

April 16th – 19th, 2013

The Alberta Carbon Trunk Line


*Carbon
Sequestration
Leadership
Forum (CSLF);*

Application
Presentation



ACTL

Government
of Alberta

 Natural Resources Canada Ressources naturelles Canada

Canada

The Alberta Carbon Trunk Line (ACTL)



- One of two Carbon Capture and Storage (CCS) projects supported by the Alberta and Canadian governments
 - Designed pipeline capacity 14.6 Mt/year of CO₂; licensed for 5.5 Mt CO₂/year
 - Able to unlock 1 Billion barrels of light oil (initially 30 Mt in Clive oil field)
- Storage of 2 Gt CO₂

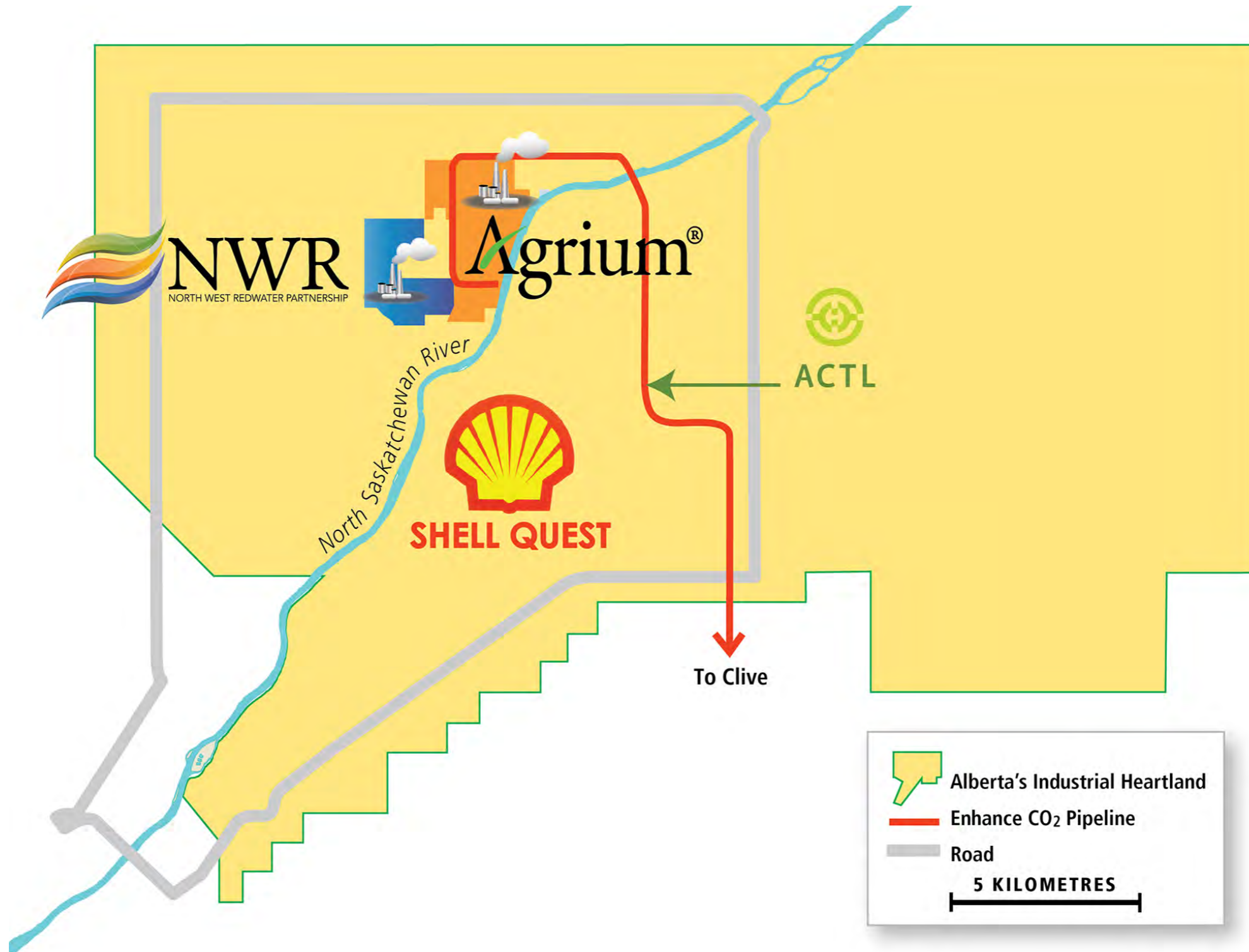


The Alberta Carbon Trunk Line (ACTL)

This is a completely integrated CO₂ Capture, Transport, Utilization and Storage (CCUS) project that takes CO₂ from industrial CO₂ sources and brings it to old oil fields for enhanced oil recovery and CO₂ storage (“cradle to grave”)

Furthermore, unlike the Sleipner, Gorgon, In Salah and Quest projects, ACTL involves the participation and commercial transactions between several companies rather than being constructed and operated under a “single roof”

Location of Initial CO₂ Sources



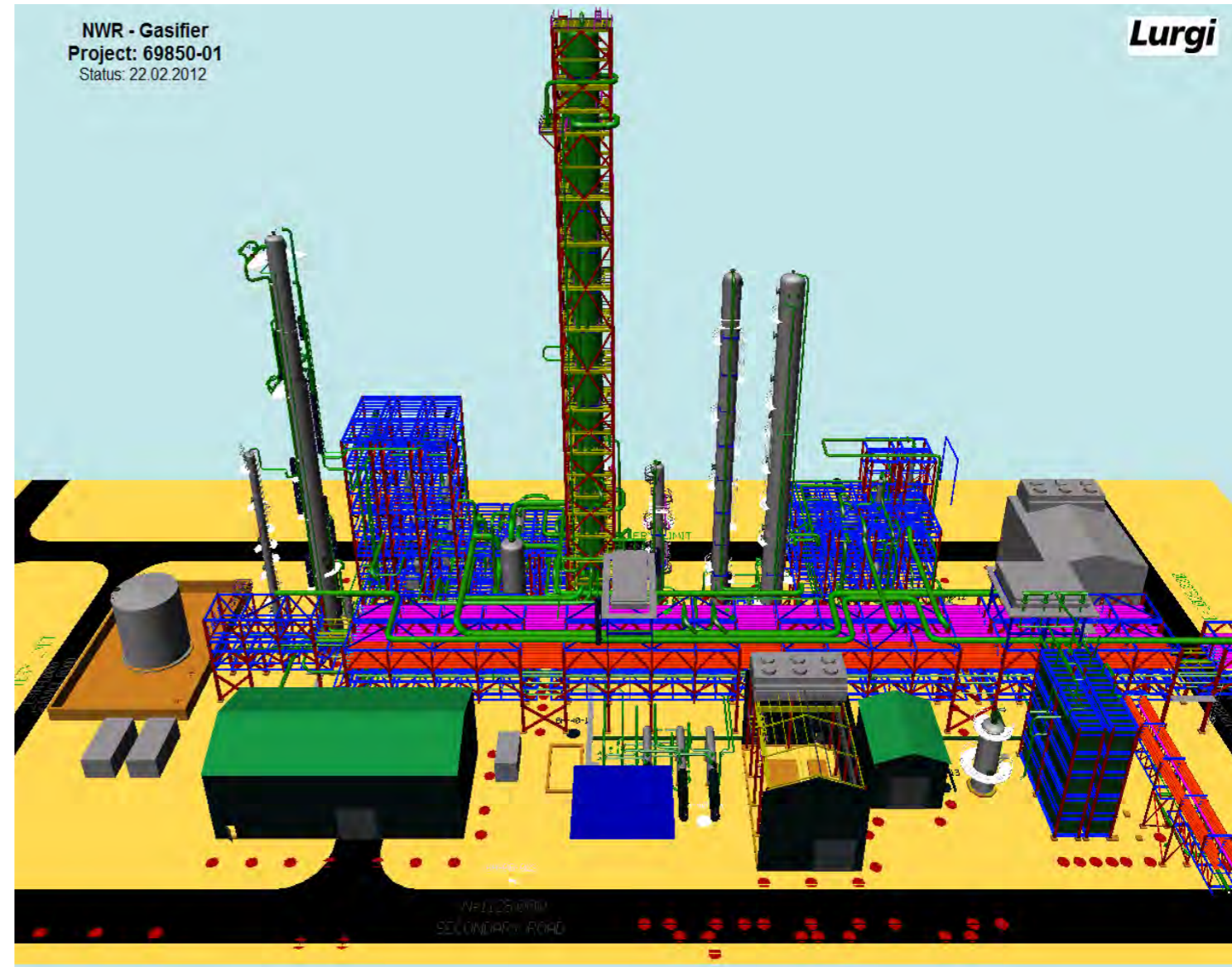
Agrium CO₂ Recovery Facility (CRF)

- 800 tonnes a day of **wet, low pressure, high purity** CO₂
- CRF located on perimeter of Agrium site
- Detailed engineering complete
- All of the major mechanical equipment has been procured
- Modular package design to minimize onsite construction
- On-site tie-in to Agrium plant completed



World's first upgrader and refinery with an integrated carbon management solution

- Processing 50,000 barrels per day of bitumen in 1st of 3 phases
- Producing refined products such as ultra low sulphur diesel with lowest carbon footprint in the world
- Using Lurgi gasifier technology to produce hydrogen and pure (99%+) dry CO₂ from bitumen bottoms (with no coke by-product)



NWRPSR CO₂ Supply

- Dry, low pressure, low temperature
- High purity, no contaminants
- Process more straight forward than Agrium design
- Only requires compression and cooling, no dehydration, refrigeration or pumping required
- CO₂ compression system designed for 4,200 T/day



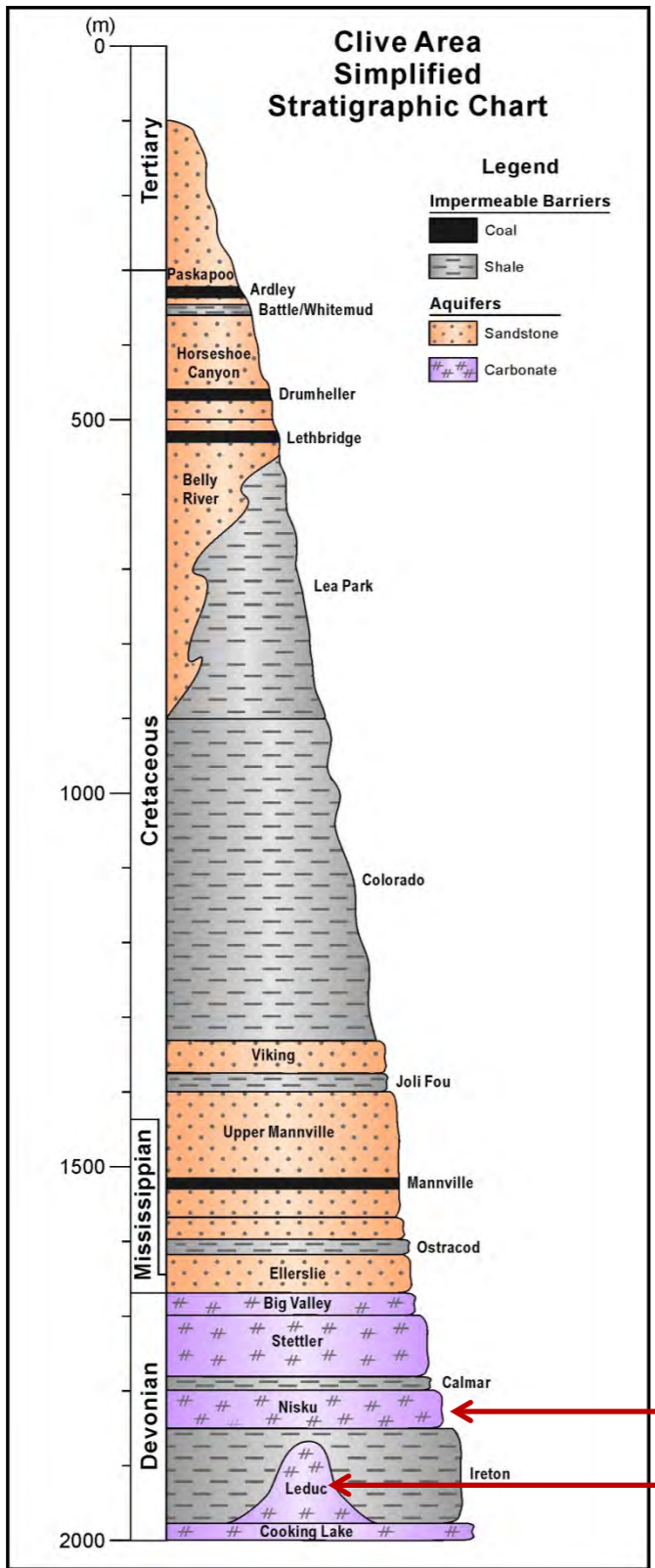


ACTL Pipeline

Pipeline is Far Advanced

- Received regulatory approval and permit to construct
- Pipeline valves and actuators were manufactured and are in a secure storage facility (*photos on slides 16 – 17*)
- Finalized pipe specification
- Purchased 12" pipe for river crossing
- Survey and construction plans finalized South of Highway 15 (220 km out of 240 km)
- Acquired 100% of the right of way (ROW) South of Highway 15 without requiring any surface rights or regulatory hearing
- The ROW through the Alberta Industrial Heartland area has been finalized and we will be acquiring the remainder of that portion of the right of way in 2013
- Clearing of ROW began February 19th, 2013 (*photos on slide 18*)

First EOR Site – Clive Oil Reservoirs



Clive Reservoirs (Leduc and Nisku)
Depth: approximately 1,800 meters
Current Pressure: 1,813 psig

Project Timeline Calendar Quarters





ACTL

The Alberta Carbon Trunk Line

Enhance Energy Inc.
www.enhanceenergy.com