



Heemskirk striving to service customers in the Western Canadian Sedimentary Basin

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#### **Overview**



- 1. What is Frac Sand?
- 2. Frac market in North America
- 3. Frac products in Canada
- 4. Our proposition



# 1. What is Frac Sand?

#### What is Frac Sand

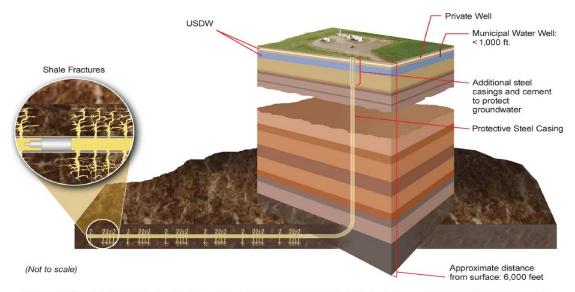


- "Frac sand" is a high-purity quartz sand with very durable and very round grains
- It is a crush-resistant material produced for use by the petroleum industry
- It is used in the hydraulic fracturing process (known as "fracking") to allow liberation of petroleum fluids, such as oil, natural gas and natural gas liquids from rock units that lack adequate pore space for these fluids to flow to a well
- Most frac sand is a natural material made from high purity "sandstone"

# **Unconventional Oil & Gas Fracturing**



- High pressure fluids create a fracture network
- Fracture network is filled with a proppant suspended in solution to allow oil, liquids and gas to flow
- Frac Sand is the most commonly used natural proppant
- Unconventional oil & gas basins require different size proppants and specifications
- Only product not recovered is sand

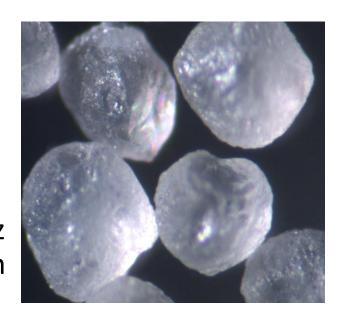


Steel casing lines the well and is cemented in place to prevent any communication up the wellbore as the fracturing job is pumped or the well is produced. Shallow formations holding fresh water that may be useful for farming or public consumption are separated from the fractured shale by thousands of feet of rock.

### **Proppant Properties**



- A proppant must be:
  - ✓ Strong to withstand high stresses
  - ✓ Chemically Inert / does not break down
  - ✓ Pumpable through well systems and fracture networks
  - ✓ Long-term Permeability to permit gas flow
- Naturally occurring, sized and round quartz sand grains are the industry standard known as "Frac Sand"
- ISO and API standards for frac sand proppants are required to be met by producers to allow drilling companies to consume the products



Moberly +5K 20:40 Sand as tested and confirmed by independent laboratory Proptester and StimLabs



# 2. Frac in North America

# The Decade of Change in Frac Sand Supply North America



2003	2013
Supplier Makeup  Sand = 4 Primary Supply > 85%  Ceramic = 3 Primary Supply > 95%  Resin = 2 Primary Supply > 95%  8 Billion Pounds Pumped	Sand = 63 Suppliers (4 Majors ~ 50%) Ceramic = 40+ in US and International Resin = 15 in North America 90 Billion Pounds Pumped
Product Used 20/40 Primary Sand Grade Ceramics 20/40 & 16/20 Primary 20/40 Curable Resin Primary	20/40, 30/50, 40/70, 100 Mesh Multiple Ceramic Grades 20/40 to 40/70 Tempered and Curable
Well Type Vertical/Conventional Wells Gelled Fluids Single to Few Stages	Horizontal/Unconventional Wells Slickwater and Hybrids Multiple Stages (12 to even 50!)
Source & Locale  North America = Proppant Exporter  Centralised Proppant Sources	North America = Proppant Importer Regionalised Proppant Sources

Source: PropTester Inc

# **Summary in North America**



- Proportion of Horizontal Wells is increasing
- Number of Fracs per Well is increasing
- Volume of Proppant per Frac is increasing
- Total demand for Frac Sand continues to grow and sand remains the most dominant frac consumable
- Landed price at Well Site is much more sensitive to freight rather than the supply source economics



# 3. Frac Products in Canada

# **Canadian Proppant Shift**

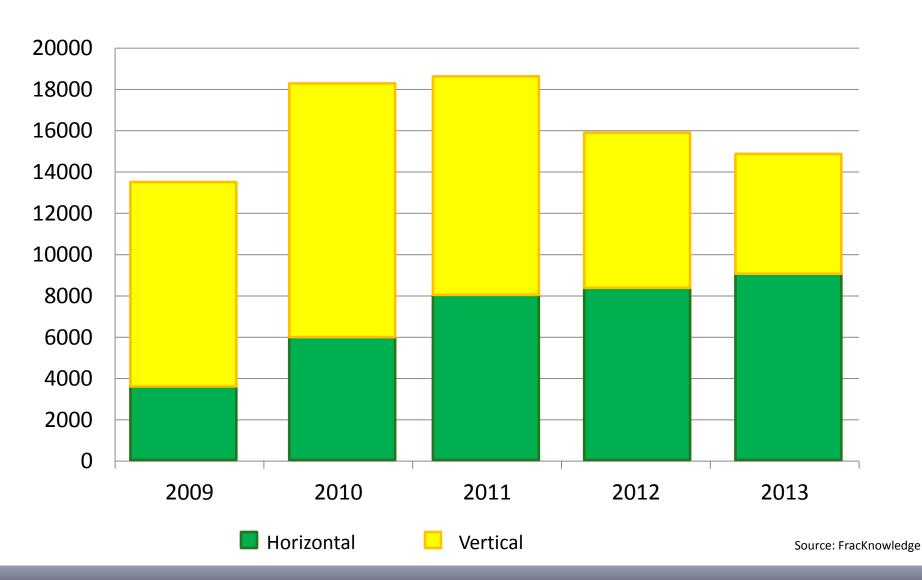


- In the late 70's early 80's the primary frac sand market was for coarse grained material supplied into Central Alberta
- 1990's to mid 2000, Tier 1 American sand producers, at the request of the major pressure pumping companies, began pushing 20/40 sand fractures into Canada. Resin and ceramic proppants also began gaining foothold as wells became deeper
- By 2013, over 2.5 million tons of high quality frac sand was imported into Canada with an estimated 1.5 million tons being consumed from local sources

#### **Focus on Western Canada Number of Wells**

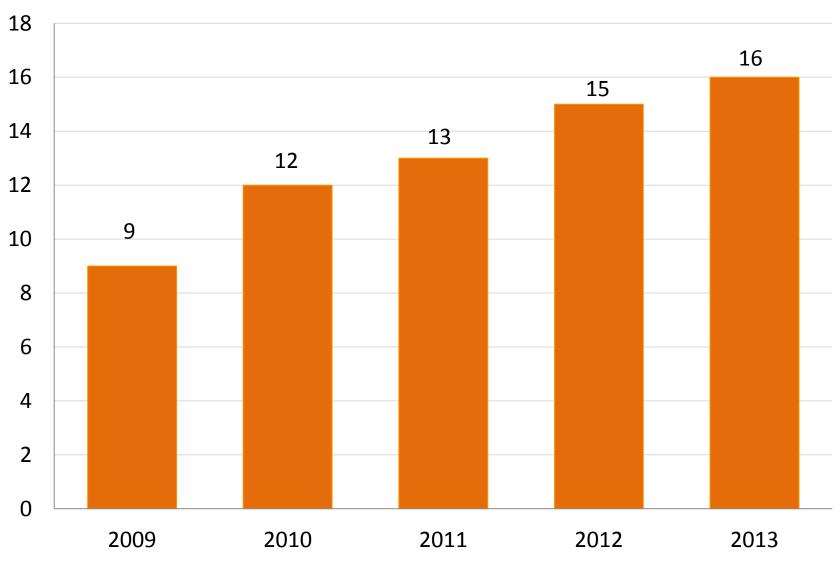


#### TOTAL NUMBER OF HORIZONTAL VS VERTICAL WELLS



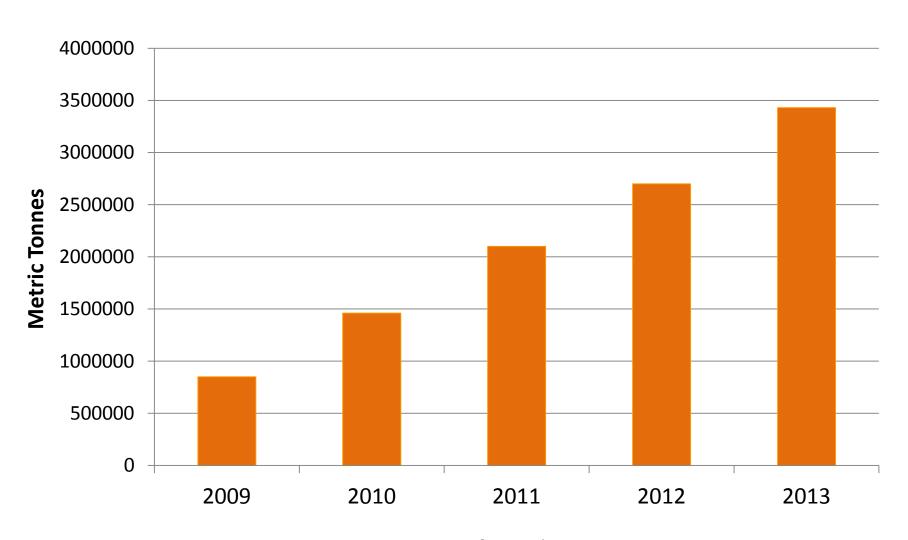
# **Average Frac Stages Per Well**





# **Total Proppant Use**

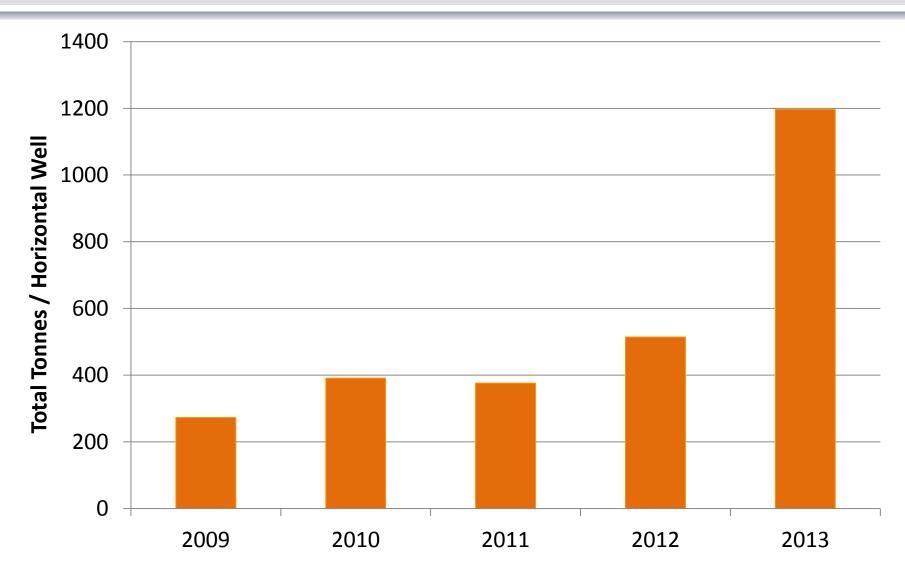




WCSB Approx 9 – 10% of North America 2013

# **Total Tonnes Per Well Average**

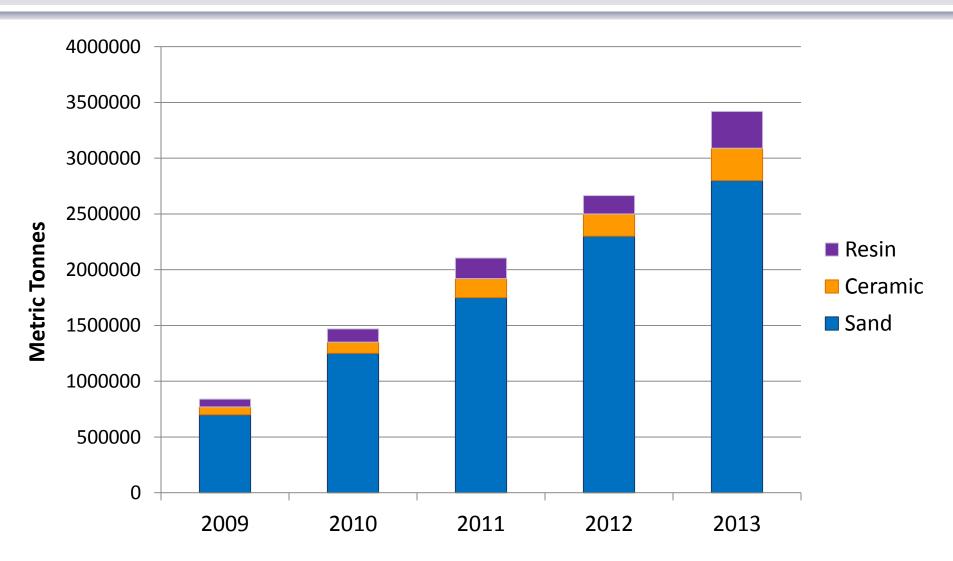




Source: FracKnowledge

# **Proppant Material Type**



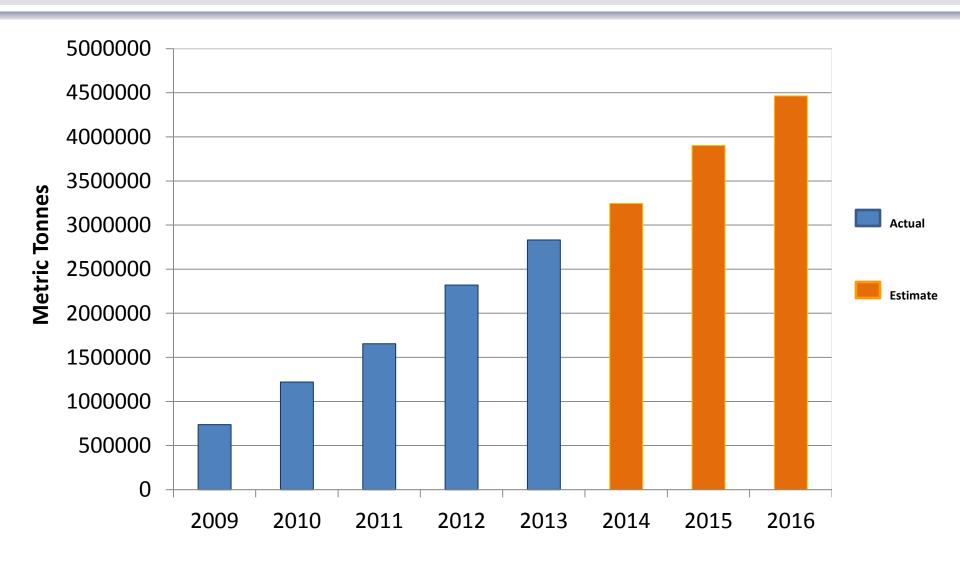


Sand is still the dominant proppant consumable

Source: FracKnowledge

#### Medium Term Sand Use Projection as estimated by FracKnowledge





The WCSB ran out of sand in February 2014!!

Source: FracKnowledge



# 4. Our Proposition

#### **Overview**



 Sale of Lethbridge process facility completed with shareholders voting in favour

 This sale is in line with Heemskirk's strategy to focus on the development and commissioning of its promising CAD26 million Moberly sand facility in the province of British Columbia, Canada

## **Corporate Metrics & Shareholders**



Capital Structure	
ASX listed code	HSK
Ordinary shares on issue	154m
Current market cap at 10¢	\$15.4m
Unsecured convertible debt*	\$3.5m
Employee ordinary shares	2.0m
Cash & cash equivalents and equity investments**	\$10.8m
Increase in cash & cash equivalents from asset sale***	\$9.0m

Major Shareholders	
First Samuel	19%
Taurus Funds Management	6.9%
Acorn Capital	3%
Large Private Groups	16 - 20%

<sup>\*</sup> Unsecured, unlisted Converting Notes maturing no later than March 2015, \$2.74 payable in cash

<sup>\*\*</sup> As at 31 March 2014

<sup>\*\*\*</sup> Post 1 April 2014

# **Corporate Metrics (Continued)**



- Net profit after tax for the half year ended 31 March 2014 is likely to be in the range of \$0.1 to \$0.3m. Results for the 6 months ended 31 March 2013 were a net loss after tax of \$1.6m
- Primary driver of the net profit improvement was the gain on sale after tax of approximately \$2.7m from the sale of Lethbridge facility in Canada
- Excluding the transaction and as at 31 March 2014, cash and cash equivalents was \$5.9m and equity investments \$4.9m
- Subsequent to 31 March 2014 and following the completion of the sale of Lethbridge, net consideration receivable of approximately \$9.7m was received and transaction costs of circa \$0.7m were paid resulting in an increase in cash and cash equivalents of \$9.0m

# **Moberly Asset Summary**

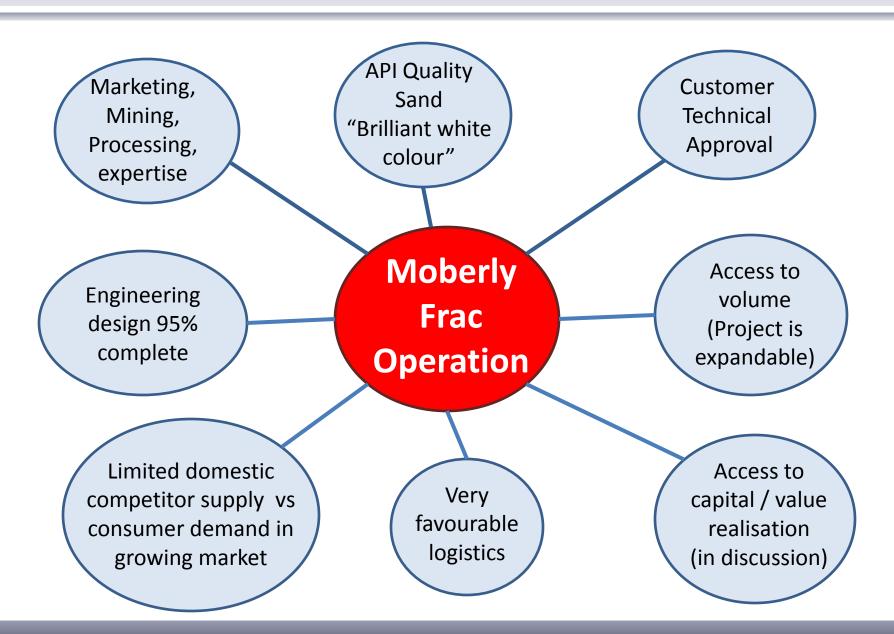


 Moberly is located 300 kilometres west of Calgary and is 100% owned by Heemskirk. It comprises a current open-pit mine and silica product production operation. The facility currently produces product for the oil and gas, coatings, recreational and landscaping industries

 It also includes a significant permitted but undeveloped long-life frac sand resource for potential sale into Canada's high demand petroleum sector and it is this project which the Company is now focusing on to develop as its flagship operation

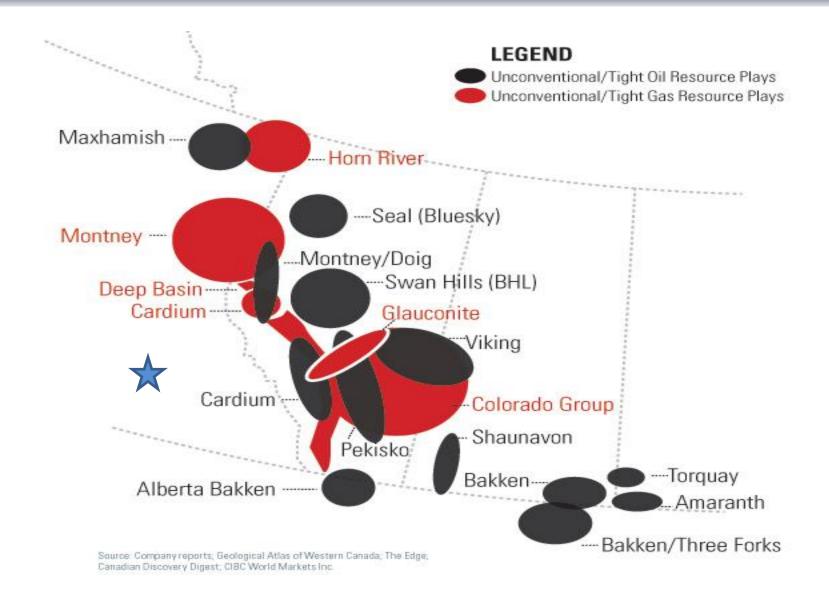
## How Moberly stacks up in relation to Macro Drivers





# **Moberly – favourable logistics**





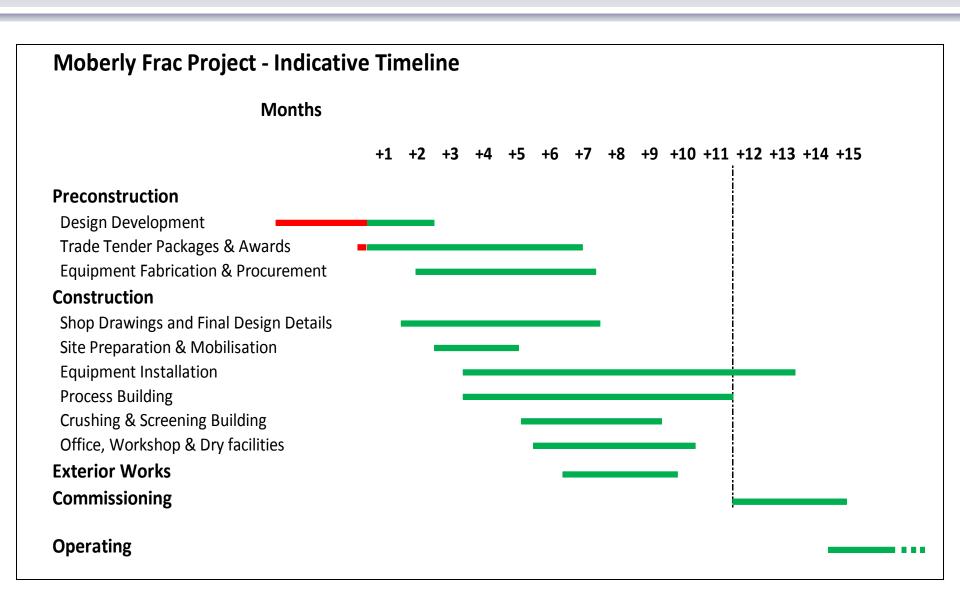
# A high return, high value project



- The capital cost estimate is C\$26m
- Initial design production rate is 300,000 tonnes of saleable frac sand per annum at full production (year 2 onwards)
- Estimated Project NPV<sub>7 5</sub> C\$66m
- Total assets of project valued at \$8.0m as at 31 March 2014
- Estimated Internal Rate of Return of 30%
- The Payback Period from start of production is approximately 3 years
- Construction time estimate 9 12 months from a development decision
- Project is readily expandable not resource constrained

#### **Short Build Time**





# **Planned layout - Moberly Plant Site**





#### **Conclusion**



#### Frac

- Detailed frac engineering and design work 90% 95% complete
- Detailed negotiations during December 2012 January 2013 resulted in the receipt of a conditional debt finance package for the frac project at the end of January
- The Company is evaluating the appropriateness of the debt financing package
- High return project valued well in the excess of overall Company capitalisation
- Value at \$66m in NPV 7.5%

#### **Corporate**

- Cash & cash equivalents and equity investments approximately \$19.9m
- Company retains a 15% position in Canadian listed tungsten producer Almonty Industries
- Company in a strong position to extract value from its Canadian business
- 154m shares on issue trading at cash backing

