

Crown Oil Proposal: Pearl Mine

TIGER BAIT CONSULTING

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Why Alberta: Behind Pearl Mine

- Pearl Mine is a proposed oil sands mining site in Alberta, Canada owned by Crown Oil of Calgary.
- Alberta is the world's second largest proven oil reserve and offers geopolitical stability to investors.
- Crown Oil is a local company that cares about the environmental and economic welfare of Alberta.
- Microwave heating and the Alberta Taciuk Process will eliminate tailings and unusable organic compounds.



Improvements to Current Refining Methods

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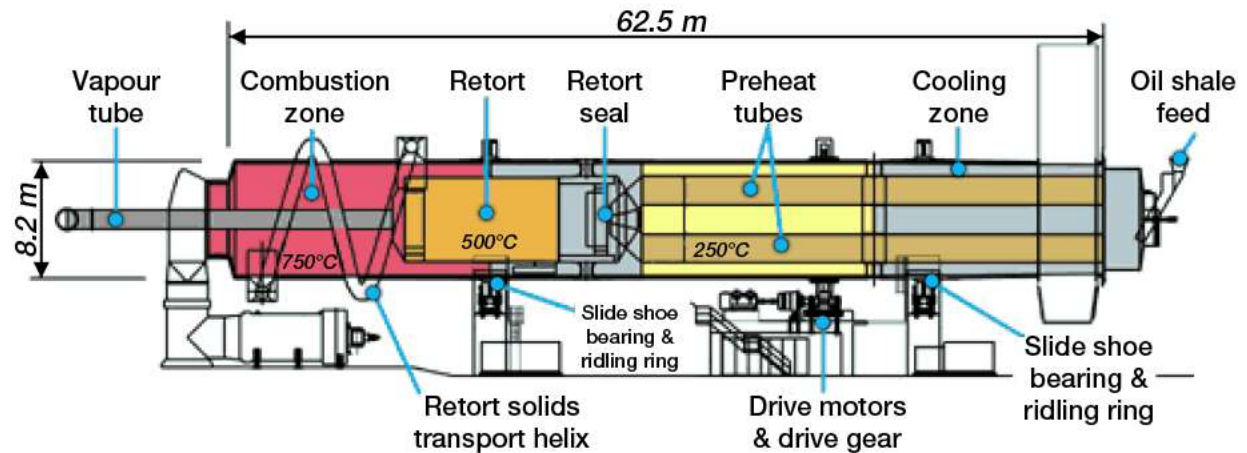
**PROCESS/ENVIRONMENTAL
ENGINEER**



Alternative Bitumen Extraction Methods

- Alberta Taciuk Process (ATP) with Microwave Heating
- Pyrolysis in ATP
 - Chemical decomposition used for organic materials
 - Produces gas and liquid products that leave richer carbon content in solid residue

- Microwaves provide:
 - Rapid heating and penetration
 - Effective in separating water and oil
 - Selectivity of affected
 - Material aids in removing unusable organic compounds



- 1999 Australia – 170 Million Dollar investment
- Daily Capacity of retorting 6000 tons oil sands/ 3000 barrels of oil
- 130-150 g CO₂ Equiv/MJ of gasoline produced



ATP and Microwave Benefits

Benefits

- Microwave processes conserve energy by heating only what is necessary.
- ATP
 - Design is simple/energy self sufficient
 - Uses minimal process water
 - Handles fine particles
 - Results in high oil yields (85-90% of Fischer Assay)
 - Achieves improved process efficiencies through solid to solid heat transfers
 - Organic carbon residue content is less than 3%

Results

- Elimination of the need of tailing ponds
- Reduction of bitumen losses to tailings
- Improvement in energy efficiency
- Elimination of requirements for chemical additives
- Recycled CO₂ back into process mitigates GHG emissions



The Tweak

- The available biotechnology does not impact the Tiger Bait Consulting EOI for Pearl Mine as the microwave heating and Alberta Taciuk processes do not create a tailings stream.
- It can be used on current projects that do create a tailings stream and the remaining raw material produced can be sold.



Applicable Regulations

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**ENVIRONMENTAL POLICY
SPECIALIST**



The Reclamation Process

- Surface mining: Reclamation will be started immediately following mining practices and zoned according to recent activity.
- In-situ: Reclamation will be performed after drilling operations are complete and the mine will be filled with an inert material.
- Crown Oil is required by the Mines and Minerals Act and Oil Sands Conservation Act to perform reclamation activities.
- Aboriginal tribes will be allowed to incorporate their environmental knowledge into the reclamation process and to help with the process in any way possible.



Provincial and Federal Regulations

Federal

- Fisheries Act
- Canadian Environmental Assessment Act
- Navigable Waters Protection Act
- Climate Change and Emissions Management Act

Provincial

- Mines and Minerals Act
- Oil Sands Conservation Act
- Water Act
- Environmental Protection and Enhancement Act
- Public Lands Act



Alberta: Our Home Now and Forever

- The community at large is Crown Oil's first priority in the Pearl Mine project
 - Community Action Days, scholarship funds, and other inclusive activities will reinforce Pearl Mine as a community staple.
 - Aboriginal tribes will be consulted about the respectful use of land in accordance with cultural traditions and heritage.
- Crown Oil is required by law to reclaim all land used in mining and remediate it to its former state.
- Pearl Mine will be a model mining facility that will exemplify Crown Oil's commitment to Alberta



Questions and Comments

Thank You and Remember to
GEAUX GREEN!

TIGER BAIT CONSULTING 2010



The Heart of the New West...



...and sneaux in June?



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