sections five and six of the BPPTP.
 - Clarify elements of the application/submission process.
 - Acquire information on the availability of relevant/new biophysical information.
 - Acquire local knowledge, and receive technical information on particular resource values.

Guidelines for Application Submission

- Determine existing and required biophysical information needed to complete an Overview Assessment within the tenure boundary and potential access corridors.
 - Develop tentative schedule for the preparation and review of operator submissions.
5. Prepare an Overview Assessment with regard for the information collected in 1-4 above. Include in the Overview Assessment recommendations that would facilitate environmentally sensitive planning and development in the petroleum tenure (a recommended framework for Overview Assessment is shown on page 73 of the BPPTP). The recommendations will identify information gaps where further site or resource evaluations will be required to design avoidance or mitigation procedures.

Using the “Proponent Requirements for Overview Assessment” table

Most elements of the Overview Assessment can be completed through an office review of resource assessments that have already been completed, and through the interpretation and assessment of available biophysical information. Where that is not possible, it is anticipated that operators will be able to satisfy Overview Assessment requirements through limited aerial survey, supplemented where necessary by ground sampling.

Each Overview Assessment requirement, shown in table 1, is followed by a list of related resource data, as well as a description of where the proponent can access the data. The data lists shown in the table, taken together with the interpreted information in appendix G of the BPPTP, will normally provide everything needed to complete an Overview Assessment. However, the proponent should expect both the quality and availability of resource information to improve over time and the proponent is encouraged to inquire about the most current inventories and products.

Some resource values will be inventoried and assessed in the context of an Overview Assessment, but should also be assessed at a more detailed scale within the lease site, and within access corridors (see table 2) to assess the potential impacts of specific proposed developments. Examples include: assessment of water quality, assessment of fish-streams and wildlife values, and inventory of First Nations’ cultural and heritage values.

Preparation of all submissions should only be done by qualified professionals/technicians who are trained in the use of the referenced guidebooks, the associated technical procedures, field studies, and preferably by those who have experience with foothills conditions.

Seeking stakeholder input at the Overview Assessment stage is encouraged to fill information gaps, and to identify issues to be addressed at the Development Plan stage.

Proponent Requirements For Overview Assessment

Technical guidelines for resource assessment within the tenure and along potential access corridors

Table 1: Proponent Requirements For Overview Assessment

Framework for Overview Assessment Document

Table of Content Guidance¹

- Project description (brief text description of the project plus a map showing preliminary location of wellsites, access and other required infrastructure)
- Methods used to gather information and key references
- Biophysical setting, including descriptions and the significance of:
 - climate
 - physiography and geology
 - bedrock geology (including surficial deposits, soils, and earth processes)
 - hydrology (including water quality)
 - vegetation (including plant species with special conservation status)
 - aquatic ecosystems (including fish populations inventory and benthic invertebrates)
 - wildlife (including high sensitivity zones, species with special conservation status, wildlife movement corridors, mineral licks, wildlife dens, raptor nests, critical wintering and core wildlife areas, and lambing and rutting areas)
- Land use, including description of direction from Fort Nelson or Fort St. John LRMPs, and other activities (such as hunting, guide outfitting, fishing, commercial back country recreations, trapping, etc.)
- Information on First Nations' areas of traditional practices, heritage, and cultural resources
- Recommendations that would facilitate environmentally sensitive planning and development in the petroleum tenure area

¹ It is expected that the total report length would be approximately 10 pages of text, plus associated maps and photographs. Baseline map layers can be combined where appropriate.

Climate

Proponent Requirements:

Include:

- 1) existing information provided in Appendix G: Biophysical Resources, Values and Uses / Besa Prophet Pre-Tenure Plan, Phase I; and
- 2) a general interpretation of the microclimate as it relates to the project.

Earth Sciences

Physiography

Proponent Requirements:

Include:

- 1) existing information provided in Appendix G: Biophysical Resources, Values and Uses / Besa Prophet Pre-Tenure Plan, Phase I; and
- 2) a general interpretation of physiography as it relates to the project.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Topography	TRIM	Provincial	MSRM	Paul Quackenbush	DEA (Data Exchange Agreement)			1:20,000
Digital Elevation Model (DEM)	TRIM	Provincial	MSRM	Paul Quackenbush	DEA			1:20,000
Slope/Aspect Classes	Derived	Besa-Prophet	MSRM	Geoff Haines, OGC	Fort St John		OGC Webpage	20m Grid

Surficial Geology and Soils

Proponent Requirements:

Include:

- 1) existing information provided in Appendix G: Biophysical Resources, Values and Uses / Besa Prophet Pre-Tenure Plan, Phase I; and
- 2) a general interpretation of surficial geology and soils as they relate to the project, access construction, and other potential disturbances.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Surficial Geology included as an attribute of Terrestrial Ecosystem Mapping (TEM)	TEM	Besa-Prophet	MSRM	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:20,000

Aquatic Ecosystem

Hydrology / Water Quality

Proponent Requirements:

- 1) Provide a brief description of rivers and streams within the tenure, including areas outside of the tenure that may potentially be impacted by development.
- 2) Using aerial photographs, maps, and limited field checks, examine channel conditions, assess slope stability, channel patterns and stability, and overall watershed characteristics.
- 3) Provide information on the availability of water to meet development requirements (e.g. drilling mud and ice roads).
- 4) Describe contingency plans to access alternative water sources, should that become necessary.
- 5) Describe existing water quality and the likelihood of impacts.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Water Features	TRIM	Provincial	MSRM	Paul Quackenbush	DEA			1:20,000

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Fish and Fish Habitat

Proponent Requirement:

Include existing information provided in Appendix G: Biophysical Resources, Values and Uses / Besa Prophet Pre-Tenure Plan, Phase I, based on 1:50,000 Overview; Fish and Fish Habitat Inventory, Sept. 2002.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Local Area Agreements		Regional	MWLAP	Geoff Haines, OGC	Fort St John		OGC Webpage	1:50,000
Fish/Stream Inventory-corporate data		Provincial	MSRM	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:50,000
Fish/Stream Inventory-Besa-Prophet Pre-tenure Plan Data		Besa-Prophet	MSRM	Geoff Haines, OGC	Fort St John		OGC Webpage	

Terrestrial Ecosystems

Vegetation

Proponent Requirements:

Include:

- 1) existing information provided in Appendix G: Biophysical Resources, Values and Uses / Besa Prophet Pre-Tenure Plan, Phase I; and
- 2) general interpretation of vegetation(from aerial reconnaissance) as it relates to the project.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Vegetation Resources Inventory (VRI)		Provincial	MSRM	Anja Tolman	DEA			1:20,000
Forest Cover		Provincial	MSRM	Anja Tolman	DEA			1:20,000
Vegetation included as an attribute of Terrestrial Ecosystem Mapping (TEM)	TEM	Besa-Prophet	MSRM	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:20,000

Wildlife

Proponent Requirement:

Use the Zone Map provided in Appendix A, and the associated habitat descriptions provided in Appendix G: Biophysical Resources, Values and Uses / Besa-Prophet Pre-Tenure Plan, Phase I, to complete a species list and determine species/habitat associations for the tenure. Special attention should be directed at the presence of any species at risk, as well as important habitats for all species.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Biogeoclimatic Zones (BEC)		Provincial	MSRM	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:250,000
Broad Ecosystem Inventory (BEI)		Provincial	MSRM		Victoria		http://srmwww.gov.bc.ca/gis/arcftp.html	1:250,000
Terrestrial Ecosystem Mapping (TEM)- wildlife capability & suitability ratings		Besa-Prophet	MSRM	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:20,000
Wildlife Burns		Regional	MWLAP	Geoff Haines	Fort St John		OGC Webpage	1:250,000
Wildlife Escape Terrain	Derived	Regional	MWLAP	Geoff Haines	Fort St John		OGC Webpage	1:20,000
Ungulate Winter Range		Regional	MWLAP	FTP/WEB DOWNLOAD	Omineca-Peace	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm		1:250,000

Land Use

Proponent Requirements:

- 1) Identify and reference those sections of the Fort Nelson and Fort St. John LRMPs that provide relevant planning and management direction.
- 2) Consult with OGC staff to determine the current status of all tenures and user activities including: guide outfitting, trapping, commercial recreation, and mining.

Related Resource Data:

Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Guide Outfitters		Provincial	MWLAP	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:50,000
Trap line Boundaries		Provincial	MWLAP	FTP/WEB DOWNLOAD	Omineca-Peace	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm		1:50,000
Commercial Recreation Features		Provincial	LWBC	Cynthia Cole	Fort St John		Unknown	1:50,000
Mining Tenures		Provincial	MSRM	Jack Leedham	Victoria		Unknown	1:50,000
Petroleum and Natural Gas Tenures		Provincial	MSRM	Adam Dewey	Victoria		Unknown	1:50,000
Crown/Private		Provincial	MSRM		Victoria		http://srmwww.gov.bc.ca/gis/arcftp.html	1:50,000
Resource Management Zones (RMZ)	LRMP	Regional	MSRM	FTP/WEB DOWNLOAD	Omineca-Peace	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm		1:50,000
Landscape Units (LU)		Regional	MSRM	FTP/WEB DOWNLOAD	Omineca-Peace	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm		1:50,000
Muskwa-Kechika Boundary		Regional	MSRM	FTP/WEB DOWNLOAD	Omineca-Peace	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm		1:20,000
Pre-tenure Planning Areas		Regional	MSRM	FTP/WEB DOWNLOAD	Victoria	http://srmwww.gov.bc.ca/gis/arcftp.html		1:50,000
Besa Prophet Planning Phases		Besa-Prophet	MSRM	Geoff Haines	Fort St John		OGC Webpage	1:50,000

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Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Besa Prophet Planning Units		Besa-Prophet	MSRM	FTP/WEB DOWNLOAD	Omineca-Peace	srmwww.gov.bc.ca/rmd/ecdev/mog/ptp/gisdatasets.htm	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm	1:50,000
Besa Prophet Planning Zones		Besa-Prophet	MSRM	FTP/WEB DOWNLOAD	Omineca-Peace	srmwww.gov.bc.ca/rmd/ecdev/mog/ptp/gisdatasets.htm	MSRM Regional FTP Site- http://srmwww.gov.bc.ca/nor/rii/gis/gisdata.htm	1:50,000

Culture

Heritage and Cultural Values

Proponent Requirement:

While the OGC will engage in consultations with the Halfway River and Prophet River First Nations, as provided for in separate consultation agreements, the proponent is also encouraged to directly contact the First Nations to share information.

- 1) Prepare an Archeological Overview Assessment with recommendations for further assessment as appropriate (see BC Archeological Resource Management Handbook revised 1995; and OGC Staff Archaeologist for overview assessment requirements).
- 2) Conduct preliminary discussions with Halfway River and Prophet River First Nations to identify traditional use and features of cultural significance. Provide results of information sharing to identify information gaps and issues to be addressed at the Development Plan stage.

Other Related Resource Data:

Oil and Gas								
Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Well Locations		Provincial	OGC	Grant Fox	Fort St John		OGC Webpage	1:20,000
Facility Locations		Provincial	OGC	Grant Fox	Fort St John		OGC Webpage	1:20,000
Pipeline Locations		Provincial	OGC	Grant Fox	Fort St John		OGC Webpage	1:20,000
Geophysical Program Lines		Provincial	OGC	Grant Fox	Fort St John		OGC Webpage	1:20,000

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Forestry								
Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Forest Development Plans		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:20,000
Historical Cut Blocks		Regional	MSRM	Rick Baker	Omineca-Peace		Unknown	1:20,000
Range Tenures		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:50,000
Forest Service Roads (FSR)		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:20,000
Timber Harvesting Land Base (THLB)		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:50,000
Recreation Feature Inventory (RFI)		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:50,000
Recreation Opportunity Spectrum (ROS)		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:50,000
Visual Quality Objectives (VQO)		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:50,000
Visual Landscape Inventory (VLI)		Regional	MoF	Mike Eastwood/Craig Hartel	DFN/DJO/DDC		Unknown	1:50,000

Tools								
Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
TEM Plot Legend Files (Gra, Txt)		Besa-Prophet	MSRM	Geoff Haines, OGC	Fort St John		OGC Webpage	

Imagery								
Title	Source	Data Extent	Custodian	Contact	Location	Present Access	Possible Future Access	Comments
Corporate Image Library		Provincial	MSRM	Paul Quackenbush	DEA	http://srmwww.gov.bc.ca/gis/satimg.htm		

2. OGC PRE-APPLICATION

Objectives:

- Submission of the Overview Assessment to OGC.
- Determine required site and resource evaluations².

Operator Requirements:

1. Meet with the OGC, and staff from other Ministries as required, to review the Overview Assessment, including access requirements.
2. Describe any challenges associated with completing resource assessments, and propose strategies to correct and/or supplement assessments during ongoing oil and gas operations. Discuss opportunities to consolidate resource assessments with those provided by other operators and government agencies, with a view for developing better biophysical information, and more efficient preparation of Overview Assessments.
3. Propose site and resource evaluations based on information gathered in the Overview Assessment.
4. Receive and document advice from OGC regarding the Overview Assessment, as well as proposed site and resource evaluations.

Using the “Proponent Requirements for Site and Resource Evaluation” table

The following table provides:

- A composite of resource values used by the Resources Inventory Committee and found in the Forest Practices Code Guidebooks, for the purpose of providing guidance regarding inventory and Impact Assessment standards.
- For each resource value, it provides a reference to manuals and/or guidebooks that most closely match the requirements for Impact Assessment and Monitoring, as described in the BPPTP.
- A description of each referenced text.
- Operator requirements for site and resource evaluations within the lease site and access corridors.

Many of the assessment guides referenced in the table include procedures for inventory design, impact assessment, and compliance monitoring in a single text. Procedures and standards for monitoring the changes to, and/or the condition of, water quality, hydrology (including channel stability), terrain, archaeology, vegetation, fish populations, habitat, wildlife species, and visual resources are included in the table. Appendix C of the BPPTP also provides general guidance for conducting various types of site and resource evaluations.

² This document replaces the term “Impact Assessment”, used in the BPPTP, with “Site and Resource Evaluation”, to more accurately reflect operator requirements.

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Some types of site and resource evaluations and monitoring requirements may be necessary for most oil and gas development, while other types of site and resource evaluations are required infrequently. The presence of specific resource values in a particular area and/or the availability of pre-existing site and resource evaluations will influence the decision to undertake further study. Consultations between the proponent and the OGC will result in a clear understanding of which assessments are required. Table 2 is intended as a picklist, a source of possible site and resource evaluations, detailed inventories, and monitoring procedures. It should not be viewed as either comprehensive or a minimum requirement for every proposed development.

Table 2: Proponent Requirements for Site and Resource Evaluations

Proponent Requirements for Site and Resource Evaluations		
Technical guidelines for site and resource evaluations within access corridors and lease site		
Referenced Guides	Guide Description	Proponent Requirement Within Access Corridors and Lease Site
Earth Sciences		
Terrain Stability		
<i>Forest Road Engineering Guidebook, Second Edition, June 2002. Forest Practices Branch, BC Ministry of Forests. Forests Practices Code of British Columbia Guidebook</i>	The materials in this guidebook are intended for skilled, experienced, and knowledgeable technical personnel who are responsible for locating, designing, building, maintaining, and deactivating forest roads. It provides guidance on how to interpret and meet the requirements of the <i>Forest Practices Code of British Columbia Act</i> , and associated regulations.	Undertake Site Assessments consistent with the Terrain Stability section in appendix C on page 76 of the BPPTP, and the Forest Road Engineering Guidebook.

Referenced Guides	Guide Description	Proponent Requirement Within Access Corridors and Lease Site
Aquatic Ecosystem		
Hydrology		
None		<p>1) In specific sub-drainages, and as directed by the OGC, assess the potential for: channel changes, changes to water inputs, and changes to sediment inputs from access construction and development activities. Include stream channels associated with diverted water sources that originate outside of the lease boundary.</p> <p>2) Determine if the flow is sustainable for all users, including fish and wildlife (e.g. beavers), such that a water permit for drilling purposes can be issued. Assess flow volume/rate and timing, channel dimensions, and bank stability (to calculate allowable water withdrawal for permit).</p>
Water Quality		
<p><i>Guidelines for Designing and Implementing a Water Quality Monitoring Program in British Columbia, Ministry of Environment, Lands and Parks, February 1998</i></p> <p><i>Ambient Fresh Water and Effluent Sampling Manual, 1997, Province of British Columbia</i></p>	<p>Presents guidelines for designing fresh water monitoring programs. Provides the minimum requirements to ensure that a sampling program addresses all concerns regarding potential impacts to a fresh water body.</p> <p>Guidance for users who are preparing for field work, or who have completed their field season and are ready to compile and summarize their aquatic surveys.</p>	<p>Locate both test and control sampling sites, and conduct pre-operation inventory to establish baseline water quality information for major watershed(s). Sampling sites are selected to facilitate both compliance monitoring and impact assessment monitoring.</p>

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Referenced Guides	Guide Description	Proponent Requirement Within Access Corridors and Lease Site
<p><i>Lake and Stream Bottom Sediment Sampling Manual, 1997</i></p> <p><i>Freshwater Biological Sampling Manual, 1997</i></p> <p><i>Guidelines for Interpreting Water Quality Data, Ministry of Environment, Lands and Parks, Resources Inventory Committee Version 1.0, Feb 1998</i></p>	<p>Provides minimum requirements to ensure quality and consistency of lake and stream bottom sediment data collection.</p> <p>Provides minimum requirements to ensure quality and consistency of the field aspects of biological data collection.</p> <p>Presents guidelines for interpreting and reporting water quality data.</p>	
Fish and Fish Habitat		
<p><i>Forest Practices Code of BC / Fish-stream Identification Guidebook, Second Edition Version 2.1, August 1998</i></p> <p><i>Forest Practices Code of BC / Fish Stream Crossing Guidebook, BC Ministry of Forests, March 2002</i></p>	<p>Provides a definition of stream reach, and provides recommendations/requirements for fish-stream identification and stream classification.</p> <p>Provides users with technical statutory reference and process guidance for selecting and designing fish-stream crossings on petroleum access roads to 1) avoid harming fish and fish habitat and 2) provide fish passage at stream crossing sites.</p>	<p>1) Identify stream reaches, determine stream channel gradients, and perform fish inventories as required to identify “fish-streams.”</p> <p>2) Evaluate each fish-stream crossing, with consideration for flow, current, cover, depth, substrate, and general habitat type. This requirement will assist the proponent in selecting the most appropriate crossing structure for protecting both fish habitat and water quality.</p>

Referenced Guides	Guide Description	Proponent Requirement Within Access Corridors and Lease Site
Terrestrial Ecosystems		
Vegetation		
<p><i>Vegetation Resources Inventory (VRI) Ground Sampling Procedures Version 4.3 (Addendum included), March 2002</i></p> <p><i>Vegetation Resources Inventory (VRI) Photo Interpretation Procedures Manual Version 2.4, March 2002</i></p>	<p>The VRI is carried out in two phases. The first, photo interpretation, includes estimating vegetation polygon characteristics from existing information (e.g. aerial photography). The second, statistically based ground sampling, is used to estimate totals for the whole population.</p>	<p>In a range of representative zones and potentially impacted sites, use aerial photo interpretation and limited ground sampling to develop accurate polygon descriptions. Methodology for VRI ground sampling will also provide sample plots for monitoring vegetation change</p>
Wildlife		
<p><i>Guidelines for avoiding and mitigating impacts to wildlife of major development projects. Environmental Assessment Office, Ministry of Environment, Lands and Parks, Victoria, BC. Harper, W.L., J.M. Cooper, K. Simpson, K.A. Dunham and D. Eastman. 2001.</i></p>		<p>Assess potential impacts on specific wildlife species, and develop strategies/measures to avoid and mitigate impacts. Review the wildlife objectives and strategies on page 32 of the BPPTP.</p>
Culture		
Archaeology		
<p><i>BC Archaeological Impact Assessment Guidelines. Ministry of Sustainable Resource Mgt. Province of BC. Archaeology Branch. Revised 1998</i></p>	<p>This document applies principally to development projects, which are reviewable under British Columbia’s <i>Environmental Assessment Act</i>. Although these guidelines apply mainly to development projects, which undergo provincial review, they may also be applied, with minor modification, to all other developments.</p> <p>A particularly important characteristic of these guidelines is their flexibility. Although certain categories of information are needed for decision-making, each archaeological study must be tailored to meet specific project characteristics and needs.</p>	<p>Undertake impact assessment consistent with the Archaeological Impact Assessment section on page 75 in Appendix C of the BPPTP and the BC Archaeological Impact Assessment Guidelines.</p>

Guidelines for Application Submission

Referenced Guides	Guide Description	Proponent Requirement Within Access Corridors and Lease Site
Traditional Use		
<p><i>Traditional Use Study (TUS) Program Guidelines. Ministry of Forests, December 1996.</i></p> <p><i>Traditional Use Study Field Training Manual. Ministry of Forests, Aboriginal Affairs Branch, September 2000.</i></p> <p><i>Traditional Use Study Data Capture Specifications. Ministry of Forests, Aboriginal Affairs Branch, Version 1.0, March 2001.</i></p> <p><i>Best Practices Handbook for Traditional Use Studies. Government of Alberta, Ministry of Aboriginal Affairs and Northern Development, 2003.</i></p>	<p>These documents provide guidance on TUS project phases and methodologies, data capture specifications, and field activities relevant to BC. The draft TUS Field Training Manual was originally intended to replace the TUS Program Guidelines. Web references will be provided as they become available.</p>	<p>OGC encourages information sharing between the operator and First Nations. TUSs are useful tools to assist First Nations communities to provide input on their site-specific interests and values.</p>
Recreation		
Visual Quality		
<p><i>Forest Practices Code of BC / Visual Impact Assessment Guidebook, Second edition, January 2001</i></p>	<p>Provide managers, planners, and field staff with planning and design tools for assessing the visual impact of development activities in scenic areas at both the landscape and stand level and within targeted social and economic constraints. Provides direction on:</p> <ul style="list-style-type: none"> - Explaining where visual impact assessment fits in the operational planning process; - Documenting the recommended procedures for completing an assessment; - Identifying the evaluation criteria that are used to assess whether or not proposed forest disturbance and road construction/modifications would meet the VQOs; and - Managing visual values in known scenic areas without established VQOs. 	<p>As described in the Guidebook, follow Visual Impact Assessment procedures, via:</p> <ul style="list-style-type: none"> - Planning and pre-field trip preparation; - Conducting fieldwork; - Developing design options and preparing visual simulations; - Assessing visual simulations; - Preparing a visual impact assessment report; and - Reviewing the Visual Impact Assessment section of Appendix C on page 75 of the BPPTP.

3. OGC APPLICATION

Objective:

Submission of the Development Plan

Operator Requirements:

Provide four copies of the Development Plan. The Development Plan report must include the elements described under habitat impact assessment in Appendix C of BPPTP. An acceptable Development Plan framework is as follows:

- Introduction
- Methods
- Analysis of wellsite(s), project infrastructure and access selection
- Final project configuration
 - Project description, plus a map showing location of wellsites, access, and other required infrastructure.
- Baseline environmental and land use conditions
 - See Overview Assessment - Reference OA, if all requirements were presented at that stage.
- Summary of completed site and resource evaluations
 - Describe the extent to which potential impacts can be avoided, minimized or mitigated.
 - Append site and resource evaluation reports.
- Continuing site and resource evaluations (related to the next project phase or resources requiring continual monitoring)
- Access plan
 - Describe the various types of zones that must be traversed to access a lease, outline potential pipeline corridor options and the implications for specific resource values, and coordination measures being implemented.
- Reclamation plan
 - Describe the progressive reclamation for wellsites, access (deactivation and rehabilitation of roads and trails), and all associated disturbances at the end of each phase of development.
- Monitoring plan
 - Include a description of the values being monitored, the means by which they are being monitored, indicators and standards, and a reporting timetable.
- Adaptive management plan
 - Describe active or passive adaptive management practices being employed.
- Future development plans
- Summary of First Nation and stakeholder consultations
 - Provide a record of consultations (including issues identified), mitigation actions taken, and any unresolved concerns.

Related Information

Development Plan complexity will be related to the sensitivity of the site, the zones being traversed, and the phase of development (e.g. one exploratory well with limited access requirements, traversing only low sensitivity areas, should require a relatively simple Development Plan).³

The various assessments required to complete a Development Plan are steps in a single process designed to limit negative environmental effects. The biophysical information gathered in preparing the Overview Assessment will determine which site and resource evaluations should be conducted, and where. Assessing the risk associated with a particular negative effect and the impact of that effect, should it occur, will clarify what should be included in the monitoring plan.

Reasonable effort must be made to communicate with other tenure holders and affected stakeholders to minimize impacts on their interests. OGC's Public Involvement Guidelines provide direction on developing a consultation strategy and are available at www.ogc.gov.bc.ca.

4. PROJECT INITIATION

Objectives:

- Completion of Approval Documents.
- Initiation of monitoring activities, and preparation of monitoring reports as required.

Operator Requirements:

1. Conduct all oil and gas activities as described in the approved Development Plan.
2. Amend the Development Plan as required after each stage of development, to reflect the information gathered, and any new development proposals that result from completion of each phase of the project. Seek opportunities to pool resources, and coordinate the development of roads and right-of-ways with other industrial users.
3. Ensure that environmental monitoring and the associated reports are done only by qualified professionals/technicians who are trained or familiar with the required technical procedures.

5. NEXT DEVELOPMENT PHASE

Objectives and Operator Requirements

- Repeat stages 2 through 4.

³ It is expected that a simple development plan would require 8 to 16 pages of text plus appendices, a moderate development plan would require 12 to 20 pages, and a complex development plan would require up to 30 pages.