

STRATAGRAPH

Accurate Data, Reliable Solutions



Mudlogging

Geosteering

Wellsite Geology



www.stratagraph.com

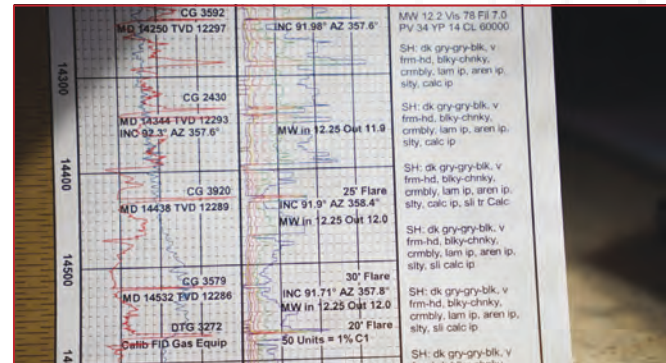
Solutions

Who We Are

At Stratagraph, we want to be your partner in creating a better solution for your mudlogging and geosteering needs. As one of the largest independently owned mudlogging and geosteering companies, we provide the onshore and offshore markets both domestically and internationally with real-time, customizable data solutions. With more than 5 million hours logged and over 50 years of experience, our commitment to safety and exceptional service has built our strong reputation for customer satisfaction. Our own highly experienced and extensively trained mudloggers have supported us in achieving one of the best EMR safety ratings in the industry, averaging .90 over the past 5 years alone. We achieve minimal downtime for our clients with Stratagraph's advanced systems and back-up equipment on all job sites, and our approach to total communication offers the support you need for successful completion of your projects. We believe better logging leads to better results, and better results lead to better partnerships.

How We Help

Providing you with accurate, reliable, and consistent information from your drilling site, Stratagraph ensures optimal operation decisions can be made without delay to protect the wellbore and preserve a safe work environment. With a long history of safe operations throughout the United States and beyond, we are confident in our ability to help you drill a better well.



Onshore (5000+ Wells Logged)

- Haynesville
- Eagleford
- Buda Lime
- Permian Basin
- Eaglebine
- Woodford
- Brown Dense
- San Juan Basin
- Tuscaloosa
- Fayetteville

Offshore (4000+ Wells Logged)

- Bay of Campeche
- GOM Shelf
- Inland Waters
- GOM Deepwater
- Mobile Bay

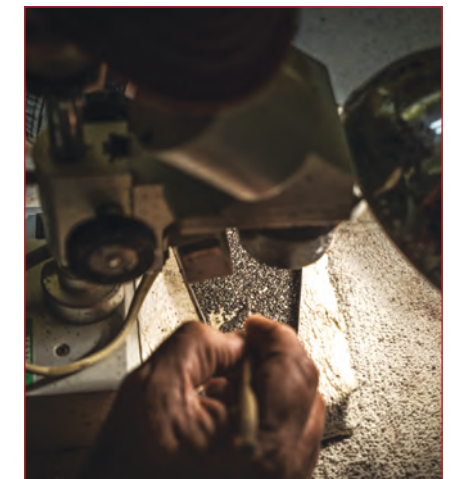
How You Want It

Onshore and Offshore

STRATAGRAPH Services

Targeting the specific needs for each site, we gather data and provide a detailed record of the wellbore while offering a wealth of information on the lithology of the drill site. From a field development project to the most volatile high-pressure exploration well, Stratagraph has the personnel and equipment to handle the project. Knowledgeable specialists deliver a detailed look at the drilling process, site lithology, and overall well operations in a format that suits your needs. We offer 5-core services that can be customized to meet your data gathering and information needs.

- Full Mudlogging Services
- Real-Time Data Acquisition and Advanced Rig Monitoring Services
- WITS Dependent Mudlogging Services
- Onsite and Remote Geosteering
- Wellsite Geology



STRATAGRAPH

Stratagraph monitors and analyzes drilling parameters in real-time through various sensors and specialized equipment installed on the drilling rig. Using sophisticated gas detection technology, we monitor gas properties to provide you the information you need to take appropriate action to ensure safety on your project. Focused on providing accurate and reliable data to our clients, Stratagraph calibrates our equipment every 12 hours or as conditions dictate using a certified gas calibration standard. The results of all calibrations are stored locally on the computer hard drive and also are printed out for easy viewing. This offers peace of mind that only accurate gas data is being reported.

- Stratatel Logging System
- Strataview Data Acquisition and Rig Monitoring System
- FID (Flame Ionization Detector) Gas Detection Equipment

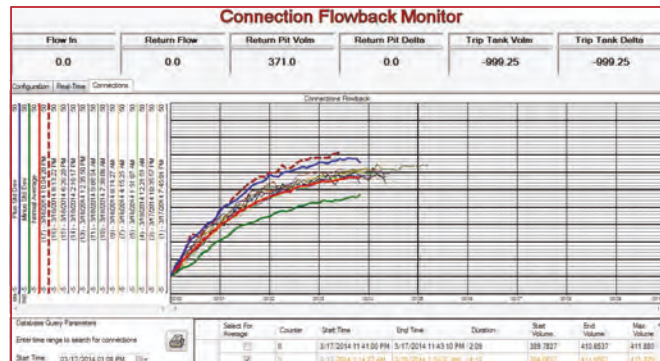
STRATAGRAPH

Stratagraph offers tailored logs, detailed morning and afternoon reports and continual communication options to meet your needs. With numerous ways to view your well data, you can access up-to-date information anywhere and anytime in multiple formats. Data can be collected and stored in time and depth base formats, and color schemes and symbols are fully customizable to fit your company's standard.



STRATAGRAPH Mudlogging

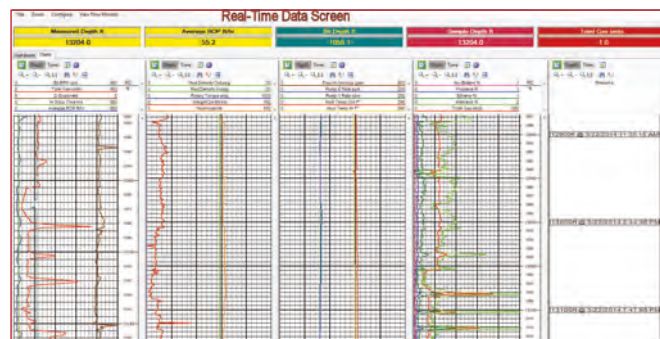
Optimal decisions on well operations can be made when accurate drilling functions are available in usable formats. Stratagraph offers multiple onsite monitoring packages to suit your needs and budget. Well logging systems come with all the essential equipment to monitor, record, and generate standard and customized computer logs. Formation and mud samples are collected at specific intervals throughout the drilling process to gain an accurate understanding of what is happening with the wellbore and the formation.



Strataview Data Acquisition and Advanced Rig Monitoring System

The Strataview Real-Time Data Acquisition and Advanced Rig Monitoring System is the most comprehensive rig monitoring system used in the industry today. This system provides 75 drilling functions and hydraulic calculations to keep company representatives and rig personnel current on drilling and wellbore conditions. This system is a perfect choice for exploration and wildcat projects.

With three customizable screens and remote interactive workstation capabilities, you select the data you need to see and how you want to view it. The Strataview system provides additional sensors not available on our Stratatel system. For your critical project we offer WOB, monitoring of pits, pump pressure and mud flow amongst many others. In addition to our standard mudlogs, we will also generate daily pore pressure profile, engineering, and gas ratio logs and have the ability to import logging while drilling (LWD) and measurement while drilling (MWD) data.



Stratatel Full Mudlogging System

The Stratatel Full Mudlogging System provides drilling data when the project does not require a complete rig monitoring system. With a standard suite of sensors, the system is ideal for development projects and comes with all of the essential monitoring equipment such as depth, rate of penetration, gas and pump strokes in addition to standard computer-generated logs. Providing the accuracy of a computer-generated logging system for the cost of a hand-drawn log, mudlogs produced by this system include 1 inch = 100 feet, 1 inch = 200 feet, and 5 inch = 100 feet logs in measured depth or true vertical depth formats.

Additional Options

Stratagraph provides additional options to complement our mudlogging systems for greater customization of your project. Whether you need oil and gas show evaluations, detailed lithology descriptions, additional data acquisition sensors, multiple real-time calculations, various plots, additional equipment, assorted sample types, or different display options, we can accommodate your needs.

WITS Dependent Mudlogging Services

For an economical alternative to more sophisticated mudlogging services, Stratagraph can utilize the available sensor data from a rig monitoring system already in place to detect gasses with our WITS dependent mudlogging system.

Strataview

Data Acquisition Sensor

Data Acquisition Sensor Options Available Include:

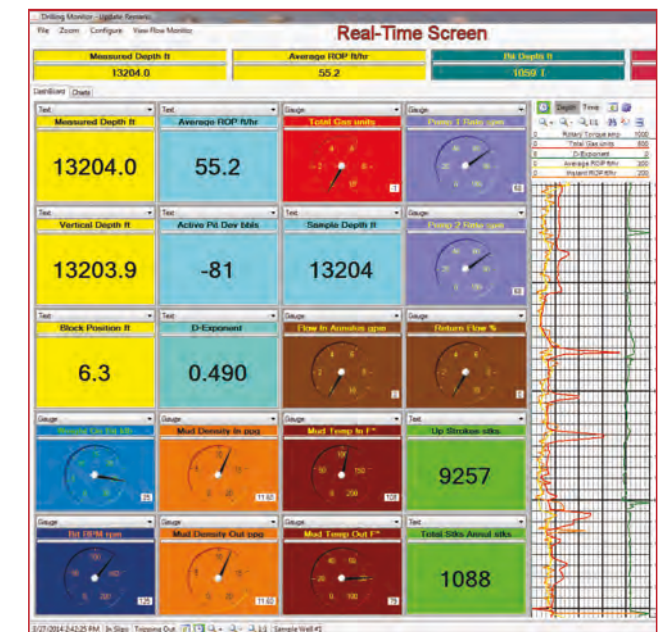
- Draw Works Depth Encoder
- Pump Stroke Counters
- Choke Pressure
- Hook Load
- Pit Volume Totals
- Pump Pressure
- Rotary RPM
- Rotary Torque
- Mud Temperature In/Out
- Mud Return Flow
- FID Total Gas Detector
- FID Chromatograph
- Gas Chromatograph Integrator

Real-Time Calculations Available Include:

- True Vertical Depth
- Rate of Penetration
- Average Rate of Penetration
- D-Exponent
- Corrected D-Exponent
- Pump Rates
- Mud Flow In
- Weight-On-Bit
- Block Position
- Lag Time
- Lag Strokes
- Sample Depth
- Mud Pit Gain/ Loss
- Equivalent Circulating Density at Bit
- Equivalent Circulating Density at Casing Shoe
- Hydrostatic Pressure
- Annular Velocities
- System Pressure Losses
- Pressure Loss at Bit
- Pump Hydraulic Horsepower
- Nozzle Velocity
- Hole Volumes
- Jet Impact Force
- Pipe Volume and Displacement
- Volume Pumped per Foot Drilled

Optional Services Available Include:

- Bulk Shale Density Plots
- Computed "dc" Exponent Plots
- Estimated Pore Pressure Plots
- Gas Ratio Plots
- Mud Temperature In/Out Plots
- Mud Resistivity In/Out Plots
- True Vertical Depth Log
- MWD/LWD Log Overlay
- Ditch Magnet
- Drill Cutting Scales
- Calcimeter
- QGM Constant Volume Gas Trap
- Digital Camera to Send Digital Images
- Inline CO2 Monitor System with Alarm
- Single Channel Inline H2S Monitor with Alarm
- LAS Data Disk
- Additional Remote Data Displays
- Rig Floor Data Display
- Company Man Color Workstation
- Iso-Tube Gas Sampling
- Iso-Jar Cuttings Samples
- Additional Personnel for Fast Hole/ Extra Samples
- Flowback Fingerprinting and Early Kick Detection
- Satellite Communications
- Mud Weight In/Out



STRATAGRAPH Geosteering



Stratagraph's Geosteering services are available both onsite and remotely, and assist with most aspects of well placement including:

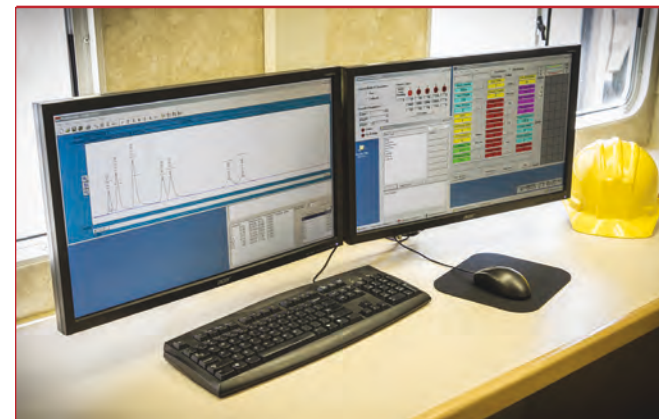


- Degreed geologists to interpret real-time data
- Integration with mudlogging and wellsite geology for better interpretation and cost effectiveness
- Time critical changes during drilling to stay in the zone and within the plan
- Plotting surveys on log
- Calculating and anticipating dip
- Providing "quick look" exploration and completion tools for packer placement at TD
- Producing an end of well report with entire wellbore path, which includes ROP, Total Gas, Chromatograph Readings, Percent of In-Zone Statistics, Structure, and Lithology Tops such as Gamma and Resistivity Monitoring

Defined as geologically guiding the well path, geosteering guides decisions in real-time or near real-time to provide maximum exposure to production zones. Stratagraph's experienced geosteering professionals offer expertise on subsurface geology and directing the well path while assisting with streamlining operations and enhancing communications with operations geologists, wellsite supervisors, directional drillers, and MWD/LWD hands.



Geosteering Software



Remote Geosteering

While not all conventional plays are suited for remote geosteering, eligible sites are reoffered an alternative route to drilling efficiency that improves safety and reduces overall costs. Remote geosteering involves gamma markers, continuous supervision and consistent communication for optimal landing in the build section for most horizontal wells. Remote geosteering can assess hole conditions by monitoring drilling parameters and mud properties, paying particular attention to any indications of overpressure zones, sticky holes, or lost circulation.

Lowering the risk of accidents through fewer logging hours and fewer people at the wellsite, exposure to hazards at the wellsite is reduced through remote geosteering. With geologists working close to home, transportation costs are minimized, and accommodation costs are eliminated. While working remotely, our geologists are acquiring continuous drilling and MWD parameters to decide the optimal steering direction in real-time at any distance. Decisions can then be instantly relayed to directional drillers.

STRATAGRAPH



Drilling a borehole in complex geology requires continuous adjustment of the borehole trajectory to guide a path to one or more reservoir targets. Achieving the correct adjustments is possible through real-time well trajectory monitoring, where data availability and expert log analysis results in the identification of reservoir boundaries even in dipping and fractured reservoirs. Stratagraph utilizes Stoner Engineering Software (SES) for both horizontal and directional drilling because it allows for the plotting of the actual trajectory of the well while drilling. When combined with other data, such as Total Gas, Gamma Ray, Resistivity, and ROP, SES is a valuable tool in allowing us to remain in the target zone while drilling the horizontal section.

SES also generates a three dimensional model of the well as it is drilled which is useful for additional applications such as completion plans and improving drilling plans for future wells.



Seasoned Geologists



Wellsite Geology

Wellsite geologists are a vital information liaison between you and your worksite, while also advising operations personnel onsite and in the operations office. Any concern of communication loss is virtually eliminated as a wellsite geologist monitors mudlogging activity, works closely with the directional team, monitors MWD (measuring while drilling) and LWD (logging while drilling) data, communicates with the drilling department, has daily conversations with the Foreman, and skillfully geosteers in real-time.



Based entirely onsite, your wellsite geologist provides the following during your operation:

- Evaluates Offset Data Before Drilling Begins
- Analyzes, Evaluates, and Describes Formations While Drilling (using cuttings, gas, formation evaluation measurement while drilling, and wireline data)
- Compares Data Gathered During Drilling with Predictions Made at the Exploration Stage
- Advises on Drilling Hazards and Drill Bit Optimization
- Represents the Oil Company Geology Department Onsite
- Supervises Mudlogging, LWD, and Wireline Services Personnel and Provides Quality Control for these Services
- Keeps Detailed Records, Writes Reports, Completes Daily/ Weekly/ Post-Well Reporting Logs and Sends to Appropriate Departments



Why STRATAGRAPH wellsite Geology?

Stratagraph offers seasoned geologists already comfortable with working on drilling sites and with various teams onsite. In addition to the convenience of having a geologist readily available onsite, the quality of our geologists' experience is enhanced by their continually updated knowledge of MWD tools such as gamma and resistivity as geosteering becomes increasingly important.



Onshore and Offshore



Why

STRATAGRAPH

Star Safety

At Stratagraph, logging is our business but safety is our responsibility. Our record is a testament to our dedication to ensure that safety is at the heart of everything we do. Focused on Safety Training and Risk Management, our S.T.A.R. program was developed to maintain ongoing industry education, training, managed standards, resource support, and frequent safety audits. Our employees are trained and educated on a wide range of safety programs such as Safegulf/Safeland, Haz-Com, PPE, water survival, and fall protection, among others. We also adhere to an aggressive drug and alcohol policy to ensure our loggers are focused on safety and successful completion of your project.



Stratagraph conducts in-house training to better prepare our employees for mudlogging operations. We offer both basic and advanced mudlogging classes that review fundamentals, equipment, formulas and calculations, computer programs, sample collection and analysis, drilling procedures, pore pressure detection, and other well drilling parameters.

When selecting Stratagraph for your mudlogging company you will get a complete crew. It's an unfortunate fact that many mudlogging companies today cut corners by sending out very weak or untrained night loggers. This puts a strain on the experienced logger and can also potentially jeopardize the accuracy of your data or worse pose a safety risk. At Stratagraph both loggers have met our strict training requirements and have a consistent track record for demonstrating a solid work ethic. This provides you with a complete logging crew in which the well is being closely monitored 24 hours a day.

Value of Experience

Since 1961, Stratagraph has been providing accurate and reliable data solutions for our clients. As a pioneer in the industry, we have always utilized the most advanced technology and we continue to apply our extensive research and development in new areas of exploration and production. Having successfully worked with operators of all sizes to drill over 4000 wells in the Gulf of Mexico and over 5000 wells onshore in the Eagle Ford, Upper Eagle Ford Marl, Buda Lime, Austin Chalk, Eaglebine, Tuscaloosa Marine Shale, Haynesville Shale also the Permian Basin, we continue to draw upon our experiences as we expand our capabilities to remain an industry leader.

What our Clients Say

Clients frequently commend the persistence and professionalism of Stratagraph and our crews. Above and beyond the data collected and logged, our experienced mudloggers provide valuable advice and interpretation guidance that is a great asset to our clients.






STRATAGRAPH
Accurate Data, Reliable Solutions





Contact Us

We welcome the opportunity to discuss any specific needs and questions you may have. A member of our friendly sales team is looking forward to speaking and working with you.

Corporate Headquarters

-  Toll Free: 800-256-1147
-  Office: 337-232-5510
-  Fax: 337-237-8120
-  P.O. Box 53848, Lafayette, LA 70505

Sales and Services

-  Houston: 713-784-2144
-  Dallas: 214-739-1965
-  New Orleans: 504-561-0649
-  www.stratagraph.com

