Molecular Gate ä
Adsorption Technology

Molecular Gate System Removes CO_2 for California Oil and Gas Producer

Molecular GateÔ System at the Tidelands Facility in Long Beach

Molecular Gate™ adsorption systems continue to gain market acceptance with two-dozen projects underway with flows up to 10 MMSCFD.

The first Molecular Gate CO_2 removal system has operated for five years at Tidelands where it continues to generate revenue from the sale of an otherwise, unusable by-product of its oil production process.

Tidelands Oil is using the system to remove carbon dioxide, heavy hydrocarbons and water from oil production (water flood) associated natural gas at its Long Beach facility. This enables the gas to meet pipeline specifications with single step processing. Tidelands is selling their natural gas through the local distribution system.

The unit at Tidelands Oil was the first commercial application of Molecular Gate technology for the removal of carbon dioxide (CO_2) and water from natural gas and has operated for five years with an excellent on-stream factor.

"The system allows us to generate a revenue stream from the sale of gas that otherwise would have to be flared," said James Wills, Staff Engineer for Tidelands' Long Beach Operations and leader of Tidelands Molecular Gate project. "We selected the Molecular Gate system over commonly used amine technology due to its lower cost, simplicity of operation and environmental friendliness."

While amine technology removes carbon dioxide from natural gas, it does not remove water. Both water and carbon dioxide must be removed from natural gas in order to meet U.S. pipeline specifications.

"Unlike amine technology, the Molecular Gate system removes carbon dioxide and dehydrates natural gas in a single step. Further, it is tolerant of oxygen and is designed to operate unattended," said Michael Mitariten, Business Manager for Molecular Gate technology.

This exciting technology enables Tidelands Oil to efficiently treat one million standard cubic feet per day (1 MM SCFD) – producing pipeline quality natural gas by removing more than 30 percent carbon dioxide and water to less than 2% CO_2.

In this particular application, Molecular Gate® adsorbents work by trapping carbon dioxide and water molecules in a fixed bed of adsorbent materials while allowing methane to pass through at feed pressure. Guild Associates provides this unique adsorbent in a complete pressure swing adsorption (PSA) system.

Molecular Gate technology can be used to remove carbon dioxide from coal bed methane, natural gas and landfill gas, among other applications. It also is highly effective in removing nitrogen (or a combination of N_2 and CO_2) from a wide variety of contaminated sources of natural gas.

About Tidelands

Tidelands Oil is a full-service oil and gas production company that manages more than 400 active wells in the Los Angeles basin. The company supervises on-shore oil and gas production for the city of Long Beach, CA.

About Guild Associates

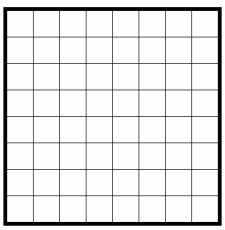
Guild Associates is the exclusive USA licensee of the Molecular Gate technology originally developed by Engelhard Corporation (now a part of the BASF Group), and provides adsorption and catalyst systems to a variety of markets as well as shop fabricated engineered systems including Molecular Gate systems.

Contact

To learn more about Molecular Gate technology contact Michael Mitariten, by phone, at 908-752-6420 or, by email, at mike@moleculargate.com

You can also visit us on the Internet at www.moleculargate.com

Guild is a licensee of Molecular Gate â Adsorbent Related Technology and Guild is solely responsible for all representations made herein.



Guild
Associates, Inc.
5750 Shier-Rings Road
Dublin, OH 43016
Phone: (614) 798-8215
Fax: (614) 798-1972