Opening Statement

SHALLOW GAS INFILL DEVELOPMENT PROJECT IN THE SUFFIELD NATIONAL WILDLIFE AREA

October 6, 2008

OPENING STATEMENT

SECTION I - INTRODUCTION

GERRY PROTTI

1. PERSONAL INTRODUCTION

Mr. Chairman, Joint Review Panel members, Elders, Ladies and Gentlemen: Good Morning.

My name is Gerry Protti, and I am the Executive Vice-President, Corporate Relations of EnCana Corporation.

I am EnCana's senior corporate representative at this hearing.

Mr. Chairman, before I start our presentation on the Project, I would like to make some preliminary comments. The people of Canada expect that all energy development in this country take place in a safe and environmentally acceptable manner. We understand the duty on us to live up to that expectation and try to live up to that expectation. In today's world, the availability of reliable energy to heat our homes and fuel our cars may make energy development seem easy. Its not. Everyday, we have to be vigilant in our operations to ensure the safety of our people and the public, to protect the environment, and to deliver the resource to peoples homes and businesses safely and efficiently. We work hard at fulfilling those obligations, but we're not perfect, when something goes wrong, we try to respond quickly and effectively and we learn from what happens so we can be better. Last Thursday we had an uncontrolled release of gas from a deep sweet gas well in the Military Training area at CFB Suffield. It's a rare event but it should not happen. Our emergency response plan was activated and worked, regulators were notified and engaged, the well was shut-in promptly in less than a day. Thankfully, no one was injured and we are now investigating what went wrong.

What I can promise you Mr. Chairman, is that we are committed to the task the people of Canada expect and demand of us: to get better everyday and to continue to work hard to make sure that our people and the public are always safe, that our operations are environmentally sustainable, and that we continue to deliver energy to our customers safely, reliably and efficiently. That is our commitment.

Let me now turn to our Project. EnCana believes that the Suffield National Wildlife Area (the "NWA") is a valuable conservation area that must be protected and preserved for all Canadians, both now and for the future. We recognise that this prairie landscape is unique, both in its environmental resources and in its shared use.

We recognise there are people here today who are passionate about protecting the NWA for future generations. We share that passion.

The Project team and leadership at EnCana is committed to ensuring that if this Project goes ahead, it does so in a responsible and sustainable manner. We would not propose this Project if we did not believe it could be carried out in a sustainable way.

Through this process, we believe we can demonstrate that EnCana can continue to drill and operate shallow gas wells in the NWA in a way that allows the NWA to continue to function as a wildlife conservation area.

We believe that once all of our evidence is considered this Joint Review Panel will be able to determine that the Project is not likely to cause any significant adverse environmental effects; and in its capacity as the Energy Resource Conservation Board (the "ERCB") will be able to approve the well licence applications as being in the public interest.

2. THANK YOU FOR THE OPPORTUNITY TO MAKE THE PRESENTATION

I would like to thank the Joint Review Panel for the opportunity to present EnCana's Project, and for the diligence that you and your staff have put forward to date to review a project of this nature. I would also like to thank all of the interveners for their interest and concern in our Project. We value all or our stakeholders feedback and respect their opinions, even when they differ from ours.

3. INTRODUCTION TO ENCANA (AND CENOVUS)

I would now like to provide some background on our company.

EnCana Corporation was formed in 2002 through the merger of Alberta Energy Company Ltd. ("AEC") and PanCanadian Energy Corporation. EnCana has grown in its six-year history to be one of Canada's largest companies. We are a Canadian success story and our staff and management are proud of this fact.

As you are undoubtedly aware, EnCana is in the process of a transition into two separate companies. EnCana's Board of Directors has approved a proposal to split EnCana into two highly focused energy companies – one a natural gas company that will retain the EnCana name; the other, a fully integrated oil company with an underlying foundation of reliable oil and gas resource plays. The new company will be named Cenovus Energy Inc. ("Cenovus"). The appropriate shareholder and regulatory processes are being undertaken in respect of the split.

Presently, EnCana is one of the largest natural gas producers in North America. Based on expected market values, following the split, both companies will be among Canada's 20 largest corporations, and among the top 6 energy companies in Canada.

EnCana is presently organised into six divisions. These include Canadian Foothills, Canadian Plains, Integrated Oilsands, Midstream & Marketing, Offshore & International and the United States Division.

The Canadian Plains Division, and the NWA Project, will be part of Cenovus. The shallow gas resources at Suffield, and elsewhere in the Canadian Plains Division, will support the continued growth and development of Cenovus. The divisional leadership for the Project will remain as it is today, led by Don Swystun, the President of Canadian Plains.

EnCana also has six corporate groups that provide support to the operating divisions. These include Business Development, Corporate Communications, Corporate Finance, Corporate Relations, Corporate Services, and Strategic Planning & Portfolio Management.

4. ENCANA'S MANAGEMENT

I will now describe EnCana's management structure in a little more detail, because the current and anticipated management structures contribute significantly to our confidence in the social, environmental and economic sustainability of this Project.

As this organization chart shows, I am the Executive Vice-President of Corporate Relations for EnCana. I am one of 11 members of the Executive Team. The slide depicts the corporate teams for which I am accountable.

My responsibilities include ensuring the development, implementation and monitoring of EnCana's Environmental, Health & Safety processes and practices throughout the company. I report directly to Randy Eresman, EnCana's Chief Executive Officer.

In 2009, I will assume the role of Executive Advisor to the Chief Executive Officer of Cenovus, and Judy Fairburn will be, in effect, my successor, as she will assume responsibility for safety and environment governance at Cenovus. Judy has more than 23 years of experience in the industry. Judy's team, as well as the Canadian Plains divisional operations team, will bring expertise and commitment to this Project.

EnCana's senior management has reviewed and approved the Project proposal. This is an important Project and we are committed at the highest level of the company to ensure any development in the NWA is carried out in a sustainable and responsible manner.

5. CORPORATE RESPONSIBILITY

I would now like to talk about EnCana's approach to corporate responsibility, and in particular, the measures that EnCana has instituted to ensure that it operates effectively. I can assure you that Cenovus will operate under similar principles and values to those that have led EnCana to become a respected industry-leading company.

EnCana has built a corporate governance model that requires it to be a responsible corporate citizen. This model provides the necessary systems to ensure that this Project will proceed in a responsible and sustainable manner. For instance, our governance model provides for the implementation of EnCana's *Constitution* which sets out our expectations of our employees. However, with or without a corporate constitution, we function on the basis of trust, integrity and respect.

We also have a *Corporate Responsibility Policy*. This defines our internal and external commitments towards the environment; and the health and safety of our employees, contractors and the communities in which we operate. The *Corporate Responsibility Policy* ensures that EnCana institutes appropriate structures and systems to effectively identify, monitor and manage environmental and social issues, and performance.

EnCana takes its performance and obligations seriously. We endeavor to be the best in class and require the best possible practices from our staff and contractors. As I indicated in my preliminary remarks, developing Canada's energy resources requires constant vigilance. Best practises include being ready for any problems that might occur. Our contingency and emergency response plans are designed to respond quickly and effectively when something does go wrong.

We make sure those systems work by conducting audits to ensure that strong systems and structures support our activities. Employees are encouraged to discuss concerns with their supervisors or human resources contacts. Anyone, employees or the public, who wants to raise a concern about EnCana is encouraged to contact us, anonymously or otherwise, using our Integrity Hotline or our Corporate Responsibility e-mail address.

Further, EnCana utilizes a comprehensive lookback process to ensure that we are accountable for the results we have promised, and that we continuously improve from our learnings. We are conducting just such a process in respect of the loss of control at CFB Suffield last week.

EnCana works within a framework of independent oversight and governance when making significant policy decisions and so will Cenovus. The Board of Directors provides this independent oversight. They are charged with ensuring the corporation fulfills the commitments I spoke about earlier.

EnCana's Board of Directors has a *Corporate Responsibility, Environment, Health and Safety Committee*, which I will hereafter refer to as the CREHS committee, as will Cenovus, to assist the Board in fulfilling its role of oversight and governance. The CREHS committee's primary duties and responsibilities are to review, report on and make recommendations to the Board on EnCana's corporate responsibility and environment, health and safety policies, standards and practices.

I am the executive team member responsible to the CREHS committee and part of my accountability is to ensure that EnCana follows its guidance. It is the role of the CREHS committee to ensure that EnCana will safeguard the environment, to the extent possible, and will operate in a manner consistent with recognized standards in environment, health, and safety. The CREHS committee has reviewed the Project and it has been reviewed throughout its development, and ultimately approved by the Board of Directors. EnCana has made a commitment to its CREHS committee, its Board of Directors, and by extension, its shareholders, and to the community at large, that it will recover the natural gas reserves underlying the NWA while maintaining the ecological integrity of that unique area.

6. INTRODUCTION TO THE PROJECT

Mr. Chairman, I will now provide a brief introduction to this Project. My colleagues and our independent consultants will provide detailed information later in this presentation.

The Joint Review Panel was established pursuant to an agreement between the Federal Minister of the Environment, and the Alberta Energy and Utilities Board, now the ERCB, to conduct a review of the Project because it requires an environmental assessment pursuant to the *Canadian Environmental Assessment Act* ("CEAA"); and approvals under both the *Wildlife Area Regulations* and the Alberta *Oil and Gas Conservation Act*.

EnCana is seeking two separate decisions from the Joint Review Panel:

1. First, EnCana is asking the Panel to recommend, in accordance with the CEAA, that EnCana's proposed 1275 wells and accompanying infrastructure, including pipelines, are not likely to cause any significant adverse environmental effects, when taking into consideration the extensive mitigation measures and permit conditions we are proposing, in addition to any recommendations the Panel might make as a result of this process.

2. Second, EnCana is asking the Panel, on behalf of the ERCB, to approve the three wells applied for by EnCana under application #1435831, again subject to the proposed conditions.

The primary condition that EnCana is proposing in respect of both the NWA permit and the ERCB licences is that all of its proposed new development within the NWA will be subject to the proposed Pre-Disturbance Assessment process (the "PDA process"). The proposed PDA process, which will be explained in more detail by my colleagues, will ensure that:

1. Sensitive environmental and historical features are identified and avoided;

2. Detailed site specific environmental information is gathered to implement mitigation measures;

3. Potential conflicts that may arise from the PDA process will be referred to the Suffield Environmental Advisory Committee ("SEAC"), comprised of experienced independent regulators with expertise to assess and balance such issues; and

4. The Department of National Defence (DND) and SEAC will ensure compliance with the PDA process.

The proposed PDA process is designed to ensure that ***no significant adverse environmental effects will occur as a result of the Project***

Mr. Chairman, in addition to our obligation to ensure the environment is protected, EnCana also has an obligation to the Province by virtue of the grant of mineral rights to EnCana, and under its resource conservation laws to maximize recovery of the resource granted to it by Alberta, with Albertans realizing the accompanying economic benefit through natural gas lessor royalties and other economic benefits

EnCana also has an obligation to its shareholders to continue the development of this important asset. Our goal is to develop all of our assets in a manner which is environmentally and socially responsible, and which maximizes recovery and shareholder value. We believe the plan and timing of this Project meets each of these objectives

Without this Project, the resources under the NWA would be wasted. EnCana needs to carry out this Project to fulfill its obligations to the Province and its shareholders. The purpose of the Project is simply to enable EnCana to efficiently develop its natural gas resources. The produced gas will help meet the demand for a reliable and low carbon intensity energy source, provide a long-term stable economic benefit for the local area and protect the environment while adding to the information base to contribute towards the management of the NWA.

There are over 1,000 wells already drilled in the NWA and EnCana believes it has been successful in conducting its activities in an environmentally responsible manner. The additional

1,275 wells are needed to fully develop the remaining reserves and ensure that there are no wasted resources.

The design and implementation of this Project will ensure that it is developed in an ecologically sustainable manner. The NWA, both now and in the future, will continue to function as a conservation area and for all its intended uses.

7. PROJECT IS CONSISTENT WITH PRINCIPLES OF SUSTAINABILITY

The concept of shared use leads into the importance of sustainable development. Mr. Chairman, this Project will continue the sustainable development approach that we have employed throughout our history of operating in the NWA.

Sustainable development is based on the efficient and environmentally responsible use of all of society's resources. This Project is a responsible development that meets the needs of the present without compromising the ability of future generations to meet their own needs.[1]

The three pillars of sustainable development are the environment, economic needs and social factors. Fundamentally, sustainable development requires that these considerations not be viewed as competing goals, but as objectives that collectively must be balanced to ensure effective long-term decision-making.

- Pillar 1: With respect to the environment, the minimal disturbance techniques and mitigation measures EnCana is proposing as conditions of the Permit will ensure that the Project is completed without significant adverse environmental effects.

- Pillar 2: Economically, this Project will provide long-term benefits for the Province and the country. Our operations will extend for many years and contribute clean burning fuel for public consumption, while also generating a long-term stream of royalties and taxes that will contribute to society.

- Pillar 3: From a social standpoint, EnCana's proposal of minimal disturbance shallow gas development is designed to allow the current land users of the NWA, such as the Canadian and British militaries, the Prairie Farm Rehabilitation Administration, wildlife and prairie researchers and EnCana, to simultaneously meet their needs while still preserving a special area for future users. The local and regional communities will benefit from the Project because it provides a long-term, up to 40 years, stable economic base.

In keeping with its Corporate Responsibility Policy, EnCana would not have proposed this Project if it did not believe it could be carried out in a sustainable manner. Further, the research and monitoring that we are proposing will bolster not only EnCana's understanding of the NWA environment, but also that of the landowner and regulators. It will provide information to all land users operating in native prairie environment.

Members of the Panel, we believe this Project is the kind of project that supports sustainable development for the following reasons:

1. Manageable environmental effects;

[1] The World Commission on Environment and Development (the Brundtland Commission) definition.

2. Clean burning fuel;

3. Long life resources; and

4. Economic benefits that are spread over the long-term, without stressing local infrastructure.

We are continuously developing innovative technologies to reduce our footprint and our effects on the environment, while ensuring beneficial returns to our shareholders. When something is not working the way we expected, or if there is a problem with our operations, we learn from it, we fix it and we do better. We have to; continuous improvement is expected of us, we expect it of ourselves.

8. OUR COMMITMENT TO THE PROJECT AND TO THE NATIONAL WILDLIFE AREA

Mr. Chairman and Panel Members, we are committed to the Project and have designed the Project to reflect EnCana's values and environmental policies, principles and practices.

We have integrated sustainability into every decision we have made in respect of the Project.

Our commitment to adaptive management and continuous learning is demonstrated by our proposed Environmental Effects Monitoring Plan (EEMP). This plan is based on the principles of transparency, accountability, and collaboration. As a condition of this Project proceeding, EnCana has proposed to have independent, interested parties verify the accuracy of the predictions in the Environmental Impact Statement and determine the effectiveness of the mitigation measures while providing valuable information to assist in the management of species at risk and the native prairie.

EnCana recognizes the value of the NWA and we acknowledge and respect the concerns raised by interested parties. We believe we can continue our operations in the NWA in a sustainable and responsible manner. The design of this Project will allow this unique area to continue to be available to future generations as a shared use area where all activities are compatible with protecting the wildlife and native prairie.

Mr. Chairman and Panel Members, let me provide you with the background of how EnCana acquired the mineral rights underlying the NWA.

OPENING STATEMENT

SECTION II - ENCANA'S HISTORY IN THE SUFFIELD NATIONAL WILDLIFE AREA

GERRY PROTTI

1. HISTORY OF AEC/ENCANA AT SUFFIELD

The mineral rights underlying the Suffield Block have been a cornerstone of EnCana, and will be a cornerstone of Cenovus.

In 1973, the Alberta Government, under Premier Lougheed's leadership, recognized that the area contained a major source of sweet natural gas through a pilot drilling program. Two years later, the Federal Government, in the 1975 Access Agreement, granted surface access to the Government of Alberta for oil and gas operations. Subsequently, AEC acquired the petroleum and natural gas rights to the one thousand square mile Suffield Block from the Provincial Crown for approximately 75 million in 1975 dollars, and was assigned the surface access rights granted by the 1975 Agreement.

During the first wave of drilling from 1976 to 1985, development at CFB Suffield proceeded at four wells per section. In the 1990's, we moved to eight wells per section throughout CFB Suffield, including the NWA. The first pilot project for sixteen wells per section occurred in 2001 in the Mixed Grassland area of the NWA. The pilot project confirmed that sixteen wells per section would be required to recover the remaining gas reserves. After three more pilot projects, EnCana drilled to sixteen wells per section across CFB Suffield and has drilled 122 sections to this level of well density.

By the end of 2007, EnCana had produced more than 2.3 trillion cubic feet of natural gas from more than 9000 wells at CFB Suffield, including the more than 1,000 wells already in the NWA. Drilling activities over the past five years have averaged 580 wells per year. Our activities have not been problem free, but we believe we have responded to whatever problems have arisen and we always try to improve.

I am told by Mr. David Mitchell, AEC's first President and Chief Executive Officer, that when AEC was asked to support the formation of the NWA, all parties understood and acknowledged that gas development would continue. The parties, including Environment Canada and the DND, acknowledged that AEC could continue to develop its gas resources in an environmentally responsible manner and commended AEC's environmental practices of the time.

2. HISTORY OF ENCANA OPERATIONS AND COLLABORATION IN NATIVE PRAIRIE

EnCana has worked on the native prairie environment more than any other oil and gas company in Canada. We've drilled over 20,000 wells in the shallow gas complex. Over the 35 years we've been

drilling those wells we've evolved our practices and have learned how to do things better. We believe this experience will allow us to operate within the NWA in an environmentally responsible manner.

We also recognize that some practises that were acceptable and approved for use in the past are not appropriate today. EnCana is a leader in the evolution of sustainable shallow gas development practices in Alberta. We continually evaluate our practices to identify areas for improvement and adopt new practices and technologies to improve efficiency and reduce our environmental footprint. We understand that continuous improvement in our operations and stakeholder relations are integral to success.

At this time, we would like to introduce a short video that discusses EnCana's operations history at CFB Suffield, including the NWA. It was presented during consultation with stakeholders for this Project.

3. ROLE OF ENCANA IN CREATING THE NWA; HISTORY OF COMMITMENT TO SHARED USE

As the video illustrates, the military, cattle ranchers and the shallow gas industry have been shared users of the NWA. At the same time, the NWA has continued to be a valuable wildlife and native prairie conservation area. Cooperation has been the hallmark of the history at CFB Suffield in general and in the NWA in particular. Cooperation and collaboration is what is required in the future to ensure the resources of the NWA, the natural and the economic, are managed appropriately. Let me provide a very brief history of the NWA.

Since 1915, when the NWA was designated as an antelope sanctuary, the importance of the area for wildlife habitat has been recognized. However, it continued to be used for ranching and homesteading.

In 1941, the surface rights within what is now CFB Suffield were expropriated by the Federal Government to secure the area for military purposes. However, the Alberta Government retained ownership of the mineral rights and the right to access them. The Suffield Block was subdivided into three distinct areas in 1971 including: (1) the military training area; (2) the environmental protected area that became the NWA; and (3) the Experimental Proving Ground utilized by DND for testing chemical warfare.

The shared use of the land continued in the 1960s, when local cattle producers were allowed emergency grazing on the Suffield Block due to severe drought. The area has also been used extensively for ecological research activities including a detailed inventory by the Canadian Wildlife Service.

Since the 1970s, EnCana and its predecessors have treated the area as a valuable ecosystem that requires special practices to protect and preserve it.

For example, in the 1970s, EnCana's predecessor company, AEC, recognized that portions of the NWA were important nesting areas for birds of prey. With the aid of the Canadian Wildlife Service (CWS), AEC surveyed for raptors prior to developing the area. Post-construction monitoring of the raptors indicated that their population remained stable after drilling. This study was undertaken long before wildlife surveys of this nature became commonplace.

As early as 1977, AEC developed an operational plan for the Middle Sandhills covering all activities, from preliminary surveys to production and reclamation operations. AEC commissioned an independent assessment on the potential impact of its activities with respect to conservation and

management of natural and historical resources, and the prevention and control of pollution and noise. The operating plan had input from both the Base and SEAC, and was a good example of cooperation and collaboration among the users of the NWA.

The creation of the NWA commenced in 1992, when the Federal Minister of National Defence and the Federal Minister of Environment entered into a Memorandum of Understanding (MOU) to establish the NWA. All parties were assured that the shared use within the area to be designated as the NWA would continue after the designation.

The MOU specifically stated that there was to be no alteration or interference with the existing arrangements relating to natural gas development and cattle grazing in the NWA. In fact, in 1992, the CFB Suffield Base Commander assured AEC that its access rights would continue. He wrote, "absolutely no changes to current agreements were envisaged as a result of this new DND/DOE (Department of Energy) accord." As well, the Base Commander noted that EnCana's "environmental concerns and, more importantly, actions have been duly recognized", particularly through the environmental success of the Operating Plan for the Middle Sand Hills to date. EnCana drilled 489 wells in the NWA after the MOU was signed.

The NWA was formally created on June 19, 2003. The Regulatory Impact Analysis Statement confirmed, "no major changes in land use are anticipated…Cattle grazing and shallow gas recovery which operate under existing Memoranda of Agreement will continue."

We understand our obligation is to develop resources in an efficient and environmentally responsible manner. Our evidence will demonstrate that we can achieve that objective. EnCana, as a publicly traded company, also has a responsibility to conduct its business in the best interests of its shareholders, in a sustainable manner and in accordance with all applicable laws and regulations. This Project meets all of these objectives.

At this point, I will describe the public consultation process.

OPENING STATEMENT

SECTION III - PROJECT PROCESS AND DESCRIPTION

GERRY PROTTI, FRANCIS L'HENAFF, JOEL HEESE

1. PUBLIC PARTICIPATION
(GERRY PROTTI)

Seeking public and stakeholder input has been a critical aspect of EnCana's Project development, as required by the *Canadian Environmental Assessment Act* process and ERCB Directive 56. Since 2005, EnCana has conducted an ongoing program to identify, inform and involve interested parties about the Project. This program has included:

- Identification of stakeholders;
- Letter exchanges, meetings, tours and open houses to inform stakeholders and engage interested parties in dialogue;
- Conducting meetings and technical information sessions;
- Engagement of First Nations; and
- Use of EnCana's website to keep the public informed of the Project and obtaining feedback through a dedicated email address.

Consistent with our policies to build awareness and understanding, EnCana made our technical and operations staff, and the independent consultants directly available to interested parties in order to answer questions, identify issues and discuss mitigation measures.

Specific issues identified in the public participation process have been considered and incorporated into our mitigation measures where appropriate. For example, our consultation with the Siksika Nation led to the incorporation of their traditional knowledge into the PDA process, ensuring optimal placement of Project infrastructure relative to First Nation concerns.

2. SOCIETAL BENEFITS - ECONOMY

I would now like to discuss economic benefits of our Project. An important element of the Project is its long-life production that allows economic benefits to be spread over an extended period of time and ensures that the negative effects on local infrastructure are minimized.

The Project will generate economic value for Albertans and Canadians. At the time of the preparation of the Environmental Impact Statement, the total capital cost of the Project was estimated to be about $199 million. This level of investment would generate about $62.5 million per year, in 2006 dollars, in economic activity in the Province including $16.6 million in labour income. Approximately 70% of ongoing operational spending will be used to purchase goods and services from regional, established businesses. Due to increasing cost of services in Alberta, the total capital cost of the Project is now estimated to be about $233 million.

This Project will provide a source of revenue for Alberta and Canada. It is expected to contribute over $34 million in Provincial Crown royalties, while 25% of the net revenue will be paid in Federal and Provincial taxes. These figures take into account the 2007 Alberta Royalty Review's Final Report, and are updated figures from those published in the Environmental Impact Statement in 2006.

The Project will also directly generate about 175 "person-years" of employment during the construction phase. Operations, decommissioning, abandonment and reclamation activities will occur over a long period of time, providing steady employment for years.

3. SOCIETAL BENEFITS – COMMUNITY INVESTMENT

I want to also explain the societal impact of our operations throughout the region by way of financial support provided to nearby communities. EnCana's Medicine Hat Business Unit has made annual contributions to these communities. This money is typically distributed among various charities, clubs, tournaments and sports teams. Such contributions include new playground equipment in Ralston and financial support to the Esplanade Arts and Heritage Centre and the Southern Alberta MedicAir Society. In the case of MedicAir, EnCana has funded the annual cost of the helicopter used in rescues throughout southern Alberta.

4. SOCIETAL BENEFITS - NATURAL GAS

The Project will result in approximately 125 billion cubic feet of clean burning natural gas that would otherwise not be recovered. This is enough energy to heat 80,000 homes for a decade.

Besides its economic value, EnCana believes that this natural gas is valuable to society as a low carbon intensity energy source. The fact that natural gas is one of the cleanest, cheapest and most efficient sources of energy makes it an essential part of a low carbon economy[2].

5. SOCIETAL BENEFITS – ENVIRONMENTAL RESEARCH

EnCana believes that research performed by expert, independent researchers is an important aspect of environmental improvement. This has been demonstrated through our contributions to local research in the Suffield area such as the funding of research on Ord's kangaroo rats and on the snake migration. In addition, EnCana has committed to providing the environmental information obtained through the Project, by way of the proposed PDA process and the Environmental Effects Monitoring Plan to regulators, interested parties and other operators, in an effort to contribute to environmental understanding and improve operating practices in native prairie.

[2] Alberta Energy website, available at: http://www.energy.gov.ab.ca/OurBusiness/Gas.asp.

6. INTRODUCTION TO ENCANA HEARING PANEL

Mr. Chairman, at this point, I would like to introduce my colleagues on the EnCana panel who will be with me today and who will be here throughout this hearing.

- Mr. Francis L'Henaff is the Team Lead of Suffield Gas. Mr. L'Henaff obtained his engineering degree from the University of Saskatchewan in 1980, joined one of EnCana's predecessor companies in 1980, and over 28 years has worked as a Reservoir, Development and Production engineer, gaining experience in oil, deep gas and shallow gas resource plays. Francis assumed his present role as Team Lead of the Suffield Gas Sub-Business Unit in early 2005 and has been involved with EnCana's Project proposal since its very early stages. Mr. L'Henaff is responsible for all gas activities on CFB Suffield and will be responsible for ensuring that the Project, if it proceeds, is implemented in accordance with the Panel's recommendations and complies with all legal requirements. He has accepted the same position in Cenovus that he currently occupies with EnCana.

- Mr. Joel Heese is the Field Environmental Coordinator for EnCana at CFB Suffield. Mr. Heese has seven years of experience specifically managing the environmental impacts of the Alberta oil and gas industry in native prairie. Joel obtained a Bachelor of Science from the University of Lethbridge in 2001. Prior to joining EnCana, Joel worked as a Land Management Specialist for the Public Lands Division of Alberta's Ministry of Sustainable Resource Development. He has been with EnCana for two years and is responsible for working with construction and operations to ensure continuous environmental improvement and long-term quality assurance at CFB Suffield. Mr. Heese is located at CFB Suffield and has unique experience in managing environmental issues related to shallow gas activities within the NWA and oil and gas activities within CFB Suffield. He works closely with the DND, the Suffield Environmental Advisory Committee and Suffield Industry Range Control to seek alignment in environmental objectives and native prairie stewardship.

- Mr. Steve Fudge is the Senior Vice-President and Principal Scientist of Jacques Whitford Mr. Fudge completed his Masters in Science at the University of Calgary where his thesis topic focused on the effects of Shallow Gas Drilling in the Middle Sand Hills of CFB Suffield, which are now part of the NWA. He has over 25 years of experience as an environmental consultant. Steve has a thorough understanding of both Provincial and Federal project development requirements from pre-regulatory application submission through post-release and post-sanction. Mr. Fudge, like the other three experts I am about to introduce, is an experienced environmental consultant, retained by EnCana to provide expertise regarding his discipline, and to ensure the science we rely on is independent. EnCana retained this team of experts in native prairie ecology and environmental impact assessment to ensure that the assessment is both accurate and technically rigorous.

- Mr. Douglas Collister is a Consulting Biologist and President of URSUS Ecosystem Management Ltd. Mr. Collister has extensive field experience on CFB Suffield and adjacent areas of the Dry Mixedgrass Prairie Natural Subregion. He obtained his Bachelor of Science in Geological Engineering from the University of Manitoba and his Masters in Environmental Design from the University of Calgary. He was responsible for and conducted spring and fall bird migration and breeding surveys for the 1996 natural resources inventory of the Military Training Area portion of CFB Suffield. Mr. Collister was also part of the 2004 Environmental Impact Assessment team charged with assessing the potential impact of formation-level training on the Military Training Area. During that assessment, he replicated 1996 field surveys, as well as establishing additional survey sites to test bird response to varying levels of military disturbance. For the proposed Project, he designed, conducted and analyzed bird

surveys and is the primary author of the wildlife component of the Environmental Impact Statement.

- Mr. John Kansas is a Senior Ecologist and Vice-President of URSUS Ecosystem Management Ltd. Mr. Kansas has been responsible for conducting and coordinating ecological inventory, evaluation, research and impact assessments for private and public sector clients in western Canada since 1977. He obtained a Bachelor of Science in Zoology from the University of Manitoba and a Masters in Landscape Ecology from the University of Calgary. Since 1983, Mr. Kansas has completed numerous vegetation ecology and wildlife habitat studies in the prairies of Alberta. He assessed biophysical land classification, mapping and evaluation approaches for the Suffield NWA in 1993 for Environment Canada. In 2004, he assessed the effects of military training activities on vegetation in the CFB Suffield Military Training Area. From 2004 to 2006, he coordinated the mammalian species at risk, wetland inventory, vegetation mapping and cumulative (ecological) effects assessment for a surface coalmine and power plant proposal in the Dry Mixedgrass prairie. He has conducted over thirty ecological inventory and impact assessments for urban and recreational land development, transportation and water resources projects in the Mixedgrass, Dry Mixedgrass, Foothills Fescue and Northern Fescue Natural Subregions in Alberta. John has worked on over 20 multi-disciplinary environmental impact assessment teams since the late 1980s and has applied cumulative ecological effects assessment approaches since the early 1990s. For the proposed Project, he coordinated, collected field data and was primary author for the mammalian wildlife, wetland, vegetation, biodiversity and biophysical cumulative effects assessment components.

- Dr. David G. Walker is a consultant, researcher and educator specializing in revegetation and erosion control. Dr. Walker formed his own consulting company in 1978 and, as the President of David Walker and Associates Ltd. of Calgary, has 30 years of experience in the field of land reclamation in western and northern Canada and parts of the United States. He completed a doctorate program in Genetics at the University of Alberta with a thesis entitled “The Genetic Potential of Native Alberta Grasses”. He then completed a National Science and Engineering Research Council post-doctoral fellowship study in Forestry at the University of Alberta on two topics: the first on computer-assisted information retrieval and the second on erosion control methods for low-volume, unsurfaced roads. Dr. Walker is an adjunct Professor in the Faculty of Environmental Design, University of Calgary and lecturer for the Resource Management Program, Faculty of Extension, University of Alberta. Over the past 25 years, he has developed and delivered courses at the university graduate level and at the technical professional development level on topics of revegetation, wind erosion control, water erosion control, spill-site rehabilitation, and environmental inspection. David has authorship of more than 250 works. He has provided consulting services for parks and wilderness areas, non-governmental interveners, pipeline construction, electrical power transmission, coal mining, and ski area development. He holds professional certification with the Alberta Institute of Agrology and Alberta Society of Professional Biologists, and is a Certified Professional in both Erosion and Sediment Control and Rangeland Management.

Francis L’Henaff will now provide an introduction to the benefits of natural gas, an introduction to shallow gas production and a technical overview of the proposed Project; Joel Heese will provide details on EnCana’s expertise in operating in this very special native prairie environment; and our independent experts will speak to their methodology and findings.

7. NATURE OF SHALLOW GAS *(FRANCIS L’HENAFF)*

Thank you Gerry.

Good morning Mr. Chairman, Joint Review Panel members, Elders, Ladies and Gentlemen. I would like to provide the Panel with some background on the nature of shallow gas production for two reasons:

1. It was the core business of each of EnCana's founding legacy companies, it continues to be at the heart of EnCana's business, and it will remain so in Cenovus; and

2. It is unique in that the surface footprint required for this long-lived resource is small.

Our team's primary focus is the development of "unconventional resource plays", which are accumulations of hydrocarbons known to exist over a large areal expanse and thick vertical section. When compared to a conventional play, unconventional plays typically have a lower geological and commercial development risk and longer production life.

There are currently over 68,000 wells in the shallow gas complex in Alberta, approximately one third of which are operated by EnCana. We are very experienced and believe we have the expertise to develop this shallow gas in a responsible manner.

The source of Shallow gas production in Southeast Alberta comes from three main subsurface (or "stratigraphic") formations: the Milk River, the Medicine Hat and the Second White Speckled Shale. These formations are located between 220 and 650 meters below the ground's surface and consist of thin interbedded layers of rock and sand such as shales, siltstones and fine-grained sandstones. These rocks form a low permeability, tight gas reservoir. This means that gas does not travel easily through the rock pore spaces to enter the wellbore from the surrounding rock. This results in wells producing gas very slowly over a very long period of time. This is characteristic of the shallow gas geology in the NWA.

8. NO VIABLE ALTERNATIVES TO THE PROJECT

To access and effectively produce the remaining recoverable reserves, well spacing of sixteen wells per section is required. This "incremental recovery" has been demonstrated by the pilot projects in the NWA and surrounding areas, which showed incremental recovery of approximately 100 mmcf per well. Independent evaluations by McDaniel & Associates Consultants confirm the volume of incremental recovery that we estimate we will produce through this infill drilling program. There is no other way to obtain these resources in an efficient and environmentally responsible manner, while also avoiding wasting the resource.

Due to the shallow and stacked nature of the subsurface gas zones, which are collectively very thick, directional or horizontal drilling from existing surface locations cannot effectively deplete all of the productive zones. Proper contact with the untapped reservoir is key to incremental reserve recovery. Our experience makes us very confident that directional or horizontal drilling is less effective for this particular geology than vertical drilling; nor is it better from an environmental perspective.

Directional wells would result in inappropriate spacing and poor contact with each of the producing zones, and thus would not allow for effective drainage. For example, due to limits in trajectory and depth, a directional well cannot effectively target the Milk River formation due to the shallow depth of the formation under the NWA. As we are targeting multiple shallow thick formations, directional wells would result in wasted resources and inefficient development.

Based on our extensive experience in the field, and through our pilot projects, we are certain that infill vertical drilling is the only appropriate method to obtain the remaining recoverable resource. There are no viable alternatives to this Project.

9. PROJECT DESCRIPTION/CONSTRUCTION PHASE

EnCana's practices for drilling, completing, tying-in and operating wells in the NWA have been refined to minimize environmental effects. The special measures we will employ start with enhanced training for all personnel to ensure that they understand and are fully capable of meeting the commitments set out in the proposed Environmental Protection Plan. Further, Environmental Inspectors will support Activity Coordinators in ensuring compliance with the commitments in the Environmental Protection Plan. Only when our personnel are trained will the Project proceed to the construction phase in which wells are drilled and tied into the gathering system.

This series of slides depicts our process; however, please note that the construction process for this Project will be conducted in dormant or frozen conditions.

As Gerry touched upon earlier, EnCana has developed a detailed PDA process to ensure the well site, pipeline and access trail plans are reviewed with full consideration of environmental constraints and reserve recovery.

Once appropriately sited, wells will be constructed in existing "batteries". Batteries are groupings of 80 to 160 wells.

As can be seen in the timeline slide, the lifespan of a well is approximately 40 years for this Project. The most "active" phase of the lifespan is the construction phase that I will now describe. Each well requires approximately 37 hours of construction activity conducted over the course of four separate days. However, as it is impractical to complete each step in the construction process consecutively for each well, the construction phase will last approximately 45 calendar days per well. The predicted average vehicles per day varies by month with the peak construction months being November to January. Averaged on a monthly basis, the vehicles per day is predicted to be 138 and 173 for this period, with the maximum per day being 226.

The first step in the construction process will be to plough in plastic pipelines, called "local tie-ins", connecting the new well to the already existing gathering system during dormant conditions. By using a "SpiderPlow" in dormant, non-frozen conditions, EnCana will minimize the effects to soil and vegetation. This plow does not require stripping of soil and results in a small area of disturbance; typically, less than 2 metres wide. The potential for soil erosion, weed invasion and loss of wildlife habitat is limited. For the approximately thirteen steel loop lines that are required, the appropriate pipelining technique for the soil conditions will be used to minimize the footprint.

All wells will be constructed using minimal disturbance techniques to minimize soil disturbance, preserve the soil regime and maintain the existing seed bed. Full stripping and topsoil removal will not be required during drilling as the only stripping required is a "bellhole" at the wellhead to connect to the pipeline, and at the point the pipeline ties into the existing gathering system.

The second step in the construction process is the actual drilling of the shallow gas wells.

This is followed by well completion whereby the subsurface zones are hydraulically fractured to allow gas flow.

Following well completion, each wellbore will be cleaned by removing fluid and sand (which is removed from the wellsite) before being shut-in until the final tie-in connections are made.

Finally, each well site will be inspected to verify that the level of impact is the same as predicted in the PDA process. Before spring break-up, reclamation mitigation measures, (for example, seeding a native species seed, seeding a cover crop or erosion control measures) will be applied as dictated by the PDA process.

10. OPERATIONS: MAINTENANCE, MONITORING AND RECLAMATION

Once the wells are constructed and are producing, the "operations" phase begins. The environmental commitments and mitigation measures documented in the Environmental Protection Plan will apply to operations, and after that, they will be applied to well abandonment and reclamation. These measures remain in effect throughout the entire life of the Project.

We noted from our Intervenors information requests that the number of well visits were a concern. For the first year of the operations phase, EnCana anticipates an average of one well site visit per month.

After the first year, well sites will be visited between 2 to 5 times per year. The number of visits will depend upon the amount of water produced in the wellbore. Water must be removed from a wellbore to maximize gas recovery from the reservoir. There are two techniques to remove the water from the wellbore - swabbing and siphon strings. The water removal technique that is appropriate for the well is dependent upon water and gas flow rates, the well site characteristics and the reservoir characteristics. Currently, approximately 50% of the existing wells require swabbing while approximately 10% have siphon strings. Thus, approximately 40% of the wells require neither treatment.

In total, for the operations phase of the Project, there will be, on average, approximately 3.1 vehicles in the NWA per day. From a mileage perspective, there will be an approximate increase of only 37% in kilometres driven per year in the NWA, while the number of operating wells will double.

At the end of their productive lives, all wells, pipelines and trails will be reclaimed in an appropriate manner using the measures documented in the Environmental Protection Plan**.** These include reseeding with a native species seed mix or cover crop. Dr. David Walker will address reclamation later in this presentation.

Mr. Chairman, I would now like to introduce Joel Heese, EnCana's Environmental Coordinator on the ground at CFB Suffield.

11. ROLE OF THE SUFFIELD ENVIRONMENTAL COORDINATOR IN THE FIELD *(JOEL HEESE)*

Thank you, Francis. Mr. Chairman, Joint Review Panel members, Elders, Ladies and Gentlemen: Good morning.

My responsibility at CFB Suffield is to assist in minimizing EnCana's operating footprint and ensure we meet or exceed compliance requirements. I am EnCana's permanent, full-time, in-the-field biologist. I work closely with EnCana staff, contractors, Provincial and Federal regulators and all stakeholders to facilitate consistency in environmental objectives and native prairie stewardship in the

NWA, and on CFB Suffield as a whole. In addition, I work hard to develop an environment of mutual respect among EnCana, DND and regulators in order to coordinate the initiatives of all parties.

Prior to joining EnCana, I worked as a Land Management Specialist for the Public Lands Division of Alberta's Ministry of Sustainable Resource Development. My primary role was to review and recommend approval or denial of industrial, commercial and recreational dispositions on the Provincial public land base around Medicine Hat. I also ensured ongoing compliance of all industrial, commercial and recreational dispositions with the *Public Lands Act* and was designated as a Reclamation Inspector under the *Environmental Protection and Enhancement Act*. I believe that my past and current employment have provided me with unique experience in the native prairie environment.

For the Project, and at CFB Suffield, we use an "active management" approach to minimize our footprint during operations.

- We manage access during adverse conditions. If our activities pose a risk to the environment because of such conditions, we shut down operations.

- We monitor for potential issues such as soil erosion and undesirable vegetation at well sites, pipelines and access routes. When we become aware of a problem, we rectify the situation as soon as possible, given the constraints of NWA access. This is one of my accountabilities.

- We track all environmental commitments and undertakings to ensure conditions of approval and regulatory requirements are met. We understand our commitments and take all of our monitoring and reclamation practices seriously.

Over the past few years, I have periodically taken photos of the Princess Pipeline from the same location each year to illustrate the level of recovery of a pipeline right-of-way just outside CFB Suffield. It provides the chance to observe some examples of reclamation and recovery very near the Suffield Block. The Princess Pipeline, a ten inch sweet gas pipeline, was constructed in 2003 using traditional trenching techniques. This first picture was taken from SW-13-20-9-W4M in 2004 during the first growing season after construction. The subsequent photo shows progress as of 2005, while the third and fourth snapshots were taken in 2006. By the fall of 2006, one can observe the recovery of the vegetation and the success of EnCana's minimal disturbance techniques for this type of disturbance.

Now, I would like to show you the sixteen wells per section development of the Koomati area that lies between the North and South sections of the NWA. The following air photos of Koomati demonstrate the recovery of the area after construction and are indicative of the *temporary* nature of construction effects. The 2005 air photo was taken shortly after construction, which not surprisingly reveals the highest level of footprint. The 2006 air photo demonstrates a significant reduction in bare ground. Finally, the 2007 photo demonstrates even further recovery.

This rapid recovery is facilitated by the practices EnCana and its contractors are employing in the field. Our environmental practices are working. A similar timeframe for recovery can be expected for the Project. Further, our proposed Project will implement even more specialized and enhanced measures than those that were used in previous gas development at CFB Suffield, due to the unique nature of the NWA.

We are confident in our ability to conduct our operations without significant adverse effects on listed species and wildlife in general.

Now, Mr. Chairman, I would like to introduce you to our environmental impact assessment process, our Environmental Impact Statement, and to our independent experts.

12. THE ENVIRONMENTAL IMPACT STATEMENT

When EnCana began to contemplate this Project, EnCana knew the NWA was a unique area. EnCana wanted to ensure it got advice from people experienced in the native prairie. To evaluate the potential environmental effects, EnCana hired independent experts with significant and specific expertise in native prairie environments and in environmental assessment methodology. These independent experts were commissioned to prepare a detailed, comprehensive Environmental Impact Statement in order to meet the Joint Review Panel's *Environmental Impact Statement Guidelines*. After more than 3 years of rigorous field study and extensive research and analysis, we are very confident in the work they have done and the advice they have given us regarding how to execute this Project. You will hear from Steve Fudge of Jacques Whitford that the overall approach taken by the experts was to focus on determining the environmental effects of infill development by examining the current environmental effects of infill development at CFB Suffield and in the NWA. These independent experts have challenged us every step of the way to make certain this Project is environmentally sound.

The Environmental Impact Statement was deemed complete by this Panel after more than six months of review by the Government of Canada, the Environmental Coalition and interested parties. EnCana answered 862 Information Requests from interested parties comprised of 541 from the Federal Government, 250 from the environmental coalition, and 71 from interested individual members of the public and the Siksika. EnCana has since filed a revised Environmental Protection Plan that incorporates feedback from these parties, obtained throughout the Environmental Impact Statement review process. Additionally, EnCana has provided an Environmental Effects Monitoring Plan that proposes candidate studies to monitor the effects of the Project and invite other stakeholders to participate in the Environmental Effects Monitoring Plan and verify the predictions of the Environmental Impact Statement.

Mr. Chairman, Steve Fudge will now provide an overview of the Environmental Impact Statement, its methodology and conclusions.

OPENING STATEMENT

SECTION IV - ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

STEVE FUDGE, JOHN KANSAS, DOUG COLLISTER, DAVID WALKER

1. OVERVIEW
(STEVE FUDGE)

Good morning Mr. Chairman, Panel Members, Elders, Ladies and Gentlemen.

Mr. Chairman I have over 25 years of experience in environmental assessment across Canada. This Environmental Impact Statement (EIS) is a very thorough and comprehensive assessment document. This environmental impact assessment was a unique opportunity to assess a proposed Project with an existing extensive biophysical database, and an opportunity for the study team to go into the field and actually measure the effects of past shallow gas development on the resident vegetation and wildlife. The ability to base environmental assessment predictions on real observed effects (and to not have to rely on modelling or other similar methods) is very unusual and provides strong credibility to the assessment results. Therefore, Mr. Chairman, in my opinion, we have a robust assessment document supported by extensive field measurements and observations, which is unique in my experience.

The information available to EnCana included:

- inventories conducted by the Canadian Wildlife Service that were "extraordinary in scope and comprehensiveness,"[3]
- wildlife surveys conducted as part of the DND's environmental assessments,
- wildlife and vegetation surveys conducted as part of this environmental assessment, and
- mapping of soils, vegetation and species at risk locations compiled by all land users in the NWA.

This information allowed EnCana to directly compare the effects of eight and sixteen wells per section on wildlife and vegetation, leading to a high degree of confidence in the Environmental Impact Statement predictions that there will be no significant effects resulting from the Project.

As described in Volume 2 of the Environmental Impact Statement, the determination of significance took into consideration the rating criteria, existing information from past development activities, specific mitigation strategies and professional judgment. Each residual environmental effect was rated as negligible, insignificant or significant.

[3] http://www.mb.ec.gc.ca/nature/whp/nwa/suffield/dd02s03.en.html

Negligible residual environmental effects are those that are predicted to result in no measurable or detectable effect, based on the data collected or analysis done. A significant residual environmental effect is generally defined as an adverse residual environmental effect that threatens the sustainability or integrity of a biophysical population or component or causes socio-economic harm that cannot be compensated for. An insignificant residual environmental effect is one that is neither negligible nor significant and is considered acceptable from an ecological or socio-economic perspective.

Prairie conservation is a regional issue that is not unique to the Project within the NWA. Accordingly, we considered regional conservation issues in determining the Valued Ecosystem Components or "VECs" for this Project. In addition, cumulative effects were assessed where the impacts of the Project could act in a cumulative fashion with other land use effects. The cumulative effects assessment for vegetation, wildlife and soils predicted that there would be no significant effects. John Kansas will describe further the environmental assessment methodology and results shortly.

The predictions in the Environmental Impact Statement for terrestrial biophysical Valued Ecosystem Components are supported by the field studies conducted in the NWA and at CFB Suffield. The most current environmental research available at that time, including species at risk recovery strategies and research in the NWA by the Canadian Wildlife Service, the University of Calgary and the DND, were analyzed to assess the environmental effects of the Project.

The Environmental Impact Statement is conservative in its approach and therefore likely over-predicts the environmental effects of the Project. Although the predicted incremental footprint of the Project is less than 0.5% of the NWA, this value is still an overestimate as ground truthing determined that it was incorrect to assume that 100% of the affected area was disturbed. John Kansas will elaborate on the methodology and results of the footprint calculations and the resulting impact on significance determinations.

The conservative assumptions and inputs used in the Environmental Impact Statement, combined with a Project-specific Environmental Protection Plan including environmental inspectors, the use of the proposed PDA process for siting Project infrastructure and a commitment to the Environmental Effects Monitoring Plan will ensure that the NWA and its natural resources are protected.

Mr. Chairman, John Kansas will now briefly overview the results of some aspects of the Environmental Impact Statement.

2. ACCURATE PREDICTIONS
(JOHN KANSAS)

Thank you, Steve. Good morning Mr. Chairman, Panel Members, Elders, Ladies and Gentlemen.

It was very important to our terrestrial study team to be as accurate and confident as possible in our impact predictions associated with this Project. To do so, we adopted what we have referred to as a "focused empirical" approach.

By focused, we mean that our study team allocated time and resources to what were considered to be the real issues as identified by scoping. We intentionally avoided conducting large amounts of ecological inventory for the sake of inventory. The vast majority of our time and resources focused on understanding past and current wildlife and vegetation impacts associated with shallow gas development. This kind of focus was specifically requested by the Joint Review Panel in the *Environmental Impact Statement Guidelines* for the Project.

By empirical, we mean that we used direct field observations to support our evidence and impact predictions. Direct observations were framed by working hypotheses that related directly to the specific impacts of the Project (i.e. in-fill drilling including lease and pipeline construction). This was aided in large part by the fact that EnCana has constructed and operated 1126 wells in the NWA since commencing drilling in 1973 including four sections infilled to 16 wells per section.

Final significance ratings were based on a combination of:

- Case studies as analogues or references;
- Quantitative mathematical models/calculation;
- Best professional judgment supported with field reconnaissance;
- Empirical measurements of existing impacts;
- Quantification of footprint effects (as measure of magnitude); and
- The potential for recovery of native habitats based on proposed mitigation.

An understanding of the magnitude of residual Project effects relative to the natural range of variation of prairie ecological processes also helped place Project impacts in perspective.

The study area chosen for the terrestrial biophysical Valued Ecosystem Components was primarily based on the watersheds, ecodistricts and topographical features in the area. The Local Study Area (LSA) includes the entire NWA and Koomati with the western boundary being the Lethbridge preglacial valley. The western and northern boundaries of the Regional Study Area (RSA) are the watershed boundary between the South Saskatchewan and Red Deer Rivers.

Fundamental to environmental impact assessment is gaining an understanding of the magnitude of the proposed Project's incremental footprint and how it relates to the existing land use load on the system. At the time we started the environmental impact assessment, we could find no quantitative information on the magnitude or distribution of existing human use in the NWA. We measured existing footprint by digitizing all man-made features that we could observe on 0.5-meter high-resolution air photos presented on-screen at a scale of 1:2,500. We also did the same for the LSA and RSA. We found that the existing footprint in the NWA was small - 1.3% in the North NWA and 2.3% in the South NWA. Footprint in the Military Training Area (MTA) to the west of the NWA (i.e. the LSA) was 4.0% and in the core of the MTA was 7.0%. Koomati's footprint was 3.8%.

Our study team was provided a preliminary Project layout. We modified that layout based on planning-level environmental constraints mapping. The magnitude of the Project footprint was then calculated using 12 metre widths for loop lines and 4.5 metres for laterals. These widths are ecologically conservative, particularly for tie-ins that will be ploughed in using the SpiderPlow in dormant conditions, and includes access trails where less than 20% of the width is actually disturbed. The incremental footprint of the Project is less than 0.5%, even based on the conservative calculations that we used. The Environmental Impact Statement evaluates the incremental and cumulative footprint for various ecological resources including: sensitive soils, vegetation cover types, ecological range units and high suitability wildlife habitat for listed species. EnCana is proposing to monitor the footprint at selected wells and pipelines to confirm the Project's footprint as part of the Environmental Effects Monitoring Plan.

The footprint of shallow gas infill drilling is by nature dispersed and of very small magnitude. This is especially true if compared to other projects subjected to environmental impact assessment requirements.

This Project is designed to avoid sensitive environments; therefore, the percentage disturbance on sensitive environments is markedly lower than the total footprint. For example, the impact on any listed wildlife species' high suitability habitat was predicted to be less than 0.25%. The minor footprint associated with shallow gas infill development of 0.5% is much smaller than similar outcomes (for example, bare ground exposure) associated with natural factors such as fire or drought.

The assessment of the effects of the Project on vegetation utilized three Valued Ecosystem Components: native prairie grassland integrity, uncommon vegetation cover types and rare plant species and communities. The proposed PDA process will identify and avoid rare plants; therefore, the Project is predicted to have negligible effects on rare plants. Based on the minimal footprint, improved construction techniques and demonstrated recovery towards a near native condition with appropriate reclamation measures, the predicted effects on native prairie integrity are rated as insignificant.

A cumulative effects assessment was done for sensitive soils, wildlife and wildlife habitat and native prairie grassland integrity using an approach consistent with a project-specific assessment as outlined in the Canadian Environmental Assessment Agency's Cumulative Effects Assessment Practitioners Guide.

The 3 interactions considered for the cumulative effects assessment on vegetation were focused on the effect of invasive and undesirable species. The most effective means of limiting the establishment of invasive and undesirable species originating from source areas is to apply mitigation measures that minimize bare ground exposure. EnCana's proposal to re-seed prior to spring break-up and employ minimal disturbance techniques will result in insignificant cumulative effects on native prairie integrity. Additionally, EnCana is proposing to monitor the establishment and persistence of undesirable species as part of the Environmental Effects Monitoring Plan to ensure the prediction of insignificant effects. Regional cooperative approaches are recommended to identify source areas and to minimize further increases and transport of undesirable plants from these areas.

The native prairie matrix is currently intact and largely free of undesirable species. Past agricultural and reclamation practices have resulted in the localized establishment of sources of undesirable plant species both inside and outside of the NWA. The spread of undesirable species into the native matrix from existing shallow gas features is negligible. Improved construction and reclamation techniques and regional cooperative vegetation management will continue to minimize invasive plant species.

The Valued Ecosystem Components chosen for the cumulative environmental assessment of wildlife were listed species' habitat and mortality. The cumulative effects were rated as insignificant based on the small footprint, avoidance of environmental constraints through the application of the proposed PDA process, field investigations demonstrating the resilience of wildlife to current cumulative effects and the proposal to cooperate with the other land users to reduce cumulative effects. As part of the Environmental Effects Monitoring Plan, EnCana will be monitoring and reporting mortality and confirming the predictions regarding the Project footprint.

I will now call on Doug Collister to address the expected effects of the Project on Species at Risk.

3. EFFECTS ON SPECIES AT RISK AND THEIR HABITAT *(DOUG COLLISTER)*

Thanks John. Good morning Mr. Chairman, Panel Members, Elders, Ladies and Gentlemen.

We assessed the potential effects of the Project on listed species and other wildlife and their habitat in the context of the principles of conservation biology. Five major issues within conservation biology framed this assessment:

- direct habitat loss and alteration;
- sensory disturbance and effective habitat loss;
- habitat fragmentation;
- direct mortality; and
- barriers to movement.

Each provincially or federally listed vertebrate species resident in the NWA was assessed as a wildlife Valued Ecosystem Component. The magnitude of potential Project effects on each wildlife Valued Ecosystem Component was determined on the basis of the greatest effect within any of the five conservation biology issues. Habitat loss and direct mortality were determined to be the most likely effects. For most species, the magnitude of the final impact rating was dictated by habitat loss and alteration which was assessed by determining the amount of high suitability habitat lost or altered based on the predictions of the constraints mapping. 0% habitat loss was rated as negligible and <1% loss was rated as low. The Project is predicted to have an insignificant or negligible impact on all wildlife Valued Ecosystem Components.

For this Project, the approach to assessing effects on habitat was based on habitat suitability ratings of vegetation cover and habitat units. Site-specific features will be identified during the proposed PDA process and species-specific setbacks applied. The habitat suitability assessment was not intended to identify critical habitat as defined in the *Species at Risk Act* (SARA). Under the SARA, critical habitat will be identified by recovery teams in consultation with directly affected parties. Based on our determination that the effects are insignificant or negligible, there is not likely to be any significant effects on the recovery or survival of any listed species.

We are confident that the proposed Project will not contribute to fragmentation within the NWA. This is consistent with a scientific understanding of fragmentation, including the lack of scientific literature demonstrating fragmentation effects due to local prairie trails and minor pipelines. The Project consists of well sites, minor pipelines and local tie-ins from existing access routes. There is minimal contrast in vegetation structure between the proposed disturbances and adjacent habitat as is evidenced by the photos of well sites and associated pipelines and access trails that accompany this presentation.

In addition, the Project will not result in effective habitat loss. Construction (drilling, completion and tie-in), which is the main sources of sensory disturbance, will occur during the non-active season for most wildlife. During operations, the NWA as a whole will experience, on average, approximately three vehicles per day while the local trails will experience less than one vehicle per month. This extremely low level of disturbance is highly unlikely to result in a measurable effect on any of the wildlife populations. Scientific literature does not support the notion that wells, access trails and minor pipelines with this extremely low level of use will result in effective habitat loss.

In summary, the Project is not likely to result in significant impacts on any wildlife Valued Ecosystem Component and will not threaten the survival or recovery of any listed species.

John Kansas will now discuss prairie conservation as it relates to the Project.

4. THE IMPORTANCE OF GRASSLANDS AND PROPOSED MITIGATION *(JOHN KANSAS)*

Thanks Doug.

Maintenance of the remaining large tracts of native grasslands is a primary goal of Alberta and North America-wide prairie conservation. This is recognized by EnCana's management team.

The approach taken for the Project will meet the goal of prairie conservation – in other words, the NWA will continue to be a functioning native prairie. The underlying reasons for making this statement are:

1. The small and dispersed footprint of the proposed development;

2. The high likelihood of recovery of pipelines and leases to a near-native condition; and

3. Demonstrated resilience of native prairie and associated wildlife species to the level of development proposed.

Prior to conducting fieldwork to assess the current state of the NWA and assess the effects of infill development, we reviewed scientific literature concerning grassland and rangeland health assessments in order to select indicators most effective for measuring and monitoring ecological integrity. For example, the metrics chosen for the vegetation sampling programs included plant species composition and structure, percent cover of invasive plant species, percent cover of native plants, litter and bare ground and soil type. The results of the field studies demonstrate that recovery from shallow gas development to near native conditions has been achieved in approximately 20-25 years. It is important to note that the vegetation studies conducted measured the recovery of native prairie integrity on well sites and pipelines that were constructed using non-optimum methods in some cases (e.g. seeding with non-native mixes).

The existing footprint in the NWA is small and the impacts of previous shallow gas development are recovering. The past landscape level effects are minimized due primarily to the small footprint associated with shallow gas development and recovery of the landscape over time. The new techniques utilized for this Project including use of the SpiderPlow, a detailed siting process to avoid sensitive environments and construction in dormant and/or frozen conditions will further reduce the footprint and improve reclamation timelines.

The consulting team has a high degree of confidence in our predictions. In this situation, we had, as Mr. Fudge pointed out, the luxury of extensive real data, and real experience with similar development in similar conditions, the results of which indicate there will be no significant adverse environmental effects caused by this Project.

I would now like to introduce Dr. David Walker to discuss the Project's proposed reclamation plan.

5. ABILITY TO RECLAIM AND RESTORE LAND *(DAVID WALKER)*

Thank you John. Good morning Mr. Chairman, Panel Members, Elders, Ladies and Gentlemen.

Over the past 30 years, I have designed reclamation plans and monitoring programs for pipeline projects in the Great Sand Hills in Saskatchewan (TransCanada and Foothills) and in the Dry-mixed Grass Region of Alberta (AEC Express, AEC Suffield, Foothills). I have conducted field research on prairie conservation topics such as species selection, erosion control methods, rare plant rescue, invasive plant control, plant community reconstruction, and have developed criteria for defining reclamation success in several biomes for Parks Canada and Saskatchewan Environmental Resource Management. I am currently supervising a graduate student whose thesis project is on the topic of criteria for defining reclamation success at ski hills.

I learned important lessons from this field research and post-construction monitoring and they are the basis for my recommendations for the EnCana Project. I learned that the weather can be a very fickle friend. The Foothills study in the Great Sand Hills was initiated at the same time as an extended drought period and it seemed that everything possible was barely enough to stabilize and revegetate disturbance in the sandhills. During the mid-1990's, there was more moisture and doing nothing (natural recovery) was enough. I learned that when topsoil was conserved, almost every treatment worked; but when topsoil was lost, almost every treatment failed. I learned that the resilience and recovery of the sandhills prairie was derived from a combination of the organic matter content and the native species seedbank. I learned that to stabilize sandy soils and promote biodiversity of sandhills prairie, a rough and messy-looking ground surface worked better than one that was smooth and neat looking. I learned that some plants species worked better than others but not every time and with every way. Seed source, seeding method, timing, rate and mix proportion can be more important than the scientific name.

Some results surprised me. After six years, I concluded that crested wheatgrass would survive forever in the Great Sand Hills, but after 14 years, all crested wheatgrass plants were gone, replaced by local native species. My observations from that study and elsewhere have led me to conclude that crested wheatgrass is still a "botanical bully" to most other species but it is not unbeatable; during a prolonged drought, especially in fall and winter, it is a "wimp" compared to native species; and in plant-to-plant combat, the native wheatgrasses seem able to win. At high seeding rates, crested wheatgrass forms a dominant and persistent vegetation monoculture; but the same has turned out to be true of some varieties of native wheatgrasses. The key is appropriate use. Crested wheatgrass does not belong in a native prairie restoration mix but it is the best as a "choker" to control less desirable species such as downy brome, for "green stripping" to reduce the risk of prairie wild fire, and as early spring pasture that defers grazing pressure on native prairie.

The Rangeland Functionality Assessment Protocol considers the fact that semi-arid rangeland ecosystems are dynamic and variable and, in many aspects, driven by some level of disturbance in order to maintain unique characteristics. Ecosystem processes responsible for keeping sand dunes active are wind erosion and deposition, mainly in periods of drought. Fire and grazing may also have a role to play by reducing the stabilizing effect of vegetation. Past human activity, both pre-and post-settlement, is another agent of disturbance.

The Plan has goals and objectives for the mitigation measures that are based on ecosystem functionality. Implicit in this approach is the recognition that the restoration of some plant communities may not be desired or even possible at some sites because of the permanent (on a human time scale) loss of soil and genetic resources and the invasion and/or expansion of other species.

The goal of a desired plant community depends on the ecosystem services provided by the landscape. Historic changes may limit options and stakeholder interests may impose multiple values. The ecosystem functionality approach to restoration has clear goals and outcomes but may not necessarily attempt to restore a plant community to “pre-disturbance” or “pre-settlement” conditions.

The Plan takes the approach to first, minimize the disturbance, and second, if necessary, to mitigate with efficient action:

- Contain the disturbance by selecting:
  - well sites that are well-drained and protected from wind exposure,
  - pipeline routes that avoid side-slopes and cross water bodies perpendicular to the flow,
  - access trails that are appropriate for the volume and type of traffic, that avoid long flow paths when crossing slopes, and that avoid straight sections when exposed to wind.
- Confine ground disturbance to the period of dormancy for vegetation.
- Conserve and replace all soil and vegetative resources.

Where mitigation is necessary to meet goals, then actions will be taken to: decompact soils, stabilize the surface with appropriate erosion control measures and revegetate with appropriate plant materials.

The Conceptual Monitoring Plan establishes criteria (what and how to monitor), thresholds (standards that trigger action), and adaptive management options (alternative mitigation for an equivalent outcome). The definition of reclamation success is based on the same underlying attributes of ecosystem functionality used by the recently developed Rangeland Health Assessment method that has been adopted for grazing management.

Three attributes define a “functional” or “healthy” landscape:

- site stability (meaning the capacity to limit the redistribution and loss of resources),
- watershed function (meaning the capacity to capture, store, and safely release water), and
- biotic integrity (meaning the capacity to support ecological processes within a normal range of variability).

Monitoring for rangeland ecosystem functionality is carried out at three phases: implementation, effectiveness and final certification that coincide with the three phases of the Project: construction, operation, and decommissioning and abandonment.

The protocol uses indicators (qualitative measurements) of ecosystem functionality as a rapid, cost-effective means of reliably monitoring reclamation throughout the life cycle of the development. Benchmark goals at specific times will ensure that restoration of ecosystem functionality is on the expected trajectory and that there is time for adaptive management.

Indicators are measured and expressed in units of “departure” from “expected” or from an accepted reference site that exists or is based on theoretical site potential. Some criteria may use indicators that simply verify the use of industry-standard Best Management Practices.

I will now turn it back to Steve Fudge to discuss the Environmental Effects Monitoring Plan.

6. THE ENVIRONMENTAL EFFECTS MONITORING PLAN AND ADAPTIVE MANAGEMENT *(STEVE FUDGE)*

Mr. Chairman, we have discussed the potential effects of the proposed Project on the NWA and the methodology utilized to reach that conclusion. Even though there is a high degree of confidence in the predictions, EnCana has proposed a comprehensive Environmental Effects Monitoring Plan to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures. The Environmental Effects Monitoring Plan will also provide valuable information on a variety of species that can be used to better manage these natural resources throughout the prairie ecosystem, not just within the NWA.

The focus of the Environmental Effects Monitoring Plan will be an integrated, collaborative approach whereby EnCana will work with other researchers in the NWA to not only meet the requirements of the *Canadian Environmental Assessment Act* and the *Species at Risk Act* (*SARA*), but also to increase the knowledge of listed species and their habitats within the NWA. The candidate studies include monitoring *SARA* listed species to provide detailed confirmation of the predicted effects of shallow gas development on these species.

EnCana's contributions to monitoring will start with the proposed PDA process, as the surveys conducted will identify listed species such as burrowing owls, ferruginous hawks and Ord's kangaroo rats, as well as the habitats associated with their residences. This information will be available to be incorporated into the recovery strategies and action plans for those species. This is a significant benefit associated with the proposed monitoring plan.

EnCana has proposed that an Environmental Effects Monitoring Advisory Committee (EEM Advisory Committee), be established to provide expert advice to EnCana regarding the scope and methodology of studies to ensure that the studies have scientific validity, are technically feasible, and relevant to the predicted effects. EnCana has proposed a number of candidate studies focused on collecting quantitative and statistically sound scientific data on the effects of the Project. The EEM Advisory Committee is proposed to consist of scientific experts, representatives of Federal and Provincial regulators, First Nations, interested non-governmental organizations, DND and EnCana.

EnCana's commitment to "adaptive management" will ensure that the environmental monitoring results are communicated such that mitigation and/or follow-up programs can be applied or modified, as appropriate, to improve environmental performance.

Francis L'Henaff will now briefly overview the proposed PDA process and the mitigation measures detailed in the Environmental Protection Plan.

OPENING STATEMENT

SECTION V - PROPOSED PRE-DISTURBANCE ASSESSMENT PROCESS/ENVIRONMENTAL PROTECTION PLAN

FRANCIS L'HENAFF

9. THE PRE-DISTURBANCE PROCESS

Thank you Steve. EnCana has developed a PDA process for use in the Suffield NWA which will provide for the implementation of the mitigation measures detailed in EnCana's Environmental Protection Plan and ensure there are no significant environmental effects from our Project.

The PDA process has evolved over the course of this process as a result of new information we obtained and concerns from interested parties. In May of 2007, EnCana filed its *Environmental Impact Statement* which contained a high-level version of its proposed PDA. That version was based on the findings in the Environmental Impact Statement and the work of experts in each of the disciplines involved in the Environmental Impact Statement. That version of the proposed PDA process contemplated a two-stage assessment, which was comprised of a desktop office based assessment and field surveys.

EnCana tested the PDA process it had proposed in May 2007 in response to a Panel request. The product of that exercise was the PDA Report filed by EnCana on November 9, 2007. We recognized that the timing of some of the surveys was not appropriate, but the testing of how the process would work was none-the-less important. This "test-drive" of the PDA process was informative. The report which was the product of the Panel's request reflected a stronger process based on information gained through the comments regarding the Environmental Impact Statement, as well as the benefit of real world testing. Improvements included an approval process for infrastructure within setbacks.

This field test showed us that there were aspects of the proposed PDA process that could be improved upon, expanded or deleted. As a result, EnCana was able to further customize, refine and supplement the proposed PDA process in the revised Environmental Protection Plan filed in January 2008.

Subsequently, interested parties raised questions and concerns about the process and also made recommendations to further improve the process. At the same time, we used the additional work we were undertaking to respond to information questions and interested parties' evidence to look further at our PDA process. EnCana felt that it was our responsibility to once again field test the proposed PDA process, and incorporate ideas and information that would better serve the environment.

We filed our optimized PDA process on August 13, 2008. It is now a six stage assessment with comprehensive siting criteria, survey methodologies and the provision for the DND and the Suffield Environmental Advisory Committee (SEAC) to review and approve compliance with the process.

EnCana is proposing that compliance with the proposed PDA process be made a condition of the NWA Permit and the associated ERCB licences. This condition will ensure that there are no significant adverse environmental effects associated with the Project. It is anticipated that the majority of the locations selected will not have environmental or operational concerns. In such cases, it is envisioned that the wells will follow a "routine" approval path. The role of SEAC and DND would be to determine whether the appropriate process is being followed and confirm compliance with the conditions of approval we have suggested (if approved by the Panel). To ensure compliance with the conditions, EnCana will provide information throughout the process to SEAC and DND so that both parties can audit the routine applications, as they deem necessary. In the event of a conflict between competing setbacks, environmental constraints or a significant impact on resource recovery, expert and independent advice would be sought to determine the appropriate path forward and that advice would be provided to SEAC for review, and ultimately a recommendation on how to proceed, to the Base Commander.

The proposed PDA process provides a mechanism to avoid environmentally sensitive features. The features are identified, and then a species-specific setback distance is applied to ensure avoidance. To achieve this, we will implement the six-stage process as follows:

1. An office-based initial well site selection will occur with a goal of optimizing resource recovery within the constraints of existing infrastructure and inter-well spacing requirements.

2. Field surveys will be conducted across the entire Project area. The surveys will be in accordance with accepted scientific methodologies. These surveys will be conducted by qualified environmental specialists and will allow us to identify the location of specific species of wildlife across the NWA. The results of the surveys will be used for the next stage of infrastructure siting. In addition, the results will be provided to regulators and researchers to improve the management of the NWA and listed species.

3. The location of well sites and rights of way will be adjusted to accommodate setbacks based on the results of the wildlife surveys, operational considerations and environmental constraints, such as wetlands and terrain. EnCana will utilize various tools and techniques to assist in the desktop siting including GIS mapping products and aerial photographs.

4. Vegetation and wildlife surveys specific to each well site and right of way will be conducted. The vegetation surveys will locate rare plants, while the wildlife surveys will focus on Ord's kangaroo rats and snake hibernacula (if not already located during the spring survey window).

5. The survey results I just mentioned will guide the next stage of the PDA process: the relocation of the proposed infrastructure to avoid identified vegetation and wildlife on each lease.

6. Finally, we will conduct a constructability assessment in order to finalize well site and right of way locations. All locations will be field-checked to identify and adjust to site-specific construction issues. At this stage, additional measures will be identified from the Environmental Protection Plan to mitigate any potential erosion issues.

On all sections of land with a moderate or higher potential for historical resources, EnCana will conduct historical resource impact assessments. If any historical resources are located, the mitigation

measures described in the historical resources assessment section of the Environmental Impact Statement will be implemented.

It is envisioned that survey and siting data will be provided to DND and SEAC at the end of each stage in the process to ensure compliance with the conditions of approval we have suggested. This will also allow feedback into the process on a collaborative basis.

It is anticipated that, using the PDA process, approximately 80% of all wells, access trails and rights of way pertaining to the Project will be located without environmental or operational issues. In the exceptional circumstance when the PDA indicates that EnCana is unable to either avoid the feature or must be active within a setback, the well site, pipeline or access route will be sent to SEAC for their consideration and recommendation to the Base Commander for approval or denial under the non-routine application process. In such cases, EnCana, in consultation with the environmental specialists, will propose site-specific mitigation measures. If mitigation is impractical or deemed to be ineffective, alternative sites and/or route adjustments will be proposed. Alternatively, EnCana may elect to defer the well in question or cancel it altogether.

EnCana believes that SEAC is the appropriate body to review and make recommendations on these non-routine applications to the Base Commander. SEAC has three members, one from each of the ERCB, Alberta Environment and Environment Canada. We have a great deal of confidence that the SEAC members and their organizations have the right knowledge and experience regarding the environment and our industry in order to make informed recommendations. We also believe that SEAC needs to be provided additional resources to fulfill all of its obligations under the 1975 Agreement, including these obligations, and those that the Panel recommend to the Provincial and Federal Governments that they appropriately resource SEAC.

Panel Members, EnCana is asking you to approve a process that will ensure that this Project can be carried out without any significant adverse environmental effects, and that will be enforced by SEAC and the Base Commander.

10. ENVIRONMENTAL PROTECTION PLAN: MITIGATION MEASURES

Mr. Chairman, the *Environmental Protection Plan* proposed as part of this Project contemplates mitigation options and contingency plans designed to carry out the Project in an effective and responsible manner. Environmental Protection Plans were first used in Alberta for pipeline projects in the early 1980's. Since that time, they have been applied to a wide range of development projects across Canada. Over the last 25 years, they have proven to be a very effective tool to ensure that effective mitigation measures are applied at all stages of a project. Environmental Protection Plans are specifically required for major projects by most Provincial environmental regulatory agencies, and the National Energy Board in Canada.

The Environmental Protection Plan provides the "toolbox" from which to select mitigation measures to address the site-specific circumstances. These mitigation strategies are well known and have proven to be effective at reducing the effects of shallow gas development. The Panel, by approving the implementation of these plans, can be confident that the predictions in the Environmental Impact Statement are accurate. I would like to describe some of the protocols and mitigation measures available to EnCana to minimize the disturbance of our Project. These include mitigations such as wet weather shutdown (protocol for adverse soil conditions); a traffic protocol, (or access management protocol); soil erosion control measures; and spill contingency plans.

While the key mitigation is the restriction of construction activities to the period from October 1st to April 15th only, the other mitigation measures listed in the Environmental Protection Plan will further reduce the potential effects of the Project.

In addition, EnCana has committed to adaptively manage its activities and refine its practices as new information and technology becomes available.

11. IMPLEMENTATION OF ENVIRONMENTAL PROTECTION PLAN

Mr. Chairman, to ensure compliance with the measures documented in the Environmental Protection Plan, EnCana will employ Environmental Inspectors for all construction activities. The Environmental Inspectors will, at all times, have the power and responsibility to shut down activities should any environmental concerns arise.

In order to ensure that protection of the environment is the absolute first priority (alongside safety) for all EnCana staff and contractors, EnCana has committed to conduct comprehensive training for all its workers in the NWA. Along with our training program, there will be a high level of control over working conditions to ensure vehicles entering the NWA are clean, certification cards are issued and work is halted during adverse soil conditions. EnCana will also maintain a thorough and comprehensive tracking system to monitor progress and implementation of mitigation throughout all stages of the Project.

The Environmental Effects Monitoring Plan, customized and informed by this Panel's advice and conditions, will ensure the protection of the NWA, and will confirm and adapt the effectiveness of the mitigation measures detailed in the Environmental Protection Plan.

I will now ask Gerry Protti to conclude EnCana's Opening Statement.

OPENING STATEMENT

CONCLUSION

GERRY PROTTI

1. PROJECT SUPPORTS SUSTAINABILITY

Mr. Chairman, and Panel members, we believe this Project supports sustainable development.

We believe EnCana has carried out responsible and effective shallow gas development for many years, and we will continue to do so.

Our proposed Project provides long-term local and regional socio-economic benefits to the community. Further, our comprehensive monitoring and research plans will add to the knowledge base regarding the native prairie and the species that use it. We will make that information available to the DND, the environmental community, other operators and regulators, so that everyone can better manage the resources for which they are responsible. Our proposed practices will result in minimal disturbance and we are committed to continuously improving them.

Sustainable development can't be achieved alone. We have to work together to be successful. We understand the DND's concern about its ability to monitor our development. We understand their concern about the regulatory process. We believe they need and deserve additional resources. We believe the Province of Alberta and the Federal Government agreed in 1975 on how these problems should be addressed and that the 1975 Agreement embodies a forward thinking approach to environmental protection. We ask this Panel to recommend that the Province and the Federal Government provide the appropriate resources to SEAC to provide the assistance the DND deserves and was promised in the 1975 Agreement, and which will provide a regulatory framework within which EnCana can undertake this development .

2. NO LIKELY SIGNIFICANT ADVERSE ENVIRONMENTAL EFFECTS

EnCana believes that the minimal disturbance strategy proposed for this Project will be successful. We base our confidence on actual field data regarding the existing infill development in the NWA and adjacent areas. To further bolster our confidence in predicted outcomes, EnCana has engaged independent experts knowledgeable in the area, used data pertinent to the study area and proposed mitigation measures with documented effectiveness. The minimal incremental footprint, 0.5% of the entire NWA, will be reclaimed to equivalent land capability. Field studies examining the impacts of infill development in the NWA and in the Military training Area at CFB Suffield support the predicted effects of the Project. The proposed Environmental Effects Monitoring Plan will confirm the predictions of the Environmental Impact Statement. These results will be used and shared to adaptively manage operations in the NWA during all phases of the life of the Project, and in respect of our operations already existing in the NWA.

3. REQUEST THAT THE PANEL RECOMMEND THAT THE PROJECT PROCEED

In Summary:

- EnCana will demonstrate by its evidence that it can continue to drill and operate shallow gas wells in the NWA in a responsible manner consistent with the NWA's continued function as a wildlife conservation area through this Project, which includes provision for oversight by SEAC and the DND.

- EnCana is asking this Panel to recommend, pursuant to the *Canadian Environmental Assessment Act*, that the proposed Project is not likely to cause any significant adverse environmental effects, taking into consideration the proposed conditions and mitigation measures, and that a permit under the *Wildlife Area Regulations* be issued in due course by the DND in compliance with the recommendations of this Panel.

- EnCana is also asking this Panel, sitting as the Energy and Resources Conservation Board of Alberta, to approve the licensing of the three wells applied for under application #1435831, again subject to the proposed conditions and mitigation measures.

We look forward to presenting our information and responding to questions regarding the Project to the Joint Review Panel and to all interested parties during this hearing. Thank you for the opportunity to introduce this Project.

Gentlemen, thank you.


ENCANA
energy for people
Opening Statement
SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA
October 6, 2008

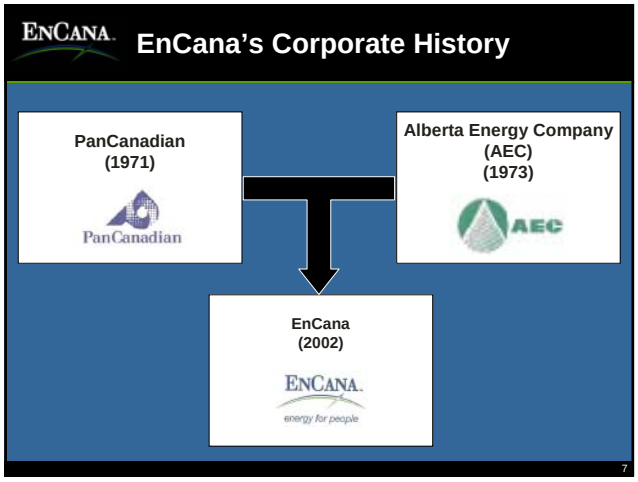

ENCANA
energy for people
Section I
Introduction
SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA
Gerry Protti
Executive Vice President of Corporate Relations,
President of Offshore and International
October 6, 2008

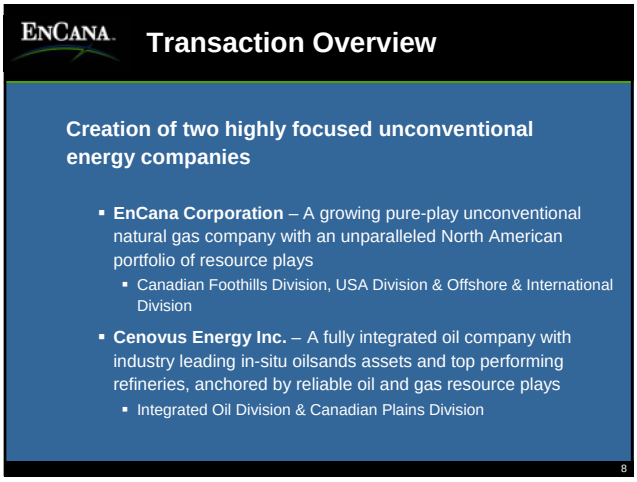

CFB Suffield
BFC Suffield
National Wildlife Area
Reserve National de la Faune
Government of Canada
Gouvernement du Canada
3


ENCANA
EnCana's Commitment
"We firmly believe that we can conduct our activities on the Suffield National Wildlife area in an environmental responsible manner"
Randy Eresman
CEO EnCana
4


5


6


ENCANA.
EnCana's Corporate History
PanCanadian
(1971)
PanCanadian
Alberta Energy Company
(AEC)
(1973)
AEC
EnCana
(2002)
ENCANA.
energy for people
7


ENCANA.
Transaction Overview
Creation of two highly focused unconventional energy companies
EnCana Corporation – A growing pure-play unconventional natural gas company with an unparalleled North American portfolio of resource plays
Canadian Foothills Division, USA Division & Offshore & International Division
Cenovus Energy Inc. – A fully integrated oil company with industry leading in-situ oilsands assets and top performing refineries, anchored by reliable oil and gas resource plays
Integrated Oil Division & Canadian Plains Division
8

EnCana Corporation

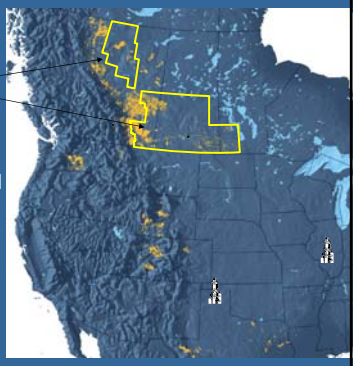
- **One of the largest natural gas producers in North America**
- **Primary focus is on the development of "unconventional resource plays"**

9

EnCana Corporation

Divisions

- Canadian Foothills
- Canadian Plains
- Integrated Oilsands
- Midstream & Marketing
- Offshore & International
- United States



10

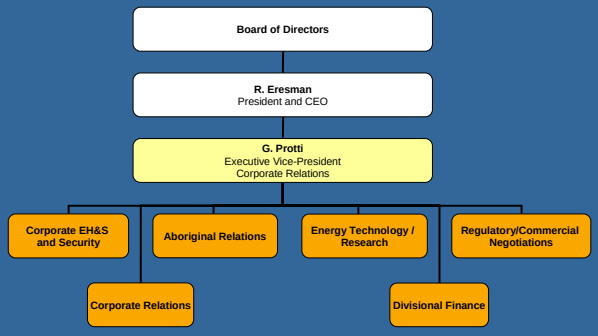
EnCana Corporation

Corporate Groups

- Business Development
- Corporate Communications
- Corporate Finance
- Corporate Relations
- Corporate Services
- Strategic Planning & Portfolio Management

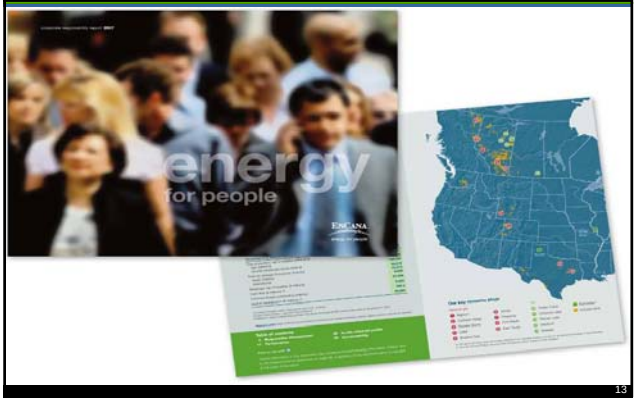
11

EnCana Organizational Chart
(Shallow Gas Development in Suffield)



12

EnCana Corporate Responsibility



13

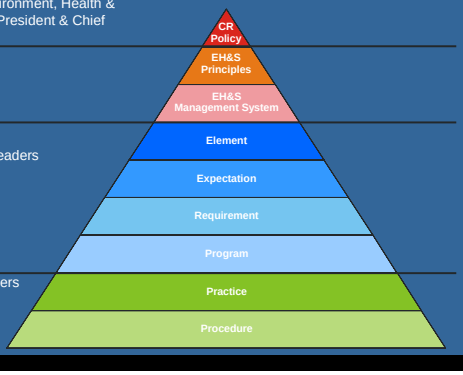
EnCana Corporate Responsibility

Board of Directors Corporate Responsibility, Environment, Health & Safety Committee President & Chief Executive Officer

Corporate Leaders

Division / Region Leaders

Business Unit Leaders
Team Leaders
Group Leaders
Superintendents
Foremen



14

15

EnCana Corporate Responsibility
Public Reporting

- **Annual corporate responsibility report is available to the public**
- **Independently reviewed**

16

Corporate Responsibility, Environment, Health and Safety Committee (CREHS)

- Independent oversight of governance
- Policy decisions regarding the environment
- EnCana follows the guidance of the CREHS committee
- The CREHS has reviewed and approved the project proposal

17

Introduction to the Project

Joint Review Panel established to meet requirements of:

- Canadian Environmental Assessment Act
- Wildlife Area Regulations
- Alberta Oil and Gas Conservation Act

18

What EnCana is asking of the Joint Review Panel

Two Approvals

1. Pursuant to the Canadian Environmental Assessment Act, recommend approval for the Project; and
2. On behalf of the ERCB, approve three wells in the NWA

19

Conditions of Approval

Pre-Disturbance Assessment Process for all proposed development

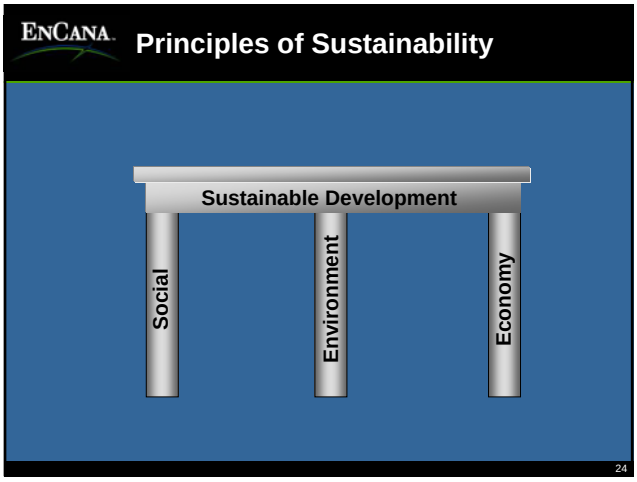
- Sensitive features are identified and avoided
- Site specific environmental information is gathered
- Potential conflicts referred to Suffield Environmental Advisory Committee (SEAC)
- Department of National Defence and SEAC will be involved to ensure compliance

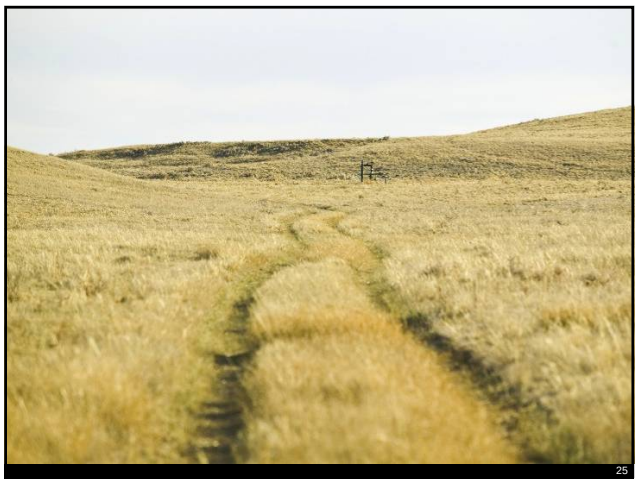
20


21


02/05/2008
22

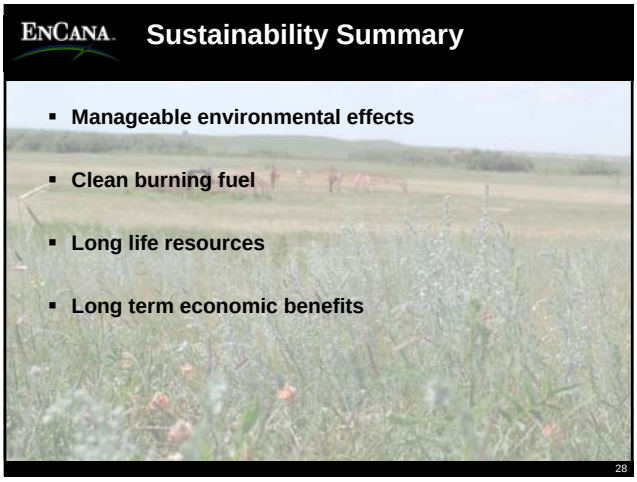

ENCANA
Sustainability
Responsible development meets the needs of the present without compromising the ability of future generations to meet their own needs.
23


ENCANA
Principles of Sustainability
Sustainable Development
Social
Environment
Economy
24

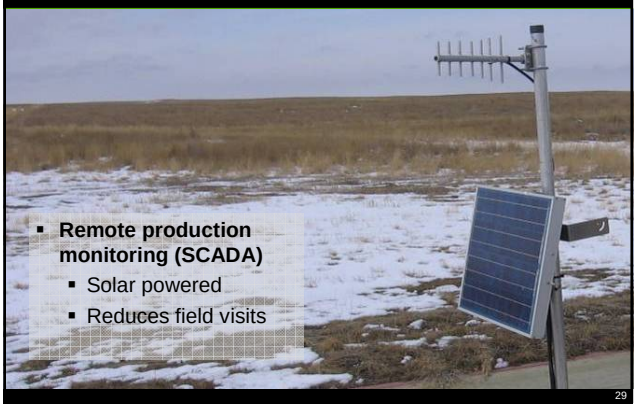

25


07/29/2008 09:23 AM
26


02/05/2008
27


ENCANA
Sustainability Summary
Manageable environmental effects
Clean burning fuel
Long life resources
Long term economic benefits
28

New technologies to minimize footprint



- **Remote production monitoring (SCADA)**
  - Solar powered
  - Reduces field visits

29

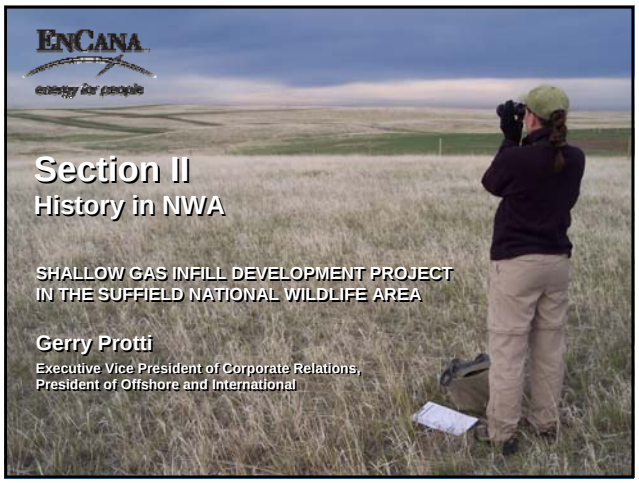
EnCana's Commitment to the NWA Project

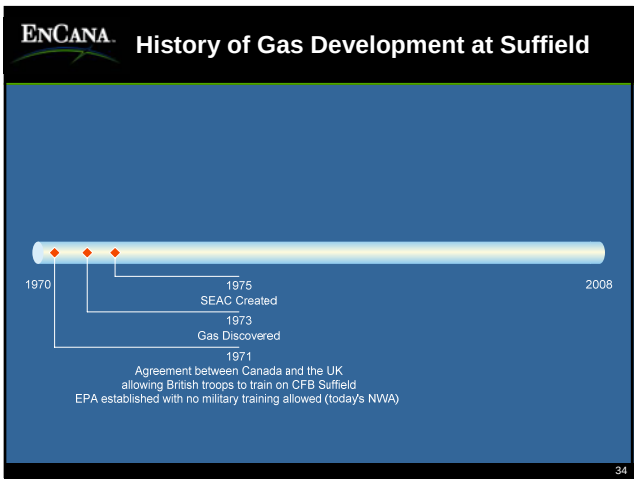
The project design is customized to ensure a ***minimal footprint*** *and to* ***protect the environment***

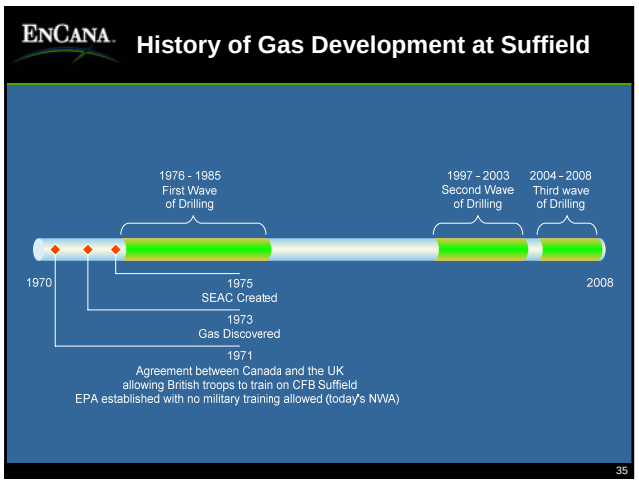
30

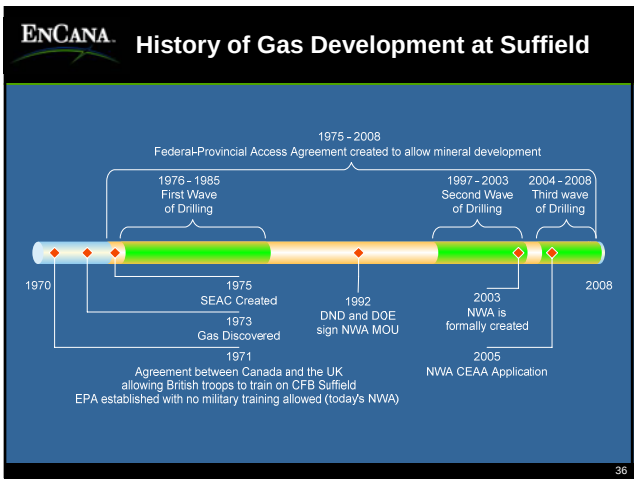
31

32


ENCANA
energy for people
Section II
History in NWA
SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA
Gerry Protti
Executive Vice President of Corporate Relations,
President of Offshore and International


ENCANA
History of Gas Development at Suffield
1970
1975
SEAC Created
1973
Gas Discovered
1971
Agreement between Canada and the UK
allowing British troops to train on CFB Suffield
EPA established with no military training allowed (today's NWA)
2008
34


ENCANA
History of Gas Development at Suffield
1976 - 1985
First Wave
of Drilling
1997 - 2003
Second Wave
of Drilling
2004 - 2008
Third wave
of Drilling
1970
1975
SEAC Created
1973
Gas Discovered
1971
Agreement between Canada and the UK
allowing British troops to train on CFB Suffield
EPA established with no military training allowed (today's NWA)
2008
35


ENCANA
History of Gas Development at Suffield
1975 - 2008
Federal-Provincial Access Agreement created to allow mineral development
1976 - 1985
First Wave
of Drilling
1997 - 2003
Second Wave
of Drilling
2004 - 2008
Third wave
of Drilling
1970
1975
SEAC Created
1973
Gas Discovered
1971
Agreement between Canada and the UK
allowing British troops to train on CFB Suffield
EPA established with no military training allowed (today's NWA)
1992
DND and DOE
sign NWA MOU
2003
NWA is
formally created
2005
NWA CEAA Application
2008
36

History of EnCana Operations in Native Prairie

- Most experience operating in native prairie conditions
- Has drilled over 20,000 wells in the shallow gas complex
- Has used environmental specialists since the 1970's

37

Current Practices

38

Introduction to the History of Suffield National Wildlife Area

39

1915 to 1941 - Multi-use area

- Antelope Sanctuary
- Ranching
- Homesteading

40

1941 – Military Training Begins

1971 - 3 Distinct Areas

- Military Training Area
- Environmentally protected area
- Experimental Proving Ground

41

1960 Onwards - Shared use of the land

- **Grazing allowed**
- **Ecological Research**
- **Canadian Wildlife Service Inventory**

42

43

Suffield NWA Inception

- **1992 Memorandum of Understanding between DND and DOE to create the CFB Suffield NWA**

  "does not in any way alter or interfere with other agreements… as they pertain to natural gas development and cattle grazing."

  – 1992 Memorandum of Understanding – DOE and DND

- **NWA Lands are maintained as federally protected and managed wildlife habitat. Development will continue pursuant to the existing Memorandum of Agreement ("MOA")**

  "No major changes in land use are anticipated … land uses include … shallow gas extraction… will operate under existing MOA…"

  – 2003 Regulatory Impact Analysis Statement

44

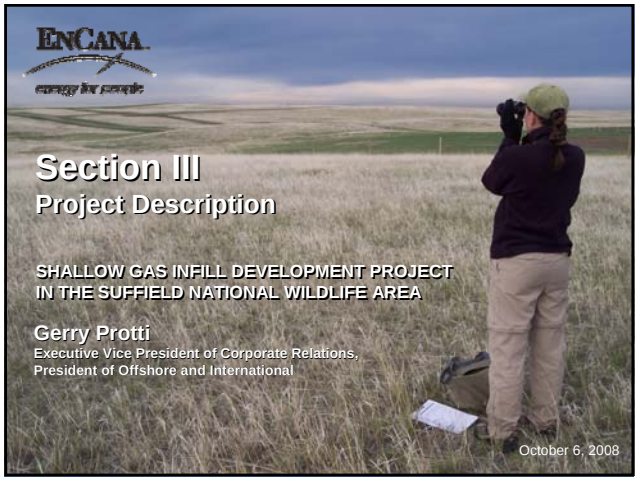
1992 Memorandum of Understanding

45

Summary

- EnCana can develop the resource in an environmentally responsible manner

46



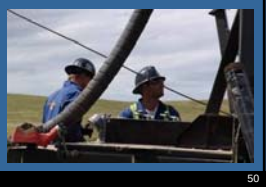
Public Participation

- Employed EnCana's history at CFB Suffield to identify stakeholders
- Letter exchanges, meetings, tours, open houses
- Collaboration with interested parties
- Active engagement of First Nations
- EnCana website

48

Societal Benefits

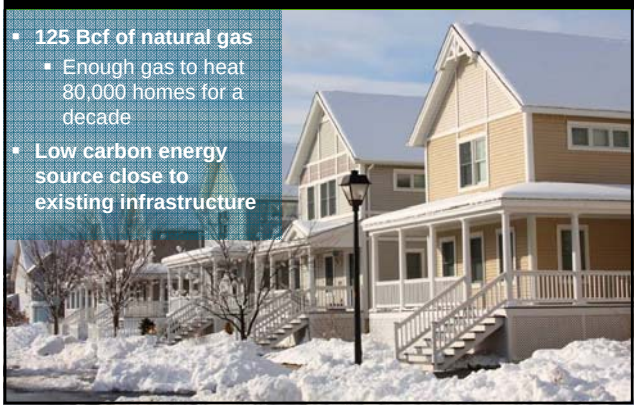
- $62.5 MM/year* in economic activity
- $16.6 MM/year* labour income
- 70% of operational spending to regional established businesses
- $34 MM in crown royalties
- 175 person-years of employment during construction phase
- * in 2006 Dollars



Community Investment

Benefits of Natural Gas

- 125 Bcf of natural gas
  - Enough gas to heat 80,000 homes for a decade
- Low carbon energy source close to existing infrastructure



Research

53

Introduction to Hearing Panel

Gerry Protti	Executive Vice-President (Corporate Relations), President (Offshore & International Division)
Francis L'Henaff	Team Lead (Suffield Gas), Canadian Plains Division
Joel Heese	Suffield Field Environmental Coordinator, Canadian Plains Division

54

Introduction to Hearing Panel (continued)

Steve Fudge	Jacques Whitford
Doug Collister	URSUS Ecosystem Management Ltd.
John Kansas	URSUS Ecosystem Management Ltd.
David Walker	David Walker and Associates Ltd.

55

Section III
Project Description

SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA

Francis L'Henaff
Team Lead – Suffield Gas Sub-Business Unit

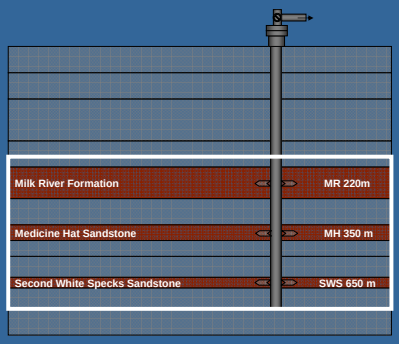
October 6, 2008

Nature of Shallow Gas

- Core of EnCana's business
- Light surface footprint

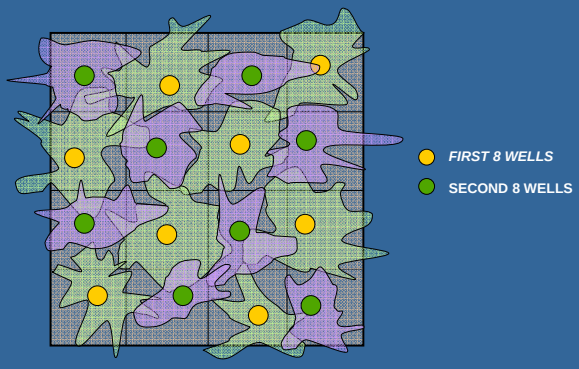
57

Regional Subsurface Geology



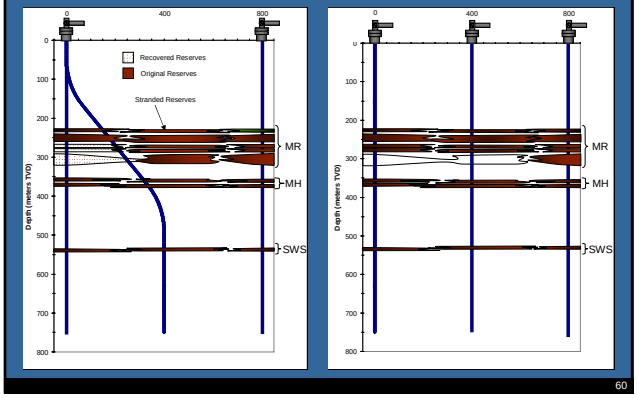
58

Infill Drilling – 16 Wells per Section



59

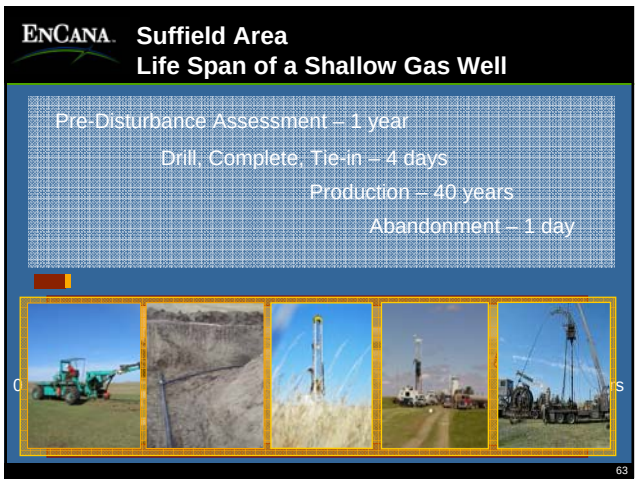
Vertical vs Directional Drilling

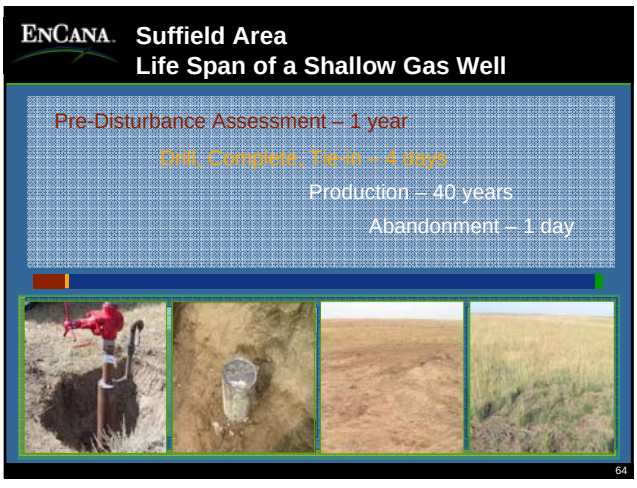


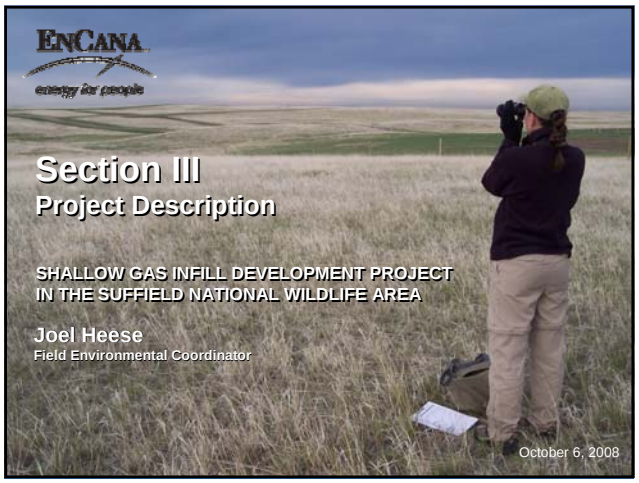
60


07/25/2008 09:23 AM
61

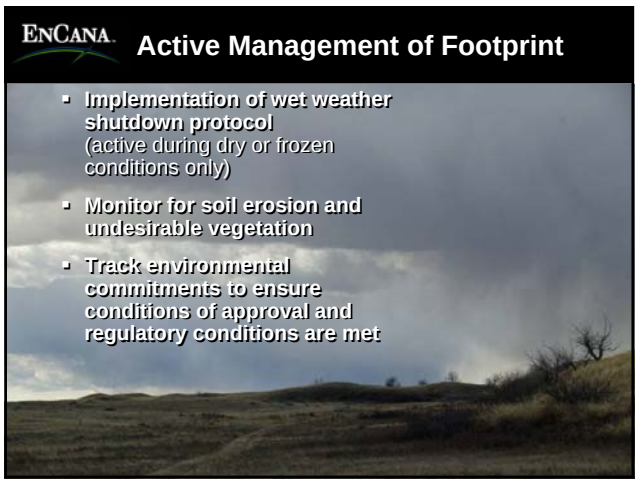

02/05/2008
62

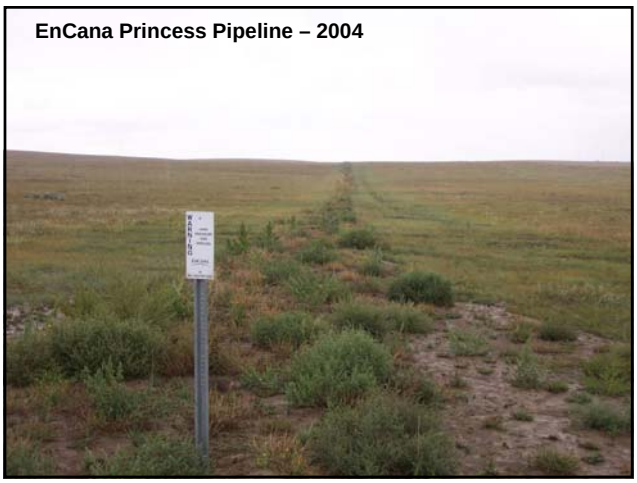

ENCANA
Suffield Area
Life Span of a Shallow Gas Well
Pre-Disturbance Assessment – 1 year
Drill, Complete, Tie-in – 4 days
Production – 40 years
Abandonment – 1 day
63

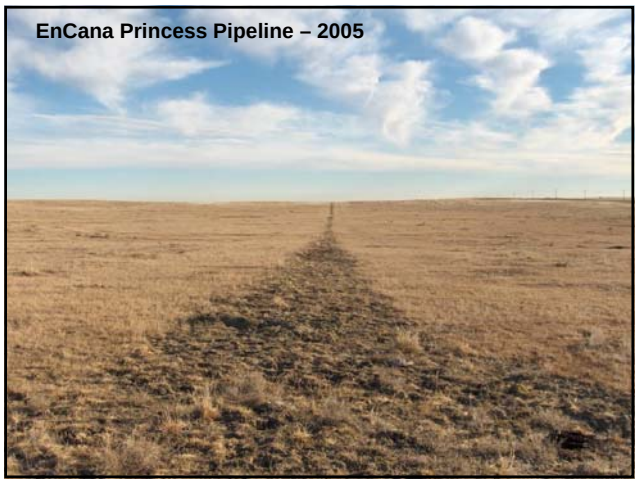

ENCANA
Suffield Area
Life Span of a Shallow Gas Well
Pre-Disturbance Assessment – 1 year
Drill, Complete, Tie-in – 4 days
Production – 40 years
Abandonment – 1 day
64

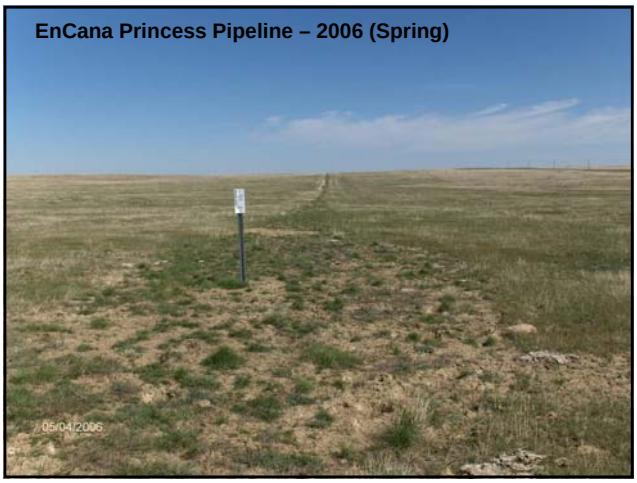

ENCANA
energy for people
Section III
Project Description
SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA
Joel Heese
Field Environmental Coordinator
October 6, 2008


ENCANA
Suffield Environmental Coordinator
Consistency in environmental objectives
Native prairie stewardship
Facilitate mutual respect between EnCana, DND and associated regulators

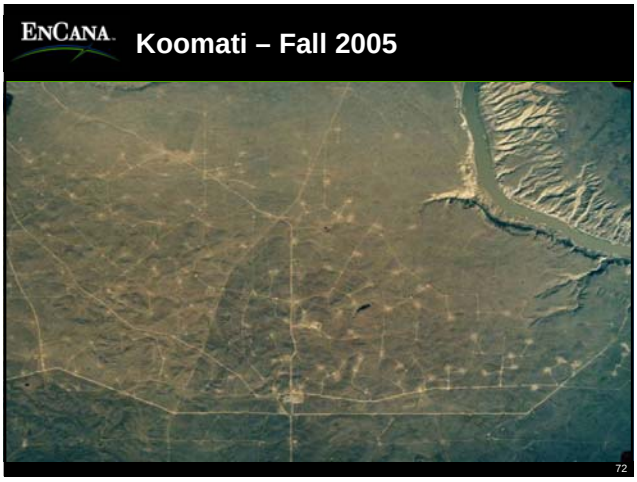

ENCANA
Active Management of Footprint
Implementation of wet weather shutdown protocol (active during dry or frozen conditions only)
Monitor for soil erosion and undesirable vegetation
Track environmental commitments to ensure conditions of approval and regulatory conditions are met


EnCana Princess Pipeline – 2004


EnCana Princess Pipeline – 2005


EnCana Princess Pipeline – 2006 (Spring)
05/04/2006


EnCana Princess Pipeline – 2006 (Fall)
WARNING


ENCANA
Koomati – Fall 2005
72

EnCana – Koomati – Fall 2006

73

EnCana – Koomati – Fall 2007

74

EnCana – EIS Process Overview

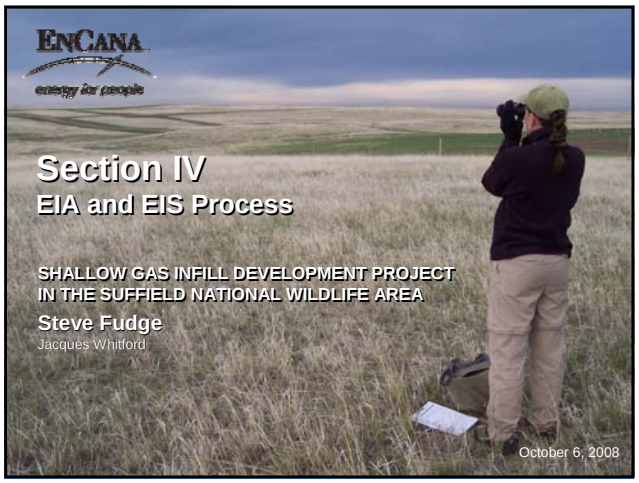
Independent experts with specific expertise in native prairie environments were commissioned to prepare a detailed and comprehensive EIS to meet the Guidelines prepared by this Panel

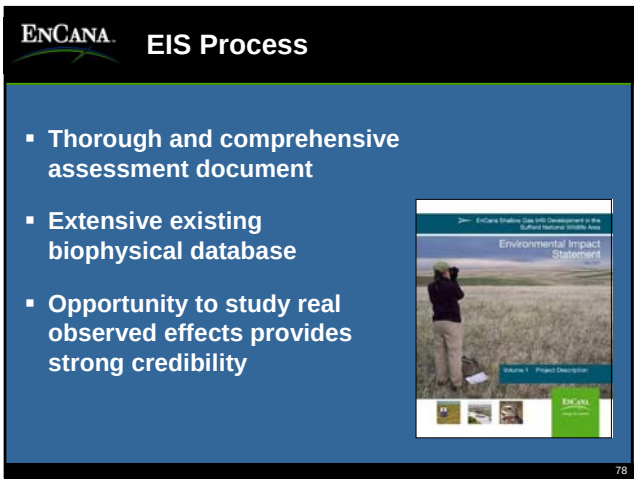
75

EnCana – Key Mitigation Elements of Project

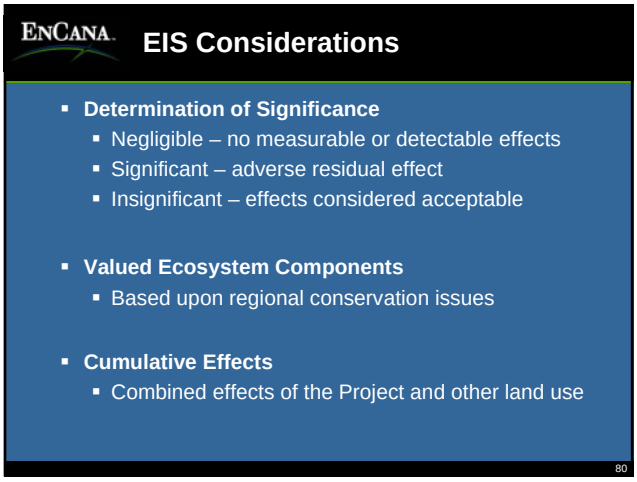
- Environmental Protection Plan (EPP)
- Environmental Effect Monitoring Plan (EEMP)

76


ENCANA
energy for people
Section IV
EIA and EIS Process
SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA
Steve Fudge
Jacques Whitford
October 6, 2008


ENCANA
EIS Process
Thorough and comprehensive assessment document
Extensive existing biophysical database
Opportunity to study real observed effects provides strong credibility
Environmental Impact Statement
78

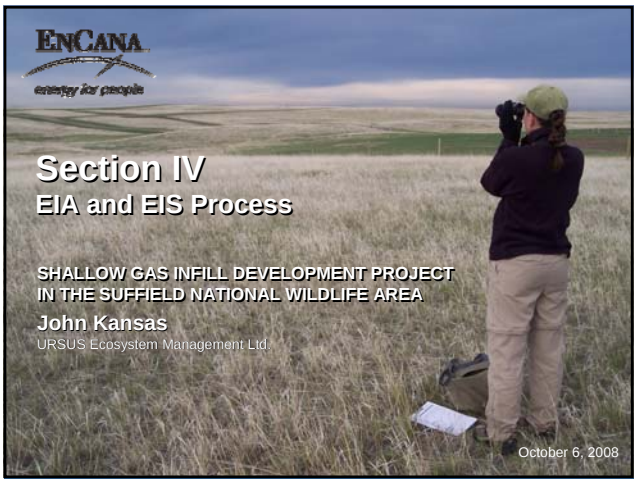

ENCANA
Available Information
Canadian Wildlife Service inventories
Department of National Defence wildlife surveys
Wildlife and vegetation surveys conducted for the Project
Mapping from other land users
79


ENCANA
EIS Considerations
Determination of Significance
Negligible – no measurable or detectable effects
Significant – adverse residual effect
Insignificant – effects considered acceptable
Valued Ecosystem Components
Based upon regional conservation issues
Cumulative Effects
Combined effects of the Project and other land use
80

EIS Summary

- Predictions were primarily based on field studies in the NWA and CFB Suffield, combined with the constraints mapping to predict the footprint of the Project
- EIS is extremely conservative for many parameters and therefore likely over-predicts the environmental effects of the Project
- Project specific assessment process, protection plan and monitoring plan

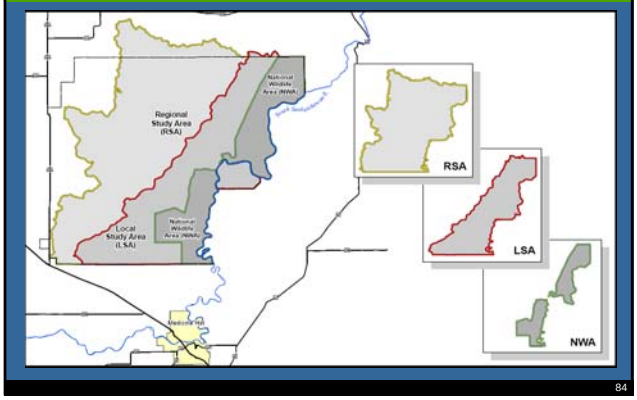
81



Field Studies

83

Study Areas

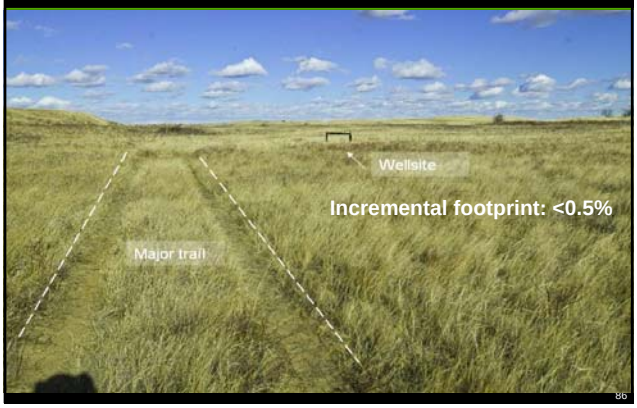


84

Air Photos

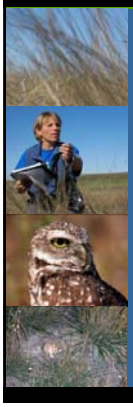
85

Footprint



86

Valued Ecosystem Components (VECs)



Examples

- Native prairie integrity
- Rare plants and plant communities
- Soil sensitive to wind erosion
- Sprague's Pipit
- Loggerhead Shrike
- Burrowing Owl
- Ord's Kangaroo Rat

87

Native Prairie Integrity

Cumulative Effects Assessment

- Sensitive soils
- Wildlife
- Wildlife habitat
- Native prairie grassland integrity

88

Limiting Effects on Native Prairie

89

Native Prairie Matrix

90

Section IV
EIA and EIS Process

SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA

Doug Collister
URSUS Ecosystem Management Ltd.

October 6, 2008

Effects on Species at Risk and Their Habitat

The assessment was made in the context of:

- Direct habitat loss and alteration
- Sensory disturbance and effective habitat loss
- Habitat fragmentation
- Direct mortality
- Barriers to movement

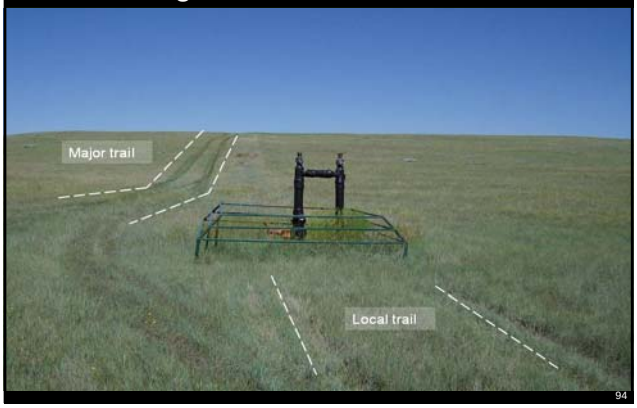
92

Habitat Assessment Approach

- **Approach based on habitat suitability ratings of vegetation cover and habitat units**
  - Site specific features identified during Pre-Disturbance Assessment
  - Species setbacks applied
  - Project effects predicted to be insignificant or negligible

93

Project will not contribute to fragmentation



94

The Importance of Grasslands and Proposed Mitigation

- **NWA will continue to be a functioning native prairie**
- **Conducted field studies in 2006 and 2008 on the effects of infill development on native prairie**
- **Recovery to near native condition in approximately 25 years**
- **Enhanced techniques will further reduce the footprint and improve reclamation timelines**

95

Foothills Pipeline Study 1981 – 2001
Sand Stabilization/Revegetation

97

Some Learning's

- Drought periods make stabilization and re-vegetation difficult
- During high moisture, natural recovery is often sufficient
- Topsoil conservation is key
- Rough ground promotes biodiversity
- Seed source, method, time etc can be more important than seed species

98

Crested Wheatgrass - Observations

- Very aggressive at seedling stage
- Mortality is episodic; coincides with drought
- Mortality higher on sandy soils
- Outcompeted by native wheatgrasses
- Placeholder species- helps exclude other less desirable early season species – downy brome
- Veteran of the war against rangeland soil loss

99

Plant Species Trials

after 22 years, of 17 species, only 1 survived
Durar hard fescue DID
crested wheatgrass DID NOT

100

Rangeland Functionality Assessment Protocol

Evolution of a sand dune -1979

1989

1998

101

Rangeland Functionality Assessment Protocol

102

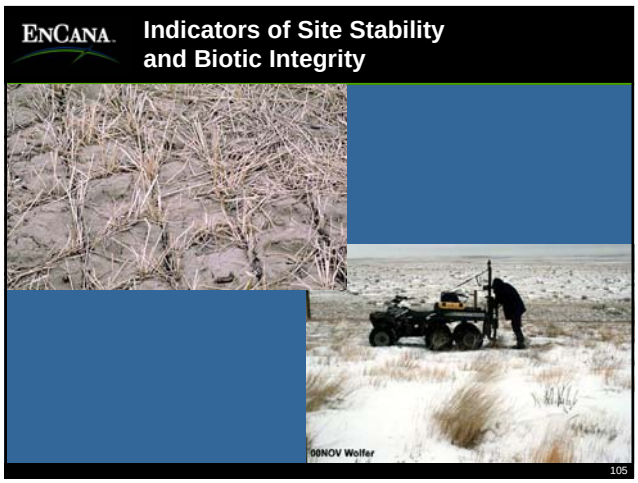
Plan Approach

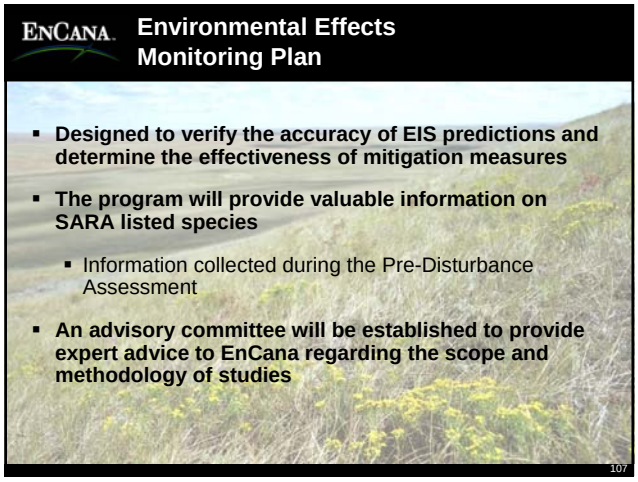
- Contain the disturbance by selecting:
  - well sites well-drained, protected from wind
  - avoid side-slopes and cross water bodies perpendicular to the flow
  - access trails appropriate for the volume and type of traffic
- Confine ground disturbance to the period of dormancy for vegetation.
- Conserve and replace all soil and vegetative resources.

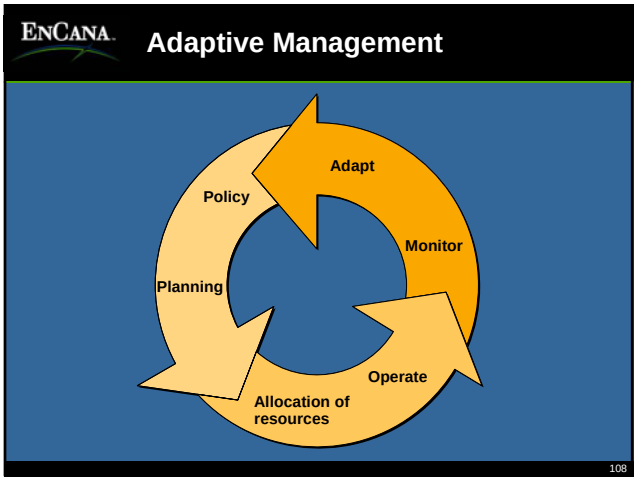
103

Mitigation Measures

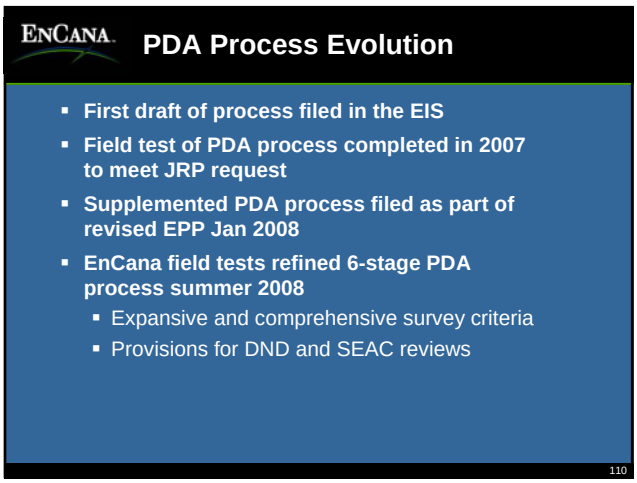
104

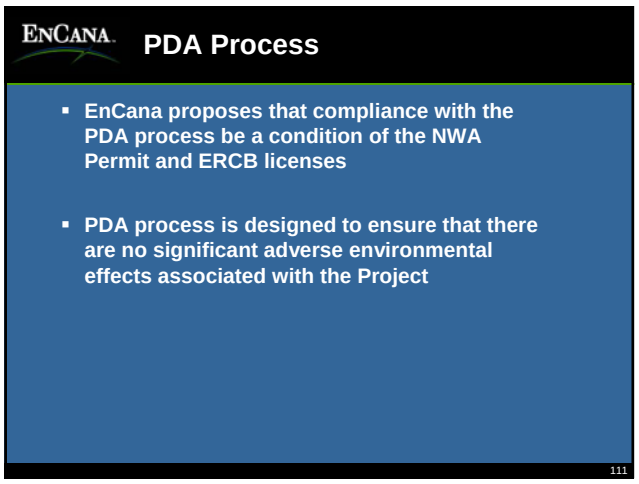

ENCANA
Indicators of Site Stability and Biotic Integrity
00NOV Wolfer
105

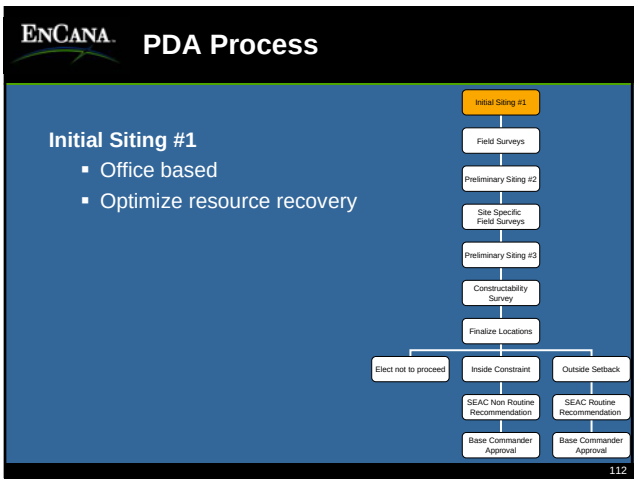

ENCANA
Environmental Effects Monitoring Plan
Designed to verify the accuracy of EIS predictions and determine the effectiveness of mitigation measures
The program will provide valuable information on SARA listed species
Information collected during the Pre-Disturbance Assessment
An advisory committee will be established to provide expert advice to EnCana regarding the scope and methodology of studies
107


ENCANA
Adaptive Management
Adapt
Monitor
Operate
Allocation of resources
Planning
Policy
108


ENCANA
energy for people
Section V
PDA Process
SHALLOW GAS INFILL DEVELOPMENT PROJECT
IN THE SUFFIELD NATIONAL WILDLIFE AREA
Francis L'Henaff
Team Lead (Suffield Gas)
October 6, 2008


ENCANA
PDA Process Evolution
First draft of process filed in the EIS
Field test of PDA process completed in 2007 to meet JRP request
Supplemented PDA process filed as part of revised EPP Jan 2008
EnCana field tests refined 6-stage PDA process summer 2008
Expansive and comprehensive survey criteria
Provisions for DND and SEAC reviews
110

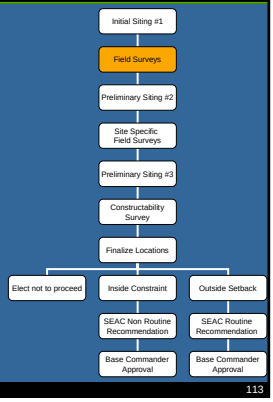

ENCANA
PDA Process
EnCana proposes that compliance with the PDA process be a condition of the NWA Permit and ERCB licenses
PDA process is designed to ensure that there are no significant adverse environmental effects associated with the Project
111


ENCANA
PDA Process
Initial Siting #1
Office based
Optimize resource recovery
Initial Siting #1
Field Surveys
Preliminary Siting #2
Site Specific Field Surveys
Preliminary Siting #3
Constructability Survey
Finalize Locations
Elect not to proceed
Inside Constraint
Outside Setback
SEAC Non Routine Recommendation
SEAC Routine Recommendation
Base Commander Approval
Base Commander Approval
112

PDA Process

Field Surveys

- Survey entire project area
- Accepted scientific methodology
- Qualified personnel
- Identify specific species locations

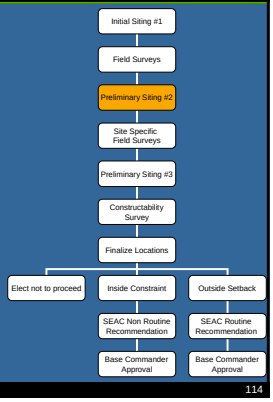


113

PDA Process

Preliminary Siting #2

- Adjust locations based on:
  - Field survey results
  - Operational considerations
  - Environmental constraints

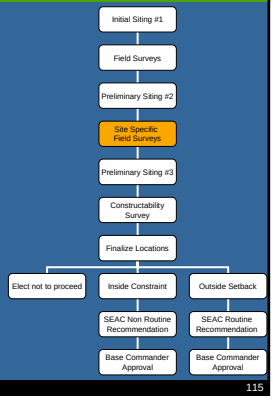


114

PDA Process

Site Specific Field Surveys

- Locate:
  - Rare plants
  - Ord's Kangaroo Rats
  - Snake hibernacula
- Specific to well sites and right of ways

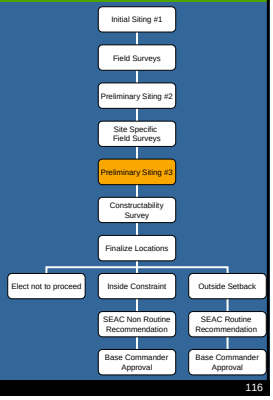


115

PDA Process

Preliminary Siting #3

- Relocate proposed infrastructure to avoid species identified in site specific surveys

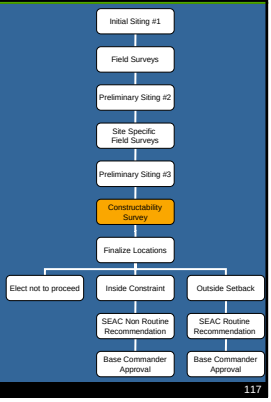


116

PDA Process

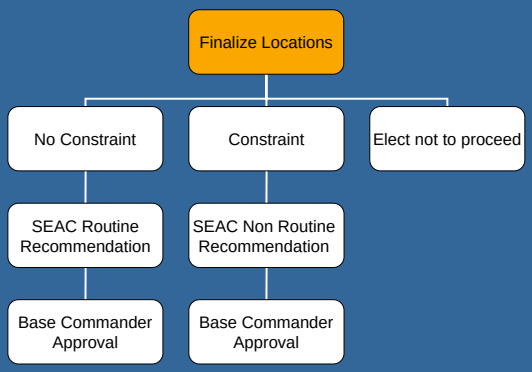
Constructability Survey

- Ensure location suitable for construction
- Identify sites requiring additional mitigation measures



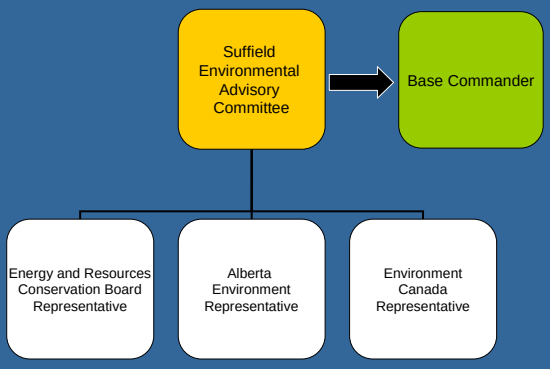
117

PDA Process



118

SEAC



119

Environmental Protection Plan (EPP)

- **Mitigation Options**
- **Contingency Plans**

- **Specific Mitigation Protocol:**
  - Weather Shutdown and soil erosion
  - Traffic Protocol
  - Spill Contingency Plan

120

Key Mitigation

121

EPP Implementation

- **Environmental Inspectors will ensure compliance with the EPP**
  - Have power and responsibility to shut down activities
- **Comprehensive training of all workers in the NWA**
- **Tracking system to monitor progress**
- **EEMP to ensure future protection and determine effectiveness of the EPP**

122

124

Summary

- EnCana believes it can continue to drill and operate shallow gas wells in the NWA in a responsible manner that allows continued function as a wildlife conservation area.
- EnCana has proposed extensive mitigation measures to avoid or reduce the effect of the Project on the native prairie and wildlife in the NWA.

What EnCana is asking of the Joint Review Panel

Two Approvals

1. Pursuant to the *Canadian Environmental Assessment Act*, recommend approval for the Project; and
2. On behalf of the ERCB, approve three wells in the NWA applied for by EnCana pursuant to application #1435831

127