

ULTRA · SPACER™

M&D Industries of Louisiana, Inc.

PRODUCT DESCRIPTION

LOSS CIRCULATION PREVENTION

Ultra Spacer™ works well in high-permeability formations or in formations with low fracture gradients. Because the seal formed by Ultra Spacer™ raises the formation's fracture pressure, cement can be placed at casing depth with higher equivalent circulating densities (ECDs) without increasing the risk of formation fracture. This capability is highly beneficial in wells in which a narrow margin exists between the fracture gradient and the mud density.

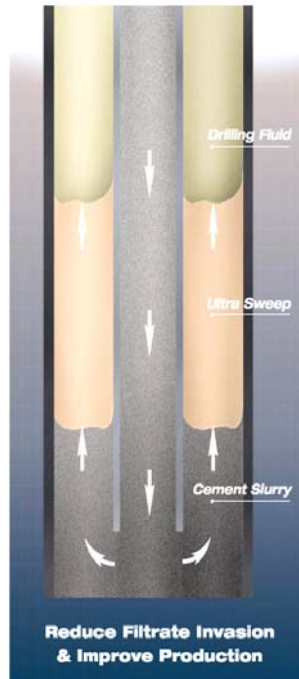
Because of its fluid loss

properties, Ultra Spacer™ aids in reducing lost circulation problems in fragile, unconsolidated, and fractured formations. The polymeric fluid loss additive reacts almost immediately upon contact with the formation for quick results without filter cake development.

For cases in which fluid loss can be total and severe, Ultra Seal-Plus® should be added to the spacer to enhance fluid loss prevention. Recommended concentrations are 20 to 40 pounds per barrel.

When used in oil base mud applications, a

Stop Filtrate Formation
Damage Before it Starts



surfactant, Ultra Spacer™ SURF is recommended in concentrations of 0.5 to 2 gallons per barrel of water.

AUGUST 2005



Special points of interest:

- Reduces potential damage from filtrate invasion from hundreds of feet to only inches.
- Provides excellent compatibility with drilling fluids and cement.
- Prevents fall back.
- Improves Cement Bond.
- Density controllable, up to 19.0 lb/gallon.
- Stable to 400 F

PRODUCT BENEFITS

Forms a non-invasive seal to prevent filtrate invasion into the producing formation (especially important in high-permeability wells or when cementing in formations with low fracture gradients).

Improves ECD's at casing depth in wells where fracture gradients and mud weights limit the density of cement.

Reduces potential damage from filtrate invasion from hundreds of feet to

only inches.

Ultra Spacer's™ low rheology enhances removal of gelled drilling fluid from the hole for superior hole cleaning performance.

**"95% RETURN
PERMEABILITY"**

ULTRA·SPACER™

What's good for your well bore is not always good for an oil bearing formation. Filtrates from the cement slurry can seriously damage a producing formation, hindering production and increasing the need for stimulation.

Ultra Spacer™ gives you control over filtrate damage. Ultra Spacer™, a specially formulated cement spacer based on unique invasion prevention technology, forms a barrier along the surface of the formation to shut out

filtrates and preserve the formation's normal permeability for optimum production.



*Filtrate from a cement slurry penetrates untreated dry, 20/40-mesh sand in less than 1 minute.**



*Ultra Spacer™ penetrates untreated sand to a depth of 4 inches before creating a seal.**



*When a cement slurry is placed on top of Ultra Spacer™, no cement filtrate invasion nor additional invasion of Ultra Spacer™ is observed after 46 minutes.**

Field Results

Improved Zonal Isolation & Excellent Mud Displacement Are Achieved as Indicated by Bond Logs and Produced Fluids.

Ultra Spacer™ Prevents Fall Back of Cement Tops.

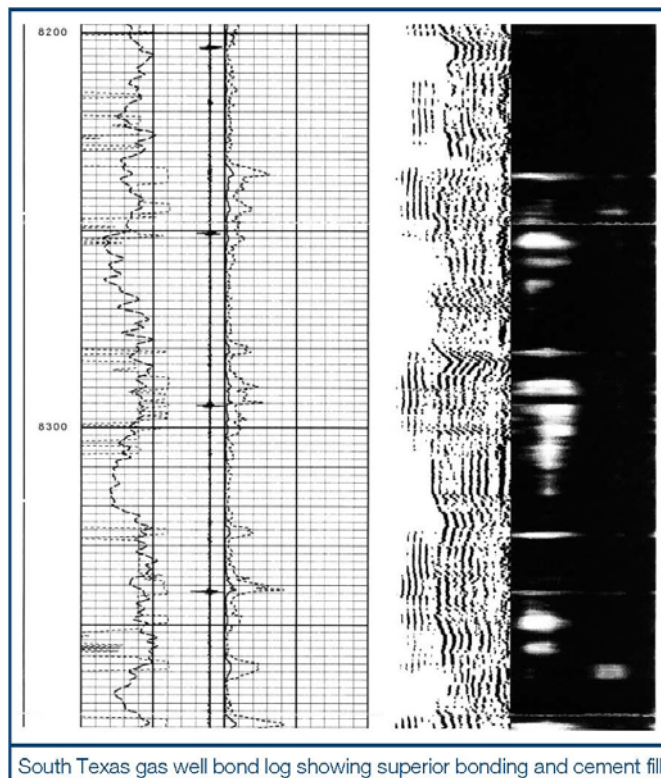
Provides Increased Well Productivity.

CASE HISTORY SOUTH TEXAS - GAS WELL

Ultra Spacer™ has been used in seven wells in a South Texas formation with exceptional results. The following case history is representative of the results achieved for this operator.

Application:

An independent operator drilled a directional wildcat well from a small drilling pad surrounded by wetlands. Because drilling from the site was restricted to summer and early fall, no time could be allotted for remediation of cement seals across the producing intervals. The producing interval contained an estimated 25 to 30 sands requiring zonal isolation over a depth of 2,000 feet. The operator was concerned about the potential for lost circulation in the wells and did not want to damage the sands since time was a critical factor in these operations.



Results: The cementing treatment was successful and excellent bonding and annular seal were achieved throughout the producing intervals. Bond logs indicated superior bonding and cement fill, and early production from the well exceeded expectations. The operator has since drilled three additional wells using Ultra Spacer™ in the production cementing treatment.

"Good bonding was established over the entire cemented interval resulting in water free completion...It was an important factor in the successful completion of one of the largest discoveries in Southeast Texas in the last 50 years."
- Ross Davis, President, Davis Bros. Oil Producers, Inc.

CASE HISTORY - OFFSHORE GULF OF MEXICO

Ultra Spacer™ has been used in two deep, offshore wells to prevent lost circulation and allow more efficient clean sweeping of holes.

Application: An operator with deep, hot wells offshore Gulf of Mexico was experiencing problems achieving efficient hole cleaning to

allow stable plug placement to provide long term isolation. Because of damage to the formation sands, lost circulation was also a problem.

Results: The use of Ultra Spacer™ resulted in efficient clean sweeping of the hole, reduced lost circulation, and improved plug results.



CASE HISTORY - COAL BED METHANE

Ultra Spacer™ has been used in six wells in the Powder River Basin to eliminate cement fall back and improve production. The following case history is representative of the results achieved in these wells.

Application:

A major operator (Marathon Oil Company) was experiencing fall back of cement tops after cementing production strings in coal-bed methane (CBM) wells in the Powder River Basin. The wells were shallow (less than 2000 feet) and experienced significant lost circulation during drilling and cementing operations. Low density drilling fluids and cements did not completely solve the lost circulation problem. Fall back after cementing resulted in incomplete protection of the casing, as well as introduction of cement slurry into the producing formation. Because production in CBM wells is highly dependent on fracture networks in the coal, the loss of cement to the coal formation had a strong potential for inhibiting production.

Solution:

Ultra Spacer™ was used during the cementing of the production casing on five new wells to prevent cement fall back and prevent formation damage to the fracture networks in the coal bed. The operator pumped 10 barrels of Ultra Spacer™ ahead of their standard, low density cement.

Results:

The use of Ultra Spacer™ resulted in elimination of cement fall back, produced excellent bond logs, and improved production.

CASE HISTORY - COAL BED METHANE

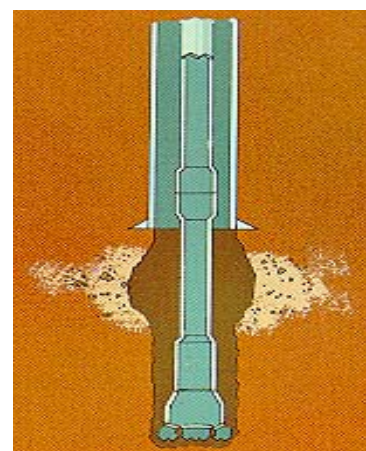
An operator (Amvest) in Osage County, Oklahoma, has used Ultra Spacer™ in 31 wells to reduce lost circulation and damage to the fracture network.

Application:

Ultra Spacer™ was pumped directly ahead of cement or as a stabilizing fluid introduced into the air drilled hole immediately after drilling.

The primary goal of this project was to reduce the lost circulation believed to damage the fracture network in the coal bed leading to reduced productivity and to determine Ultra Spacer's™ affect on cementing, stimulation treatments, and production.

Results: This project has just been completed. Production results are being analyzed and are not yet available. However, fracture initiation pressures have been



significantly lower and initial water production rates are higher in wells in which Ultra Spacer™ was not used.

**M&D Industries of
Louisiana, Inc.**

502 Richland Avenue
Lafayette, Louisiana 70508
USA

Phone: 800-772-6833

Fax: 337-981-2131

E-mail: donnieburts@ultrasealinc.com

Web: www.ultrasealinc.com



Stock Points:

Lafayette, Louisiana

Houston, Texas

Midland, Texas

Casper, Wyoming

Calgary, Alberta

Standard Packaging:

ULTRA SPACER™: 24 (30#) PAILS / PALLET

ULTRA SPACER™ SURF: 24 (45#) PAILS / PALLET

ULTRA SEAL-PLUS®: 28 (40#) SX / PALLET

ULTRA-SPACER™

Filtrates can cause significant damage to formation permeability. By reducing the amount of filtrate that invades the formation, Ultra Spacer™ prevents loss of permeability, and consequently, allows for higher production. Results from field trials and applications show that Ultra Spacer™ effectively:

- Improves cement bonds and prevents fallback of cement tops
 - Aids in maximizing production
- Greatly reduces formation breakdown and induced losses

Ultra Spacer™ forms an impermeable film that functions as a barrier to reduce permeation from fluids in the annulus into the formation. This barrier is very thin; so no filter cake is necessary to establish control. Ultra Seal-Plus® should be added when pre-existing natural fractures/vugs are present and that spacer alone cannot seal. Ultra Spacer™ is formulated for application ahead of cement placement in primary cementing and has been used successfully in primary cementing, plug cementing, and squeeze cementing operations. Ultra Spacer™ can also be used ahead of Poly Plug® placement in perforation abandonment, zonal isolation, water shut off and loss circulation.
