# **Proving Something Big**



Laricina's Projects at Saleski and Germain

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November 14, 2012

# Forward-looking statements advisory

This Laricina Energy Ltd. (the "Company") presentation contains certain forward-looking statements. Forward-looking statements may include, but are not limited to, statements concerning estimates of exploitable original-bitumen-in-place, predicted recovery factors, steam-to-oil ratios and well production rates, estimated recoverable resources as defined below, expected regulatory filing, review and approval dates, construction and start-up timelines and schedules, company project potential production volumes as well as comparisons to other projects, statements relating to the continued overall advancement of the Company's projects, comparisons of recoverable resources to other oil sands projects, estimated relative supply costs, potential cost reductions, recovery and production increases resulting from the application of new technology and recovery schemes, estimates of carbon sequestration capacity, costs for carbon capture and sequestration and possible implementation schedule for carbon capture and sequestration processes or related emissions mitigation or reduction scheme and other statements which are not historical facts. You are cautioned not to place undue reliance on any forward-looking statements as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties, both generally and specific, that contribute to the possibility that the predictions, forecasts, projections and other forward-looking statements will not occur. Although the Company believes that the expectations represented by such forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct and, accordingly that actual results will be consistent with the forward-looking statements. Some of the risks and other factors that could cause results to differ materially from those expressed in the forward-looking statements contained in this presentation include, but are not limited to geological conditions relating to the Company's properties, the impact of regulatory changes especially as such relate to royalties, taxation and environmental changes, the impact of technology on operations and processes and the performance of new technology expected to be applied or utilized by the Company; labour shortages; supply and demand metrics for oil and natural gas; the impact of pipeline capacity, upgrading capacity and refinery demand; general economic business and market conditions and such other risks and uncertainties described from time to time in the reports and filings made with security regulatory authorities, contained in other disclosure documents or otherwise provided by the Company. Furthermore the forward-looking statements contained in this presentation are made as of the date hereof. Unless required by law the Company does not undertake any obligation to update publicly or to revise any of the included forward-looking statements, whether as a result of new information, future events or otherwise. The forward-looking statements contained in this presentation are expressly qualified by this advisory and disclaimer.



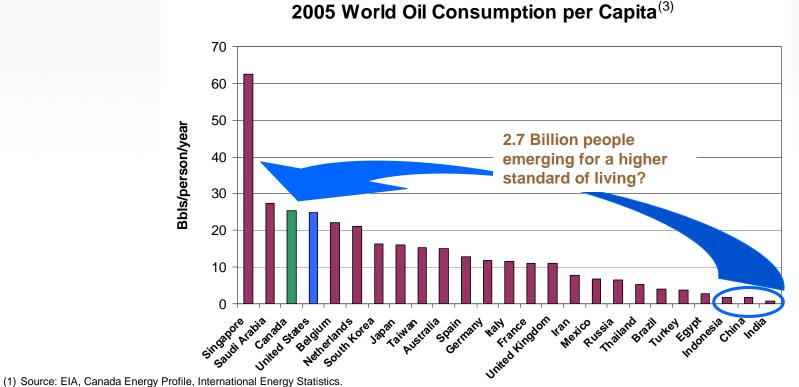
# Significant definitions

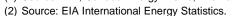
In this presentation the reserve and recoverable resource numbers, along with the net present values given, are as defined in the report of GLJ Petroleum Consultants Ltd. ("GLJ") regarding certain of Laricina's properties effective Proforma January 1, 2012, referred to herein (the "Proforma GLJ Report"). The January 1, 2012 Proforma GLJ Report includes the reserves, resources and net present values added from the joint venture working interest acquisition made on February 15, 2012. "Exploitable OBIP" or "Expl. OBIP" refers to original-bitumen-in-place that is targeted for development using thermal recovery technologies. The best and high estimate includes contingent and prospective resources. "Cont." and "Pros." refer to contingent and prospective bitumen resources, respectively. Contingent resource values have not been risked for chance of development while prospective resource values have been risked for chance of discovery but not for chance of development. There is no certainty that it will be commercially viable to produce any portion of the contingent resources. There is no certainty that any portion of the prospective resources will be discovered or, if discovered, if it will be commercially viable to produce any portion of the prospective resources. "2P" means proved plus probable reserves and "3P" means proved plus probable plus possible reserves. "SAGD" means steam-assisted gravity drainage. "SC-SAGD" means solvent-cyclic SAGD. "CSS" means cyclic steam stimulation. The SC-SAGD best estimate technology sensitivity (Laricina technology sensitivity) net economic forecasts were prepared on Saleski-Grosmont and Germain-Grand Rapids based on SC-SAGD technology and remaining properties based on SAGD/CSS technology. "SOR" means steam-oil ratio. "CSOR" means cumulative steam-oil ratio. "CDOR" means calendar day oil rate. "bbl" means barrel. "bn" means billions. "mmbbl" means millions of barrels. "bbl/d" means barrels per day. "EIA" means Energy Information Administration. "NPV" means net present value. "m<sup>3</sup>/d" means cubic metres per day.



# The energy challenge

- Canada is the 5<sup>th</sup> largest energy producer and the 6<sup>th</sup> largest oil producer<sup>(1)</sup>
- As the largest supplier of energy to the US, Canada provided 13% of the US's 19 million bbl/d of supply and 22% of US imports in 2010<sup>(2)</sup>
- At current levels of consumption, the present world oil reserves would be depleted in 40 years
- At current levels of demand growth, the reserve life would be 27 years



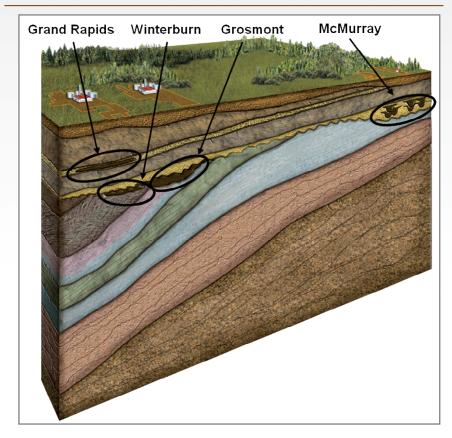


(3) Source: EIA and Laricina estimates.

## Laricina: Who we are

- Calgary, Alberta based founded in November 2005 to focus on in situ oil sands development
- Developed into one of Canada's largest independent oil sands companies and one of four emerging oil sands companies with more than five billion barrels of recoverable resources<sup>(2)</sup>
- Our building blocks to value:
  - People, Assets and Technology Innovation
- Laricina has captured targeted resources by acquiring land with an exploration mindset
  - Geographic concentration of assets, well balanced portfolio
  - Levered experience in basin for resource identification
  - Selective land acquisitions focused on minimizing supply cost
  - Sizable plays in four resource formations
  - Established leadership

# Laricina's Position in Four Key Oil Sands Formations<sup>(1)</sup>

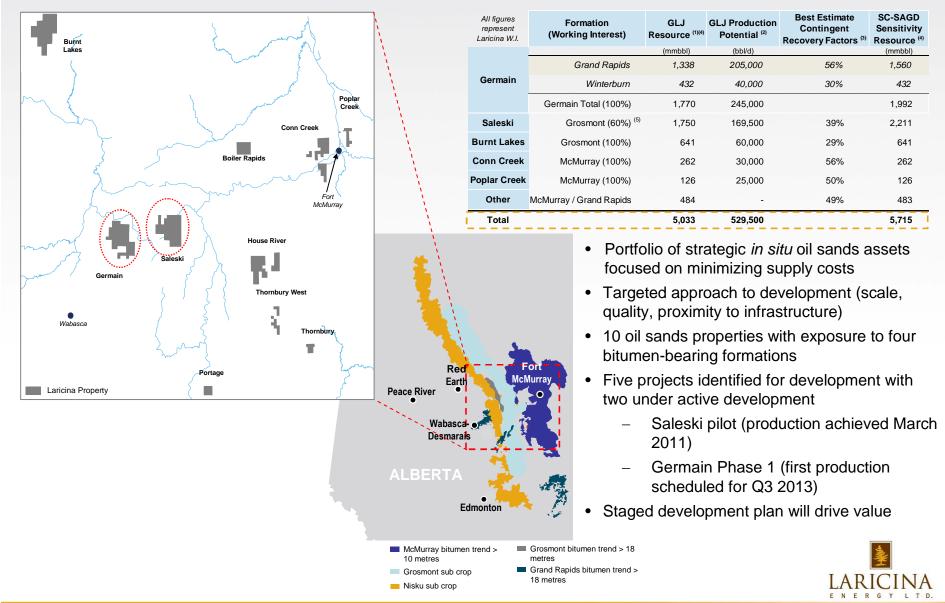




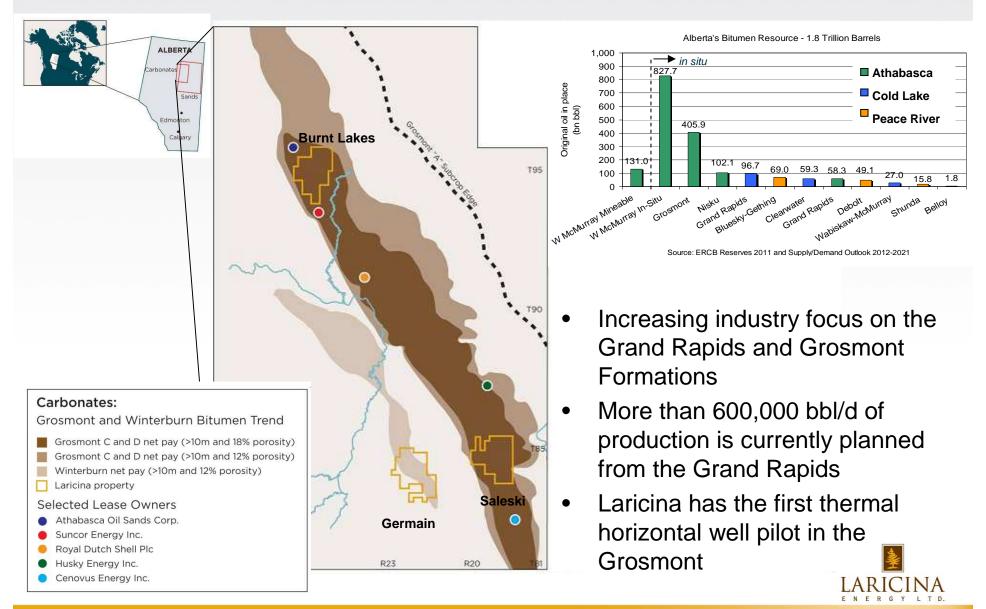
<sup>(2)</sup> GLJ Report, effective Proforma January 1, 2012.



# Asset portfolio overview



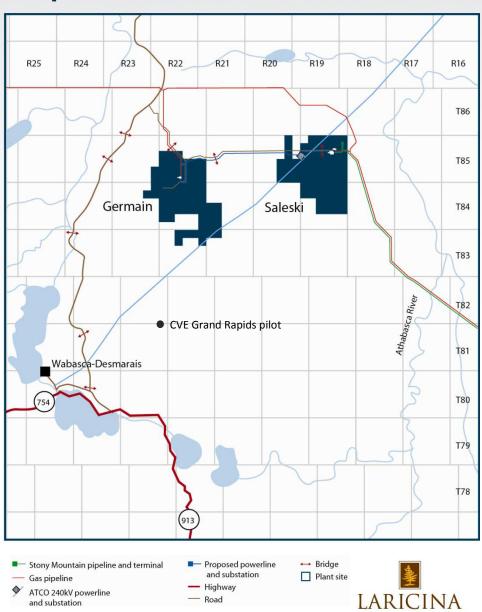
# The next big oil sands plays



# Advanced development platform

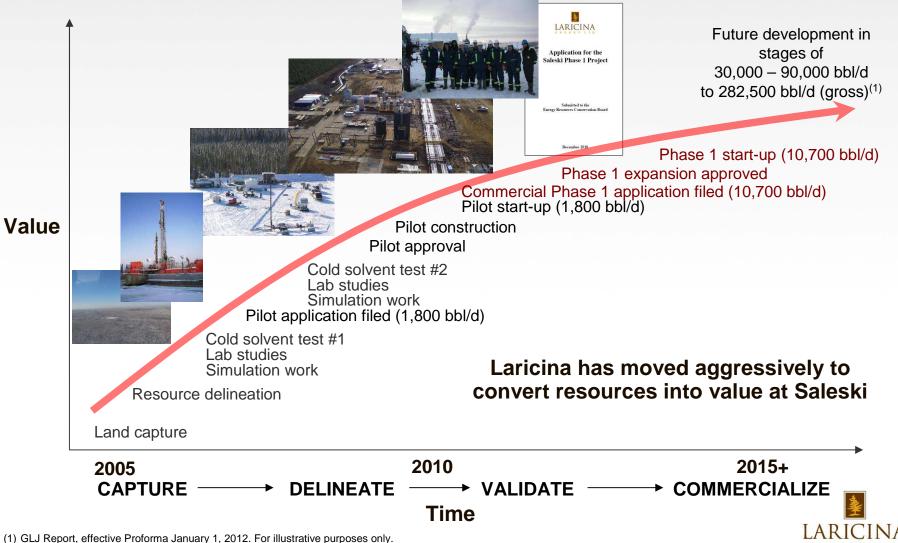
- Focused on the Grosmont
  - Second largest bitumen deposit in Alberta
  - Greater than 400 billion barrels in place
- Increasing industry focus on Grand Rapids
  - Greater than 150 billion barrels in place
- Core infrastructure in place or underway
- Proposed Stony Mountain Pipeline regulatory application filed
- Two properties in defined stages of development with gross production platform greater than 500,000 barrels per day
  - Saleski
  - Germain
- Synergistic opportunities for capital, operating and environmental management

Project – Phase	Regulatory Current Application Status		Capacity (gross bbl/d)
Saleski – Pilot	Approved	Operating	1,800
Germain – Phase 1 Commercial Demonstration	Approved	Under Construction	5,000
Saleski – Phase 1	Filed Dec 2010	Approval expected mid 2013	10,700
Germain – Phases 2 - 4	Filed Nov 2011	Approval expected end 2013	150,000



# Capturing value – Saleski

### **Development progression drives value**



# Saleski pilot

 Area: 42,880 acres (gross) – 60% w.i.<sup>(1)</sup>

Formation	Contingent Resources (bn bbl, gross) <sup>(2)</sup>	Production Potential (bbl/d, gross) <sup>(2)</sup>
Grosmont	2.9	282,500

#### **Geology**

- Located at the Grosmont "Sweet Spot"
- Excellent pay thickness in targeted areas, can exceed 50 metres
- Excellent permeability, high oil saturation; well productivity exceeds average McMurray

#### **Facilities & Operations**

- 1,800 barrel per day production capacity
- 2008 2010 three horizontal well-pairs successfully drilled in the Grosmont (two in the D, one in the C)
- 2011, additional well-pair drilled in the Grosmont C. Successful implementation of:
  - Underbalanced drilling
  - Linerless horizontal section
  - Well stimulations





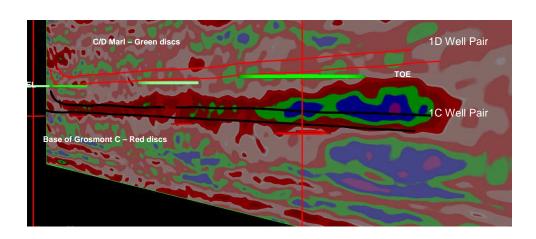


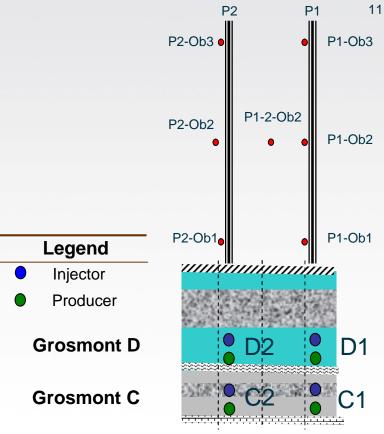
<sup>(1)</sup> Gross acres and working interest as at February 15, 2012.

<sup>(2)</sup> GLJ Report, effective Proforma January 1, 2012.

# Saleski pilot – learnings

- Grosmont can produce at commercial rates, peak production more than 1,200 bbl/d
- Projected commercial SOR's economically attractive

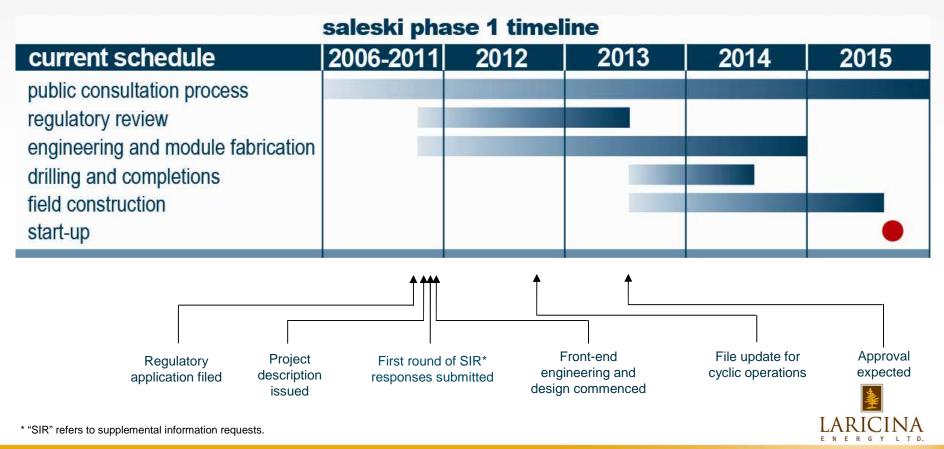






# Saleski – commercial development

- Phase 1 expansion to a total of 12,500 bbl/d from Saleski
- Gross capital cost estimate of \$600 million
- Update to incorporate single well cyclic horizontal SAGD



# Germain

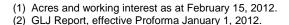
• Area: 44,161 acres, 100% w.i.<sup>(1)</sup>

Formation	2P Reserves (bn bbl) <sup>(2)</sup>	Best Estimate Contingent Resources (bn bbl) <sup>(2)</sup>	Production Potential (bbl/d) <sup>(2)</sup>
<b>Grand Rapids</b>	0.4	1.0	205,000
Winterburn	-	0.4	40,000
Total	0.4	1.4	245,000

- Commercial Demonstration Project Phase 1
  - Will be the largest development to date in the west Athabasca Grand Rapids
  - 5,000 bbl/d facility incorporates water recycle
  - Direct to SC-SAGD
  - Planned start-up in Q2-2013
  - Capital cost estimate of \$435 million including infrastructure



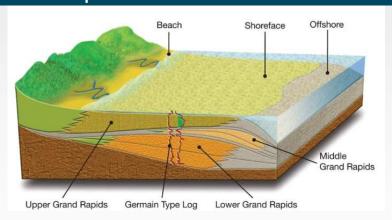
Illustration of Germain Commercial Demonstration Project



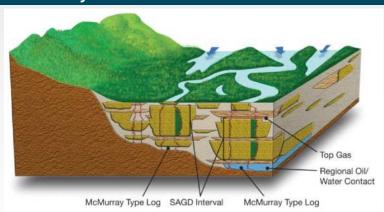


# Grand Rapids is a cleaner, more consistent sand package for SAGD

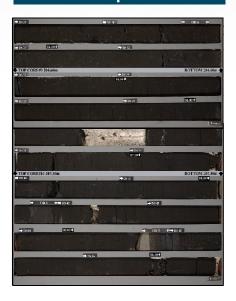
#### **Grand Rapids - Clean Consistent Shoreface Sands**



#### McMurray - Heterolithic Stacked Channel Sands

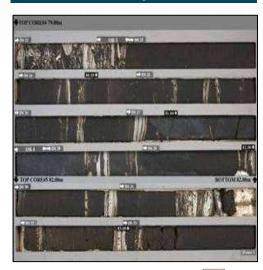


#### **Grand Rapids Core**



- The McMurray and Grand Rapids Formations have comparable geological properties
- Advantage of the Grand Rapids is the consistent orientation making it possible to predict the direction in which the sand thickens
- Less delineation required in Grand Rapids to identify bitumen in place
  - Grand Rapids depositional environment results in continuous bitumen pay of greater than 10 meters
  - McMurray depositional environment results in noncontinuous bitumen zones with greater than 10 meters pay
- Grand Rapids features net pay of up to 24 meters
- Expect comparable SAGD performance between the two reservoirs

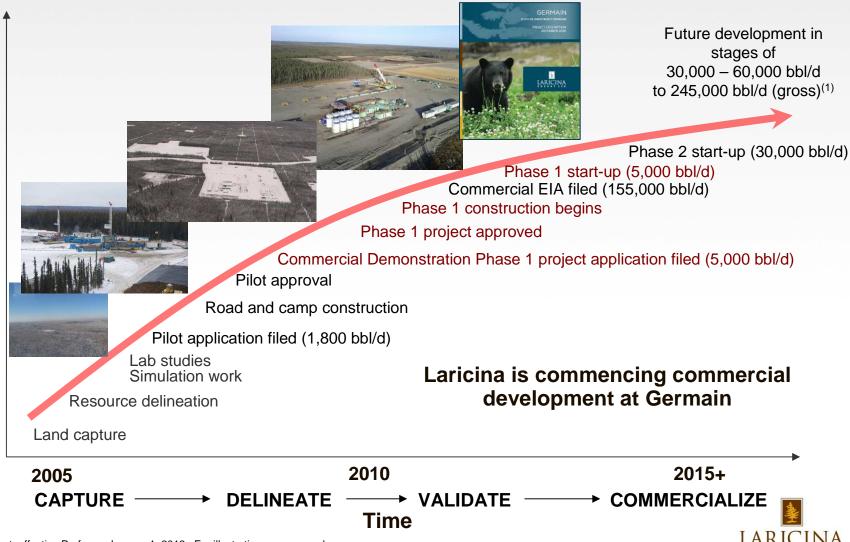
#### **McMurray Core**





# Capturing value – Germain

### **Development progression drives value**



(1) GLJ Report, effective Proforma January 1, 2012. For illustrative purposes only.

**Value** 

# Significant progress at Germain Commercial Demonstration Project

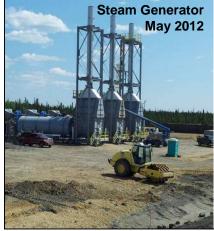


#### Commercial Demonstration Project (5,000 bbl/d)

- Engineering 90% complete; procurement 95% complete; fabrication 80% complete as at August 31, 2012<sup>(1)</sup>
  - Civil construction at the site complete
  - 60 of 81 modules installed on-site
- Gas and power infrastructure in place
- Six well pairs drilled, additional drilling four well pairs commenced in Q4 2012
- Development of project will benefit from infrastructure and marketing synergies with nearby Laricina Saleski project

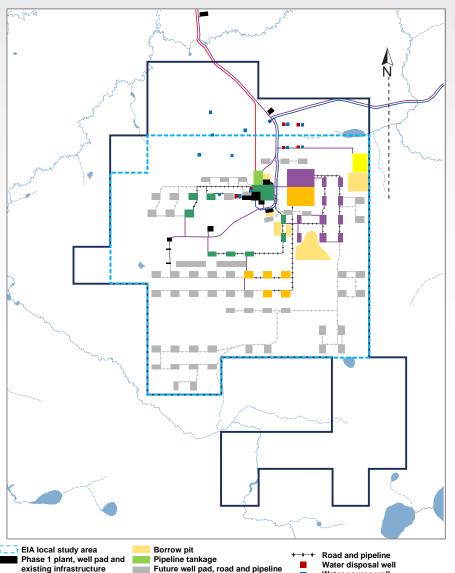
(1) Includes additional 4 well pairs to be drilled and steam addition.







# Germain – advancing commercial growth



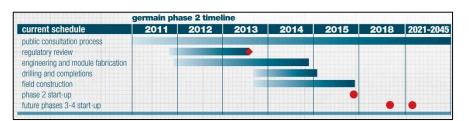
development to sustain production

Proposed powerline and substation

Gas pipeline

Road

- Germain Commercial expansion to 155,000 bbl/d
  - Project description issued
  - EIA submitted Nov 2011; approval expected mid 2013
  - Phase 2 30,000 bbl/d full SAGD and SC-SAGD capable facility planned for 2015 start-up with engineering design capacity 3.0 SOR
  - Phase 2 capital cost estimate of \$1.2 billion
  - Phases 3 and 4 to follow at 60,000 bbl/d each
  - Commercial demonstration project infrastructure, including gas, power and roads sufficient to support first two phases (35,000 bbl/d)





Camp site

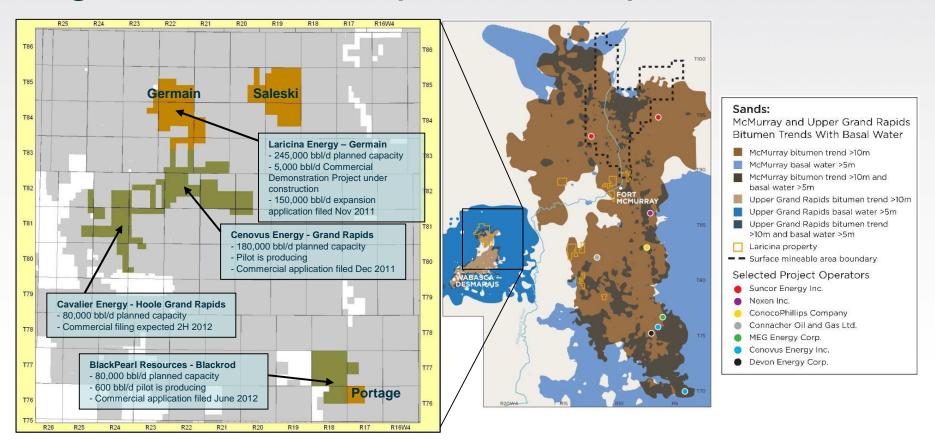
Phase 2 plant and well pad

Phase 3 plant and well pad

Phase 4 plant and well pad

Water source well

# Regional Grand Rapids developments



- Increasing industry focus on the Grand Rapids
- Large areal extent of the reservoir results in predictable distribution of porosity and bitumen thickness
- Over 600,000 bbl/d of production is currently planned from the Grand Rapids
  - Over 400,000 bbl/d from projects that are already approved or pending approval
- Delineation at Germain provides a high degree of geological confidence



## Fuels needed for in situ...





#### Gas

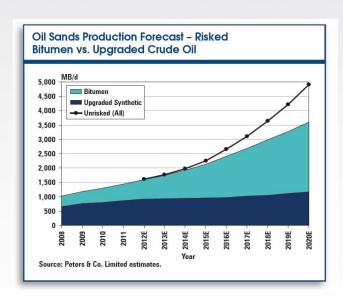
- 1 barrel of steam requires 0.4 mcf of gas
- At a steam-oil ratio of 2.5 ~ 1.0 mcf of gas needed per barrel of bitumen produced
- For Laricina, to deliver 500,000 bbls/d we will need 0.5 bcf/d
  - Over life 4.5 tcf of gas

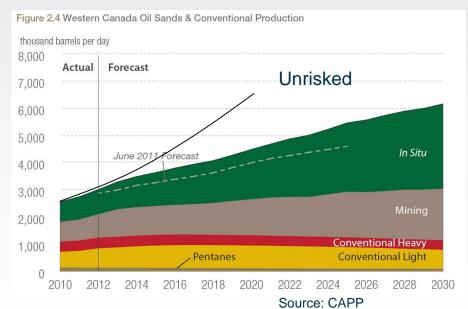
#### Laricina also needs

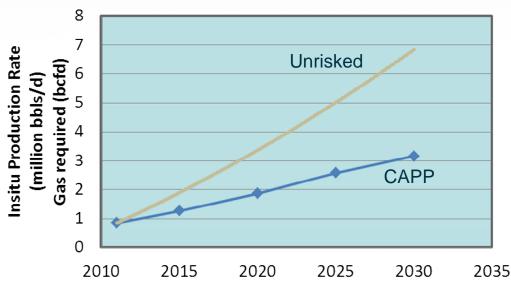
- 200,000 bbls/d (0.4 bbl/bbl) of diluent/Condensate for transport
- 15,000 to 25,000 bbls/d of solvents (0.03 to 0.05 bbls of condensate/propane)
- 250 MW of electricity (0.5 kW per bbls/d bitumen)



# Alberta's gas needs for in situ









# Benefits of solvent processes

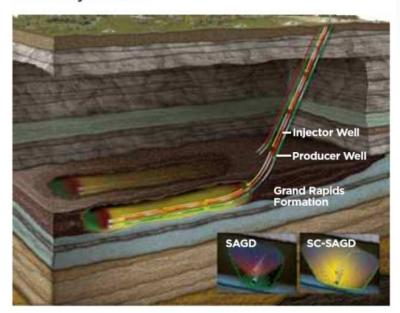
Selected Industry Solvent Activity

Concept	Company	Acronym	Solvent	Asset (Reservoir)	Results
Adding butane during SAGD	Cenovus (Encana)	SAP	Butane	Christina Lake (McMurray)	<ul><li>Improved oil production rate</li><li>Reduced SOR by 30%</li></ul>
Adding diluent during SAGD	Connacher	SAGD+	Diluent	Great Divide (McMurray)	<ul> <li>Solvent recovery has reached 85% or better</li> <li>Reduced SOR by 15%</li> </ul>
Adding small amount of gas condensate (C5+/Diluent) during Cyclic Steam Stimulation	Imperial Oil	LASER	Condensate (C5+ / diluent)	Cold Lake (Clearwater)	<ul> <li>Improved recovery by 5% of the oil in place</li> <li>Do not need to recover and recycle condensate since condensate is also used in bitumen pipeline transport</li> </ul>

Laricina SC-SAGD

- "SC-SAGD" solvent-cyclic SAGD
  - Uses heavier solvent (diluent) in the early time and lighter, cost effective solvent (propane) later on
  - Solvents are recovered continuously in operating process
- Estimated benefits of SC-SAGD include:<sup>(1)</sup>
  - Increases absolute recovery of exploitable OOIP by ~10-15%
  - Decreases SORs by ~25-30%
  - Lowers capital intensity versus typical SAGD for the same level of production
- SC-SAGD will be tested in the Grosmont in the Saleski pilot, and the Grand Rapids in the Germain Phase 1 -Commercial Demonstration Project

# Germain SAGD and SC-SAGD Recovery Process





# **ESEIEH - Solvents without steam**

### Effective Solvent Extraction Incorporating Electromagnetic Heating

bitumen recovery strategy using a solvent dilution process in effective combination with electromagnetic radio frequency energy for moderate formation heating

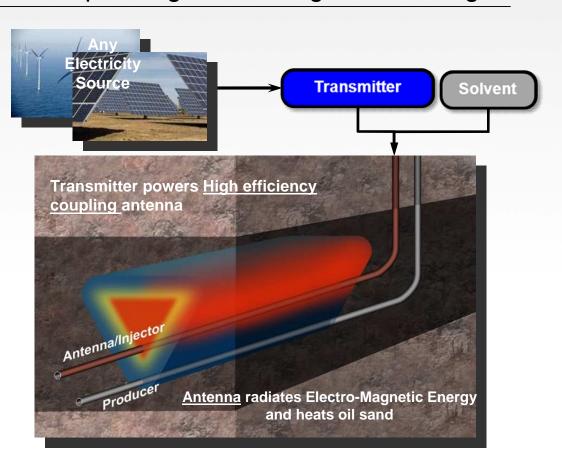














# Proving something big

- Producing from the Grosmont
- Developing the Grand Rapids and building out Germain
- Investing in value enhancing innovations
- Growth opportunities in carbonates and sands





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