



# REMEDY IMPLEMENTATION GUIDE

## SWEEP APPLICATION

Build 15-25 lb/bbl sweeps and pump as necessary for control of moderate loss of circulation. Remedy sweeps should be utilized after Pill applications have been made to ensure sealing of newly drilled formation.

## PILL APPLICATION

Build a pill of 50-100+ lbs/bbl in base fluid or mud. Pull Pump Screens. Spot pill in open hole. Make sure all remedy has been pumped out of the drill string. Pull up 500 ft above loss zone and close the annulus. Allow 2-4 hrs for Remedy to begin sealing. Apply pressure, standard soft squeeze procedures. When well is holding pressure, slowly (slowly) bring pumps up. When complete circulation is established return to bottom and resume drilling. In severe cases of lost circulation, a second Remedy slug application may be required.

## BACKGROUND TREATMENTS

Build a pill of 50-100+ lbs/bbl in base fluid or mud. Pull Pump Screens. Spot pill in open hole. Make sure all remedy has been pumped out of the drill string. Pull up 500 ft above loss zone and close the annulus. Allow 2-4 hrs for Remedy to begin sealing. Apply pressure, standard soft squeeze procedures. When well is holding pressure, slowly (slowly) bring pumps up. When complete circulation is established return to bottom and resume drilling. In severe cases of lost circulation, a second Remedy slug application may be required.

## SLUGGING TECHNIQUE

A concentrated pill of Remedy is pumped very slowly up the annulus to maximize the concentration of Remedy in coating the open hole. Once the material is received back on surface, it can be caught in a slugging tank and the additive concentration replenished until the next circulation is required. This technique can reduce the amount of Remedy required to achieve low annular losses while not interfering with penetration rates caused by solids in the fluid. The Remedy has a limited exposure to the entire system and is not allowed to build up in the system as would occur under conventional background treating techniques.

A typical slug or pill can consist of 15 to 50 barrels total volume. The pill can be wiped around slowly on a regular basis. The volume, frequency of wiping, and Remedy concentration should be determined by the severity of fluid loss, hole diameter, amount of open hole, differential pressure, etc.





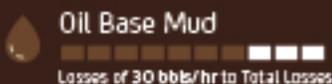
### Seepage Loss



### Moderate Losses



### Severe to Total Losses



### Treating Active

Minor Losses should be treated with

**15-25 lb/bbl**

- Remedy sweeps as needed to stop losses and strengthen the well bore

Moderate Losses should be treated with

**25+ lb/bbl**

- Remedy sweeps as needed to stop losses and strengthen the well bore.
- Background treatment of the active system with 4-6 lbs/ bbl may be required

Severe to Total losses should be treated by

**50+ lb/bbl**

- Building a slurry of Remedy
- Spotting the Remedy Pill in the Thief Zone
- Pull above the Thief Zone, shut in and allow the Remedy Pill to Plug, Bridge and Seal the damaged formation.

