CHATTANOOGA CORP

Contact: Martin Karpenski, *President/CEO,*
Email: mkarpenski@aol.com
Office: (973) 377-1848 Fax: (973) 377-2443
www.chattanooga-corp.com

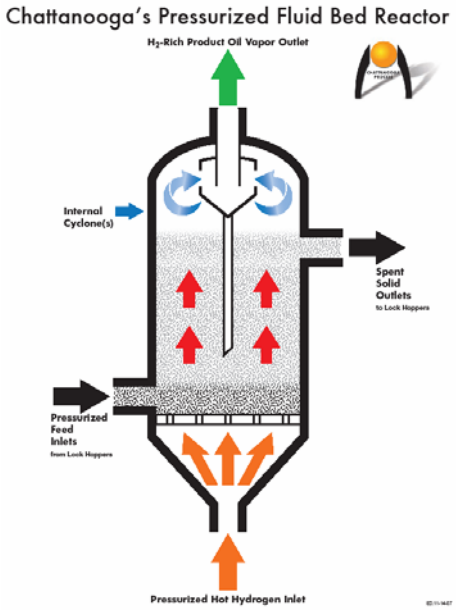
COMPANY DESCRIPTION

Chattanooga Corp focuses on processes for converting unconventional oil resources such as oil shale, oil sands, bitumen and heavy oil into synthetic crude oil. Chattanooga has developed, patented and piloted a new process to directly convert these unconventional oil resources into light, high-grade crude oil.

OIL SHALE INDUSTRY ROLE

Chattanooga Corp is a technology developer. The company does not have direct oil shale or oil sands holdings.

DESCRIPTION OF TECHNOLOGY



Central to the Chattanooga Process is the pressurized fluid bed reactor and associated fired hydrogen heater. Conversion reaction occurs in a relatively low temperature (sub 537°C / 1000°F) non-combustion environment. With modifications only to its feed system, the reactor can continuously convert oil bearing material (oil sand, oil shale and liquid bitumen) via thermal cracking and hydrogenation into hydrocarbon vapors while removing spent solids.

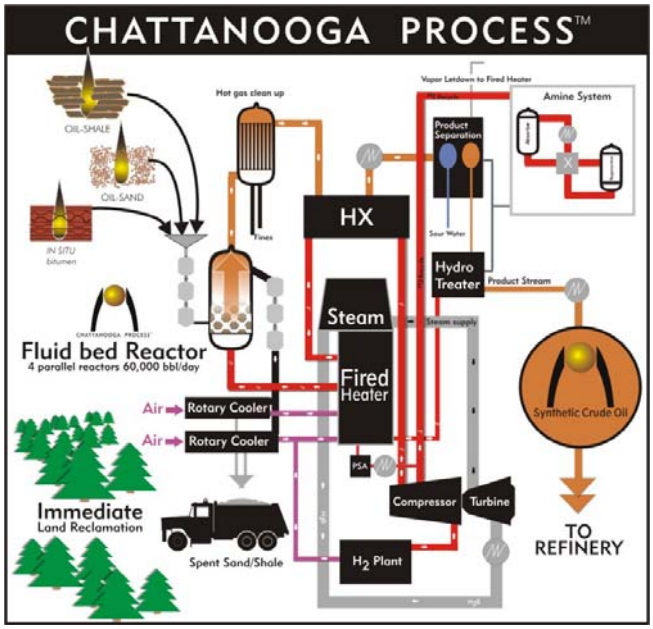
Hydrogen is used as the heat conveyor to the reactor, reactor bed fluidizing gas, and reactant. Hydrogen is heated in an adjacent fired heater fueled by process off-gases and either supplemental gas or product oil, depending upon economic conditions. This flexibility minimizes or eliminates natural gas requirements. Combustion air for the heater and the associated hydrogen plant reformer is preheated by cooling the spent sand or shale discharged from the reactor. Reactor overhead gases are cleaned of particulate solids in a hot gas filter and cooled. Hydrocarbon products are condensed and separated from the gas stream. Liquids can be lightly hydrotreated to produce a very low sulfur high grade synthetic oil.

The excess hydrogen, light hydrocarbon (HC) and acid gases are passed through an amine scrubbing system to remove hydrogen sulfide, which is converted to elemental sulfur. Excess hydrogen and light HC gases, stripped of the acid gases, together with make-up hydrogen are admitted to a turbine-driven centrifugal compressor for recompression and recycling. Steam for the turbine is generated by recovering waste heat from the fired heater. Compressor power requirements are minimized by maintaining a low pressure drop around the process loop. A slip stream of recycle gases is taken from the compressor discharge and passed through a purification system to remove light HC gases produced in the reactor. The purified hydrogen gas stream is returned to the compressor inlet. The light HC gases may be used as feedstock to the integrated hydrogen plant again minimizing the requirement for purchased natural gas.

Efficiency: Use of hydrogen in the initial process phases greatly enhances product quality and reduces the need for extreme hydrotreating. Recovery of waste heat, power co-generation, and use of produced light HC gases as hydrogen plant feedstock make the process virtually self sufficient by obtaining its energy requirements from the primary plant feedstock.

Environmental Benefits common to all feedstocks: Dry processing of resource material eliminates water pollution and greatly reduces water usage. Greenhouse gas emissions are substantially reduced.

The majority of the CO_2 produced in the hydrogen reformer can be sequestered. Spent shale or sand is immediately available for land reclamation. This process has the ability to remove 99.8% of all sulfur.



Oil Shale: Extremely high extraction yields are achieved due to the addition of hydrogen in the initial phase of processing. There is no breakdown of Western shale or release of CO_2 due to the low operating temperature range.

Bitumen: Upgrading bitumen using the Chattanooga Process produces a high-value, low-sulfur synthetic crude oil, compared to a low-value, raw bitumen that is difficult to transport.

Oil Sand: The Chattanooga Process provides a simplified extraction and upgrading technology for processing oil sands, resulting in significant benefits to the industry, including reduced greenhouse gas emissions, elimination of tailing ponds and reduced natural gas consumption.

PROJECT STATUS / STATE OF DEVELOPMENT

- Pilot plant tests demonstrate that the Chattanooga Process has produced yields of 51.5 gal/ton from Colorado shale (with a Fischer Assay prediction of 28.4 gal/ton). Two separate pilot plant tests on Kentucky shale have produced 200% of Fischer Assay predictions. Tests demonstrated effective fluidization using hydrogen with extremely high extraction efficiency results.
- Pilot plant tests on bitumen/sand demonstrated production of a 28°-30° API product in the reactor with very high extraction efficiency. Hydrotreating would result in a product of 38°- 40° API.
- Based on pilot plant test results and with some hydrotreating, the product from oil shale would be in the range of 36° API. All products would be saturated and stable.
- Pilot plant tests are performed at the National Centre for Upgrading Technology (NCUT) in Devon, Alberta, Canada. Recent analytical Run Reports are available.
- Chattanooga owns several US and Canadian patents including a recent Notice of Allowance from Canada. Several additional US and Canadian patent applications are in process.

RELEVANT EXPERIENCE

Chattanooga Corp was founded by an experienced team of energy industry professionals to create processes to convert oil resources into synthetic crude oil. The company employs a team of industry experts as consultants and advisors on various aspects of its process and business development.

OUTLOOK / FUTURE PLANS

The efficacy of the Chattanooga Process to produce synthetic crude oil from oil shale and bitumen/sand in has been proven in pilot plants. Chattanooga Corp is preparing to design, construct and operate a demonstration facility as the next step in the commercialization process. In parallel, Chattanooga will expand its relationships with targeted energy producers, government agencies, financial institutions and investors to promote and establish commercial-scale facilities and create licensing and royalty agreements.