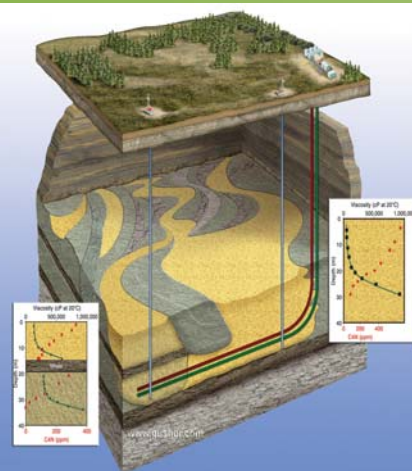


Laboratory Move Complete!

Gushor is pleased to announce that we have officially moved into our new laboratory. The new laboratory will allow us to better serve our current and future clients.

The new building has tripled our lab space, and contains newly constructed shipping & receiving, sample prep/extraction, wet lab, geo-chemical lab, technical & customer service, and office areas.

Gushor will be holding an open house on October 27th, 2011 between 1:00pm - 4:00pm. If you wish to attend or have any questions regarding our new laboratory please contact Richard Stephens at (403) 457-4874 Ext 102, or rstephens@gushor.com.



Gushor Inc. Services

Geosciences Solutions

- * **Petroleum Systems Analysis**
 - Exploration
 - Development
 - Production
- * **Analytical Services**
 - Heavy & Conventional Oil
 - Water Chemistry
 - Gas Analysis
 - Geochemistry
- * **Geosciences Software**
 - GNAWD Pre-drill API/Viscosity

Technology Applications

- * **Plunger**
 - Laboratory
 - Field
- * **GVisc™**
 - Solvent Extraction Viscosity
- * **ProxVisc™**
 - Viscosity Estimation
- * **Carbonates**
 - Mechanical Extraction

Unconventional Wisdom

- * Reduced Emission Recovery
- * Carbon Management
- * Biodegradation
- * Fluid Mobility
- * Heavy Oil Recovery

Gushor Education



Strategies for Recovering and Measuring the Viscosity of Heavy Oil and Bitumen from Carbonate Core. Author: Barry Bennett, PhD, P.Geol.

The recovery of super viscous bitumen from the Grosmont carbonate cores presents a number of challenges; however with respect to the traditional methods employed to recover bitumen, we have also developed a number of practical approaches based on physical and chemical methods to facilitate the recovery of bitumen from carbonate cores for physical property measurements.

The gold standard is to employ our mechanical extraction device, namely the plunger. The method involves no contact with solvent and providing bitumen is present in cores excess of 5 weight percent, super viscous oil is mobilized in preparation for viscosity measurements. For example, the highest viscosity we have measured on bitumen recovered from core was 10.0 McP (at 40 °C), extrapolation using ASTM-D341 to our standard measurement temperature gave 650 McP at 20 °C. Quite high really!

Where the bitumen saturation is less than 5 weight percent we recommend employing solvent based (**GVisc™**) or geochemical correlation methods **ProxVisc™**. **GVisc™** is a solvent based extrapolation method that leads to highly comparable to those obtained from the plunger recovered oils. **ProxVisc™** is based on correlations between viscosity and geochemistry established on fresh core samples. In the heavy oils and bitumen, due to the alteration of chemical components as a function of biodegradation, leads to increasing viscous oils, then simple correlations may be established. The geochemical data obtained from stored cores or low bitumen saturation cores may therefore be predicted.

If you require more information on this topic please contact us at info@gushor.com.

Norka Marcano Receives PhD!



Gushor is excited to announce that one of our project managers, Norka Marcano, has recently defended her PhD thesis on "Using Chemical Proxies for Monitoring In-Situ Upgrading of Bitumen". She will be attending her fall graduation ceremony in November 2011.

Norka has been part of the Gushor team since 2008.

If you wish to contact Norka she can be reached at (403) 457-4874 Ext. 105, or nimarcan@gushor.com.

Congratulations Norka!

Gushor Seeks Strategic Partner!

Gushor has a laboratory proven viscosity reduction technology called **BRUTUS™**, that is ready to be trialed in the field. We are currently seeking out interested parties to introduce this technology into a field trial environment.

BRUTUS™ is a reservoir preconditioning process that use water films and residual water or bottom, top, or middle water zones in the reservoir as a conduit for injection and movement of aqueous or non-aqueous fluids loaded with a preconditioning agent or agents through the reservoir prior to cold or thermal heavy oil and oil sands bitumen recovery techniques.

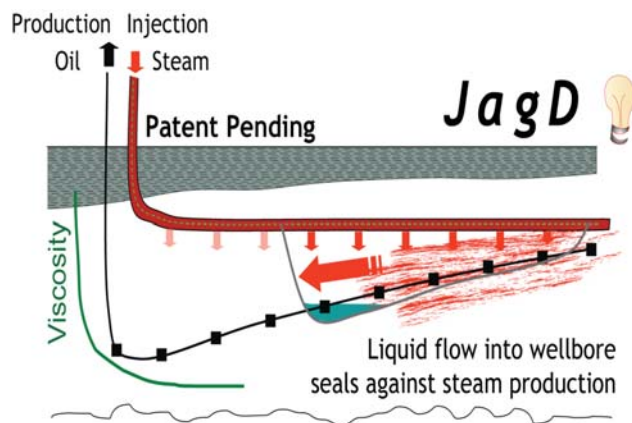
If your organization is interested in discussing this technology please contact us at info@gushor.com.

JAGD Receives Notice of Allowance!

UTI Limited Partnership, Ian Gates, Jennifer Adams, and Stephen Larter have recently received notice that their patent application for their JAGD™ technology has been approved and is now in the process of having a patent assigned to it in the United States.

JAGD™ is a new well design & thermal recovery method for enhanced recovery from heavy oil and bitumen reservoirs.

If you wish to obtain further information on this exciting technology please contact us at (403) 457-4874 or info@gushor.com.



Heavy Oil Biodegradation - Important?

Author: Steve Larter

Most of the world's oil is biodegraded as exemplified by the super-giant viscous heavy oil and bitumen deposits in Venezuela, here in Western Canada and elsewhere. Understanding in-reservoir oil biodegradation is of significance for petroleum exploration (e.g. pre-drill prediction of the likelihood a prospect is biodegraded) and production (e.g. selection of reservoirs, well locations and operating strategies in biodegraded oil fields where fluid properties will be most favourable for production). The technology we use today came from basic and applied research done in universities and industry over many years and that research sought to understand the processes that are involved in the formation of such heavy oil deposits, the rates of oil degradation over geological timescales, the importance of microbial activity in the deep biosphere for heavy oil formation and factors that control the occurrence of heavy oil and its viscosity variations.

The outcome of this research has been a new model of in-reservoir oil biodegradation where anaerobic processes, primarily oil degradation linked to methanogenesis, drive oil biodegradation and that site of biodegradation is the oil water transition zone in the reservoir leading to variations in oil composition and extreme fluid property gradients in the reservoirs. Understanding the nature and magnitude of these fluids property gradients has already had commercial benefit in the siting of wells and in oil recovery process operations. In addition to practical applications, these gradients have allowed biodegradation rates to be estimated and deep biosphere processes to be elucidated. We have shown that reservoir geometry, formation water salinity and most significantly reservoir temperature are key controls on whether in reservoir oil biodegradation will occur. Even if a reservoir is currently at a low temperature, if it has experienced temperatures much in excess of 80 °C, then the oil is unlikely to be biodegraded and we have developed a model known as the palaeopasteurization hypothesis to explain this phenomenon.

To continue reading please visit our [website](#) or [blog](#)!

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