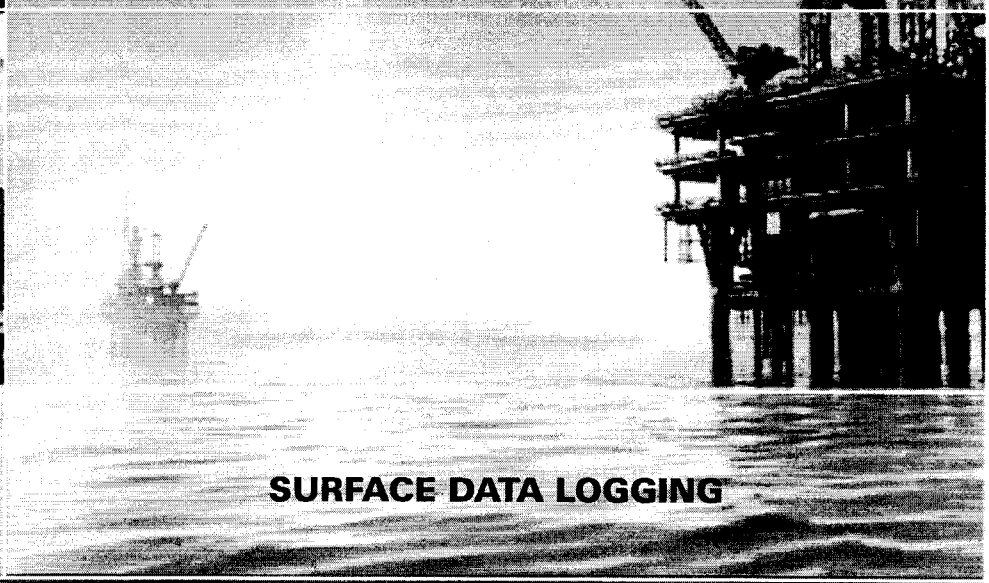
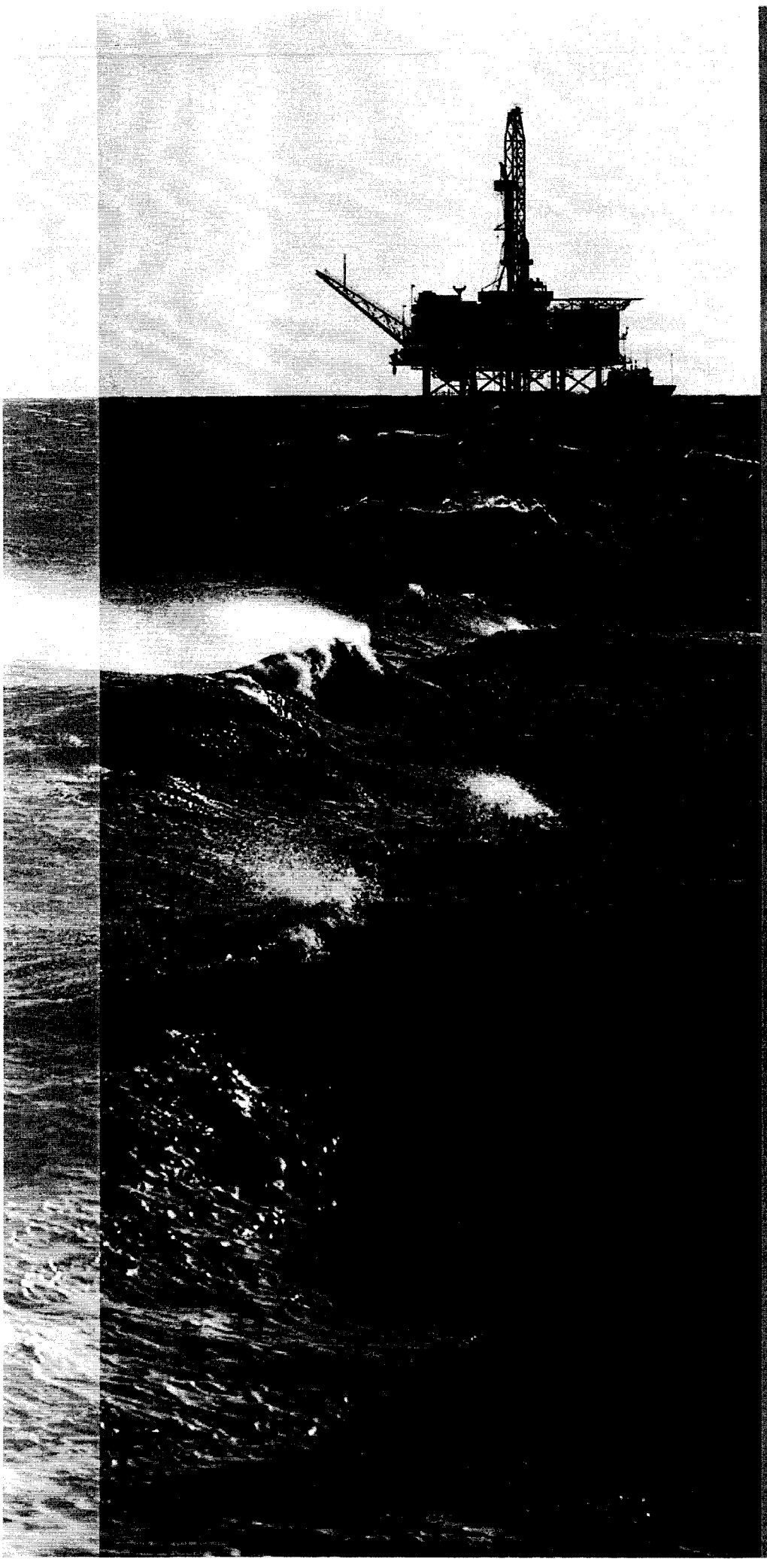
SPERRY
DRILLING SERVICES



SURFACE DATA LOGGING

MAKE BETTER DECISIONS. DRILL BETTER WELLS.

HALLIBURTON



Goal

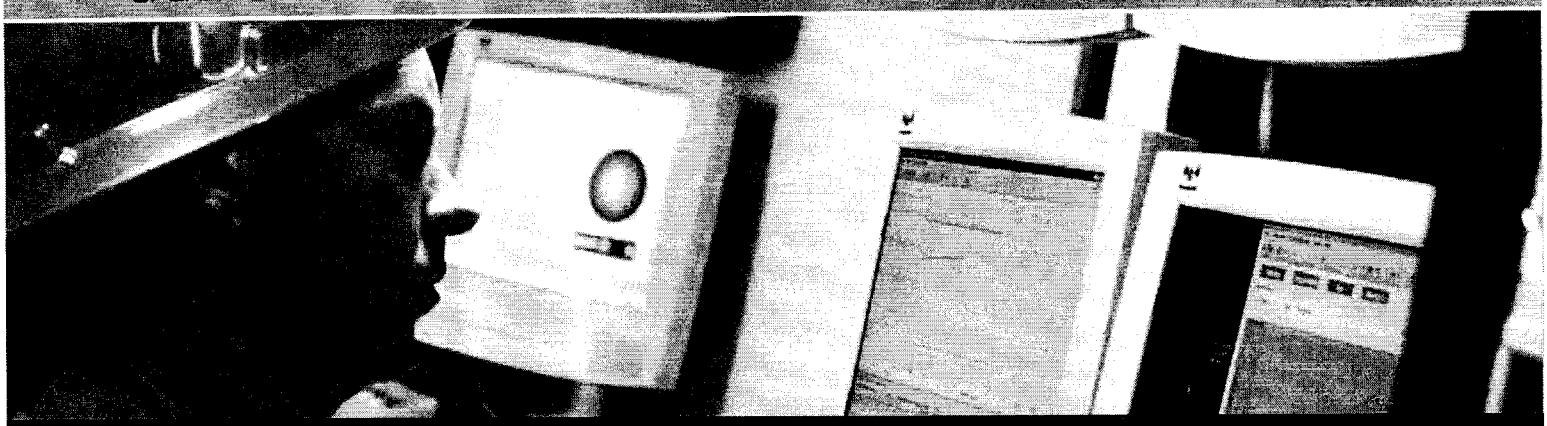
Improve Decisions in Real Time

Reduce Drilling Risk and Avoid NPT

Accurate Formation and Reservoir Evaluation

HSE Excellence

Challenge		Solution	Sperry SDL Product / Service	Sperry other Product / Service
Escalating rig rates		Real-time data acquisition and transmission	InSite® rig information management system	
Operations in remote locations Operations in multiple countries		Fully integrated network	InSite Anywhere® service	
Access to experience		Experienced advisors located in Remote Operating Centers	Real Time Centers Remote Operating Centers	
Avoid well control incidents	High Pressure / High Temperature wells	Close monitoring of circulating system and early kick detection	Highly accurate sensors and data acquisition Real-time hydraulics	ADT® Optimization Hydraulics Management Service
Detect mud losses			Real-time swab/surge prediction	Early Warning System (EWS)
Identify wellbore ballooning / breathing		Fingerprinting system response on connections avoiding unnecessary flow checks		(CFM) Connection Flow Monitoring
Predict pore pressure and fracture pressures		Wellsite pore pressure analysis	Formation Pressure software FPE or PP/FG	ADT® Optimization Wellbore Integrity Services Drillworks software
Reducing drillstring vibration		Measure torsional vibration	Highly accurate sensors and data acquisition	ADT® Optimization Drillstring Integrity Service
				DrilSaver™ III system
		Calculate critical rotary speeds		Real-time WHIRL™ software
Identify and characterize hydrocarbons		Highly accurate gas analysis	EAGLE Gas Trap	
			Fast-Gas systems	
		Show analysis	Quantitative Florescence Technique (QFT)	
Pick critical casing points and coring points		Accurate description of critial geological markers	Wellsite Geology Services	
			Digital Cuttings Imaging	
Unreliable conventional markers Accurate wellbore placement		Measure whole-rock chemistry of cuttings at the wellsite		LaserStrat® Chemostratigraphy Service
Industry lack of experienced personnel		Highest safety and service quality standards	Knowledge Management System Competency Development System Remote Operations Centers	



Make Better Decisions. Drill Better Wells.

The best decision is an informed decision.

Sperry's Surface Data Logging

Halliburton's Surface Data Logging from Sperry Drilling Services ensures you get the best information from your well, so you make better drilling decisions, faster. With real time data acquisition, expert interpretation, and instant access through a fully-integrated network, these are the resources you need to maximize the value of your Digital Asset.

Advanced monitoring, analysis, and evaluation services that deliver vital information about well conditions, formation pressures, gas and geology, giving you "the big picture" to help you drill faster, safer, better.

Highly-trained and experienced professionals, skilled in monitoring, analysis and interpretation of logging, engineering, and geological parameters, so you can have confidence in the information that guides your decision-making.

Full integration of data, from drilling and geological measurements to advanced LaserStrat* chemostratigraphy, through Halliburton's InSite* rig information management system, making that information easier to access and use by those who need it, and ensuring seamless integration with other digital services from Halliburton.

Real-time data access by all parties, putting critical information on the desktops of decision makers when and where it's needed. More than 600 possible parameters can be displayed and monitored both on the rig and remotely.

Sperry's powerful Surface Data Logging capabilities capture accurate comprehensive measurements enabling the real time monitoring of all rig systems. This allows the timely identification of critical situations and intervention to prevent problems developing. Drilling is safer, more efficient, with less non-productive time (NPT) and reduced overall risk when you employ Sperry's SDL Services.

Improving Decisions in Real Time

Your decisions are only as good as your information, and good information has to be available in a timely manner.

A pioneer in real time service delivery, Sperry Drilling Services continues to lead the industry with implementation of real time Surface Data Logging that dramatically improves the speed and quality of decisions involved in developing hydrocarbon assets. You get better, more complete information from the well, and it's instantly available to your experts, regardless of location.

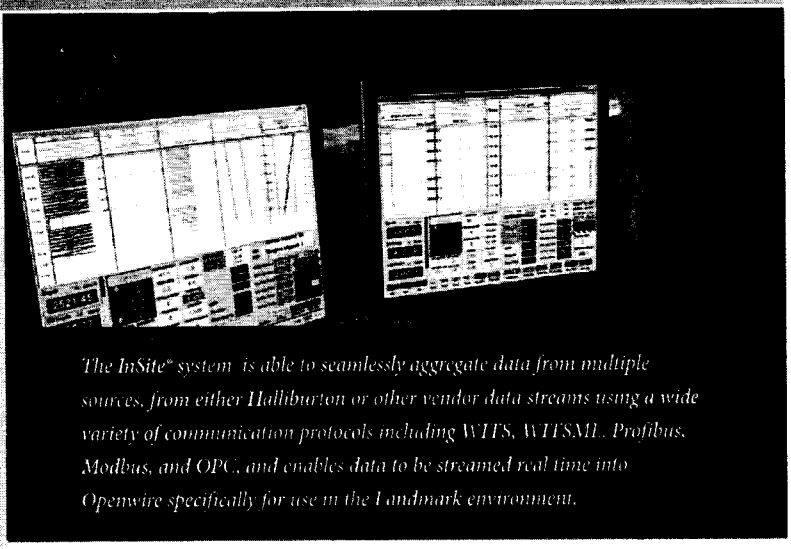
Halliburton's worldwide network of Real Time Centers™ (RTC™) enables traditionally rig-based services and supervision to be handled directly from your office, ensuring the most efficient use of your own in-house expertise, and immediate access to ours, 24/7. With data linked through the InSite rig information management system, Halliburton's InSite Anywhere* service lets you monitor a single well – or multiple projects – any time, anywhere, using any standard web browser. And our new InSite Anywhere Direct provides the same access without requiring any installation of software on your system.

InSite Rig Information System: Flexible Functionality

- **Rig-site or remote display of your choice of more than 600 real-time measured and calculated parameters**
- **Use data from standard surface data logging and MWD/LWD sensors, as well as third party and customer-provided sensors**
- **Display information and results in easy-to-configure custom screens tailored to your personal preferences**
- **Display data in a variety of graphical formats, including gauges, charts, bar graphs, or text**
- **Define customized limit alarms for all data monitored, and create user-defined calculations**
- **Output on multiple monitors, with optional explosion-proof rig floor displays, and a variety of printers and plotters**
- **Store depth- and time-based data with automatic and user-entered annotations such as lithology data, cuttings descriptions and survey data**
- **Import files from multiple offset wells for depth-based comparison including logging, drilling, wireline and M/LWD data**
- **Export parameters in LIS, LAS, and ASCII formats**
- **Stream real time data in WITSML format (levels 0 through 2B), either locally around the rig or remotely for use with custom software**

Applications include:

- Real-time and what-if hydraulics
- Surge/swab calculations
- Washout/restriction monitoring
- Trip monitoring
- Sweep monitoring
- Well Kill Calculations



The InSite® system is able to seamlessly aggregate data from multiple sources, from either Halliburton or other vendor data streams using a wide variety of communication protocols including WITS, WITSML, Profibus, Modbus, and OPC, and enables data to be streamed real time into Openwire specifically for use in the Landmark environment.

Bringing it All Together: Powerful Integration for Better Information Management

When it comes to managing the information that guides your decision-making, it's all about the data: How it's acquired, displayed, manipulated, distributed and stored.

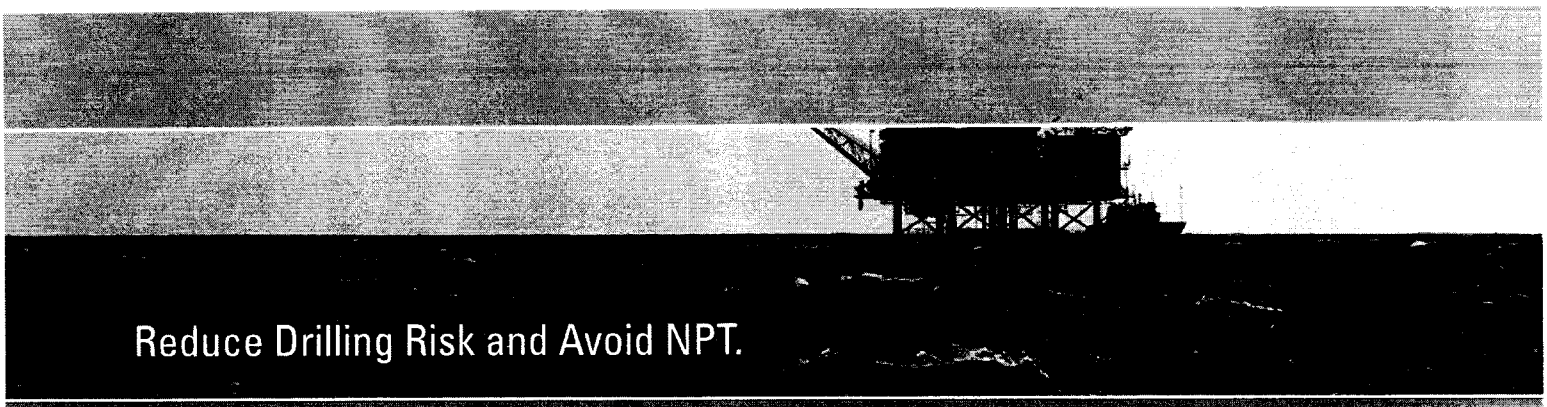
Through our powerful and flexible InSite rig information management system and database, Sperry's comprehensive Surface Data Logging services give you maximum flexibility in managing your data and seamless integration with other digital services from Halliburton.

The backbone of our service provision, the InSite system utilizes WITSML-compliant software programs that allow you to aggregate data from multiple service companies, and manage it using your network of choice. Whether that's the Halliburton network, or your own intranet system, you enjoy the convenience of accessing a single database where all your data is uniformly maintained and presented.

And when it comes to data distribution, InSite Anywhere gets that critical information to the desktops of decision-makers when and where it's needed: Anytime, anywhere.

Monitor Your Well Around the Clock. Providing Surface Data Logging service coverage from an RTC optimizes personnel deployment to minimize offshore exposure and reduce risk without compromising service delivery. Depending on project complexity, 24-hour real time coverage can be performed with as few as two people monitoring a number of rigs and communicating with offshore personnel.

By ensuring information is available around the clock and around the world, we make sure you know what's going on in your well, so risk is reduced. You make better decisions, and you drill better wells.



Reduce Drilling Risk and Avoid NPT.

Safety. Efficiency. Quality. That's what's at risk during every drilling operation.

Surface Data Logging from Sperry Drilling Services provides an effective means of capturing and monitoring critical drilling data, so you can use information proactively to keep things moving, even in the most challenging wells. Providing the first line of defense SDL specialists monitor the drilling conditions to identify and communicate any hazardous or unusual conditions and ensure the surface equipment is operating correctly.

Surface Data Logging also provides the platform for a range of specialist services that utilize many of these measurements, including LaserStrat Chemostratigraphy, ADT® Drilling Optimization, StrataSteer® 3D geosteering services and Performance Drilling solutions. The information provided by SDL enhances the ability to improve drilling practices, accelerate the learning curve and significantly reduce downtime

ADT® drilling optimization service - powerful tools for complex wells. Many of the software and hardware tools used by Sperry Drilling Services' to perform detailed pre-, while and post-drilling analysis and optimization can be provided through SDL. These advanced systems when operated by SDL specialists enable a more powerful monitoring and first alert capability as well complexity and challenge increase.

Details of the ADT drilling optimization service that addresses Drillstring Integrity, Hydraulics Management and Wellbore Integrity can be provided by your Sperry Drilling Services sales representative.

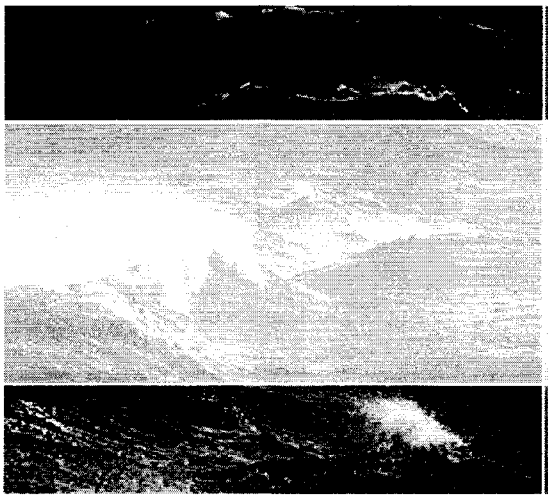
Reducing response time to unexpected events, Sperry's Surface Data Logging services can provide the ADT® drilling Optimisation Early Warning System and Connection Flow Monitoring. These services give the means to recognize patterns and respond rapidly to any unforeseen change in the drilling fluid circulating system.

This is coupled with SDL monitoring of safety-critical data such as mud total gas content, H2S and evidence of wellbore fluid influx, as well as drilling mud loss indicators such as pit volume, mud weight, mud temperature and mud flow in and out are all monitored continuously for any sign of trouble.

An unexpected fluid influx or kick does pose serious safety concerns – not to mention increased costs. Mud losses to the formation can slow the drilling progress and damage the reservoir. Hole washout or ballooning can compromise wellbore quality.

Detecting fluid influx and mud losses while circulating, the Early Warning System immediately alerts operators to flow changes, and identifies washouts or restrictions in the system, as well as hole "breathing" or ballooning, so you can take action to avert trouble.

Understand Drilling Dynamics. An important tool in the ADT service drillstring integrity tool kit is the DrilSaver™ III vibration monitoring system. This system can be supplied through SDL to provide a warning when high levels of torsional vibration are present. DrilSaver™ III software measures the magnitude of torsional vibration in the drillstring. This is achieved through the high



The Preferred Provider for 'Extreme' Drilling

Sperry Drilling Services is the preferred deepwater drilling provider in the Gulf of Mexico, where we serve more than half the rigs drilling in ultra-deepwater of 5000 feet or more.

When you've got challenges out of the ordinary, we are the company to go to.

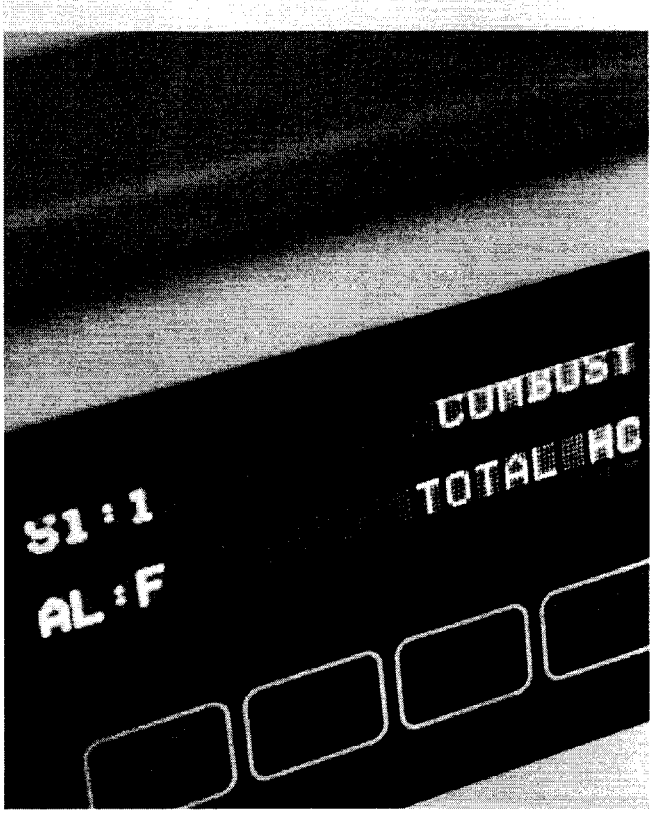
frequency sampling and frequency analysis of drilling torque, RPM hookload and standpipe pressure. The result of the analysis known as KT, the torsional vibration magnitude, is continuously monitored and displayed in a simple gauge format. This allows the driller to vary drilling parameters to correct harmful vibration levels. In addition to real-time feedback, DrilSaver stores the KT signal in the InSite database for correlation against depth, time, lithology or other parameters. The program also generates a high-frequency burst data that can be saved to disk for post-event analysis with DrilSaver Playback software.

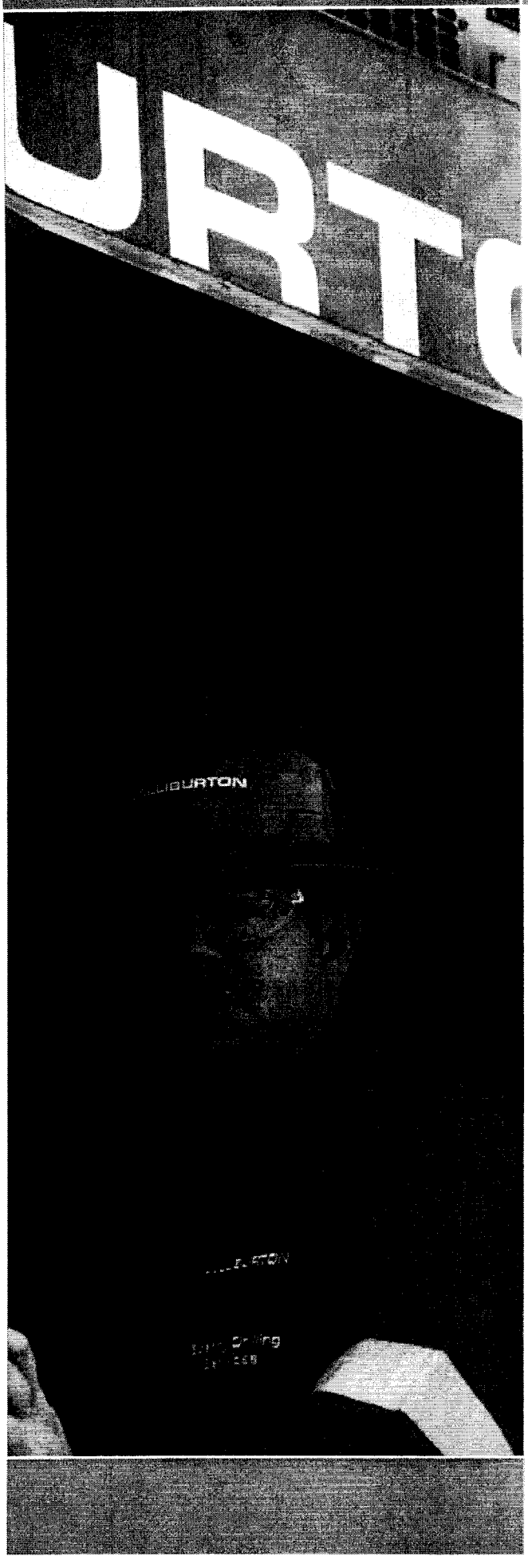
Another application from the ADT service drillstring integrity tool kit is the Real-time WHIRL™ software. It calculates critical rotary speeds that induce harmonic vibration in the drillstring. The WHIRL™ software can be supplied through SDL to help the driller ensure the drilling parameters are set to avoid damaging resonant vibration.

Know Your Formation Pressure. Surface Data Logging provides pore pressure, overburden and fracture pressure analysis using industry standard methods. From the planning phase through drilling operations to post-well analysis, accurate prediction of estimated formation pressure is essential to safe drilling. In wells around the world, formation pressure problems result in NPT that vastly increases expenditures, costing operators millions of dollars annually.

Advanced real-time pore pressure prediction services are supplied through the ADT Wellbore Integrity service.

Particularly critical for high pressure and high temperature wells, Connection Flow Monitor "fingerprints" circulating system response during connections and flow checks to closely monitor for any influx. It provides rapid response to the influx before it would normally be detected, and enables the influx to be managed before it can cause safety problems or NPT.





Accurate Formation and Reservoir Evaluation

Surface Data Logging services deliver a better level of reservoir understanding, using rapid gas analysis and formation sampling and evaluation to provide accurate descriptions of critical geological markers, the presence and type of hydrocarbons, plus Digital Cuttings Imaging that brings the details into focus.

The Fast-Gas system provides hydrocarbon analysis using our own enhanced version of the latest gas chromatograph technology, so you get C1 through C5 analysis in less than one minute. Multi-point calibration improves accuracy, while multiple overlapping chromatogram display provides better quality control and trend analysis. Dynamic baseline adjustments for each gas component are automatically performed by the InSite system.

Gas analysis, along with cuttings lithology and available MWD data, can be correlated with drilling parameters and reference material through Sperry's extensive formation sampling and evaluation services, which also include gas-in-mud analysis, calcimeter results, bulk density, cuttings gas, and luminescence fingerprinting.

EAGLE gas system, In addition to traditional gas traps located in the header tank, Surface Data Logging has also introduced a constant volume and temperature gas extraction system that will pump a drilling fluid sample from as close to the bell nipple as possible to a skid mounted processing module. The system will heat a known quantity of drilling fluid to a known temperature before liberating the gasses from the fluid in a consistent manor. This will ensure that "heavy" hydrocarbon gas compounds are liberated for analysis and that the measurement is more consistent for comparison from well to well. Detecting the heavy hydrocarbon compounds enables much more powerful analysis of the gas ratios to be performed.

For close-up visual examination of cuttings samples and core chips at the wellsite, Digital Cuttings Imaging makes it possible to capture and view detailed images using digital microscopes that combine the capabilities of a traditional binocular microscope with a modern digital camera.

Cataloged by well, cuttings images can be embedded on well logs to aid identification of changes in formation, or may be used for training. And because they're digital, they can be viewed in real time for onsite analysis, or transmitted electronically for viewing by remote personnel, providing maximum functionality, so you get the full picture.

Advanced wellsite geology services can be provided when formation evaluation is either particularly demanding or your specialists are not available. The Wellsite Geologist from Sperry is a very experienced specialist who will have many years experience interpreting geological data in the area of interest. The Geologist supervises all aspects of geological data acquisition including cuttings sample description, reporting and interpretation of drilling data, drilling gas data, core data, LWD and wireline logging data and drafting of composite logs. The Geologist continuously monitors offset well data, is responsible for picking core point and casing setting points and reports on potential drilling hazards as well as acting as focal point at the wellsite for all geological information.

When precise borehole positioning or geosteering cannot be accomplished by conventional methods, such as LWD or biostratigraphy, LaserStrat® chemostratigraphy offers an innovative and dependable alternative.

Providing "geochemical fingerprinting" in near real-time at the wellsite, the LaserStrat specialist utilizes a small portable laser spectrometer to rapidly measure the whole-rock chemistry of cuttings. This provides signatures of each stratigraphic unit when paleontology markers are absent or non-definitive, and facilitates better drilling decisions.

Even in horizontal and HT/HP applications where other steering methods fail, LaserStrat can deliver enhanced stratigraphic control for precise wellbore placement.

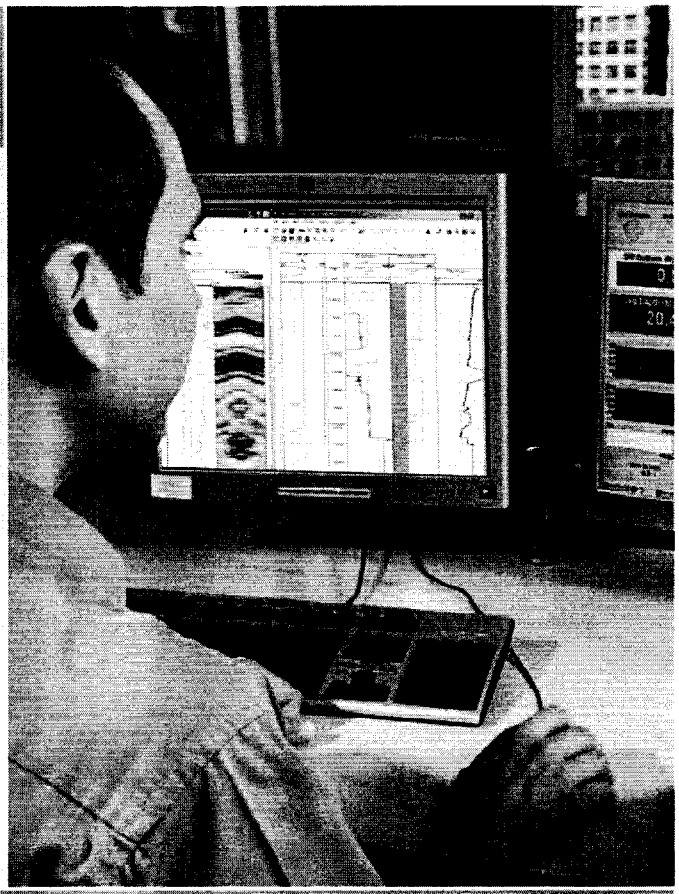
Details of the Stratasteer geosteering service can be provided by your Sperry Drilling Services representative.

LaserStrat Chemosteering® Service: A Horizontal Success Story

Encountering a fault of undefined displacement after 400 meters of horizontal drilling, one operator chose LaserStrat chemostratigraphy-while-drilling service to decide whether a sidetrack was warranted.

When the LaserStrat data showed that drilling upward just five meters would position the wellbore back in the porosity zone, the shallow gas well was successfully chemosteered® to TD without a costly sidetrack or abandonment.

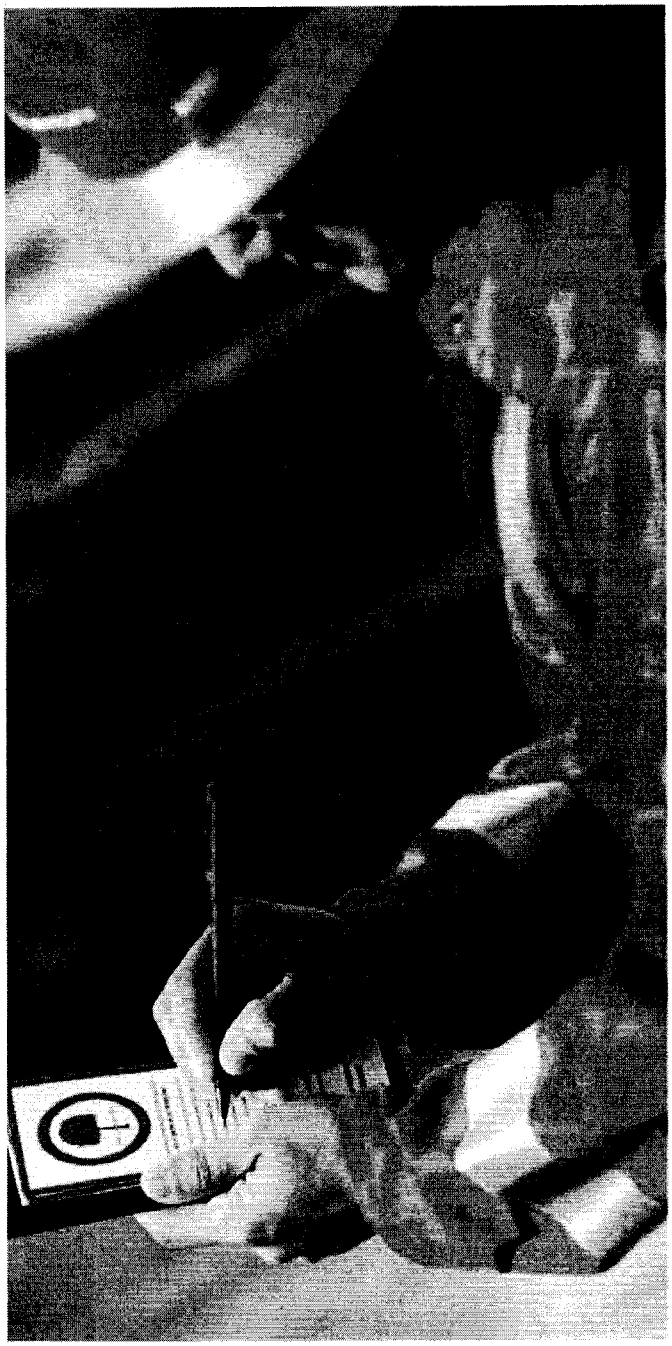
Used for chemosteering in subsequent wells, the fault information revealed by the LaserStrat service precisely guided wellbore placement that more than doubled gas production in the third well.



Industry-wide Recognition for HSE Excellence

- **Kuwait Oil Company (KOC) Chairman and Managing Director's HSE Award**
- **Australian Petroleum Production & Exploration Association (APPEA) Contractor Safety Innovation Award**
- **Chevron North America Exploration and Production (CNAEP) President's Recognition for Accomplishment in Safety and Environment (PRAISE) Award**
- **Petrobras Campos Basin Health, Safety and Environment (HSE) Award – Gold category**

Surface Data Logging from Sperry Drilling Services: Your Best Decision



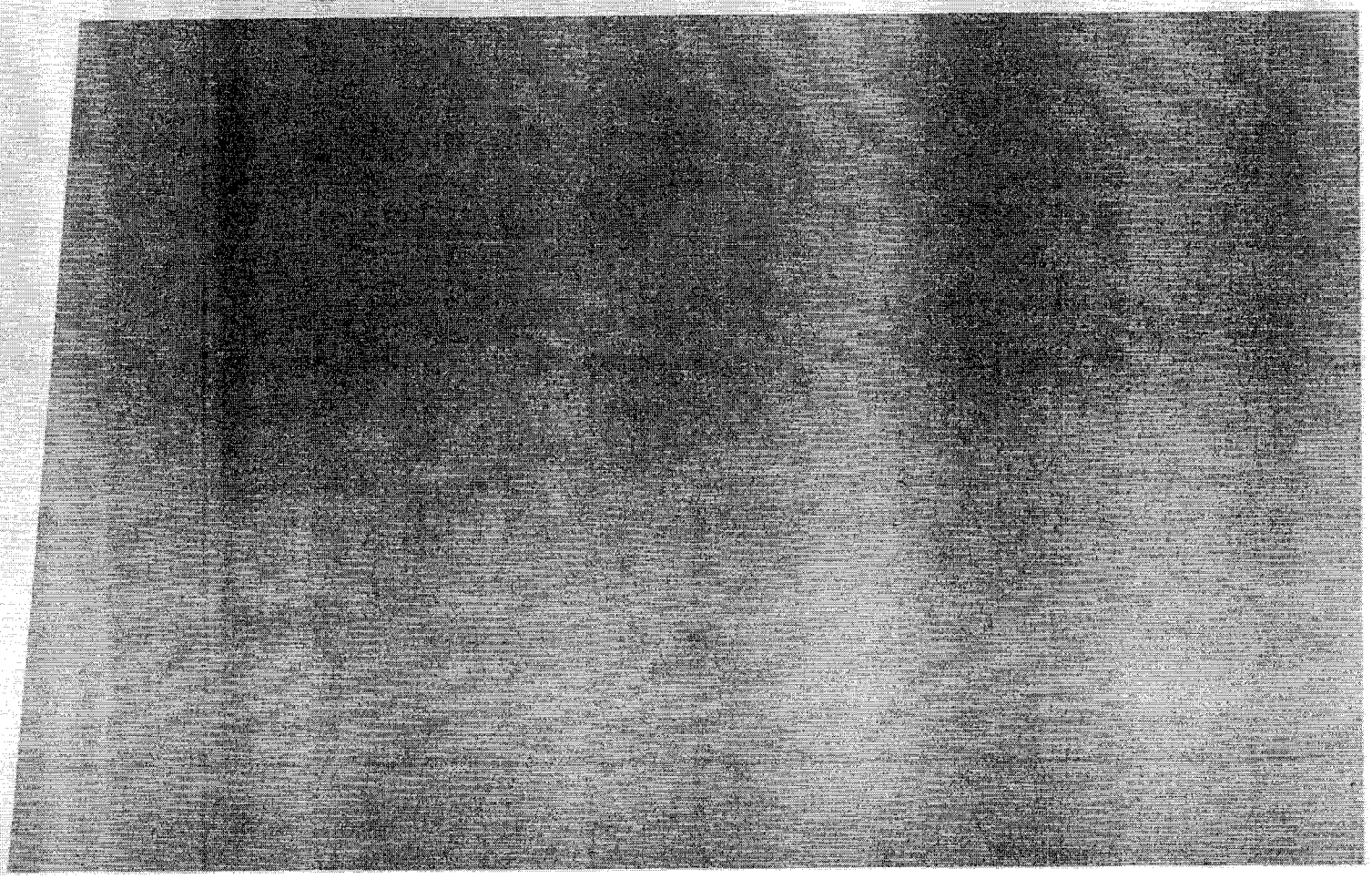
Supporting the digital asset philosophy of "model, measure and optimize," Sperry's Surface Data Logging service captures the wellsite information that you need for fast, trouble-free operations throughout all stages of well construction, from planning through execution and detailed post-well analysis.

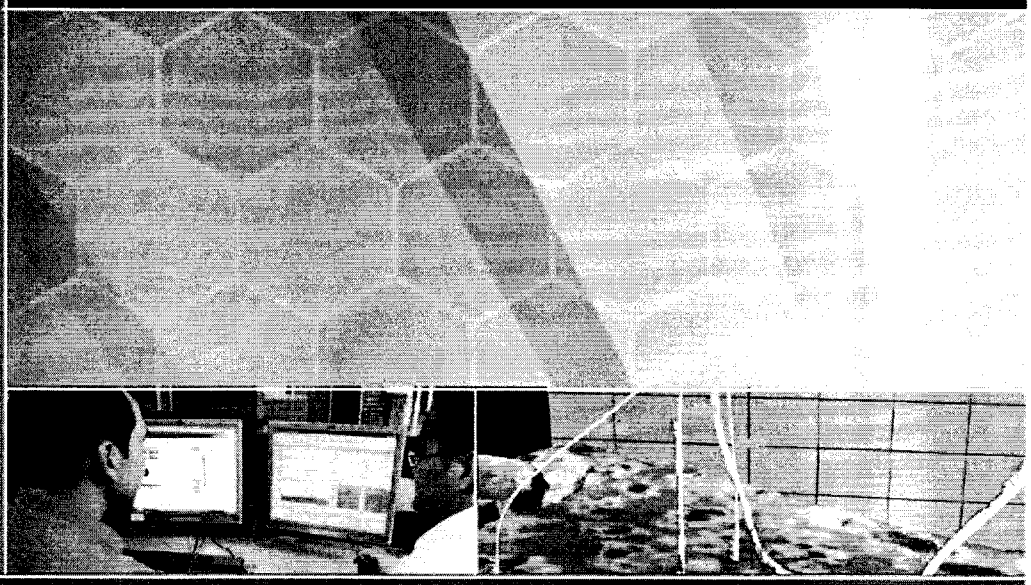
As vital as the equipment and services we provide, you'll find safety is a critical measure of Service Quality at Halliburton. Our company culture places a premium on safety and continuing education. Halliburton's Performance Improvement Initiative serves as the vehicle for communicating a set of sophisticated tools that help us continuously improve HSE and Service Quality.

And because you need well-trained personnel to keep pace with rapidly-advancing technology, we make education an ongoing process. Our Competency Development System guides capable personnel in achieving skill mastery along a clearly marked technical career path. Specialized, instructor-led training is supplemented by online training through the ILearn* system and DVD-based training courses available to all personnel.

As a result, you get consistent, high-quality service, professional data analysis and experienced qualified personnel for your most challenging projects.

It's a fact: Sperry's Surface Data Logging gives you the most accurate data and analysis for your well. And that's what you want. Because while we can acquire, display, analyze, distribute and store it, in the end, you have to make the decisions. Make sure you have the best data to make those decisions.





H08111 4/08

sperry@halliburton.com

www.halliburton.com