



FANGMANN

ENERGY SERVICES

Stimulation | Cementing



ready for service

Stimulation

[BOOST YOUR PRODUCTION]

For over 50 years we have been working together with our clients to increase their production – starting from the job preparation, to job execution and finally job evaluation. Challenge us: We offer the complete package to the oil and gas, geothermal and underground gas storage industries.

Our Services

We provide the services, equipment and technical expertise in:

- Matrix acidizing
- Gas well deliquification with foam
 - ✓ Foam, surfactant and acid squeeze
 - ✓ Foam, surfactant and acid batch treatments
 - ✓ Continuous or intermittent foaming
- Flowback services
- Pumping services
- Application of mobile natural gas compressor
- Hydraulic fracturing
- Gravel and Frac-Pack services
- Abrasive cutting and perforating
- Sand plugs
- Packer Service
- Equipment rental

Engineering

Our engineering services supported by evaluation software will provide you with the required technical expertise from the beginning of your project until completion.

- Investigation and recommendation of treatment plan
- Creation of treating program
- Simulations e.g. fracture propagation prediction
- Data acquisition (pressure, rate, volume, density, etc.)
- Evaluation e.g. pressure matching relating to fracture height, length and conductivity
- Downhole tool calculations and design

Equipment

- High pressure pumps (Σ 8.500 hhp)
- Blender for sand, proppant and acids
- Mobile natural gas compressor
- Flowback equipment
- Data acquisition unit
- Field lab
- Silos and storage tanks
- Acid mixing and storage tanks
- Packers (mechanical and hydraulic)



Cementing

[STRONG CONNECTIONS]

A skilled team and modern technology – a winning combination to ensure long-lasting quality. Our team distinguishes itself through our experience in the field and the lab which we apply worldwide.

Our Services

- Casing and liner cementation
- Cement plugs – kick-off, plug and abandon, plugback, sealing a depleted zone
- Remedial cementing e.g. squeezing of corroded casing, weak formations, etc.
- Loss circulation cementing
- Engineering and consulting
- Laboratory testing
- Cement system and additive sales
- Downhole tool service
- Cement blending services
 - ✓ High resistant cement for CCS and geothermal wells
 - ✓ Light and ultralight blends
 - ✓ High temperature resistant cement
 - ✓ Gas tight cement
 - ✓ Acidizable cement
- Tank and silo rental
- Casing hardware

Engineering

We provide a complete engineering package. Our experienced and well-trained staff together with our simulation software ensures that no questions are left unanswered.

- Simulation software
 - ✓ ECD, pressure, volume, rate
 - ✓ Import of caliper log, drilling survey and other well data
 - ✓ Graphical display of job parameters
 - ✓ Post-job evaluation
- Downhole tool calculations and design
- Real-time data acquisition of:
 - ✓ Pressures, densities, flow rates, volumes and temperatures
- Evaluation and interpretation of wireline logs e.g. CBL / VDL, etc.

Equipment

The quality and safety of our services go hand in hand with our equipment. We employ the most modern and reliable equipment to achieve that goal.

- Pump trucks with working pressure of 1000 Bar
- Batch mix tanks (6 – 34 m³)
- Cement silos with total capacity of 250 Tonnes
- Silo delivery truck
- Cement heads from 4 1/2" to 13 3/8"
- 18 5/8" Innerstring cement head
- Storage tanks with 500 m³ total capacity
- Packer, retainer and bridge plugs



Laboratory

[PASSED THE TEST]

Our commitment to technology and experience also applies to the laboratory. The laboratory is fitted with the state of the art equipment and testing is in accordance with API/ISO standards and client internal standards. Our lab personnel have extensive experience in the energy industry including worldwide field experience.

Cement Recipes

To get the right recipe requires precise engineering. Our slurry calculation program ensures that the right mixture of cement and additives is combined to meet our client's needs. The software calculates and recommends cement slurries, spacer and blends and also calculates the rheology using the appropriate rheological model. All of our fluids are then stored in an extensive database.

The program calculates:

- Temperatures
- Acoustic impedance
- API fluid loss
- Compatibility

The following tests can be performed:

Cementing

- Compressive strength
 - ✓ Destructive
 - ✓ Non-destructive
- Thickening time
- Viscosity
- Fluid loss
- Free water
- Stability
- Incompatibility
- Specific gravity
- Expansion

Stimulation

- Acid solubility
- Core flooding
- High-temp viscosity
- pH measurement
- Foam stability
- Proppant quality
- Corrosion testing
- Breaker selection



Fangmann Energy Services GmbH & Co. KG

HEAD OFFICE:
Brietzer Weg 10
29410 Salzwedel
Germany

BASE CLOPPENBURG:
Hohe Tannen 14
49661 Cloppenburg
Germany

Tel.: +49 (0)3901 83 63-0
Fax: +49 (0)3901 83 63-28
fes@fangmanngroup.com
www.fangmanngroup.com

Tel.: +49 (0)4471 98008-0
Fax: +49 (0)4471 98008-18
fes@fangmanngroup.com
www.fangmanngroup.com

