

C&J Energy Services is a leading provider of onshore well construction, well completions and well services. With headquarters in Houston, Texas, we have operations and facilities in all major oil- and gas-producing regions of the continental U.S. We offer a complete suite of services to enhance production and profitability throughout the life of the well.

C&J is recognized in the industry as a leader in health, safety and environmental (HSE) performance. Providing for the safety of our employees, while protecting the communities in which we live and work, is our top priority. Our award-winning safety record, ongoing HSE initiatives and comprehensive quality-management programs mean our customers can feel confident in the integrity of our operations.

## FRACTURING

### Pre-Frac Services

- Kill studies to determine optimal biocide choice and concentration
- Complete water analysis to determine optimal chemical loadings for a stable fluid system
- Break-analysis tests to determine optimal breaker package
- Engineering consultation for optimal fluid-system and treatment designs
- Log analysis on openhole and cased-hole logs
- LateralScience<sup>SM</sup> engineered-completion service that leverages common drilling data to produce cost-effective, optimized designs for horizontal completions
- Pre-frac meeting with management and engineering to optimize job efficiencies, maintenance and logistics
- Completion-manager services to manage all third-party completions vendors to simplify billing and logistics
- Laboratory services (friction-reducer loop for frac design)

### Post-Frac Services

- Customizable KPI review with client for single or multiple wells
- Post-job well analysis from engineering team

### Fluid Systems

- PureStim<sup>TM</sup> fluid system to provide the option to pump either a borate or zirconate system
- PureStim<sup>TM</sup> SW slickwater system to provide the option to pump fresh water, brine or produced water
- DeepEtch<sup>TM</sup> gelled-acid system to provide the option to pump matrix-rate gelled acid jobs and higher-rate acid jobs
- Full suite of biocides, surfactants, complex nanofluids, temporary and permanent clay stabilizers, paraffin inhibitors and scale inhibitors

### On-Location Services

- Field engineer to collect and observe job data, run fluid-injection tests and generate client-requested reports
- Technical operator to minimize downtime by managing on-location consumables and fluid-system integrity
- Hibernate<sup>TM</sup> warm-start system to turn off frac pump engines between stages and then make quick, reliable group starts when it's time to pump again

### Recompletion Services

- LateralScience<sup>SM</sup> engineered-completion service that leverages common drilling data to produce cost-effective, optimized designs for horizontal completions
- Re-Con<sup>SM</sup> frac-less restimulation to cost-effectively help maintain or increase production on existing wells
- High-rate acid jobs with ball diversion
- Refracturing with diverters and proppant
- Frac wash service

## WIRELINE AND PUMPING

### Perforating

- GameChanger™ perforating system, designed with reliable connections and no ports to eliminate misruns and resulting NPT of traditional perf systems
- Tru-Mill™ composite frac plug, which delivers a true 8,000- or 10,000-psi differential rating and drills out fast with a 100% compression-molded mandrel and bottom sub
- Rotary ball dispenser (RBD) that improves wellhead safety and reduces rig time by enabling remote ball drops up to 150 ft away from the wellhead
- Full range of perforating equipment with addressable switch capability
- Full range of tubing-conveyed perforating equipment
- Full range of pipe-recovery equipment (freepoint, backoff, all types of cutters)
- Downhole head-tension tool
- Mechanical- and explosive-release tools
- 5,000- and 10,000-psi pressure-control equipment
- Sour-service wireline cables
- Crane services
- Wireline-friction/pump-rate modeling

### Logging

- Radial cement-bond log tools (1 11/16- to 4 1/2-in. sizes)
- Electromagnetic thickness and multifinger (24-60) caliper tools with 3D-visualization software
- Compensated and single-detector neutron tools
- Combinable logging services to reduce well runs
- Production logging tools (flowmeter, gradiometer, dielectric, pressure, temperature)
- Noise/temperature logging tools
- Secure portal system to deliver customer data

### Acidizing and Pumping Services

- Self-charging, tractor-trailer-mounted pumps
- Wireline pumpdowns
- Pressure and injection testing
- Fleet of 5,000-gallon, single- and double-compartment tankers
- Ability to haul HCL, NEFE, glacial acetic and HF acids
- Diverter jobs
- Cleanouts

- Workover-rig assists
- Scale squeezes
- Ballout jobs
- Data acquisition on all jobs
- 3-in. iron packages
- Data trailers with integrated OSHA-approved eyewash and shower stations
- Toe-prep capabilities

### Wellsite Makeup and Pressure-Testing Services

- 20,000-psi pressure-test units (glycol capable)
- Full set of hydraulic wrenches
- 5,000- 10,000- and 20,000-psi chart recorders
- BOP testing
- Frac-tree makeup and testing
- Production-tree makeup and testing
- Wireline-lubricator testing
- Backside pressure during frac treatments
- Flowline pressure testing
- Makeup and pressure testing of production equipment

## COILED TUBING

- 23,000 ft for 1 1/4-in. tubing
- 21,000 ft for 1 1/2-in. tubing
- 20,500 ft for 1 3/4-in. tubing
- 25,000 ft for 2-in. tubing
- 23,000 ft for 2 3/8-in. tubing
- 23,000 ft for 2 5/8-in. tubing

### Applications

- Plug drillouts
- Fill cleanouts
- Tubing-conveyed perforating (TCP)
- Memory-tool well logging
- Fishing
- Coiled-tubing fracturing
- Acid stimulation and washouts

*(Coiled Tubing Applications, continued)*

- Cement through coiled tubing
- High-pressure coiled-tubing jobs
- Velocity-string installation/retrievals
- Nitrogen jetting
- Sand-jetting perforations
- Sand-cutting tubulars
- Scale/paraffin removal
- Underbalanced formation drilling
- Sliding-sleeve operation
- Pipeline cleanouts

## FLUIDS MANAGEMENT

### Fluid Transportation

- GPS-equipped truck and trailer combos to transport waste water and treated water
- Strategic locations in each of the major basins
- Multiple full-service fluid-disposal wells

### Fluid Tanks

- Large fleet of modern, 500-barrel frac tanks for lease
- Specialty tanks in various sizes
- Tanks for mud/solids storage
- Trucks/equipment for transportation, cleaning and setting of tanks

### Specialty Fluid Services

- Fast, efficient blending of workover and completion fluids at the wellsite, using custom-designed mixing units
- Full-service vacuum/kill trucks for wastewater disposal and well-killing operations
- Construction and operation of wastewater- and brine-disposal wells
- Laboratory services (friction-reducer loop for frac design)

## RIG SERVICES

- Drilling of new wells
- Initial completion of new wells
- Redrilling of existing wells
- ESP and rod installations/repairs
- Mechanical tubing and casing repairs
- Recompletion of existing wells
- Swabbing services/fluid-removal services
- Lateral drilling and completion
- Plug and abandonment

## SPECIAL SERVICES

### Plug and Abandonment (P&A) Services

- Complete, one-stop P&A service
- Rigs sized for individual projects
- On-location management/design
- Location restoration

### Other Special Services

- Fishing tool rental and services
- Excavation and construction
- Wellbore cleanout
- Plug setting and retrieval
- Tubing-conveyed perforating (TCP)
- Drillpipe and tubing rental
- Pressure- and flow-control equipment rental
- Pipe and downhole-tool retrieval
- Pipeline-testing support/equipment (tanks, haul-offs, fluids)
- Blowout-preventer (BOP) rentals
- Roustabout services

### Primary Cementing

- Surface casing
- Intermediate casing
- Drilling liner
- Production casing and liner
- Kickoff plugs
- CircuLite™ lightweight cement systems

### Remedial Cementing

- Squeeze jobs
- Scab liners
- Plug and abandonment

### District Labs

- Cement pilot and field blend testing
  - Thickening time
  - Fluid loss
  - Free water
  - Rheologies
  - Compressive strengths (UCA and destructive method)
- Static gel strength testing
- Drilling mud/spacer/cement compatibility testing
- Water analysis
- Wettability testing
- Expansion testing
- Settling testing (API sedimentation or dynamic settling)

### CEMPRO – Cement Job Computer-Simulation Suite

- Downhole job design and simulation
- 2D hydraulic simulations
- Mud-displacement efficiency modeling
- Post-job evaluation (execution vs. design)
- Centralizer design
- Torque and drag modeling

### Cementing Research and Support Center

- Full capabilities of district labs plus:
  - X-ray diffraction (XRD)
  - X-ray fluorescence (XRF)
  - Microscopic analysis
  - Free-lime content
  - Moisture content
  - Retarder analysis
  - Bentonite content