Intellectual Property Request Broadcast Description

Basic Information

IP Title	**High Temperature Polymer for Water-Based Completion Fluid**
IP Reference No.	**IPR-101-010612**

Date Issued	**1/6/2012**
Expected Delivery Date	**2/10/2012**

Description of Requested IP

HIGH TEMPERATURE POLYMER FOR WATER BASED COMPLETION FLUID

Certain biopolymers are used as ***viscosifying agents*** in water-based reservoir drill-in fluids (RDF). Polymers such as xanthan gum, scleroglucan, diutan and succinoglycan are typical examples and represent a major market for these materials. In most cases, these anionic polymers are limited by the base brine that can be viscosified because their anionic character disallows the use of highly concentrated divalent salts such as calcium chloride and calcium bromide. Due to its unique rheological behavior, xanthan gum is a particularly favorable polymer in these applications. However, like all natural polymers, temperature stability limits its application to those environments below about 300°F (depending on base brine, among relatively less important components). Drilling requirements are currently driving the ***need to extend the temperature limitations of xanthan gum or other biopolymer systems upward towards 375°F***.

Goals:
Research into the modification of biopolymers through the addition of surface-active substances to increase the ***temperature stability*** of these polymers to the required level while concurrently satisfying other use requirements that include:

a. Maintaining a rheological profile similar to the biopolymer (thixotropic with suspension properties);
b. Increasing the usable temperature range to preferably 385°F;
c. Maintaining the desired viscosity indefinitely;
d. Confirming that the material can be broken down or degraded over time;
e. Demonstrating proper performance in a slightly alkaline pH range (e.g., 7-11).

The reply to this broadcast should not consist the know-how. It should give a clear picture as to why the scientist think he/she can solve the problem, the brief definition of foreseeable way(s) the problem will be solved, and the readiness of the development (in case there were some prior development conducted). It also should consist of the approximate time to develop the solution to the problem herein.