

SANDS

MIXTURE: **Bring pH to 9.5 before mixing!**

Fine - five to six sacks Boregel per 1000 gallons water.
Coarse - six to seven sacks Boregel plus one to two sacks No Sag.
Gravel - seven to eight sacks Boregel plus 2 sacks No Sag.
Cobble - eight to nine sacks Boregel plus two to three sacks No Sag.

VISCOSITY:

Goal of 55-60 vis, higher for heavier sands/gravel/cobble. Use No Sag when bore is long or diameter is large. Add small amount of Poly Bore when sand is fine.

RECOMMENDED TOOLING:

Fine - compact fluted.
Coarse - compact fluted.
Gravel - compact fluted or Kodiak.
Cobble - Kodiak. Three Wing Rock,

RECOMMENDED PROCEDURE:

Use recommended mixture for boring, pre-ream and pulling product. A combination packer / skirt can be used to prevent large pieces of rock from becoming lodged between reamer and product. Run maximum flow rate and try to maintain flow at all times. Keep rotation and pulling pressures in the 1300-2100 psi range. The finer the sand the more likely pulling faster, while keeping within psi ranges will produce better results.

LOAM SAND/AVERAGE SOIL

MIXTURE: **Bring pH to 9.5 before mixing!**

If **more sand** than clay, use three to five sacks of Boregel per 1000 gallons.
If more **clay than sand**, use two to three sacks of Boregel, 1-2 (8) ounce cups of PolyBore and two and 1-2 gallons of ConDet.

VISCOSITY:

Goal of 45-55 vis.

RECOMMENDED TOOLING:

If more sand than clay - compact fluted.
If more clay than sand - Beavertail.

RECOMMENDED PROCEDURE:

Use recommended mixture for boring over, pre-ream and while pulling product keep flow rate at maximum and always try to maintain flow to prevent frac outs. Keep rotation and pulling pressures in the 800-1800 psi range.

BLACK ADOBE / STICKY CLAYS

MIXTURE: **Bring pH to 9.5 before mixing!**

Three to five gallons ConDet per 1000 gallons water with your choice of the type of polymer:
EZ Mud - six quarts or,
Poly Bore - three to four (8) ounce cups or,
If using recycler Drispac, (call for details)

VISCOSITY:

Goal of 45-55 vis, higher if bore hole is below water table and possibility of salt water intrusion is present.

RECOMMENDED TOOLING:

Beavertail lead with large nozzles followed by a "mud masher", "whisk", or "mixer" type reamer with restricted nozzles. Do not use a "compaction" type reamer unless diameter of product is small, less than 6" diameter

RECOMMENDED PROCEDURE:

Bore with recommended mixture. Pre-ream with Beavertail / mixer combo. With borehead, shoot back to exit hole and re-hook reamer combo. Pull product with maximum flow rate and always try to maintain flow. Keep rotation and pulling pressures in the 1000-1200 psi range, allowing the reamers to breakdown the clay. Cutting the flow rate or pulling to fast will stick the product being pulled. The clay must be broke down to allow the product to make the pullback. Watch carefully the distance and diameter attempted. Pull the product the same day as the "pre-ream" is done.

HARD PAN

MIXTURE: **Bring pH to 9.5 before mixing!**

Four to five sacks Boregel per 1000 gallons water.

VISCOSITY:

Goal of 45-55 vis is desired to float cuttings out of hole.

RECOMMENDED TOOLING:

Beavertail, CT Cutter, Saw Tooth or Three Wing Rock reamer for severe conditions.

RECOMMENDED PROCEDURE:

Use recommended mixture on bore, pre-ream and while pulling product. Do not cut mixture down on pilot bore. Use maximum flow rates on backream but listen for back pressure to water pump caused by excessive flow rate. Necessary to flush cuttings from hole, medium viscosity is key. Keep rotation and pulling pressures in the 1200-1800 psi range.