



THE PREMIUM VALUE • DEFINED GROWTH • INDEPENDENT

# Horizon Oil Sands

Investor Open House  
May 2010



## Agenda



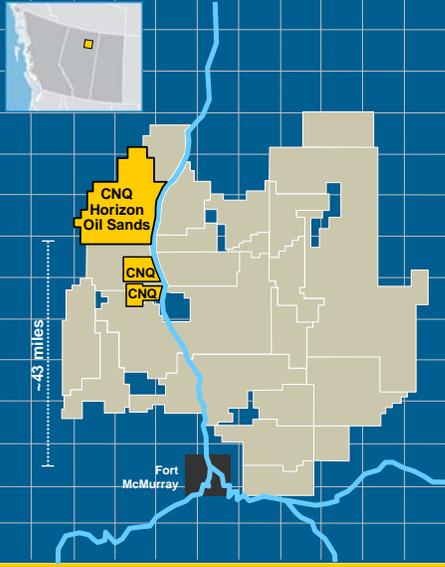
- Horizon Oil Sands Overview
- First Oil to Sustainable Production
- Costs and Economics
  - Peter Janson  
*Senior Vice-President, Horizon Operations*
- Future Expansion
- Summary - “The Big Picture”
  - Réal Doucet  
*Senior Vice-President, Horizon Projects*

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## Canadian Natural’s Mineable Assets - Horizon Oil Sands

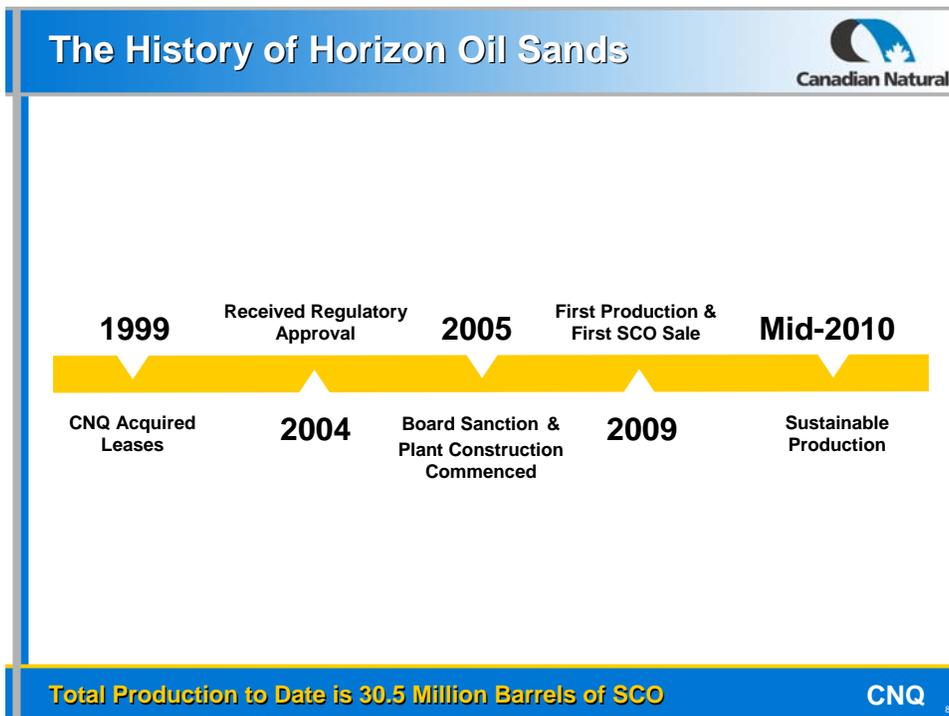
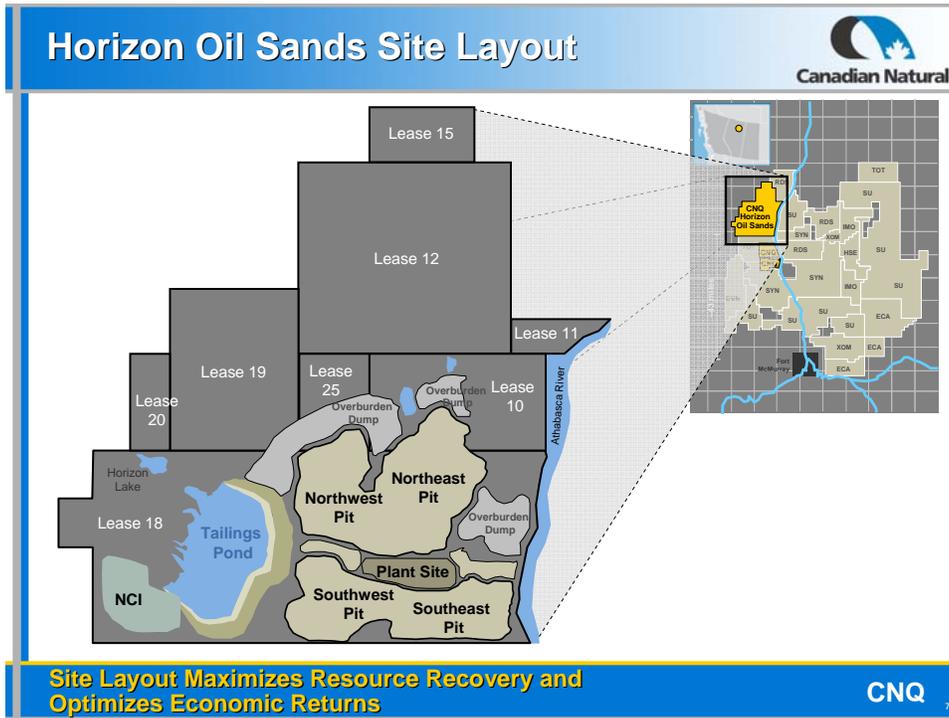


- Mining resources
  - 16 billion barrels of bitumen in place, with best estimate contingent resource of 6 billion barrels of bitumen
    - Phased development (SCO)
      - 110 mbb/d capacity (Phase 1)
      - Target expansion to 232 to 250 mbb/d
      - Target future expansions to ~500 mbb/d
- Significant free cash flow generation for decades



World Class Opportunity

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## Horizon Project Plant Site



Canadian Natural

Production of 110,633 bbl on October 6<sup>th</sup>, 2009

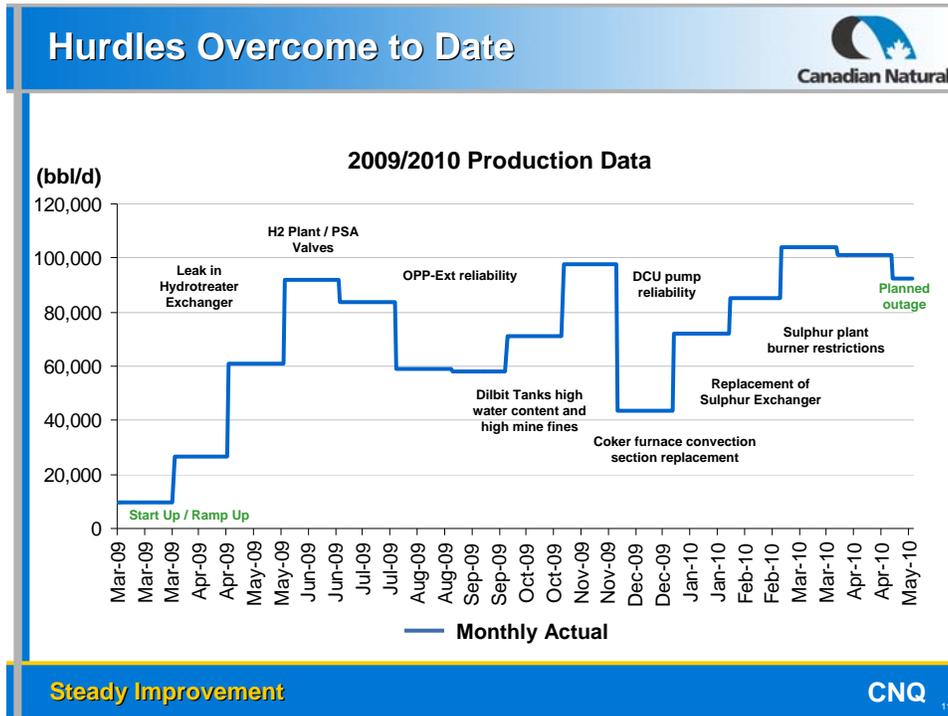
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## Horizon Production Ramp-up



- **Production ramp-up plan**
  - Ramp-up to design capacity of SCO planned by mid-2010
    - Replacement / repair of equipment with premature failures and wear
    - Focus is on fine tuning plant to design rates and sustained design rates
    - Lessons learned during first year of operations are being captured in Operating and Maintenance practices
- **2009 production**
  - First Synthetic Crude Oil (SCO) production occurred Q1/09
  - Annual equivalent daily production was 50,250 barrels SCO
- **2010 production**
  - **Guidance**
    - Annual equivalent daily production of 90,000 to 105,000 barrels SCO
  - Q1/10 equivalent daily production was 86,995 barrels SCO
  - **April 2010**
    - YTD equivalent daily production was >90,000 barrels SCO
  - Continuing to ramp-up to design rates

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- ### First Oil to Sustainable Production
- 
- **Successes**
    - Plant is working as expected
    - Strength of the team
      - Strong problem solving ability
      - Determination and willingness to learn
    - Improvements in maintenance response times and execution
      - Staff / contractors working together to implement repairs
    - Resolution / replacement of equipment with premature failures
    - Implementation of new / different production strategies
      - Fines (clay) management, chemical and CO<sub>2</sub> injection, dilbit quality and storage capacity improvements
- Plant is Working as Expected** CNQ 12

## Path to Sustainability



- **Ore fines management (ongoing)**
  - Ore blending to increase bitumen production / recovery
- **Sulphur plant optimization (targeted for Q2/10)**
  - Burner replacements
  - Testing for long term sustainable capacity
- **Additional untreated gasoil swing tank (targeted for 2011)**
- **Third OPP and hydrotransport (targeted for early 2012)**
  - Provides increased reliability and allows extended preventive maintenance in the front of the plant
- **Continuing further optimization / de-bottlenecking**
  - Planned and well executed maintenance activities to achieve design production rates
  - Look for de-bottlenecking opportunities

Proactive Plan to Maximize Reliability

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13

## Horizon Operating Costs



- Operating cost was \$39.89/bbl SCO in 2009
- Operating costs for 2010
  - Targeted range of \$31.00/bbl to \$37.00/bbl
- Q1/10 operating cost was high at \$43.12/bbl primarily due to
  - Unplanned maintenance activities including costs associated with the coker furnace repairs, increased property taxes and the impact of changes in product inventory carrying costs
  - March 2010 operating costs were ~\$32.50/bbl
- Given the fixed cost structure of the operation
  - As production volumes increase over the remainder of 2010, production costs will decrease in line with guidance
- Planned vs. unplanned maintenance

Horizon Will Be The Low Cost Producer

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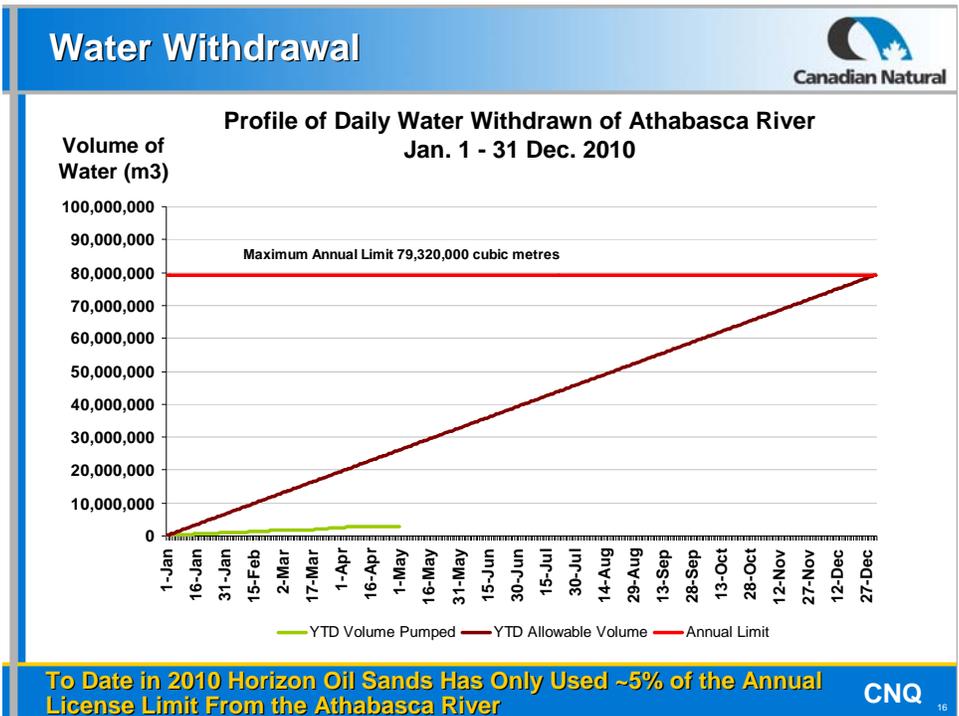
14

## Horizon Environment



- Daily SO<sub>2</sub> emissions averaged 6.7 tonnes/day in the prior quarter, well below the approval limit of 16 tonnes/day
- State-of-the-art bird deterrent system has proved to be very effective
- Water withdrawal (year-to-date) from the Athabasca River is less than 4% of the annual authorized withdrawal limit

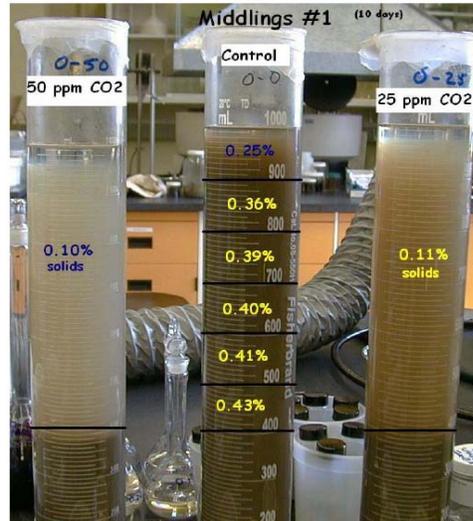
**Responsible Operations** **CNQ**



## Horizon Carbon Dioxide in Tailings



- CO<sub>2</sub> emissions captured injected into tailings water
- CO<sub>2</sub> reacts with tailings and is permanently sequestered
  - Speeds clarification of tailings
  - Increase water available for recycle
  - Quicker recycling
    - Conserves heat, lowers emissions
    - Reduces use of fresh water
    - Reduces fuel usage and operating costs
  - Potential to sequester large volumes of CO<sub>2</sub>



Frees Up Recycled Water Faster and Sequesters CO<sub>2</sub>

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17

## Horizon Operations Summary



- We have a world class facility
- Horizon is meeting expectations of design in terms of capacity, product quality and long-term environmental performance
- We will reach sustainable production in mid-2010
- 2010 production will meet guidance
- Strength of team
  - 75+ years of management experience

World Class Opportunity

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18



### Phase 1 and Phase 2/3

Phase 1 Construction Cost	\$ 9.7 billion
Phase 1 Design Production Capacity	110,000 bbl/d

Phase 2/3 expansion is designed to leverage Phase 1 development

- Pre-built utilities and infrastructure
- Coker foundations and long lead vessels - built and on site
- EDS - complete in 2006 and cost updates underway in 2010
- Expansion execution plans - being updated and under review
  - Expansions in potential high capital cost environment
- Flexible and robust
  - Capable of handling potential inflationary environment

Phase 1 Capital - ~\$88,000 per Flowing Barrel

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## Oil Sands Trends

  
**Canadian Natural**

- Capital costs have continued to escalate
- Difficult to secure and retain resources

Risk	Mitigation / Path Forward
<b>Staff</b> <i>Competition from other operators</i>	Competitive salaries, fly-in / fly-out, living choices
<b>Contractors</b> <i>Experienced ones are typically busy and expensive</i>	International contractors, labour strategy
<b>Labour force</b> <i>Global labour and engineer shortage</i>	Fly-in / fly-out, first class accommodation and on-site services
<b>Vendor resources</b> <i>Competing in region with other operators</i>	Previous experience and existing relationship with key vendors
<b>Materials</b> <i>Expect relaxation of global demand (when and for how long)?</i>	Early purchase of long delivery items (already at site)

- Escalating costs of new projects created uncertain economic returns
- Mega projects create their own inflation

Mitigation Techniques
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## Oil Sands Projects - Cost Escalation

  
**Canadian Natural**

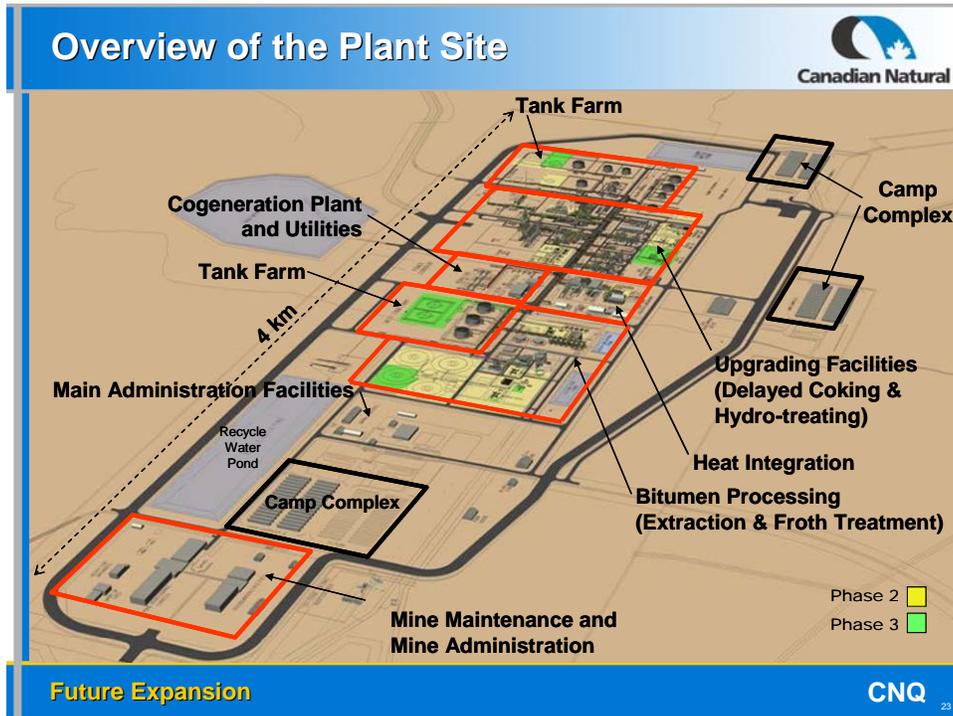
**Capital Costs (Projects with Upgrading)**

**\$3.3 billion** **\$14 billion**

Project	Production Start Date	Capital Cost (\$ billion)	Change from Previous Project (%)
Suncor - Millennium	2001	3.3	-
Albian	2003	~4.5	~36%
Syncrude - Aurora 2 & UE 1*	2006	~8.5	~80%
Nexen-OPTI	2007	~10.2	19%
CNQ - Horizon Phase 1	2009	~14.7	43%
Shell - Muskeg & Scotford	2010	~21.6	57%

Source: CAPP 2008, CNQ and Shell updated to current. \*Syncrude includes base plant quality improvements and power.

Risks
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### Decades of Value Growth

- We are committed in expanding to 232,000 bbl/d and ultimately 500,000 bbl/d
- Conditions
  - Cost certainty
  - Robust and flexible execution strategy in place
  - Ability to generate returns and compete for capital

**Maximize Value for Shareholders**

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## How We Get There



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- Priority 1 - achieve sustainable production
- Priority 2 - incorporate Lessons Learned
- Priority 3 - implement debottlenecking plans
- Priority 4 - finalize expansion plans and prepare for sanction

} Ongoing

- What we need to know to proceed
  - Flexible strategy - contingency in place for all cost environments
    - Manageable pieces - less risk in execution
  - Confirmation engineering is complete - state of readiness
  - Status of the EPC environment (costs)
    - Expect cost estimates and expansion strategy completion end 2010

Lessons Learned in Phase 1 Provide Advantages for Expansion

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## Path to Expansion



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- Segregated into four tranches to enable effective execution
  - Tranche 1 - complete
  - Tranche 2 - portions of engineering and procurement underway
    - Long delivery items already at site - coke drums and reactors
  - Tranche 3/4 - re-profile execution plans and update costs
- Timing of construction critical to cost control
  - Avoid severe winter conditions
- Expect to segregate some components with interim production
  - Reduce execution risk

Manageable Pieces Reduce Execution Risk

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## Phase 2/3, Tranche 2 2010 Execution



- **Ore Preparation Plant #3**
  - Overall progress 50% on target
  - Processing plants - overall progress 52% on target
  - MSE Wall and Plant Foundations engineering on target
    - Tendering civil, foundations and MSE wall
- **Hydrotransport Lines**
  - Overall progress 5% on target
    - Engineering services on schedule
- **Upgrading (Gas Recovery, Sulphur and Butane)**
  - Engineering and Procurement (lump sum) on schedule
    - Focused on implementing Phase 1 Lessons Learned
    - Most critical purchase orders to be placed by mid-2010
- **Mine Maintenance Shop and Wash Bays**
  - Complete

Preparing for Expansion

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27

## Phase 2/3, Tranche 3 and 4 2010 Execution



- **Tranche 3 - no activity scheduled for 2010**
- **Tranche 4 - untreated (Gasoil / Distillate) Swing Tank**
  - Overall progress 39%
    - Tank erection is well advanced and on schedule
      - Completion by June
    - Mechanical completion by the end of 2010

Preparing for Expansion

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28

## Phase 2/3 - Cost Estimate



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- **Cost estimate status upstream**
  - Preliminary and under internal review
    - Extraction and tailings
    - Froth treatment
    - Early price indicators for equipment
- **Cost estimate status downstream**
  - Upgrading units - progress 71% and on schedule
  - Utilities - preliminary and under internal review
- **Cost estimate consolidation**
- **Risk analysis**

} Target completion by year-end

Cost Control Essential to Value Creation CNQ 29

## Phase 2/3 - Advantages



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- **Site Labour Agreement in place (Division 8 legislation)**
- **Experience running support programs**
  - Bussing
  - Fly-in / Fly-out
  - Bringing on new contractors (new to oil sands, Alberta and Canada)
  - Camp and services infrastructure in place
- **Long leads purchased**
  - Hydrotreating reactors and coke drums on site
  - Delivery of absorber stripper in Q1/09
- **Significant experience gained in Phase 1**
  - Lessons learned from Phase 1 are being incorporated into Phase 2/3
    - Ensure pre-engineering meets Canadian Natural target before construction begins
    - Significant direct involvement by Canadian Natural staff in all processes

Leverage Phase 1 Experience CNQ 30

## Summary - The Big Picture



- **Horizon has**
  - The assets
  - The right people
  - A defined growth plan



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31

## Defined Plan



- **Phase 1**
  - Delivered project in a highly inflationary environment
  - Achieving operational reliability during 2009/2010
  - Targeting sustainable production by mid-2010
- **Expansion tranches**
  - Re-profile the scope to ensure strong economics
  - Leverage benefits of existing operation
  - Leverage existing infrastructure investment
  - Pursue the technology upside (lower operating costs)
  - Evaluate opportunities with construction to manage costs
- **Phase 4/5**
  - Bitumen is in the ground
  - Best estimate contingent resource of 6 billion barrels of bitumen
  - Target base production to ~500,000 bbl/d
  - Upgraded oil (SCO)
  - Environmental technology efficiencies

A Defined Growth Plan

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32



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## Questions and Answers

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