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1983 ANNUAL REPORT  
**SCHLUMBERGER**

**N**et income for 1983 was 20% under 1982, revenue was 8% lower. Everyone at Schlumberger, the stockholders all over the world, the engineers and operators in the oil fields, the technicians in the laboratories, the workers in the plants, everybody thought that it could not happen. We have known an uninterrupted growth of earnings for 19 years; indeed, since Schlumberger became a public company listed on the New York Stock Exchange in 1962 only one year, 1963, had lower earnings than the previous year.

Many times, in writing or in public speaking, I issued a word of caution, an early warning. The pace of growth could not last forever. In the annual report for 1979, I wrote, "The potential for growth is so obvious that one could forget that growth is never a straight line into the future but a pattern of cycles." But earnings kept on going up, so the warnings were unheeded.

It is true that in the present environment of the oil industry, a drop of 20% in earnings is a reasonably good performance in the oil service business. Yet, everybody knows that to be better off than your hard pressed neighbors does not really help.

Whichever way we look at it, 1983 was a tough year. It was a new experience. In years of growth, of inflation, of boom, it is not too difficult to perform reasonably well, to act and to feel as a successful manager. But, it is in the recession years, when the going gets rough, that managers are made or undone. In this sense, recessions serve a necessary and useful purpose. As they say in the cowboys' country, it separates the men from the boys. It is useful, I believe, to understand how Schlumberger performed during this time, what it did and what it did not do.

#### OILFIELD SERVICES

How to face reduced activity and lower prices? As often in life, the principles are not difficult to define. What counts is the perseverance in the implementation and the swiftness in the action.

#### MAINTAIN THE PROFITABILITY

The pressure and the temptation are great to lower prices so as to keep the equipment working and not lose market share. Before you know it, you start to lose money with all that it entails: deterioration of the morale, the loss of good people, the pruning of the research and engineering expenses.

The proper response, unfortunately, leaves very little leeway. Management must reduce the work force soon enough, not believing that the next month or next quarter, the recession will be over. Capital investments in field equipment have to be trimmed down early enough. All expenses must be tightly controlled, particularly inventory levels.

We were determined to do this. The recession in the oil business began in the United States abruptly and brutally in January of 1982. In 1983, the slowdown in activity migrated first to Latin America, then to Africa and thereafter to some countries of the Middle East.

We reacted with reasonable efficiency in every part of the world and in all oilfield service units.

#### MAINTAIN TECHNICAL LEADERSHIP

It is tempting indeed to cut research and engineering expenses to fight the decline in earnings. We did the opposite. We increased them. For the wireline or logging services, research and engineering expenses were increased 14% in 1983 to \$126 million. There was no reduction in the budget of the traditional research and engineering centers, Ridgefield, Houston, Clamart (near Paris). The new laboratories in Austin and Tokyo are growing fast.

In other oilfield services, the engineering center of Dowell Schlumberger at St. Etienne (France) was enlarged substantially and the new Cambridge (U.K.) research center was organized and will be in full gear in 1984.

#### IMPROVE THE QUALITY OF SERVICE

Years of growth of 40%, even 30% cannot be sustained without paying a price for it. It is difficult to train field

engineers properly when new recruits represent over a quarter of your field force. It is difficult to maintain tools and equipment, to lower operational downtime, to ensure the optimum performance and efficiency of drilling rigs at this pace of growth. A slowdown permits a lot of catching up, in depth. This is happening today in the field and the customers are aware of it.

#### IMPROVE THE MOTIVATION OF PERSONNEL

This is the real challenge of management in a recession. Decisions to reduce the work force, to retire or lay off personnel even if they have experience and seniority, are the most difficult and the hardest that management has to face. It is even tougher in the case of a service company because its main asset is the spirit of the people, their esprit de corps, their motivation. We had to reduce personnel severely in the United States, less dramatically in other parts of the world. Everything I have seen and heard during field trips convinces me that the challenge has been met. The decisions have been taken with courage. The motivation and determination of the people is intact.

Altogether, the implementation of these actions has made our service units more efficient, leaner, more aggressive. This will enable us to take advantage of any turnaround in activity. It is happening today in the United States. Drilling activity changed course in April, 1983 after 16 months of rapid decline. It was at first a slow recovery, mainly in shallow drilling areas. It gained some momentum later in the year, particularly offshore. Service revenue picked up in the second half of 1983.

#### FAIRCHILD

The year 1983 was a crucial year for Fairchild. Heavy losses were incurred in Fairchild semiconductor operations in 1982 and continued to a lesser extent in 1983. After a certain point, the people, the enterprise itself loses confidence in its own future.

A new management organization was put in place. It is a more solid organization because it is more professional and more realistic.

New products are coming out. The introduction of the FAST family of logic chips in the Digital division was a conspicuous success. It means that good products will sell, almost whatever the environment.

New plants are coming on stream. The concentration of all bipolar products in Puyallup, Washington, in a

modern facility resulted in immediate improvement in the quality of the products and the efficiency of the manufacturing line.

Research and engineering investments in Palo Alto, California, under new leadership, continue to show progress.

Doubtless, the recovery of the United States economy, the first signs of an improvement in Europe, the strong demand for semiconductors, has helped. Orders registered in January were \$72 million, the highest in history for Fairchild, 55% above last year. Backlog at the same date was \$317 vs. \$159 million. Fairchild semiconductor operations will reach breakeven level in 1984.

#### MEASUREMENT & CONTROL

After years of hard work, this part of Schlumberger has become a well integrated, solid and profitable organization. Its main product line, electricity management, last year had increased earnings in spite of the lower value of the European currencies and the economic recession in Europe.

In 1983, the main efforts have been concentrated in two directions:

#### STREAMLINE THE NUMBER OF PRODUCT LINES

Today, there is still too great a diversity of products, of markets, of technologies, both in the United States and in Europe. It is a difficult process for management to shed profitable units even if it knows that in the long run it will be difficult to acquire or maintain technical leadership. Progress is being made, here and there.

#### FIND THE IMPORTANT AREAS FOR FUTURE GROWTH

In 1983, the instrument business was reorganized on a worldwide basis. A new division, Paymatec, was created to develop new products in the field of electronic payment systems. New technical avenues for measurement products to be sold to public utilities are being investigated.

Orders received at Measurement & Control during the last quarter, continuing into 1984, are clear indications of a good start for this year.

#### COMPUTER AIDED SYSTEMS

Last year, my letter to the stockholders said that a new organization, CAS, would be put in force in 1983. It was done last October. Operations of Fairchild Automatic

Test Systems, Applicon, MDSI and Benson were regrouped. A group manager has been appointed. He will determine the product strategy, control the budgets, coordinate the operations, while maintaining the identity of each unit. It will be a long process and the growing pains will not disappear quickly. Yet the growth is there. Orders received during the last quarter of 1983 were \$158 million, 46% higher. On January 31, 1984, order backlog stood at \$229 million compared to \$162 million, a year ago.

**T**he two businesses of Schlumberger — Oilfield Services — Measurement, Control & Components — depend on the future of energy and the future of advanced technology. The future of both is hardly questionable, but, again, the growth is never a straight line into the future, it goes in cycles whether it is for the search for hydrocarbons or for the development of semiconductors or measuring and test equipment.

There are some indications that we might have touched bottom for this cycle of the oil industry: a recovery in North American drilling activity, some stability in service prices and daily rates for drilling rigs, narrower fluctuations in the spot price for crude oil. However, this is a dangerous world. War, political upheavals, even collective psychology could alter dramatically, one way or another, this precarious balance.

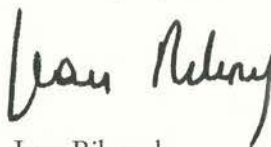
The recovery of the American economy has been stronger and lasted longer than was generally anticipated. Although an election year tends to cloud the future, I believe that there is still a solid reserve of resilience in the system so that the recovery could last into 1985 and possibly beyond. If it were the case, the contagion would reach Europe. But a major risk is at the threshold — like a time bomb that can explode at any time. The world economy cannot durably regain its health, its vigor, if the developing countries are agonizing under the weight of their indebtedness. A solution must be found by the industrial countries of the world before it is too late.

**O**n February 16, 1984, The Dow Chemical Company and Schlumberger announced that Schlumberger will acquire, from Dow, 50% of the Dowell business and assets in the United States and Canada. Dow and Schlumberger have owned jointly, since 1960, Dowell Schlumberger which provides cementing, stimulation and other services outside the U.S. and Canada. Dowell provides the same services in

the U.S. and Canada. The purchase price will be an estimated \$440 million. The Dowell business in the U.S. and Canada had revenue of \$562 million in 1983 and \$864 million in 1982. According to Dow Chemical, Dowell had experienced losses in 1983 but will reach profitable levels during 1984.

The combined Dowell Schlumberger business will have annual sales of approximately \$1.5 billion. Schlumberger will be responsible for management of all the Dowell Schlumberger group of companies. The transaction will be completed quickly after approval of regulatory authorities.

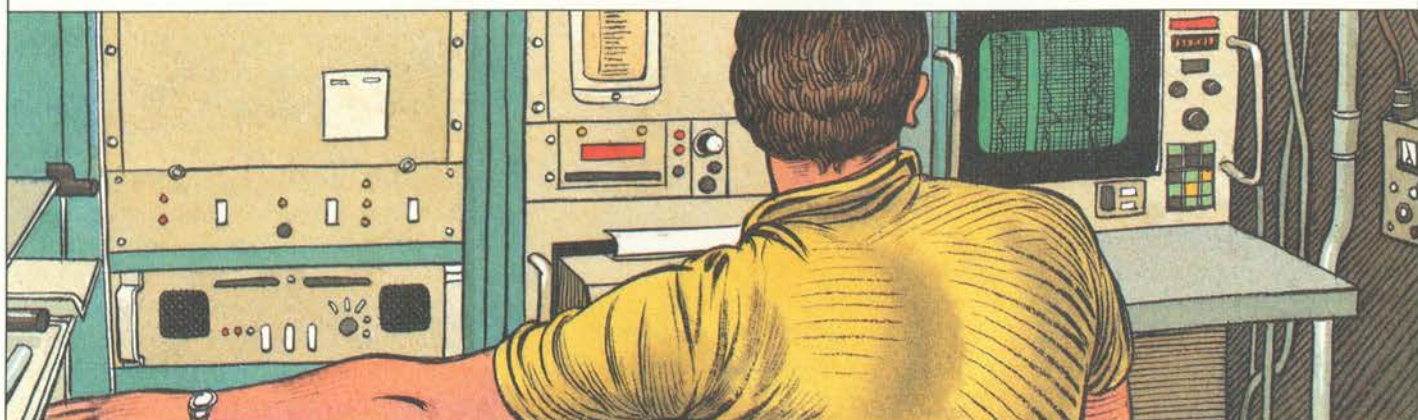
February 21, 1984



Jean Riboud  
Chairman & Chief Executive Officer

## BUSINESS REVIEW

# WIRELINER SERVICES



A field engineer inside a Cyber Service Unit (CSU), a computerized mobile laboratory, monitoring a wireline logging run.

Measurements of the physical properties of underground rock formations provide the petroleum industry with information necessary to discover and produce oil and gas efficiently. Instruments are lowered into a well on an armored electrical cable called a "wireline"; measurements are transmitted to the surface where they are recorded on magnetic tape and also plotted on a graph called a "log". Computer-processed interpretation of several different measurements can produce Answer Products specially tailored to the specific needs of geophysicists, geologists and petroleum engineers. Operations were conducted in 98 countries during the year. □ *Schlumberger Doll Research*, Center for basic research in electronics, magnetics, acoustics, nuclear science, geology and geophysics leading to new wireline services, located in Ridgefield, Connecticut.

Revenue from Wireline operations in 1983 was 14% below the record of 1982.

**WIRELINER NORTH AMERICA**  
Revenue was 27% below the prior year. The unprecedented decline in North American drilling activity, which started in early 1982, continued into 1983, due to renewed concern about demand for hydrocarbons and falling oil prices. The number of active drilling rigs fell steadily from a count of 3,134 at the beginning of 1983 until it reached a low point of 1,870 rigs in April. The most severely affected was deep drilling for natural gas, which in normal times accounts for 40% of the drilling business. As a consequence of the sharp drop, overcapacity that built up in

the oil service industry brought prices under pressure.

Activity improved during the last half of 1983, as the rig count was just over 3,000 in December.

#### WIRELINER ATLANTIC (EUROPE, AFRICA, LATIN AMERICA)

Revenue was 10% lower than in 1982. The biggest declines were in Latin America where the operations of many of the national oil companies were affected by the overall economic problems of their countries.

In Africa, strong activity in Libya and Angola was offset by reduced drilling in Nigeria.

On the other hand, activity in Europe was slightly above 1982, due to the strong level of operations in the British

North Sea offsetting a slowdown in continental Europe.

#### WIRELINER ASIA (MIDDLE EAST, FAR EAST, AUSTRALASIA)

Revenue was 2% higher than 1982. While the total number of drilling rigs remained constant, there were significant shifts in activity away from some major producing countries to other areas. As a result, lower revenue in Saudi Arabia, Iraq and Malaysia was offset by significant increases in Egypt, India, Thailand and China.

The Asia Engineering group, established in Tokyo in mid-1982, expanded in 1983 to 57 engineers and technicians. By the end of 1984, it will approach the 100 employee level. Construction of a \$32 million engineering and manufacturing facility

in Fuchinobe near Tokyo will commence in the second quarter of 1984 and is expected to be completed by April 1985.

#### TECHNICAL DEVELOPMENTS

Basic wireline research is carried out at Schlumberger Doll Research in Ridgefield, Connecticut. Development engineering is performed in six centers: Houston, Austin, Rosharon and Sugar Land in Texas, Clamart near Paris, and Tokyo. Research & engineering expenditures were increased by 14% in 1983, despite the downturn. The newer engineering centers at Austin, Texas and Tokyo, Japan grew substantially, while the other centers were supported at the same level.

Rapid and often dramatic

technological advances, particularly in microelectronics and computers, have cleared the way for a new generation of measuring and signal processing instruments capable of operation in a borehole environment. As a result, eight new services have been introduced in commercial quantities during the past three years, twice as many as in the previous decade. In 1983, these services represented 10% of the total revenue. During the next two years, plans call for eight more new services to be introduced commercially. As a result, it is projected that

26% of 1985 revenue will be generated by services introduced since 1980.

These new wireline services are of interest to an increasingly broad spectrum of oil company specialists ranging from exploration geologists and geophysicists to the production and reservoir engineers. The large number of new services has required a significantly greater effort to interpret the new types of data that are being obtained.

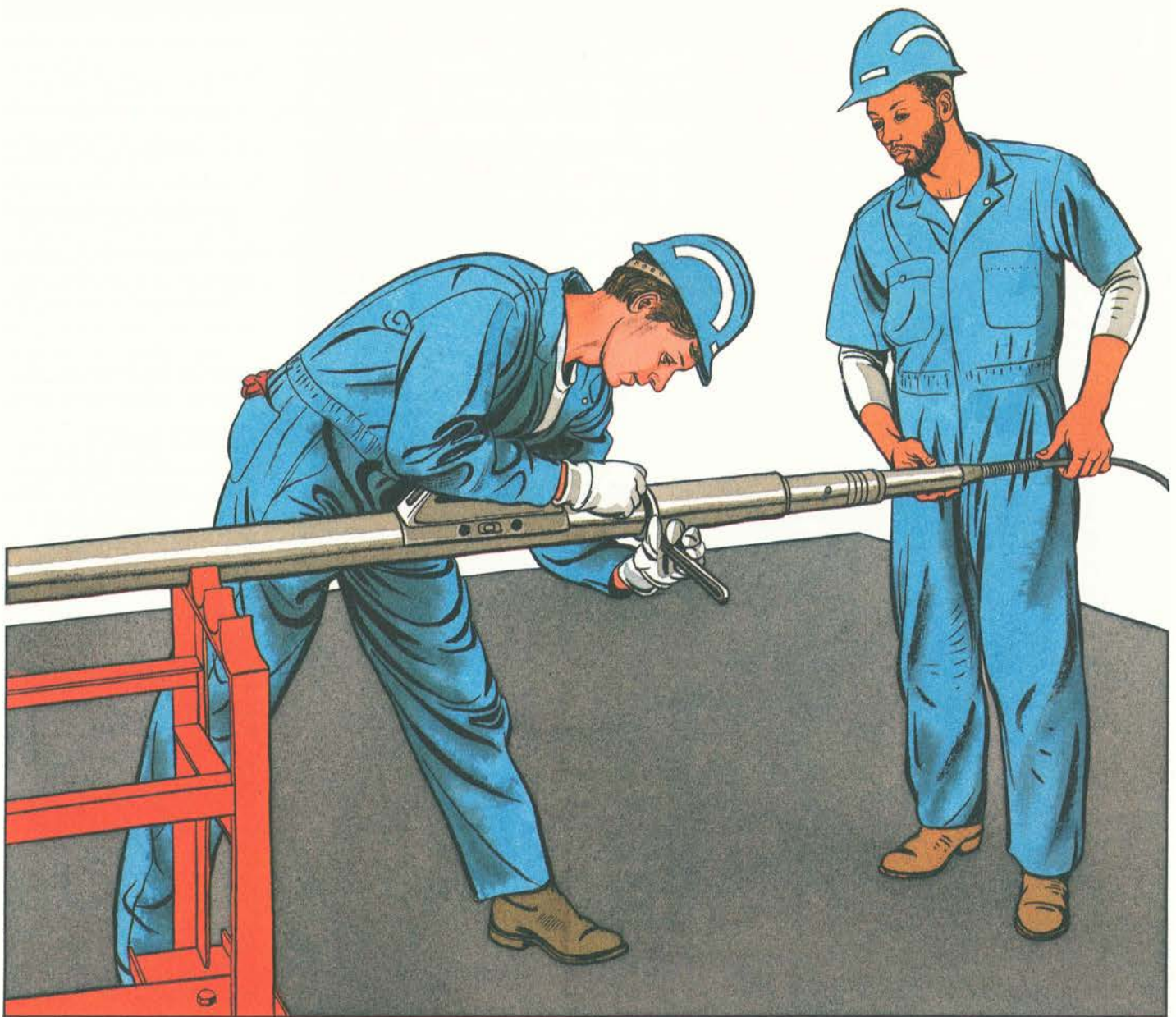
Interpretation establishes the mathematical or empirical relationship between the logging tool measurements and information that clients

need. At the basic research level, interpretation entails mathematical modelling and experimentation to define the tool response under a wide variety of physical conditions. Such factors as the composition of the formation and its fluid content, the size and shape of the borehole, temperature and pressure, the type of drilling mud, and extraneous signals from adjacent formations have to be taken into account.

Once these responses have been defined, various combinations of measurements are worked together to produce answers adapted to

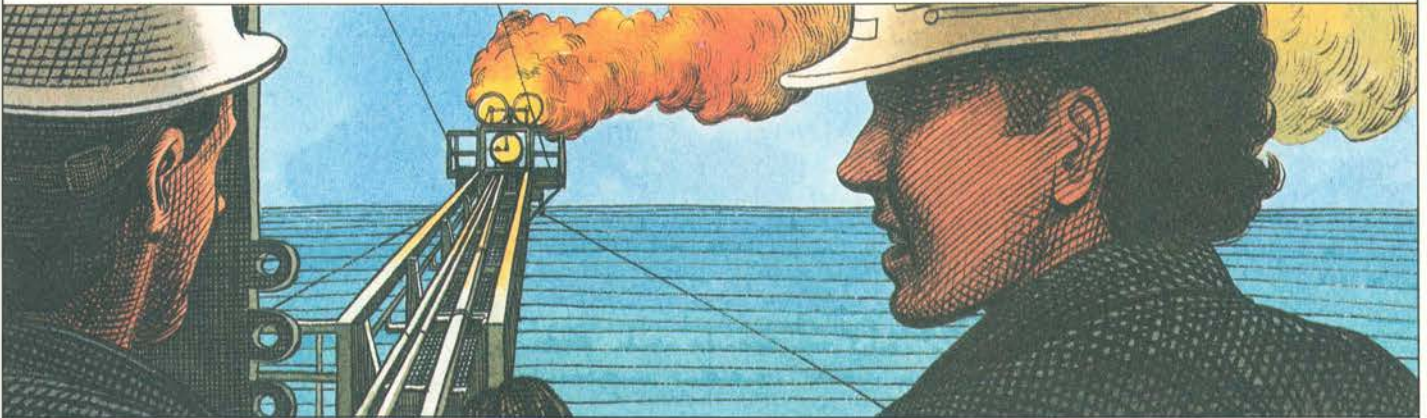
particular client problems. This task is the responsibility of the three Interpretation Engineering Centers located in Houston, Paris and Tokyo and the Interpretation Development groups in each of the eleven field operations headquarters. More than 300 specialists are engaged in log interpretation development and services.

Customers obtain interpretation services through a system of Field Log Interpretation Centers (FLICs). Today there are 55 FLICs located near all the major client concentrations throughout the world. D.E.B.



*The wireline operators are connecting the head on the end of a wireline to a logging tool during a predeparture check in the shop.*

# DRILLING & PRODUCTION SERVICES



A hydrocarbon burner in operation during an offshore production test by Flopetrol Johnston.

**D**rilling Services. Forex Neptune: contract drilling on land and offshore; The Analysts: well-site computer analysis of surface and down-hole drilling data acquired while drilling. □ *Testing and Completion Services.* Flopetrol Johnston: well testing, pressure measurements, completion and workover services, production services, drilling tool rentals. □ *Pumping Services.* Dowell Schlumberger (50% owned): cementing and well stimulation outside of North America. □ *Schlumberger Cambridge Research.* Center for research programs related to drilling, well testing, and production, located in Cambridge, England.

Drilling & Production Services revenue was 19% lower than in 1982 as all divisions were affected by continued weakness in oil field operations worldwide. The only area to show significant strength was the North Sea.

## DRILLING SERVICES

Forex Neptune revenue decreased 26% compared to the preceding year as both activity and daily rates for drilling rigs were lower. At the end of 1983, the Forex Neptune group owned 55 land rigs and 16 offshore rigs. During 1983, three offshore rigs (two jack-ups and one platform rig) were retired. No new rigs were added to the fleet. Under labor contracts, the group also operated 12 drilling rigs owned by others.

Overall rig utilization averaged 58% compared to 79%

in 1982. Strong competition for new contracts depressed day rates which remained soft for all types of rigs throughout the year. While there was some recovery in demand by year end, it was not sufficient to strengthen day rates.

Revenue at The Analysts was 13% below 1982 as a result of lower demand and lower pricing for surface logging services. Revenue from Measurements-While-Drilling more than doubled, compared to 1982, due to increased customer acceptance; the United States, Canada, and the North Sea gained.

## TESTING AND COMPLETION SERVICES

Flopetrol Johnston revenue was 16% below the prior year.

While testing activity remained nearly level with 1982, revenue fell 9% mostly as a result of lower prices.

Offshore testing revenue and market share gained in North America and in the North Sea; this was mainly due to the impact of a new service, computer analysis of well performance based on pressures and flow rates recorded during a well test. Flopetrol Johnston introduced a new, high accuracy, downhole recording pressure gauge, and has improved the surface pressure readout system. As a result, computer analysis now can be offered as a reliable well-site service.

Drilling tool rentals, light workover services and sales of completion equipment declined significantly owing to the lower level of drilling activity worldwide.

New centers have been opened in China and India where activity is expected to grow. Operations in Alaska have been expanded while a number of centers have been

closed in the Rocky Mountain area of the United States.

## PUMPING SERVICES

Revenue of Dowell Schlumberger decreased 14% compared to 1982, due to reduced activity and lower prices. The slowdown was more severe in Latin America, Africa and the Far East, while Europe and the Middle East were only slightly below last year.

Gains in stimulation services, particularly in Africa and Europe, were offset by lower revenue from cementing services.

A Portable Automatic Cement Recorder (PACR), an important project developed by the engineering center in Saint-Etienne, France, is being successfully introduced in the field. PACR is a well-site monitoring system that records pressure, flow rate and density during a ce-



menting operation. The PACR record insures that the cementing operation is properly executed as designed.

SCHLUMBERGER  
CAMBRIDGE RESEARCH

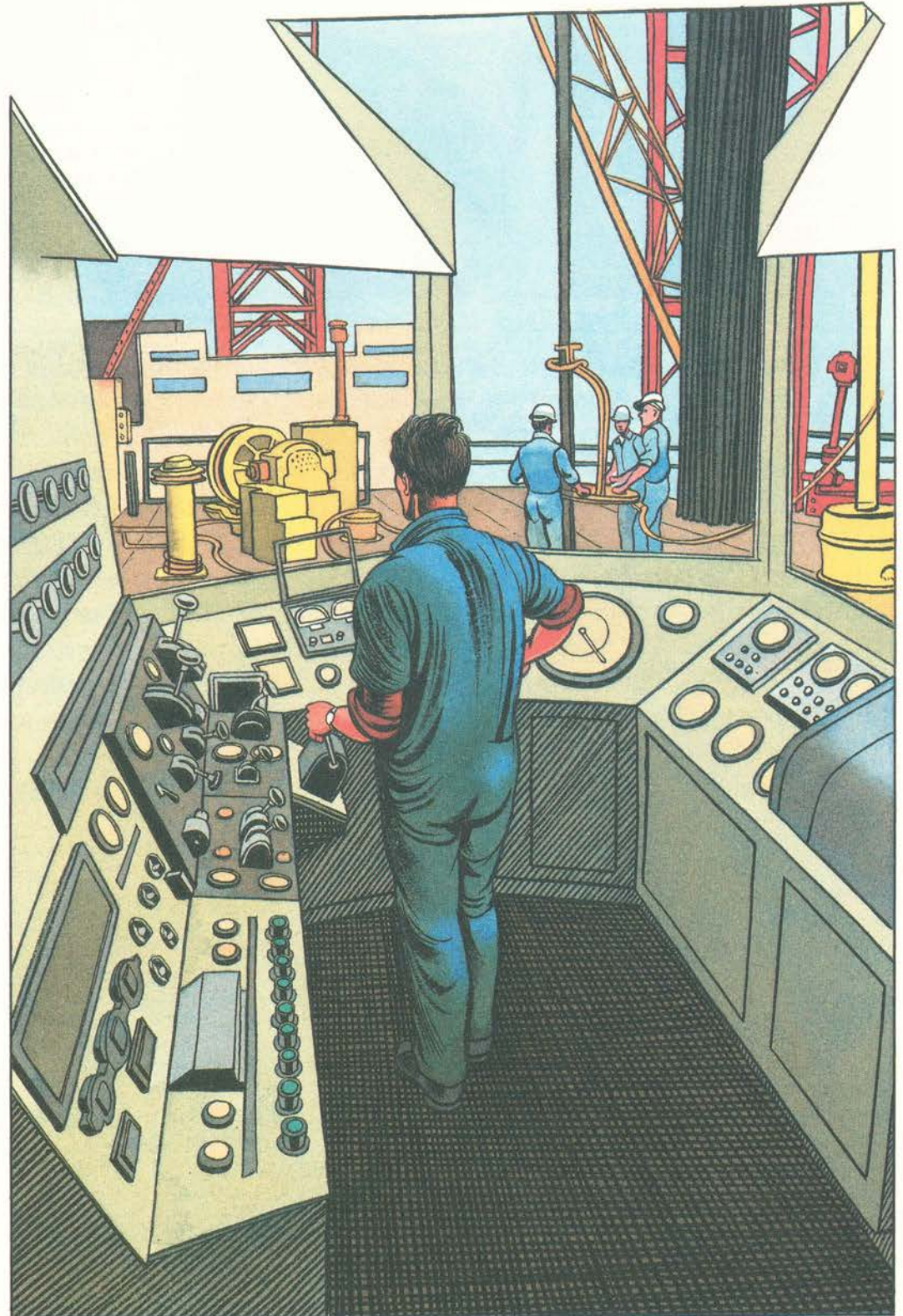
In 1983, Schlumberger Cambridge Research (SCR), the newly-formed research center of the Drilling & Production Services group, continued to expand as planned. It consists of five technical departments in the areas of drilling mechanics, wellbore physics, rock physics, fluid mechanics and mathematical modelling.

The technical staff, primarily scientists and oil field specialists, currently is 36 and will increase by another 20 in 1984.

SCR has designed and started building a drilling simulator which will be commissioned early in 1985. The machine will simulate at full scale the conditions experienced downhole while drilling. The simulator will enable SCR to study the drilling process in great detail using actual drill bits, and to measure the stability and quality of the borehole in the presence of drilling muds. A small temporary simulation laboratory already has been set up where the first experiments are being conducted.

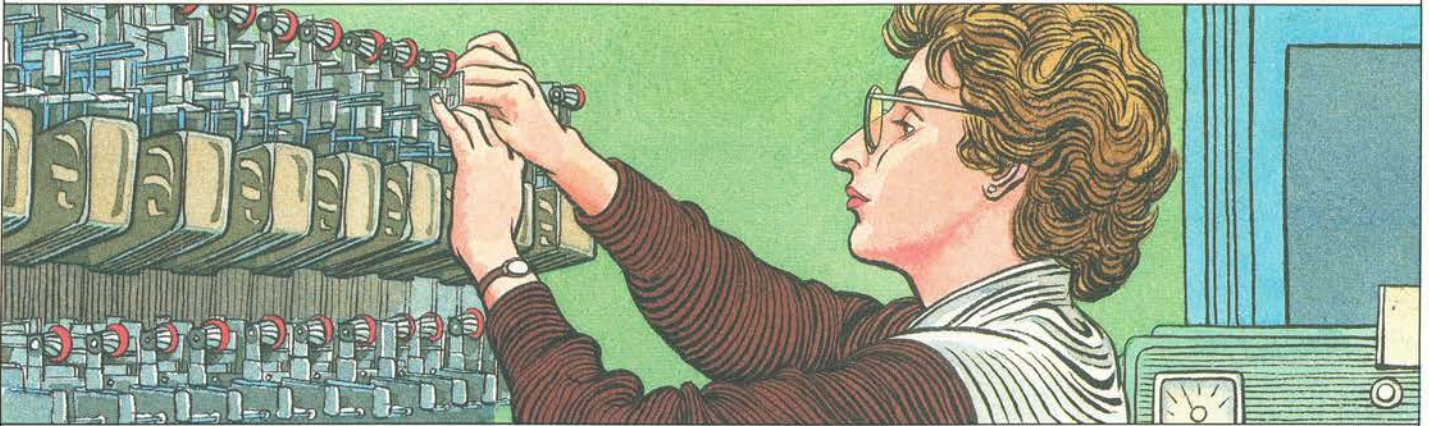
The construction of a 45,000 sq. ft. research center in Cambridge started in September, 1983, with an expected completion date late in 1984. It includes office and laboratory facilities and a 10,000 sq. ft. test station which will house the drilling simulator and, at a later stage, a flow loop able to simulate drilling mud or hydrocarbon flow in wells.

A cooperative effort by the drilling mechanics and mathematical modelling groups, using outside test facilities, has resulted in the formulation of novel concepts which will permit the improved interpretation and better use of Measurements-While-Drilling (MWD) data. R.R.S.



*From his station on an offshore jack-up rig, the driller controls all operations on the drilling floor.*

## MEASUREMENT &amp; CONTROL



Acceptance testing of electricity meters in the Poitiers, France plant of Electricity Management.

**E**lectricity Management. Electricity meters and equipment for electric power distribution, load and rate management systems; Network protection systems and measuring transformers for electric power transmission. □ *Instruments*. Data Recorders: magnetic tape data recorders, data acquisition systems; Instrumentation: electronic instruments for industrial, laboratory and aerospace applications; Systems & Transducers: radar simulation, training systems, industrial data logging and telemetry systems, transducers. □ *Fairchild Weston Systems*. Data acquisition; signal processing and electronic countermeasures systems for aerospace and defense applications; controls for nuclear power systems. □ *Paymatec*. Gasoline pumps; electronic payment systems, smart cards with an embedded semiconductor logic and memory chip, public telephones; time control devices. □ *Fluid Metering*. Water meters and distribution systems; Gas meters and distribution systems. □ *Process Control & Valves*. Industrial process control equipment; petroleum, nuclear and industrial valves. □ *GIERS*. Research center located in Montrouge, near Paris, for Measurement & Control operations.

Revenue of Measurement & Control declined 6%; revenue in Europe, expressed in national currencies, increased 8%.

Unless otherwise specified, comparisons given in this presentation refer to U.S. dollars.

Backlog decreased 3%, if expressed in national currencies, as major systems contracts have been billed during the year. During 1983, the incoming orders were 10% lower than in 1982; however, in the last quarter, they were 8% higher than during the same period of last year due to major orders

for Electricity Management and Instrument products.

**ELECTRICITY MANAGEMENT**  
In North America, revenue was 1% over the prior year. Sales of electricity meters in the U.S. were up 16% as housing starts grew substantially during the year. Sales of time-of-use meters with microcomputer based registers were up 65%. A new low-cost residential meter went into production late in the year at the Oconee plant in South Carolina. Shipments of load management products remained depressed due to increased energy conser-

vation programs and low industrial activity.

In Europe and Latin America, revenue increased 9% if expressed in national currencies. Sales of electricity meters continued to be strong in the United Kingdom and in Italy but remained flat in France. A new automated assembly line for the manufacture of 400,000 ripple control receivers per year was installed in the Poitiers plant in France. Ripple control is an electricity management system that allows an electric utility company, using the power line as a communica-

tion channel, to cut back power during peak demand periods by selectively switching off nonessential loads like water heaters for short periods of time. The utility also can control rates, during peak demand, by switching registers on multitariff meters. The Barlassina plant in Italy was expanded to manufacture network protection systems. Network protection systems detect faults on a high-voltage power line caused, for example, by lightning or a short circuit, and restore service automatically within a fraction of a second.

#### INSTRUMENTS

Data Recorders revenue increased 12%. Shipments of the model 80 portable recorders, voice and data recorders for commercial airlines, and error detection and correction systems for instrumentation recorders increased in the U.S. In France, magnetic tape recorders and data acquisition systems sales were up 13% when expressed in national currencies, as worldwide demand for airborne recorders was particularly strong.

Instrumentation revenue increased 2%; export sales from the U.K. were strong. Sales of electronic instruments to China increased significantly.

New products are being introduced: the Orion Delta Logger, a multichannel data monitoring and recording system, is the first logger to incorporate full data analysis capability in one instrument; consequently, there is no need for an external computer. A new ultra-high stability voltmeter, capable of holding 10 parts per million accuracy, has just been launched; it is the most accurate and stable voltmeter available.

Revenue of Systems & Transducers increased 4% due to increased shipments of training and radar simulators. Sales of the military training simulation equipment, based on laser technology, built in the U.K., grew 55%. Transducer sales decreased as demand slackened for photomultiplier tubes and sensors used in oil well logging.

#### FAIRCHILD WESTON SYSTEMS

Revenue declined 9% due to the drop-off in subcontract manufacturing. Strong sales and orders were registered in instrumentation for nuclear powered vessels and military electronic countermeasures equipment.

#### PAYMATEC

Revenue increased 12% and sales of payment systems were

up 60% when expressed in national currencies.

The first public telephone, using an electronic smart card for payment, was installed, and a new assembly line started manufacturing smart cards during the year.

A new marketing and sales organization was set up in the United States to address the electronic payment market.

#### FLUID METERING

Revenue of water meters declined 12%, when expressed in national currencies, as sales were affected by the depressed building industry in Europe and in Latin America. Water meter production started in 1983 in a new plant located near Riyadh, Saudi Arabia.

Revenue of gas meters and distribution equipment increased 6% when expressed

in national currencies; shipments remained weak; however, new gas supplies to Europe should increase industrial and residential demand over the long term.

#### PROCESS CONTROL & VALVES

Revenue increased 4% when expressed in national currencies as significant export sales of nuclear, petroleum and industrial valves offset the slowdown of demand in France.

#### GIERS

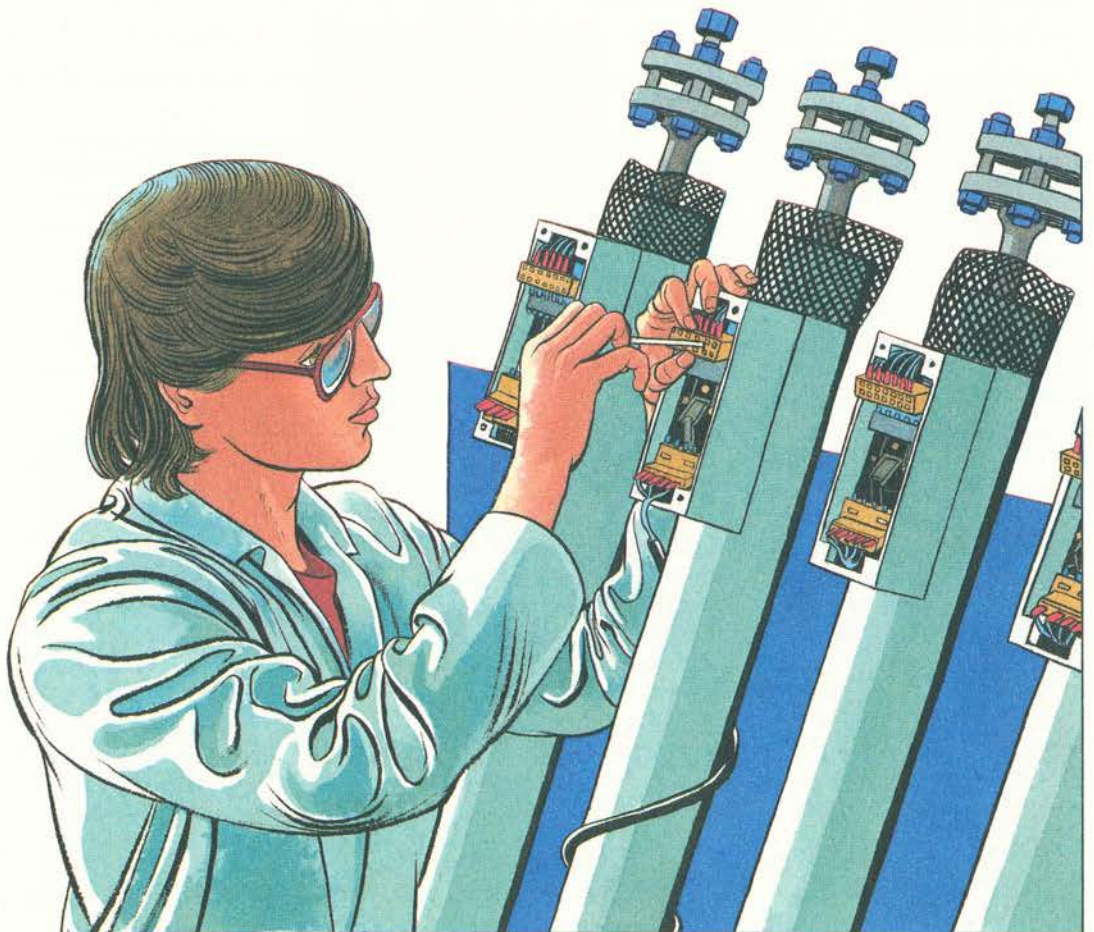
Research in the GIERS in 1983 has taken three principal directions: electronic design, sensor development and computer system applications.

In the area of electronic design, LSI chips and hybrid circuits have been developed for smart card, electricity distribution and control applications. Also, a major program was launched to

establish a laboratory for the development of microwave instrumentation.

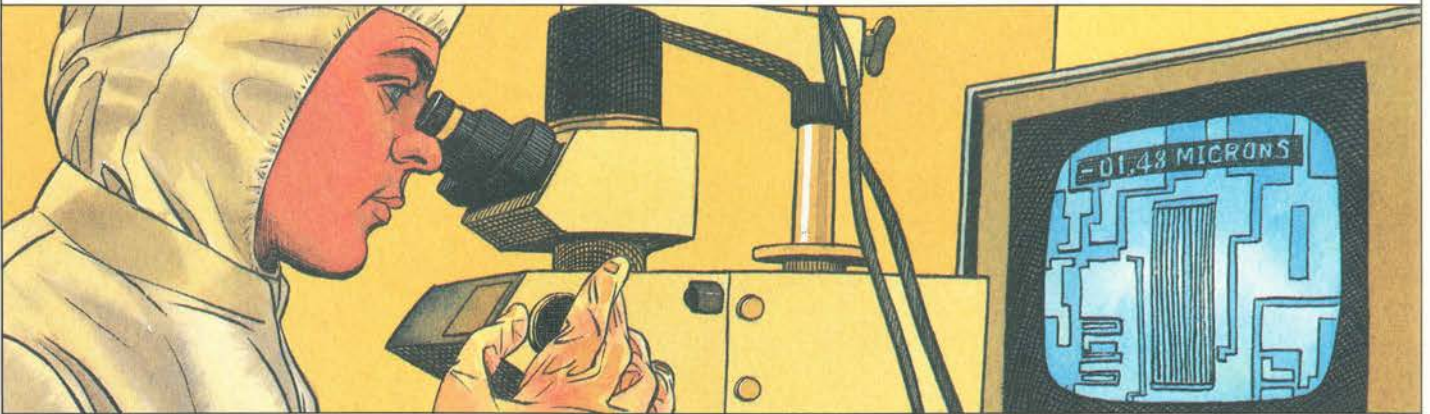
In the area of electrical power transmission, a new digital protection system has been demonstrated and will be implemented in 1984. This system can locate and detect faults very rapidly with excellent reliability. In a parallel project, an instrument transformer which measures current and voltage for the protection system has been developed; this transformer, based on optical principles, has a very rapid response. A prototype will be field tested in 1984.

Significant emphasis will be placed on optical, mechanical and nuclear sensors and their instrumentation, together with the development of mathematical modelling and signal processing. R.M.



*A technician calibrating industrial liquid transducers at Solartron in the United Kingdom.*

BUSINESS REVIEW  
**FAIRCHILD SEMICONDUCTOR**



Production of very large scale integrated circuits involves many steps that are done under a microscope connected to a TV monitor.

**I**ntegrated and large-scale integrated circuits (LSI) such as logic, memories, microprocessors, gate arrays and imaging devices using MOS, bipolar and CCD technologies. □ Linear circuits such as voltage regulators, operational amplifiers and telecommunication devices. □ Discrete components, such as transistors and diodes, and hybrid devices, such as microprocessor-based automobile ignition systems. □ *Fairchild Research Center*. Research on semiconductor processes and products; on software sciences, especially artificial intelligence; located in Palo Alto, California. □ *Test Systems* is part of the Computer Aided Systems group and is excluded from this presentation.

Fairchild revenue increased 15% over 1982; orders were up 55%. Fourth quarter orders set a record, twice as high as orders received in the same period of the prior year. At year end, the backlog was approximately \$150 million higher than at the end of 1982. Both in the United States and Asia, the improvement in orders that began during the first quarter of 1983, strengthened as the year progressed. In Europe, orders started to recover late in the year, despite appreciation of the U.S. dollar against European currencies.

Capital expenditures were \$125 million, primarily for upgrading manufacturing facilities. Research & engineering expense was \$70 million.

NORTH AMERICAN  
SEMICONDUCTOR  
North American Semicon-

ductor revenue increased 17%, and orders were up 62%, partly due to strong demand in all markets for the new FAST product line.

At the Digital division, sales of standard logic products, such as low power Schottky and TTL devices, were also strong throughout the year. During 1983, 30 new devices were added to the popular FAST logic product line, bringing the FAST family to 100 designs; 83 of these products are currently available in the market while the remaining 17 will be introduced in early 1984. The division completed installation of a fully automated, integrated circuit assembly and test facility at its plant in South Portland, Maine.

The Linear division introduced a new SLIC (Subscriber Line Interface Circuit) for the telecommunications market. This circuit connects a

digital central office switch to subscriber telephone lines. A new CMOS wafer fabrication line was installed during the year at the division's Mountain View, California facility.

The move of the Bipolar division from California to its new manufacturing plant in Puyallup, Washington began early in the third quarter and will be completed in the first half of 1984. Production of a 70 nanosecond, 64K bipolar PROM (Programmable Read Only Memory) began late in the year. This new device is used primarily by the computer industry for special high speed applications.

In Milpitas, California, the Gate Array division completed development of a 2,000-gate ECL gate array which is currently in the early stages of production and delivery to customers.

#### MICROSYSTEMS

Microsystems revenue improved 16% and orders increased 24%. Commercial sampling of a new 16K static MOS RAM (Random Access Memory) began late in the year. Prototype sampling of the 9450, a 16-bit high performance bipolar microprocessor for military applications began in the fourth quarter.

#### EUROPE

Expressed in U.S. dollars, revenue in Europe dropped 22%, but orders increased 14% over the prior year. Fourth quarter orders were up 51% from the same period in 1982, mainly due to strong demand for Digital division products.

By year end, the new assembly and test facility at Wasserburg, Germany was in full operation. At Reading, England, a new Gate Array

Design Center produced the first designs for European customers.

#### ASIA

In Asia, revenue rose 22%, while orders climbed 65%, primarily due to increased demand for FAST and for linear products. Orders for FAST were particularly strong in Japan during the second half of the year.

Construction of an assembly and test factory to produce FAST and other digital logic products began in August. Located on a 23-acre site near Nagasaki, Japan, this factory will be able to produce more than ten million units per month. The new plant is scheduled to begin operations in the third quarter of 1984.

#### FAIRCHILD RESEARCH CENTER

Programs at the Fairchild Research Center in Palo Alto, California concentrated on product research, on new semiconductor processes (primarily CMOS) and on software sciences, especially artificial intelligence.

During the year, a number of significant programs were completed and transferred to operating units:

■ A 2-micron mixed CMOS-NMOS process was developed in the VLSI Laboratory and implemented on a new pilot line at the Memory division, also located in Palo Alto. This line, which uses the latest production technology available, is in the early phase of production for a 64K static RAM.

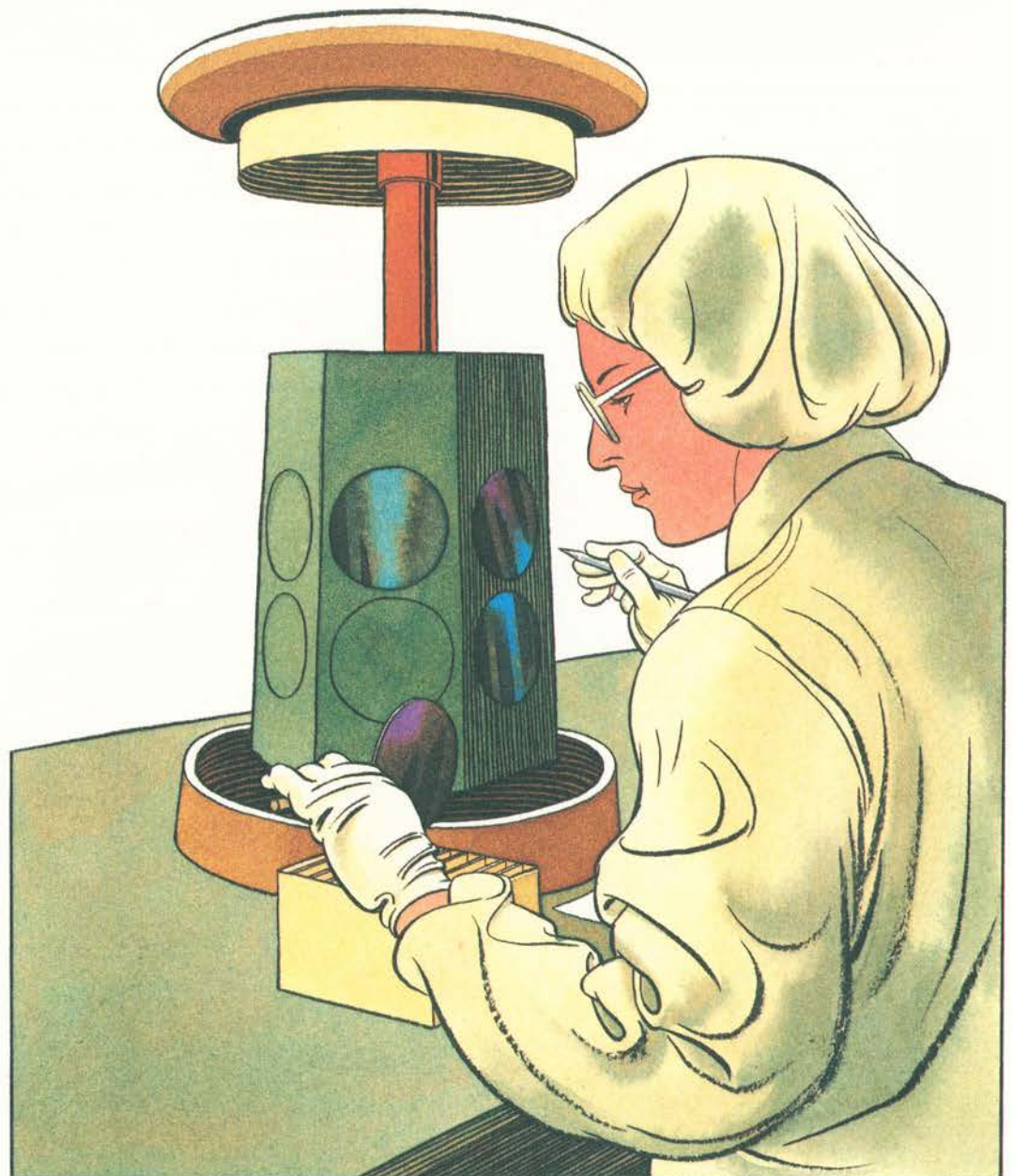
■ A 2-micron CMOS process for logic products was also developed. This process will be used by the Gate Array division for manufacture of a family of high performance CMOS gate arrays, ranging from 500 to 6,000 gates in complexity, during 1984. In addition, the 2-micron CMOS process will be used for production of new micro-processor and standard logic products currently under development.

In January 1984, the U.S. Defense Logistics Agency suspended Fairchild's Linear division from shipping military grade products, due to possible testing and record keeping discrepancies. Fairchild has taken corrective action and expects recertification in the near future. The Jus-

tice Department is investigating whether test records for these products were improperly altered. Fairchild is cooperating fully with the Government and does not expect to be charged with any violations.

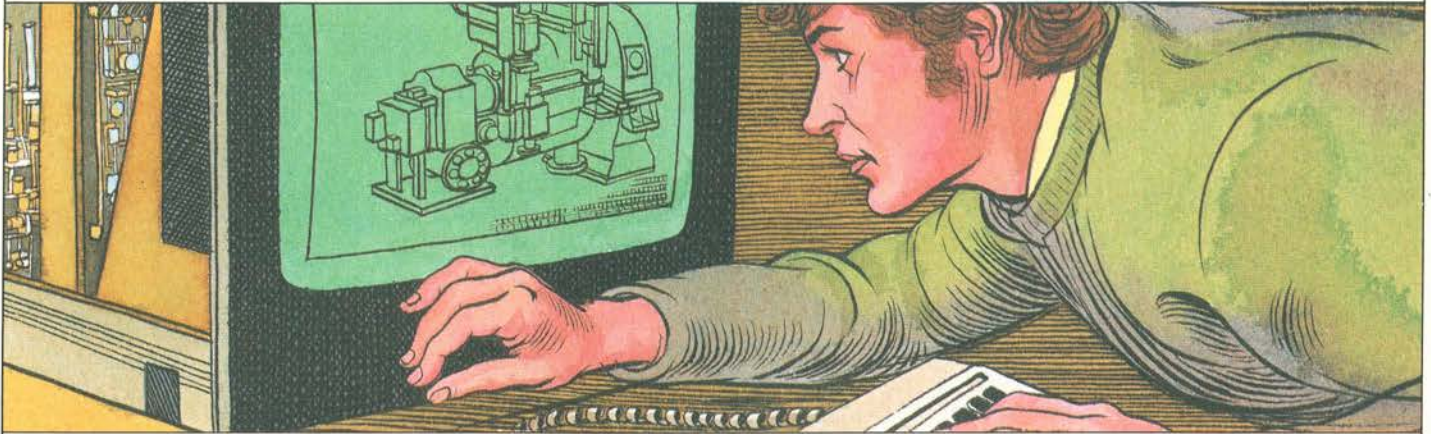
Cleanup operations of a water well which was allegedly contaminated as a result

of a solvent tank leak discovered in 1981 at Fairchild's semiconductor manufacturing plant in San Jose, California, are largely completed. Legal actions resulting from the leakage are pending. The Company does not believe it has any material liability in this matter. T.C.R.



*A layer of silicon will be grown on the surface of the wafers ready to be placed in this furnace, one of the numerous steps in making integrated circuits.*

# COMPUTER AIDED SYSTEMS



An engineer testing a graphic terminal for a computer-aided design system at Applicon.

**C**omponent Test Systems. Computer-controlled systems for testing semiconductors. □ Subassembly Test Systems. Computer-controlled systems for testing printed-circuit board subassemblies. □ Applicon. Computer-aided design and manufacturing (CAD/CAM) systems, interactive graphics systems to automate engineering analysis and design of products. □ MDSI. Computer-aided manufacturing (CAM), computer-based systems to translate parts descriptions into instructions for numerically controlled machine tools. □ Benson. Computer-aided drafting products including pen and electrostatic plotters and peripherals for CAD/CAM. □ Research & Engineering. Computer Aided Systems research at the Fairchild Research Center, located in Palo Alto, California.

Computer Aided Systems revenue was up 4% in 1983 and orders were up 19%; however, second half orders were 36% higher, with particularly strong gains by the automatic test equipment units, 63% ahead.

The Computer Aided Systems group was newly formed in October of 1983 to address specific markets in the areas of Computer-Aided Design (CAD), Computer-Aided Manufacturing (CAM) and Computer-Aided Testing (CAT). These are components of the automated mechanical and electronics factory of the future. Markets for CAD, CAM and CAT are relatively large, growing rapidly and require advanced technology.

The Computer Aided Systems group addresses this "factory automation market" and shares the same technol-

ogy. Technological areas of interest to Computer Aided Systems are computer science, artificial intelligence, computer graphics and communications. Also, there is a link within a factory between the products of these divisions. The central source of information for all manufacturing activities in a plant can be the computer-aided design system. While the computer-aided design system is being used for engineering analysis, product design and drafting, it also can be creating a data base about the product that can be shared through a communications link by the manufacturing and testing operations. This may save weeks or months of effort in translating design ideas to these processes. For example, the CAD system may create bills of material

needed for purchasing parts and programs to generate instructions for people and machines in manufacturing. Design data also may generate automatically software programs for the CAT systems which test the products. As the complexity of devices increases, the solution to testing problems requires early attention during the design, which may involve building test functions into the device itself. This integrated approach demands intimate knowledge of and interaction between the CAD and CAT systems.

COMPONENT TEST SYSTEMS Revenue was 3% higher in 1983. Orders were up 33% for the year and 71% for the second half, due to increased demand by semiconductor manufacturers. The order rate

for general-purpose VLSI testers was particularly strong and backlog had more than doubled by year end.

A new software program called PREP (Program Enhancement Processor) was introduced to facilitate time consuming and costly test-program development. Since PREP allows a test program to be written interactively, in terms of the device under test only, the engineer does not need a detailed knowledge of the tester.

A semiconductor memory tester, the 5587-Q, was introduced in May. On a production line, this unit can test up to eight dynamic random access memories simultaneously, reducing the costs per unit tested.

SUBASSEMBLY TEST SYSTEMS Revenue was up 4% and

orders were 12% higher. In the second half, orders were up 38% due to increased demand from telecommunications and computer manufacturers. A new range of circuit board testers, series 700, was introduced worldwide starting, in late 1983, with the series 720 and 730. The series 720 is a high-performance computer-controlled system designed to test the proper functioning of printed-circuit boards or other electronic subassemblies; diagnostic routines built into the system software isolate faults to the component level. The 730 is a cost effective in-circuit tester which connects to the assembly under test by means of a special fixture called a bed-of-nails. All critical components are accessed and faults are detected at the component level.

#### APPLICON

Revenue was 7% higher. Orders for Applicon products were less than expected due to the delayed introduction of a significant new product, BRAVO!. Applicon introduced BRAVO!, a fully integrated, multi-application CAD/CAM system, during the second half of 1983. This system is intended for advanced design and manufacturing applications; the key feature is a "data base manager" that provides one central source for all CAD/CAM information in a factory.

#### MDSI

MDSI supplies software and systems which aid in the preparation of programs for numerically controlled machine tools; the machine-tool industry was in a recession as shipments were down 55%

in 1983. This depressed the financial results of MDSI and 1983 revenue was 16% lower. However, machine-tool industry orders rebounded in the third quarter, up 65%, which is having a positive effect on MDSI results.

#### BENSON

Revenue at Benson rose 13% in 1983. In September, Benson introduced a new computer-aided drafting system for use in architectural and engineering work. Drafting instructions are input to this microprocessor-controlled unit either by a keyboard or by means of a digitizer that translates a drawing into numbers for the graphics controller. The unit includes a color video display and floppy disk drives for storing and recalling frequently needed drawings like

the windows of a building in an architectural design. This stand-alone system is designed to reduce routine drafting tasks while improving the quality of drawings.

#### RESEARCH & ENGINEERING

Computer Aided Systems research is pursued at the Fairchild Research Center, located in Palo Alto, California. Research is concentrated primarily in three fields: artificial intelligence, computer science and electronic measurement. Artificial intelligence is being used to develop software technology for systems such as advanced simulators for the design and testing of circuits and automatic generation of computer-aided test programs. Computer science includes the study of computer architecture and software. J.G.L.



*At a major computer manufacturer, a subassembly tester is automatically performing multiple tests on circuit boards.*

**S**chlumberger provides wireline services to the oil industry in 98 countries. These services assist oil companies in discovering and producing oil reservoirs. □ To help you better understand this major Schlumberger activity, the next few pages illustrate how a typical wireline operation is conducted. The service is performed by an engineer and crew who take a mobile laboratory to a wellsite. There, they lower measuring instruments—logging tools—to the bottom of the well on an armored electrical cable called a wireline. As the instruments are pulled out of the hole, they measure the depth and physical properties of the various rock formations. These measurements are transmitted to the mobile laboratory at the surface where they are recorded on magnetic tape and converted into a film-graph called a log. Interpretation of the measurements, with computer assistance, determines the depth, quantity and producibility of oil and gas. □ Let's follow field engineer Tom White on a typical well logging job.

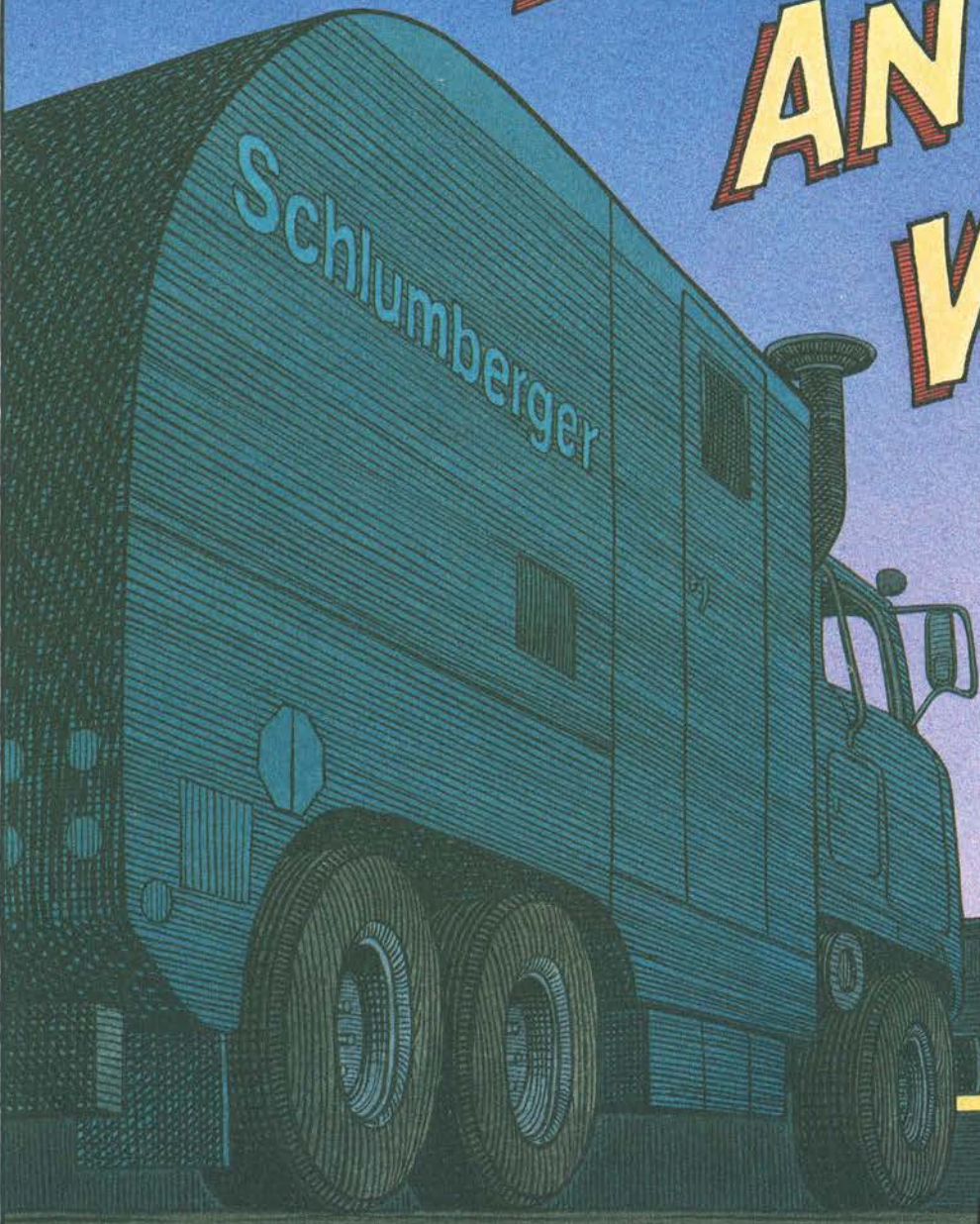


Midnight. The dispatcher calls field engineer Tom White for a 6 A.M. logging job.



O.K. TELL THE CREW I'LL MEET THEM AT THE BASE AT 1:30.

# LOGGING AN OIL WELL



LET'S HAVE ANOTHER CUP OF COFFEE. I BET WE WON'T START LOGGING<sup>1</sup> AT SIX.

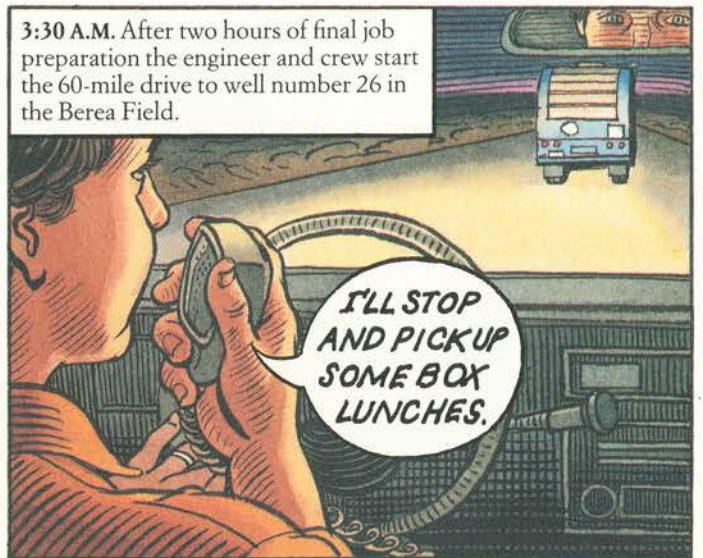
1:15 A.M. at the Schlumberger open-hole<sup>2</sup> base in Opelousas, La. The operators start predeparture checks.

Michael

1. See glossary on page 22.



HARRY, PUT THE JIG<sup>3</sup> ON AND I'LL CHECK THE LDT.<sup>4</sup>



3:30 A.M. After two hours of final job preparation the engineer and crew start the 60-mile drive to well number 26 in the Berea Field.

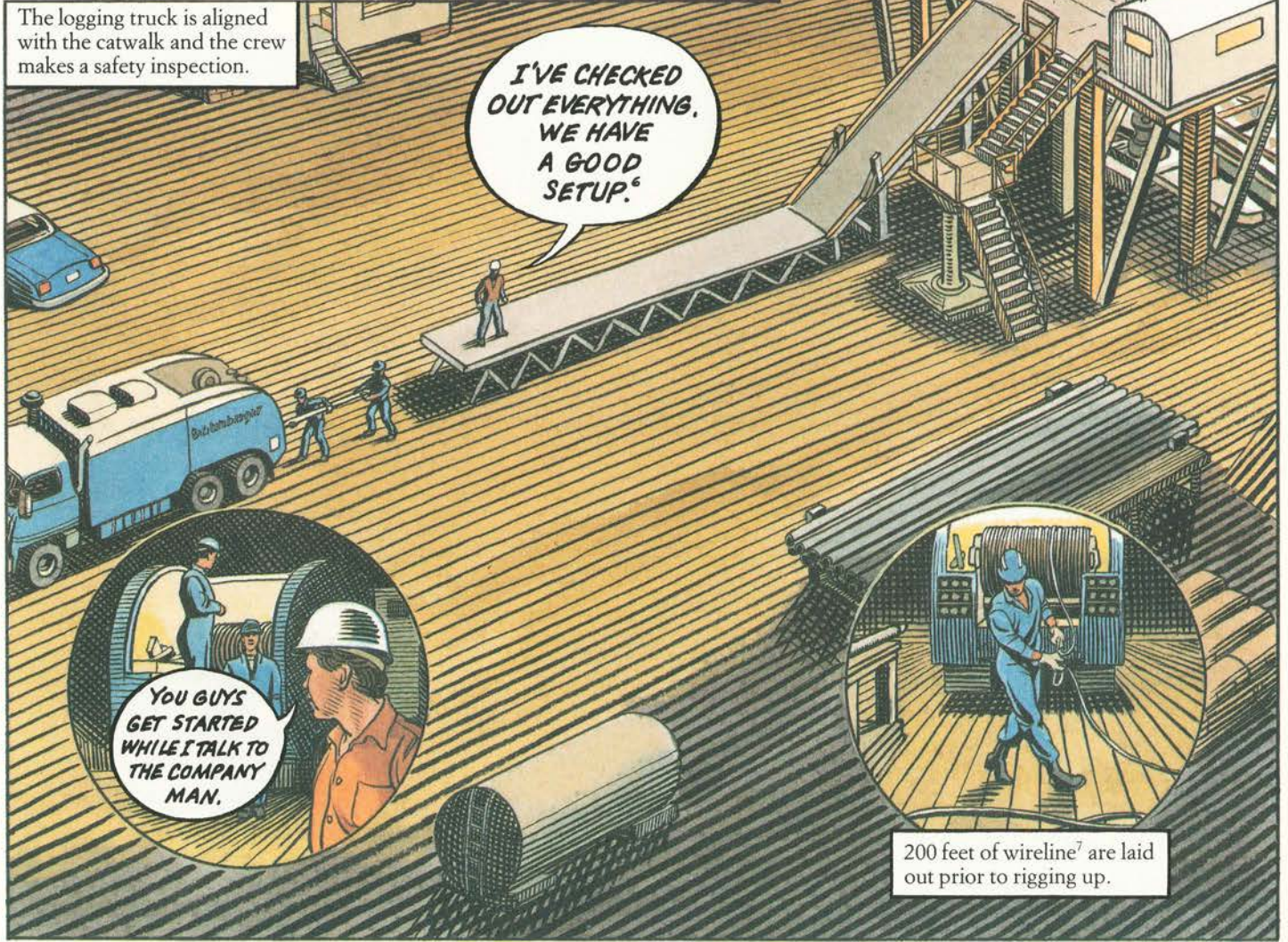
I'LL STOP AND PICKUP SOME BOX LUNCHES.



5:30 A.M. At the rig.

OH, OH! THEY'RE STILL CIRCULATING<sup>5</sup>. LOOKS LIKE WE'LL HAVE TO WAIT.

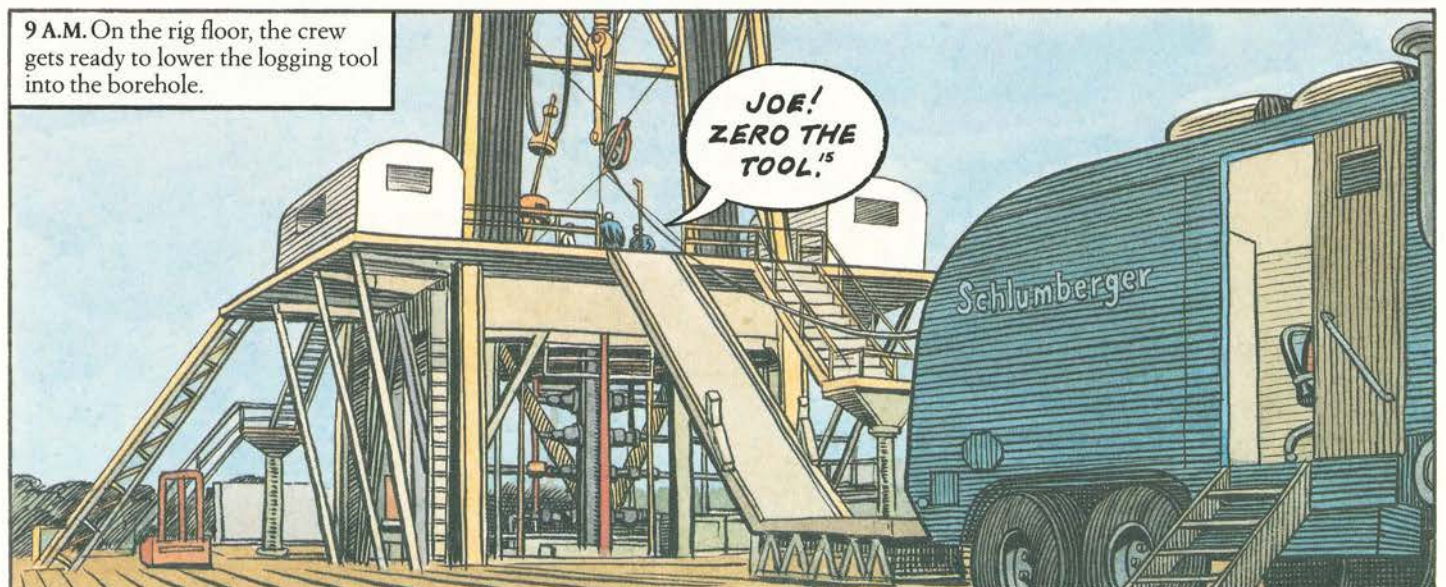
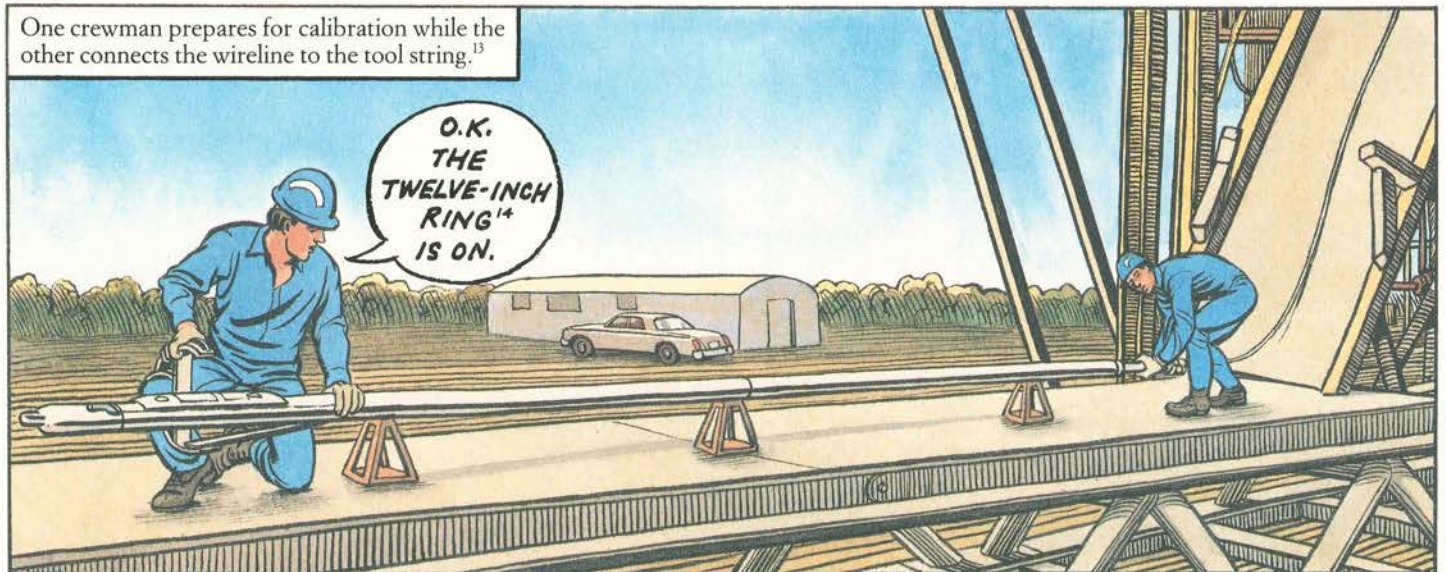
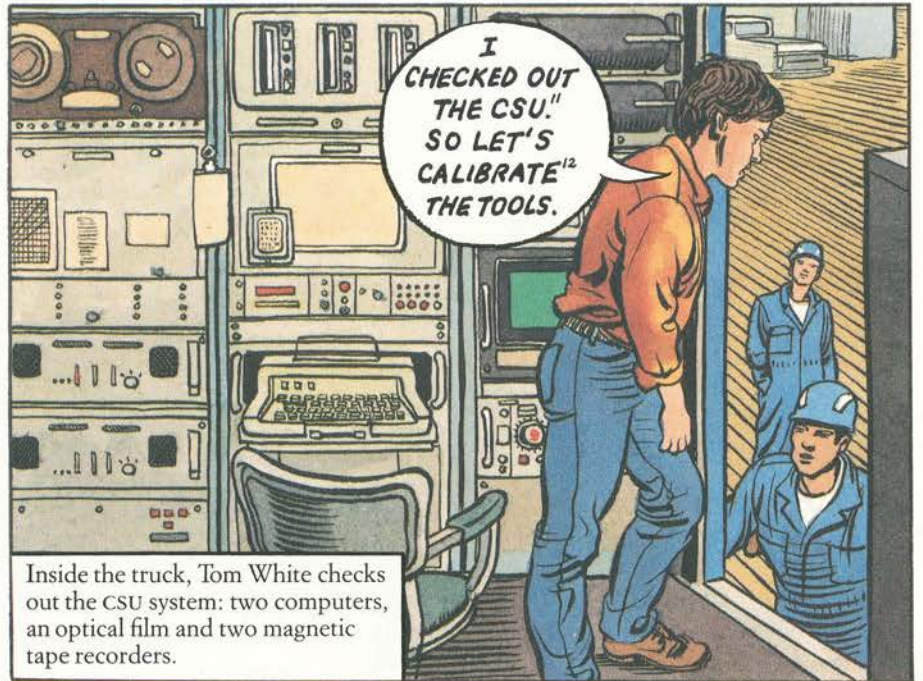
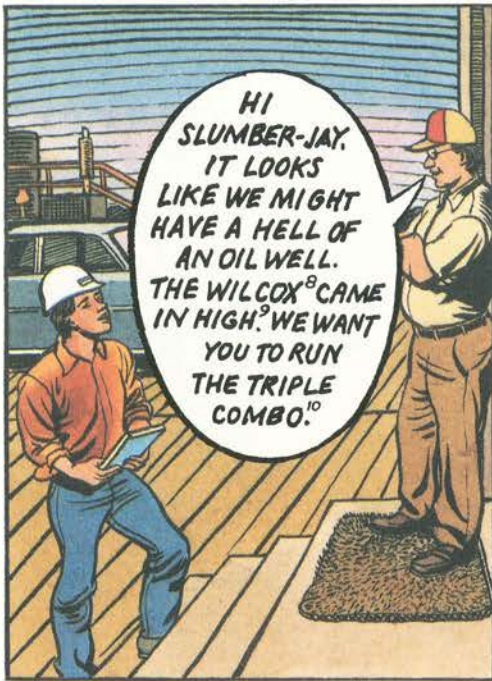
The logging truck is aligned with the catwalk and the crew makes a safety inspection.

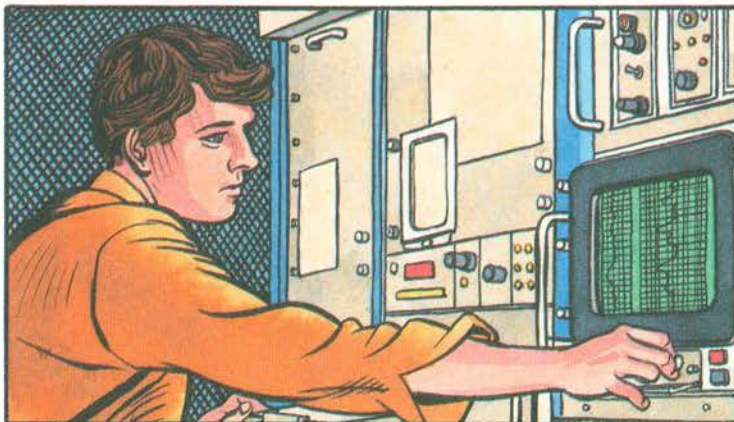


I'VE CHECKED OUT EVERYTHING. WE HAVE A GOOD SETUP.<sup>6</sup>

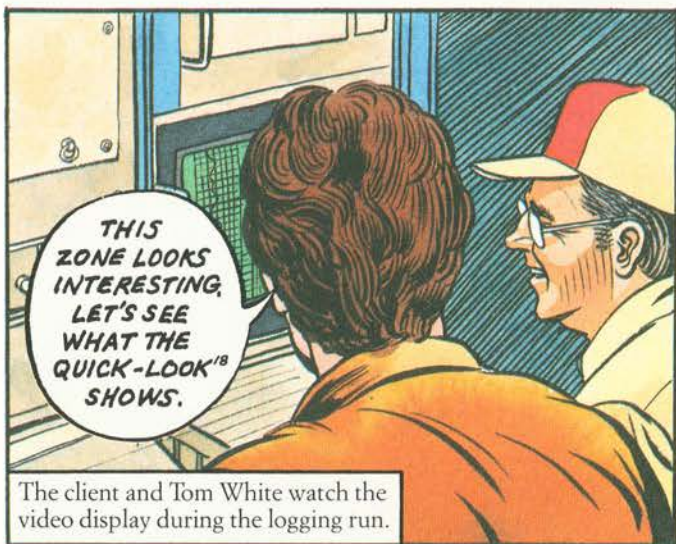
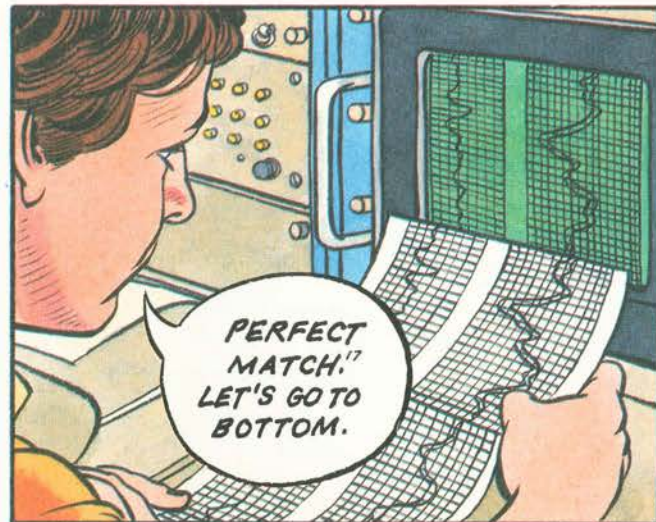
YOU GUYS GET STARTED WHILE I TALK TO THE COMPANY MAN.

200 feet of wireline<sup>7</sup> are laid out prior to rigging up.

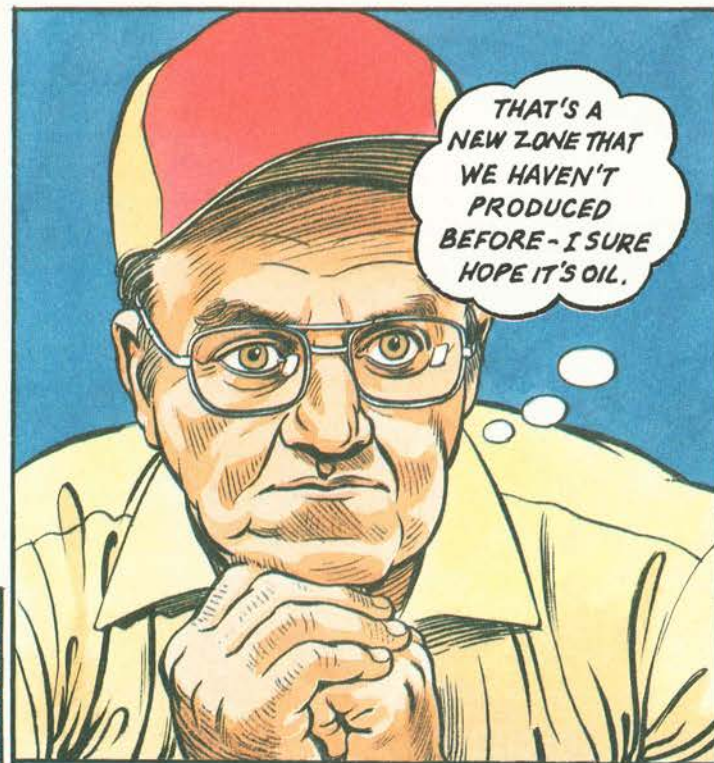




In the CSU truck, Tom White monitors readings as the tool is lowered into the well. To check depth<sup>16</sup>, he compares the video monitor with a log previously recorded in the same well over the same interval.



The client and Tom White watch the video display during the logging run.

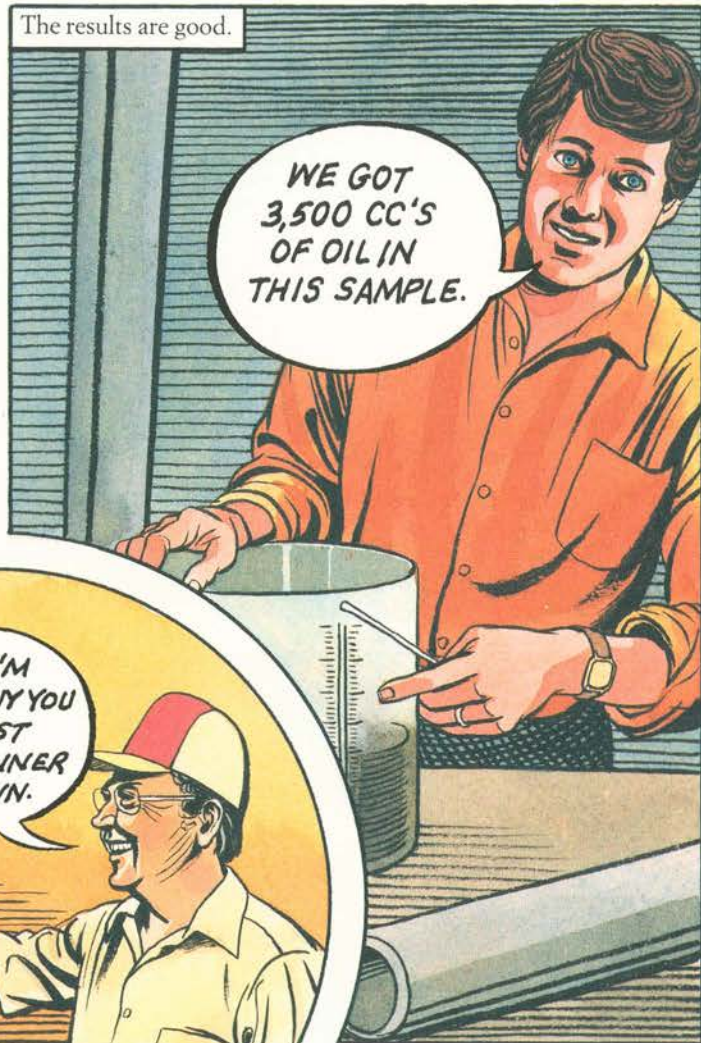


Tom White has developed the film and he and the client analyze it together.

The crew runs a Repeat Formation Tester to take samples of formation fluids.



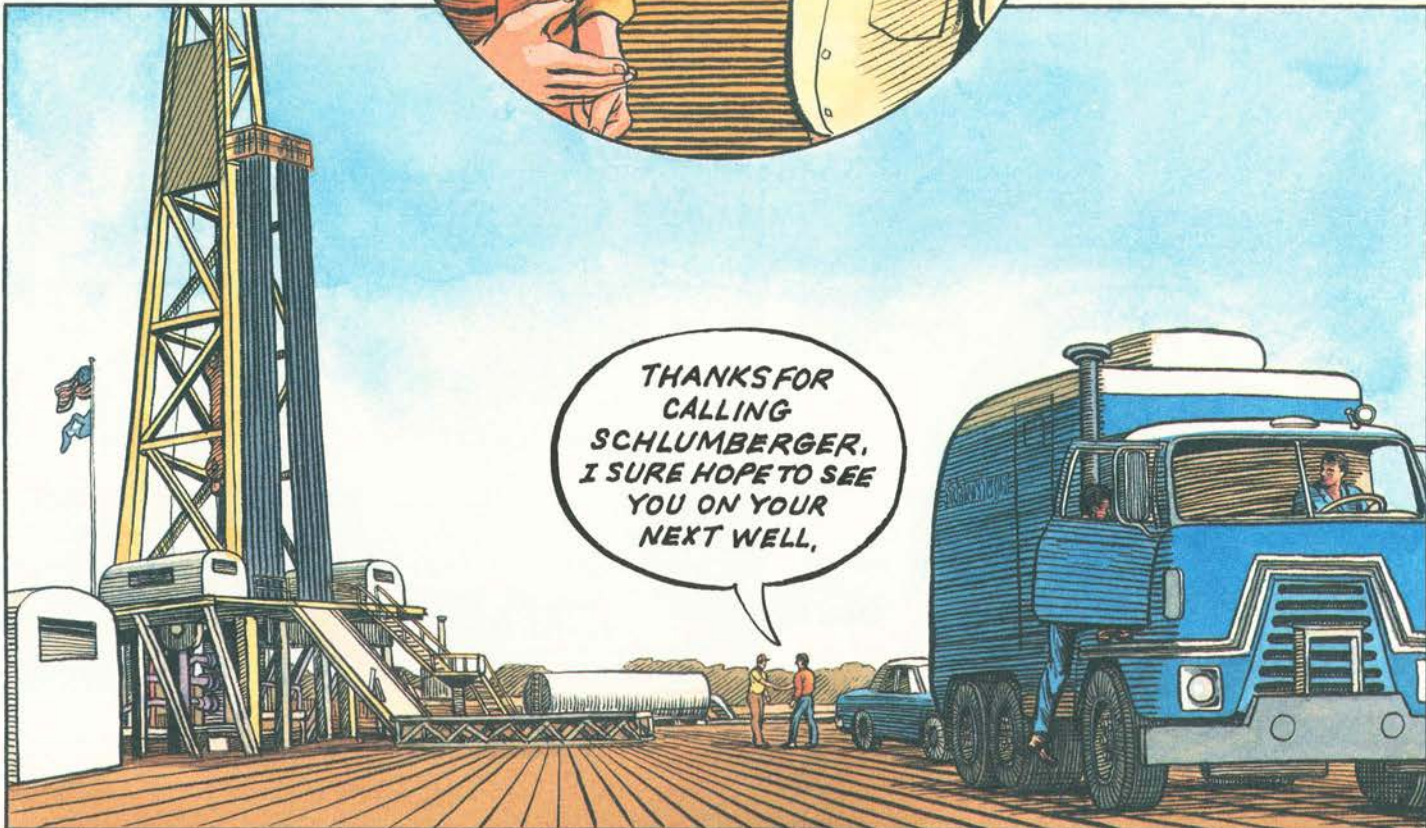
The results are good.



WE GOT 3,500 CC'S OF OIL IN THIS SAMPLE.



TOM, I'M GONNA BUY YOU THE BEST STEAK DINNER IN TOWN.



THANKS FOR CALLING SCHLUMBERGER, I SURE HOPE TO SEE YOU ON YOUR NEXT WELL,

Tom White reviews the log with his district manager.



Next day at the FLIC (Field Log Interpretation Center<sup>21</sup>), in Lafayette, La. Log analyst Susan Hunt prepares the log data tapes on well number 26 for processing.



The engineer has finished his reports. The crew has the equipment ready for the next job.



11 A.M. Susan Hunt reviews preliminary computed data with sales engineer Richard King.

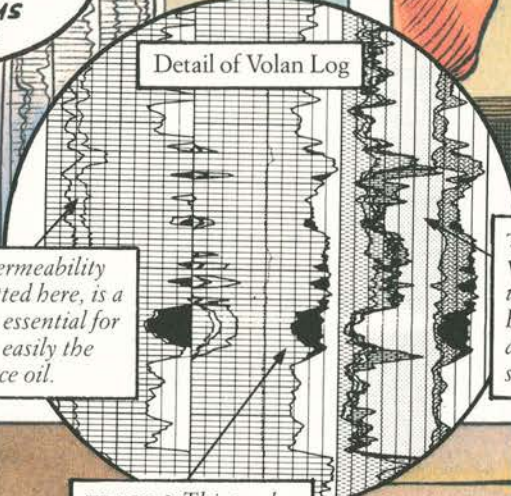


Sales engineer Richard King meets the client, George Davis and confirms the new pay zone detected at the well site on the Cyberlook log.



GEORGE, THIS NEW ZONE AT 8,665 FEET LOOKS TERRIFIC. IT HAS 27% POROSITY<sup>25</sup> AND ONLY 18% WATER SATURATION<sup>26</sup> - THIS CONFIRMS THE RFT TEST.

TRACK 1. The permeability of the rock, plotted here, is a VOLAN product essential for estimating how easily the zone will produce oil.



Detail of Volan Log

DICK, THIS LOGGING PROGRAM GAVE US WHAT WE WANTED. LET'S RUN THE SAME PROGRAM ON OUR NEXT WELL.

TRACK 4. One result of the VOLAN interpretation is information about rock type. Here various shadings differentiate between sand, shale and other lithologies.

Richard King alerts the cased-hole<sup>27</sup> base in Houma, La. on a potential wireline completion<sup>28</sup> job.



WE DISCOVERED A NEW PAY ZONE ON WELL 26 IN THE BEREA FIELD. IT SHOULD BE UP FOR COMPLETION PRETTY SOON.

TRACK 3. This track shows whether oil (black shading) or water (white shading) is present in the pore space.



The client calls the cased-hole office with an order for the well completion.



MR. DAVIS JUST CALLED. HE WANTS A TRUCK AND CREW AT WELL NUMBER 26 THIS AFTERNOON. HE NEEDS FOUR SHOTS PER FOOT<sup>29</sup> ON 20 FEET OF THAT NEW PAY.



THE END.

## GLOSSARY OF TERMS

### 1. LOGGING

The operation of lowering measuring instruments (called *logging tools*) to the bottom of a well, and then recording their responses to the rocks as the instruments are slowly raised.

### 2. OPEN HOLE

Open-hole services are specifically designed for logging newly drilled wells which have not yet been lined with steel casing. Such Schlumberger services are often provided in the U.S. by specialized open-hole bases.

### 3. JIG

A small device which is used in the calibration and testing of logging tools.

### 4. LDT

An acronym meaning Litho Density Tool, a logging tool which provides information on rock density and lithology by measuring gamma-rays induced by a radioactive source within the tool.

### 5. CIRCULATING

A drilling operation in which a special mud is pumped through the drill pipe; one of the purposes of mud circulation is to remove debris from the borehole to facilitate logging.

### 6. SET-UP

Refers to the positioning of the logging truck in relation to the rig to assure efficient operations.

### 7. WIRELINE

A seven-conductor armored cable used to lower the logging tools into the well; the conductors transmit power and data signals between the downhole tools and logging truck.

### 8. WILCOX

An Eocene oil producing sandstone formation commonly encountered in the southeastern United States.

### 9. CAME IN HIGH

Jargon, meaning that a formation, such as the Wilcox, was found shallower than expected, usually a favorable indication that the formation will contain hydrocarbons.

### 10. TRIPLE COMBO

Jargon for running three different logging tools in combination, providing, in one run, all the basic logs needed for a standard quick-look interpretation.

### 11. CSU

Stands for Cyber Service Unit. The wellsite laboratory which contains computer-controlled instrumentation and recording system used in wireline logging.

### 12. CALIBRATE

Setting the response of logging tools against a known reference before logging is started.

### 13. TOOL STRING

Describes an interconnected group of logging tools ready to be lowered into the well.

### 14. TWELVE-INCH RING

A ring of known diameter used to calibrate a part of the logging tool, called the caliper, which measures borehole diameter.

### 15. ZERO THE TOOL

Matching the driller's depth reference by zeroing the recorded depth while the logging tools are at the rig floor before they are lowered into the well.

### 16. TO CHECK DEPTH

Verification of depth measurement with the logging tool in the hole, by matching with previously run logs to ensure consistency of depth readings.

### 17. PERFECT MATCH

The new log agrees with the same measurement previously recorded over the same depth interval.

### 18. QUICK-LOOK

Comparing logs obtained from two different tools over the same depth interval, often by overlaying the transparent film-graphs, to get a first indication of oil or gas in the downhole formations.

### 19. CYBERLOOK

A log interpretation produced at the wellsite on the CSU computer by combining data from several logging services.

### 20. RFT

Acronym for Repeat Formation Tester, a wireline tool that can take samples of formation fluids at various depths during one trip in the well. It also measures formation fluid pressure.

### 21. FIELD LOG INTERPRETATION CENTER (FLIC)

A large-scale computer installation where data from many logs can be merged and processed into a single, easily usable product. Schlumberger has 55 such centers worldwide.

### 22. PASS ONE

A preliminary phase in a computer interpretation where log readings are corrected for borehole environmental effects.

### 23. VOLAN

Abbreviation for Volumetric Analysis; a computer interpretation produced in a FLIC that provides quantitative indications of rock type, the quantity and nature of the fluids filling the pore spaces, and rock permeability.

### 24. PAY ZONE

A vertical interval of rock formation that contains commercially significant amounts of oil or gas.

### 25. POROSITY

A measure of the void space

within a rock formation; this pore space is filled with water, oil or gas.

### 26. WATER SATURATION

The fraction of the pore volume within a rock formation that contains water. The lower the water saturation, the higher the volume of oil within the pores.

### 27. CASED HOLE

Cased-hole services are specifically designed for operations in wells that have already been lined with a steel casing. Such Schlumberger services are often provided in the U.S. by specialized cased-hole bases.

### 28. WIRELINE COMPLETION

The operations needed to turn a cased hole into a producing well; wireline completion services consist mainly of checking the quality of the cementation and of perforating the casing opposite the pay zone.

### 29. FOUR SHOTS PER FOOT

The number of perforating charges per foot of borehole.



# FINANCIAL REVIEW

## RESULTS OF OPERATIONS

**N**et income for 1983 was \$1.08 billion as compared to \$1.35 billion in 1982 and \$1.27 billion in 1981. Net income decreased 20% in 1983 compared to 6% growth in 1982. Net income per share was \$3.73, \$4.60 and \$4.37 in 1983, 1982 and 1981, respectively.

## OILFIELD SERVICES

Oilfield Services operating revenue decreased 16% in 1983 as compared to increases of 7% and 35% in 1982 and 1981, respectively. Wireline revenue worldwide was down 14%. In North America, revenue declined 27% as the average number of active rigs fell 27% to 2,430 rigs. The number of active rigs has risen slowly, but consistently, since the low point last April and reached 3,000 rigs in December, the highest level since December of 1982. Outside of North America, Wireline revenue declined 5% as compared to the 21% and 35% growth in 1982 and 1981, respectively. Compared to 1982, revenue in Europe increased 2% while Latin America and Africa were below last year by 27% and 6%, respectively. Revenue in the Middle East was 4% below 1982 while both Indonesia/Australasia and Central East Asia increased over last year by 2% and 19%, respectively. Drilling & Production Services revenue, primarily outside of North America, declined 19% after increasing 12% and 28% in 1982 and 1981, respectively. Overall rig utilization during 1983 was 58% compared with 79% in 1982 and 91% in 1981.

## MEASUREMENT, CONTROL & COMPONENTS

Measurement, Control & Components operating revenue increased 6% in 1983 after declining 1% in both 1982 and 1981. Increased revenue at Fairchild and the inclusion of Benson for the full year were only partially offset by lower revenue at Measurement & Control when translated into dollars. Measurement & Control revenue declined 6% in both 1983 and 1982 and was flat in 1981. In North America, revenue fell 5% in 1983 and 6% in 1982, after increasing 8% in 1981. Fairchild Weston Systems revenue declined 9% as strong sales of nuclear instrumentation and defense products were more than offset by lower sales to the Wireline. Outside of North America, revenue expressed in U.S. dollars declined 7% in 1983 and 4% in both 1982 and 1981. In Europe, when expressed in national currencies, revenue improved 8% compared to 1982. Fairchild revenue increased 15% in 1983 after declining 10% in 1982 and 17% in 1981. Revenue of North American Semiconductor grew by 17% due primarily to strong demand for FAST products at Digital. On a comparable basis, including Test Systems and Benson in 1982, Computer Aided Systems revenue increased 4% in 1983. At Component Test Systems and Subassembly Test Systems, revenue increased by 3% and 4%, respectively, reflecting strong demand for digital and in-circuit test systems. Applicon revenue increased 7% due to shipments of BRAVO!, the new graphics software programs for the series 4000, and a significant increase in customer service revenue resulting from continued growth in the installed equipment base. At MDSI, revenue was down 16%; Benson revenue increased 13% from 1982.

## INTEREST INCOME

**I**nterest income reached a high of \$298 million in 1983 as compared to \$254 million and \$183 million in 1982 and 1981, respectively. The 17% increase in 1983 compared to 1982 was due primarily to increased funds available for investment, partially offset by a decline in interest rates. At the end of 1983, the Company had \$3.2 billion in short-term investments, an increase of 38% over 1982.

## RESEARCH & ENGINEERING

**R**esearch & engineering expenditures were \$349 million, \$23 million above 1982 and \$109 million higher than 1981. Oilfield Services expenditures for research & engineering totaled \$157 million, \$138 million and \$106 million in 1983, 1982 and 1981, respectively. Measurement, Control & Components spent \$192 million, \$188 million and \$134 million for the same years.

## TAXES

**O**n a worldwide basis the effective income tax rate was 22%, 25% and 31% for the years of 1983, 1982 and 1981, respectively. The declining effective tax rate resulted primarily from a lower proportion of income earned in high tax countries.

The estimated liability for taxes on income provides for taxes on current earnings as well as provisions for income taxes which may be payable in future years depending upon interpretation of tax laws and regulations of taxing authorities in various countries.

## FIXED ASSETS

**E**xpenditures for fixed assets in 1983 were \$517 million compared to \$1.09 billion in 1982.

Additions by business sector were as follows:

	1983	1982
	<i>(Stated in millions)</i>	
Oilfield Services		
Wireline	\$232	\$ 536
Drilling & Production Services	53	266
	285	802
Measurement, Control & Components		
Measurement & Control	57	66
Fairchild	125	169
Computer Aided Systems	44	54
	226	289
Other	6	3
	\$517	\$1,094

## COMMON STOCK, MARKET PRICES AND DIVIDENDS DECLARED PER SHARE

**Q**uarterly high and low prices for the Company's Common Stock as reported by the New York Stock Exchange (composite transactions), together with dividends declared per share in each quarter of 1983 and 1982 were:

	PRICE RANGE		DIVIDENDS DECLARED
	HIGH	LOW	
1983			
Quarters			
First	\$52	\$38¼	\$0.240
Second	57¾	40¾	0.240
Third	62¾	53¼	0.260
Fourth	56½	44¾	0.260
1982			
Quarters			
First	\$55¾	\$40	\$0.200
Second	49¾	37¾	0.240
Third	40¼	30	0.240
Fourth	47¾	33¾	0.240

The number of holders of record of the Common Stock of the Company at December 19, 1983 was approximately 39,000. There are no legal restrictions on the payment of dividends or

ownership or voting of such shares. United States stockholders are not subject to any Netherlands Antilles withholding or other Netherlands Antilles taxes attributable to ownership of such shares.

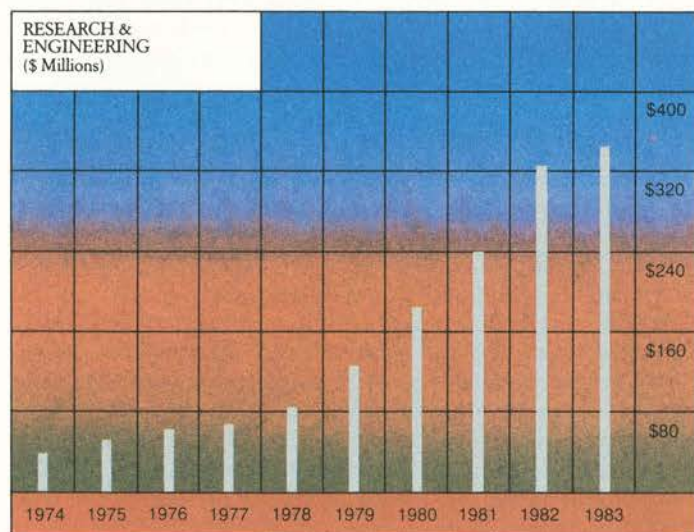
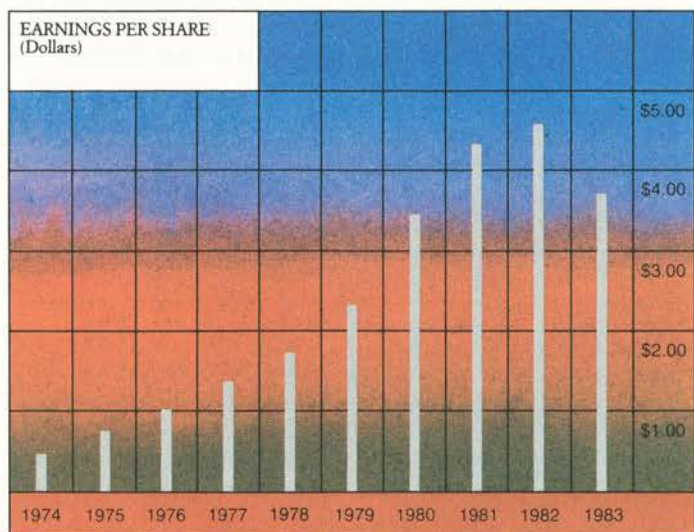
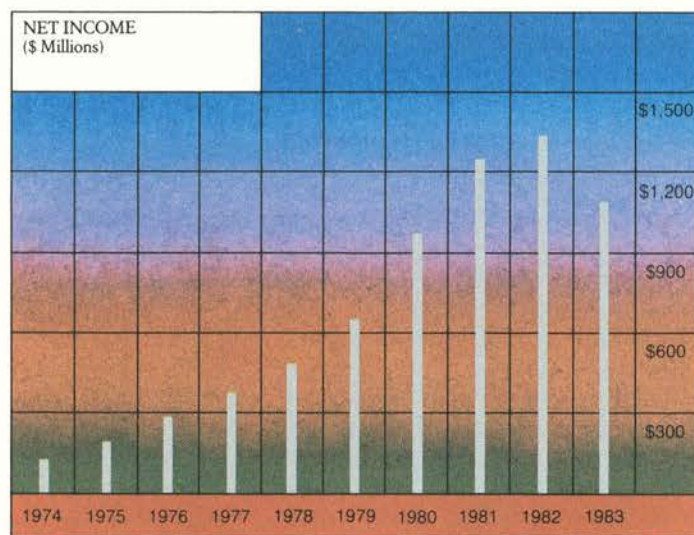
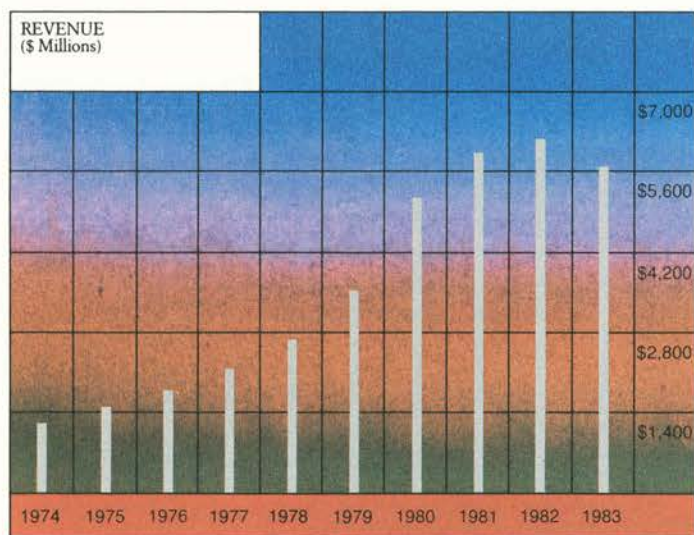
## CURRENCY

**O**n January 1, 1982, the Company adopted Financial Accounting Standard No. 52 — Foreign Currency Translation. As a result of the adoption of this new standard, a significant portion of the Company's non-oilfield operations conducted outside of the United States, primarily in France, are measured in national currencies. Had FAS No. 52 been in effect during 1981, net income would have been increased by approximately \$30 million (\$0.11 per share).

## FINANCIAL POSITION

**A**t year end, working capital was \$3.03 billion, \$859 million over the prior year; the current ratio was 2.58 to 1.

Liquidity, which represents cash and short-term investments less debt was \$2.28 billion and \$1.35 billion at December 31, 1983 and 1982, respectively. The increase primarily



reflects the continuing high level of funds generated from operations and the lower level of fixed asset additions.

#### INFORMATION ON EFFECTS OF CHANGING PRICES

The following selected supplementary financial data adjusted for effects of changing prices are presented in compliance with current disclosure requirements. Under these requirements, which are experimental in nature, the information presented represents only a partial restatement of financial statements and the specified inflation index may not necessarily represent the true impact of inflation on the Company. Therefore, this information should not be viewed as a precise measurement of the effects of inflation on the Company and caution should be exercised in using this information to assess the effects of inflation or for comparative evaluations.

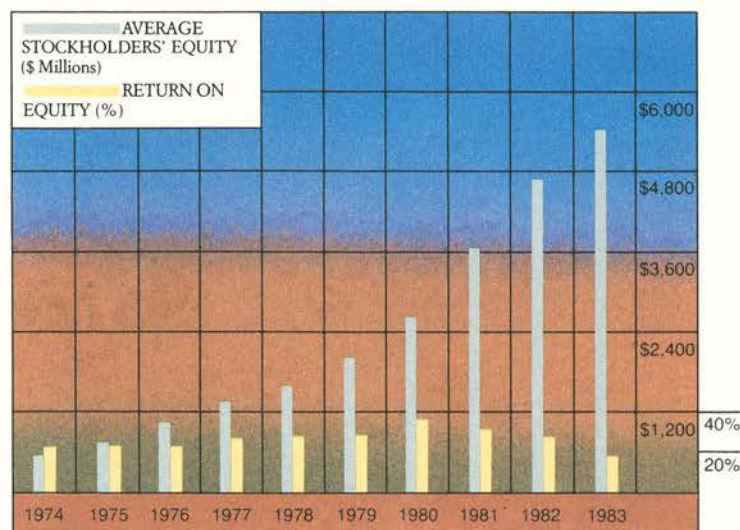
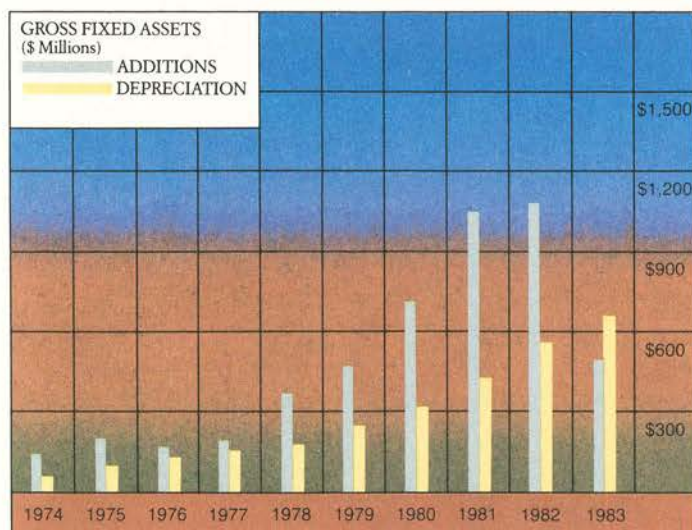
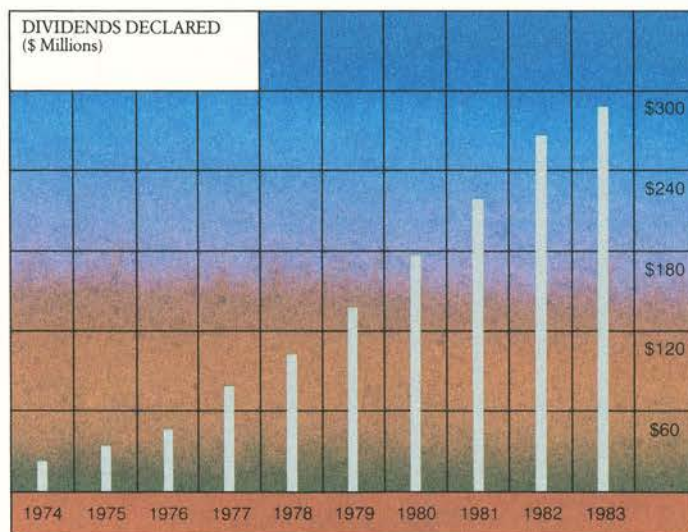
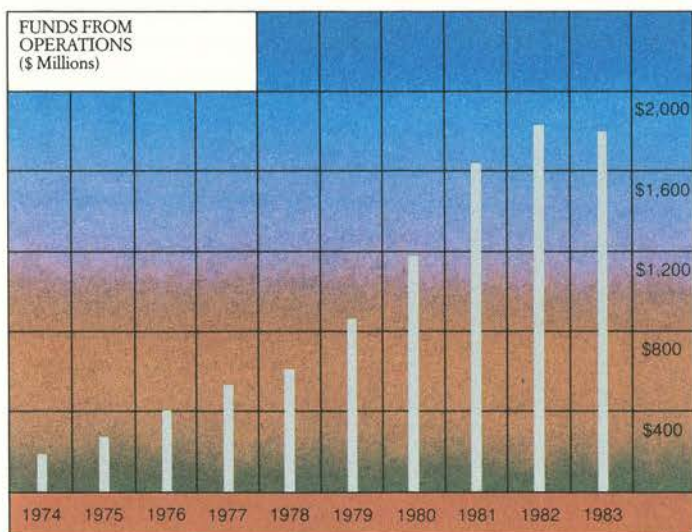
As the Company measures a significant portion of its operations in currencies other than the U.S. dollar, the information presented has been remeasured under the current cost method only. This method shows the impact on net income that would have occurred if all products sold by the Company were purchased in the current year, and additionally if all fixed assets were completely replaced and depreciated at year-end values. The current cost of fixed assets was calculated using various internally and externally generated price indexes. The current

cost amounts of inventory and fixed assets were measured in the functional currency and then translated into U.S. dollars. The effect of general inflation on this information was calculated using indexes which approximate the U.S. CPI (U).

#### CONSOLIDATED STATEMENT OF INCOME ADJUSTED FOR EFFECTS OF CHANGING PRICES

FOR THE YEAR ENDED	DECEMBER 31, 1983	
	AS REPORTED	IN CURRENT COSTS
	(Stated in millions)	
	(In average 1983 dollars, except "As reported" amounts)	
Revenue	\$5,797	\$5,797
Expenses		
Cost of goods sold and services	3,388	3,565
Interest	116	116
Other	904	904
Taxes on income	305	305
Net income	\$1,084	\$ 907

Note: At December 31, 1983, the current cost of inventories was \$607 million and the current cost of fixed assets net of accumulated depreciation was \$2.9 billion. Depreciation expense as reported was \$678 million; adjusted for current cost, it amounted to \$822 million.



FIVE-YEAR COMPARISON OF SELECTED FINANCIAL DATA ADJUSTED FOR EFFECTS OF CHANGING PRICES

YEAR ENDED DECEMBER 31,	1983	1982	1981	1980	1979
	<i>(In average 1983 dollars, except "As reported" amounts; dollar amounts in millions except per share)</i>				
Revenue					
As reported	\$5,797	\$6,284	\$5,978	\$5,137	\$3,641
Net income					
As reported	1,084	1,348	1,266	994	658
In current costs	907	1,254	1,181	1,027	745
Net income per share					
As reported	3.73	4.60	4.37	3.47	2.30
In current costs	3.12	4.28	4.08	3.58	2.61
Excess of inflation over current costs	(4)	(9)	(4)	96	51
Net assets at year end*					
As reported	5,819	5,226	4,235	3,218	2,400
In current costs	6,037	5,707	4,971	4,269	3,666
Average consumer price index	298.4	289.2	272.3	246.8	217.4

\*Translation adjustment as reported: 1983—\$140 million, 1982—\$82 million; adjusted for current cost: 1983—\$177 million, 1982—\$112 million.

## CONSOLIDATED STATEMENT OF INCOME

Year Ended December 31,	1983	1982	1981
		<i>(Stated in thousands)</i>	
REVENUE			
Operating	\$5,513,246	\$6,025,380	\$5,783,269
Interest and other income	284,213	258,430	194,669
	<b>5,797,459</b>	<b>6,283,810</b>	<b>5,977,938</b>
EXPENSES			
Cost of goods sold and services	3,388,364	3,478,525	3,243,837
Research & engineering	349,377	326,458	240,289
Marketing	270,756	258,875	215,100
General	284,347	303,965	324,914
Interest	115,578	116,634	107,854
Taxes on income	304,738	451,188	579,969
	<b>4,713,160</b>	<b>4,935,645</b>	<b>4,711,963</b>
NET INCOME	<b>\$1,084,299</b>	<b>\$1,348,165</b>	<b>\$1,265,975</b>
Net income per share	\$ 3.73	\$ 4.60	\$ 4.37
Average shares outstanding (thousands)	290,933	293,119	289,486

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED BALANCE SHEET  
ASSETS

December 31,	1983	1982
	<i>(Stated in thousands)</i>	
CURRENT ASSETS		
Cash	\$ 21,564	\$ 20,267
Short-term investments	3,167,077	2,302,316
Receivables less allowance for doubtful accounts (1983 — \$27,083; 1982 — \$32,327)	1,089,599	1,125,981
Inventories	602,330	676,095
Other current assets	73,181	89,549
	<hr/> 4,953,751	<hr/> 4,214,208
INVESTMENTS IN AFFILIATED COMPANIES	267,693	302,632
LONG-TERM INVESTMENTS AND RECEIVABLES	111,859	60,383
FIXED ASSETS less accumulated depreciation	2,621,027	2,844,077
EXCESS OF INVESTMENT OVER NET ASSETS OF SUBSIDIARIES PURCHASED less amortization	366,676	384,444
OTHER ASSETS	32,233	39,921
	<hr/> \$8,353,239	<hr/> \$7,845,665

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED BALANCE SHEET  
**LIABILITIES & STOCKHOLDERS' EQUITY**

December 31,	1983	1982
	<i>(Stated in thousands)</i>	
<b>CURRENT LIABILITIES</b>		
Accounts payable and accrued liabilities	\$ 796,320	\$ 844,159
Estimated liability for taxes on income	597,584	618,503
Bank loans	441,272	500,608
Dividend payable	75,432	70,204
Long-term debt due within one year	12,955	9,392
	1,923,563	2,042,866
<b>LONG-TERM DEBT</b>	455,259	462,239
<b>OTHER LIABILITIES</b>	140,915	99,273
<b>MINORITY INTEREST IN SUBSIDIARIES</b>	14,652	14,843
	2,534,389	2,619,221
<b>STOCKHOLDERS' EQUITY</b>		
Common stock	359,537	352,881
Income retained for use in the business	6,049,223	5,255,693
Treasury stock at cost	(449,967)	(300,130)
Translation adjustment	(139,943)	(82,000)
	5,818,850	5,226,444
	\$8,353,239	\$7,845,665

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

# CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

	COMMON STOCK				TRANSLATION ADJUSTMENT	INCOME RETAINED FOR USE IN THE BUSINESS
	ISSUED		IN TREASURY			
	SHARES	AMOUNT	SHARES	AMOUNT		
	<i>(Dollar amounts in thousands)</i>					
Balance, January 1, 1981	301,328,133	\$281,470	14,822,340	\$173,733		\$3,110,664
Purchases for Treasury			1,090,750	67,229		
Sales to optionees	919,432	19,810	(51,554)	(537)		
Net income						1,265,975
Issued for MDSI		5,930	(2,883,220)	(536)		12,730
Dividends declared (\$0.77 per share)						(222,057)
Balance, December 31, 1981	302,247,565	307,210	12,978,316	239,889		4,167,312
Translation adjustment, opening					\$(25,561)	
Translation adjustment, 1982					(56,439)	
Purchases for Treasury			1,569,500	63,279		
Sales to optionees	337,046	7,804	(137,766)	(1,435)		
Net income						1,348,165
Issued for Applicon		37,867	(4,005,634)	(1,603)		9,842
Dividends declared (\$0.92 per share)						(269,626)
Balance, December 31, 1982	302,584,611	352,881	10,404,416	300,130	(82,000)	5,255,693
Translation adjustment, 1983					(57,943)	
Purchases for Treasury			3,011,000	150,483		
Sales to optionees, less shares exchanged	395,170	6,656	(60,425)	(646)		
Net income						1,084,299
Dividends declared (\$1.00 per share)						(290,769)
Balance, December 31, 1983	302,979,781	\$359,537	13,354,991	\$449,967	\$(139,943)	\$6,049,223

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS



# CONSOLIDATED STATEMENT OF CHANGES IN FINANCIAL POSITION

Year Ended December 31,	1983	1982	1981
		<i>(Stated in thousands)</i>	
<b>SOURCE OF WORKING CAPITAL</b>			
Net income	\$1,084,299	\$1,348,165	\$1,265,975
Add (deduct) amounts not affecting working capital			
Depreciation and amortization	692,194	596,044	444,856
Earnings of companies carried at equity less dividends received (1983 — \$61,164; 1982 — \$15,272; 1981 — \$10,022)	12,328	(62,390)	(54,843)
Other — net	30,910	(20,894)	(10,841)
Working capital provided from operations	1,819,731	1,860,925	1,645,147
Net worth of companies acquired for shares	—	49,312	19,196
Increase in long-term debt	121,380	192,047	61,579
Retirement and sale of fixed assets	84,179	51,510	30,626
Proceeds from sale of shares to optionees	7,302	9,239	20,347
<b>Total working capital provided</b>	<b>2,032,592</b>	<b>2,163,033</b>	<b>1,776,895</b>
<b>APPLICATION OF WORKING CAPITAL</b>			
Increase in excess of investment over net assets of subsidiaries purchased	—	104,029	—
Increase in other long-term investments and receivables	57,233	40,971	1,408
Additions to fixed assets	517,030	1,094,334	1,063,316
Dividends declared	290,769	269,626	222,057
Reduction of long-term debt	126,033	13,336	20,941
Effect of exchange rate changes on working capital	28,114	31,306	—
Purchase of shares for Treasury	150,483	63,279	67,229
Other — net	4,084	12,202	13,308
<b>Total working capital applied</b>	<b>1,173,746</b>	<b>1,629,083</b>	<b>1,388,259</b>
<b>NET INCREASE IN WORKING CAPITAL</b>	<b>\$ 858,846</b>	<b>\$ 533,950</b>	<b>\$ 388,636</b>
<b>INCREASE IN WORKING CAPITAL CONSISTS OF</b>			
Increase (decrease) in current assets			
Cash and short-term investments	\$ 866,058	\$ 640,395	\$ 446,295
Receivables	(36,382)	(56,795)	131,984
Inventories	(73,765)	63,711	22,502
Other current assets	(16,368)	26,532	7,870
(Increase) decrease in current liabilities			
Accounts and dividend payable	42,611	(76,397)	(59,528)
Estimated liability for taxes on income	20,919	4,545	19,892
Bank loans and debt due within one year	55,773	(68,041)	(180,379)
<b>NET INCREASE IN WORKING CAPITAL</b>	<b>\$ 858,846</b>	<b>\$ 533,950</b>	<b>\$ 388,636</b>

SEE NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

# NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## SUMMARY OF ACCOUNTING POLICIES

**T**he Consolidated Financial Statements of Schlumberger Limited have been prepared in accordance with accounting principles generally accepted in the United States. Within those principles, the Company's more important accounting policies are set forth below.

## PRINCIPLES OF CONSOLIDATION

The Consolidated Financial Statements include the accounts of majority-owned subsidiaries. Significant 20%–50% owned companies are carried in investments in affiliated companies on the equity method. The pro rata share of revenue and expenses of Dowell Schlumberger, a 50% owned Oilfield Services business, is included in the individual captions in the Consolidated Statement of Income. Schlumberger's pro rata share of after tax earnings of other equity companies is included in interest and other income.

## TRANSLATION OF NON-U.S. CURRENCIES

Effective January 1, 1982, the Company adopted Financial Accounting Standard No. 52—Foreign Currency Translation. As permitted by this Statement, the Consolidated Financial Statements for years prior to 1982 have not been restated. Under this method, all assets and liabilities recorded in functional currencies other than U.S. dollars are translated at current exchange rates. The resulting adjustments are charged or credited directly to the Stockholders' Equity section of the balance sheet. Stockholders' Equity has been reduced in 1983 by \$57.9 million and in 1982 by \$82 million, of which \$25.6 million was the beginning January 1, 1982 translation adjustment resulting from translating at current rates those items previously translated at historical rates. Revenue and expenses are translated at the weighted average exchange rates for the period.

All transaction gains and losses are included in income in the period in which they occur. Transaction gains included in 1983 net income amounted to \$14 million compared to \$11 million in 1982, and a currency exchange loss of \$32 million in 1981.

## SHORT-TERM INVESTMENTS

Short-term investments are stated at cost plus accrued interest, which approximates market, and comprised mainly U.S. dollar time deposits and U.S. Government obligations.

## INVENTORIES

Inventories are stated principally at average or standard cost, which approximates average cost, or at market, if lower.

## FIXED ASSETS AND DEPRECIATION

Fixed assets are stated at cost less accumulated depreciation, which is provided for by charges to income over the estimated useful lives of the assets by the straight-line method. Fixed assets include the cost of Company manufactured oilfield technical equipment. Expenditures for renewals, replacements and

betterments are capitalized. Maintenance and repairs are charged to operating expenses as incurred. Upon sale or other disposition, the applicable amounts of asset cost and accumulated depreciation are removed from the accounts and the net amount, less proceeds from disposal, is charged or credited to income.

## EXCESS OF INVESTMENT OVER NET ASSETS OF SUBSIDIARIES PURCHASED

Costs in excess of net assets of purchased subsidiaries having an indeterminate life are amortized on a straight-line basis over 40 years. Accumulated amortization was \$48 million and \$40 million at December 31, 1983 and 1982, respectively.

## DEFERRED BENEFIT PLANS

The Company and its subsidiaries have several voluntary pension and other deferred benefit plans covering substantially all officers and employees, including those in countries other than the United States. These plans are substantially fully funded with trustees in respect to past and current services. Charges to expense are based upon costs computed by independent actuaries.

In France, the principal pensions are provided for by union agreements negotiated by all employers within an industry on a nationwide basis. Benefits when paid are not identified with particular employers, but are made from funds obtained through concurrent compulsory contributions from all employers within each industry based on employee salaries. These plans are accounted for on the defined contribution basis and each year's contributions are charged currently to expense.

## TAXES ON INCOME

Schlumberger and its subsidiaries compute taxes on income in accordance with the tax rules and regulations of the many taxing authorities where the income is earned. The income tax rates imposed by these taxing authorities vary substantially. Taxable income may differ from pretax income for financial accounting purposes. To the extent that differences are due to revenue or expense items reported in one period for tax purposes and in another period for financial accounting purposes, appropriate provision for deferred income taxes is made. The provisions were not significant in 1983, 1982 or 1981.

Approximately \$5.9 billion of consolidated income retained for use in the business at December 31, 1983 represented undistributed earnings of consolidated subsidiaries and Schlumberger's pro rata share of 20%–50% owned companies. It is the policy of the Company to reinvest substantially all such undistributed earnings and, accordingly, no provision is made for deferred income taxes on those earnings considered to be indefinitely reinvested.

Investment credits and other allowances provided by income tax laws of the United States and other countries are credited to current income tax expense on the flow-through method of accounting.

## NET INCOME PER SHARE

Net income per share is computed by dividing net income by the average number of common shares outstanding during the year.

## RESEARCH & ENGINEERING

All research & engineering expenditures are expensed as incurred, including costs relating to patents or rights which may result from such expenditures.

## FIXED ASSETS

**A** summary of fixed assets follows:

DECEMBER 31,	1983	1982
	<i>(Stated in millions)</i>	
Land	\$ 66	\$ 65
Buildings & improvements	644	599
Machinery and equipment	4,068	3,965
Total cost	4,778	4,629
Less accumulated depreciation	2,157	1,785
	\$2,621	\$2,844

Estimated useful lives of buildings & improvements range from 8 to 50 years and of machinery and equipment from 2 to 15 years.

## INVESTMENTS IN AFFILIATED COMPANIES

**I**nvestments in affiliated companies are principally 20%–50% owned companies.

At December 31, 1983 and 1982, equity in undistributed earnings of 20%–50% owned companies amounted to \$254 million and \$267 million, respectively.

## LONG-TERM DEBT

**L**ong-term debt, excluding amounts due within one year, consisted of the following:

DECEMBER 31,	1983	1982
	<i>(Stated in millions)</i>	
Bank loan due 1988, interest at prime or other money market based rates	\$350	\$350
Other bank loans	105	112
	\$455	\$462

Long-term debt at December 31, 1983 is payable principally in U.S. dollars and is due \$15 million in 1985, \$40 million in 1986, \$11 million in 1987 and \$389 million in 1988.

## LINES OF CREDIT

**T**he Company's principal U.S. subsidiary has a Revolving Credit Agreement with a group of banks. The agreement provides that the subsidiary may borrow up to \$600 million until December 31, 1988 at prime or other money market based rates, of which \$350 million was outstanding as of December 31, 1983. In addition, at December 31, 1983 the Company had unused short-term lines of credit of \$560 million.

## CAPITAL STOCK

**C**ommon Stock, par value \$.01 per share, comprised the following number of shares:

DECEMBER 31,	1983	1982
Authorized – 500,000,000		
Issued	302,979,781	302,584,611
In Treasury	(13,354,991)	(10,404,416)
Outstanding	289,624,790	292,180,195

Options to officers and key employees to purchase shares of the Company's Common Stock were granted at prices equal to 100% of fair market value at date of grant.

Options granted by Manufacturing Data Systems and Applicon to its employees and their terms and conditions were assumed by the Company.

Transactions under stock option plans were as follows:

	NUMBER OF SHARES	OPTION PRICE PER SHARE
Outstanding Jan. 1, 1982	3,302,592	\$ 1.57–74.82
Granted	314,200	\$35.06–49.94
Assumed from Applicon	162,269	\$ 4.76–56.60
Exercised	(475,336)	\$ 1.57–41.83
Lapsed or terminated	(243,090)	\$ 1.57–74.82
Outstanding Dec. 31, 1982	3,060,635	\$ 1.57–74.82
Granted	1,023,550	\$43.75–56.88
Exercised	(631,044)	\$ 1.57–54.67
Lapsed or terminated	(226,038)	\$ 1.57–74.64
Outstanding Dec. 31, 1983	3,227,103	\$ 1.57–74.82
Exercisable at Dec. 31, 1983	1,416,589	\$ 1.57–74.82
Available for grant		
Dec. 31, 1982	11,753,773	
Dec. 31, 1983	10,913,635	

The Company has 200,000,000 shares of cumulative preferred stock of \$.01 par value authorized but unissued which may be issued in series with terms and conditions determined by the Board of Directors.

## INCOME TAX EXPENSE

**T**he Company is incorporated in the Netherlands Antilles where it is subject to an income tax rate of 3%. The Company and its subsidiaries operate in over 100 taxing jurisdictions with statutory rates ranging up to about 50%. Consolidated operating revenue of \$5.5 billion in 1983 shown elsewhere in this report includes \$2.1 billion derived from operations within the United States and Canada. On a worldwide basis, the Company's effective income tax rate was 22% in 1983, 25% in 1982 and 31% in 1981.

## LEASES AND LEASE COMMITMENTS

**T**otal rental expense was \$144 million in 1983, \$149 million in 1982 and \$125 million in 1981. Future minimum rental commitments under noncancelable leases for years ending December 31 are: 1984 – \$50 million; 1985 – \$38 million; 1986 – \$27 million; 1987 – \$17 million; and 1988 – \$14 million. For the ensuing three five-year periods, these commitments decrease from \$38 million to \$8 million. The minimum rentals over the remaining terms of the leases aggregate \$14 million. Noncancelable rental commitments are principally for real estate and office space.

## TAX ASSESSMENTS

**T**he U.S. Internal Revenue Service has completed its examinations for the years 1970 through 1978 and, as previously reported, has proposed assessments based upon income from continuing Wireline operations on the outer continental shelf. Similar assessments are expected for years subsequent to 1978. The Company is contesting these assessments. A trial has been scheduled in the U.S. District Court in Houston for the years 1970 through 1975.

Management is of the opinion that the reserve for estimated liability for taxes on income is adequate and that any adjustments which may ultimately be determined will not materially affect the financial position or results of operations.

## CONTINGENCY

**D**uring 1980, a floating hotel, the Alexander Kielland, functioning as a dormitory for offshore work crews in the North Sea, capsized in a storm. The substructure of the floating hotel had been originally built as a drilling rig by an independent shipyard from a design licensed by a subsidiary of the Company. The Company's subsidiary was not involved in the ownership or operation of the drilling rig or in its conversion or use as a floating hotel. The accident has been investigated by a Commission appointed by the Norwegian Government, which has published its report. In October of 1981 and in February of 1982, the Company's subsidiary, the independent shipyard and one of its subcontractors were sued in France by Phillips Petroleum Company Norway and eight others operating as a group in the Ekofisk Field in the North Sea and by the Norwegian insurers of the Alexander Kielland seeking recovery for losses resulting from the accident of approximately \$85 million (at December 31, 1983 currency exchange rates).

While the Company does not believe it has liability in this matter, the litigation will involve complex international issues which could take several years to resolve and involve substantial legal and other costs. In the opinion of the Company, any liability that might ensue would not be material in relation to its financial position or results of operations.

## PENSION AND DEFERRED BENEFIT PLANS

**E**xpense for pension and deferred benefit plans was \$90 million, \$90 million and \$77 million, and for compulsory contributions for French retirement benefits was \$20 million, \$24 million and \$24 million in 1983, 1982 and 1981, respectively.

Actuarial present value of accumulated benefits at January 1, 1983 and 1982 for U.S. and Canadian defined benefit plans was \$201 million and \$176 million, respectively, substantially all of which were vested. Net assets available for benefits at January 1, 1983 and 1982 for such plans were \$276 million and \$234 million, respectively.

The assumed rate of return used in determining the actuarial present value of accumulated plan benefits for 1983 was 7% and for 1982 between 6% and 7%.

## ACQUISITION

**O**n February 16, 1984, The Dow Chemical Company and Schlumberger announced that Schlumberger will acquire from Dow 50% of the Dowell business and assets in the United States and Canada. The purchase price is estimated to be \$440 million. The Dowell business in the U.S. and Canada had revenue of \$562 million in 1983 and \$864 million in 1982. The transaction is subject to the approval of regulatory authorities.

## SEGMENT INFORMATION

The Company's business comprises two segments: (1) Oilfield Services and (2) Measurement, Control & Components. The Oilfield Services segment offers wellsite services to the petroleum industry throughout the world. The Measurement, Control & Components segment provides computer-aided design, manufacturing and

testing services, and manufactures measurement and control products and electronic components, which are sold to public utilities, governments, laboratories and industrial plants primarily in the U.S. and Europe. Services and products are described in more detail earlier in this report.

Financial information for the years ended December 31, 1983, 1982 and 1981 by industry segment and by geographic area is as follows:

### INDUSTRY SEGMENT 1983

(Stated in millions)

	OILFIELD SERVICES	MEASUREMENT, CONTROL & COMPONENTS	ADJUST. AND ELIM.	CONSOLIDATED
Operating revenue				
Customers	\$3,414	\$2,099	\$ —	\$5,513
Intersegment transfers	—	55	(55)	—
	\$3,414	\$2,154	\$ (55)	\$5,513
Operating income	\$1,187	\$ 61	\$ (23)	\$1,225
Interest expense				(116)
Interest and other income less other charges — \$4				280
Income before taxes				\$1,389
Depreciation expense	\$ 540	\$ 136	\$ 2	\$ 678
Fixed asset additions	\$ 287	\$ 224	\$ 6	\$ 517
At December 31				
Identifiable assets	\$2,900	\$2,239	\$ (95)	\$5,044
Corporate assets				3,309
Total assets				\$8,353

### INDUSTRY SEGMENT 1982

Operating revenue				
Customers	\$4,054	\$1,971	\$ —	\$6,025
Intersegment transfers	—	131	(131)	—
	\$4,054	\$2,102	\$ (131)	\$6,025
Operating income	\$1,656	\$ 34	\$ (18)	\$1,672
Interest expense				(117)
Interest and other income less other charges — \$14				244
Income before taxes				\$1,799
Depreciation expense	\$ 483	\$ 99	\$ 2	\$ 584
Fixed asset additions	\$ 802	\$ 289	\$ 3	\$1,094
At December 31				
Identifiable assets	\$3,242	\$2,325	\$ (95)	\$5,472
Corporate assets				2,374
Total assets				\$7,846

### INDUSTRY SEGMENT 1981

Operating revenue				
Customers	\$3,788	\$1,995	\$ —	\$5,783
Intersegment transfers	—	124	(124)	—
	\$3,788	\$2,119	\$ (124)	\$5,783
Operating income	\$1,702	\$ 131	\$ (25)	\$1,808
Interest expense				(108)
Interest and other income less other charges — \$49				146
Income before taxes				\$1,846
Depreciation expense	\$ 351	\$ 81	\$ 1	\$ 433
Fixed asset additions	\$ 781	\$ 278	\$ 4	\$1,063
At December 31				
Identifiable assets	\$2,873	\$2,012	\$ (86)	\$4,799
Corporate assets				1,726
Total assets				\$6,525

Transfers between segments and geographic areas are for the most part made at regular prices available to unaffiliated customers. Certain Oilfield Services segment fixed assets are manufactured within that segment and some are supplied by Measurement, Control & Components.

Corporate assets largely comprise short-term investments. During the years ended December 31, 1983, 1982 and 1981 neither sales to any government nor sales to any single customer exceeded 10% of consolidated operating revenue.

GEOGRAPHIC AREA 1983							<i>(Stated in millions)</i>
	U.S. AND CANADA	FRANCE	OTHER EUROPEAN COUNTRIES	OTHER	ADJUST. AND ELIM.		CONSOLIDATED
Operating revenue							
Customers	\$1,808	\$619	\$867	\$2,219	\$ —		\$5,513
Interarea transfers	287	147	22	396	(852)		—
	\$2,095	\$766	\$889	\$2,615	\$ (852)		\$5,513
Operating income	\$ 127	\$ 35	\$255	\$ 825	\$ (17)		\$1,225
Interest expense							(116)
Interest and other income less other charges — \$4							280
Income before taxes							\$1,389
At December 31							
Identifiable assets	\$2,015	\$650	\$677	\$1,874	\$ (172)		\$5,044
Corporate assets							3,309
Total assets							\$8,353
GEOGRAPHIC AREA 1982							
Operating revenue							
Customers	\$1,954	\$632	\$824	\$2,615	\$ —		\$6,025
Interarea transfers	424	231	11	365	(1,031)		—
	\$2,378	\$863	\$835	\$2,980	\$(1,031)		\$6,025
Operating income	\$ 306	\$ 63	\$229	\$1,068	\$ 6		\$1,672
Interest expense							(117)
Interest and other income less other charges — \$14							244
Income before taxes							\$1,799
At December 31							
Identifiable assets	\$2,224	\$724	\$651	\$2,077	\$ (204)		\$5,472
Corporate assets							2,374
Total assets							\$7,846
GEOGRAPHIC AREA 1981							
Operating revenue							
Customers	\$2,112	\$700	\$721	\$2,250	\$ —		\$5,783
Interarea transfers	363	208	10	318	(899)		—
	\$2,475	\$908	\$731	\$2,568	\$ (899)		\$5,783
Operating income	\$ 603	\$ 84	\$208	\$ 958	\$ (45)		\$1,808
Interest expense							(108)
Interest and other income less other charges — \$49							146
Income before taxes							\$1,846
At December 31							
Identifiable assets	\$1,971	\$702	\$485	\$1,818	\$ (177)		\$4,799
Corporate assets							1,726
Total assets							\$6,525

SUPPLEMENTARY INFORMATION

**O**perating revenue and related cost of goods sold and services comprised the following:

YEAR ENDED DECEMBER 31,	1983	1982	1981
	<i>(Stated in millions)</i>		
Operating revenue			
Sales	\$2,140	\$2,045	\$2,058
Services	3,373	3,980	3,725
	\$5,513	\$6,025	\$5,783
Direct operating costs			
Goods sold	\$1,443	\$1,383	\$1,402
Services	1,945	2,096	1,842
	\$3,388	\$3,479	\$3,244

The caption "Interest and Other Income" includes interest income, principally from short-term investments, of \$298 million, \$254 million and \$183 million for 1983, 1982 and 1981, respectively.

Accounts payable and accrued liabilities are summarized as follows:

DECEMBER 31,	1983	1982
	<i>(Stated in millions)</i>	
Payroll, vacation and employee benefits	\$237	\$240
Trade	251	275
Other	308	329
	\$796	\$844

QUARTERLY RESULTS (UNAUDITED)

**T**he following table summarizes results for each of the four quarters for the years ended December 31, 1983 and 1982:

	OPERATING		NET INCOME	
	REVENUE	GROSS PROFIT*	AMOUNT	PER SHARE
	<i>(Stated in millions)</i>		<i>(Dollars)</i>	
Quarters — 1983				
First	\$1,417	\$ 545	\$ 259**	\$0.89**
Second	1,355	549	286	0.98
Third	1,337	530	279	0.96
Fourth	1,404	501	260	0.90
	\$5,513	\$2,125	\$1,084	\$3.73
Quarters — 1982				
First	\$1,580	\$ 686	\$ 354	\$1.21
Second	1,550	667	356	1.21
Third	1,455	604	327	1.12
Fourth	1,440	589	311	1.06
	\$6,025	\$2,546	\$1,348	\$4.60

\*Operating revenue less cost of goods sold and services.

\*\*Includes unusual items with a net after-tax effect of \$28 million, 10 cents per share; they include the anticipated cost of closing the South San Jose manufacturing facility at Fairchild, the provision for a loss on the disposal of Accutest, only partially offset by foreign exchange gains.

REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Stockholders of Schlumberger Limited:

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of income, stockholders' equity and changes in financial position present fairly the financial position of Schlumberger Limited and its subsidiaries at December 31, 1983 and 1982, and the results of their operations and the changes in their financial position for each of the three years in the period ended December 31, 1983, in conformity with generally accepted accounting principles consistently applied. Our examinations of these statements were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.



New York, New York  
February 8, 1984

# FIVE YEAR SUMMARY

Year Ended December 31,	1983	1982	1981	1980*	1979**
<i>(Amounts in millions except per share amounts)</i>					
<b>SUMMARY OF OPERATIONS</b>					
Revenue					
Oilfield Services	\$3,414	\$4,054	\$3,788	\$2,814	\$2,037
Measurement, Control & Components	2,099	1,971	1,995	2,070	1,513
Interest and other income	284	259	195	153	91
Gain on sale of Rowan shares	—	—	—	100	—
	<b>\$5,797</b>	<b>\$6,284</b>	<b>\$5,978</b>	<b>\$5,137</b>	<b>\$3,641</b>
% (Decrease) increase over prior year	(8%)	5%	16%	41%	36%
Cost of goods sold and services	<b>\$3,388</b>	<b>\$3,479</b>	<b>\$3,244</b>	<b>\$2,813</b>	<b>\$2,061</b>
Operating income					
Oilfield Services	\$1,187	\$1,656	\$1,702	\$1,184	\$ 809
Measurement, Control & Components	61	34	131	230	189
Eliminations	(23)	(18)	(25)	(14)	(14)
	<b>\$1,225</b>	<b>\$1,672</b>	<b>\$1,808</b>	<b>\$1,400</b>	<b>\$ 984</b>
% (Decrease) increase over prior year	(27%)	(8%)	29%	42%	29%
Interest expense	\$ 116	\$ 117	\$ 108	\$ 102	\$ 52
Taxes on income	\$ 305	\$ 451	\$ 580	\$ 522	\$ 355
Net income	<b>\$1,084</b>	<b>\$1,348</b>	<b>\$1,266</b>	<b>\$ 994</b>	<b>\$ 658</b>
% (Decrease) increase over prior year	(20%)	6%	27%	51%	31%
Per common share					
Net income	\$ 3.73	\$ 4.60	\$ 4.37	\$ 3.47	\$ 2.30
Cash dividends declared	\$ 1.00	\$ 0.92	\$ 0.77	\$ 0.63	\$ 0.49
<b>SUMMARY OF FINANCIAL DATA</b>					
Net income as % of revenue	19%	21%	21%	19%	18%
Return on average stockholders' equity	20%	28%	34%	36%	31%
Fixed asset additions	\$ 517	\$1,094	\$1,063	\$ 748	\$ 503
Depreciation expense	\$ 678	\$ 584	\$ 433	\$ 323	\$ 242
Average number of shares outstanding	291	293	289	286	286
<b>AT DECEMBER 31,</b>					
Working capital	\$3,030	\$2,171	\$1,637	\$1,249	\$1,066
Total assets	\$8,353	\$7,846	\$6,525	\$5,242	\$4,350
Long-term debt	\$ 455	\$ 462	\$ 278	\$ 238	\$ 490
Stockholders' equity	\$5,819	\$5,226	\$4,235	\$3,218	\$2,400

\*Net income includes \$70 million after-tax gain (\$0.24 per share) on sale of Rowan shares.

\*\*Results of Fairchild were consolidated beginning July 1, 1979. If the accounts had been consolidated for the full year 1979, the Company's revenue would have been \$4 billion, with an immaterial effect on net income and net income per share.



## DIRECTORS

DON E. ACKERMAN ○  
Partner, J.H. Whitney & Co.,  
New York City

ROBERT A. CHARPIE \*  
President, Cabot Corporation,  
Boston, Massachusetts

ROLAND GENIN \*  
Chairman of the Executive Committee,  
Schlumberger

BERNARD HANON  
Chairman and Chief Executive Officer,  
Régie Renault, Paris

GEORGE H. JEWELL ○  
Partner, Baker & Botts, attorneys,  
Houston, Texas

PAUL LEPERCQ \* □  
Managing Director,  
Lepercq International N.V.,  
London

GEORGE DE MENIL  
Economist; Professor, Ecole des Hautes  
Etudes en Sciences Sociales, Paris

JEAN RIBOUD \* □  
Chairman and Chief Executive Officer,  
Schlumberger

FELIX G. ROHATYN \* □  
General Partner, Lazard Frères & Co.,  
New York City

PIERRE MARCEL SCHLUMBERGER ○  
Attorney, Houston, Texas

NICOLAS SEYDOUX  
Chairman and Chief Executive Officer,  
Gaumont, Paris

RICHARD R. SHINN ○ □  
Former Chairman and Chief Executive  
Officer, Metropolitan Life Insurance  
Company, New York City

MICHEL VAILLAUD \*  
President and Chief Operating Officer,  
Schlumberger

JEROME B. WIESNER \*  
Institute Professor, President Emeritus,  
Massachusetts Institute of Technology,  
Cambridge, Massachusetts

## OFFICERS

JEAN RIBOUD  
Chairman and Chief Executive Officer

MICHEL VAILLAUD  
President and Chief Operating Officer

ROLAND GENIN  
Chairman of the Executive Committee

ARTHUR LINDENAUER  
Executive Vice President—Finance

MICHEL GOUILLOUD  
Executive Vice President—Technology

D. EUAN BAIRD  
Executive Vice President

JIMMY G. LEE  
Executive Vice President

RENE MITIEUS  
Executive Vice President

THOMAS C. ROBERTS  
Executive Vice President

ROY R. SHOURD  
Executive Vice President

DAVID S. BROWNING  
Secretary and General Counsel

JEAN BABAUD  
Vice President

VICTOR E. GRIJALVA  
Vice President—Personnel

ALLEN D. KLEIN  
Vice President

WILLIAM T. LONG  
Vice President

THOMAS A. LONGO  
Vice President

ANDRE MISK  
Vice President

WILLIAM W. DUNN  
Controller

GLENN B. McCLELLAND, JR.  
Treasurer

ANDRE LALOUX  
Assistant Secretary

JAMES A. MACKENZIE  
Assistant Secretary

THOMAS O. ROSE  
Assistant Secretary

## MANAGEMENT

In 1983, the following promotions were announced:

René Mitieus, Executive Vice President, responsible for Measurement & Control operations worldwide.

Jimmy G. Lee, Executive Vice President, responsible for the Computer Aided Systems operations worldwide.

Michel Guilloud, Executive Vice President—Technology.

Victor E. Grijalva, Vice President—Personnel.

Mr. Y. Morozumi was elected Chairman of the Schlumberger companies in Japan. Mr. Morozumi was Vice Minister of the Ministry of International Trade & Industry (MITI) and more recently Chairman of the Electric Power Development Company in Tokyo.

# SCHLUMBERGER

OILFIELD SERVICES	MEASUREMENT, CONTROL & COMPONENTS	
<p><b>WIRESERVICE SERVICES</b></p> <p>Measurements of physical properties of underground formations to help locate and define oil and gas reservoirs and assist in the completion, development and production phases of oil wells. Measurements are made by lowering electronic instruments in the wells at the end of an electric cable called the "wireline."</p> <p><b>DRILLING &amp; PRODUCTION SERVICES</b></p> <p><b>Drilling Services</b> Forex Neptune: drilling on land and offshore.</p> <p>The Analysts: well-site computer analysis of surface and downhole drilling data.</p> <p><b>Testing and Completion Services</b> Flopetrol Johnston: well testing, pressure measurements, completion and work-over services, production services, drilling tool rentals.</p> <p><b>Pumping Services</b> Dowell Schlumberger (50% owned): cementing and well stimulation.</p>	<p><b>MEASUREMENT &amp; CONTROL</b></p> <p><b>Electricity Management:</b> electricity meters and equipment for electric power distribution; network protection systems, measuring transformers.</p> <p><b>Instruments:</b> magnetic tape data recorders, data acquisition systems, electronic instruments, radar simulators, training systems, industrial data logging and telemetry systems, transducers.</p> <p><b>Fairchild Weston Systems:</b> data acquisition, signal processing and electronic countermeasures systems, nuclear power system controls.</p> <p><b>Paymatec:</b> gasoline pumps, electronic payment systems, smart cards, public telephones, time control devices.</p> <p><b>Fluid Metering:</b> water meters and distribution systems, gas meters and distribution systems.</p> <p><b>Process Control &amp; Valves:</b> industrial process control equipment; petroleum, nuclear and industrial valves.</p>	<p><b>FAIRCHILD SEMICONDUCTOR</b></p> <p>Integrated and large-scale integrated circuits (LSI) such as logic, memories, microprocessors, gate arrays and imaging devices using MOS, bipolar and CCD technologies.</p> <p>Linear circuits such as voltage regulators, operational amplifiers and telecommunication devices.</p> <p>Discrete components such as transistors and diodes, and hybrid devices such as microprocessor-based automobile ignition systems.</p> <p><b>COMPUTER AIDED SYSTEMS</b></p> <p><b>Component Test Systems:</b> computer-controlled systems for testing semiconductors.</p> <p><b>Subassembly Test Systems:</b> computer-controlled systems for testing printed-circuit board subassemblies.</p> <p><b>Applicon:</b> computer-aided design and manufacturing (CAD/CAM) systems.</p> <p><b>MDSI:</b> computer-aided manufacturing (CAM) systems for numerically controlled machine tools.</p> <p><b>Benson:</b> computer-aided drafting products and peripherals for CAD/CAM.</p>

STOCK TRANSFER AGENTS

Morgan Guaranty Trust Co.  
New York, New York

Bank of the Southwest  
Houston, Texas

REGISTRARS

Morgan Guaranty Trust Co.  
New York, New York

Bank of the Southwest  
Houston, Texas

SCHLUMBERGER STOCK IS  
LISTED ON THE

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Amsterdam  
Frankfurt  
and Swiss  
stock exchanges

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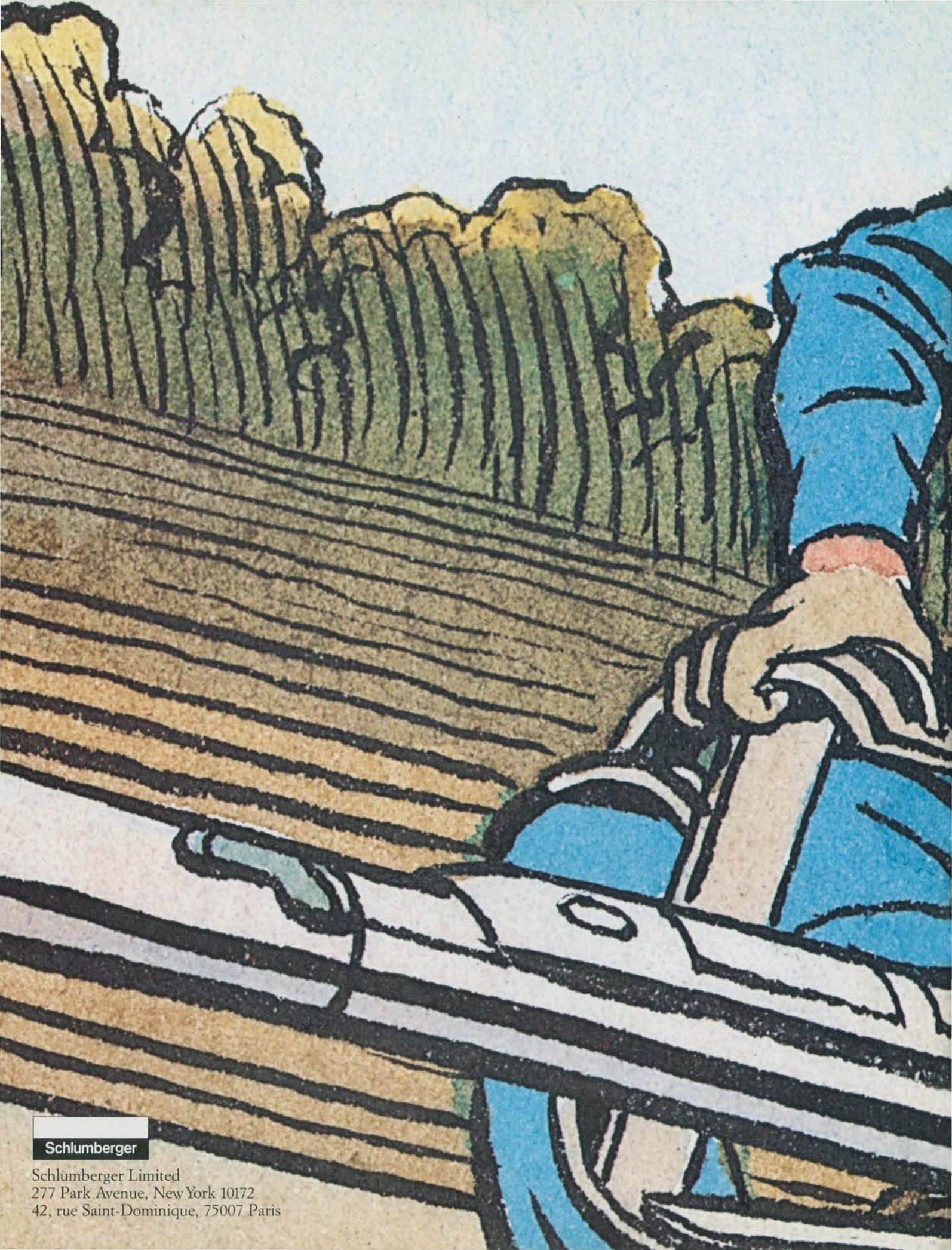
Stockholders may receive a  
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on request to the Secretary,  
Schlumberger Limited,  
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New York, 10172.

DESIGN

Milton Glaser Inc.

ILLUSTRATION

Jim McMullan



**Schlumberger**

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