Port au Port Bay
Exploration Drilling Program
Environmental Assessment Update

Prepared by

LGL LIMITED
environmental research associates

Prepared for

Dragon Lance Management Corporation
PO Box 1127
Nisku, Alberta, T9E 8A8

December 2010
SA1105

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1.0 Introduction

Dragon Lance Management Corporation (DLMC) (the "Operator") and partners Canadian Imperial Venture Corporation (CIVC) and Shoal Point Energy (SPE) are proposing an appraisal well drilling program with a target (Green Point Shale Prospect) located within offshore Exploration License (EL) 1070 (Figure 1.1). The size of the License is 247,161 acres or 100,026 hectares. The majority of the License is in the shallow waters of Port au Port Bay and all targets offshore are reachable by directional drilling from onshore drilling sites.

The proposed drilling site is situated on Shoal Point, a promontory extending into Port au Port Bay, on the Port au Port Peninsula in western Newfoundland. The 2,200-m test well is designed to collect an extensive suite of information from cores, logs and flow tests to help determine the recovery factor of the discovered resource. The cost of the planned well is in the order of $6 million ($Cdn). It is anticipated that drilling would commence in December 2010 and continue into January 2011.

This document is an update of the Port au Port Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b) (Canadian Environmental Assessment Registry No. 07-01-27358). The temporal scope of the environmental assessment (EA) of the Port au Port exploration drilling program is 2007-2012. This EA update is being submitted by DLMC on behalf of itself and its partners to assist the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) in fulfilling its responsibilities under the *Canadian Environmental Assessment Act* (*CEA Act*) by ensuring that the scope of the assessment and the mitigations committed to therein, remain valid.

1.1 The Proponent

This section describes the various partners that hold interest in EL-1070. Collectively, these companies are herein referred to as the "Proponent".

1.1.1 EA Update Contact

This EA update has been prepared on behalf of the Proponent by DLMC, and queries arising from this update may be directed to:

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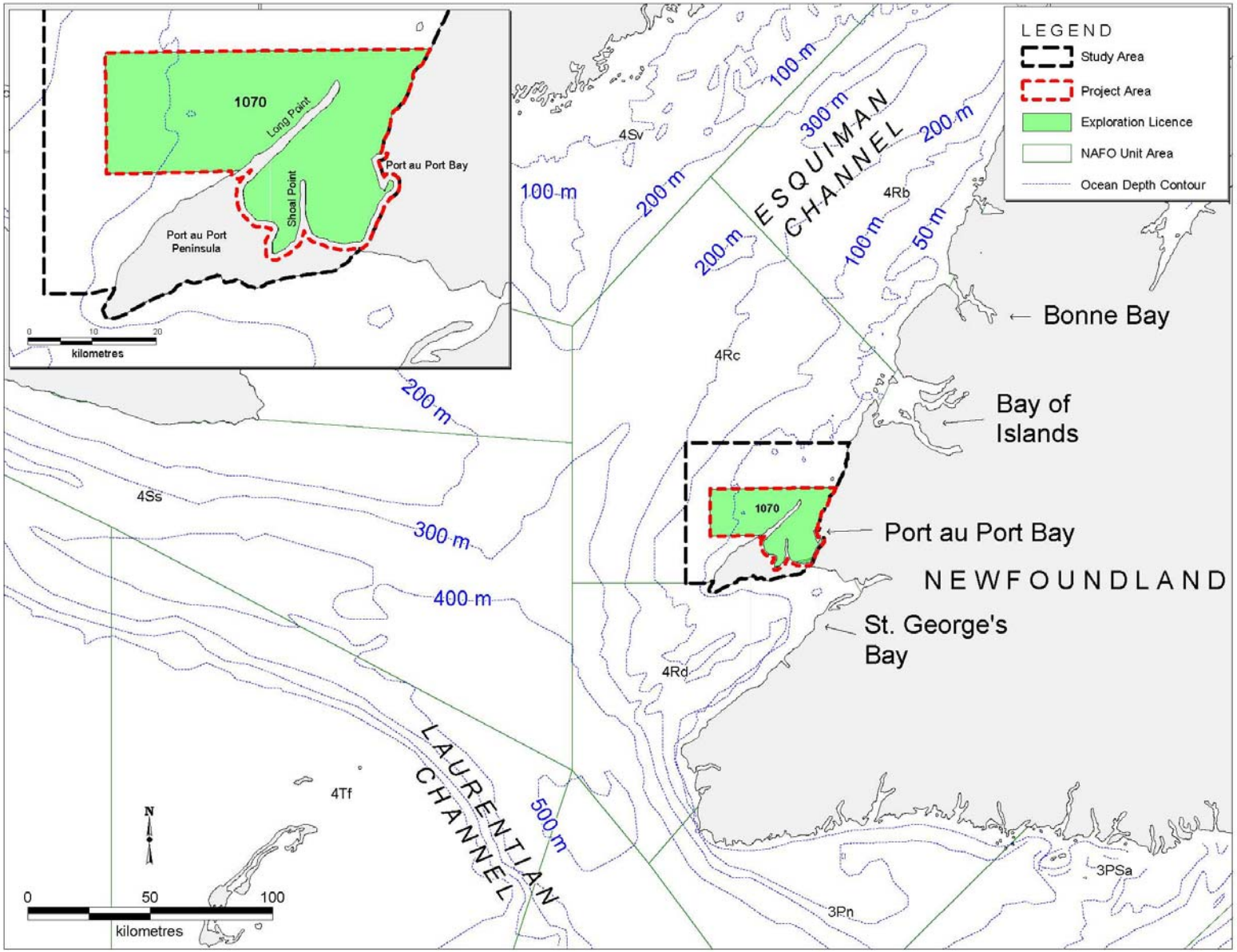


Figure 1.1. Boundaries of Project Area and Study Area.

1.1.2 Operator

Dragon Lance Management Corporation (DLMC) is a privately held Oilfield Consulting Management Company and PNG operating company based in Nisku, Alberta. DLMC will serve as the Operator of the proposed EL-1070 Shoal Point drilling program on behalf of the other interest holders of the exploration licence area. DLMC will conduct the drilling of this well as part of the Farmout Agreement with its partners, Shoal Point Energy (SPE) and Canadian Imperial Venture Corporation (CIVC). During the drilling operations DLMC will share an office in St. John's, NL with CIVC.

DLMC is a Canadian company with the Corporate Office in Nisku, Alberta, Branch Engineering Office in Beijing, China and Branch Operations Office in Salvador, Brazil. It has provided Engineering and Drilling Management Services for Shoal Point Energy Ltd. 2K-39 project and PDI Production Inc. Garden Hill South – Port au Port #1 Sidetrack #3. These projects were completed in 2008 and 2009 respectively.

DLMC was formed in 2002 when purchasing and amalgamating the assets of Gold Lion Technology Corp. (China), International Petroleum Supervision (Canada), Venalta Ltd. (Venezuela) and Fletcher Development Corporation, all separate companies of various company principals, leaving Steve McIntosh in control with 82% of "DLMC". The DLMC principals have engineered and drilled exploration oil and gas wells worldwide since 1988 and have a management team with in excess of 185 years experience between the 4 principals of the company.

"DLMC" has worked in 21 countries to date with company focus always on providing top quality service and dedication to the project for our clients. Some of the companies that we have worked for are Amerada Hess (Canada & USA), Arkoma (Canada & USA), BrazAlta (Brazil), (Canada), Canadian Hunter (Canada), Canadian Natural Resources Ltd. CNRL (Canada), Champlain (USA), CNPC China National Petroleum Corporation (China), CNODC (China), Coenerco Resources (Canada), Dynasty Energy Ltd., (Southeast Asia), Ecopetrol S.A. (Columbia SA), Ivanhoe Energy Inc. (China, USA, Canada), Mark Resources Inc. (Canada), NIOC National Iranian Oil Company (Iran), Pan-China Resources (China), PDIP (Newfoundland Canada), Peyto Exploration (Canada), Norcen Energy Resources Ltd. (Canada), Texaco (Canada), Texas Pacific (USA & Canada), Sequoia Oil & Gas Trust (Canada), Shoal Point Energy Ltd. (Newfoundland Canada), Sunwing Energy (Canada & China), Union Pacific (USA), UPRC (Canada).

Following the drilling of the well the ownership of the Green Point rights in License 1070 will be as follows:

Dragon Lance Management Company:	29.25%
Shoal Point Energy Ltd.:	51.50%
Canadian Imperial Venture Corp.:	19.25%

1.1.3 Partners

1.1.3.1 Shoal Point Energy Ltd.

Shoal Point Energy Ltd. is a petroleum exploration and development company based in Toronto, Ontario, Canada. The Company was formed in December 2006 to pursue oil and gas exploration opportunities through financings and joint ventures within Atlantic Canada. The Company was listed on the Canadian National Stock Exchange in November 2010, and trades under the symbol SHP.

Shoal Point, through an earlier phase of exploration in July 2008, participated with its partners in the recognition and discovery of the subsurface oil potential of the Green Point Formation on Exploration License 1070 in Port au Port Bay. Since that time the Company has worked toward the establishment of this formation as a viable liquids-in-shale play, similar to others in Paleozoic basins across North America, and particularly in Appalachian foreland basins. Through its corporate reorganization in October, 2010, the Company now includes a strong technical consulting group which has extensive experience in producing oil from similar geologic settings in the United States. The Company has recently raised approximately $6.1 million in funds to be dedicated to development of the Green Point play, and, in addition, holds an interest in gas bearing lands in the South Stoney Creek area of New Brunswick.

The company also benefits from a management team with extensive experience specific to Atlantic Canada, and places much emphasis on fostering strong relationships with its industry, financial and government partners.

1.1.3.2 Canadian Imperial Venture Corporation

Canadian Imperial Venture Corp. (“CIVC”/the “Company”) is an independent exploration and production petroleum company based in Newfoundland, Canada. The Company’s focus is on developing an oil-in-shale discovery made in 2008 in conjunction with its partners. An independent resource evaluation in May, 2010, estimated that the Discovered Oil-in-Place within the company’s property, is in the range of 500 million barrels (Low Estimate) and 5.2 Billion barrels (High Estimate), with 1.6 Billion barrels being the Best Estimate. The Discovered Oil-in-Place resource is in the Ordovician Green Point Formation within the Appalachian Anticosti Basin of Western Newfoundland.

The company has entered into a number of arrangements with partners, the purpose of which is to undertake the drilling of an appraisal well before the end of 2010. The company also has recently entered into an agreement to acquire mineral rights on the Port au Port Peninsula. The focus of the minerals prospect is a feature known as the “Odd Twins Magnetic Anomaly” which has been identified on magnetic surveys and indicates two prospective sandstone units with a gross thickness of up to 506 meters. Preliminary outcrop sampling indicates a concentration of heavy metals – magnetite, ilmenite and chromite – at approximately 5% of the total rock. A $200,000 core hole drilling program is planned to be conducted before December 31, 2010. The

minerals project, while attractive in its own right is potentially synergistic with the energy project as a user of produced petroleum energy for further processing of minerals.

The company is listed on the TSX Venture Exchange (TSX-V: CQV) and the Frankfurt Exchange (DFM).

2.0 Project Overview

2.1 Purpose of the Project

The proposed drilling of the 3K-39 well is a follow-up to the 2008 2K-39 well which discovered an approximately 500 m thick oil-bearing section in the Green Point Shale Formation. The purpose of the 3K-39 well is to evaluate the producibility of the discovered oil-in-place resource.

Since the 3K-39 well will twin the earlier discovery well in the section down to 2200 m, geological and engineering risks are minimized. Based on information from 2K-39, the expectations are that the 3K-39 well will satisfy the requirements of the Canada Newfoundland Offshore Petroleum Board ("CNLOPB") for the declaration of a significant Discovery Licence ("SDL") within Exploration Licence 1070 (EL 1070"). The declaration of a SDL and related Significant Discovery Area ("SDA") will provide the proponents with the opportunity to establish the commerciality of the discovered resource and its eventual development.

Should no Significant Discovery Licence be awarded by the CNLOPB, the well will be abandoned in conformity with the relevant regulations and the rights with revert to the Crown.

2.2 Relevant Legislation and Regulatory Approvals

Permits and authorizations for drilling at Shoal Point are required from the C-NLOPB and the Newfoundland and Labrador Department of Natural Resources ("NLDNR"). Since federal permits are required for drilling operations, the project is subject to environmental assessment under the *Canadian Environmental Assessment Act*.

In addition, projects occurring in the Province of Newfoundland and Labrador may be subject to registration and potentially assessment under the Province's *Environmental Protection Act* (*EPA*). The requirement for registration under the *EPA* is at the discretion of the Minister of Environment and Conservation.

DLMC is aware that species at risk may be present in the area and will ensure that appropriate measures to protect these species are considered in this document. Considering that DLMC was the Drilling Management firm contracted to drill the Shoal Point 2K-39 well in 2008 for SPE and CIVC, it has experience with the area and is well informed of the relevant issues. In addition, DLMC is aware that additional permits and permissions may be required for specific activities and will ensure that these are obtained as needed.

Legislation that is relevant to the environmental aspects of this Project include:

Federal

- *Canada-Newfoundland Atlantic Accord Implementation Acts*
- *Canadian Environmental Assessment Act*

- *Oceans Act*
- *Fisheries Act*
- *Navigable Waters Protection Act*
- *Canada Shipping Act*
- *Species at Risk Act*
- *Migratory Birds Convention Act*
- *Canadian Environmental Protection Act*

Provincial

- *Environmental Protection Act*
- *Water Resources Act*

The drilling program will be wholly funded by the Proponent. This Project will not require funding in the form of a grant or loan from any federal or provincial government body, program, agency, or department.

2.3 Document Organization

This EA update is organized under the following major headings:

- Introduction
- Project Overview
- Project Description
- Physical Environment
- Biological Environment
- Effects Assessment Methodology
- Routine Project Activities
- Accidental Events
- Summary and Conclusions
- Literature Cited
- Appendix 1

3.0 Project Description

This section is based on information available at the time of writing. Currently, not all contractors and suppliers have been selected. Nonetheless, the project description presented here will be refined as preparation for the Project progresses.

3.1 Name and Location

The name of this Project is the **Onshore to Offshore DLMC Shoal Point 3K-39 Drilling Program**. Drilling at the surface will begin at an onshore location near the northern tip of Shoal Point (Figures 3.1 and 3.2), the same area where the SPE Shoal Point 2K-39 well and the Pan Canadian K-39 well were spudded in 2008 and 1999, respectively. The potential impacts of the SPE Shoal Point 2K-39 well were described and assessed in the 2007 EA and associated addendum (LGL 2007a,b). Drilling of 3K-39 will be deviated towards an offshore subsurface target within EL-1070, as was the case with 2K-39.

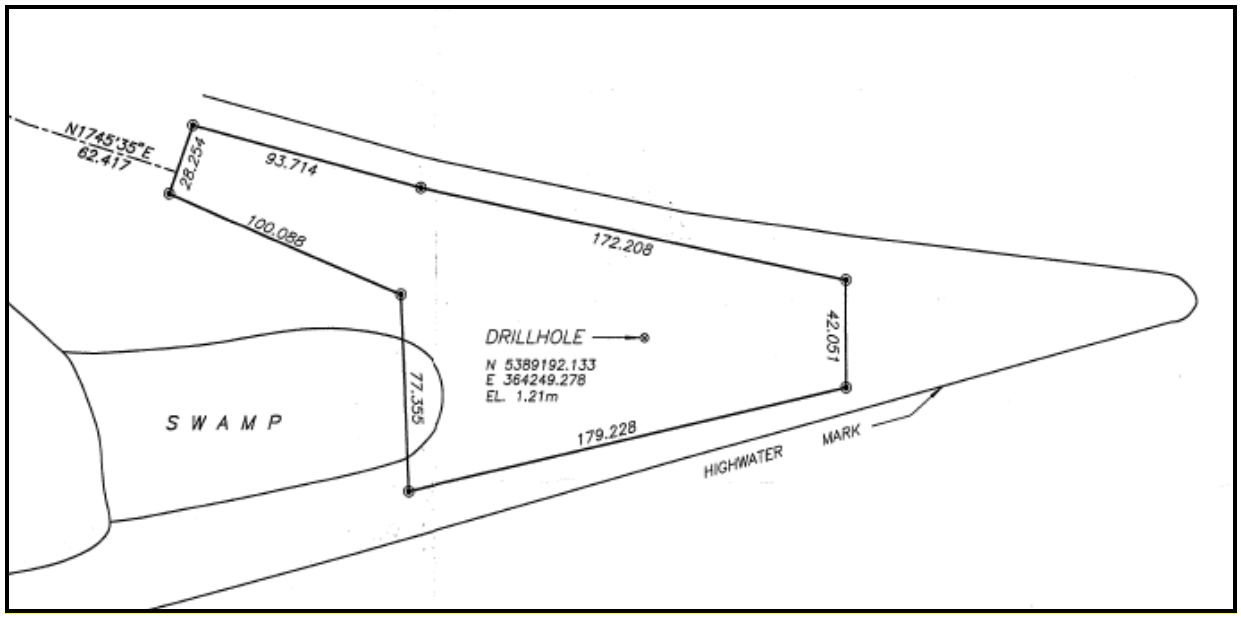
All of the 3K-39 well use area and most of the drilling parameters will mimic the 2K-39 well data with the exception of wellbore and casing sizes as the 3K-39 well is programmed to be much shallower than the 2K39 well. The exact same land location and the exact same road access will be used. The 3K-39 well will be approximately 15 m N and 5 m W of the 2K-39 center pin, and will be drilled parallel to the 2K-39 well, but with a 20-m departure between the 2K-39 and the 3K-39 proposed wellbore. The wellbore will be in the same general azimuth direction as the 2K-39 well with the intention to drill (twin) the 2K-39 well as close as possible while staying far enough away to not have any formation damage or interference from the previous 2K-39 wellbore.

The Project Area is defined in Figure 1.1, and includes much of the shoreline that borders EL-1070. The Study Area of this Project is also defined in Figure 1.1.

3.2 Alternatives

The alternative to the Project is to not drill any wells with targets within EL-1070, but to explore for oil and gas elsewhere in order to satisfy market demand. However, the Proponent has been awarded rights to explore within EL-1070 through a regulated competitive bidding process and is now seeking to fulfil commitments made as part of this process.

An alternative means to directional drilling is to drill a vertical hole at an offshore location (e.g., using a jack-up rig) into a subsurface target in EL-1070. However, since onshore operations are typically safer, less environmentally invasive, and more economical than offshore operations, the offshore alternative is not currently viable.



Source: Yates & Wood Survey: Drawing #97260-3R, dated 23 Dec 1998.

Figure 3.1. Plan Layout of Drill Site for Existing K-39 Well.

Source: NLDOEC.

Figure 3.2. Aerial Photograph of Shoal Point Drill Site.

3.3 Canada-Newfoundland and Labrador Benefits

The Proponent is committed to bringing maximum benefits associated with the Port au Port drilling program to Newfoundland and Labrador. The Proponent seeks to strengthen the involvement of Newfoundlanders and Labradoreans, particularly those in Western Newfoundland, as well as other Canadians who have been participating in the oil and gas developments in the Port au Port area. As such, the Proponent strives to provide these individuals and companies with full opportunity to participate in project activities on the Port au Port peninsula, on a preferential basis wherever commercially achievable.

Where there is competitiveness in terms of fair market price, quality, and delivery, the Proponent will give hiring preference to those individuals and companies from the Port au Port Peninsula, followed by others from western Newfoundland, the remainder of Newfoundland and Labrador, and the remainder of Canada over those from other countries. Contractors and subcontractors working with the Proponent must also subscribe to and apply these principles of adjacency in their own operations. DLMC intends to apply this policy as it did during the drilling of the Shoal Point 2K-39 well in 2008.

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3.3.1 Required Resources

3.3.1.1 Personnel and Project Management

The operator for the project will be DLMC and the project will be managed jointly by the Operator's Nisku office as well as sharing an office in St. John's, NL with CIVC, supported by the Operator’s field and engineering staff.

During these drilling operations, the Operator will be represented at the site by field consultants and an engineering team. Other key members of the management teams from CIVC, DLMC and SPE will be onsite to provide geological input during periods when the reservoir target is being approached and drilled.

Aside from those identified above, there will be no other offsite facilities to support the drilling program. Support for the drilling operations will be controlled by the Operator and its Engineering Contractor and by the Drilling Rig Contractors support group, and will draw on a supply chain based throughout Canada, but primarily from Newfoundland.

3.3.1.2 Other Equipment, Supplies, Materials

In addition to the drilling unit, the drilling of the 3K-39 well will require other equipment, supplies, and materials. Examples include office accommodation modules, power generating modules, mud and cement mixing systems, bottom hole assembly (BHA) tools, drill bits, and

wellhead and well casing materials, drilling fluids, cements and additives. If hydrocarbons are found, well testing equipment will also be needed in order to undertake drill stem testing.

A number of supporting services will also be required from capable contracting companies for the exploratory drilling. Examples of these services will likely include rig operation services, directional drilling services, wellhead services, casing running services, mud services, cementing services, LWD/MWD services, logging services, coring services, geological services, and communications.

3.3.2 Off-Site Facilities

There will be no other offsite facilities to support the drilling program. Support for the drilling operations will be controlled by the Operator, its engineering contractor and the drilling contractor, and will draw on a supply chain based throughout Canada. The primary communications link to the drill site will be a satellite based internet service and high powered cell phone located on site.

3.3 Consultations

3.3.1 2007 Consultations

In May 2007, public consultations, meetings, and open houses were held in Piccadilly and Cape St. George on the Port au Port Peninsula, in Stephenville and in St. John's with various community agencies, businesses, local/area interest groups, government agencies, and area residents. These sessions allowed the Proponent, which was represented by PDIP, to present information about the exploration drilling program, and to identify relevant issues and concerns. Furthermore, these sessions provided the Proponent an occasion to gather additional information required for project planning.

In addition, the Project Description and draft Scoping Document for the proposed EL-1070 exploration drilling program was provided to various St John's-based agencies and interest groups in early May 2007.

Consultations in 2007 were undertaken with the following agencies and interest groups:

- Residents of the Port au Port Peninsula;
- Business groups of the Port au Port Peninsula;
- Long Range Economic Development Board;
- Cape St George Town Council;
- Ktaqamkuk Heritage Foundation;
- Fisheries Food and Allied Workers Union (FFAWU);
- One Ocean;
- Fisheries and Oceans Canada (DFO);

- Environment Canada (EC); and
- Natural History Society (NHS).

3.3.2 2010 Consultations

During the preparation of this update of the Port au Port Exploration Drilling Program Environmental Assessment (LGL 2007a) and Addendum (LGL 2007b), consultations were again undertaken with relevant government agencies, representatives of the fishing industry, municipal managers and the area's Regional Economic Development Board. The purpose of these consultations was to describe the proposed drilling program, to identify any issues and concerns and to gather additional information relevant to the EA update.

A short description of the proposed drilling program and location was sent to all agencies and stakeholder groups in November 2010. Stakeholders were asked to review this information, provide any comments on these proposed activities, and indicate if they would like to meet to discuss the proposed program in more detail.

Consultations for the 2010 Drilling Program were undertaken with the following agencies, stakeholders and interest groups:

- Fisheries and Oceans Canada (DFO);
- Environment Canada (EC);
- Natural History Society (NHS);
- One Ocean;
- Fish, Food and Allied Workers Union (FFAWU);
- Long Range Regional Economic Development Board:
- Town Council of Port au Port West;
- Town Council of Cape St. George;
- Town Council of Lourdes; and
- Study Area Harbour Authorities.

Appendix 1 provides a list of agency and industry officials who were consulted during the preparation of this EA update.

3.3.2.1 Issues and Concerns

Comments and responses received to date from various stakeholders are discussed below.

3.3.2.1.1 Local Agencies

The Town Clerk of Port au Port West responded that Council did not have any questions or concerns. There was no response from the other municipalities. The Long Range Regional Economic Development Board indicated that it had forwarded the information to relevant local groups and agencies and did not note any concerns or issues on the part of the Board.

3.3.2.1.2 Fisheries and Oceans Canada

The DFO EA Co-ordinator indicated that DFO did not have concerns or issues that required a meeting with the proponent and noted that the department would be providing comments on the EA Update when it is received from the Board (J. Kelly, pers comm., November, 2010).

3.3.2.1.3 Environment Canada

Following his review of the information provided by the consultants, Environment Canada's EA Co-ordinator indicated that EC had no specific questions or concerns, but might wish to discuss the matter further following its review of the EA Update (G. Troke, pers comm., November, 2010).

3.3.2.1.4 Natural History Society

One of the NHS's representatives raised a question about potential impacts on any rare plants that might occur within the "footprint" area of the drilling operation, including habitat in the vicinity of any access roads into the site. The NHS also asked if there was any possibility of oil being spilled into the marine environment from a well being directionally drilled from an onshore site. The NHS also noted that drill site pollution and surface damage associated with establishing the drilling platform and access roads were the primary concern, and suggested that the Proponent should be required to restore any land damaged by drilling activities (L. Zedel, pers comm., November, 2010).

3.3.2.1.5 One Ocean

One Ocean did not raise any specific concerns about the proposed drilling program, but the agency's Director of Operations played a role in facilitating and clarifying further discussions and information exchange between the Proponent and the FFAWU. Following her review of the supplementary information which LGL provided to the FFAWU, the Director suggested that, in light of (a) the FFAWU's response that this information did not sufficiently address or answer the Union's concerns and (b) the lack of scientific literature on the subject of potential impacts on fisheries resources from noise from drilling operations, she suggested that "the Proponent attempt to avail of supplement information on the expected sound levels from the exploratory drilling program along with the sound levels/vibrations and distance that sounds travel through sediments and its potential impact on lobster and discuss it with the FFAWU at a meeting. She went on to say that there might be some information on this subject from the EEM program of the Sable Offshore Project and that, if there was such information, this might be useful in the discussions between the Proponent and the Union (M. Murphy, pers comm., 13 November 2010).

3.3.2.1.6 Fish, Food and Allied Workers Union

After reviewing the Project information provided by the consultants, the FFAWU's Petroleum Industry Liaison (PIL) manager responded, "Our members have concerns regarding this proposed project primarily with respect to the lobster resource and important lobster habitat.

More information on the expected level(s) of sound to be produced from the exploratory drilling program along with the sound levels/vibrations and distance that sounds travel through sediments would be appreciated. A meeting with the company (on the west coast) was proposed so they could provide this information to address our concerns would be appreciated as well".

The FFAWU representative went on to note that "As this project is anticipated to occur in December/January, fishing will not be ongoing in the bay during these months. However, should the project proceed at a different time in the year, spawning times for important shellfish, pelagic and ground fish species should be avoided" (R. Saunders-Lee, pers comm., 9 November, 2010).

In response to these comments, the consultants asked the FFAWU's PIL manager to clarify this matter. Were these concerns about potential impacts on lobster resources/habitat associated with noise from the proposed 2010 drilling operations, or were they about potential impacts (i.e. air-gun noise) associated with any marine seismic program which might take place at some point in the future? It was further noted that the consultants would do a search for any information on potential impacts on fisheries resources of sound and/or vibrations from marine drilling operations. The FFAWU's PIL manager subsequently replied that the Union's concerns pertained to "impacts from drilling noise" (R. Saunders-Lee, pers comm., 9 November, 2010).

LGL did a search of available information on the general topic of drilling noise. In responding to the FFAWU's concerns, LGL noted that "Noise produced during exploratory drilling on Shoal Point was described and assessed in the original environmental assessment (LGL 2007a) and its addendum (LGL 2007b) prepared and approved in 2007. The bore hole of the proposed 2010 well will be located at least 120 m below the substrate surface at the low water mark, followed by a rapid increase in distance from the substrate surface. The target area is more than 1,400 m below the Port au Port bottom substrate. Noise emanating from the bore hole as the drill moves downwards will not be an issue with respect to disturbing marine fauna and habitat on the bottom of Port au Port Bay with either its sound pressure or particle motion (vibration) component".

LGL went on to say that the original EA document included assessment of vertical seismic profiling (VSP) which would cause higher levels of sound than would drilling in the borehole. It was also noted that any intention by the Proponent to conduct a VSP within the temporal scope of the original EA (2007-2012) would initiate another update document, as has the proposed drilling program currently being considered.

LGL reiterated that the proposed drilling activities would occur over a 15-20 day period in December 2010/January 2011 and therefore not have any potential impact on commercial fishing activities. Nevertheless, it was noted that the Proponent was more than willing to meet with the FFAWU in St. John's to discuss this matter further.

In response, the FFAWU's PIL manager indicated that LGL's response (see above) as well as relevant information in the original EA and in the Addendum, did not fully address the Union's concerns "with respect to sound levels/vibrations that may reach the benthic environment from drilling and associated impacts of vibrations/sound on lobster and lobster habitat (i.e., noise will not be an issue with respect to disturbing marine fauna and habitat is not assuring that there will be no longer term impacts on the lobster resource). I do recognize that there may not be much

literature out there on the topic but this is a concern of our lobster harvesters in the Port au Port Peninsula". She went on to say that the FFAWU had requested a meeting on the west coast with the lobster harvesters in the area, and that the Union would like the Proponent to schedule and attend such a meeting. A meeting was held at the St. John's FFAWU office in November, attened by representatives of the FFAWU, One Ocean, the Proponent and LGL. The Proponent subsequently agreed to attend a meeting with Port au Port Peninsula fishers scheduled for 1 December 2010 at Piccadilly.

The topics discussed at that meeting are described below.

3.3.2.1.7 Meeting with Fishers and FFAWU Officials, Piccadilly, 1 December

As noted above, following a review of the information provided by the consultants, FFAWU officials stated their interest in having a face-to-face meeting in the Project Area involving local area fishers and the Proponent. This meeting was organized by the FFAWU and took place on 1 December at Piccadilly. Fishers attending the meeting were from various Port au Port Peninsula homeports.

At the meeting, the Proponent's representative, Mr. Steve Millan of CIVC, provided an overview of the proposed drilling program, including some history on drilling in the area. Following this, there were several questions from the floor regarding plans for seismic surveying and general concerns that some fishers have raised about potential impacts from these kinds of exploration activities. Mr. Millan indicated that the Proponent has no plans to conduct seismic survey activities in the near future.

LGL's representative addressed various research findings concerning potential effects. He indicated to the fishers that any future seismic in shallow water would likely have a condition that a scientifically defensible study be conducted, probably using lobster. It was noted that DFO had stipulated the need for a study as a condition of a PDIP seismic EA completed a couple of years ago. LGL noted that the design and implementation of any such study should involve all stakeholders directly so that everyone agrees on the design and aim of this study before implementation.

The FFAWU's PIL manager asked about the differences between seismic sound and sound emanating from a drilling operation, and LGL's representative provided a short response. He went on to suggest that future drilling in the vicinity of Port au Port Bay (but not the current proposed program) might involve another scientifically defensible study that included measurement of particle motion and sound pressure during drilling, and perhaps even exposure of lobsters to the drilling sound. It was noted, however, that a long lead-time is required to properly design such a study, and that is why it is not feasible to undertake a similar study for the current proposed drilling program.

Fishers attending the meeting said that lobster catches in Port au Port Bay have been reduced during the last two years. However they noted that their primary concern was about the possible effects of past seismic surveying, not the proposed 2010 drilling program.

The FFAWU's Staff Representative asked a question about how the cuttings would be handled and Steve Millan provided a satisfactory response.

3.3.2.1.8 Comments from other Project Area Fishers (Harbour Authority Officials)

According to information from participants, none of the fishers that attended the 1 December Piccadilly meeting trap lobster in the immediate vicinity of the proposed well site. However, information about lobster harvesting activities adjacent to Shoal Point was provided via discussions with several fishers involved with relevant Harbour Authorities in the study area. Information gathered during these consultations is summarized below.

Approximately 8 to 10 lobster fishers typically set their pots in grounds relatively close to shore in the area adjacent to Shoal Point. This gear is set in water approximately 9 m deep in an area known locally as Seal Rocks. Fishers report that these rocks (and associated lobster fishing grounds) extend out from the top of the Point to the northeast for about one half mile. They estimate that, during the peak of the fishery, there may be as many as 2000 lobster traps in this general area.

Fishers contacted were not aware of any concerns among local area fishers about potential negative effects on lobster specifically from drilling operations. It was noted, however, that some fishers have already expressed concern about possible impacts on lobster resources from seismic survey operations. Lobster and other fisheries have been declining in recent years, and hence many fishers are worried about possible effects of oil exploration activities in general.

Some fishers (e.g., some who attended a 2008 consultation meeting at Piccadilly related to a seismic program proposed by PDIP) have claimed that there have already been impacts – i.e. no lobster in the area where the survey took place. However, one fisher noted that his lobster catches in the area where the seismic survey was undertaken were the best he had had in two years.

In light of the BP oil spill in the Gulf of Mexico, many fishers are a bit more nervous and worried about an oil spill at Shoal Point, even though they are aware that the drilling operation will be enclosed in a berm, as was the case during the drilling of the 2008 well.

3.4 Project Components, Structures, and Activities

3.4.1 Project Phases

The proposed 2010 exploration drilling program at Shoal Point consists of a single appraisal well drilled from onshore to an offshore target for proof of concept for the Green Point Shale oil. The drilling of this well will include the first three phases of operations listed below, and perhaps the latter four phases of operations, depending on the well evaluation.

- Construction or upgrade of the access road and drilling location;
- Mobilization of the drilling rig;

- Drilling of the well, including routine activities and well evaluation;
- Drill stem testing of encountered hydrocarbons;
- Well abandonment or running of production casing and completions equipment; and
- Submission of an SDL application.

The planned method of drilling the Green Point Shale prospect is to drill a deviated wellbore parallel to the Shoal Point 2K-39 wellbore through the Green Point section, keeping the wellbore separation at approximately 20 to 30 m. The DLMC Shoal Point 3K-39 deviated well is expected to be between 1800 and 2200 m in length.

Since the well will be drilled from onshore, a significant amount of preparatory work will need to be undertaken, as was the case during the drilling of the 2K-39 well. This preparatory work includes:

- Resurfacing/grading of the road to the Shoal Point drilling area; and

- Construction of 1-m high berm(s) at least 15 m back from the high water mark at the Shoal Point drilling area to contain any accidental spills during the program.

See Figure 3.1 for lease construction layout which is the same as that used for the Shoal Point 2K-39 well drilled in 2008.

3.4.2 Project Scheduling

The Shoal Point 3K-39 well is expected to be spudded in December 2010. It is anticipated that the duration of the drilling program will be 15-20 days. Given that the work will be carried out during the winter, the final schedule may be affected by weather and specific down-hole issues.

3.4.3 Site Plans

Although, the site plan for the Operator's proposed drilling activities is still undergoing design, it is expected that the layout will be comparable to that shown in the Figure 3.1. The main site gate will be 8.5 km away from the location where the only road access to the location leaves the government road and the second site access check point will be situated where the road meets the site boundary, as indicated on Figures 3.1 and 3.2.

All equipment containing hydrocarbon liquids will be contained inside a bermed area to protect the environment and personnel from potential spills. The berm(s) will be constructed as follows; the main will be a single berm design around the entire location and individual berms will be constructed around any piece of equipment containing hydrocarbons that is not a double walled tank, drilling fluids and other industrial fluids. Fuel sources will all be stored in double walled fuel storage tanks supplied by the fuel dealer and approved by the government services department.

This purpose of the berm(s) will be to intercept all spilled liquids and prevent them from flowing unabated towards the marine environment. In the event of a fuel spill, free oil that is contained within the bermed area or that has seeped into the subsurface will be recovered as soon as equipment is mobilized to the site. Furthermore, soil and groundwater that has been impacted above NLDOEC's TIER I levels will be removed for off site treatment.

3.4.4 Mobile Drilling Units

For the prospective Shoal Point 3K-39 well, drilling will be conducted using a mobile (land) drilling unit (MDU). As there is not yet an established land based drilling industry in Newfoundland, a drilling unit must be mobilized from another area within the country (e.g. Eastern Canada and / or Alberta).

Some specifics of the MDU are as follow:

- Weather proofed, complete with heated blow out prevention and heated crew facilities;
- Top drive drilling facilities;
- Water based and sea water based mud handling and solids cleaning systems; and
- 21,000kPa (3,000psi) pressure control equipment.

Safe operations are the number one priority for DLMC and, therefore, it will ensure that the drilling rig is fit for purpose and that appropriate drilling standards are adhered to during the drilling process. As a responsible operator, DLMC will of course also ensure that sufficient and appropriate down hole and surface barriers are in place at all times to minimize the potential for any loss of containment during drilling, testing, completions, and stimulation operations.

The MDU will have a depth rating near 2,200 m using sufficient sized drill pipes and collars. The clearance between the ground and the Blow-Out Preventers (BOPs) will be in the range of about 3.5 m.

An MDU of this capacity, with associated ancillary equipment (e.g. required fuel tanks, doghouse, tool house, generation facilities, etc.) will likely have a footprint of about 80 m by 30 m. Mobilizing a rig of this size to the site will require about 20 truck loads of equipment.

In the case of high winds, rigging out and laying down of the derrick can be conducted in about 20 minutes. In light of this rig capability, the derrick does not need to be stabilized using high strength guy wires secured by drilled and grouted anchors.

A photograph of the MDU to be used at Shoal Point is shown in Figure 3.3 below.

Figure 3.3. Photograph of Mobile Drilling Unit to be Used at Shoal Point.

3.4.5 Drill Hole and Casings

Examples of typical hole/casing sizes are indicated in **Error! Reference source not found.**. It is anticipated that the hole/casing sizes and setting depths for future drilling locations will be similar to those described in the table.

Table 3.1. Typical Hole and Casing Characteristics

Hole Section	Hole (mm)	Casing (mm)	Depth (m)	Drilling Fluid Type
Conductor	Driven	340-355	20-25	Fresh water based fluid
Surface	311	244.5	455 TVD	Fresh water based fluid
Production (Main)	200-222	139.7	1800-2200	Sea water based fluid

This scenario assumes no abnormal geopressures or shallow hazards will be encountered and is based on the conditions experienced while drilling the 2K-39 well.

3.4.6 Drilling

The DLMC Shoal Point 3K-39 deviated well is expected to be between 1800m and 2200m in length. See proposed directional plots in Figures 3.4 and 3.5.

3.4.7 Well Testing

When the well has reached its target, a geological evaluation will be undertaken to determine whether well testing is necessary. If well testing is carried out, the outcome will establish the quality, quantity, and content of the hydrocarbon-bearing formations and reservoir encountered. Well testing will require specialized contractors and equipment, personnel and procedures in addition to the drilling contractors, in order to facilitate flowing of the well.

During the testing of the well, fluids will be produced from the wellbore. Produced fluids may contain hydrocarbons, produced water or both. The produced gas will be flared in a proper flare stack and the produced liquids will be temporarily stored on site and properly bermed as required. Appropriate approvals will be obtained for flaring/burning, and for on-site storage facilities as required. Produced water, if it occurs, will be stored on site and removed by a qualified waste disposal contractor.

3.4.8 Well Abandonment

Following completion of drilling and well testing, the well will be either plugged and abandoned or cased with production casing in conformance to the appropriate Newfoundland drilling regulations (onshore or offshore).

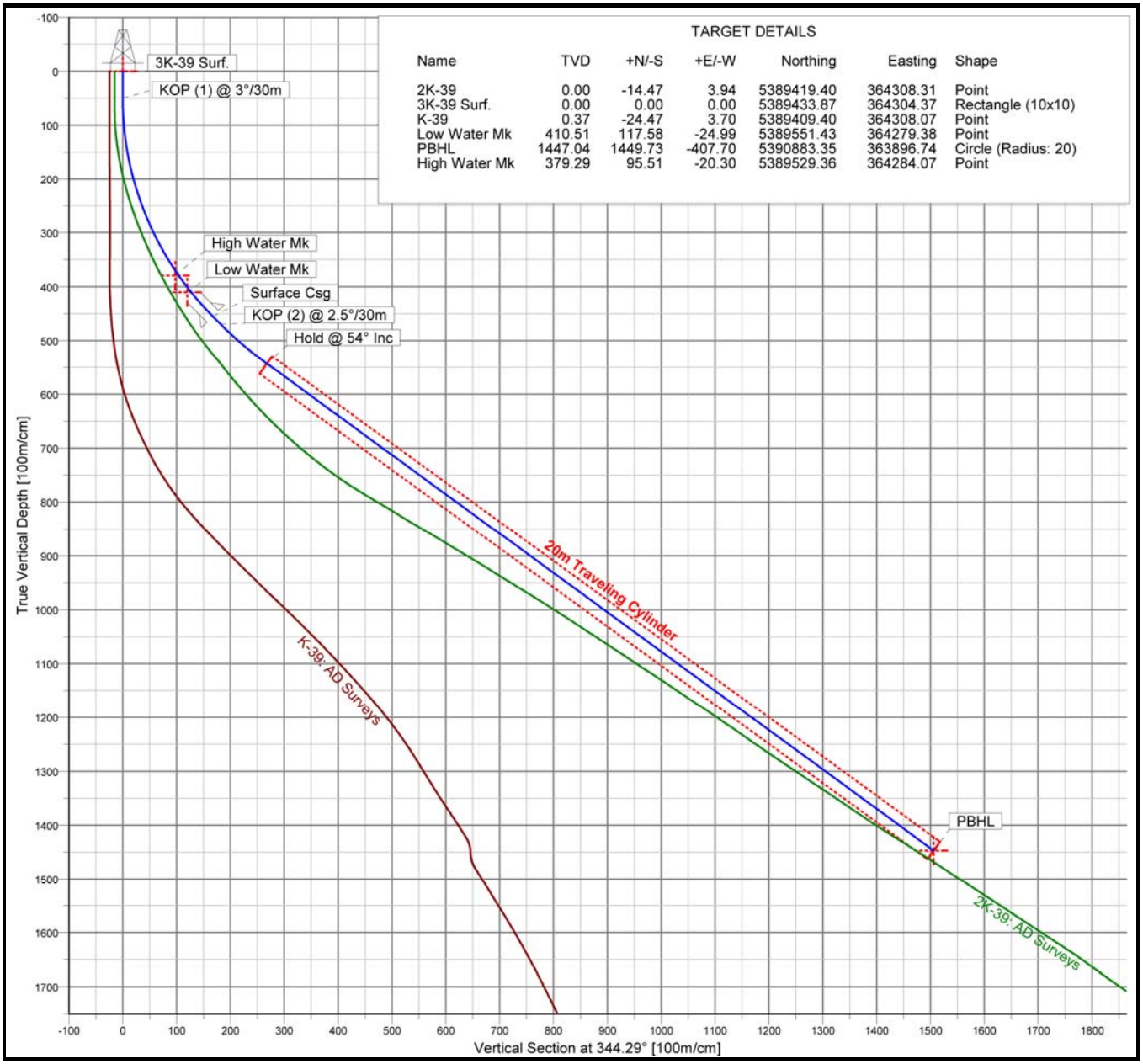

Figure 3.4. Vertical Section Plan (as viewed from the side).

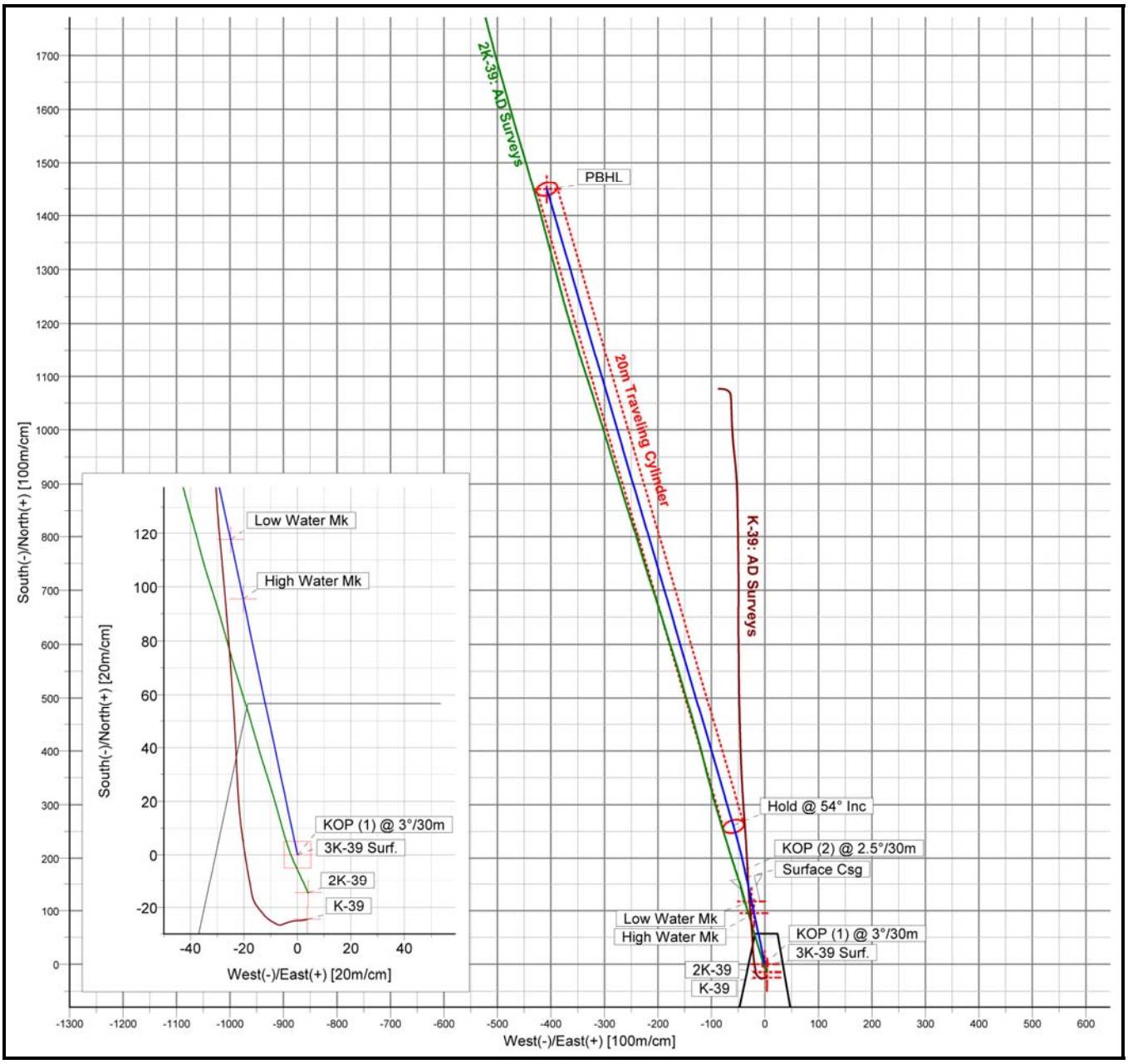

Figure 3.5. Well Path Plan (as viewed from overhead).

As required under the *Newfoundland Offshore Petroleum Drilling Regulations* and the *Provincial Petroleum Drilling Regulations under the Petroleum and Natural Gas Act*, the Operator will ensure that any well (or a portion of a well) that is not suspended or completed is abandoned to prevent formation fluids from flowing out of the well. The well abandonment procedures will follow industry standard practices and will comply with these regulations.

The Operator will ensure that the abandoned well will first be filled with fluid of sufficient density to over-balance the formation pressures found in the well. The well will then be permanently plugged. Well log data will be analyzed to determine how the well should be plugged to ensure that any formations that may contain fluid or gas are isolated. Typically, the well(s) will be plugged using cement and bridge plugs in accordance with the current regulations, and will be appropriately tested as required. Following this, the Operator will ensure that the wellhead and associated equipment is removed and that all exposed casing will be cut off below the ground level to an appropriate depth.

3.4.9 Emissions and Waste Discharges

As for most industrial operations, a certain amount of waste (including solid and liquid waste, and air emissions) is expected to be generated. For the drilling operations described above, however, waste is expected to be limited. Waste from drilling operations is expected to include drilling fluids and cuttings, solid waste (including domestic and industrial waste) and grey/black water. In addition, hydrocarbons including oil and gas and produced water may be encountered during test operations and will need to be handled and disposed of appropriately.

Methods for dealing with the specific waste materials anticipated are addressed in the following subsections.

3.4.9.1 Drilling Fluids (Muds) and Cuttings

The drilling fluids plan at this stage is to use a fresh water polymer system for the surface hole section so as to protect any ground water and to use a sea water polymer system for the main hole section. There will be no oil, oil based mud or synthetic oil mud used in this well project. The mud system will be maintained solids-free and as light as possible. In all cases, there will be no operational discharges of drilling waste to the environment. Drilling waste will be stored, tested and trucked from site using an appropriate waste management contractor as was done on the 2K-39 well program.

3.4.9.2 Produced Hydrocarbons

Once the well has been drilled to total target depth, a geological evaluation will be undertaken to determine whether well testing is justified. Well testing would require specialized contractors and equipment, personnel and procedures in addition to the drilling contractors in order to facilitate perforation of the well and allow well fluids to flow. During testing, any associated gas will be flared but the oil will be recovered. Appropriate approvals will be sought to allow flaring and installation and use of storage facilities at site.

3.4.9.3 Grey/Black Water

All grey/black water will be collected in tanks and disposed by certified disposal contractors in the appropriate manner.

3.4.9.4 Machinery Space Discharges

Machinery space discharges will be contained within their enclosed modules. Any spills will be collected with oil sorbents, stored on site in leak proof containers, and collected and disposed of by a qualified waste management contractor.

From other machinery such as diesel light towers, there is also the potential for ground spills through leaky lubricants and diesel spills during refuelling. To mitigate this, spill pans will be used while refuelling. Any engine oil discharges that reach the soil will be removed along with the contaminated soil and disposed of in accordance with provincial regulatory requirements.

3.4.9.5 Cooling Water

The drives and brakes on the rigs will be water cooled. The cooling water system will be a closed system and that the water may be treated with chlorine as a biocide. The treated cooling water will be disposed of at the end of the campaign using a qualified waste management contractor. If any cooling water need to be disposed of during the drilling process it will also be disposed of using a qualified waste management contractor.

3.4.9.6 Solid Waste

The same procedures used during drilling of the Shoal Point 2K-39 well in 2008 will be implemented by DLMC, including the implementation of a waste recycling program. All trash and garbage that cannot be recycled will be stored in suitable containers and disposed of at an appropriate landfill site. Combustible waste (such as oily rags, oil filters, used oil, paint cans, etc) will be appropriately stored and disposed of by a certified contractor. Hazardous wastes will be suitably stored, and, where necessary, sealed prior to disposal by a certified waste contractor.

3.4.9.7 Atmospheric Emissions

Atmospheric emissions produced during the drilling phases of the project are not anticipated to be significant. A certain amount of fugitive emissions is expected (i.e. atmospheric emissions other than those released from vents or stacks, such as atmospheric emissions from equipment leaks or fuel storage tanks). In addition, combustion gas emissions are expected from diesel combustion systems (e.g. engines and generators used during operations) as well as from the flare stack.

3.4.9.8 H_2S Gas Detection

While drilling the SPE Shoal Point 2K-39 well in 2008, DLMC carried a complete four head monitoring system with a complete air supply trailer that included eight extra Scott air breathing kits. Considering that there have not been any indications of H_2S in Western Newfoundland and that there was not any sign of H_2S during the drilling of the K-39 or the 2K-39 well, the H_2S equipment described above will not be used during drilling of the 3K-39 well. DLMC will use the standard for none H_2S wells and be equipped with five Scott air breathing kits, four personnel alarms and two 4-head gas detectors so that H_2S and other potential explosive hazards can be monitored at all times.

3.4.9.9 Sound

Noise will be emitted from the machinery involved in drilling the well. Typical noise levels associated with an MDU range from about 70 dB in the dog house area to about 110 dB in the generator, motor house, and vacuum pump areas. However, since noise levels diminish with distance, it is anticipated that the site noise will not reach annoyance or disturbance levels outside of the drilling boundary. The closest residence to the drilling area is more than 10 km away.

3.5 Timing

DLMC will undertake this work on behalf of the interest holders during the fourth quarter of 2010. Although the final timing of the proposed drilling operations will be influenced by decisions from the NLDNR, (for the onshore portion of the program) and from the C-NLOPB (for the offshore component of the program), the drilling is scheduled to commence prior to December 15, 2010 and will most likely require 15 to 20 days to complete. After the well is completed, it will either be abandoned or completed. If the well is completed, then the SDL application will be finalized and submitted to the C-NLOPB. It should be noted that DLMC are committed to working with the local community to minimize environmental disturbance and maintain a good working relationship with the community. The proponent has consulted with the local fishing community to determine any sensitive concerns and to with the local population to ensure that their concerns are addressed prior to undertaking any planned drilling work. During the 2008 drilling operation, DLMC had a very positive relationship with the local residents, both fishers and non-fishers. In addition, scheduling and timing of regulatory authorizations will factor into the planning of drilling activities.

3.6 Environmental Management

The Operator commits to carrying out all drilling related activities in compliance with federal and provincial environmental regulations, generally accepted industry practice, and its own environmental policies. In order to undertake this work in an environmentally responsible manner, various contingency and management plans (e.g., Contingency Plan for Event of Hydrocarbon Release, Contingency Plan for Event of a Spill of Oil or other Pollutant, Contingency Plan for Well Control Incident and Loss of Well Control, Emergency Management Plan, Co-ordination of Emergency Plan) will be finalized prior to the start of the work. All site

personnel, including contractors and visitors, will be required to adhere to the provisions of these documents. Considering the many mitigative measures to be used, the likelihood of an accidental event during onshore to offshore drilling resulting in substantial effect on either the marine or terrestrial environment is very low.

4.0 Physical Environment

The background information on the physical environment (i.e., geology, weather conditions and climate, physical oceanography, and land use and resources) provided in the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b) remains relevant to this EA update and the proposed drilling of the Shoal Point 3K-39 well. A comprehensive report on the Study Area climate, wave climate, extreme storm waves, storm surges, currents and sea ice (Oceans 2007) was included in the appendix of the Addendum (LGL 2007b).

Some geological information specific to the Project Area is provided in the following section on geology.

4.1 Geology

The following section provides some geological information that is specific to the proposed drilling program.

4.1.1 Green Point Formation

The Green Point Formation comprises deep-water, carbonate and clastic units deposited off-shelf and eastward of carbonate platform units (Port au Port and St. George Groups) during middle Cambrian to middle Ordovician times in the Anticosti Basin of western Newfoundland, which at the time lay along the eastern margin of the Laurentian continent. These rocks were emplaced above their stratigraphically equivalents, the platform rocks, by westward, thin-skinned obduction initially during the middle Ordovician Taconic Orogeny, and were also affected later by thick-skinned deformation of the Devonian Acadian Orogeny. Figure 4.1 is a geoseismic profile across Port au Port Bay illustrating the Humber Arm Allochthon, containing the Green Point Formation, lying within a west-dipping triangle zone, and underlying platformal rocks.

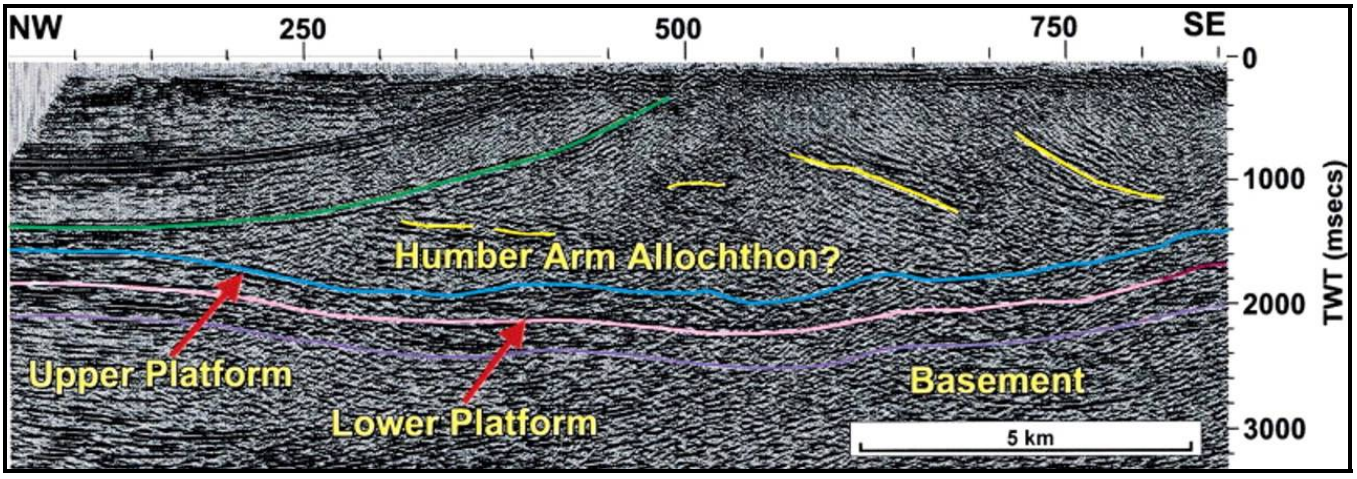

Figure 4.1. Geoseismic Profile across Port au Port Bay.

The target zone is fractured shales and minor interbedded "ribbon" dolomitized limestones of the Cambro-Ordovician Green Point Formation of the Cow Head Group, lying within the Humber Arm Allochthon of western Newfoundland (Figure 4.2). Target zones in the initial well on the geographical feature of Shoal Point lie principally between 800 and 1200 meters drilling depth, also equivalent to depth below sea level.

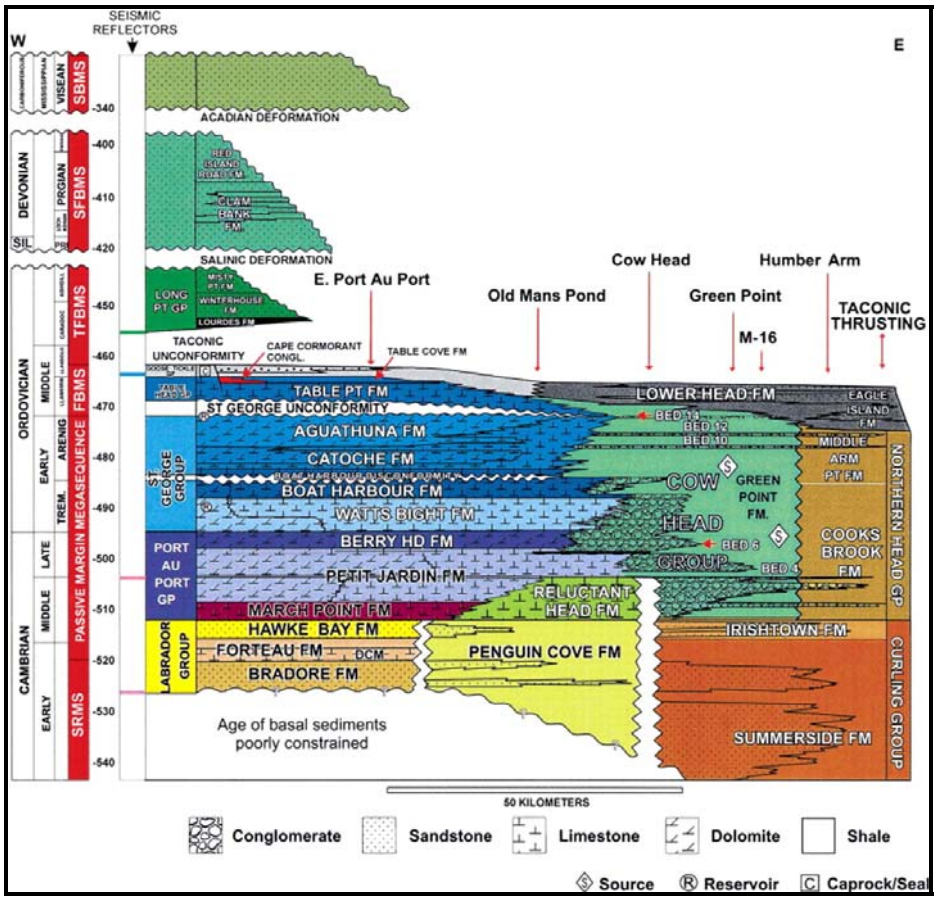

Figure 4.2. Formation Chart.

This depth range recorded live oil staining and fluorescence in both the SPE Shoal Point 2K-39 well (2008) and the Pan Canadian K-39 well (1999). The initial well will focus specifically on this depth range in order to collect core and log data that can be used to assess the capability of production and thereby establish proof of concept.

The Green Point Formation is expected to be uniformly prospective for oil in this area, as, based on well data, surface geology, geochemistry and seismic data, a large thickness of the formation appears to lie in the middle of the oil window. The Green Point is considered to be an "unconventional" or "continuous" play type, and therefore, prospects are not confined to areas within structural or stratigraphic closures, as is the case in the traditional or conventional definition of prospects. Therefore, the entire gross area (137,000 acres) of the distribution of the Green Point Formation on EL-1070 is considered prospective for oil production.

5.0 Biological Environment

Essentially all of the background information on the biological environment provided in the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b) remains relevant to this EA update and the proposed drilling of the Shoal Point 3K-39 well. Additional discussion on commercial fisheries and Species at Risk is provided below.

5.1 Marine Commercial Fisheries

The 2007-2008 DFO commercial fishing landings data were analyzed using the same methods used for the 2004-2006 data in Section 5.1.1.3 of the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a). The same trends indicated in the original EA (LGL 2007a) were observed in the results of the analyses of the 2007-2008 data. Pelagic species (mackerel, capelin and herring) dominated the commercial catches within the Project and Study Areas in terms of landings weight, followed by Atlantic cod. Lobster and snow crab were the most important invertebrate species caught in NAFO Unit Area 4Rc during 2007 and 2008, as was the case during the 2004-2006 period.

Based on available georeferenced data, the three pelagic fish species indicated above accounted for most of the commercial catches in Port au Port Bay in 2007 and 2008, primarily with mobile gear. Lobster and scallop fisheries are also prosecuted within Port au Port Bay but these data are not georeferenced. Lobster fishing within Port au Port Bay is conducted in the immediate vicinity of Shoal Point.

5.2 Species at Risk

The following points outline the changes to status designations of plants and animals on the federal *Species at Risk Act* (*SARA*) Schedule 1 and Newfoundland and Labrador's *Endangered Species Act* (*ESA*) presented in Table 5.15 of the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a).

- Addition of Ivory Gull (*Pagophila eburnean*) to *SARA* Schedule 1, designated as *endangered*;
- Change of *ESA* designation of Ivory Gull from *vulnerable* to *endangered*;
- Change of both *SARA* Schedule 1 and *ESA* designations of the American marten (*Martes americana atrata*) from *endangered* to *threatened*;
- Addition of Rusty Blackbird (*Euphagus carolinus*) to both *SARA* Schedule 1 and *ESA*, designated as *special concern* and *vulnerable*, respectively;
- Addition of Red Knot (*Calidris canutus rufa*) to *ESA*, designated as *endangered*;
- Change of *ESA* designation of the Peregrine Falcon (*Falco peregrines anatum*) from *threatened* to *vulnerable*; and

- Addition of American eel *(Anguilla rostrata*) to *ESA*, designated as *vulnerable*.

Table 5.1 includes the changes indicated above. Corresponding COSEWIC designations are also included in Table 5.1.

Numerous relevant Recovery Strategies and Management Plans have been prepared since the EA and associated Addendum were completed in 2007. Federal Recovery Strategies have been prepared for the Atlantic population of the blue whale (Beauchamp et al. 2009), and the North Atlantic right whale (Brown et al. 2009), while draft federal Recovery Strategies for the St. Lawrence Estuary population of beluga whale, the *anatum* subspecies of Peregrine Falcon, and the *melodus* subspecies of Piping Plover are currently being reviewed. A federal Management Plan for the Harlequin Duck was released in 2007 (EC 2007). The Government of Newfoundland and Labrador has also released some relevant documents since 2007, including a Recovery Plan for the American marten (DEC 2010), a Recovery Plan for the Red Knot (Garland and Thomas 2009), and a Management Plan for the Graycheeked Thrush (DEC 2010). None of the above Recovery Strategies and Management Plans changes the mitigation measures to which the Proponent is currently committed for drilling the Shoal Point 3K-39 well.

5.2.1 Species Profile

The following is a brief profile on Ivory Gull which has been added to the *SARA* Schedule 1 since preparation of the original EA in 2007. Rusty Blackbird is the other additional species on *SARA* Schedule 1. This species was profiled in Section 5.1.2.3 of the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a).

5.2.1.1 Ivory Gull

The Ivory Gull is a medium-sized gull with a pure white plumage and short black legs that lives among sea ice year-round. It preys on small fish and zooplankton occurring around the ice and scavenges carcasses of fish and marine mammals, including those killed by polar bears. It nests only in the high Arctic at a few select sites in Canada, Greenland, Spitsbergen and Russia. In the summer, it requires permanent drift ice and open water, and in the winter it ranges sparingly south to the southern extent of the pack ice. It winters in small numbers in the pack ice off shore northeast Newfoundland and, to a lesser extent, off the Lower North Shore of Quebec. Ivory Gull numbers at known nesting locations in the Canadian Arctic have decreased by about 80% between the 1980s and the early 2000s. Reasons for the decline are uncertain but illegal hunting, predators and climate change are possibly factors. There are very few sightings from southwest Newfoundland. In February 2010, four Ivory Gulls were observed on the ice at Stephenville Crossing (B. Mactavish pers. comm.). The chance of Ivory Gull occurrence in the Study Area is remote at any season but possible during the winter.

Table 5.1. Species at Risk with Reasonable Likelihood of Occurrence in the Study Area.

Species	*SARA* (Schedule 1)[a]			COSEWIC[b]			*ESA*[c]		
	Endangered	**Threatened**	**Special Concern**	**Endangered**	**Threatened**	**Special Concern**	**Endangered**	**Threatened**	**Vulnerable**
Marine-associated									
Blue whale (*Balaenoptera musculus*) (Atlantic population)	X			X					
North Atlantic right whale (*Eubalaena glacialis*)	X			X					
Leatherback sea turtle (*Dermochelys coriacea*)	X			X					
Piping Plover (*melodus* subspecies) (*Charadrius melodus melodus*)	X			X			X		
Ivory Gull (*Pagophila eburnean*)	X			X			X		
Beluga whale (*Delphinapterus leucas*) (St. Lawrence Estuary population)		X			X				
Northern wolfish (*Anarhichas denticulatus*)		X			X				
Spotted wolfish (*Anarhichas minor*)		X			X				
Atlantic wolfish (*Anarhichas lupus*)			X			X			
Fin whale (*Balaenoptera physalus*) (Atlantic population)			X			X			
Harlequin Duck (*Histrionicus histrionicus*)			X			X			X
Rusty Blackbird (*Euphagus carolinus*)			X			X			X
American eel (*Anguilla rostrata*)						X			X

Table 5.1. Continued.

Species	*SARA*[a]			COSEWIC[b]			*ESA*[c]		
	Endangered	**Threatened**	**Special Concern**	**Endangered**	**Threatened**	**Special Concern**	**Endangered**	**Threatened**	**Vulnerable**
Terrestrial									
Red Crossbill (*percna* subspecies) (*Loxia curvirostra percna*)	X			X			X		
Long's braya (*Braya longii*)	X			X			X		
Barrens willow (*Salix jejuna*)	X			X			X		
American marten (*Martes americana atrata*) (Newfoundland population)		X			X			X	
Woodland caribou (*Rangifer tarandus caribou*) (Boreal population)		X			X			X	
Peregrine Falcon (*anatum* subspecies) (*Falco peregrinus anatum*)		X				X			X
Fernald's braya (*Braya fernaldii*)		X			X			X	
Banded killifish (*Fundulus diaphanus*) (Newfoundland population)			X			X			X
Fernald's milk-vetch (*Astragalus robbinsii var. fernaldii*)			X			X			X
Rusty Blackbird (*Euphagus carolinus*)			X			X			
Short-eared Owl (*Asio flammeus*)						X			X
Low northern rockcress (*Neotorulia humilis*)							X		
Gray-cheeked Thrush (*Catharus minimus*)									X

Sources: [a] *SARA* website (http://www.sararegistry.gc.ca/default_e.cfm) (December 2010)
[b] COSEWIC website (http://www.cosepac.gc.ca/index.htm) (December 2010)
[c] ESA (Government of Newfoundland and Labrador) website (http://www.env.gov.nl.ca/env/wildlife/wildlife_at_risk.htm) (December 2010)

5.3 Notable Areas

Biologically notable marine and terrestrial areas located within the Study Area were described in Section 5.2 of the original EA (LGL 2007a). Within or adjacent to Port au Port Bay itself, these areas include a lobster spawning area at the mouth of Port au Port Bay, wetlands on Shoal Point, salt marshes and old growth forest in coastal areas west of Shoal Point, and limestone barrens and salt marshes in coastal areas east of Shoal Point. More discussion of these areas as well as other biologically notable areas within the Study Area is presented in the original EA (LGL 2007a).

6.0 Effects Assessment Methodology

The effects assessment methodology described in the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b) remains relevant to this EA update and the proposed drilling of the Shoal Point 3K-39 well.

Groups that were consulted during the preparation of the 2007 EA were again contacted for this update. Canning and Pitt conducted the recent consultations by phone and e-mail. A meeting with the FFAWU was held in St. John's on 23 November 2010 during which the union recommended that a meeting be held with Port au Port Bay fishers as soon as possible. On 1 December 2010, a meeting was held in Piccadilly with numerous local fishers and officials of the FFAWU.

7.0 Routine Project Activities

Descriptions of project activities and their related zones of influence in the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b) remain relevant to this EA update and the proposed drilling of the Shoal Point 3K-39 well.

DLMC regards the environmental predictions, consequent mitigations and subsequent significance determination in the original EA (LGL 2007a) and the associated Addendum (LGL 2007b) as still valid. DLMC commits to implementing the mitigation measures described in the EA and Addendum (LGL 2007a,b) during the proposed drilling of the Shoal Point 3K-39 well.

8.0 Accidental Events

Descriptions of spill events associated with oil and gas exploration activities and potential accidental events for the Port au Port drilling program, as well as the characterization of Port au Port oil and discussion of oil spill trajectory modeling project activities in the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b) remain relevant to this EA update and the proposed drilling of the Shoal Point 3K-39 well.

DLMC regards the environmental predictions and consequent mitigations in the original EA (LGL 2007a) and the associated Addendum (LGL 2007b), and subsequent significance determination as still valid. DLMC commits to implementing the mitigation measures described in the original EA (LGL 2007a) during the proposed drilling of the Shoal Point 3K-39 well.

9.0 Summary and Conclusions

The activities associated with the proposed drilling of the Shoal Point 3K-39 well have been reviewed and assessed to be within the scope of the Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b). Specifics of this assessment include:

- The scope and nature of activities planned and addressed under the approved EA have not changed;
- The Proponent has continued its consultation with those stakeholders potentially directly affected by activities that were included in the approved EA;
- The nature and extent of the fishing activities within the Study Area have been validated and have not changed such that Project activities pose any potential effects not previously assessed;
- The nature of the Species at Risk in the Project and Study Areas have been validated, and although two bird species have been added to the relevant list of *SARA* Schedule 1 plants and animals since approval of the EA, their addition does not result in Project activities posing any potential effects not previously assessed;
- The mitigation measures described and committed to in the EA remain valid and will continue to be implemented; and
- The residual effects of activities associated with the proposed drilling of the Shoal Point 3K-39 well are deemed to be *not significant* considering they are the same as those residual effects determined to be *not significant* in the approved Port au Port Bay Exploration Drilling Program Environmental Assessment (LGL 2007a) and the associated Addendum (LGL 2007b).

10.0 Literature Cited

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Appendix 1. Persons Contacted During Consultations

The following agencies, community representatives and fisheries participants were consulted during the preparation of the EA update regarding proposed drilling at Shoal Point, Port au Port Bay.

Long Range Regional Economic Development Board

John MacPherson	Executive Director
Sheila Hawco	Administrative Assistant

Town Council Officials

Angela Young	Town Clerk, Town of Lourdes
Peter Fenwick	Mayor, Town of Cape St. George
Vanessa Glasgow	Town Clerk, Town of Port au Port West

Environment Canada (Environmental Protection Branch)

Glenn Troke	EA Co-ordinator

Fisheries and Oceans Canada

Jason Kelly	Co-ordinator, Environmental Assessment & Major Projects, Oceans, Habitat & Species at Risk Branch

Natural History Society

Dr. Len Zedel	Memorial University of Newfoundland

One Ocean

Maureen Murphy	Director of Operations

Fish, Food and Allied Workers Union (FFAWU)

Jason Spingle	Staff Representative
Robyn Saunders-Lee	Petroleum Industry Liaison
Mandy Ryan	Stewardship Co-ordinator

Fishers Attending the Piccadilly Meeting, 1 December 2010

Gus Hynes	Fisher, Fox Island River
Jeff LeRoy	Fisher, Fox Island River
Peter Marche	Fisher, Felix Cove

Andre Jesso	Fisher, Three Rock Cove
Michael Collier	Fisher, Three Rock Cove
Ivan Benoit	Fisher, Black Duck Brook
Ronald Benoit	Fisher, Lourdes
Everett Young	Fisher, Lourdes
Reuben Young	Fisher, Lourdes
Neal Young	Fisher, Lourdes
Norm Young	Fisher, Lourdes

Port au Port Bay Harbour Authority Representatives

Kevin Skinner	Fisher, Vice Chairperson, Lourdes Harbour Authority
Brian Flynn	Fisher, Chairperson, Blue Beach Harbour Authority
Alex Joy	Chairperson, Piccadilly Harbour Authority
Gus Hynes	Fisher, Chairperson, Fox Island River Harbour Authority