

# **Enhance Energy Inc. and North West Redwater Partnership**

Knowledge Sharing Report

Appendices ix–xii

Calendar Year 2015

Submitted on March 31, 2016

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# Enhance Energy Inc. and North West Redwater Partnership

## APPENDIX ix Clive D-2A & D-3A Water Injection History



*Green River, by Tom Milosz*



# Clive D-2A Injection Summary

PRD Well Count: 128  
INJ Well Count: 15

From: 1961-12  
To: 2012-01  
Unit(MA): API



# Clive D-3A Injection Summary

From: 1961-12

Page 5

To: 2011-12

PRD Well Count: 164

INJ Well Count: 10

Unit(M/A): API



INJ Inj-Day Avg Water

Bbl/day

Date (Years)

INJ Well Count

# Enhance Energy Inc. and North West Redwater Partnership

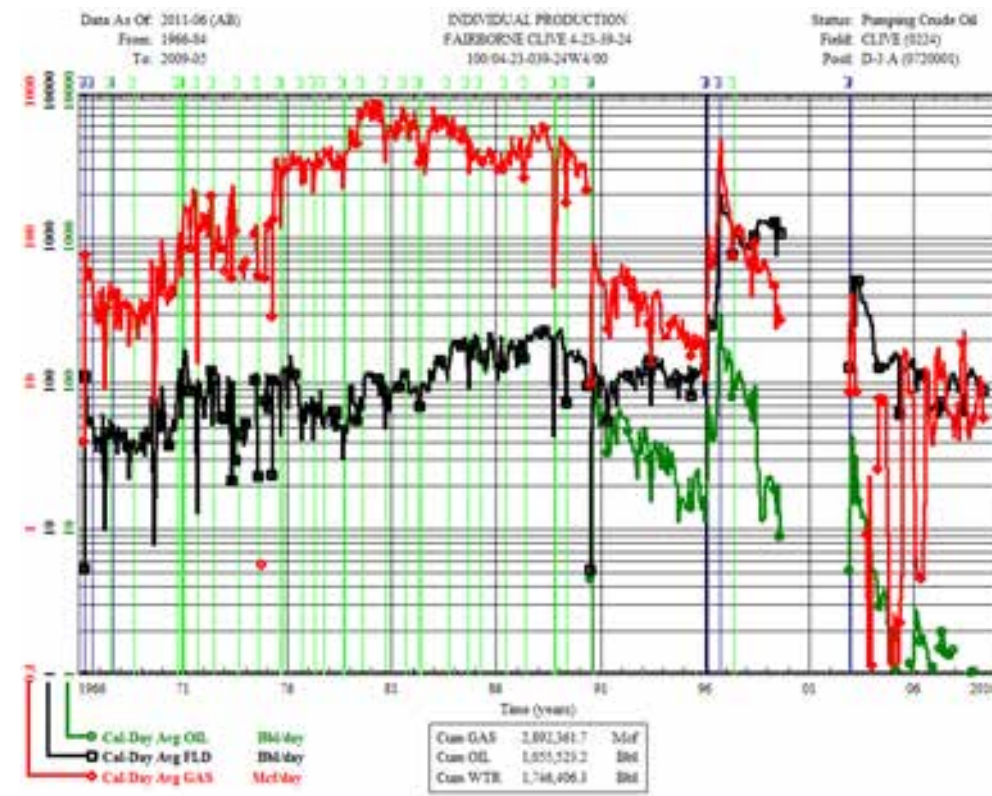
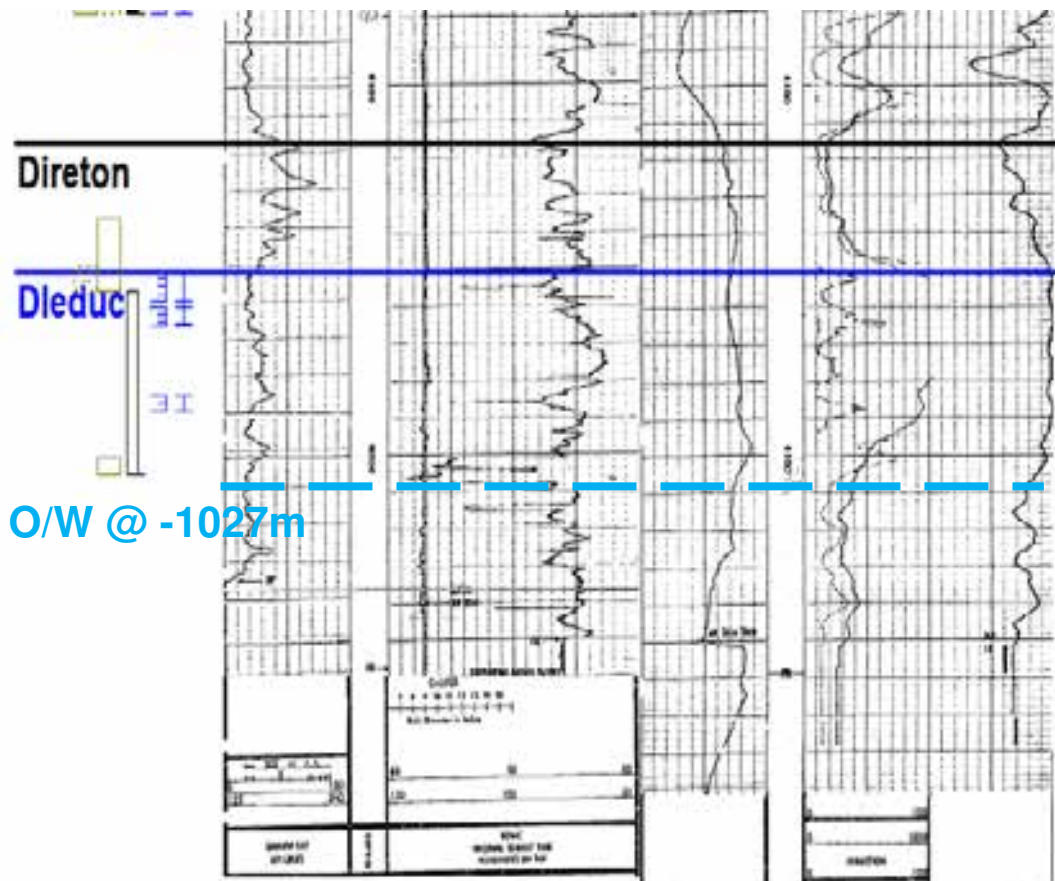
## APPENDIX x Geological Illustrations for Clive Reservoirs



*Green River, by Tom Milosz*



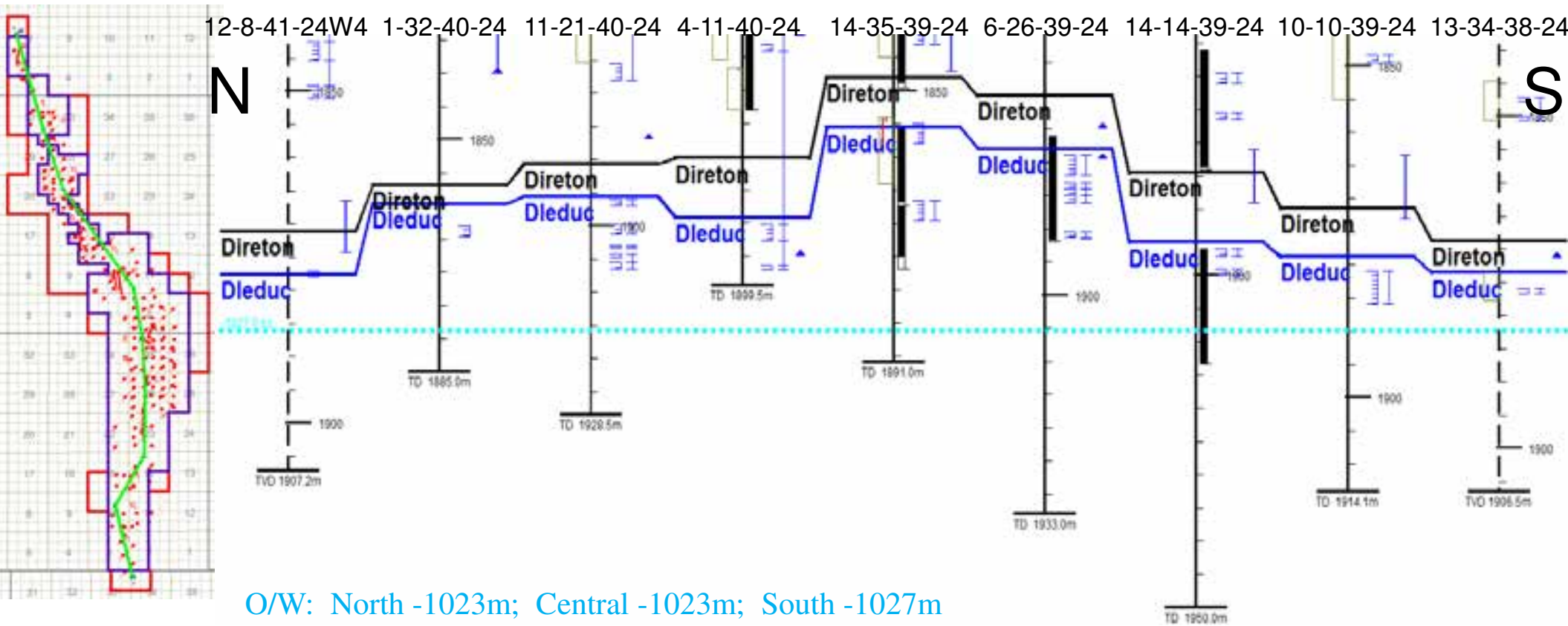
# Leduc Type Well



100/4-23-39-24W4 RR 1966

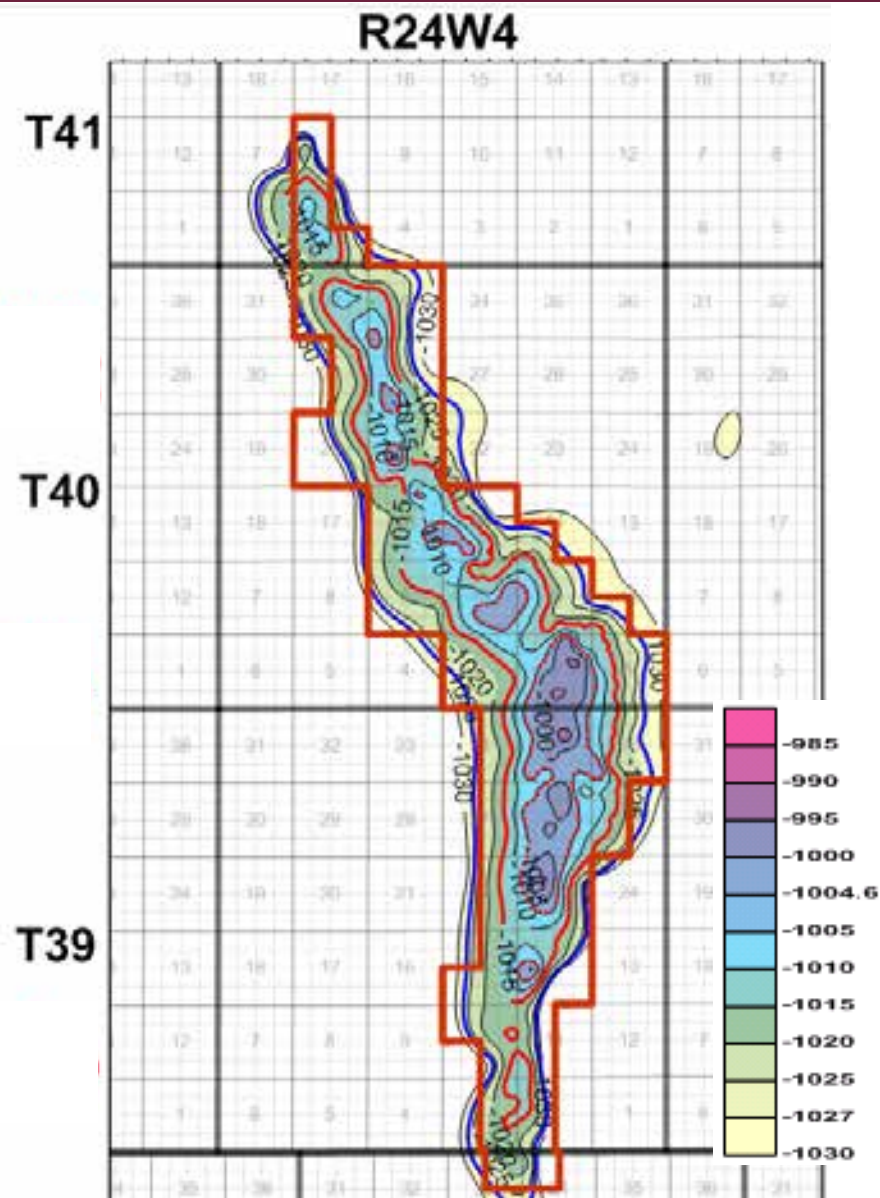
Cum GAS	2,892,361.7	Mcf	Cum GAS	81,489.410	m <sup>3</sup>
Cum OIL	1,055,523.2	Bbl	Cum OIL	167,733.2	m <sup>3</sup>
Cum WTR	1,746,406.3	Bbl	Cum WTR	277,643.7	m <sup>3</sup>

# Leduc structural cross section



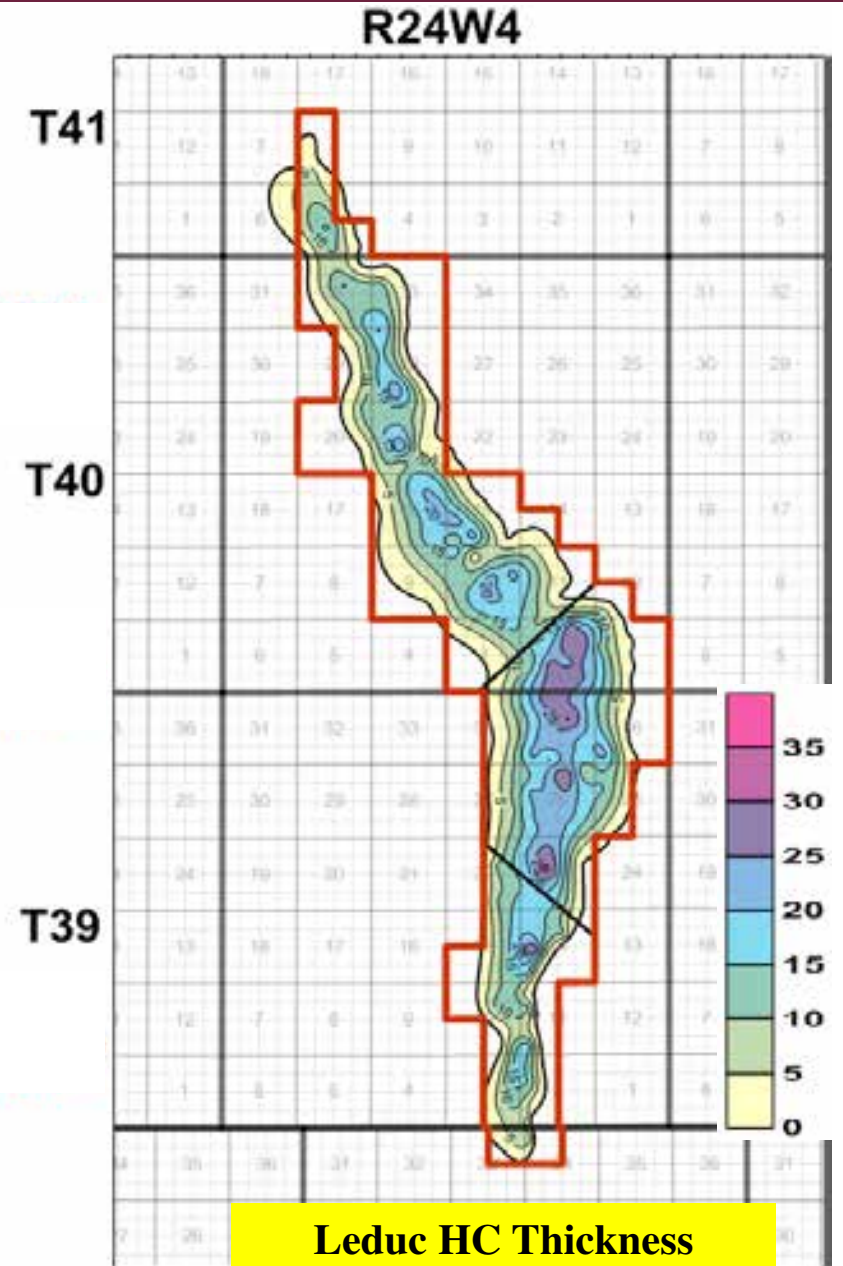


# Leduc geology



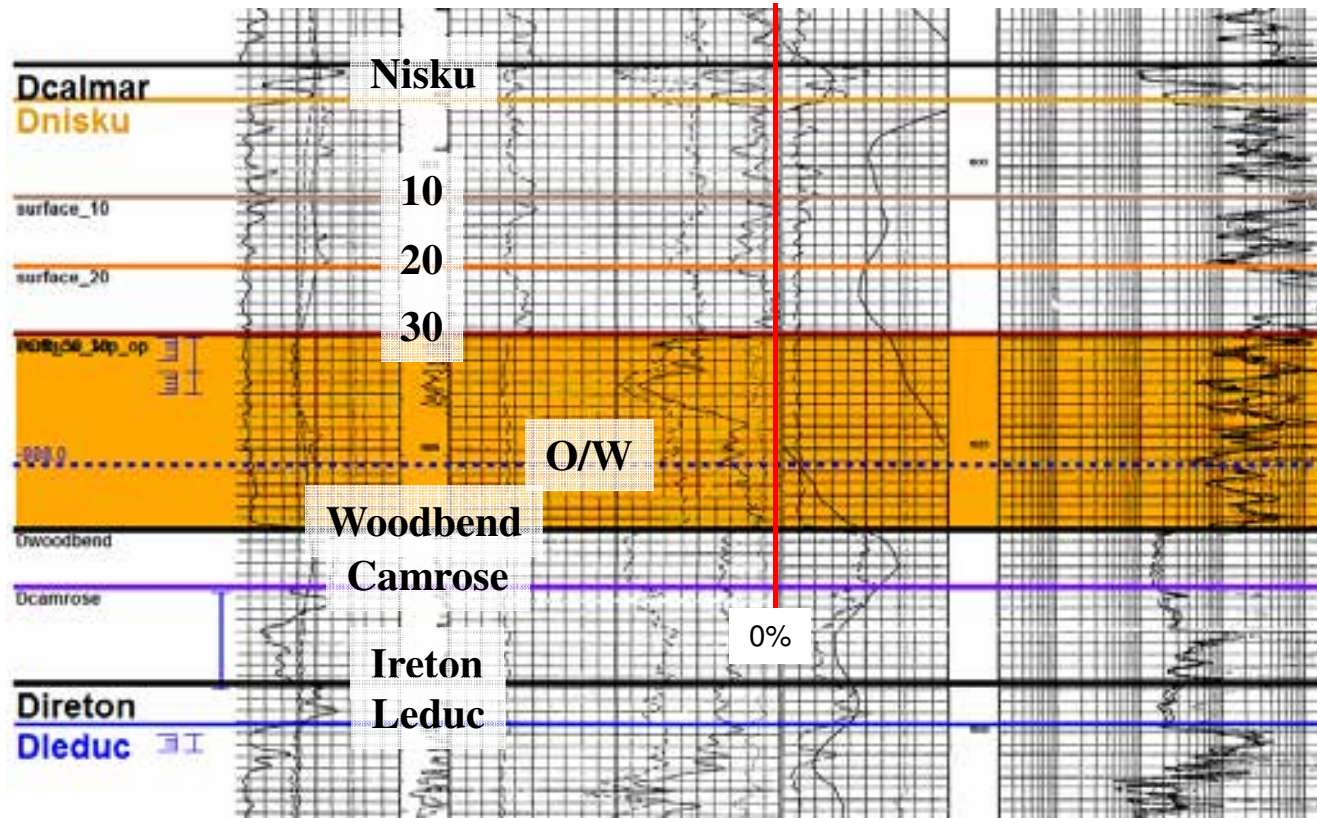
**Leduc Structure**

Cl=5m



**Leduc HC Thickness**

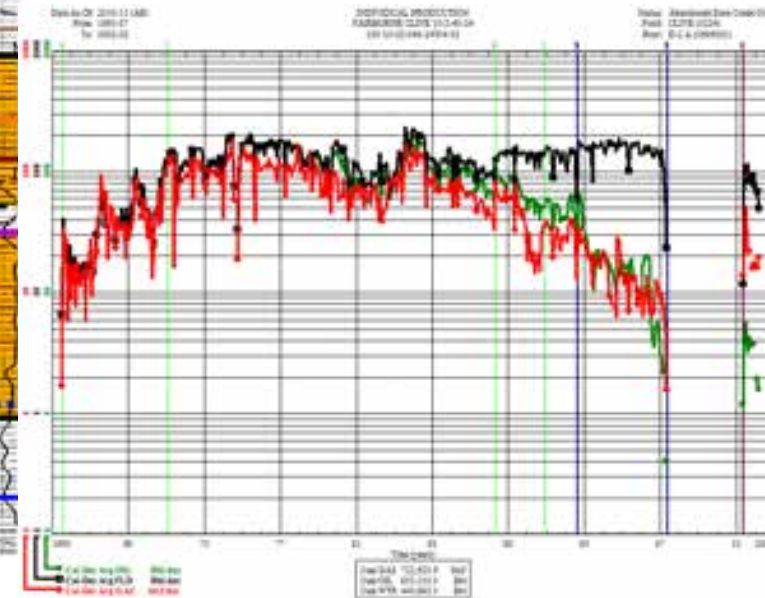
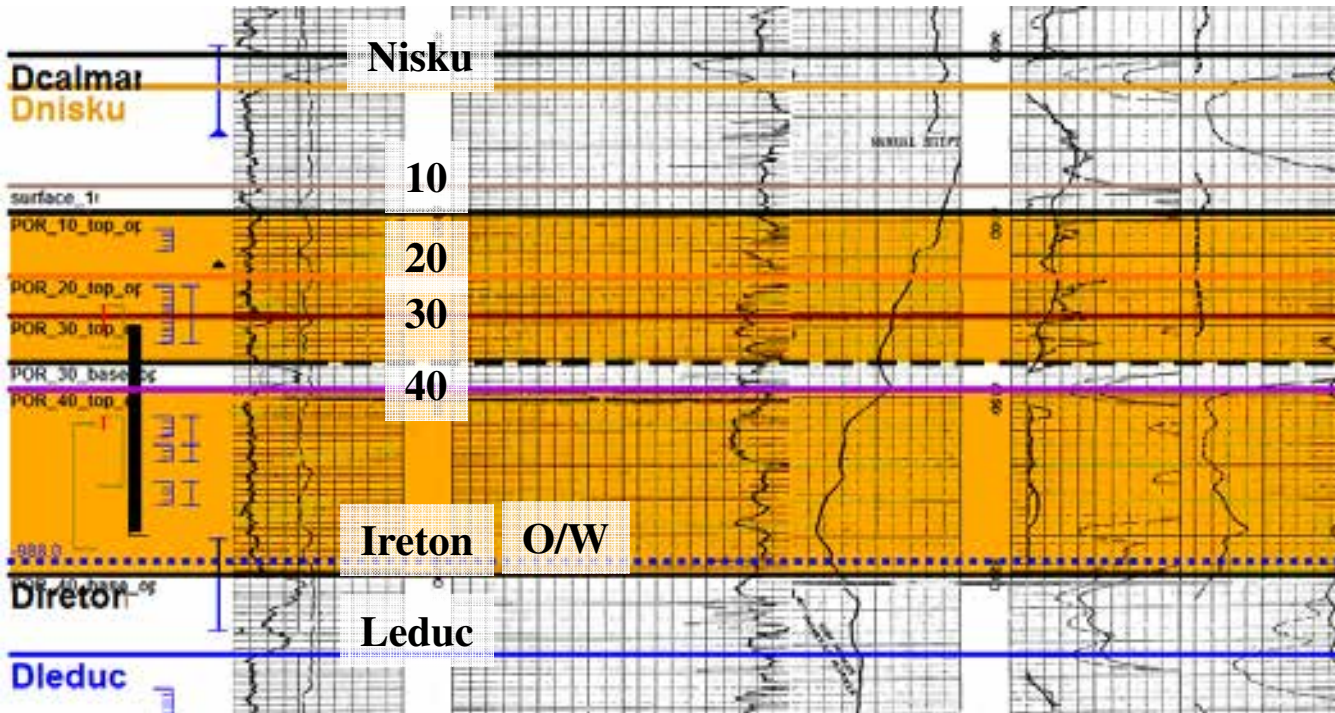
# Nisku Type Well (north)



102/5-33-40-24/02

Cum GAS 217,501.9	Mcf	Cum GAS 6,127.9x10 <sup>3</sup>	m <sup>3</sup>
Cum OIL 436,829.6	Bbl	Cum OIL 69,416.6	m <sup>3</sup>
Cum WTR 514,247.6	Bbl	Cum WTR 81,755.1	m <sup>3</sup>

# Nisku Type Well (south)

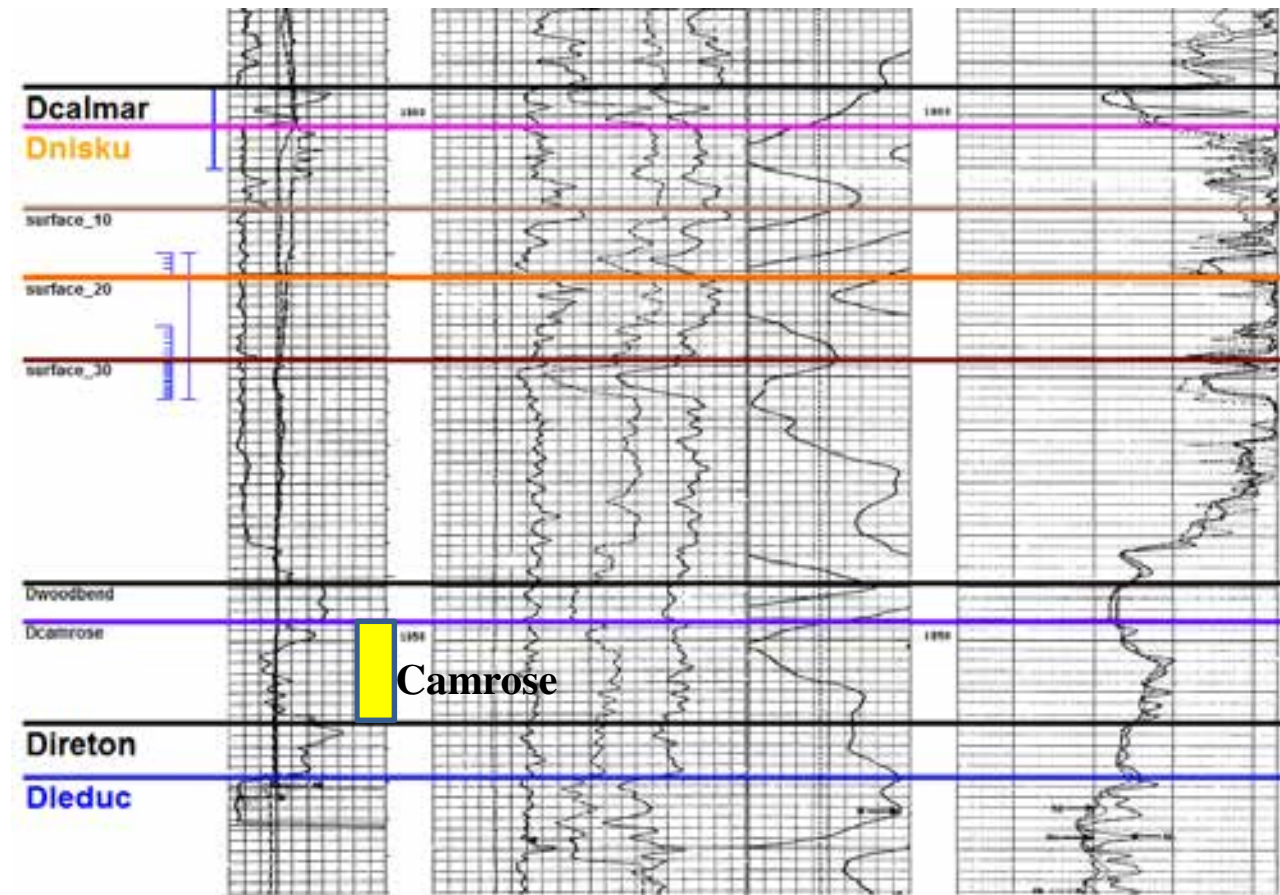


100/10-2-40-24/02

Cum GAS	722,623.6	Mcf
Cum OIL	953,153.3	Bbl
Cum WTR	445,992.5	Bbl

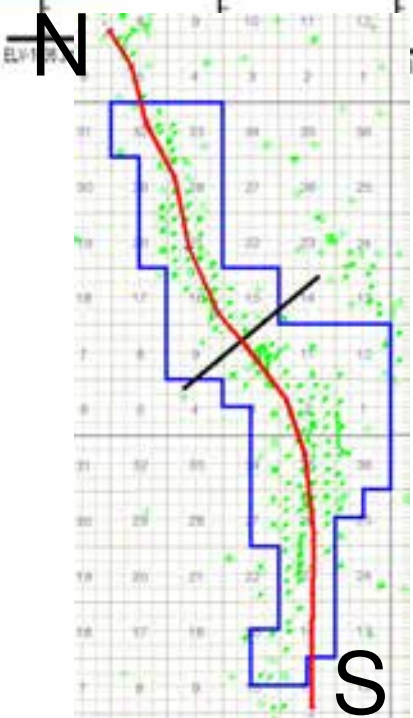
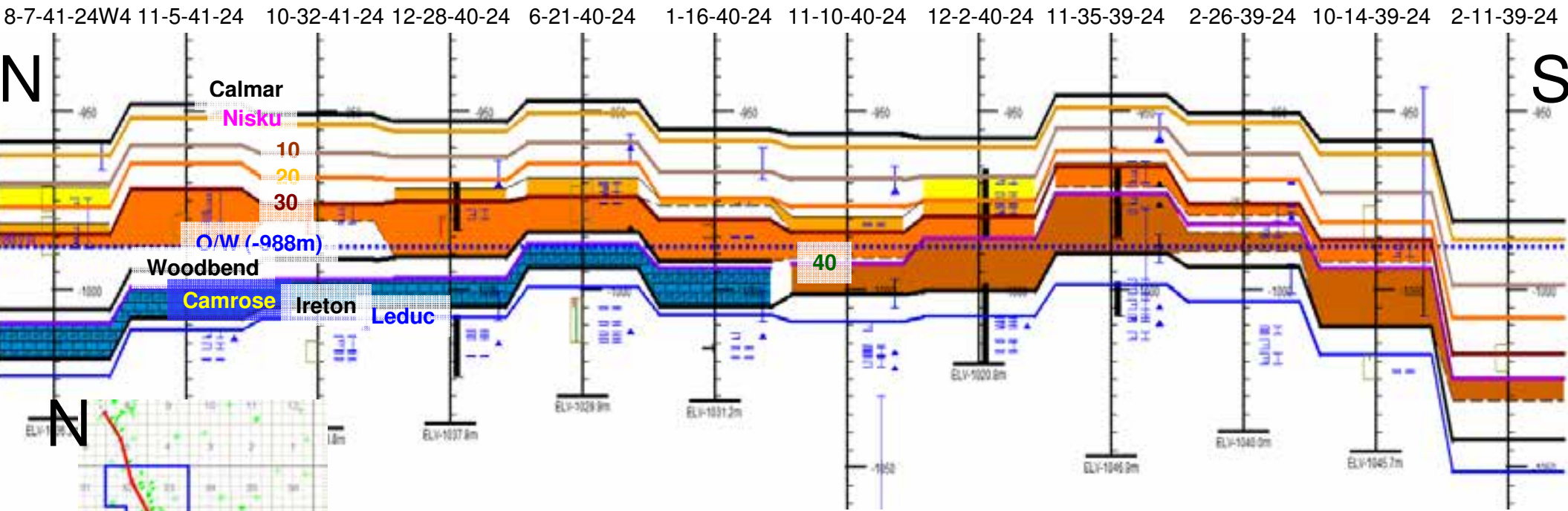
Cum GAS	20,359.2	10 <sup>3</sup> m <sup>3</sup>
Cum OIL	151,465.6	m <sup>3</sup>
Cum WTR	70,903.9	m <sup>3</sup>

# Camrose (Industry)



102/8-7-41-24W4/00

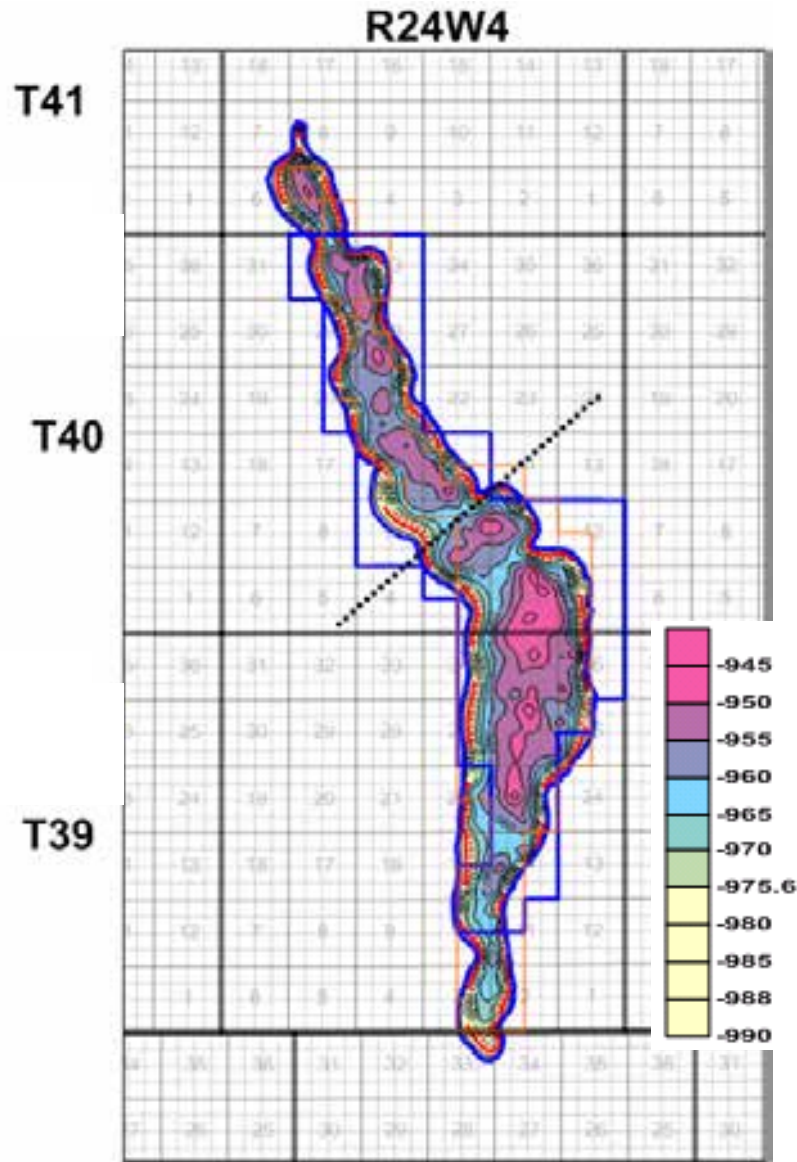
# Nisku structural cross section



Note : Camrose terminates to the south

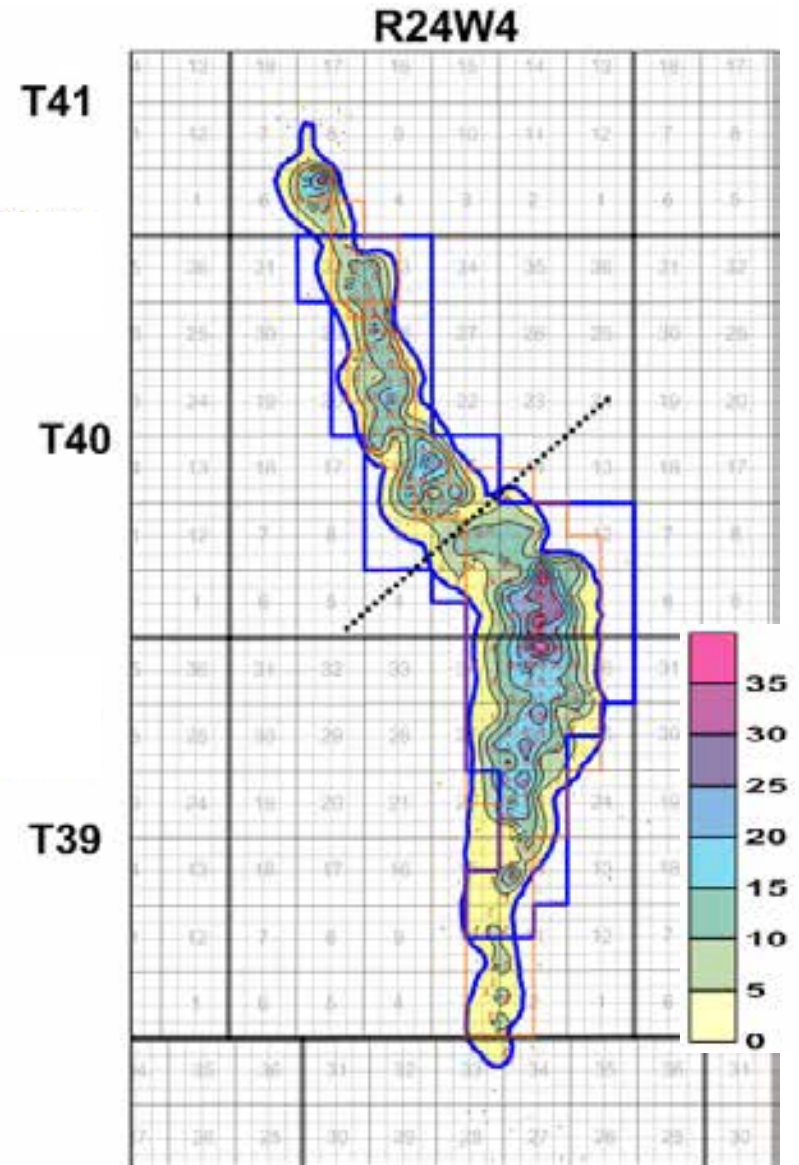
- layer 10 porosity
- layer 20 porosity
- layer 30 porosity
- layer 40 porosity

# Nisku geology



**Nisku Structure**

Cl=5m



**Nisku HC Thickness**

# Enhance Energy Inc. and North West Redwater Partnership

## APPENDIX xi Enhance ACTL Project Schedule



*Green River, by Tom Milosz*







# Enhance Energy Inc. and North West Redwater Partnership

## APPENDIX xii Dialogue & Public Awareness

Some of the earlier publication documentation indicates the location of an Elk Island Pump Station. Since that time, an engineering study has determined there is no longer a need for an Elk Island Pump Station.



*Green River, by Tom Milosz*



# ERCB Application

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PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS

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### Participant Involvement and Outstanding Objections

13. In compliance with the Board's expectations and requirements, Enhance has undertaken an extensive and open Participant Involvement Program in advance of the filing of this Application. The participant Involvement program included all directly or potentially impacted landowners and occupants, local authorities, industry stakeholders, and provincial regulators. Enhance intends to continue this program throughout the development, construction, and operation of this Project.

14. Meetings were held with regulatory agencies and local authorities prior to the formal public involvement and consultation process for the Project. These stakeholders provided input to plans for the project design and into the planned Participant Involvement Program.

15. The Project was formally made public with press releases, consultation with all directly affected landowners and occupants, and notification with all landowners and occupants situated within a 700-meter area on either side of the proposed route of the pipelines.

16. The Enhance Project Information Package was prepared to provide all stakeholders with a detailed description of the Project and the processes involved in enhanced oil recovery and carbon dioxide sequestration. The Project Information Package was comprised of the Enhance Project Overview document and the associated regulatory information required by ERCB Directive 56, as well as documents describing enhanced oil recovery, carbon capture and storage, typical pipeline operations, construction, and a summary document about the Project and carbon dioxide. The Project Information Package was provided to all project participants. Further details regarding the Enhance Project Information Package are included within **Attachment A2** of this Application.



**PROPOSED ACTL CO, PIPELINE AND ASSOCIATED INSTALLATIONS**

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17. The direct consultation process within the participant involvement program involved face to face contact with all landowners and occupants directly impacted by the Project, in accordance with the Directive 56 requirements.

18. Direct notification and consultation was undertaken with all of the aboriginal groups that were located within the general area of the pipeline route. A list of the aboriginal groups consulted is provided within **Attachment F2** of this application document.

19. Mailings of the Project Information Package were made to all elected officials, regulatory agencies, local authorities and other interested parties potentially impacted by the Project. Follow-up emails were sent, calls were made, and meetings were set up with a number of the stakeholders. Industry stakeholders were mailed a copy of the Project package and requested to contact Enhance if they required more information or had any concerns. There have been several follow-up questions from industry where more information about the Project was provided.

20. Open houses were held in eight locations along the proposed pipeline route. Notifications of the Project and advertisements about the open houses were placed in ten local newspapers over a four week period. Further details regarding the Enhance Project Open Houses are included within **Attachment G** of this application document.

21. The Project directly affects 391 tracts of land. At the date of filing of this Application, there is only one stakeholder that has not yet signed non-objection and is awaiting resolution. The outstanding concern relates to construction issues associated with the pipeline. Enhance will continue with its participant involvement and consultation program throughout the Application review, and will proceed into the next phases of the Project involving construction, commissioning and operation of the Project.



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**PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS**

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Enhance is committed to working co-operatively and openly communicating with all participants throughout the life of the Project.

22. Further details regarding the participant involvement program, including details on the outstanding objections, are provided in Section 5 of this Application.

### **Emergency Response Planning**

23. Enhance has a corporate-level Emergency Response Plan (ERP) in place and is preparing the Project specific ERP that will require ERCB approval prior to the pipeline system starting up operation. There was a preliminary risk review prepared respecting the operation of the pipeline system and it was determined that an expected Emergency Planning Zone (EPZ) for the Project would be approximately 700m on each side of the pipeline. This 700m area was used as the Project notification zone for the Project Information Package sent out to all landowners and occupants to inform them of the Enhance proposed pipeline project. The Project Information Package included the Project Overview where it notes the initial calculations of the 700m EPZ and that residents will be contacted with more details on the ERP, once the Project proceeds with formal confirmed routing and design criteria. Enhance plans to proceed with consultation on the Project specific ERP with all stakeholders, once the ERCB has reviewed the Application under Directive 56 and has provided a ruling on the requested Project approval.

24. Further details regarding the ERP program are provided in Section 6 of this Application.



## PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS

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### 5. Public Consultation Program

Throughout the design and development of the proposed Project, Enhance has endeavored to ensure the implementation of a comprehensive participant involvement program, in full compliance with the ERCB D56 – Section 2 and Section 6 requirements and with all other applicable regulations.

From the outset of the formal public involvement and consultation process for this Project, detailed project information packages were personally given or mailed to:

- all pertinent regulatory agencies,
- other industry parties potentially impacted by the Project,
- all local authorities and all elected officials with constituencies along the proposed route,
- all landowners, occupants, and Crown disposition holders on the proposed right-of-way,
- all landowners, occupants, and Crown disposition holders within 700 m from the right-of way,
- all landowners, occupants, and Crown disposition holders within 2 km from the Pump Station Site, and
- all urban authorities within 1.5 km



## ENHANCE

ENERGY INC

### PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS

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Detailed project information packages were provided to all these project stakeholders from July 2008 to February 2009, in order

- to offer them comprehensive information about the project,
- to obtain their input on the project routing and design,
- to respond to any questions and concerns related to the proposed project,
- to discuss any possible alternatives and mitigation measures, and
- to seek confirmation of non-objection through cooperative efforts.

The complete set of documents contained in the Project Information Package is included in **Attachment A2**.

As a result, open communication about this project has been established and maintained with all project stakeholders, continuously providing opportunities for their input, so that any concerns related to the design and development of this project were diligently addressed at the earliest possible. Responses to any stakeholder issues, concerns, and information requests about the Project have been provided and followed up in a prompt and accurate fashion. Enhance is steadfastly committed to continue this extensive communication process throughout the regulatory review, construction, commissioning, and operation phases of the Project.

Detailed Public Consultation Program records are provided in **Attachment E** and **Attachment F**.



**ENHANCE**  
ENERGY INC.

**PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS**

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## **5.1 Stakeholders Consultation Chronology and Detailed Description**

### **5.1.1 Project Information Disclosure Process**

At the incipient planning stage of the Project, all potentially impacted participants were identified and detailed stakeholder lists were prepared. All ERCB required levels of public consultation and notification were identified and fully incorporated in the Project's public disclosure planning process. Meetings were held with regulatory agencies and local authorities prior to the formal public involvement and consultation process for the Project. These stakeholders provided input to plans for the project design and into the planned Participant Involvement Program.

The Project was formally made public on **July 10, 2008**, through a 4-page Project Information Brochure, which was provided at a Project-launch company event attended by industry and regional authorities' representatives, and through a media release that generated headlines in several national and regional media. For details on the media release, project brochure, and news articles, please refer to **Attachment A1**.

The initial Project launch event was immediately followed by a fully developed process of personal consultation and confirmation of non-objection with all directly affected landowners and occupants on the proposed right-of-way and by mail notification to all landowners, occupants, and Crown disposition holders situated within a 700m-radius on either side of the proposed route of the Project. Direct notification and consultation was also undertaken with all of the aboriginal groups that were located within the general area of the pipeline route. A list of the aboriginal groups consulted is provided within **Attachment F2** of this application





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document. All local and urban authorities along the right-of-way were also sent the Project Information Package, in compliance with the requirements on personal notification, direct consultation, and confirmation of non-objection of ERCB Directive 56 – Sections 6.4 and 6.5.1.

All project stakeholders were provided either through personal meeting or by mail with a comprehensive Project Information Package containing the following documentation:

- an 8-page project-specific disclosure document, titled **Project Overview**, which offered detailed information about:
  - the applicant, Enhance Energy Inc., including direct and emergency contact details,
  - the proposed Project design and development schedule,
  - the regulatory and safety considerations associated with the project, and
  - a detailed map of the proposed route
- the 4-page Project Information Brochure with details on Enhance Energy Inc., on the proposed CO<sub>2</sub> Pipeline Project route and design, as well as on Project-related enhanced oil sequestration procedures,
- three information leaflets explaining and providing additional Project-related details on:
  - carbon capture and storage,
  - enhanced oil recovery, and
  - typical pipeline operations.



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This Project Information Package also included:

- the ERCB Directive 56 required letter from the Chairman of the ERCB,
- the ERCB brochure *Understanding Oil and Gas Development in Alberta*, and
- the ERCB publication *EnerFAQs No. 7: Proposed Oil and Gas Development: A Landowner's Guide*, and
- an offer upon request of all other *ERCB EnerFAQs*.

Following the initial submission of this application to the ERCB, Enhance Energy Inc. has continued to inform the Project stakeholders about the development of the project through two newsletters sent by mail in May 2009 and December 2009. A complete set of Project information, as well as additional information on the development of the ACTL Project, has also been published by Enhance Energy Inc. on its CO<sub>2</sub> ACTL Pipeline-dedicated webpage at [www.enhanceenergy.com](http://www.enhanceenergy.com).

A complete set of copies of the Enhance Project Information Package is included in **Attachment A2** of this application. Detailed Public Consultation Program records are provided in **Attachment E** and **Attachment F**.



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PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS

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### **5.1.2 Pipeline Facility and Installation Public Consultation Process**

From October 2008 to February 2009, a fully developed public consultation and notification process was undertaken for the Pipeline Installations and Facility included in the design of the proposed Project. Comprehensive Information packages were provided by mail to all stakeholders within 2 km radius from the pipeline facility and installation sites. Also, these packages were directly given or sent by registered mail to all landowners, occupants, or crown disposition holders within 700 m from the right-of-way, thus meeting and exceeding the requirements on personal consultation and confirmation of non-objection for pipeline downstream facilities from ERCB D56 – Section 6.5.1.

The Project Facility and Installation Packages were also mailed, as notification requirements compliance, to all landowners, residents, occupants, and Crown disposition holders within 1.5 km from the facility and installations sites, as well as to all local and regional authorities, and regulatory agencies. The pipeline facility and installation information package contained the following documentation:

- An additional 8-page information brochure for Facility and Installation Sites, offering detailed information about:
  - the applicant, Enhance Energy Inc., including direct contact details,
  - the proposed project design and development schedule,
  - the regulatory and safety considerations associated with the project, and
  - a detailed map of the pipeline installations' locations



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- the initial Project-specific information disclosure document and brochure,
- three information leaflets with additional information on Carbon capture and storage, enhanced oil recovery, and typical pipeline operations,
- the letter from the Chairman of the ERCB,
- the ERCB brochure *Understanding Oil and Gas Development in Alberta*, and
- the ERCB publication *EnerFAQs No. 7: Proposed Oil and Gas Development: A Landowner's Guide*.
- Offer upon request of all other *ERCB EnerFAQs*.

A complete copy of the Enhance Facility and Installations Information Package is included within **Attachment A2** of this application.

In addition to providing these Project information packages during direct consultation and through mail-outs to all stakeholders, eight open houses were held along the proposed route in order to offer all project stakeholders the opportunity to learn more about the Project, to discuss any concerns, and to incorporate their suggestions into the proposed Project design.

The following section will provide further details on the eight open houses.



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PROPOSED ACTL CO<sub>2</sub> PIPELINE AND ASSOCIATED INSTALLATIONS

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## 5.2 Open Houses Overview

### 5.2.1 Open Houses Public Information Program

As part of its ongoing public involvement and consultation program and as an additional pledge of its commitment to design, develop, construct, and operate this project with the outmost consideration for public participation, safety, and environmental integrity, Enhance has held eight open houses along the proposed route. The open house locations were selected so that travel distances for landowners and occupants along the route were kept as short as possible, in compliance with the recommendations of the local authorities along the route.

At the end of September 2008, open house invitation letters were mailed out to all stakeholders, including all local authorities, industry stakeholders, and regulatory agencies, and advertisement displays were published in the local newspapers (please see files in **Attachment G1**) during the following weeks of October 2008. Open House advertisements were published in each of the following newspapers covering all open house locations along the proposed route:

- **The Lacombe Globe**, which published the Enhance Open House display ad on **September 30 and October 7, 2008;**
- **Ponoka News**, which published the Enhance Open House display ad on **October 1 and 8, 2008;**



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- **The Camrose Canadian**, which published the Enhance Open House display ad on **October 2 and 16, 2008**;
- **The Wetaskiwin Times Advertiser**, which published the Enhance Open House display ad on **October 6 and 14, 2008**;
- **The Review, Redwater-AB**, which published the Enhance Open House display ad on **October 7, 14, 21, and 28, 2008**;
- **The Tofield Mercury**, which published the Enhance Open House display ad on **October 7 and 14, 2008**;
- **Farm 'n' Friends, Lamont-AB**, which published the Enhance Open House display ad on **October 10, 17, 24 and 31, 2008**;
- **The Leduc Representative**, which published the Enhance Open House display ad on **October 10 and 17, 2008**;
- **The Fort Saskatchewan Record**, which published the Enhance Open House display ad on **October 24 and 28, 2008**.
- One advertisement was also placed in the **Clive Community Newsletter**, which is distributed monthly to over 800 readers within and around the Village of Clive.



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### 5.2.2 Open Houses Summary

Eight open houses were held along the proposed pipeline route between **October 15, 2008 and November 6, 2008**, in order to provide all project stakeholders with comprehensive information on the project and, also, to receive their input and directly discuss any of their concerns with the project team. The following list provides details on the open house locations, dates, and number of attending stakeholders:

- **Clive – Wednesday, October 15, 2008**  
at the Clive Arena Meeting Room, Clive, AB  
**Number of attending stakeholders: 31**
  
- **Wetaskiwin – Thursday, October 16, 2008**  
at the By-the-Lake Park Hall,  
6128-56 Avenue, Wetaskiwin, AB  
**Number of attending stakeholders: 28**
  
- **Tofield – Tuesday, October 21, 2008**  
at the Tofield Community Hall,  
5309 - 50 Street, Tofield, AB  
**Number of attending stakeholders: 45**
  
- **Hay Lakes – Wednesday, October 22, 2008**  
at the Lounge in Hay Lakes Recreation Centre,  
Main Street, Hay Lakes, Alberta  
**Number of attending stakeholders: 35**



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- **Lamont – Thursday, October 23, 2008**  
at the Lamont Recreation Centre Meeting Room,  
4848 – 49th Street, Lamont, AB  
**Number of attending stakeholders: 21**
  
- **Bruderheim – Tuesday, November 4, 2008**  
at the Walker School Meeting Room, Bruderheim, AB  
**Number of attending stakeholders: 19**
  
- **Fort Saskatchewan – Wednesday, Nov 5, 2008**  
at the Lions Mane Room, DOW Centennial Centre,  
8700-84 Street, Fort Saskatchewan, AB  
**Number of attending stakeholders: 48**
  
- **Redwater – Thursday, November 6, 2008**  
at the Arena Multipurpose Room - Provident Place,  
4944 – 53 rd Street, Redwater, AB  
**Number of attending stakeholders: 21**

In total, 248 stakeholders signed the register lists at the eight open houses. There were also several guests, about one on the average at each open house, who have chosen not to sign the attendance lists. Copies of the sign-in sheets for the open house participants can be reviewed in **Attachment G2**.

All stakeholders who attended these eight open houses had the opportunity to obtain detailed information on the project, discuss their concerns, and provide their input directly to the project team members. In addition to the public consultation information packages provided to all stakeholders as detailed in Section 5.1, the open house guests have also had the opportunity to examine large-scale photo





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mosaic maps of the proposed pipeline that were relevant to each community, as well as display stations and brochures offering an overview of construction and environmental surveying procedures. Please see **Attachment G3** for copies of this information.

The Enhance CO<sub>2</sub> Pipeline project team attending the open houses was consisted of:

- Land agents who had been in contact with direct and adjacent landowners, crown lease holders, and occupants for each segment of the proposed pipeline route (Scott Land and Lease Ltd.)
- Environment Assessment specialists (Colt Engineering Corporation)
- Engineering Design staff (Sunstone Projects Ltd.)
- Gathering System Engineering staff (Synergas Inc.)
- Regulatory (Sunstone Projects Ltd.) and communications/media relations staff (Brookline Public Relations)
- Project Director (Enhance Energy Inc.)



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### 5.3 Outstanding Concerns, Objections, and Issues Resolution Strategy

The Project directly affects 391 tracts of land, most of which have signed letters of non-objection. At the date of filing of this Application, there are no concerns towards the proposed Project which are awaiting resolution. At the time of the public ERCB Notice of this Application, there is a single outstanding concern regarding construction issues, which is currently awaiting resolution. Enhance has openly and co-operatively worked with all Project stakeholders towards reaching an effective resolution of all outstanding issues.

As per ERCB Directive 56, Section 2.3.2.1, to address outstanding stakeholder concerns or objections, the applicant could choose to:

- meet with objectors and attempt to resolve issues through informal "kitchen table" discussions,
- engage the ERCB Appropriate Dispute Resolution (ADR) program and contact the ERCB's Facilitation Team to request staff facilitation,
- pursue resolution through a more formalized third-party mediation process, or
- request a Board disposition, such as a public hearing.

The ERCB also recommends that, if a surface rights agreement is unobtainable from the landowner solely due to compensation issues, the applicant may request that the ERCB issue the licence to allow the applicant to apply to the Surface Rights Board (SRB) for a right-of-entry order.

# Public Consultation Documents

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**For Immediate Release**

## **ENHANCE ENERGY ANNOUNCES CO<sub>2</sub> PIPELINE SYSTEM**

*Proposed Pipeline Project will be First in Alberta*

**Calgary, Alberta—July 10, 2008** - Enhance Energy Inc. ("Enhance"), a private Alberta-based energy company specializing in enhanced oil recovery (EOR), today announced plans to build a new CO<sub>2</sub> transmission system through the central part of Alberta.

The Enhance CO<sub>2</sub> Pipeline System will be capable of gathering CO<sub>2</sub> from several sources in Alberta's Industrial Heartland and transporting the CO<sub>2</sub> to existing mature oil fields throughout South-Central Alberta. These oilfields will see significant increases in production as CO<sub>2</sub> is permanently stored in the reservoir. The capture and permanent storage of CO<sub>2</sub> will result in significant reductions in emissions of greenhouse gases in Alberta.

"Besides the enormous environmental benefits to Alberta, the pipeline system will benefit Albertans through the jobs it will provide and the incremental royalties and taxes it will generate through enhanced oil recovery," said Susan Cole, President of Enhance. "Environmentally, the completed project will be equivalent to taking 1,600,000 cars off the road, so it's positive for Albertans on many levels. It's one of the largest projects in the world and it's not experimental, it's based on proven technology."

"We have been able to make rapid progress because of the leadership shown by the Government of Alberta in establishing regulations on CO<sub>2</sub> emissions in the Province. This week's climate change announcement to support Carbon Capture and Storage will provide tremendous momentum for this project."

The initial supply of CO<sub>2</sub> will be provided by North West Upgrading Inc. and Agrium Inc. This project shows how an eco industrial complex, where one industry relies on the waste products of another, can become a reality in Alberta. Because the CO<sub>2</sub> emissions that North West Upgrading and Agrium produce are permanently stored in the oil reservoir, they have the lowest CO<sub>2</sub> emissions profiles for projects of their type in the world.

Contracts for the design and project management of the new system have been awarded to Sunstone Projects Ltd. Other technical and support contracts have been awarded to Synergas Technologies Inc. for facilities engineering, Scott Land and Lease as land agent and Worley Parsons for environmental services.

"We are excited to be involved with this industry leading project," said Barry Bauhuis, President, Sunstone Projects Ltd. "This system will offer CO<sub>2</sub> producers in the Heartland Industrial Area an economically viable way to deal with CO<sub>2</sub> emissions and can be in service relatively quickly."

The system will be designed for capacity expansion and delivery flexibility. It's the first world scale project for dealing with greenhouse gases and we're glad it's happening here in Alberta."

The system will have a design capacity of 25,000 tonnes per day with the initial throughput planned at 5,000 tonnes per day.

The Enhance CO<sub>2</sub> Pipeline System will consist of:

- drying and compression facilities at the north end in the Heartland Industrial Region on the Agrium and North West Upgrader sites, which will process the CO<sub>2</sub> that will be collected and bring the product up to pipeline specifications;
- a pump station east of Fort Saskatchewan in the Heartland Industrial Region, to be called the Elk Island Pump Station, that will boost pressure on the pipeline system;
- the pipeline operations and control centre located at the Elk Island Pump Station;
- receipt facilities at the south end of the system near Clive, which will allow distribution of the CO<sub>2</sub> to the conventional oil and gas fields in the area; and
- a high vapour pressure (HVP) pipeline between the source and the delivery point, connecting the north and south facilities.

Enhance anticipates regulatory applications for the proposed project to be completed by spring of 2009, and depending on the timing of regulatory approval, construction is expected by the end of 2009, with operational startup in 2011.

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#### **About Enhance Energy Inc.**

Enhance Energy Inc. is a private Calgary-based company that specializes in EOR involving the permanent sequestration of CO<sub>2</sub>. Enhance Energy uses CO<sub>2</sub> to recover oil that would otherwise remain in the reservoir. Enhance is the operator and 100% owner of Rowley Mannville water flood in Central Alberta. To learn more please visit [www.enhanceenergy.com](http://www.enhanceenergy.com).

#### **FOR FURTHER INFORMATION:**

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**ENHANCE**  
ENERGY INC.



- CO<sub>2</sub> Pipeline
  - Alberta Carbon Trunk Line
- Enhanced Oil Recovery
- CO<sub>2</sub> Storage



## The Company

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resource company, which specializes in using CO<sub>2</sub> to recover oil from existing reservoirs that are reaching the end of their lives under conventional production techniques. Enhance plans to be the first company in Alberta to implement a large scale CO<sub>2</sub> enhanced oil recovery and storage project and build Alberta's first CO<sub>2</sub> pipeline distribution system. Through its supply arrangements with Agrium Inc., Enhance has contracted the largest supply of suitable CO<sub>2</sub> in the Province. These projects will result in direct investment and jobs in Alberta and benefit the environment by significantly reducing greenhouse gas emissions. The use of Enhanced Oil Recovery (EOR) technology results in increased production of oil and gas from existing reservoirs after traditional primary recovery techniques are exhausted.

## The Enhance Difference

One of Alberta's priorities is to ensure that its energy resources are developed in an environmentally responsible and sustainable way. Enhance is committed to undertaking projects that have substantial environmental and socio-economic benefits. Our projects have high economic value to Albertans and include significant environmental benefits. The capture and transmission of CO<sub>2</sub> through our new pipeline system will contribute to decreasing overall emissions by storing CO<sub>2</sub> after EOR operations are complete.

It will be the first long distance CO<sub>2</sub> distribution pipeline in Alberta. The pipeline will greatly benefit Albertans through the jobs it will provide and the royalties it will generate through enhanced oil recovery.

## The Project

The Alberta Carbon Trunk Line will be capable of receiving CO<sub>2</sub> volumes from sources throughout central Alberta and, in particular, the Alberta Industrial Heartland. The first leg of the pipeline system will terminate near Clive, Alberta.

The system will be constructed and operated by Enhance and is part of a larger project that involves the storage of CO<sub>2</sub> and enhanced oil recovery projects. The initial supply of CO<sub>2</sub> will come from North West Upgrading Inc. and Agrium Inc.

The application to construct the pipeline was submitted to the ERCB on March 23, 2009; and depending upon the timing of regulatory approval, construction could begin in 2010 with start-up anticipated in mid-2012.

The system will have an initial approved capacity of 15,000 tonnes/day with ultimate expansion capacity of 40,000 tonnes/day. Laterals extending south, west and east will allow for multiple entry and exit points throughout the system.

This project will initially have the same impact of taking 330,000 cars off the road (with combined throughput from North West Upgrading and Agrium of 5,100 tonnes/day) and when operating at full capacity, the impact will increase to removing 2.6 million cars off the road.



The Enhance CO<sub>2</sub> Pipeline System will consist of:

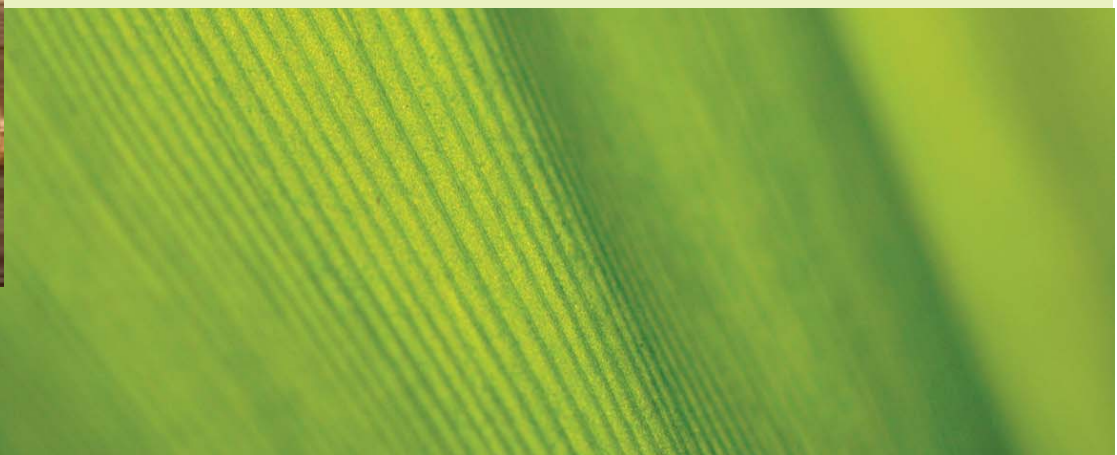
- Drying and compression facilities at the north end in the Industrial Heartland,
- Delivery facilities at the south end of the system, which will distribute the CO<sub>2</sub> to conventional oil and gas fields in the area, and
- A high vapour pressure pipeline, between the source and the delivery points.

## The Location

The Alberta Carbon Trunk Line will connect the Industrial Heartland area, just south of Redwater, Alberta, to the oil production fields, just east of Clive, Alberta. Once it is completed, the initial leg of the pipeline system will cover a length of approximately 240 kilometres.



The initial suppliers of CO<sub>2</sub> are North West Upgrading Inc. and Agrium Inc.





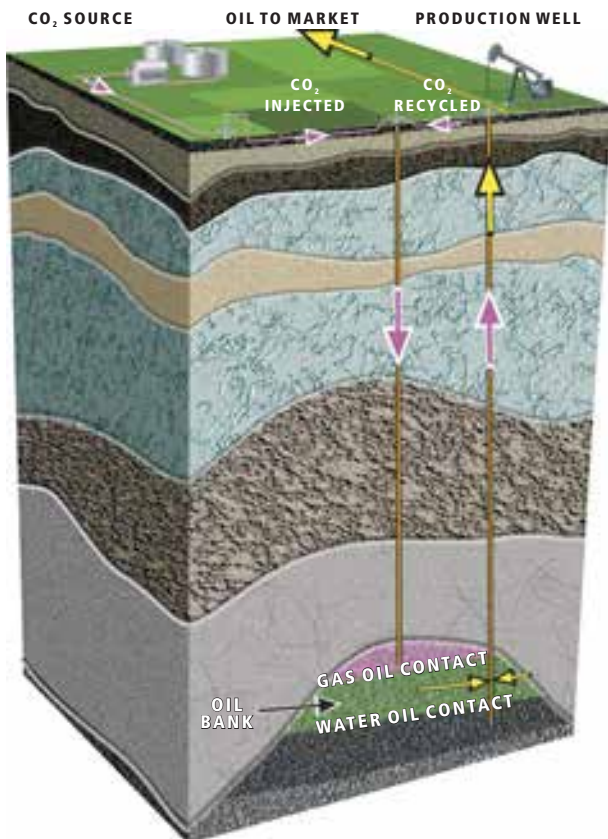
## CO<sub>2</sub> EOR and Storage

Enhance Energy specializes in enhanced oil recovery (EOR), a process that revitalizes mature oilfields using CO<sub>2</sub> flooding. Industrial CO<sub>2</sub> emissions are injected into the oil at depths of over 2,500 ft below ground where the CO<sub>2</sub> acts as a solvent to increase the recovery of oil from the reservoir. After the EOR process is complete the CO<sub>2</sub> remains stored in the oil reservoir, just like the oil has been stored for millions of years.

## CO<sub>2</sub> Facts

- 1 typical car annual emissions = 5.5 tonnes
- 100 watt light bulb burning for a year = 0.9 tonnes of CO<sub>2</sub>
- Upgrading and refining 10 barrels of bitumen produces 1 tonne of CO<sub>2</sub>

### VERTICAL CO<sub>2</sub> FLOOD



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#### Additional Information Sources

[www.ercb.ca](http://www.ercb.ca)

[www.alberta.ca](http://www.alberta.ca)

Printed on (Paper stock here), and is (based on choice of paper)



[www.enhanceenergy.com](http://www.enhanceenergy.com)

## CCS: Carbon Capture and Storage

Carbon Capture and Storage (CCS), also known as Carbon Capture and Sequestration, is the separation and capture of carbon dioxide (CO<sub>2</sub>) from the atmospheric emissions of industrial processes and its subsequent transport and permanent storage in deep underground rock formations. By preventing the CO<sub>2</sub> emissions from large-scale industrial facilities to enter the atmosphere, CCS is a powerful tool for combating climate change. Geologic storage is the sequestration component of CCS by which the CO<sub>2</sub> is permanently stored underground.

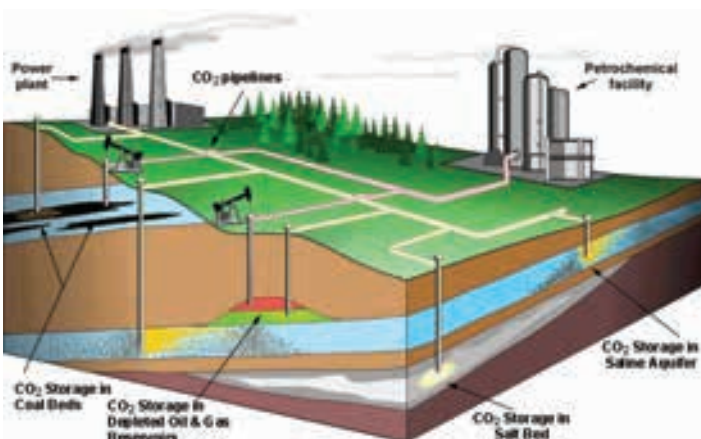
In geologic storage, CO<sub>2</sub> is injected under high pressure into deep, stable porous rocks in which there are countless, tiny pores that trap natural fluids. Some types of rock formations have securely trapped fluids including CO<sub>2</sub>, for millions of years. The CO<sub>2</sub> will be injected into these types of formations.

Several types of rock formations are suitable for CO<sub>2</sub> storage.

These include depleted oil and gas reservoirs, deep saline formations and unmineable coal seams. Deep, porous rock formations with trapped natural fluids such as oil, natural gas or highly salty and unusable water are common throughout the world. Geologists have found that these formations have the capacity to securely hold vast amounts of CO<sub>2</sub>, potentially equivalent to hundreds of years of man-made emissions.

The same geologic forces that kept the original fluids in place will also secure the CO<sub>2</sub>. Once injected, the CO<sub>2</sub> will be trapped initially in tiny pores within the storage rocks. Over time, the CO<sub>2</sub> will dissolve in water already in the rock formation and then may combine chemically with the rocks to trap it even more securely. The CO<sub>2</sub> will be far below the surface, separated from unusable ground water by thick, impermeable barriers of dense rock.

In depleted oil and gas fields, CO<sub>2</sub> occupies the pores in the rock that were once filled with oil or natural gas. Depleted oil and gas fields are more likely to be used early for CO<sub>2</sub> storage because, in some cases, the injected CO<sub>2</sub> could lead to additional production of oil or natural gas. This practice is also known as Enhanced Oil Recovery (EOR) or Enhanced Gas Recovery (EGR). EOR with injected CO<sub>2</sub> is a common practice today in some oil fields, having been used for over 30 years. Increased production of oil or gas could offset a portion of the costs of capture and storage. In other cases, the CO<sub>2</sub> may be injected into the pores of rocks where the oil or gas has already been produced for storage purposes only, resulting in no further oil or gas production.





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CO<sub>2</sub> Compression

SIEMENS PRESS PICTURE

**Safe, long-term underground geologic storage (sequestration) of CO<sub>2</sub> must be conducted properly.** This means thorough planning and geologic analysis of the storage site, safe operating practices, careful monitoring of the underground CO<sub>2</sub> during injection, and continued monitoring for some time afterward. Reliable geological surveys can prove the presence of impermeable rock barriers and the capability of deep rock formations to hold fluids. Geologic storage uses well established techniques and equipment used over many years by industry. Storage sites are continuously monitored for CO<sub>2</sub> containment.

**Geologic storage projects have already successfully stored millions of tons of CO<sub>2</sub>, some for many years, without detectable leakage.**

For example, the IEA GHG Weyburn-Midale CO<sub>2</sub> Storage and Monitoring project in Canada has injected over 5 million tonnes of CO<sub>2</sub> into a depleted oil field. Extensive monitoring by an international team of scientists has detected no leakage. Similarly, the Sleipner Project off the coast of Norway has injected over 10 million tonnes of CO<sub>2</sub> in a deep saline formation with no leakage. Other projects are now underway and many new projects are planned throughout the world in the years to come.

Storage projects are carefully tracked through Measurement, Monitoring and Verification (MM&V) procedures both during and after the period when CO<sub>2</sub> is being injected. These procedures address the effectiveness and safety of storage activities and the behavior of the injected CO<sub>2</sub> underground.

MM&V is used to measure the amount of CO<sub>2</sub> stored at a specific geological storage site, to monitor the site for leaks or other deterioration of storage integrity over time, and to verify for accounting purposes that the CO<sub>2</sub> is stored and that it poses no harm to the host ecosystem. MM&V ensures safe permanent storage and can help satisfy regulators and government officials who must permit geologic storage projects. MM&V will also provide valuable feedback for continual refinement of injection and management practices.



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# EOR: Enhanced Oil Recovery

## The Three Stages of Oil Field Development

Enhanced Oil Recovery occurs after all possible oil is pumped out of the ground using traditional methods. Primary and secondary steps in the extraction of oil include the traditional methods while the tertiary step includes oil recovery in new, enhanced methods such as CO<sub>2</sub> injection.

### Primary Recovery

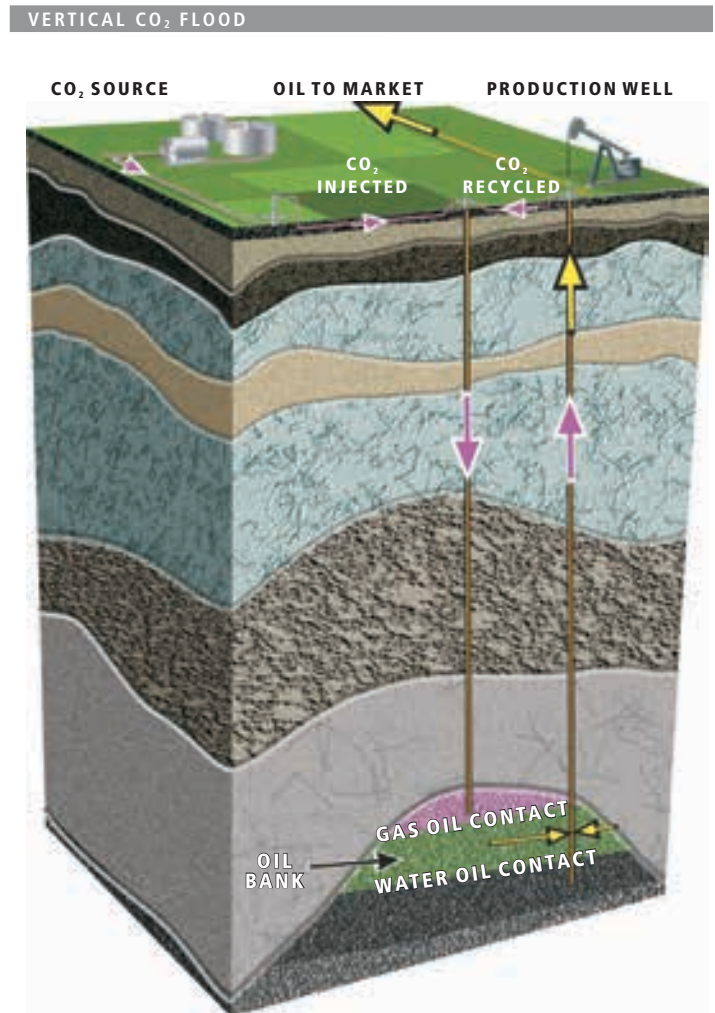
Primary recovery produces oil and gas using the natural pressure of the reservoir as the driving force to push the material to the surface. Wells are often 'stimulated' through the injection of fluids, which fracture the hydrocarbon-bearing formation to improve the flow of oil and gas from the reservoir to the wellhead.

### Secondary Recovery

Secondary recovery uses other mechanisms – such as gas re-injection and water flooding – to produce residual oil and gas remaining after the primary recovery phase.

### Tertiary Recovery

Tertiary recovery involves injecting other gases (such as carbon dioxide), or heat (steam or hot water) to stimulate oil and gas flow to produce remaining fluids that were not extracted during primary or secondary recovery phases.

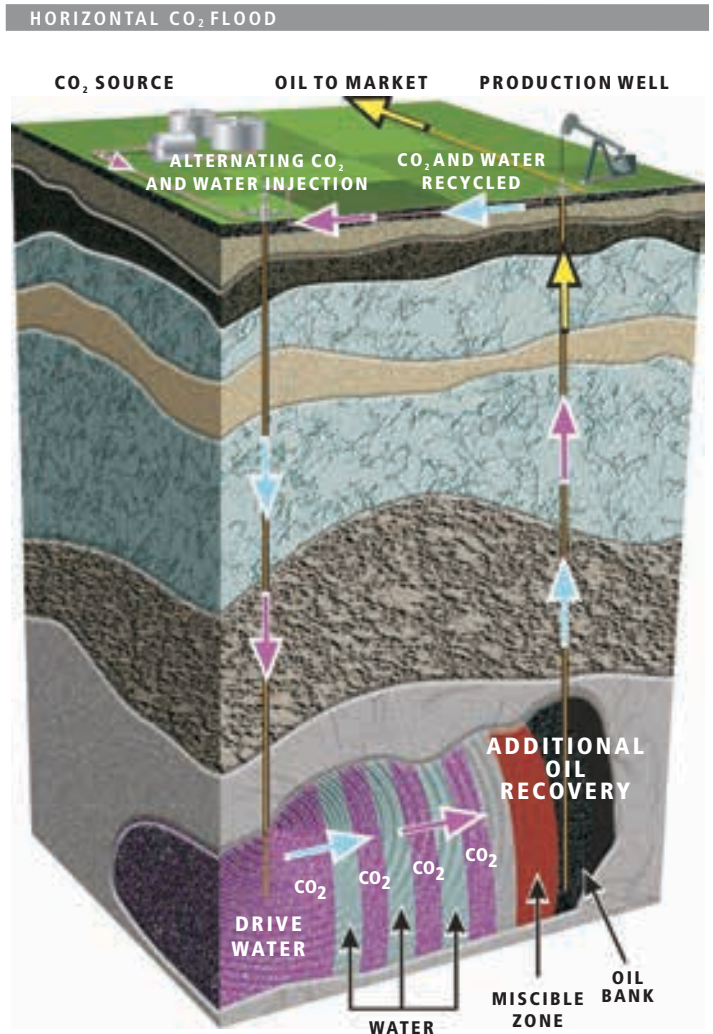




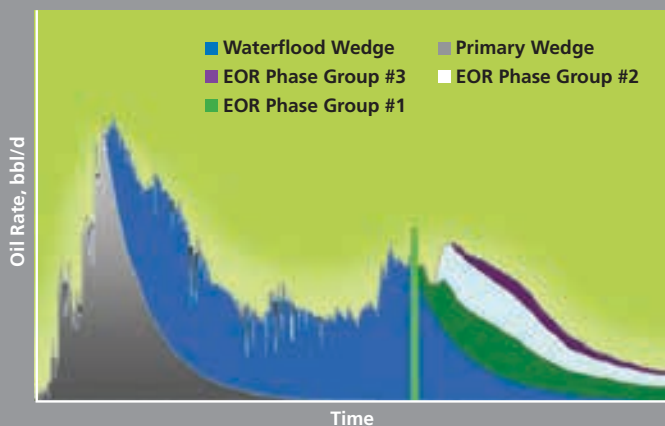
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### Tertiary Recovery: The CO<sub>2</sub> process:

- 1 CO<sub>2</sub> is injected into the reservoir via injection wells.
- 2 The CO<sub>2</sub> reduces the viscosity of the trapped oil so it flows more easily.
- 3 Water can be injected in alternating cycles with CO<sub>2</sub> to sweep the oil to the producing wells.
- 4 Production wells pump the oil, along with CO<sub>2</sub>, produced water and any associated natural gas to the surface.
- 5 The CO<sub>2</sub> and associated natural gas are separated at the production satellite facility. Natural gas liquids are extracted and sold and the CO<sub>2</sub> is recycled for reinjection.
- 6 The oil and produced water are separated at the central tank battery. The oil is piped to holding tanks where it is metered and sold.
- 7 The produced water is transported to the central water injection station and is pressurized for reinjection.



By applying this new technology to the field, oil wells that may, under previous circumstances, have reached the end of their lives, can now operate for many more years, producing much more oil.





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# Typical Pipeline Operations

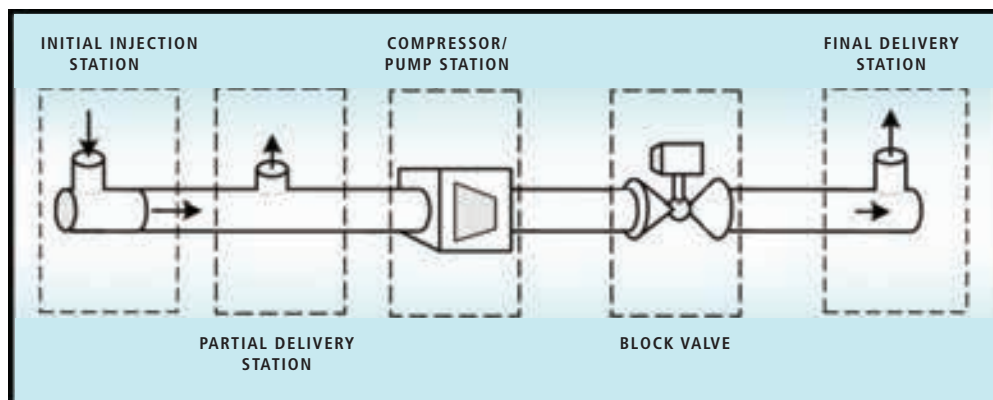
A pipeline allows for materials to be transported to or from a refinery, gas plant or other production site, and travel long distances, at high speeds, to secondary industry locations, businesses and other sites. Pipelines allow for effective and under normal conditions, undisturbed travel of materials. To ensure safety and protection for the environment, security systems allow for constant, real time monitoring of any pipeline.

## Components of a Pipeline

**INITIAL INJECTION STATION** This is the beginning of the system, where the product is injected into the line. Storage facilities, pumps or compressors are usually located at these locations.

**COMPRESSOR/PUMP STATIONS** Pumps for liquid pipelines and compressors for gas pipelines are located along the line to move the product through the pipeline. The location of these stations is defined by the topography of the terrain, the type of product being transported, or operational conditions of the network.

**PARTIAL DELIVERY STATION** Known also as Intermediate Stations, these facilities allow the pipeline operator to deliver part of the product being transported.



**BLOCK VALVES** These are the first line of protection for pipelines. With these valves the operator can isolate any segment of the line for maintenance work or isolate a rupture or leak. Block valves are usually located at regular intervals along the line, depending on the type of pipeline.

**REGULATOR STATION** This is a special type of valve station, where the operator can release some of the pressure from the line. Regulators are usually located at the downhill side of a peak.

**FINAL DELIVERY STATION** Known also as Outlet stations or Terminals, this is where the product will be distributed to the consumer.

## Preparing for Pipeline Construction

**PERMITS** Before commencing the project, various local, provincial and also Federal permits will have to be acquired. The permits address interests of the general public as well as all of our natural resources - land, air, water, vegetation and wildlife.

**ACQUIRING RIGHTS OF WAY** This process covers key issues such as special construction concerns, restoration of the land, compensation and future use of the land. Once the pipeline route is selected, a land agent acting on behalf of Enhance Energy Inc. will contact each affected landowner along the route to discuss the project and negotiate a Right-of-Way Agreement. The landowner is compensated a fair value for the permanent right-of-way, which allows the landowner continued use and enjoyment of the property.

## The Stages of Pipeline Construction

Construction of the Enhance Phase 1 CO<sub>2</sub> Pipeline will involve:

**SALVAGING TIMBER** All usable timber will be salvaged from wooded areas that need to be cleared along the proposed pipeline right of way. This timber will either be hauled to local sawmills or set aside at the landowner's request. Woody debris left over after salvage is typically burned.



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Standing crops are mowed prior to topsoil stripping.



Topsoil is stripped from the spoil storage and construction activity areas on the right of way.



The pieces of pipe are strung along the right of way.

**MOWING CROPLAND** Cereal and hay crops that are in a mature state and have not been harvested will be mowed prior to topsoil salvage activities. Standing crops interfere with efficient topsoil stripping. The landowner may elect to cut immature crops for green feed.

**SALVAGING TOPSOIL** All topsoil is salvaged from the right of way as part of soil conservation. In addition to topsoil salvage, transitional material is also stripped from the right of way for replacement over any spoil material that cannot be replaced in the pipeline trench. Gaps are left in the stored topsoil windrow to allow landowners access across the right of way.

**STRINGING PIPE** All of the individual pieces of pipe are strung along the right of way after topsoil has been removed and any grading of sideslopes and steep hills has occurred. Some of the pipe pieces need to be bent to conform to the terrain.

**WELDING** The individual pieces of pipe are welded together to form a pipe section. All of the welds are visually inspected and x-rayed to ensure that the welds are secure and will not break.

**COATING** All of the pieces of pipe are coated prior to delivery to the right of way. The pipe is coated to eliminate the risk of corrosion. Corrosion of the steel pipe will eventually lead to a rupture and allow the CO<sub>2</sub> to escape to the atmosphere. Each of the welds on the pipeline is also coated to eliminate the corrosion risk.

**LOWERING-IN** The pipe sections are lowered into the trench. Each pipe section is approximately 400 to 500 metres long. The sections are then

welded together to form a complete pipeline.

**BACKFILL SHADING** Once the pipeline is lowered into the trench and all of the sections have been welded together, the trench is backfilled with the same material that was excavated. The backfill material is loose at this point. Care is taken to not allow rocks to fall onto the pipe and damage the coating or dent the pipe.

**TRENCHLINE COMPACTION** The loosely backfilled material in the trench is compacted in order to get all of this material back into the trench and to minimise the potential for the trenchline to settle. Sunken trenchline may affect the operation of and may damage agricultural implements.

**TOPSOIL REPLACEMENT** The topsoil that was originally stripped from the right of way is replaced once the trenchline is compacted, the subsoil surface has been de-compacted and rocks have been picked. The topsoil is replaced as evenly as possible and picked of rocks. Random checks are made with a shovel to ensure that the topsoil was replaced evenly.

**TOPSOIL CULTIVATION** The replaced topsoil is cultivated to relieve any residual compaction that was created by the equipment that replaced the topsoil. Any exposed rocks are again picked from the surface.

**SEEDING** Seeding is done on all pasturelands, native and previously wooded areas, and also on hayland, at the request of the landowner. Seed mixes are tailored to landowner specifications and applied only when the probable success of seed germination is high.



Small diameter chain trenching operation.



The pipeline is lowered into the trench.



Hay and pasture areas are seeded.



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# Proposed Enhance CO<sub>2</sub> Pipeline Project

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- PUBLIC CONSULTATION PROCESS** 5
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## Project Overview

Enhance Energy Inc. (“Enhance”) has prepared this project information document to provide landowners, the public, government agencies, and other interested parties with details about the proposed Enhance CO<sub>2</sub> Pipeline system. The pipeline system would be capable of receiving carbon dioxide (CO<sub>2</sub>) volumes from sources in the Heartland Industrial Region of Alberta and delivering them to various sequestration points in southern and western areas of Alberta. The pipeline proposed at this stage will be receiving carbon dioxide (CO<sub>2</sub>) volumes from the Agrium Fertilizer Complex and the North West Upgrader currently under construction both just south of Redwater and delivering them to points near Clive, Alberta. For an overview of the proposed pipeline system please see the map of the proposed pipeline route on page 8.

Enhance is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves. Enhance uses unique technological processes including CO<sub>2</sub> miscible, polymer, and water flooding on conventional oil and gas reserves. The use of this technology results in increased production and recovery of greater quantities of oil or gas reserves from existing reservoirs after traditional primary recovery techniques are exhausted.

The new CO<sub>2</sub> pipeline proposed by Enhance connects the Alberta Heartland Industrial Region to the oil production fields just southeast of Clive, Alberta. The Alberta Heartland Industrial Region consists of the area between the Town of Redwater and the City of Fort Saskatchewan. This pipeline is part of a larger partnership that involves the sequestration of industrial waste gases and an enhanced oil recovery project in the Clive oil field. The proposed pipeline would be built and operated by Enhance Energy Inc..

To learn more about Enhance and about the Enhance CO<sub>2</sub> Pipeline Project, please visit [www.enhanceenergy.com](http://www.enhanceenergy.com)





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## Enhance CO<sub>2</sub> Pipeline: Project Design

The Enhance CO<sub>2</sub> Pipeline will help decrease greenhouse gas emissions, reduce energy usage, and increase resources recovery.

One of Alberta's main priorities is to ensure its energy resources are developed in an environmentally responsible and sustainable way. The environmental and socio-economic benefits of this project will be substantial, as CO<sub>2</sub> capture and transmission through the proposed Enhance CO<sub>2</sub> Pipeline system will contribute to decreasing overall emissions, reducing energy usage, and increasing oil recovery.

The Enhance Pipeline system once constructed will receive CO<sub>2</sub> volumes from the Agrium Redwater Complex and will later collect volumes from the North West Upgrader once it becomes operational. The volumes will pass through a pump station in an area east of the City of Fort Saskatchewan and deliver CO<sub>2</sub> volumes to points near Clive, Alberta (please see route map at the end of this document).

The proposed route for this system travels north of the Agrium and North West Upgrader sites and then east along a new proposed railway route to a crossing of the North Saskatchewan River. From there, it turns south along a route to the pump station site in the Heartland Region east of Fort Saskatchewan. From the pump station, the route travels east and then turns south once passing the east boundary of Elk Island Park and continues south past Tofield. Once past Tofield, the right of way turns west and continues until it connects with the current north-south pipeline corridor that travels from Red Deer to Edmonton. The Enhance CO<sub>2</sub> Pipeline route then follows this current pipeline corridor south until it reaches the Enhance Pipeline receipt facility near Clive. The total pipeline system length covered by this route will be approximately 240 km.

An alternate route option was considered for this project that started in the Heartland Industrial Region and followed a pipeline corridor from Fort Saskatchewan to Edmonton, south between Sherwood Park and Edmonton and continued south along the current pipeline corridor from Edmonton to Clive, Alberta. Even though shorter, this route was eliminated due to the high congestion of pipelines in the area from Fort Saskatchewan to south of Edmonton and significant residential land development in the Edmonton region.

### The Enhance CO<sub>2</sub> Pipeline System will consist of:

- drying and compression facilities at the north end in the Heartland Industrial Region on the Agrium and North West Upgrader sites, which will process the CO<sub>2</sub> that will be collected and bring the product up to pipeline specifications;
- a pump station east of Fort Saskatchewan in the Heartland Industrial Region, to be called the Elk Island Pump Station, that will boost pressure on the pipeline system;
- the pipeline operations and control centre located at the Elk Island Pump Station;
- receipt facilities at the south end of the system near Clive, which will allow distribution of the CO<sub>2</sub> to the conventional oil and gas fields in the area; and
- a high vapour pressure (HVP) pipeline between the source and the delivery point, connecting the north and south facilities.



The north end drying and compression facilities of the Enhance CO<sub>2</sub> Pipeline will be located at the supply sources, on industrial zoned lands in Sturgeon County, in an area south of the Town of Redwater and north of the City of Fort Saskatchewan. The supply source that will initially be connected to the Enhance CO<sub>2</sub> Pipeline System will come from the Agrium Redwater Fertilizer Complex, and the Enhance facility site will be within the existing plant site located at 17-56-21 W4M. Plans are also in place to connect an additional source of CO<sub>2</sub> from the Northwest Upgrader Project, currently under construction, just west of the Agrium facility.

The pipeline system will be monitored and controlled 24 hours a day, seven days a week. The Elk Island Pump Station will be the operations centre for the pipeline system, which will be located on approximately 20 acres (8 hectares) in the area east of the City of Fort Saskatchewan. The pipeline will be equipped with emergency shut down valves located at the supply points, the pump station and at regular intervals along the right of way.

The south end receiving facility of the Enhance Pipeline will be located on a current oil processing and gas compression facility site located about 8 km (5 miles) south east of Clive, Alberta. The Enhance receiving facility site will be located at 4-15-40-24 W4M. The CO<sub>2</sub> from the receiving facility will be distributed to new and current well sites in the Clive oil fields. New pipeline systems will be used to distribute the CO<sub>2</sub> to the well head locations. The distribution system at the south end of the Enhance pipeline will be applied for under a separate application from other business partners.



## Enhance CO<sub>2</sub> Pipeline: Regulatory Considerations

The Enhance CO<sub>2</sub> Pipeline system will be designed to meet and exceed all applicable professional codes and standards.

The Enhance CO<sub>2</sub> Pipeline system will be designed, submitted for regulatory approval, constructed, and operated as a High Vapour Pressure (HVP) pipeline, which requires an Emergency Planning Zone (EPZ) calculation for the pipeline system. Initial calculations have indicated that an EPZ of about 700 meters on each side of the pipeline is expected. All residents and other public land users within the EPZ will be contacted and provided with details on the Emergency Response Planning (ERP) for the project once the exact calculations are made subject to decisions on pipe size and emergency shut down valve location.

Whereas there are no building setback requirements under the Energy Resources Conservation Board (ERCB) regulations for this type of pipeline, the safety features design of the Enhance CO<sub>2</sub> Pipeline System will be correlated with similar features of a propane pipeline, considering that the properties of the CO<sub>2</sub> product include one major exception: that CO<sub>2</sub> is a non-flammable gas.

Depending on the ultimate delivery capacity selected by Enhance, the pipeline is expected to be conventional carbon steel pipe 406.4 mm (16 inch) and 323.9 mm (12 inch) diameter size. The design capacity of the Enhance CO<sub>2</sub> Pipeline system is 15000 T/d (300 mmscfd) and the initial planned throughput of the system is expected to be approximately 5000 T/d (100 mmscfd). There are options to increase the design capacity to more than 25,000 T/d with the addition of pumping capacity at the midpoint and quarter point locations along the pipeline route. There will be no flaring or odours from the operation of the Enhance CO<sub>2</sub> Pipeline System.

Traffic during construction will increase for a short period of time at the sites and along the pipeline route. The majority of the construction equipment will be moved along the right of way. Throughout construction, Enhance will coordinate with the local authorities to maintain traffic control and safety. Once the pipeline system is in operation, the right of way will be periodically inspected by the operation staff, who will travel daily to the facility sites.

Enhance intends to proceed with regulatory applications for the proposed project in the Spring of 2009. The proposed project requires an Energy Development Application to the Alberta Energy Resources Conservation Board (ERCB), under Part 4 of the Pipeline Act, in compliance with ERCB Directive 56. All appropriate ERCB information documents regarding the handling of applications under Directive 56 are included with this information package. The project also requires an Alberta Environment approval for Conservation and Reclamation planning for construction of the pipeline system.

An additional, separate project information document will be issued with regard to the Enhance CO<sub>2</sub> Pipeline north end compression facilities and the Elk Island Pump Station. These documents will provide area residents with detailed technical information and answers regarding any potential impacts to the general area. Part of the studies to be undertaken in association with the compression facilities and pump station will be a Noise Impact Assessment, as required under the ERCB regulations. Mitigation of any noise impacts in excess of allowable limits will be implemented in the system design, as required.

## Enhance CO<sub>2</sub> Pipeline: Public Consultation Process



Enhance is committed to ensuring that the Enhance CO<sub>2</sub> Pipeline Project is developed and executed with highest regard for environmental, social, and economic considerations. Enhance highly values input from stakeholders into the development of this pipeline project and will solicit public input throughout the regulatory approval process.

Public consultations are intended to continue during each phase of the proposed pipeline project development including construction and operations. The consultation process will be based upon open, two-way communication. Presentations and face-to-face meetings will be held throughout the development of the project, in order to understand and immediately address any stakeholder issues or concerns associated with the proposed pipeline project.

There are a series of public open houses planned for this fall to allow for an exchange of information between the public and the project team. An announcement regarding the time and location of the open houses will be published in the local newspapers.

Our highest values are:  
open communication,  
co-operation,  
and social responsibility.



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## Health, Safety, and Environment Programs

Enhance will have a health, safety, and environmental program, modeled after industry's best practices.

Enhance is currently developing a health, safety, and environmental program modeled after industry's best practices. The new pipeline system will be incorporated into this program to ensure it is operated and maintained to the highest professional standards.

Enhance will also develop a comprehensive Emergency Response Plan (ERP), to ensure the timely and coordinated response to any emergencies within facility sites and along the entire proposed pipeline right of way. Once finalized, details of the ERP will be reviewed and discussed with all impacted stakeholders along the entire route. The ERP that will be implemented will detail the necessary response and care measures to be undertaken should the need ever arise.



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## Enhance CO<sub>2</sub> Pipeline: Project Schedule

Enhance is currently proceeding with landowner and other stakeholder consultations along the pipeline right-of-way that is described in this Project Disclosure Document. The proposed project is subject to regulatory approvals and the completion of necessary commercial agreements. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009.

Based upon anticipated timing of regulatory approval, facilities construction could begin as early as 2011, pipeline construction could begin in 2011, with project startup in 2012. The public consultation program will ensure that the public remains informed and involved throughout the development, construction, and operation of this proposed project.

## ERCB D56 Public Involvement Documentation Included

The following information from the Alberta Energy Resources Conservation Board (ERCB) Directive 56 is enclosed with this project description document:

- Letter from the Chairman of the ERCB
- Brochure: Understanding Oil and Gas Development in Alberta
- EnerFAQ No. 7: Proposed Oil and Gas Development: A Landowner's Guide

Other ERCB information that is also available upon request:

- EnerFAQ No. 4: All About Critical Sour Wells
- EnerFAQ No. 5: Explaining ERCB Setbacks
- EnerFAQ No. 6: Flaring and Incineration
- EnerFAQ No. 8: Coalbed Methane
- EnerFAQ No. 9: The ERCB and You: Agreements, Commitments, and Conditions
- EnerFAQ No. 10: Public Health and Safety: Roles and Responsibilities of Agencies That Regulate Upstream Oil and Gas
- EnerFAQ No. 11: All About Appropriate Dispute Resolution (ADR)



**ENHANCE**  
ENERGY INC.

# Enhance CO<sub>2</sub> Pipeline: Project Route Map



For information additional to this document, please contact the project team by calling the key contact directly at the number listed here:

**ENHANCE ENERGY INC.**

Blair Eddy, VP Operations  
PO Box 190 Station M  
Calgary, Alberta, T2P 2H6

Toll-free Phone 1.877.318.6818

# Proposed Enhance CO<sub>2</sub> Pipeline Project: Additional Information for Facility Sites



## Enhance CO<sub>2</sub> Pipeline: Facility Overview

Enhance Energy Inc. (“Enhance”) has prepared this project information document to provide landowners, the public, government agencies, and other interested parties with details about the proposed Enhance CO<sub>2</sub> Pipeline system. This document is supplemental to the initial Project Information Document that was released to the public in July 2008 and is specific to the facility sites associated with the proposed Enhance CO<sub>2</sub> Pipeline system. This document should be read in conjunction with the initial Project Information Document. There are Three planned facility sites associated with the pipeline in the Heartland Industrial Region of Alberta; a compression facility at the Agrium Fertilizer Complex just south of Redwater, a compression facility at the North West Upgrading site and a pump station just west of Bruderhiem. For an overview of the proposed pipeline facility site locations please see the attached map.

Enhance is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves. Enhance uses unique technological processes including CO<sub>2</sub> miscible, polymer, and water flooding on conventional oil and gas reserves. The use of this technology results in increased production and recovery of greater quantities of oil or gas reserves from existing reservoirs after traditional primary recovery techniques are exhausted.

The new CO<sub>2</sub> pipeline proposed by Enhance connects the Alberta Heartland Industrial Region to the oil production fields just southeast of Clive, Alberta. This pipeline is part of a larger partnership that involves the sequestration of industrial waste gases and an enhanced oil recovery project in the Clive oil field.

The proposed pipeline would be built and operated by Enhance Energy Inc

To learn more about Enhance Energy Inc. and the Enhance CO<sub>2</sub> Pipeline Project, please visit our website at [www.enhanceenergy.com](http://www.enhanceenergy.com)

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**ENHANCE**  
ENERGY INC.

## Enhance CO<sub>2</sub> Pipeline: Facility Overview

The Enhance CO<sub>2</sub> Pipeline will help decrease greenhouse gas emissions, reduce energy usage, and increase resources recovery.

One of Alberta's main priorities is to ensure its energy resources are developed in an environmentally responsible and sustainable way. The environmental and socioeconomic benefits of this project will be substantial, as CO<sub>2</sub> capture and transmission through the proposed Enhance CO<sub>2</sub> Pipeline system will contribute to decreasing overall emissions, reducing energy usage, and increasing oil recovery.

The Enhance Pipeline system once constructed will receive CO<sub>2</sub> volumes from the Agrium Redwater Complex and North West Upgrader (NWU), then the volumes will pass through a pump station (Elk Island Site) to be located 2 km west of the Town of Bruderhiem, delivering CO<sub>2</sub> volumes to points near Clive, Alberta (please see route map in the June 2008 Pipeline Information document).

The proposed Enhance CO<sub>2</sub> Pipeline route for the pipeline system travels north of the Agrium site and later to the NWU site (exact routing and meter facility location yet to be determined), then east to a crossing of the North Saskatchewan River. From there, it travels south to the Elk Island pump station site between Fort Saskatchewan and Bruderhiem. From the pump station, the route travels east, then south of Elk Island Park and continues past Tofield. South of Tofield, the right-of-way turns west and connects with a north-south pipeline corridor that travels from Red Deer to Edmonton. The route then follows this pipeline corridor south until it reaches the Enhance Pipeline receipt facility near Clive. The total pipeline system length covered by this route will be approximately 234 km.

The Enhance CO<sub>2</sub> Pipeline Facilities will consist of:

- drying and compression facilities at the north end on the Agrium site and NWU, which will process the CO<sub>2</sub> that will be collected and bring the product up to pipeline specifications;
- a pump station east of Fort Saskatchewan and west of Bruderheim, to be called the Elk Island Pump Station, that will boost pressure on the pipeline system;
- the pipeline operations and control centre were originally noted to be located at the Elk Island Pump Station; however, current plans are to locate them in a commercial/light industrial area off site (e.g. Fort Saskatchewan or Edmonton).



The north end drying and compression facilities of the Enhance CO<sub>2</sub> Pipeline will be located at the CO<sub>2</sub> supply sources, on industrial zoned lands in Sturgeon County, south of the Town of Redwater.

The supply source that will initially be connected to the Enhance CO<sub>2</sub> Pipeline System will come from the Agrium Redwater Fertilizer Complex and the NWU. Enhance will construct facilities on several locations within the Agrium plant site located at 12-17-56-21 W4M, the total land use will be approximately 0.5 acre of land.

Modifications at the Agrium site will include the installation of two new 5000 hp compressors, two glycol dehydration units, a cooling tower, installation of a water treatment facility as well as associated piping, electrical modifications and instrumentation. The CO<sub>2</sub> will be diverted from the current exhaust stack to the compressors, compressed to 1500 psi, and dehydrated to remove any water. Water that is recovered from product stream will be treated and used to cool the CO<sub>2</sub> after compression and before it enters the pipeline system. Also located at the Agrium site will be pipeline pig launcher and product metering facilities.

The Elk Island Pump Station will be constructed on 14.4 acres (5.8 hectares) located at 1-25-55-21 W4M. The equipment located at the pump station will consist of two multistage centrifugal pumps to handle the initial volumes. As the volumes increase over time, additional pumps will be required at the site. The CO<sub>2</sub> will be supercritical (or dense phase) at the station and the fluid will act essentially like a liquid and will be pumped rather than compressed. The pump station site will also have pigging equipment and be designed for future metering facilities. A CO<sub>2</sub> vent stack will be located at the pump station for maintenance purposes.



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## Enhance CO<sub>2</sub> Pipeline: Regulatory

The Enhance CO<sub>2</sub> Pipeline system will be designed to meet and exceed all applicable professional codes and standards.

The Enhance CO<sub>2</sub> Pipeline system will be designed, submitted for regulatory approval, constructed, and operated as a High Vapor Pressure (HVP) pipeline, which requires an Emergency Planning Zone (EPZ) calculation for the pipeline system. Initial calculations have indicated that an EPZ of about 700 meters around each of the facility sites is expected. All residents and other public land users within the EPZ will be contacted and provided with details on the Emergency Response Planning (ERP) for the project once the exact calculations are made subject to decisions on pipe size and emergency shut-down valve location.

Whereas there are no building setback requirements under the Energy Resources Conservation Board (ERCB) regulations for this type of pipeline, the safety features design of the Enhance CO<sub>2</sub> Pipeline System will be correlated with similar features of a propane pipeline, considering that the properties of the CO<sub>2</sub> product include one major exception: that CO<sub>2</sub> is a non-flammable gas. There will be no flaring or odors from the operation of the Enhance CO<sub>2</sub> Pipeline System.

Traffic during construction will increase for a short period of time at the facility sites. Throughout construction, Enhance will coordinate with the local authorities to maintain traffic control and safety. Once the pipeline system is in operation, operations staff will travel daily to the facility sites to inspect and maintain the equipment.

Part of the studies to be undertaken in association with the compression facilities and pump station will be a Noise Impact Assessment, as required under the ERCB regulations. Mitigation of any noise impacts in excess of allowable limits will be implemented in the system design, as required.

Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. The proposed project requires an Energy Development Application to the Alberta Energy Resources Conservation Board (ERCB), under Part 4 of the Pipeline Act, in compliance with ERCB Directive 56. All appropriate ERCB information documents regarding the handling of applications under Directive 56 are included with this information package.



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## Health, Safety, and Environment Programs

Enhance is currently developing a health, safety, and environmental program modeled after industry's best practices. The new pipeline system will be incorporated into this program to ensure it is operated and maintained to the highest professional standards.

Enhance will also develop a comprehensive Emergency Response Plan (ERP), to ensure the timely and coordinated response to any emergencies within facility sites and along the entire proposed pipeline right-of-way. Once finalized, details of the ERP will be reviewed and discussed with all impacted stakeholders along the entire route. The ERP that will be implemented will detail the necessary response and care measures to be undertaken should the need ever arise.

Enhance will have a health, safety,  
and environmental program,  
modeled after industry's  
best practices.



## Enhance CO<sub>2</sub> Pipeline: Project Schedule

Enhance will have a health, safety, and environmental program, modeled after industry's best practices.

Enhance is currently proceeding with landowner and other stakeholder consultations around the facility sites that are described in this Project Disclosure Document. The proposed project is subject to regulatory approvals and the completion of necessary commercial agreements. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009.

Based upon anticipated timing of regulatory approval, facilities construction could begin as early as the fourth quarter 2009, pipeline construction could begin during the second quarter of 2010, with project startup in mid-2011. The public consultation program will ensure that the public remains informed and involved throughout the development, construction, and operation of this proposed project.

# Enhance CO<sub>2</sub> Pipeline: Public Consultation Process



Enhance is committed to ensuring that the Enhance CO<sub>2</sub> Pipeline Project is developed and executed with highest regard for environmental, social, and economic considerations. Enhance highly values input from stakeholders into the development of this pipeline project and will solicit public input throughout the regulatory approval process.

Public consultations are intended to continue during each phase of the proposed pipeline project development including construction and operations. The consultation process will be based upon open, two-way communication. Presentations and face-to-face meetings will be held throughout the development of the project, in order to understand and immediately address any stakeholder issues or concerns associated with the proposed pipeline project.

There are a series of public open houses planned during October and November to allow for an exchange of information between the public and the project team. An announcement regarding the time and location of the open houses will be published in the local newspapers.

The following information from the Alberta Energy Resources Conservation Board (ERCB) Directive 56 is enclosed with this project description document:

- Letter from the Chairman of the ERCB.
- Brochure: Understanding Oil and Gas Development in Alberta
- EnerFAQ No. 7: Proposed Oil and Gas Development: A Landowner's Guide

Other ERCB information that is also available upon request:

- EnerFAQ No. 4: All About Critical Sour Wells
- EnerFAQ No. 5: Explaining ERCB Setbacks
- EnerFAQ No. 6: Flaring and Incineration
- EnerFAQ No. 8: Coalbed Methane
- EnerFAQ No. 9: The ERCB and You: Agreements, Commitments, and Conditions
- EnerFAQ No. 10: Public Health and Safety: Roles and Responsibilities of Agencies That Regulate Upstream Oil and Gas
- EnerFAQ No. 11: All About Appropriate Dispute Resolution (ADR)

Our highest values are:  
open communication, co-operation,  
and social responsibility.



**ENHANCE**  
ENERGY INC.

# Enhance CO<sub>2</sub> Pipeline: Project Route Map



For information additional to this document, please contact the project team by calling the key contacts directly at the numbers listed here:

**ENHANCE ENERGY INC.**

Tim Veenstra, VP Operations  
PO Box 190 Station M  
Calgary, Alberta, T2P 2H6

Toll-free Phone 1.877.318.6818

**SUNSTONE PROJECTS LTD.**

Dave Fraser, Regulatory Manager  
400, 540-5th Avenue SW  
Calgary, Alberta T2P 0M2

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Email dave.fraser@sunstone.ab.ca

**SCOTT LAND & LEASE**

Val McGeachie, Project Manager  
900-202 6 Avenue SW  
Calgary, Alberta T2P 2R9

Phone 403.538.3247  
Fax 403.264.2347  
Email vmcgeachie@scotland.ca

# Open House Documentation

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**September 30, 2008**

## **Open Houses for the Proposed Enhance Carbon Dioxide (CO<sub>2</sub>) Pipeline System**

**Dear Project Stakeholder,**

**This letter is sent to inform you of the upcoming community open houses that will be held to provide stakeholders with details regarding the proposed Enhance CO<sub>2</sub> Pipeline System.**

**Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves and has extensive experience in oil and gas operations. We are proposing to construct a CO<sub>2</sub> Pipeline System that will connect the Industrial Heartland Area just south of Redwater, Alberta, to the oil production fields just east of Clive, Alberta. The pipeline is part of a larger partnership that involves the sequestration of carbon dioxide and a proposed enhanced oil recovery project in the Clive oil field. The system will be built and operated by Enhance and will be capable of receiving CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering them to points in central Alberta.**

**The system will consist of:**

- drying and compression facilities in the Heartland industrial area, south of Redwater, at the Agrium Fertilizer Complex, which will process the CO<sub>2</sub> that will be collected,**
- a pump station just west of Bruderheim that will boost pressure on the pipeline system,**
- receipt facilities at the south end of the system near Clive, which will distribute the CO<sub>2</sub> to the conventional oil and gas fields in the area, and**
- a high vapour pressure (HVP) pipeline between the source and the delivery points, connecting the north and south facilities.**



Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011.

As one of Alberta's main priorities is to ensure its energy resources are developed in an environmentally responsible and sustainable way, the environmental and socio-economic benefits of this project will be substantial; CO<sub>2</sub> capture and transmission through the proposed pipeline system will contribute to decreasing overall emissions, reducing energy usage, and increasing oil recovery.

We welcome all stakeholder views and input on the project before we submit our applications to the provincial regulatory agencies. The community open houses are being held to provide participants with an opportunity to learn more about the project, to discuss any concerns, and to provide suggestions to Enhance Energy Inc.

Please join us at one of the following open houses, from 4 pm to 8 pm in:

- Clive – Wednesday, Oct 15, 2008 at the Clive Arena Meeting Room, Clive
- Wetaskiwin – Thursday, Oct 16, 2008 at the By-the-Lake Park Hall, 6128-56 Avenue, Wetaskiwin
- Tofield – Tuesday, Oct 21, 2008 at the Tofield Community Hall, 5309 - 50 Street, Tofield
- Hay Lakes – Wednesday, Oct 22, 2008 at the Lounge of the Hay Lakes Recreation Centre, Main Street, Hay Lakes
- Lamont – Thursday, Oct 23, 2008 at the Lamont Recreation Centre Meeting Room, 4848 – 49th Street, Lamont
- Bruderheim – Tuesday, Nov 4, 2008 at the Walker School Meeting Room
- Fort Saskatchewan – Wed. Nov 5, 2008 at the DOW Centennial Centre, 8700-84 Street, Fort Saskatchewan
- Redwater – Thursday, Nov 6, 2008 at the Arena Multipurpose Room at the Provident Place, 4944 – 53 rd Street, Redwater



NAME,  
Institution  
Address

October 10, 2008

I am writing to invite you to our upcoming open house for the Enhance Energy CO<sub>2</sub> pipeline system. Enhance Energy Inc. is an Alberta-based energy resources development company with an end-to-end carbon capture and storage solution which, at full operating capacity, will have the capability to capture, transport, and sequester over 14 million tonnes/year (40,000 tonnes/day) of CO<sub>2</sub> emissions from Alberta's Industrial Heartland.

We are planning to construct a CO<sub>2</sub> Pipeline System that will connect the Industrial Heartland Area just south of Redwater, Alberta, to the oil production fields just east of Clive, Alberta. The pipeline is part of a larger partnership that involves the sequestration of CO<sub>2</sub> and a proposed enhanced oil recovery project in the Clive oil field. The system will be built and operated by Enhance and will be capable of receiving CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering these volumes to points in Central Alberta.

Our project has the ability to be expanded and access enough sequestration and EOR candidate reservoirs to sequester 1000 Megatonnes of CO<sub>2</sub> and further expansion capacity to sequester an additional 1400 Megatonnes of CO<sub>2</sub>. Development of the project will expose the Province of Alberta to recovery of an additional 1.0 Billion barrels of high quality crude oil and will be the largest project of its kind ever constructed.

As we move toward the regulatory approval process, we are hosting an open house to inform all stakeholders of our project and to welcome all questions, concerns and suggestions.

We are pleased to invite you to attend our Fort Saskatchewan open house.

**When:** Wednesday, November 5, 2008

**Time:** 4:00 p.m. to 8:00 p.m.

**Where:** DOW Centennial Centre

8700-84 Street, Fort Saskatchewan, AB

We hope you are able to attend, however we are cognoscente of the demands on your busy schedule. We would be pleased to send you any further information, answer any questions or arrange another time to meet. Please contact Alyssa Haunholter at [ahaunholter@nwcap.tv](mailto:ahaunholter@nwcap.tv) or 780-504-2623 if you have any questions or to rsvp to the open house.

Yours truly,  
(Signed)  
Susan Cole, President  
Enhance Energy Inc.

BUSINESS OPPORTUNITIES

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**ENHANCE**  
ENERGY INC.

**Proposed Enhance CO<sub>2</sub> Pipeline Project**

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO<sub>2</sub> Pipeline System will be capable of receiving CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering them to points in the oil production fields east of Clive, Alberta. The system will be built and operated by Enhance Energy Inc. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011. We welcome the input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 pm to 8 pm on:



**Clive – Wednesday, Oct 16, 2008**

at the Clive Arena Meeting Room,  
Clive, Alberta

**Wetaskiwin – Thursday, Oct 18, 2008**

at the Dy-Cho-Lake Park Hall,  
6128-56 Avenue, Wetaskiwin, Alberta

**Tofield – Tuesday, Oct 21, 2008**

at the Tofield Community Hall,  
6309 - 50 Street, Tofield, Alberta

**Hay Lakes – Wednesday, Oct 22, 2008**

at the Lounges in Hay Lakes Recreation Centre,  
Main Street, Hay Lakes, Alberta

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-318-8818.

**order form**

# Experiment seems to be working

Since it worked in the pre-season, it may very well be a productive year for a local pilot project.

The Fort Saskatchewan Indoor Soccer Association (FSISA) project is about an Under-14 boys team that, while not a competitive Tier III club, will play this season in the Edmonton Minor Soccer Association (EMSA).

According to a recent release from the FSISA, the boys that make up the team now called the Rebels wanted to play at a higher level of competition than was available in the FSISA's recreational league. However, they also didn't want to be involved in the more elite competitive Tier III league.

"By allowing them to play in EMSA, they will be given an opportunity to play more teams, and be tiered with their

success as the season goes," the release stated.

And judging from the silver-medal performance by the Rebels at a tournament last weekend hosted by the Millwoods Soccer Association, there may be more teams wanting to do this in the future.

The Rebels, after only a week of practice, were blanked 3-0 by the MW Selects before finding their stride to beat the Woodvale Snipers 4-3.

Shahamim Mehrabkhani scored a pair for the Rebels with Austin Berg and Michael Dominluk get the other goals.

Dominluk would be instrumental, scoring twice, in the Rebels next win, also a 4-3 triumph over the Snipers. Berg and Derek Pell con-

tributed the other goals.

The fight for the gold came down to the Rebels and the Selects, but Pell was the only Fort player to score in the 2-1 loss.

Fort Saskatchewan's indoor soccer season begins next week for all levels.

Anyone looking for more details can visit them at [www.fortsaskindoorssoccer.ca](http://www.fortsaskindoorssoccer.ca).


*- Jordis Dwyer/Record Staff*



SUPPLIED

Back, from left: Coach Wes Pell, Brady Johnson, Jared Hoof, Connor Palmer, Austin Berg, coach Kerry Calvert, Michael Dominluk, coach Scott Hoof. Front: Derek Pell, Lane Godue, Caleb Burt, Shahamim Mehrabkhani, Aaron Vasser, Alex Smith, Michael Calvert.

Fort Saskatchewan Record Visit [FortSaskatchewanRecord.com](http://FortSaskatchewanRecord.com) and vote in the online poll.



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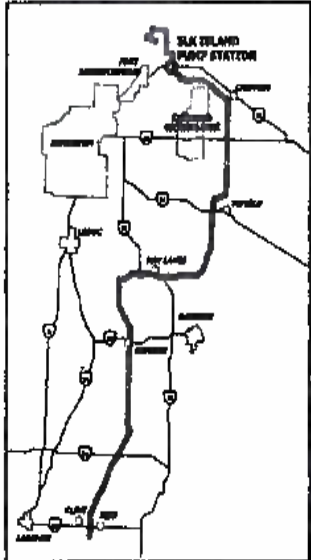
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### Proposed Enhance CO<sub>2</sub> Pipeline Project

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO<sub>2</sub> Pipeline System will be capable of receiving CO<sub>2</sub> volumes from sources in the Hardford region of Alberta and delivering them to points in the oil production fields east of Cline, Alberta. The system will be built and operated by Enhance. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009.

Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011. We welcome the input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 p.m. to 6 p.m. in

<p><b>Lamont - Thursday, Oct 23, 2008</b> at the Lamont Meeting Room, Lamont, AB</p>	<p><b>Bruderheim - Tuesday, Nov 4, 2008</b> at the Walker School Meeting Room</p>
<p><b>Fort Saskatchewan - Wed, Nov 5, 2008</b> at the DOW Centennial Centre, 8706-84 Street, Fort Saskatchewan, AB</p>	<p><b>Redwater - Thursday, Nov 6, 2008</b> at the Arena Multipurpose Room - Proident Place, 4844 - 53 rd Street, Redwater, AB</p>

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-318-8816



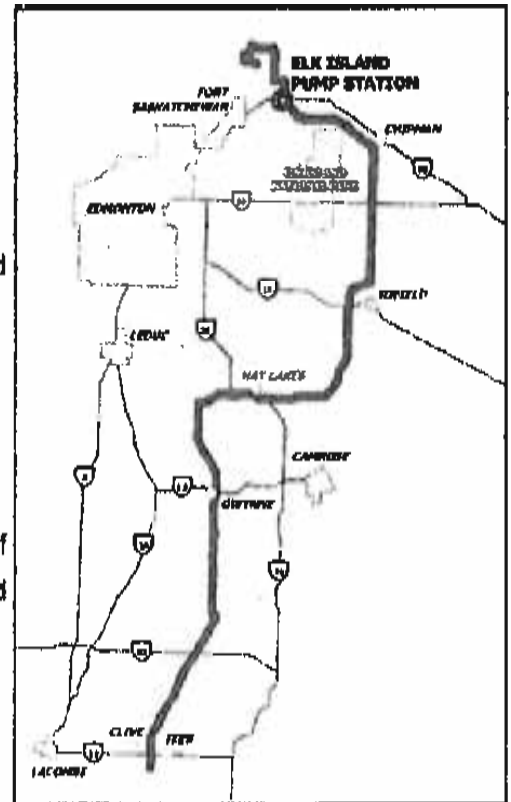
**ENHANCE**  
ENERGY INC.

### Proposed Enhance CO<sub>2</sub> Pipeline Project

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO<sub>2</sub> Pipeline System will be capable of receiving CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering them to points in the oil production fields east of Clive, Alberta. The system will be built and operated by Enhance.

Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011. We welcome the input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 pm to 8 pm in



#### Clive – Wednesday, Oct 15, 2008

at the Clive Arena Meeting Room,  
Clive, Alberta

#### Wetaskiwin – Thursday, Oct 16, 2008

at the By-the-Lake Park Hall,  
6128-56 Avenue, Wetaskiwin, Alberta

#### Tofield – Tuesday, Oct 21, 2008

at the Tofield Community Hall,  
5309 - 50 Street, Tofield, Alberta

#### Hay Lakes – Wednesday, Oct 22, 2008

at the Lounge in Hay Lakes Recreation Centre,  
Main Street, Hay Lakes, Alberta

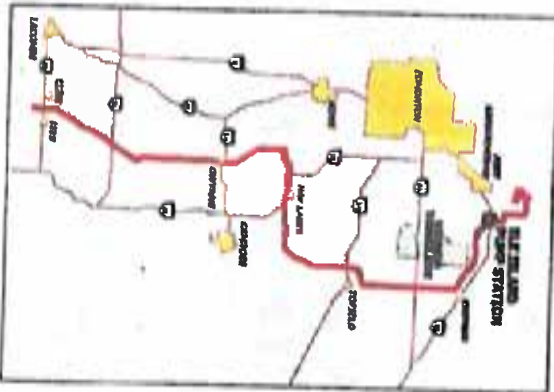
For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-318-6818.

**ENHANCE**  
ENERGY INC.

**Proposed Enhance CO<sub>2</sub> Pipeline Project**

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO<sub>2</sub> Pipeline System will be capable of recovering CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering them to points in the oil production fields east of Cheyenne, Alberta. The oil system will be built and operated by Enhance. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startups in the first quarter of 2011. We welcome that input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 pm to 8 pm in:



**Cheyenne - Wednesday, Oct 15, 2008**

at the Cheyenne Meeting Room,  
Cheyenne, Alberta

**Torfield - Tuesday, Oct 21, 2008**

at the Torfield Community Hall,  
3309 - 50 Street, Torfield, Alberta

**Wetaskiwin - Thursday, Oct 16, 2008**

at the By-the-Lake Park Hall,  
8150/48 Avenue, Wetaskiwin, Alberta

**Hay Lakes - Wednesday, Oct 22, 2008**

at the Lounge in Hay Lakes Recreation Centre,  
Main Street, Hay Lakes, Alberta

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-314-6814.

12 The Leduc Representative, Leduc, Alberta - October 10, 2008

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-Weekday Mornings - Weekends - Evenings-  
- Let us know what works for you -

**visit our Job Fair**

@Rabbit Hill on Thursday Oct. 16th or Tuesday Oct. 21st 5pm to 9pm

Apply Online or call 955-2440

[www.rabbithill.com](http://www.rabbithill.com)



**UNRESERVED FARM SALE FOR THE ESTATE OF RON CHALMERS**

Rimbey, AB Saturday, October 11, 2008 Time: 9:30 a.m.

Directions: From Rimbey, 19 Miles East on Hwy 15 to Hwy 23, 1 Mile South, 1 Mile East and 1 Mile South to the farm. The farm is located on the south side of Hwy 23, 1 Mile East and 1 Mile South of Hwy 23. The farm is located on the south side of Hwy 23, 1 Mile East and 1 Mile South of Hwy 23.

<p><b>Tractors &amp; Equipment</b></p> <ul style="list-style-type: none"> <li>JD 3155 PMA Tractor c/w FEL &amp; 3 pt Int</li> <li>Cambiar 3-2 Cowler</li> </ul>	<p><b>Rolling &amp; Tilage Equipment</b></p> <ul style="list-style-type: none"> <li>MF 20' DT Calf</li> <li>10' Millert Hill Disc</li> <li>Massey 24' Press Drill c/w Scares &amp; Part</li> <li>Atchaf</li> <li>Case 12' Hoe Drill</li> <li>4' Section Harrow c/w Drumbar</li> <li>24' Vibrating Drill</li> <li>20' Unmounted Harrow</li> <li>Wells 6' custom 80' Ploy</li> <li>10' Sec Harrow c/w Drumbar</li> <li>4' Sec Harrow c/w Drumbar</li> <li>JD 3100 3 Section Plow</li> <li>Haying Equipment</li> <li>MH 458 Hydrosewing</li> </ul>	<p><b>Other Equipment</b></p> <ul style="list-style-type: none"> <li>John Deere 2550 Tractor</li> <li>Wells 2-150 2wd Tractor</li> <li>Wells 2-150 Field Boss 2wd Tractor</li> <li>Case 40 2wd Tractor c/w Front Ends</li> <li>Underfoot Proctor</li> <li>Manitowoc 2wd Tractor for Parts</li> <li>Tracks &amp; Blower/Excavator Equipment</li> </ul>	<p><b>Auto &amp; Other</b></p> <ul style="list-style-type: none"> <li>1985 Dodge 1/2 Ton Truck</li> <li>1985 Ford Diesel Service Truck</li> <li>1978 GMC 3500 T/A May Truck c/w E71 Drive &amp; 13 Spl</li> <li>Ford 800 SA Green Truck c/w Gas</li> <li>Ford Truck for Parts</li> <li>2004 Aries Del 700 4wd Quad c/w Gas Mews</li> <li>Winn 2,000 Lbs Wheel &amp; Cart Lock, Auto, Line New Hrs</li> <li>2001 Arctic Cat 500 Gas Quad c/w Auto &amp; Winn 2,000 Lbs Winch</li> <li>2000 Brands Marquay Marquay 15 Car</li> <li>2-15' DT Cart</li> </ul>	<p><b>Other Equipment</b></p> <ul style="list-style-type: none"> <li>John Deere 2550 Tractor</li> <li>Wells 2-150 2wd Tractor</li> <li>Wells 2-150 Field Boss 2wd Tractor</li> <li>Case 40 2wd Tractor c/w Front Ends</li> <li>Underfoot Proctor</li> <li>Manitowoc 2wd Tractor for Parts</li> <li>Tracks &amp; Blower/Excavator Equipment</li> </ul>	<p><b>Other Equipment</b></p> <ul style="list-style-type: none"> <li>John Deere 2550 Tractor</li> <li>Wells 2-150 2wd Tractor</li> <li>Wells 2-150 Field Boss 2wd Tractor</li> <li>Case 40 2wd Tractor c/w Front Ends</li> <li>Underfoot Proctor</li> <li>Manitowoc 2wd Tractor for Parts</li> <li>Tracks &amp; Blower/Excavator Equipment</li> </ul>
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Sale Conducted by:  
**ALLEN B. OLSON AUCTION SERVICE LTD.**  
 RIMBEY, ALBERTA  
 (403) 843-2747 Sale Site LICENSE #0 155990

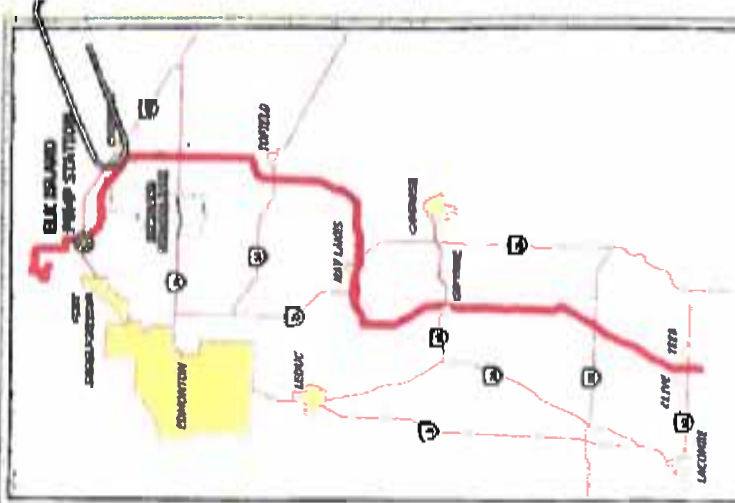


**ENHANCE ENERGY INC.**  
 Proposed Enhance CO2 Pipeline Project

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO2 Pipeline System will be capable of receiving CO2 volumes from sources in the Heartland region of Alberta and delivering them to points in the oil production fields east of Clive, Alberta. The system will be built and operated by Enhance. Enhance

intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011. We welcome the input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 pm to 8 pm in



**Clive - Wednesday, Oct 15, 2008**

at the Clive Arena Meeting Room,  
 Clive, Alberta

**Wetaskiwin - Thursday, Oct 16, 2008**

at the By-the-Lake Park Hall,  
 6128-56 Avenue, Wetaskiwin, Alberta

**Tofield - Tuesday, Oct 21, 2008**

at the Tofield Community Hall,  
 5309 - 50 Street, Tofield, Alberta

**Hay Lakes - Wednesday, Oct 22, 2008**

at the Lounge in Hay Lakes Recreation Centre,  
 Main Street, Hay Lakes, Alberta

For further information about the proposed Enhance CO2 Pipeline Project, please contact the project team at the following information line: 1 877-318-6818.

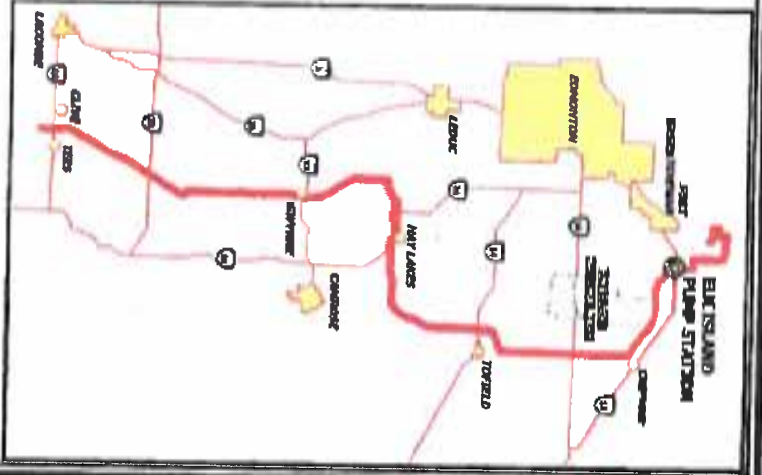




**Proposed Enhance CO<sub>2</sub> Pipeline Project**

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO<sub>2</sub> Pipeline System will be capable of receiving CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering them to points in the oil production fields east of Clive, Alberta. The system will be built and operated by Enhance. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009.



Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011. We welcome the input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 p.m. to 8 p.m. in

**Lamont - Thursday, Oct 23, 2008**  
at the Lamont Recreation Centre -  
Meeting Room, 4848 - 49th Street,  
Lamont, AB

**Fort Saskatchewan - Wed, Nov 5, 2008**  
at the Lions Mane Room,  
DOW Centennial Centre,  
8700-94 Street, Fort Sask., AB

**Bruderheim - Tuesday, Nov 4, 2008**  
at the Walker School Meeting Room

**Redwater - Thursday, Nov 6, 2008**  
at the Arena Multipurpose Room -  
Provident Place, 4844 - 53rd Street,  
Redwater, AB

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: **1-877-318-6818**

All intervenors to this proceeding must be present at the commencement of the hearing to register their appearance.

**Nature of the Application**  
Petro-Canada Oil Sands Inc. (PCOSI) has applied, on behalf of the Fort Hills Energy Corporation and Fort Hills Energy L.P. (Fort Hills), to the ERCB (formerly the Alberta Energy and Utilities Board) and Alberta Environment (AENR) for approval to construct and operate the Fort Hills Storage Upgrader and associated infrastructure with a capacity to process 54 000 cubic metres per day of bitumen. The upgrader would be located in Sturgeon County, approximately 11 kilometres north of the city of Fort Saskatchewan, on all or part of Section 19, Township 56, Range 21, West of the 4th Meridian, and Sections 2, 3, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, Township 56, Range 21, West of the 4th Meridian.

**Additional Information**  
To obtain additional information or a copy of the application, contact  
Ms. Beverly David, Environmental and Regulatory Coordinator, Petro-Canada Oil Sands, 150 - 6 Avenue SW, Calgary, Alberta T2P 3E3; Phone: 403-296-3738; Email: beverlyd@petro-canada.ca  
A copy of the application is available for viewing at the ERCB's Calgary office  
ERCB Information Services, Main Floor, 640 - 5 Avenue SW, Calgary, Alberta T2P 3P4;  
Telephone: 403-297-8311

For information about ERCS procedures, contact  
Applications Branch, Resources Applications, Alberta; Bob Barkman, Telephone: 403-297-8555; Fax: 403-297-8122;  
Email: bob.barkman@erccb.ca

**To File a Submission**

Any person intending to make a submission with respect to PCOSI's intent to include the construction and operation of one or more work camps as part of Application No. 1490554 must file an on or before 4:00 p.m., Friday, October 11, 2008. Send one copy of your submission to the applicant at the name and address above and two copies to Bob Barkman, Applications Coordinator, Applications Branch, Resources Applications, Energy Resources Conservation Board, 640 - 5 Avenue SW, Calgary, Alberta T2P 3P4

**Notes**

Any submission filed shall contain the following:

- (a) a concise statement indicating
    - (i) the manner in which the intervenor's rights may be directly and adversely affected by a decision of the Board on the proceeding,
    - (ii) the nature and scope of the intervenor's intended participation,
    - (iii) the disposition of the proceeding that the intervenor advocates, if any,
    - (iv) the facts the intervenor proposes to show in evidence,
    - (v) the reasons why the intervenor believes the Board should decide in the manner that the intervenor advocates, and
    - (vi) the intervenor's efforts, if any, to resolve issues associated with the proceeding directly with the applicant;
  - (b) the name, address in Alberta, telephone number, fax number and, if available, e-mail address of the intervenor;
  - (c) if the intervenor is represented by a representative, the name, address in Alberta, telephone number, fax number and, if available, e-mail address of the representative; and
  - (d) if the intervenor is an unincorporated organization, the nature of the intervenor's membership.
- If you have an interest in this matter, you are required to make a submission with respect to this application even if you have previously filed a submission with the Board or with PCOSI on this application.
- In accordance with Section 13 of the *Energy Resources Conservation Board Rules of Practice*, all documents filed in respect of this proceeding must be placed on the public record unless otherwise ordered by the Board, subject to the *Freedom of Information and Protection of Privacy Act*.
- In accordance with Section 25 of the *Energy Resources Conservation Board Rules of Practice*, a person who intends to raise a question of constitutional law before the Board must give notice in accordance with Section 12 of the *Administrative Procedures and Jurisdiction Act* and its regulation.
- In accordance with Section 40 of the *Energy Resources Conservation Board Rules of Practice*, witnesses must give evidence under oath or affirmation.

held at Calgary, Alberta, on October 2, 2008.

# ng in October

the four-legged  
Like young deer  
eyes and ears,  
white tails and  
legs that allowed  
turn on a dime  
appear before a  
could even aim  
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squirrels with  
ails that seemed  
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by a small animal that  
must have been hiding  
behind the door when the  
good Lord handed out

night vision, a stinky,  
smelly, rank little fellow  
that apparently bumped  
into a folded camp chair,  
and instead of just mov-

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thing with odor d'skunk.  
The perfect ending to our  
final campout of the sea-  
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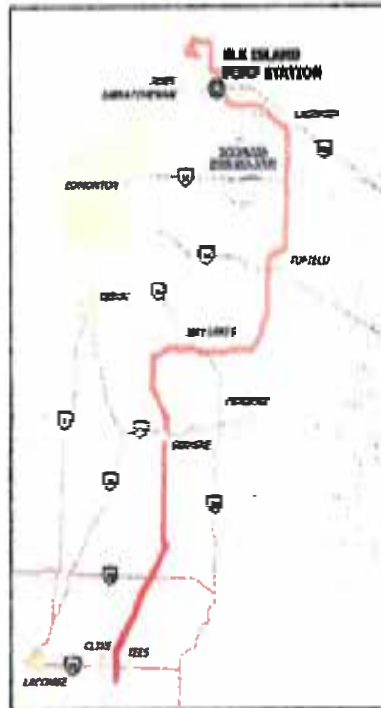
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## Proposed Enhance CO<sub>2</sub> Pipeline Project

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**Clive – Wednesday , Oct 15, 2008**

at the Clive Arena Meeting Room,  
Clive, Alberta

**Wetaskiwin – Thursday , Oct 16, 2008**

at the Bay-the-Lake Park Hall,  
6126-56 Avenue, Wetaskiwin, Alberta

**Tofield – Tuesday, Oct 21, 2008**

at the Tofield Community Hall,  
5309 - 50 Street, Tofield, Alberta

**Hay Lakes – Wednesday , Oct 22, 2008**

at the Lounges in Hay Lakes Recreation Centre,  
Main Street, Hay Lakes, Alberta

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-318-6618.

# Credit Union Day



**Thursday,  
 October 16th**  
 Please join  
 us for refreshments  
 &  
 hors d'oeuvres  
 to Celebrate Credit  
 Union Day

**WETASKIWIN CREDIT UNION LTD.**  
 5111 - 50 Avenue, Wetaskiwin  
 (780) 352-2251 Toll Free 1-888-388-9688  
 "A Better Way of Banking"



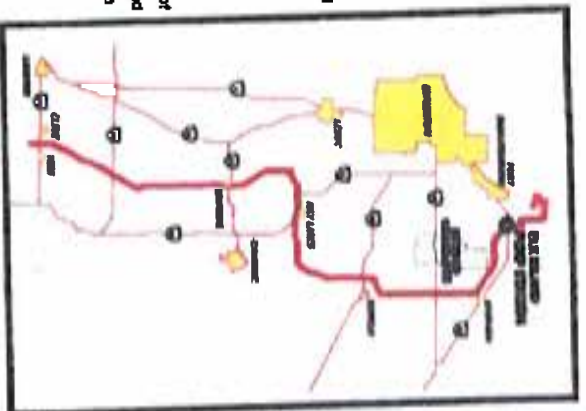
**ENHANCE**

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**Cline – Wednesday, Oct 15, 2008**

at the Cline Arena Meeting Room,  
 Cline, Alberta

**Wetaskiwin – Thursday, Oct 16, 2008**

at the By-the-Lake Park Mall,  
 5125-56 Avenue, Wetaskiwin, Alberta

**Torfield – Tuesday, Oct 21, 2008**

at the Torfield Community Hall,  
 6508 - 88 Street, Torfield, Alberta

**Hay Lakes – Wednesday, Oct 22, 2008**

at the Lounge in Hay Lakes Recreation Centre,  
 Main Street, Hay Lakes, Alberta

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-516-6816.

**Extreme TACK**  
 NOW A LEASHEOLD TACK  
 Featuring English Tack & Horse Supplies  
 Special Order - Western Tack

*Jamie Hoffman*  
 Ph: 403.782.6005  
 or 403.782.8004

North of Town on the Corner  
 of Hwy 881 & Hwy 606

Cell: 403.850.9300  
 Fax: 403.782.9339




**ROPE & TYE MECHANICAL**  
 ALL TYPES OF HEAVY DUTY SERVICES & REPAIRS

**RITCH KOWALEY - Heavy Duty Mechanics**  
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 Office: 403-784-0985 Fax: 403-784-0381  
 81401 TOWN RD THE BEE



**Payne's Septic Tank Service**  
 Phone/Fax ~ 784-3444  
 Don't get caught with your pants down and no place to go.

**Chester & Marie Payne**  
 RR.1 Clive, Alberta T0C 0Y0



**LATE 30**  
 LIMITED SERVICE



**Clive Village Foods**

8:00 - 8:00 Monday - Saturday  
 11:00 - 5:00 pm Sundays

Grocery  
 Video/DVD Rentals  
 Stamps  
 Magazines

Auto Trailer  
 Lottery Terminal  
 & More.

784-3388



**ARSON D.J. SERVICES**

Now Booking for Fall & Winter  
 Weddings, Parties  
 Anniversaries, Christmas Parties

**MURTIS LLENN**  
 PHONE: 396-3927



# Valley Spotlight

October 6, 2008  
 Edition 16 -2008



**We Are Retiring!!**

We have sold the store, **Clive Village Foods**, to Ken and Betty Stoupe, who will take over on November 3, 2008. We would like to thank all of our loyal customers that have supported us over the past 16 1/2 years. A great big THANK YOU also goes out to the people that have worked for us during this time. We have seen this town grow and prosper and have enjoyed being a part of this thriving community. We wish Ken & Betty every success and trust that the store will be as good to them as it has been to us and our family. Please come in and welcome Ken & Betty to our town.

Michelle will continue to operate the ATB Financial Agency out of the store and you will probably see Ida & Les helping her out once in a while. We will continue to live in Clive and look forward to seeing everyone around town.

Les & Ida McConnell

**Library News**

Hours of operation are Tuesday 12:30 - 7:30, Wednesday 10:30 - 5:00, Thursday 10:30 - 5:00. We would like to thank the following businesses for supporting our adopt a magazine program; Cameron's café & Catering (Martha Stewart and Food by Martha Stewart), Alix & Clive Agencies (Canadian Geographic), and the ATB Bank (Taste of Home). If anyone else would like to sponsor a magazine just ask one of our librarians. Have you signed up for **Scrap Booking Class Yet?** Times are ticking away, Sue Tees will be teaching the classes on October 8, from 1:00 - 3:00 and November 4, from 6:00 - 7:30. Our next Board meeting in on October 8th at 7:00 p.m. At the Library. New books are arriving weekly, come on down and take a look.

**News from Haynes**

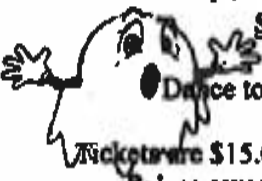


The Haynes Community Society  
 is holding their  
**Annual Turkey Supper**  
**Wednesday, October 22nd, 2008.**  
 Supper served from 5:00 - 7:00

Prices: \$9.00/Adult, \$6.00/Children 7 - 12, Free/ 6 & under

We are also hosting a

**HALLOWEEN CABARET**  
**Saturday, November 1st, 2008**



Doors open at 8:00,  
 Dance to the DJ Services of Sound Source from  
 9:00 - 1:00.

Tickets are \$15.00/person with a hot lunch served at midnight!  
 Prizes awarded for the best and unusual costumes!  
 Come on out an enjoy both of these events!





**FOUR CORNERS VACATIONS**  
South Pacific Specialist  
**Karen Davidson**  
Travel Consultant  
Phone: 784-2864  
Fax: 784-3857  
esseydkd@spforum.com  
www.fourcornersvacations.com

**SHADOW FUSION**  
**WELDING & RENTALS**

Now selling & installing  
B & W Fifth Wheel Hitchs!

**Kodiak Controls Ltd.**

**Daron Jeglum**  
Journeyman Instrumentation Technician  
Oilfield Instrumentation

Box 28 Clive, Alberta  
T0C 0Y0

Cell: 403.318.9917  
Office: 403.784.3217  
Fax: 403.784.3417

**Al Thoratou**  
Contractor

Home Improvements  
Home Repairs  
RR.1 Teas, Alberta

Phone 785-6017



Box 305, Clive, Alberta  
T0C 0Y0

MT: 403-784-3541  
Cell: 403-304-3990  
Fax: 403-784-3622

**Stanchfield**  
EQUIPMENT & TRUCK SERVICE

FARM - COMMERCIAL - OILFIELD  
SECONDARY CONTRACTING UNITS

School - Backhoe  
and More Trucks - Oil Well Trucks  
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Owner  
Randy Stanchfield

**SUN FUN**  
POOL & SPA

Hot Tubs & Swimming Pools  
Saunas & Water Treatment Products & BBQs  
Patio Furniture

**Garry Bell** ~ Owner ~ 403.346.4465  
"Red Deer's only Full Water Treatment Lab"

Box 17, 14th Ave, Red Deer, AB T4E 1M1

**Farm Credit Canada ~ see**  
**Annual Drive Away Hunger Alberta Tour 2008**

Since 2004, Drive Away Hunger has collected almost one million pounds (450,000kgs) of food for food bank networks across Canada. Although our little community food bank is not a part of the food bank network, we would like to ask community members if they had any fresh vegetables like potatoes and carrots, or canned goods that they would like to donate to food banks outside of our community - Please drop donations off at the Community Office 4903 - 50th Ave.

They will be coming through our Village on October 16th, 2008. If you would like more information on this Drive Away Hunger Tour, please visit [www.DriveAwayHunger.ca](http://www.DriveAwayHunger.ca)

FCC is Canada's largest provider of business & financial services to farms and agribusiness. Operating out of 100 offices located primarily in rural Canada. FCC employees are passionate about the business of agriculture. FCC Balances corporate decision-making and performance with the Values, norms and expectations of society. We operate in a responsible and respectful manner.

**1st Parly Creek Scouts**

**Fall Bottle Drive ~ October 22, 2008**

The group will be coming around on Wednesday night collecting bottles starting at 6:30p.m. If you have any bottles that you would like to donate, please leave them on your step to be picked up. If you have a large amount, please contact Benjie Gray at 403.784.3199.

**Thank you for your continuous support of Scouts!**

We have a great group this year with 13 Beavers, 17 Cubs and 2 scouts. The group and their families went to the Lacombe Corn Maize and had a Weiner roast on September 20th. A good day was had by all. The cubs and scouts held a Lost in the Woods Camp in Tees over the weekend. Blackfalds Scout group joined them as well to learn about how to build shelters and how to survive if lost in the woods. The Beavers and their parents went for a hike and picnic at the JJ Collett Nature Area just outside of Lacombe. They enjoyed the weather and learning about the different kind of trees, learning about animal tracks and different kinds of grasses.

**Canadian Foodgrains Bank:**

The central Alberta growing project is inviting all its supporters to its **Annual Harvest and Barbeque on Saturday, October 11th, 2008.** The BBQ will start at 12:00 noon and the combining by the volunteer farmers will begin at 1:00.

The location is 6 miles east of Blackfalds on the south side of hi-way 597. As always, the weather is the unknown factor. Radio Sunny 94 out of Lacombe and CKGY out of Red Deer will start announcing on the morning of October 11 at 9:00 a.m. In case of postponement the event will take place on 18th of October. If October 18th is not feasible then the crop will be taken off at the first opportunity.

We are looking forward to have you join us for this annual event.

To post news items or activities in the **Yellow Sun** or for advertising space call Louise Bell at 784.3414 or Avis Sayers at 784.3973 email: [asayers@telus.net](mailto:asayers@telus.net) or email [valleyspotlight@live.ca](mailto:valleyspotlight@live.ca) or [clivenp@platinum.ca](mailto:clivenp@platinum.ca)



# Clive Lions Club

Proudly Serving Clive & District For 91 Years!

# October

2008

**Sultase Dance November 1, 2008**

President ~ Adri Palam... 780.372.122 Cell: 403.704.5170

Secretary ~ Jim Hase... Phone: 403.783-2330 Cell: 403.783.0707

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
 This is the place to feed your dog! <ul style="list-style-type: none"> <li>* Involvement to all members rates</li> <li>* Large outdoor yards</li> <li>* Very pet friendly</li> </ul> Located 94 miles from the Red Deer Phone: 403.254.7745 Cell: 403.344.7541		 By: Cheryl Anderson 403.784.2383 Method of Payment - Cheq or Cash		Tops 9 - 10:30 <sup>2</sup>	<sup>3</sup>	<sup>4</sup>
<sup>5</sup>	Clive Seniors Drop-In 1:30 Clive Meeting Room	Tees 50+ Club Tees Community Hall Tees Ag. Society Meeting	Clive Lions Club Meeting 7:30 p.m. Community Hall	Tops 9 - 10:30 <sup>9</sup>	<sup>10</sup>	<sup>11</sup>
<sup>12</sup>	Clive Seniors Drop-In 1:30 Clive Meeting Room	Tees 50+ Club Tees Community Hall Village Council Meeting 7:00	 Figure Skating Begins	Tops 9 - 10:30 <sup>16</sup> Clive Ag. Society AGM	The next Valley <sup>17</sup> Spotlight will be published on Monday, Oct 20, 08 Please submit all information by October 17, 08	<sup>18</sup>
<sup>19</sup>	Clive Seniors Drop-In 1:30 Clive Meeting Room	Tees 50+ Club Tees Community Hall	Clive Lions Club Meeting 7:30 p.m. Community Hall 	Tops 9 - 10:30 <sup>23</sup>	<sup>24</sup>	<sup>25</sup>
<sup>26</sup>	Clive Seniors Drop-In 1:30 Clive Meeting Room Village Council Meeting 7:00	Tees 50+ Club Tees Community Hall	<sup>29</sup>	<sup>30</sup>	<sup>31</sup>	

**Clive FCSS ~ Outreach Worker Dianna Souveny 704.0145**  
 Congratulations to the winners of the Clive FCSS gift certificate door prize at the Ag. Society's 1st Annual Trade Show:  
 Tammy Bushman \$20.00 ~ Toys R' Us  
 Merle Walker \$25.00 ~ Extra Foods  
 FCSS Coordinator will not be available in Clive on September 30, October 7 and October 14. If you need assistance, please call the Lacombe FCSS Office at 403.782.6637 or leave a message on Dianna's Cell at 403.704.0145

**Clive/Tees Neighborhood Place Society**  
 Wanda Wagner 403.784.3171  
**Lunch & Learn Topic - STRUGGLE FOR CONTROL**  
**Child & Youth Behavioral Disorders**  
 Bring your lunch on  
 October 21st, 2008  
 The Den (Old Legion Building) 12:00 - 1:00  
 Through these moving personal stories, viewers see how behavior disorders affect the life of a child at home, at school and the whole family. This DVD debunks the myth that children with behavior disorders are bad kids who's behaviors are irreversible. Behavior disorders are treatable and the key is early prevention. For more information, give Wanda a call!



# FOOD FOR THOUGHT

**Round A Lay Meat Loaf**  
 1 lb lean ground beef  
 1/4 cup quick rolled oats  
 1/4 cup tomato juice  
 1 egg  
 1 1/2 tsp. Salt  
 1/4 tsp pepper  
 Sprinkle of sage  
 2 (bap. Minced onion  
 2 cans brown beans  
 2 (bap. Brown sugar  
 2 (bap. Ketchup

Combine beans with brown sugar and ketchup in a bowl. Set aside. Mix beef and next 7 ingredients in a large bowl. Set aside 1 cup of meat mixture. Put remaining meat mixture into 2 quart casserole dish. Pour bean mixture on top of meat. Shape remaining 1 cup of mixture into small patties and lay on top of beans.  
 Bake at 375 F for 45 minutes.

Baked potatoes go nicely with this.

**PICTURE SELECTIONS**  
 Our blends of herbs and spices are made using the best ingredients available in today's world market.  
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 A world of fine foods for the home chef.  
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9	8	6	7	3	5	2	4	1
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6	9	2	8	1	3	4	7	5
8	4	3	9	5	7	1	2	6

## Words of Wisdom

*The real winners in life are the losers that just keep on trying...*

*A budget is what you stay within if you go without...*

*A smile is a wrinkle on the face that should never be removed...*

*The more you do ... The more you are...  
 When success turns a person's head, he is facing failure.!*

## CLASSIFIED ADS

**Job Opportunities**  
 Needed - Concession Manager for the Clive Arena for the 2008 - 2009 hockey season. This is a part time position and must be available to open concession daily as per ice schedule. Experience and or/food handling safety course and asset. Please contact Darrell at 403.784.2832. This competition will be open until a suitable candidate is found.  
 The Tees Ag. Society is now accepting tenders for janitorial services at the Tees Hall. For more information contact Nicole at 403.784.3427

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 Fax: (403) 747-3234 Peter Casterler (403) 290-6474  
 (24 HOUR SERVICE)  
 E-mail: gpc@heartcast.com.ca BOX 264, ALIX, AB, T0C 0R0

FOR SALE	SERVICES	NOTICES	VEHICLES
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<b>LOST/FOUND</b>			

**Image Massage Therapy**  
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 Recharge Your Senses  
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**Valley City Saloon**  
 Located in The  
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 Take your time to unwind,  
 visit with friends  
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 We're open 7 days a week  
 Hours - 24/7  
 Liquor Store 784-3334  
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**Marilyn Kuehn**  
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 Monday - Thursday 6am - 7:30pm  
 Friday 6am - 8:30pm  
 Saturday 7am - 8:30pm  
 And Confectionery  
 New Baking  
 Huge Icecream Cases

**Clive Figure Skating Club**



The Clive Figure Skating Club is very excited about the upcoming season! The first day of skating will be Wednesday October 15th, starting at 3:30 p.m. If you haven't registered your child, you still have time... Please call Becky 403.784.2823 or Ronda @ 403.755.6011. If you've already filled out the form but have not paid the fees, please be prepared to do so on the first day of skating! Or if you call Becky this week, she will gladly pick up a cheque from you. Have a Happy Thanksgiving!

**Lacombe Nurseries Home Auxiliary  
 Harvest Bazaar, Tea & Bake Sale**



at  
**Lacombe Hospital & Care Center**  
 on  
**Saturday, October 18th, 2008**  
 Bazaar & Bake Sale 2:00 - 4:00 p.m.  
 Tea 2:30 - 4:00 p.m.

**Clive Ag. Society - Annual General Meeting  
 October 16th, 2008**

Make a point to come out and become involved!

Joanne @ The Den would like to host a monthly  
**"Ladies Night"**

For an evening of Friendship, Discussion & Fun  
 Anyone with a home based business i.e. Epicure, tupper ware  
 etc. Are welcome to display their products. For dates and  
 times, please call Joanne at 403.784.3923

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4 3	9 5	1	6



**CREATIVITY MEMORIES**

**Denise Unwin**  
Independent Consultant  
CM ID 1993399  
Box 22  
Clive, AB T0C 0Y0  
Home: (403) 784-2270  
Cell: (403) 350-3967  
mommy27\_sau@yahoo.ca  
your life | your story | your way

**Community Focus**

Our newest community members!

Krista (nee Short) & Mike McKnight had a baby girl Mackenzie Marie on September 14th, 2008 weighing 7lbs 6oz.

Greg & Leanne MacKenzie-(nee Shackleton) had a baby boy Jaxon, on September 25th. A new baby brother for Maleah. Congratulations!

With Sympathy

The community would like to express Sympathy to Deanne Benjamin & her family of Clive, Alberta on the passing of her father John Jickling.

**EISSES Grain Marketing**  
We Buy/Sell Grain  
Custom Grain Hauling  
**Henry Eisses**  
Office: 403.782.7803  
We Do All Types of Feed (LXON)  
Cell: 403.350.8777 Fax: 403.782.4985

Upcoming Events

**REFEREE CLINIC**

October 18th, & 19th, 2008

Clive School

To register call Trudy @ 403.784.2199

**Learn To Square Dance**

Wednesday, October 1st, 2008

Alix Community Hall

7:00 - 9:30 p.m.

May join anytime in October. Cost \$4.00/person

Great Fun ~ Exercise ~ Friendship

Dress casual, Couples ~ Singles & Teens. Children are welcome to watch.

For more information Call Dennis & Dorothy Aberle at 403.784.5141

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**Alberta Beef Producers ~ 2008 Fall Producer Meetings & Elections**

**Zone 5**

October 27

Big Valley Community Hall

October 29

Leslieville Community Hall

November 4

Spruce View Community Hall

Supper @ 6:00 p.m. Meetings Begin @ 7:00 p.m.

Ryder Lee, CCA Manager of Provincial Relations

Zone 5 includes: County of Stettler, Lacombe County, Red Deer County, Starland County, Knoshill County, Clearwater County.

**Herbal Magic**  
WEIGHT LOSS & NUTRITION CENTRE

Bobbie Schmidt  
Owner / Director  
Lacombe AB (403) 788-7000

**Nova Chemicals**

**Community Open House**

Date: Tuesday, October 21st, 2008

Time: 5:30 - 6:30 p.m. "Drop in to Chat"

6:30 - 7:30 p.m. Presentation/Discussion

Place: **Satinwood School Gym**

(On township road 39-0 about 5km east of SH 815)

\*\*\*\* Refreshment will be served \*\*\*\*

**Agenda:**

- Get business & facility operations updates
- Hear about environmental performance
- Discuss any topic of interest
- Provide your input and suggestions

**815 MECHANICAL**  
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**Ken Jeglum Welding**  
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RR # 2, Clive, Alberta T0C 0Y0

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Handy Dan ~ Handy Man Services  
Reasonable Rates  
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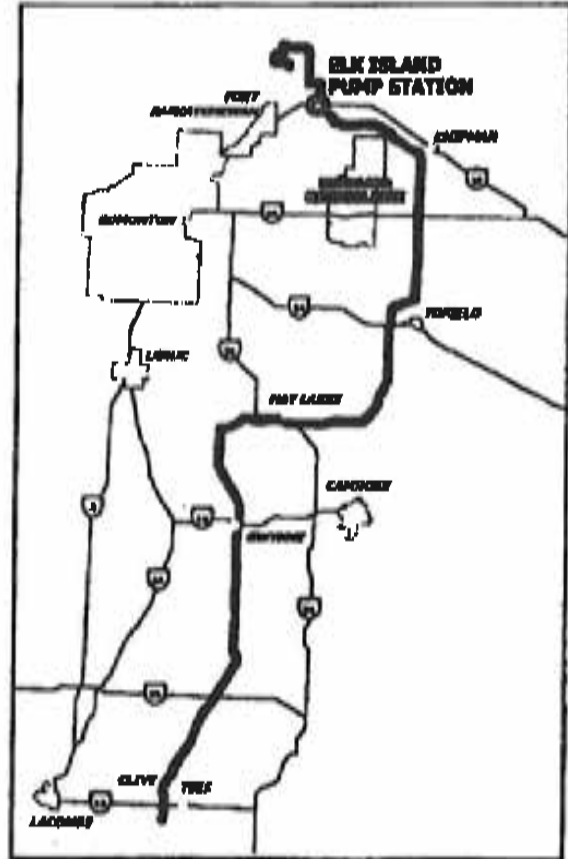


# ENHANCE ENERGY INC.

## Proposed Enhance CO<sub>2</sub> Pipeline Project

Enhance Energy Inc. ("Enhance") is a Calgary-based energy resources development company, which specializes in secondary and tertiary oil and gas recovery methods from conventional energy reserves.

The Enhance CO<sub>2</sub> Pipeline System will be capable of receiving CO<sub>2</sub> volumes from sources in the Heartland region of Alberta and delivering them to points in the oil production fields east of Clive, Alberta. The system will be built and operated by Enhance. Enhance intends to proceed with regulatory applications for the proposed project in the first quarter of 2009. Based upon anticipated timing of regulatory approval, construction could begin during the first half of 2010, with startup in the first quarter of 2011. We welcome the input and views of landowners and stakeholders along the proposed route. Community open houses have been scheduled to provide participants with an opportunity to learn more about the project and discuss any concerns with Enhance. Please join us at one of the following open houses, from 4 pm to 8 pm in



### Clive – Wednesday, Oct 15, 2008

at the Clive Arena Meeting Room,  
Clive, Alberta

### Wetaskiwin – Thursday, Oct 16, 2008

at the By-the-Lake Park Hall,  
6128-56 Avenue, Wetaskiwin, Alberta

### Tofield – Tuesday, Oct 21, 2008

at the Tofield Community Hall,  
5309 - 50 Street, Tofield, Alberta

### Hay Lakes – Wednesday, Oct 22, 2008

at the Lounge in Hay Lakes Recreation Centre,  
Main Street, Hay Lakes, Alberta

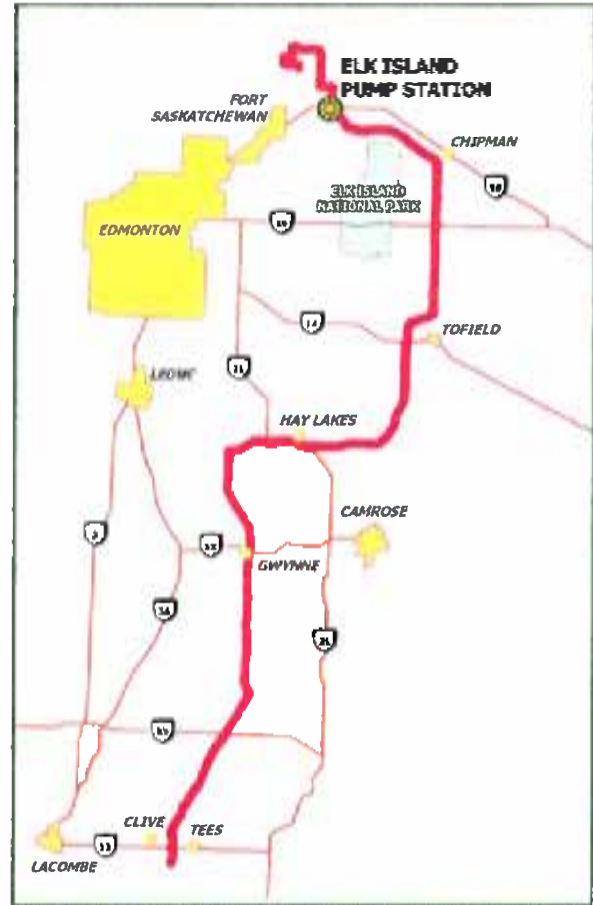
For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: 1 877-318-8818.



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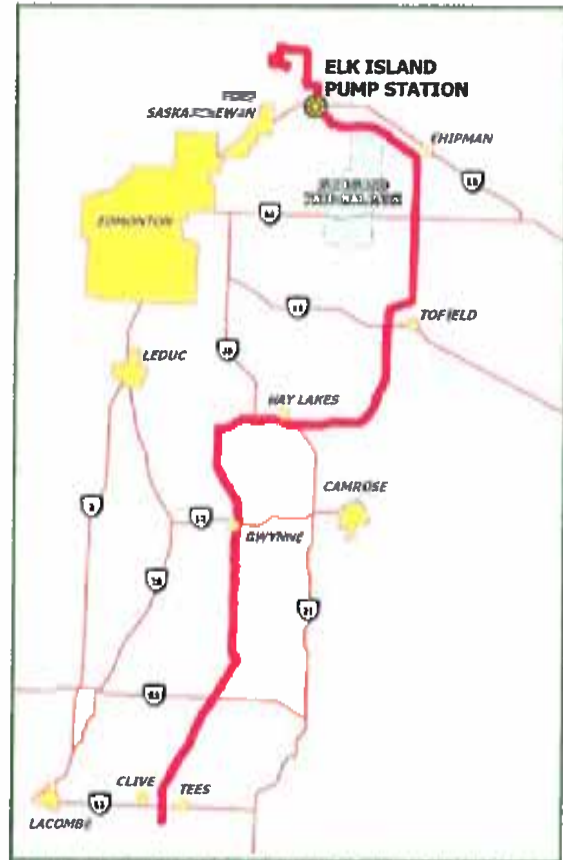
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#### **Lamont – Thursday, Oct 23, 2008**

at the Lamont Recreation Centre Meeting Room, 4848 – 49th Street, Lamont, AB

#### **Bruderheim – Tuesday, Nov 4, 2008**

at the Walker School Meeting Room

#### **Fort Saskatchewan – Wed. Nov 5, 2008**

at the Lions Mane Room, DOW Centennial Centre, 8700-84 Street, Fort Saskatchewan, AB

#### **Redwater – Thursday, Nov 6, 2008**

at the Arena Multipurpose Room - Provident Place, 4944 – 53 rd Street, Redwater, AB

For further information about the proposed Enhance CO<sub>2</sub> Pipeline Project, please contact the project team at the following information line: **1 877-318-6818**



**ENHANCE**  
ENERGY INC.



# Construction

**"As a landowner** with a high-pressure gas pipeline on my own property, I understand the concerns of farmers. During the construction of the pipeline we will take measures to enable you to proceed with farming activities and ensure that your land will be conserved and returned to the same productive capability by using industry's best practices in compliance with Alberta Environment regulations. **"**

**Tim Veenstra**  
*Vice-President Operations*  
Enhance Energy Inc.



## Landowner Consultation

We understand that pipeline construction will have an effect on your farming activities and want to ensure that your specific concerns are being considered throughout the project.



## Timber/Crop Salvage

During the initial stage of pipeline construction, the right-of-way needs to be cleared to allow for effective topsoil salvage. In wooded areas, the trees will be removed and larger logs can be set aside for you at your request. In crop areas, if construction is prior to harvest, we will mow the existing vegetation on the right-of-way or give you the option to salvage the standing grain for use as green-feed.

## Topsoil Salvage

We recognize that topsoil is a valuable natural resource and will retain the services of a professional agrologist to conduct a Soil Inventory. Topsoil will be temporarily removed from the right-of-way during non-frozen conditions so that it is not affected by construction activities. We will also be contracting Environmental Inspectors to ensure that the proper soil handling procedures are strictly adhered to.





## Equipment Cleaning

We will regularly clean all equipment used to handle topsoil during construction and reclamation to minimize the spread of noxious weeds and diseases such as clubroot.



## Access Across Right-of-Way

At your request we will leave gaps in topsoil and spoil windrows to provide equipment access across the right-of-way.



## Trenchline Compaction

To minimize settlement we will ensure the trenchline is properly compacted.



## Subsoil Decompaction & Rock Removal

The upper subsoil is an integral part of the root zone, but will have become compacted during construction. We will ensure that the upper subsoil is properly decompacted and excess rocks are removed prior to topsoil replacement.

## Topsoil Replacement

The even replacement of topsoil is critical to re-establish a root zone that will result in germination, growth, and maturation of crops that is consistent with areas immediately adjacent to the reclaimed right-of-way.

## Seeding

During reclamation of the right-of-way, you will be given a choice of seeding your own hay and pasture land, or having us apply a seed mix to your specifications.





## Land & Vegetation Monitoring

The first spring after the right-of-way has been reclaimed, we will commission a land monitoring study to assess topsoil replacement, trenchline stability, and drainage, to ensure the reclamation was effective. Further reclamation will be undertaken if problems are noted. After one full growing season, we will commission a vegetation monitoring study to assess the potential effect that construction may have had on your crops.

## Post-Construction Consultation

We understand that the pipeline construction may have had an effect on your land and want to consult with you directly regarding land capability and productivity issues. For further information or project concerns please contact us.



**ENHANCE**  
ENERGY INC.

**Tim R. Bossenberry**  
Senior Environmental Planner  
Phone 403-212-8363

**Val McGeachie**  
Land - Project Manager  
Phone 403-538-3247

info@enhanceenergy.com  
www.enhanceenergy.com  
Toll-free phone 1-877-318-6818



# Newsletters

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**ENHANCE**  
ENERGY INC.

May 2009 Newsletter | Issue 1



## A NEW NAME, BUT THE SAME VISION

Note from Susan Cole, President of Enhance Energy

This is our first newsletter on the status of our CO<sub>2</sub> pipeline and enhanced oil recovery project, and I am really excited to start this dialogue with you.

I have some big news to share with all of you: we've renamed our CO<sub>2</sub> pipeline! It will probably sound familiar to you in a moment, but first the story of how we got there. Cast your mind way back to 1954, when the Alberta Government was under pressure to allow the export

of natural gas via federally incorporated pipelines. To ensure Albertans would have control of their resources, legislation was enacted to create the Alberta Gas Trunk Line (AGTL). This orderly, unified pipeline system proved to be a boon to the province's natural gas industry and played a crucial role in establishing the petrochemical industry here.

Fast forward to today and we Albertans face a similar challenge: ensure that we once again have control over our resources while developing a solution to permit the sustainable production of bitumen. Tipping our collective hats to the province's history, we have renamed our CO<sub>2</sub> pipeline the Alberta Carbon Trunk Line (ACTL), and we're committed to making it serve Canadians as effectively as its namesake.

The ACTL system will stimulate the development of an essential backbone delivery system from many CO<sub>2</sub> sources throughout Central Alberta to many storage and enhanced oil recovery sites. This will enable the clean, sustainable development of Alberta's vast bitumen reserves while significantly increasing oil production from existing light oil reservoirs and storing more than 14 million tonnes of CO<sub>2</sub> each year.

All of this adds up to a huge investment in our province, from the jobs we can provide to Alberta workers, to the additional tax revenues that the province can reinvest in our communities. There is no better place in the world to manage CO<sub>2</sub> than right here, and no people more deserving of the benefits of that management.

I appreciate all of your support for this important environmental first that's about to happen in your own backyards, so to speak. We will be sending you regular updates as the project proceeds and I look forward to hearing your feedback as well as suggestions for future newsletters.

Please feel free to contact us anytime with comments or concerns.



**ACTL**

## What's in a logo?

The outside ring of the ACTL logo was designed to reflect our own logo. The inside ring represents the pipeline we are building. Each green ring symbolizes the closed loop of CO<sub>2</sub> production and storage, and also the letter "E" in Enhance (Enhanced Oil Recovery) and Energy (Environmentally Sustainable Energy production).

**“When fully implemented, the ACTL will be the world's largest Carbon Capture and Storage project and will be equivalent to removing 2.6 million cars off the road.”**

– SUSAN COLE





BLAIR EDDY, Manager, Projects

“ Alberta can take a number of steps to derive greater wealth over the longer term and in a more sustainable way through its energy industry.”

– PROVINCIAL ENERGY STRATEGY

### Project Update

The Government of Canada has selected Enhance Energy Inc. to receive funding through the ecoEnergy Technology Initiative, based on our proposal to develop clean energy technologies. This funding will be used for engineering and design of our CCS and enhanced oil recovery project.

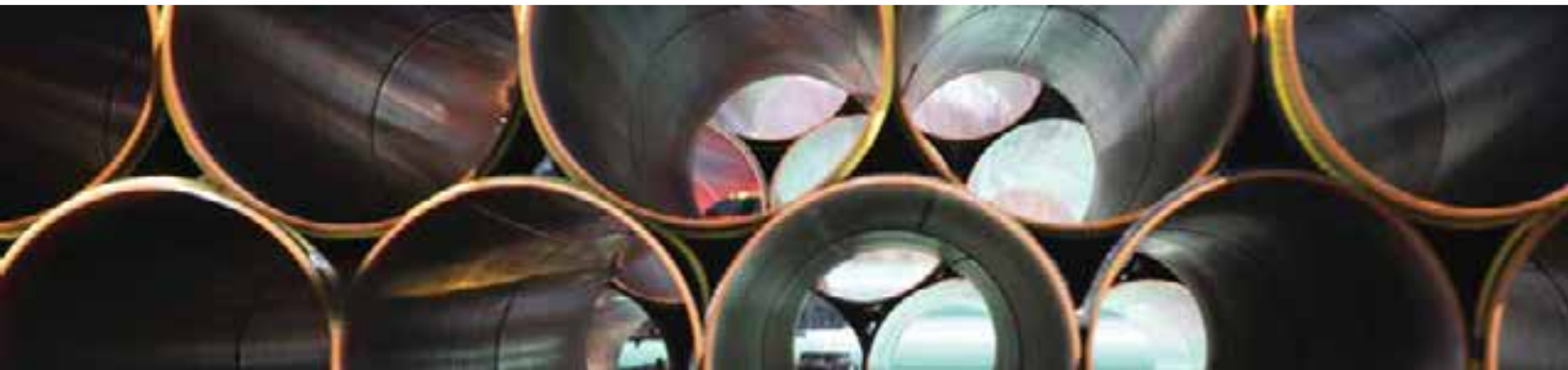
We have also made an application to the Energy Resource Conservation Board and Alberta Environment that, when approved, will move the ACTL project forward. Decisions on these applications are expected later this year. The approvals process is on track with our timeline for the ACTL, which includes additional planning work to continue through 2009, detailed engineering and design to be completed through 2010 and construction of the pipeline and CO<sub>2</sub> capture facilities to commence in the spring of 2011. **In an effort to support this process, some environmental assessment work will be done and landowners along the pipeline route may be contacted by Scott Land to request access.**

Should you be interested in learning more about Enhance Energy Inc. or the ACTL project, please check out our website at [www.enhanceenergy.com](http://www.enhanceenergy.com).

### Supporting Our Vision

The provincial and federal governments are demonstrating strong leadership by supporting Carbon Capture and Storage as a necessity in environmentally responsible resource development. Both governments are leading the world in a commitment to CO<sub>2</sub> management and as a result of that foresight, will assist in laying the foundation of an economically sustainable CCS project such as ours.

### Phase 1 System Development



Enhance Energy Inc.  
400, 606 4 Street SW  
Calgary, Alberta T2P 1T1 Canada  
  
Blair Eddy, P.Eng.  
Manager, Projects  
  
T 403.984 0202  
E [info@enhanceenergy.com](mailto:info@enhanceenergy.com)  
W [www.enhanceenergy.com](http://www.enhanceenergy.com)

Scott Land  
Suite 900, Bow Valley Square 1  
202 6 Avenue SW  
Calgary, Alberta T2P 2R9  
  
T 403.261 1000  
F 403.263 5263  
E [calgary@scottland.ca](mailto:calgary@scottland.ca)

WorleyParsons  
Suite 100, 4500 16 Avenue NW  
Calgary, Alberta T3B 0M6  
  
T 403.247 0200  
W [www.worleyparsons.com](http://www.worleyparsons.com)

Want to receive an electronic copy of this newsletter instead? Send us an email with your details and we'd be happy to add you to the list.

[info@enhanceenergy.com](mailto:info@enhanceenergy.com)



**ENHANCE**  
ENERGY INC.

**December 2009**  
**Newsletter | Issue 2**

## Note from Susan Cole, President of Enhance Energy Inc.



### ACTL Receives Significant Funding Boost

In our first newsletter dated May 2009, I shared with you the renaming of our CO<sub>2</sub> pipeline to the Alberta Carbon Trunk Line (ACTL). In this newsletter, I have more good news to share with you.

Both the Government of Alberta and the Government of Canada recently announced support for our project under three funding mechanisms – the Carbon Capture and Storage Fund, the ecoENERGY Technology Initiative and the Clean Energy Fund.

This project has been in the works for more than four years and our team is excited to have this support which will allow us to bring it to completion. This is an example of industry and government working together on a long term vision for Albertans. We appreciate the governments' confidence in the ACTL and look forward to working with them as we move ahead.

The ACTL will be Alberta's first large-scale, commercial CCS project that will store more CO<sub>2</sub> than any other CCS project in the world. At full capacity, it will gather, compress and store up to 40,000 tonnes of CO<sub>2</sub> per day or 14.6 million tonnes per year. This safe proven technology could potentially store more than two billion tonnes of CO<sub>2</sub>.

A typical car emits 5.6 tonnes of CO<sub>2</sub> per year. With the amount of CO<sub>2</sub> that the ACTL project will store, it will be the equivalent of removing 2.6 million cars off the road in Alberta annually. That's about a third of all registered vehicles in the province.

The ACTL will create a much needed economic stimulus. This means thousands of jobs for Albertans. New growth for communities. New economic activity in the municipalities along the initial route and the expanded system that will follow. The revenues generated by this project will be for Albertans. More than one billion barrels of oil potential translates to more than \$15 billion in royalties to the province.

We are very excited to continue moving ahead and look forward to keeping you informed as our project progresses.



**ACTL**

### Project Overview

The Alberta Carbon Trunk Line (ACTL) project will include a 240 kilometre pipeline that will start in Alberta's Industrial Heartland and end at Clive. The ACTL project will capture, transport, and distribute CO<sub>2</sub> for enhanced oil recovery.

The project is expected to recover 1.1 billion barrels of light oil through CO<sub>2</sub> injection while safely and permanently storing up to two billion tonnes of CO<sub>2</sub> in depleted oil and gas reservoirs.

About the Company: Enhance Energy is a private, Alberta-based energy company founded in 2005. Enhance Energy specializes in using CO<sub>2</sub> to recover oil from existing reservoirs that are reaching the end of their lives under conventional production techniques.



**“Royalties on oil produced using CO<sub>2</sub> will amount to more than \$15 billion and those incremental royalties and additional tax revenues will benefit all Albertans.”**

– SUSAN COLE

“We realized the environmental benefits of the ACTL immediately, and we are looking forward to further reducing Alberta’s carbon footprint through this project.”

—MICHAEL M. WILSON, PRESIDENT & CEO, AGRIUM



**COREY KUSCH,**  
Surface Land Manager

## Enhance Energy Announces Appointment of New Surface Land Manager

Enhance Energy is pleased to announce the appointment of Corey Kusch as our new Surface Land Manager for the ACTL project. Corey will be working to ensure the needs and concerns of the landowners are being addressed during the development of the project.

Corey is a great asset to our team. “I’m very excited about being part of the CCS industry and being part of a team that has done such an exceptional job of selecting a route for the ACTL project that is landowner friendly,” says Corey.

Corey brings eight years of surface land experience to the project, previously as a Partner and Regulatory Manager for LandSolutions Inc. and four years experience as President of Kodiak Structures Inc..

*Please feel free to contact Corey with any questions, comments, or concerns that you may have at [ckusch@enhanceenergy.com](mailto:ckusch@enhanceenergy.com) or phone at 403-984-0212.*

### Note from Blair Eddy, VP Operations of Enhance Energy

ACTL Project Update – Alberta’s first large-scale, commercial carbon capture and storage project

Our application for the ACTL project is currently in the regulatory approval process. This process has been ongoing for the past eight months and we hope to receive approval by early 2010. Once received, we will be able to move forward with the construction phase of the project.

We have worked with many landowners in planning the pipeline route to minimize its impact. The environmental assessment work is complete for 2009 and we will not conduct any more assessments until the right-of-way (ROW) agreements have been signed with the landowners. We anticipate the ROW acquisition process will start in early 2010.

Detailed engineering of the pipeline will start in early 2010. Construction of the pipeline and related facilities should begin in the summer of 2011. We expect the ACTL project to be fully operational by the end of 2012.

We continue to work on the engineering design of the CO<sub>2</sub> capture facilities at the Agrium Fertilizer Plant in Redwater. Construction on this portion of the project is also expected to start in 2011 and the facilities should be fully operational by the end of 2012

Please feel free to contact Blair with any questions, comments or concerns that you may have at [beddy@enhanceenergy.com](mailto:beddy@enhanceenergy.com) or phone at 403-984-0208.



Enhance Energy Inc.  
400, 606 4 Street SW  
Calgary, Alberta T2P 1T1 Canada

Corey Kusch,  
Surface Land Manager

T 403.984 0202  
E [ckusch@enhanceenergy.com](mailto:ckusch@enhanceenergy.com)  
W [www.enhanceenergy.com](http://www.enhanceenergy.com)

Would you prefer to receive an electronic copy of this newsletter? Send us an email with your details and we’d be happy to add you to the list. [info@enhanceenergy.com](mailto:info@enhanceenergy.com)

**IN CASE OF EMERGENCY: 1-866-941-6025**

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**ENHANCE**  
ENERGY INC.

**October 2010**  
**Newsletter | Issue 3**

## Note from Susan Cole, President of Enhance Energy Inc.



### ACTL One Step Closer to Construction

As we progress with our plans to build the Alberta Carbon Trunk Line (ACTL), we are pleased to announce that after many months and a comprehensive process, we have received approval under the Canadian Environmental Assessment Act to build the ACTL. Receiving this environmental approval from the Government of Canada brings us one step closer to developing the backbone of Alberta's Carbon Capture and Storage (CCS) infrastructure.

We also continue to work closely with the Province of Alberta on our final provincial approvals and on structuring their investment in our project. On receipt of these approvals, we will be able to firm up the initial construction dates.

The need for projects like ours, and the investment in CCS is necessary as we continue to develop our province as a clean energy producer. Without CCS, the economic prosperity of Alberta's energy sector could be at risk. It is critical to pursue a technological solution to the emissions challenge. The ACTL will not only lay the foundation for CCS in Alberta, but will also revitalize the light oil industry by using CO<sub>2</sub> for enhanced oil recovery before storage. The ACTL will benefit every Albertan—in the form of royalties, jobs and the sustainable development of our oil sands.

We are excited about the progress we have made to date and look forward to the end result – a solution to managing industrial carbon emissions and, at the same time, harvesting once unrecoverable oil through enhanced oil recovery.

In anticipation of the progress we hope to make before year's end, we have ramped up our internal personnel to prepare for this significant undertaking and we have moved into a larger office in order to accommodate our growing staff who are all eager to get the construction phase of the project underway. Please make note of our new address as shown on the back of this newsletter.

## CCS & EOR SAFETY

Depleted oil and gas reservoirs are secure and safe storage spaces for CO<sub>2</sub>. Many of these formations have naturally stored carbon dioxide and other gases and fluids for millions of years. Each storage site is studied and monitored to ensure there is no possibility of leakage. Over time, the injected CO<sub>2</sub> becomes trapped in the brine and remaining oil in the rock formation and it may combine chemically with the rocks trapping the CO<sub>2</sub> even more securely.

The process of extracting oil from depleted reserves using captured CO<sub>2</sub> – “enhanced oil recovery” has been used throughout North America without incident for over 40 years. The Weyburn-Midale CO<sub>2</sub> Project in Saskatchewan has safely injected over 16 million tonnes of CO<sub>2</sub> to date. Over 600 million tonnes of CO<sub>2</sub> has been safely injected for enhanced oil recovery in the United States. Today, there are an estimated 100 registered CO<sub>2</sub> floods worldwide producing approximately 250,000 barrels per day of oil.



**“The Federal Government’s environmental assessment approval is an important milestone as we continue along our journey to build the world’s largest CCS project.”**

– SUSAN COLE

“The Alberta Carbon Trunk Line represents new growth and economic activity for rural communities along the pipeline. Consultations with landowners and municipalities have been positive.”

– COREY KUSCH, SURFACE LAND MANAGER



COREY KUSCH,  
Surface Land Manager

### Landowner Update

During April, May and June we completed presentations at council meetings in nine counties along the pipeline. Our intention was to provide councilors with useful and useable information regarding the Alberta Carbon Trunk Line and to keep these important stakeholders abreast of the project plans and progress. During question and answer periods we were able to answer broad questions regarding CCS technology as well as specific local queries regarding pipeline construction specs, setbacks, pipeline depths and future reclamation plans.

*Please feel free to contact Corey Kusch with any questions, comments, or concerns that you may have at [ckusch@enhanceenergy.com](mailto:ckusch@enhanceenergy.com) or phone at 403-984-0212.*

**FEDERAL DECISION – September 9, 2010**

“Natural Resources Canada, the Canadian Transportation Agency and Transport Canada after taking into consideration the Enhance Energy screening report and taking into account the implementation of appropriate mitigation measures and comments from the public, are of the opinion that the project is not likely to cause significant adverse environmental effects.”

**For more information, please contact:**

Jacques Gu�ette Science & Technology Advisor NRCan - OERD	<b>Email:</b> <a href="mailto:Jacques.Guerette@NRCan-RNCan.gc.ca">Jacques.Guerette@NRCan-RNCan.gc.ca</a> and refer to CEAR reference number <b>09-01-49907</b>
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# Newsletter • February 2011 • ISSUE 4



## Note from Susan Cole, President of Enhance Energy Inc.

### World's Largest CCS Project Ready to Proceed

The world's largest carbon capture and storage (CCS) project is a significant step closer to completion today, as we can now confirm that we have finalized our agreement with the Government of Alberta to receive a portion of its CCS Fund. The Government of Alberta's

plan to manage CO<sub>2</sub> emissions through CCS showcases leadership in responsible energy development by ensuring Alberta remains both competitive and maintains environmental sustainability in the utilization of its resource base.

This historic investment into the Alberta Carbon Trunk Line (ACTL) will help position Alberta as the world leader in CCS. Tackling emissions is not a simple task and requires industry and governments to work closely together. Our partnership with both the Government of Canada and the Government of Alberta will demonstrate what can be achieved when we all work towards the same goal. The vision for environmental sustainability balanced with economic prosperity is one we all share. We are creating infrastructure similar to when the first natural gas pipelines were built.

We're not just building a pipeline – we're laying the groundwork for an economic province-wide solution to an environmental liability. Investing in the ACTL will not only provide a sustainable solution to our oil sands development but will create substantial economic benefits that will pay back billions to the Province and to all Albertans. CCS is a tremendous opportunity not only to deal with industry emissions, but to advance a new industry in enhanced oil recovery, create thousands of jobs and stimulate a significant new revenue stream.

The ACTL will create jobs not only in high tech engineering, material supply, construction and operating but in the oil and gas service sector – drilling and workovers, chemical suppliers, seismic contracting, electricians, mechanics and so on. The impact will also be felt in our communities as the increase in activity will support local businesses such as hotels, restaurants, and shopping centers.

The ACTL is a project for all Albertans. It is a project we hope you can be proud to be part of. With all of our funding agreements finalized, we are now even closer to bringing its benefits to your communities.



## The Alberta Gas Trunk Line – ACTL's Link to the Past

In 1954 the Alberta Government under Premier Ernest Manning was under pressure to allow the export of natural gas from Alberta via federally incorporated pipelines. To ensure Albertans would have control of the resources in their province he enacted legislation that created the Alberta Gas Trunk Line (AGTL). This orderly, unified pipeline system would prove to be a boon to the province's natural gas industry and was an important and contributing factor in establishing the petrochemical industry in Alberta.

Our project, the Alberta Carbon Trunk Line (ACTL) will serve Albertans with the same effectiveness as the AGTL. We envision that the ACTL will grow as the AGTL grew and will support the oilsands development, the petrochemical industry, the power sector and any other manufacturing facility that emits CO<sub>2</sub>.



## Project Construction Time Line Update

Some of the more difficult things in planning a large scale project, like the ACTL, are determining the appropriate time frame for when construction should or can commence. In our initial communications we had been expecting construction of the pipeline and related facilities to begin in the summer of 2011. Upon receiving necessary Government approvals the new time line for construction of the ACTL project is expected to be 2012 for the capture facility and summer of 2013 for the pipeline. As the time line approaches and more information becomes available we will be able to communicate a more precise time frame for construction.

## Enhance Energy Announces Appointment of New Field Project Coordinator



**RICK SAMPSON,**  
Field Project Coordinator

Enhance Energy is pleased to announce the appointment of our new Field Project Coordinator, Rick Sampson. Rick will be working with landowners, surveyors, and emergency response personnel dealing with the ACTL project.

Rick has been involved with the project on many different levels since the inception of the ACTL. Many landowners have already met him through the Public Consultation process. Rick comes to the team with over 35 years of experience with a vast knowledge of pipeline construction and has held several senior lead roles with major pipeline construction projects. Rick's extensive background and experience combined with his ability to work in any environment make him a great asset for our project and he looks forward to meeting all landowners that are involved in the project. *Please feel free to contact Rick Sampson with any questions, comments, or concerns that you may have at [rsampson@enhanceenergy.com](mailto:rsampson@enhanceenergy.com) or phone at 1-587-989-8151.*

## Surveying of the ACTL Right of Way



**COREY KUSCH,**  
Surface Land Manager

During the first part of this year Enhance Energy Inc. will be contacting landowners of the lands directly affected on the pipeline route for the commencement of surveying. Surveyors will be heading out on the lands to conduct the official survey for the pipeline. Data will be collected by several teams of field survey crews using state of the art GPS equipment. Information being collected during surveying would include but wouldn't be limited to; water course, major highway, railway, existing pipelines crossings, quarter section/property boundaries, center line profile information for the pipeline and determining exact locations of nearby residents. Upon collection of this information the creation of the necessary survey plans and crossing profiles will be generated.

Given the amount of snow that has fallen in central Alberta this year, the field survey crews will most likely be utilizing the assistance of either snowmobiles or quads. All fences will remain intact, all gates will be kept closed and evidence of the surveyors shall be kept to a minimum. No stakes or pins will be planted and or left behind on the Right of Way during this effort. *Please feel free to contact Corey Kusch with any questions, comments, or concerns that you may have at [ckusch@enhanceenergy.com](mailto:ckusch@enhanceenergy.com) or phone at 403.984 0212.*

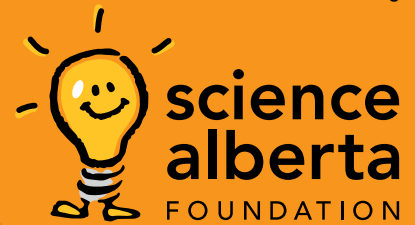
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## CO<sub>2</sub> Connection Game

As part of our ongoing efforts to help Albertans understand carbon capture and storage (CCS), Enhance Energy Inc. and North West Upgrading (NWU) have partnered with Science Alberta Foundation (SAF) to create a CO<sub>2</sub> computer game for children ages 8–12 years old on [www.wonderville.ca](http://www.wonderville.ca). In the game, Wonderville's popular hero Kelvin, travels throughout the province gathering resources, building pipeline and bridges and storing CO<sub>2</sub>.



Science Alberta Foundation is a non-profit organization that is committed to quality science learning to encourage youth to consider science based careers and enhance science awareness and literacy.

### Checkout the game at:

[www.wonderville.ca/asset/co2-connection](http://www.wonderville.ca/asset/co2-connection)

### View the trailer at:

[www.wonderville.ca/co2trailer](http://www.wonderville.ca/co2trailer)  
and have fun!



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1-866-941-6025.



# Newsletter • December 2011 • ISSUE 5



## Note from Susan Cole, President of Enhance Energy Inc.

### CCS Is More Than an Environmental Win

#### The ACTL Means JOBS

You may have heard about Carbon Capture and Storage (CCS) but may be unsure as to what it is or the significant impact it will have to Alberta and to you. The Alberta Government has recently created a website called Carbon Capture and Storage, Solutions Start Here. This website provides detailed information into the important role CCS will play in helping Alberta meet its greenhouse gas reduction goals and demonstrate its commitment to the environment. I encourage you to check it out at [www.solutionsstarthere.ca](http://www.solutionsstarthere.ca).

Our project, the Alberta Carbon Trunk Line (ACTL), is one of the Alberta CCS projects. But we are more than a CCS project, we are an enhanced oil recovery project (EOR) that will use our captured CO<sub>2</sub> to produce otherwise untapped oil from existing conventional oil reservoirs. There are hundreds of millions of barrels of light oil available for CO<sub>2</sub> EOR. This will allow for the production of some of the lowest carbon intensive fuels in the world and the reduction in the amount of CO<sub>2</sub> we emit to the atmosphere.

#### What does this mean for you and your community?

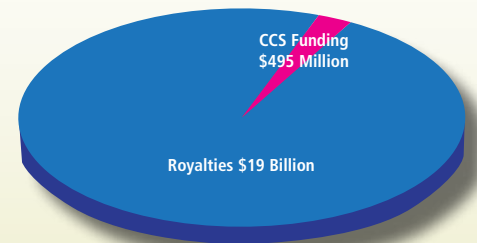
It means thousands of jobs for this generation and the next – for you, your family, your friends and neighbours. It means billions of dollars in royalty revenues for Alberta that can be used to support our communities in the form of healthcare, education and social programs.

We estimate that over the next 30 years up to \$19 billion in royalties and taxes could flow from using CO<sub>2</sub> in EOR operations. That's a smart investment!

The ACTL is taking shape and we have started the process of buying equipment – most of which comes from suppliers right here in Alberta. We estimate 70% of the goods and services we need for our project will originate in Alberta. The suppliers we are working with have already logged thousands of person hours on the project and we've only just got started! By the time we are up and running, 12 million person hours will have been expended in Alberta and thousands of permanent jobs will have been created.

Enhance has a long-term vision that is focused on environmental improvements, economic stimulus and keeping Albertans working in a green energy economy. For more information I would encourage you to visit our website at: [www.enhanceenergy.com](http://www.enhanceenergy.com).

Projected Royalties Over Next 30 Years



#### Some of our suppliers:





**COREY KUSCH,**  
Surface Land Manager

### ERCB Approval

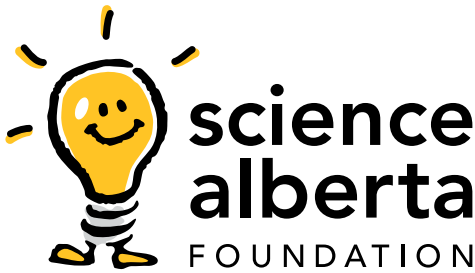
On April 26, 2011, after approximately three and a half years of comprehensive project consultation and notification to a significant number of stakeholders, Enhance Energy was very pleased to announce that the Energy Resources Conservation Board (ERCB) issued a Pipeline Licence for the construction and operation of the Alberta Carbon Trunk Line (ACTL). This is an important milestone for Enhance and for everyone involved.

### Survey Update

I would like to take this opportunity, to thank everyone involved for their time and patience for the field surveying of the Alberta Carbon Trunk Line.

Although the spring got off to an extremely wet start, the field work was complete in just over two weeks (16 days). This first phase of the project, from a surveying perspective went very smoothly. The landowners involved were extremely helpful, and survey crews were able to effectively and efficiently complete their work.

For the few areas where surveying is yet to be completed, the appropriate contacts will be made prior to any further work being undertaken.



As part of ongoing efforts to increase awareness of carbon capture and storage across Alberta and beyond, Enhance Energy Inc. has collaborated with Science Alberta Foundation (SAF) to produce two exciting new animations. Found on SAF's flagship website, Wonderville.ca, the videos explain "Do you know what carbon dioxide is?" and "Exploring Carbon Capture and Storage".



Science Alberta is a non-profit organization committed to increasing science literacy and awareness. Developing exemplar, innovative and engaging programs, SAF cultivates

science learning and encourages youth to consider careers in science based careers.

**Check out the videos at:** [www.wonderville.ca/asset/whatisco2](http://www.wonderville.ca/asset/whatisco2) and [www.wonderville.ca/asset/exploringccs](http://www.wonderville.ca/asset/exploringccs)

**Receive this newsletter electronically.** Send us an email with your details and we would be happy to add you to our e-mail distribution [info@enhanceenergy.com](mailto:info@enhanceenergy.com)

To learn more about Enhance Energy or the ACTL project, please visit our website at [www.enhanceenergy.com](http://www.enhanceenergy.com). For more information on CCS go to [www.solutionsstarthere.ca](http://www.solutionsstarthere.ca)

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**“We are excited that the Alberta Government is working with industry to reduce CO<sub>2</sub> emissions, support EOR projects and stimulate the local economy.”**

—**Scott Ion, Director of Projects, PINACLE**



**“It is vital to this province and our country as a whole to continue to find more environmentally friendly and cost effective methods to extract oil and gas reserves ...”**

—**Jason Greene, Sales Manager, BILTON**



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## A Note from Susan Cole, President of Enhance Energy Inc.

As we come to the end of the calendar year, many of us are settling in for the cold. It is usually Spring that represents new life, but for Enhance Energy, this year it is Winter. We are full of excitement and gearing up for new activity. As you may have heard, the North West Sturgeon Refinery has recently received final board sanction for construction from both of its partners, North West Upgrading Inc. and Canadian Natural Resources Limited ([www.nwrpartnership.com](http://www.nwrpartnership.com)). This is a significant milestone for them and one in which we at Enhance Energy also celebrate. As we continue to progress towards construction of the Alberta Carbon Trunk Line (ACTL), having a more definitive timeline from one of our initial CO<sub>2</sub> suppliers is a key development.

We also take tremendous pride in providing a CO<sub>2</sub> solution for the North West Sturgeon Refinery. It will be the first refinery in the world to incorporate CO<sub>2</sub> capture in the initial design. And with the help of the ACTL, the facility will capture 1.2 million tonnes of CO<sub>2</sub> per phase that we will use for enhanced oil recovery (EOR). We look forward to being part of such a great Alberta success story.

## CO<sub>2</sub> as a Resource in Alberta

Every time you hear about CO<sub>2</sub> it is usually connected to negative connotations and often referred to as an environmental waste or liability, or even "dirty". But to us at Enhance, we see CO<sub>2</sub> as a resource and the key to unlocking significant potential in Alberta.

Although there is no lack of CO<sub>2</sub> in Alberta, the unfortunate part is that it is not currently in a pure and capture ready form that can be used in EOR. CO<sub>2</sub> must be at least 95% pure to allow for miscibility with the oil to make the EOR project work. So what does that mean? It means there need to be better ways of making facilities CO<sub>2</sub> capture ready. As we move forward with industrial development in Alberta, we are optimistic that new projects will need to be focused on creating capture ready CO<sub>2</sub> streams. This will allow for better emission management. As the infrastructure is put in place, the ACTL will create economically viable solutions for the effective management of industrial CO<sub>2</sub> emissions. Not only will the ACTL serve to reduce emissions, but it will be the first step to growing the EOR industry in Alberta.



Tim Benko, Project Manager, with Agrium CO<sub>2</sub> compressor volutes



**BLAIR EDDY,**  
Vice President, Operations

### Project Update

Even though things may seem quiet at the field level, we have been busy continuing to progress the design and execution of the ACTL project. Extensive design and planning is required to prepare for the execution of this major project. Significant progress continues in all components of the project, the Agrium CO<sub>2</sub> Recovery Facility, North West Redwater Refinery CO<sub>2</sub> Recovery Facility, the ACTL pipeline system and the Clive EOR/CCS system.

We have completed detailed engineering and ordered the majority of equipment for the capture and processing of the Agrium CO<sub>2</sub> volumes. The equipment is in various stages of manufacturing and fabrication, with a significant amount of the work being conducted here in Alberta manufacturing and fabrication facilities. Site preparation and construction activity will start to ramp up towards the end of 2013.

Equipment design for the NWR facility is being finalized and the procurement process will start soon. The ACTL pipeline system design and construction drawings are almost completed. The pipeline valves are presently being manufactured, and the pipe specification has been finalized.



**COREY KUSCH,**  
Surface Land Manager

### ACTL Clearing Plan

Coming up in the first few months of 2013, Enhance plans on starting some of the preparation work on the ACTL. At certain portions along the Right-of-Way, Enhance will be engaging with landowners to set up a time to discuss the clearing plan activities. The intent at this time would be to have the trees and brush cleared

and the odd fence either moved or repaired.

Once all the affected parties have been contacted and the planned activities and methods have been discussed and agreed upon, contractors will then begin to complete these tasks in preparation for major pipeline construction intended to take place in 2014.

We look forward to talking with those who are involved in the coming months. Should you have any questions with respect to the clearing plans or any other project details please do not hesitate to contact me at 403.984.0212, or Rick Sampson, Field Project Coordinator, at 587.989.8151.



Agrium tie-in



[www.facebook.com/ACTLProject](http://www.facebook.com/ACTLProject)

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**ENHANCE**  
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# Newsletter

June 2013 • ISSUE 7

## A Note from Susan Cole, President of Enhance Energy Inc.



Enhance Energy is pleased to share with you some information about a new initiative that launched on April 16th 2013. Alberta Plus launched its

campaign to promote adding value to Alberta's Energy. We are thrilled to be working alongside Alberta's Industrial Heartland, Agrium, NOVA Chemicals, North West Redwater Partnership and Williams Energy to promote adding value to Alberta's energy resources. As a partner, Enhance is very proud to be focused on producing cleaner energy products here in Alberta.

## Alberta Carbon Trunk Line (ACTL) Project Highlights



**COREY KUSCH,**  
Surface Land Manager

In this newsletter, as part of Enhance Energy's commitment to keep stakeholders informed of the ACTL project, Enhance has summarized highlights of the project and some of the changes that have been made over the course of the past few years. These

changes are communicated pursuant to and in compliance with the Energy Resources Conservation Board's (ERCB) Directive 56. The Enhance team undertook numerous reviews to optimize the pipeline and the system to ensure a fit for purpose design.

### Project Detail Highlights

The ACTL system will consist of:

- drying and compression facilities at the north end of the Heartland Industrial Region, which will process the CO<sub>2</sub> collected and bring the product up to pipeline specification;
- a pipeline operations and control centre located at the Enhance CO<sub>2</sub> Recovery Facility adjacent to the Agrium Redwater Fertilizer Complex;
- receipt facilities at the south end of the system near Clive, which will allow distribution of the CO<sub>2</sub> to conventional oil and gas fields in the area;



**ALBERTA PLUS**  
ADDING VALUE TO ALBERTA'S ENERGY



**Clean Energy Products**

Increasing energy processing at home allows Alberta to reduce its environmental footprint and showcase its environmental standards as a secure supplier of clean energy products.



**Economic Growth**

By increasing our energy processing capacity and the types of products made in our province, we can grow the economy in Alberta and across Canada.



**Building Communities**

Building Alberta's energy processing industry drive new businesses, create new and stable jobs and strengthen communities.



**Secure Energy Value**

Processing our energy resources creates long-term, secure markets for our energy products at home and around the world.

**To learn more and see Alberta Plus in action please visit: [www.albertaenergyplus.ca](http://www.albertaenergyplus.ca)**

Read more on the economic impact study by University of Calgary Economist Ron Schlenker released alongside the launch of Alberta Plus. The report highlights current projects underway and the potential of additional projects proceeding and their economic impact which includes such significant benefits as:

- Increasing the province's GDP by \$6 billion/year
- 18,000 new jobs
- Increasing provincial revenue by \$600 million a year

- a Miscellaneous Liquids pipeline for CO<sub>2</sub> transportation between the source and the delivery point, connecting the north and south facilities;
  - 12" NPS Gathering line from 4-17-56-21 W4M to 1-25-55-21 W4M, approximately 12 km in length.
  - 16" NPS Transmission line from 1-25-55-21 W4M to 4-15-40-24 W4M, approximately 220 km in length;
- the Miscellaneous Liquids (CO<sub>2</sub>) pipeline will be equipped with emergency shutdown valves located at the supply points and at approximately 15 km intervals along the Right-of-Way,
- and an Emergency Response Zone of 700m along each side of the pipeline.

### ACTL Project Updates

#### Routing Optimization

As a result of an internal review process and with feedback from discussions with directly affected landowners and occupants along the Right-of-Way, many ideas were brought to the table to optimize the ACTL routing. Since 2010 these discussions have resulted in marginal changes to the original Right-of-Way. These changes have been shared with each and every affected landowner and occupant and we have received their consent to proceed. Included in this newsletter is a map (see reverse) of the final routing of the ACTL.

### Additional Spare Pipeline at the North Saskatchewan River

At the north end of the pipeline, near the CO<sub>2</sub> Recovery Facility, the Right-of-Way crosses the North Saskatchewan River in the North half of 8-56-21 W4M. The Gathering Line will be Horizontally Directionally Drilled under the river at depths of about 30m (100 feet) below the river bed. Under the internal review process, Enhance has elected to add a spare, small diameter pipeline to the river crossing. This spare line will be pulled under the North Saskatchewan River in a single pull along with the 12 inch line. Specifications of the spare pipe are detailed below:

• Pipeline Location	North half of 8-56-21 W4M
• Pipeline OD	118.87 mm
• Wall Thickness	4.5 mm
• Approximate Length	908 metres
• Grade & Category	Fiberspar 1500X
• Product	Spare Line
• MOP	10342 kpa

### Enhance CO<sub>2</sub> Recovery Facility (CRF)

In the original design and application to the ERCB Enhance planned to construct a compressor station within the existing Agrium Redwater Fertilizer Complex at NW 17-56-21 W4M. During the past couple of years plans have been reviewed and once again optimized and a new location, just outside the Agrium Redwater Fertilizer Complex in the SW 17-56-21 W4M, will be utilized for the location of the compressor station. All other aspects of the compressor site shall remain the same.

continued on reverse >

### Elk Island Pump Station

The Elk Island Pump Station, originally planned and applied for the ERCB at 1-25-55-21 W4M and where the operations centre for the pipeline system was to be located, was re-evaluated and found to not be required at this time. The operations centre was re-designed to be located at the Enhance CO<sub>2</sub> Recovery Facility adjacent to the Agrium Redwater Fertilizer Complex in SW 17-56-21 W4M.

### Construction Timing

With planning work to continue through this next year, the timeline for construction of the pipeline and CO<sub>2</sub> capture facilities is currently anticipated to commence midway through 2014.

All other details of the project remain as first communicated.

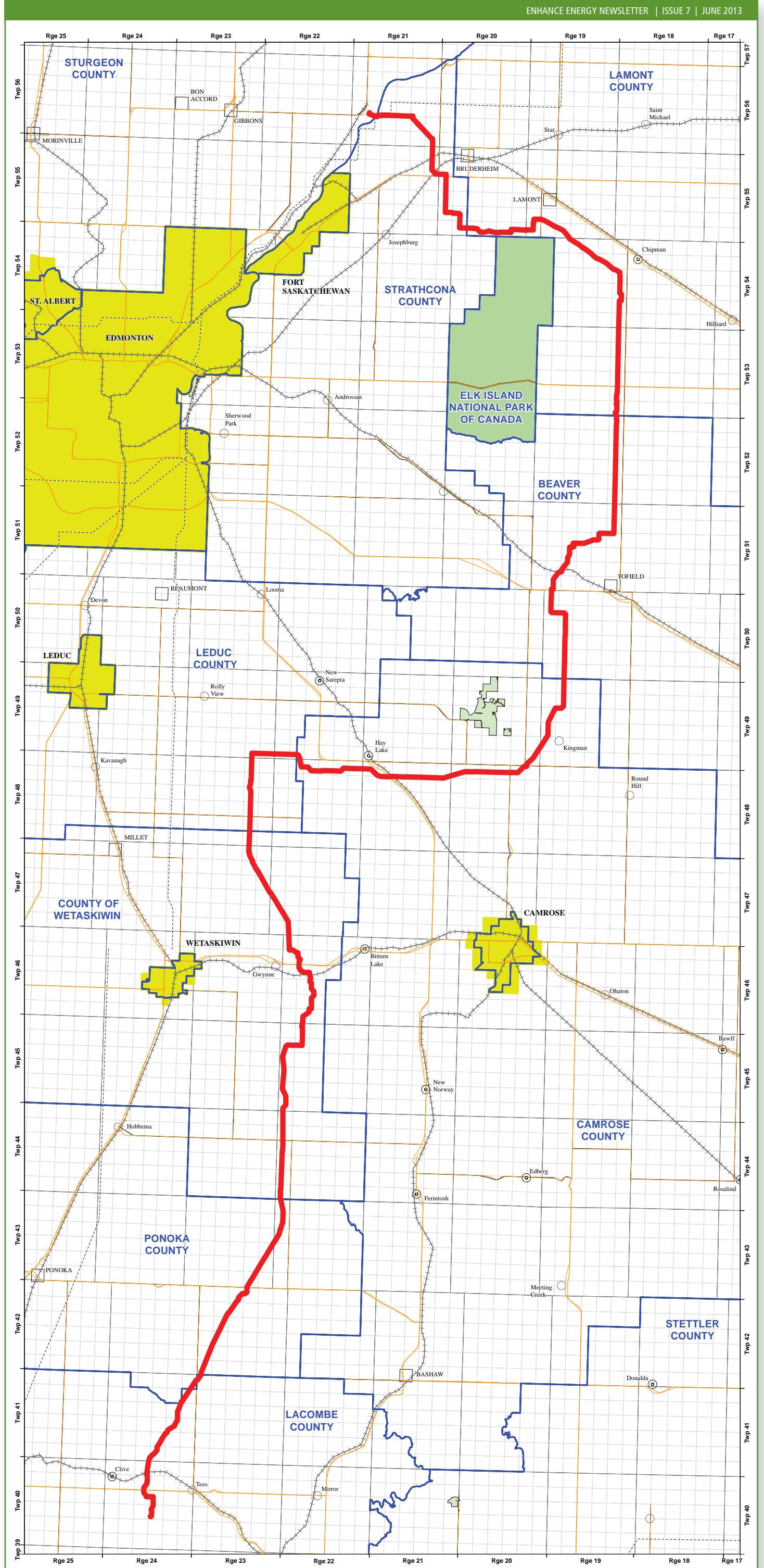
### Right-of-Way Clearing

During the first few months of this year Enhance started contacting specific landowners to start the removal of trees and brush along the Right-of-Way. The clearing started in February and progressed over a course of about thirty days. The clearing was a great success and we send our many thanks to the area landowners for their time and patience. Clearing operations shall resume based on project scheduling later this spring and into the fall and winter seasons 2013/2014. Should clearing of the Right-of-Way be affecting the route on your land, a company representative would have or will be in touch to discuss clearing and access details.

### What to expect next..

#### Emergency Response Plan

One of the next steps in developing the ACTL is to prepare and implement a site specific emergency response plan (ERP) for the pipeline and installations. The complete ERP will be required prior to pipeline operation, and development of the ERP is planned to start later this year. Emergency response specialists will be contacting all residents and other public land users within the Emergency Response Zone for the development of the ERP. The ERP will be a comprehensive plan to ensure the timely and coordinated response to any emergencies within facility sites and along the entire pipeline Right-of-Way.



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# Newsletter • June 2014 • ISSUE 8



## **A Note from Susan Cole, President of Enhance Energy Inc.**

This has been an exciting year for the ACTL project. Our team has been very focused on the work resulting from our September acquisition of assets at the Clive field from Santonia Energy, formerly Fairborne Energy Ltd. This acquisition was a huge milestone for our team and will allow us to roll out our EOR project in a more efficient and expeditious manner. As we continue to work on the Clive field, we are planning to be out talking to all landowners in the area soon and I look forward to seeing some of you at our upcoming open house which we are in the midst of planning.

But just as exciting for us is North West Redwater Partnership's (NWR) progress that has occurred this year on the Sturgeon Refinery. NWR is a major supplier of carbon dioxide to us and has announced a Commercial Operations date of September 2017. As construction ramps up at that site, we continue to plan our next steps to align with their timing. We still plan to be up and running in advance of the Sturgeon Refinery, however we can now finalize our plans and work on our construction details. In the coming months we will be continuing work on engineering details, bidding out and finalizing construction contracts and procuring equipment.

As we continue to move the ACTL Project forward, we look forward to sharing many more milestones with you.

All the best for a fantastic summer.

Sincerely,

Susan Cole, *President*, Enhance Energy Inc.



**COREY KUSCH,**  
Surface Land Manager

## **Alberta Carbon Trunk Line (ACTL) Project Update**

We are in the process of receiving much of the equipment and materials we have ordered for the ACTL. This includes the 12-inch pipe for the northern segment of the project, which is also the location of the longest horizontal directional drill (HDD). Last month Enhance also received the aerial coolers for the CO<sub>2</sub> Capture Facility adjacent to the Agrium Redwater Fertilizer Complex. We are looking forward to more equipment arriving throughout the months to come.

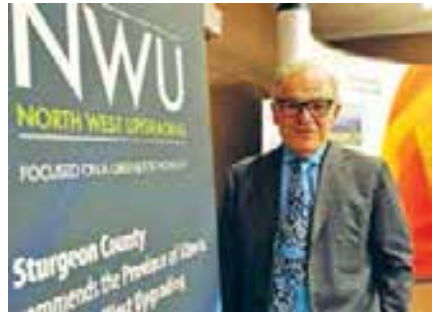
### **What's next**

Enhance is making a deliberate effort to minimize the overall impact to the lands affected by the ACTL routing. As such, the pipeline design will be following (in many cases) section boundary lines. With this design, Enhance acknowledges that many fence lines will be upgraded, and in some cases re-aligned to meet the legal survey requirements. As the project moves closer to construction, all affected parties will be contacted by an Enhance field representative to have these discussions.





Tie-in Point, Agrium



IAN MACGREGOR, President and Chairman of North West Upgrading, a 50% partner of the North West Redwater Partnership

### North West Redwater Partnership continues to advance its Sturgeon Refinery

- 2,000 people currently working on the project
- Contracts in place for all major equipment



Reactor Assembly Building looking west



Trench 4



Inside the Reactor Assembly Building



Reactor being moved on site to the Reactor Assembly Building

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## Management Update

Management changes and additions have recently occurred at Enhance Energy Inc. ('Enhance') with a continuing focus to strengthen our team as we continue to move forward with the Alberta Carbon Trunk Line ('ACTL') Project. In this challenging oil price environment, the task ahead is clear. Times such as these require companies to adapt to the economic realities of the day by optimizing and rightsizing business plans and controlling costs. And that is exactly what the additions to our team will be focused on.



**Kevin Jabusch joins Enhance as our new President and CEO.** Earning a BSc in Mechanical Engineering with Great Distinction from the University of Saskatchewan in 1981, Kevin started out in the oil and gas business as a production and reservoir engineer. Over the last 30 plus years, Kevin expanded his focus towards business development and leadership roles throughout the energy business. Having successfully started up, grown and led both private and public companies in the production and development as well as midstream businesses, Kevin is uniquely experienced to effectively and efficiently deal with the broad range of challenges and opportunities faced by Enhance and all Western Canadian oil and gas producers.

**KEVIN JABUSCH,**  
President and CEO

**Dave Eggen joins as the Vice President of Finance.** With a Bachelor of Commerce Degree from the University of Calgary, Dave has been a Chartered Accountant for 35 years. Over this time he has developed a career comprising leadership roles, including CFO and VP Finance responsibilities over the last 25 years. Dave has a career of raising capital for profitable and successful private, as well as public, oil and gas ventures in Western Canada. Dave's attention to detail and his business acumen will add to and complement the technical strength of the existing Enhance team.



**DAVE EGGEN,** Vice President of Finance



**ROLLIE LUSIC,**  
Vice President of Capital Projects

**We are also pleased to welcome Rollie Lusic as the Vice President of Capital Projects.** Since earning a Chemical Engineering Degree from the University of Alberta, Rollie has spent the last 40 years in roles overseeing the design, construction and operation of all types of oil and gas facilities. He has career experience with fabrication companies, engineering firms and production and midstream companies. He is also someone who can bridge and seamlessly close the gap between the design, building and operating functions.

The addition of these three gentlemen to the Enhance team will strengthen our ability to manage the economic uncertainties currently faced by our industry and ensure the ACTL Project continues on its successful path.

## North West Redwater Partnership Update

North West Redwater Partnership is building the first new refinery in North America in over 30 years. As one of the sources of CO<sub>2</sub> for the Enhance ACTL project, we encourage you to read about the construction progress at the North West Sturgeon Refinery site by visiting their website at [www.nwrpartnership.com](http://www.nwrpartnership.com). The project is a hub of activity today and is on target to be operational in late 2017.



**COREY KUSCH,**  
Surface Land Manager

## Alberta Carbon Trunk Line (ACTL) Project Update

Last year was another active year for Enhance Energy on the ACTL Project. There was steady progress made on the engineering and optimization of the project. We took delivery of some important material and equipment, including the tri-ethylene dehydration package that was completed in April 2015. This process skid removes the water from the compressed CO<sub>2</sub> prior to entering the ACTL pipeline. We also received the 36" pipeline material for the above ground pipeline which connects the low pressure CO<sub>2</sub> stream from the Agrium Redwater Fertilizer Complex to the Enhance CO<sub>2</sub> Recovery Facility.

Another milestone this year was the Agrium Plant 01 capture tie in work completed during their April 2015 maintenance turnaround. Three process valves were installed to enable the integration of the Enhance capture facilities so that the upcoming construction can take place without interrupting Agrium's plant operations.



### Construction Timing

Clarification of the timelines from the NWR Project has assisted us in being able to better anticipate and plan the construction timelines for the ACTL project. It is expected that construction on segments of the project will begin to ramp-up at the beginning of 2016 and we intend to see full scale construction midway through the year. Enhance is expecting to be fully operational by end of 2016.



Tri-ethylene dehydration package



Tri-ethylene dehydration package interior



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# Clearing Plan



**ENHANCE**  
ENERGY INC.

**Corey Kusch**  
*Surface Land Manager*  
Enhance Energy Inc.

## Consultation

Coming up in the first few months of 2013, Enhance plans on starting some of the preparation work on the Alberta Carbon Trunk Line (ACTL). At certain portions along the Right-of-Way, Enhance will be engaging with landowners to set up a time to discuss the clearing plan activities. The intent at this time would be to have the trees and brush cleared and the odd fence either moved or repaired.



## Snow Removal

Where practical, the snow will be returned to the natural ground at the completion of the clearing operation.



## Trees/Woody Vegetation

Landowners will be asked to be involved as to how the clearing of the woody vegetation will be completed on their land. Each landowner will have the first right of refusal for the firewood, or they may indicate that the trees are large enough to salvage for saw logs. Trees that are approximately 20 to 25 cm (8 to 10 inches) just above the root flare (butt size) and approximately 13 cm (5 inches) at a height of approximately 10 meters (30 feet) is a good rule of thumb for merchantable timber. If the landowner refuses the salvage it may be distributed as firewood to other users such as local parks or communities. The clearing contractor will find the most appropriate user for the firewood for each supply source as well as



any chips hauled from the residual woody vegetation.

Options for the disposal of the residual woody vegetation that was not salvaged for firewood could be chipped/mulched and spread over the area where the woody vegetation occurred, chipped and hauled to a remote location, used as mulch in parks or bedding material for livestock.

The requirement to mulch the stumps and roots of the woody vegetation in place is to promote more effective stripping of the topsoil. In the case of smaller trees a stump grinder, sometimes referred to as an Iron Wolf, will be used to grind the tree or the top of the exposed stump, to just below the surface, however in the case of larger trees a Track Hoe will be utilized and the stump and roots be hauled away.



## Fencing

Where practical, the clearing crew will travel on the Enhance Right of Way. When a fence impedes travel, the subject fence will be dismantled, salvaging fence material where possible. Once the clearing operation has been completed, the fence will be re-installed where it parallels the Right-of-Way. Where the fence had crossed the Right-of-Way a semi-permanent gate will be erected to allow for further construction of the pipeline in 2014. During the clearing operations, Enhance will endeavor to leave the quarter section boundary fences intact. The intention will be erect new quarter section boundary fence lines later in the spring or summer months or at the time of construction of the pipeline.

## Typical Equipment

- Snow Cat or small bulldozer for snow removal
- All-terrain vehicles (quads or snowmobiles)
- Chain saws
- Wood chipper
- Stump grinder/mulcher
- Tree skidder to handle larger trees
- Lowboys (move clearing equipment from site to site)
- Log haul trucks (if applicable)
- Crew cabs and pick ups – (transport clearing crew and/or company representatives)
- Survey crew and pick up truck
- Third party utility crossing – locating crew and pick up



Once all the affected parties have been contacted and the planned activities and methods have been discussed and agreed upon, contractors will then begin to complete these tasks in preparation for major pipeline construction intended to take place in 2014.

We look forward to talking with those who are involved in the coming months.

Should you have any questions with respect to the clearing plans or any other project details please do not hesitate to get in contact with Corey Kusch or Rick Sampson at the numbers listed below.



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