

# POLY PLUG®HSFL

M & D Industries of Louisiana, Inc.

## PRODUCT DESCRIPTION

### **Poly Plug®HSFL**

(HIGH SOLIDS FLUID LOSS) consists of a **pharmaceutical** grade cross-linking agent, a blend of low molecular weight polymer and a filtration agent.

The cross-linking action is a function of temperature. For temperatures below 100 degrees F an accelerator, **Ultra Seal-XLA®** is required. For temperatures above 125 degrees F, a delaying agent, **Ultra Seal-XLR®** is required.

**Ultra Seal-XLD®** is a silicone based de-foamer and aids in reducing viscosity. Other de-foamers should be pilot tested prior to use.

**XCD polymer** is required for suspension of the filtration agents and any weight material.

**Poly Plug®HSFL** is designed to produce both an open hole plug and an inner zonal shut-off. The product is designed for matrix and fractured formations.



## PRODUCT BENEFITS

The slurry is pumped to a vertically defined zone and a slight squeeze is applied. When placed in a well bore, the slurry dewaters to form an open hole plug composed of filter aid material. What is unique

about this product is the de-watered phase cross links providing an inner zonal shut-off. The open hole plug holds the polymer solution in place while it cross links, forming a non-flowing gel inside the formation.

The inner zonal plug has sufficient strength to prevent fluid intrusion into the well bore, even under high differential pressures after drilling out the open hole plug.

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### Case Histories

OKLAHOMA	2
EAST TEXAS	2
BC, CANADA	2

### Special points of interest:

- Time Controlled
- Robust Gel Chemistry
- Density controllable with barite or hematite
- Insensitive to H<sub>2</sub>S and CO<sub>2</sub>
- Temperature stable up to 400 F
- Not intended for use in the reservoir, product should be considered permanent
- Provides two plugs in one.

## Cement City, Oklahoma (Depleted Sand)

### WELL HISTORY

Depleted Sandstone at 16,000'. Well bore loss previous to Poly Plug®HSFL was 2,500 bbls of OBM. Three cement plugs were pumped prior to Poly Plug®HSFL and the well bore was on vacuum.

An 80 bbl Poly Plug® HSFL pill was blended and pumped from the casing shoe at 15,500'. After 8 hours the well was circulated with full returns. The Poly Plug®HSFL pill was drilled through and returns were noted to be approximately 70%. A second pill of 40 bbls was blended.

The second pill was squeezed as per the first pill scenario and the well was left shut in for 6 hours.

After tagging the second pill, bottoms up was circulated the drilling fluid conditioned. Washing and reaming commenced, and drilling operations continued for another 800' with no losses and the well was T.D.

*OPERATOR: CHEVRON*

*LOCATION: OKLAHOMA*

*DRILLING FLUID: OBM*



## East Texas (Fractured Limestone)

### OBJECTIVE

Cure loss circulation into the Travis Peak (Fractured Limestone) and increase mud weight to safely drill through tectonically stressed shale formations.

The well was experiencing dynamic seepage losses of 30 bbls/hour. A 20 bbl pill of Poly Plug®HSFL was mixed and spotted across the target formation. The drill pipe was

pulled above the slurry and the Hydril closed. Slight hesitation squeezes were applied up to 250 psi. After squeezing 2-3 bbl increments, the well was allowed to stabilize.

**“Inner Zonal Shut-Off Provided a Chemical Liner, Increasing FIT Across the Travis Peak Formation by 0.7 lb/gal”**

After squeezing a total of 8 bbls, the well stabilized with 200 psi on the casing and was left shut in for (6) hours. The plug was washed through and drilling fluid conditioned. The drill pipe was POOH to the casing shoe and a FIT performed to 10.9 EMW. The well tested. The mud weight was increased from 10.1 to 10.7 and drilling commenced without further incident.

## Fort Nelson, B.C., Canada (Fractured Sandstone)

Operator was drilling ahead with no losses when a drill break occurred and the bit fell 5'. Total loss of circulation occurred into a fractured sandstone.

The BHA was placed 5 barrels inside the 13 3/8" casing and 180 barrels of Poly Plug®HSFL was blended and formulated for a static BHT of 122 degrees F.

With the drill pipe on vacuum, Poly Plug®HSFL was pumped into the drill pipe. After +/- 140 bbls of Poly Plug®HSFL exited the bit, partial returns were observed on surface. Five barrels of Poly Plug®HSFL was left in the drill pipe to prevent contamination with OBM while pulling above the pill. The Hydril was closed and 10 bbls of Poly Plug®HSFL was squeezed

into the formation at 0.25 BPM. The well was left shut in for (8) hours. The pill was tagged below the casing shoe and washing and reaming commenced.

A successful FIT was obtained and drilling commenced without further incident.

*OPEN HOLE SIZE: 12 1/4"*

*MUD TYPE: 80/20 OWR OBM*

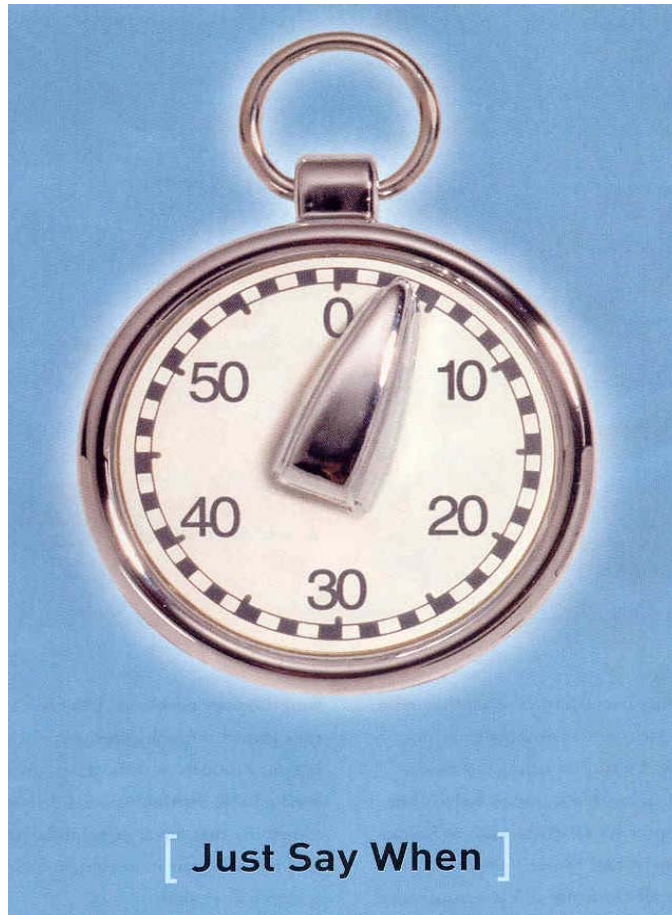
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**POLY PLUG®**



## Who is M&D Industries of Louisiana, Inc:

M & D Industries of Louisiana, Inc. was formed in the spring of 1978. The primary focus of the organization was centered in the field of drilling fluid technology. A full drilling fluid additive product line, along with a combined technical perspective from both the field and the office, provided the company with its initial successes. Representatives of the firm were accomplished in every aspect of drilling fluid applications. This covered development of cost effective

fluid systems for drilling, work-over and completion operations, continuing education of personnel and management to remain at the forefront of advanced technological applications and a commitment to providing high quality, superior drilling fluid products.

**THE GREATEST IDEA  
IN SEALANTS  
HAS FINALLY GELLED**

### STOCK POINTS:

Airdrie, Alberta, Canada  
(Supply Rite)

Casper, Wyoming  
(USA Trucking)

Midland, Texas  
(Agri-Empressa)

Bridgetown/Alice, Texas  
(Ainsworth, Trucking)