



July 2009 | Gushor Inc. | (403) 210-7594

Gushor Inc. Newsletter

[Volume 1, Issue 1]

Technical Highlights – Mobile Plunging Now Available

Gushor Inc. is pleased to now be able to offer our proprietary mechanical plunging technology on site.

Fluid property analysis of bitumen reservoir samples must be performed on solvent free, mechanically extracted oil. The extraction process involves high speed centrifugation for long periods of time under partial vacuum, resulting in the preferential loss of volatile (light end) oil compounds, and significant increases in viscosity.

Gushor's proprietary Plunger technology offers mechanical extraction with the following benefits which can save time and money:

- Preserves light ends lost in centrifugation
- No fractionation of oil
- Removes extraneous clay, solids, and water more effectively
- Requires a smaller quantity of sample than current industry standards
- Applies pressure which is comparable to geological burial depths of 3 to 4 km
- Increases the amount of sample collected
- Extraction time reduced to as little as 30 minutes!
- Enables viscosity and density profiling of horizontal and vertical delineation wells using core or even cuttings!



Promotion: Barry Bennett, Ph.D. – Director of Geosciences



Barry received his M.Sc. in Organic Petrology and Organic Geochemistry from the University of Newcastle upon Tyne and his Ph.D. in Organic Geochemistry from the University of Bristol.

Barry was responsible for laboratory quality control and method development, and team leader for viscosity prediction at Gushor Inc. His current research interests are linking petroleum reservoir geochemistry with petroleum engineering, the origin of heavy oil and oil sands and oil production issues.

Barry can be reached at our office in Calgary at (403) 210-3916 or anytime via email at bennettb@gushor.com.



Gushor Inc. Services

Geosciences Solutions

- Reservoir Fluid Analysis
- Petroleum Geochemistry
- Petroleum System Analysis
- Flow Assessments
- Geosciences Software

Engineering Solutions

- Reservoir Optimization
- Reservoir Simulation
- Reservoir/Production Analysis
- Steam/Solvent Scheduling
- Well Performance Forecasting

Unconventional Wisdom

- Heavy Oil
- Biodegradation
- Fluid Mobility
- Heavy Oil Recovery
- Custom Reports

Technology Applications

- Reduced Emission Recovery
- Plunger
- GVisc
- ProxVisc
- Carbonates

Gushor Courses

- Reduced Emission Recovery
- Tips on Geotailoring
- Unconventional Natural Gas
- Shale & Shale Gas
- Custom Designed Courses



Introducing: Richard Stephens, BBA – Business Development Manager



It is our pleasure to introduce Richard Stephens, Business Development Manager, in our Calgary corporate office. Richard graduated with a business degree from Nipissing University in North Bay, Ontario.

Richard can be reached at our office in Calgary at (403) 210-7594 or anytime via email at rstephens@gushor.com.

Elected: Steve Larter, Ph.D. – Fellowship of the Royal Society



The Fellowship of the Royal Society is composed of 1346 of the most distinguished scientists from the United Kingdom, other Commonwealth countries and the Republic of Ireland.

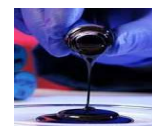
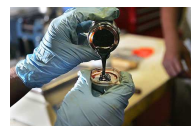
To read more on this please visit our website @ www.gushor.com.

Gushor Management win CSPG Awards

A presentation by Dr. Barry Bennett, titled "Oil Fingerprinting for Production Allocation: Exploiting the Natural Variations in Fluid Properties Encountered in Heavy Oil and Oil Sand Reservoirs", was selected as an Honourable Mention Geological Oral Presentation at the recent 2009 CSPG CSEG CWLS Annual Convention.

Dr. Jennifer Adam's poster, title "The Dynamic Interplay of Oil Charge, Basin Dynamics, Caprock Leakage and Gas Generating Biodegradation Produces Heavy and Super-Heavy Oil Fields: ExampIs from Western Canada", was selected as an Honourable Mention Geological Poster at the recent 2009 CSPG CSEG CWLS Annual Convention.

For further Gushor news please feel free to visit our website @ www.gushor.com.



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Geosolutions for Unconventional Systems & Heavy Oil Recovery

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www.gushor.com

Errors in Viscosity Determination of Solvent Extracted Bitumen

Solvent addition and evaporation experiments indicate that it is not possible to make reliable viscosity measurements for a heavy oil or tar sands bitumen sample that has been extracted with toluene (i.e. residue from a Dean Stark analysis).

The rate of evaporation of the toluene is highly variable due to differences in the properties of the bitumen. Even under constant conditions, the rate and extent of evaporation is not reproducible for a given sample. Both of these factors lead to non-reproducibility of end points. Any residual solvent in the samples will result in a measured viscosity that is too low. Evaporation damage or loss of volatile compounds from the sample will result in measured viscosity values that are too high.

Evaporation experiments and GCMS analyses demonstrate that residual toluene is still present in samples that have lost significant amounts of volatile compounds.

For bitumen samples that cannot be recovered mechanically (e.g. by using the Gushor plunger technology) and must be solvent extracted, Gushor Inc. offers two technologies for the indirect determination of dead oil viscosity.

GVisc (patent pending) relies on the algorithmic extrapolation of a series of viscosity measurements. This technology may be used in cases where no related sample suitable for calibration is available.

On the other hand, ProxVisc (a proprietary proxy technique) is a tool that is applicable to sample sets for which related samples with measured dead oil viscosity are available as calibration standards.

