

## Example for sanding-onset determination

Sanding contributes to productivity reduction from oil fields. Understanding the sanding process and predicting the size distribution of the ejected material can help to define the correct packer size for your well to maintain high production rates.

geomecon's lab is build around a high capacity loading frame with confining pressure and pore pressure system, advanced strain and micro seismicity monitoring systems. In this system, a thick-walled hollow cylinder will be loaded and subjected to different flow conditions. The critical pressure condition for the sanding onset will be determined. Different analytical models can be tested against the laboratory data.

See our list of laboratory services at www.geomecon.de/lab.html.

Selected references: Schlumberger Research (Russia), Terratek (USA).

>>> p.t.o. for sanding-onset package details

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## geomecon's sanding-onset package

geomecon offers a sanding characterization package, that delivers a measure for particle size and sanding onset. The tests are performed on core material; alternatively we can perform the analyses on blocks of analogue material also.

- > core material of NX size or larger required
- > delivers the onset stress/flow conditions for sanding and particle size distribution of ejected material
- > package includes handling, specimen preparation, analysis, interpretation, and reporting of results

specimen preparation and sensor application

- > cylindrical specimen with central hole
- > the specimen is saturated as desired
- > 8 acoustic emission sensors measure the ultrasonic velocities and acoustic emissions
- > 2 pairs of strain gauges measure the deformation of the specimen

## testing plan

- > application of initial confining pressure, reservoir pressure and axial load
- > loading of the specimen to a maximum confining pressure of 195MPa possible
- > deformation and acoustic data will be obtained at a rate of 4Hz
- > sample documentation prior and post experiment
- > sieving of debris

## <u>results</u>

- > onset of sanding as defined by change in acoustic emission rate, change in ultrasonic velocity, and deviation from linear elasticity
- > particle size distribution of the ejected material

>>> ask for your quote at solutions@geomecon.de