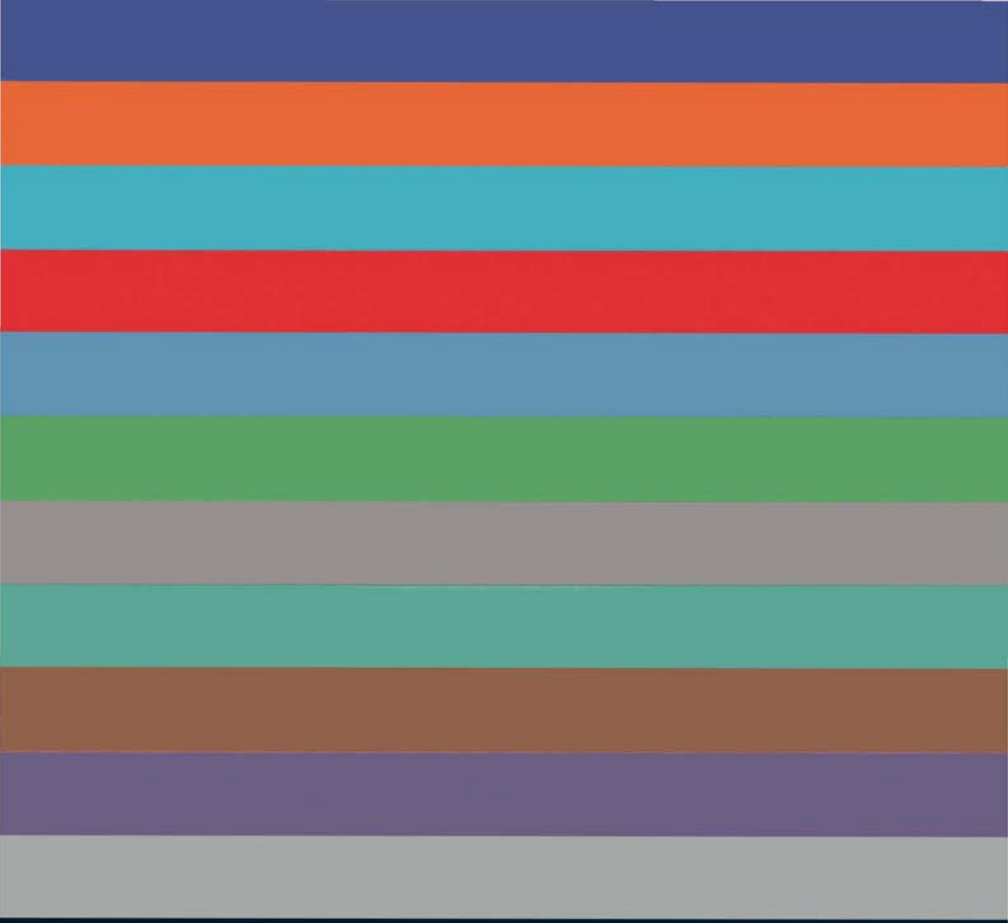


SCHLUMBERGER ANNUAL REPORT 1994

	1994	1993	1992
Operating Revenue	**$6,696,845,000**	$6,705,466,000	$6,331,509,000
Income before cumulative effect of a change in accounting principle	**$ 536,077,000**	$ 582,763,000	$ 661,603,000
Postretirement benefits	**–**	(248,000,000)	–
Net income	**$ 536,077,000**	$ 334,763,000	$ 661,603,000
Net income per share:			
Before cumulative effect of a change in accounting principle	**$2.21**	$2.40	$2.75
Postretirement benefits	**–**	(1.03)	–
Net income per share	**$2.21**	$1.37	$2.75
Dividends declared per share	**$1.20**	$1.20	$1.20

Net income was $536 million and earnings per share were $2.21, a decline of 8% from 1993 before an accounting change relating to postretirement benefits. Operating revenue held level with that of 1993.

OUR PRESENT

As the figures indicate, 1994 was a disappointing year. Our improvement in North America, due to a buoyant economy and rising demand for natural gas, was more than offset by problems elsewhere. The sharp drop in the price of oil in the first quarter, although short lived, was enough to put international oil companies on the defensive and postpone the start-up of many projects. Weak oil prices were responsible not only for budget cuts by national oil companies, but also contributed to political disturbances that curtailed our activity in Algeria and Nigeria.

We directly felt the pain caused by these political instabilities. In October, two of our engineers were brutally killed in Northern Algeria by terrorists. Following the deaths of Mauro Dell'Angelo and Philippe Hétet, the company halted operations until a program tailored to the changing situation was enacted to ensure the safety and well-being of employees who agreed to stay and keep our essential operations running. We all share the deep sorrow at the loss of Mauro and Philippe and hope the Algerian people can soon find a peaceful resolution to their turmoil.

Political confusion continued in the former Soviet Union, once again postponing the level of investment in the energy sector needed for the region's economic development and stability.

The result was that the number of active drilling rigs outside North America dropped to a 22-year low.

Behind these facts, however, the fundamentals underlying our businesses improved. First, the demand for oil rose by one million barrels per day due to strong economic growth in most industrialized nations and flattening of the decline in the former Soviet Union. Second, strengthening economies worldwide associated with the reduction of trade barriers and improved worldwide competitiveness appear to be able to deliver continuing growth without inflation. It is not surprising, therefore, that our earnings improved steadily as the year progressed. We are convinced these trends will continue.

OUR FUTURE

Our optimism for the future of Schlumberger, however, is not based just on growth of world economies and energy demand. The investments we have made over the last few years are beginning to pay off.

International oil companies are growing increasingly confident that even at today's low energy prices their upstream operations can be quite profitable. This change in attitude has been brought about by two main factors.

First, oil companies have downsized their upstream operations and feel confident that they can deploy new technology most efficiently by outsourcing to the oilfield service industry. Costs of finding and developing new reserves, particularly in mature basins, have dropped significantly. Increased outsourcing plays to our strengths. It allows our clients to draw on the full depth of our technology to design optimum solutions and to rely on the unique operational abilities of our global product lines to implement them efficiently.

Second, the international oil companies have been able to negotiate more favorable terms with host governments who are eager to increase production to meet growing demand. The fact that some OPEC countries, which nationalized their oil businesses 25 years ago, have permitted the reentry of some foreign oil companies, is a dramatic indication of how much has changed in our industry in the last decade.

The remodeling of Schlumberger into 11 worldwide product lines, completed at the end of 1993, is producing the expected benefits of reduced operating costs and improved product strategies. The sharper customer focus and shorter product development cycles that this new organization brings will be key factors in our future growth. The feature section of this annual report introduces this new organization and the managers who make it successful.

Led by Automatic Test Equipment and the support organization created at the end of 1993 in Hong Kong for all of MEASUREMENT & SYSTEMS product lines, we are making rapid progress in penetrating the large and growing Asian market. A productive year was crowned by the signing of a joint venture to serve the expanding Chinese market in Retail Petroleum Systems.

Also at the end of 1994 we created, with Cable & Wireless plc, an equally owned joint venture, Omnes. This new product line focuses on the emerging need of international companies to access global information technology services. Omnes, using the existing Schlumberger Information Network that serves 19,000 users in 57 countries, is initially offering value-added network services to the remote operations of natural resources companies.

To convert these favorable trends into increased business for Schlumberger, we need, above all, the right people. The creation of a multicultural, global Schlumberger community, capable of serving our diverse customers worldwide, has been a preoccupation for more than 20 years. It is impossible not to be optimistic about the future of a Schlumberger built by multicultural teams of men and women working closely together to meet the needs of our clients, but who feel confident to retain the essence of their identities—they know that their uniqueness is valued as a contribution to our overall culture and is not a barrier to the development of their careers.

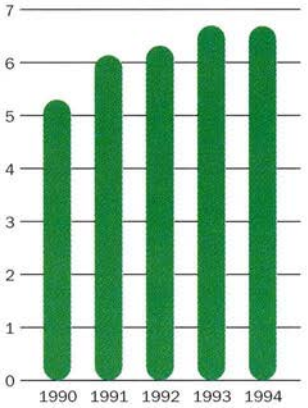
This year was pivotal for Schlumberger, with a great deal accomplished to strengthen the value of the company to its shareholders. On the one hand, repositioning of the company's 11 product lines was completed and the all-important synergies between them were strengthened. On the other hand, we demonstrated our willingness to enhance shareholder value by repurchasing shares when market conditions made this attractive. In 1994, we repurchased 2.8 million shares for a total of $148 million; this policy will continue.

Given the improved business outlook, driven by global economic expansion and growing worldwide energy demand, we feel that we are well positioned to grow our earnings and shareholder value.

Euan Baird
Chairman & Chief Executive Officer
January 25, 1995

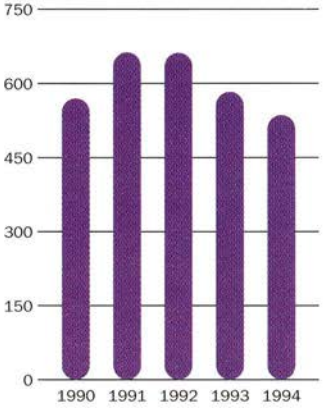
Operating Revenue

$ Billions



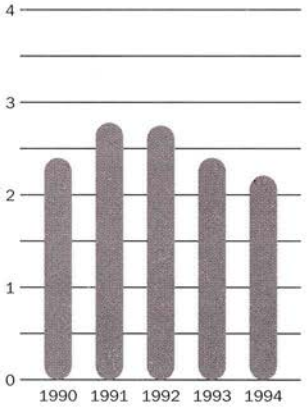
Income[1,2]

$ Millions



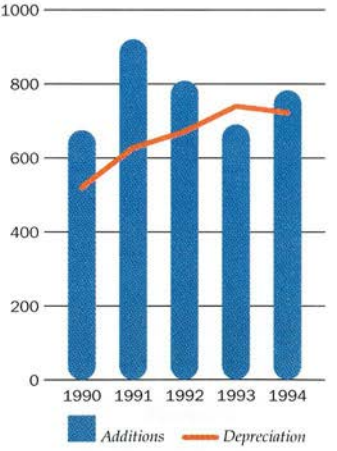
Earnings Per Share[1,2]

$ Dollars



Fixed Assets

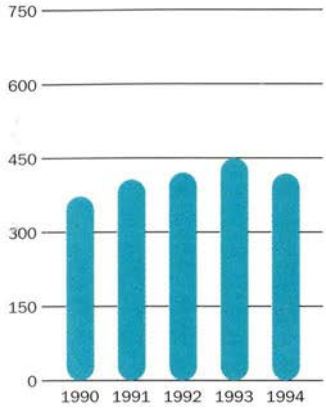
$ Millions



[1] *1991 Income and Earnings Per Share excludes a gain of $177 million ($0.74 per share) on the sale of an investment and a $25 million ($0.10 per share) charge for restructuring the North American oilfield operations.*

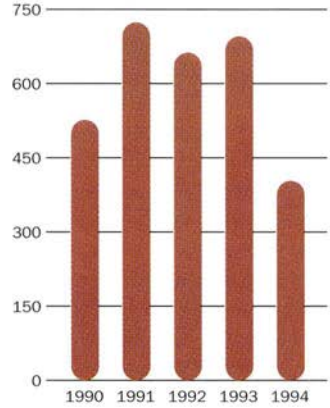
Research & Engineering

$ Millions



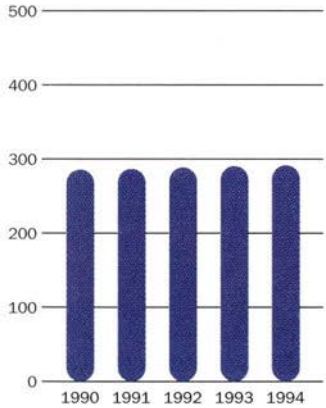
Liquidity

$ Millions



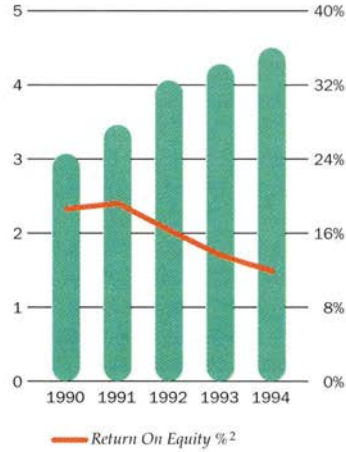
Dividends Declared

$ Millions



Average Stockholders' Equity

$ Billions



[2] *1993 Income and Earnings Per Share before cumulative effect of a change in accounting principle for postretirement benefits.*

Management's Discussion and Analysis of Results of Operations

			(Stated in millions)
OPERATING REVENUE	**1994**	1993	1992
Oilfield Services	**$4,365**	$4,338	$3,849
Measurement & Systems	**$2,339**	$2,370	$2,484

OILFIELD SERVICES

Wireline & Testing

Revenue in 1994 was 1% below last year. Healthy growth in North and South America was offset by a decline in the Eastern Hemisphere. Revenue in North America increased 11%, slightly higher than the rise in rig activity. Outside North America, the 5% decrease in revenue paralleled the drop in rig count.

Revenue generated by the new high-technology tools, expressed as a percentage of total Wireline & Testing revenue, increased 30%.

Building on technical and market leadership in formation evaluation services, worldwide deployment of the MAXIS 500* Multitask Acquisition and Imaging System, started in 1993, was aggressively pursued in 1994. Imaging tools combined with high-speed telemetry of the MAXIS 500 system allow acquiring and processing an unprecedented number of logging measurements in a single run in the well. This reduces rig time needed for logging, providing customers with significant cost reductions especially in deviated and horizontal wells and when using new data-intensive measurements.

The successful introduction of the MAXIS Express* high-efficiency acquisition system was achieved in North America, and it is now being introduced worldwide. This innovative system features a compact but powerful truck specifically designed to operate in high-volume, development markets.

Demand for DSI* Dipole Shear Sonic Imager measurements increased significantly because of the tool's ability to orient natural fractures to optimize offset well spacing and identify in-situ stress directions which greatly affect drilling efficiency.

Client acceptance of the superior performance and time-saving features of the MDT* Modular Dynamics Tester led to exceptional demand. The diverse capabilities of this tool include identification of fluid content of the formation and determination of anisotropy in complex reservoirs.

In testing and production services, the Universal Pressure Platform, a creative approach to downhole pressure measurements, has become a reference in the industry. These reservoir pressure acquisition tools, reengineered for efficiency and reliability, provide advanced features that allow customers to acquire invaluable information in hostile environments.

Modular Early Production Facilities and "fast track" production project management continue to grow by offering quick returns from fewer wells in a field, and the capability to fully evaluate reserves before the commitment of significant capital for production facilities.

In 1993, revenue increased 1% reflecting a natural gas driven recovery in North America that offset declines in the Eastern Hemisphere and Latin America.

Dowell

Revenue increased 9% over 1993, outperforming the 3% rise in rig count.

In North America, revenue rose 16% in

1994, while drilling rig activity increased 10%. The pace of fracturing growth declined during the second half of the year following the decrease in natural gas prices in the United States. This was offset by a significant increase in both Coiled Tubing services and rig-related activity, further boosted by positive customer response to the DESC* Design and Evaluation Services for Clients program.

Outside North America, revenue increased 2% from 1993, benefiting from the full impact of the newly acquired Drilling Fluids activity. Main improvements were recorded in both the Far East and Latin America, offsetting the decline of activity in the Middle East.

Rigless activity remained strong as a result of the DESC program in North America and cost-effective Coiled Tubing applications for slimholes and well reentries. In reentry operations of old wells, Coiled Tubing is used for horizontal drains during the drilling phase, for installing completions, and logging services in high-angle boreholes. Integration of International Drilling Fluids with Dowell provides benefits to both Dowell and its customers by leading to higher-quality wells through improved utilization of resources and technology. ULTIDRILL* synthetic oil-base mud for environmentally sensitive areas was successfully launched in the North Sea. This newly developed Drilling Fluids system provides excellent rheological properties and maintains its robustness at high drilling temperatures.

Revenue increased 13% in 1993, including the impact of International Drilling Fluids acquired in September 1993.

Geco-Prakla

Revenue was down 16% compared to 1993. During the first half of the year, Geco-Prakla reorganized into worldwide product lines and significant cost reductions were undertaken while maintaining seismic crew capacity. This allowed strategic positioning that resulted in major improvements during the second half of the year.

Marine revenue was down 3% compared to 1993. Weaker prices in proprietary marine were offset by strong sales of Non-Exclusive data in the Gulf of Mexico and the North Sea. The Gulf of Mexico portfolio of Non-Exclusive Surveys is favorably positioned relative to the subsalt play, while in the North Sea there was a strong shift in activity from proprietary surveys toward multiclient TQ3D* Total Quality 3D and Non-Exclusive Surveys. Fleet upgrades continued with the expansion in the number of streamers towed per vessel. Upgrading of the *Geco Gamma* was completed in the second quarter; and in the fourth quarter, upgrading commenced on the *Geco Beta* and *Geco Searcher* to handle 8-plus streamer configurations. Geco-Prakla's Monowing* multi-streamer towing and TRILOGY* multi-streamer acquisition technologies will undoubtedly establish these vessels as industry leaders. The lower technology *Geco Alpha* was decommissioned during the year.

Land revenue was down 20% compared to 1993. Revenue was adversely affected by a slow down in activity outside North America and by civil unrest in Nigeria and Yemen, where three crews were shut down for part of the year. Results during the second half of the year improved and backlog at year end was significantly higher than last year. During the year the Digiseis-FLX*, an efficient, high-channel capacity radio telemetry acquisition system for the transition zone, a growing market segment, was successfully introduced in Louisiana. A second

Digiseis-FLX crew was deployed to a long-term contract in Abu Dhabi. Olympus-IMS*, the new generation field information management system, was introduced at the end of the year. Olympus-IMS improves data management from complex 3D land operations, which increases crew efficiency.

Data Processing revenue was down 8% compared to 1993. Continuing price erosion for conventional onshore processing was partially offset by improved productivity. During the year, significant restructuring was undertaken to streamline and link local centers to high-capacity Megacenters in Gatwick and Houston. Concurrent processing, linking on-board vessel processing and onshore capabilities, sustained growth throughout the year with major breakthroughs achieved in turnaround time. VIVID* structural inversion services, using massively parallel processing, also experienced continued growth. Inversion Services, a new Data Processing business unit, was formed to focus on expanding into stratigraphic inversion and provide momentum to VIVID services. These services will provide improved seismic data to help our clients find reserves in complicated geologic settings such as subsalt and subtle stratigraphic environments.

In 1993, revenue was 10% below 1992.

Sedco Forex

Revenue for the year was flat compared to 1993. Weak activity in the North Sea and Africa in the first half of the year was offset by gathering momentum in the second half, particularly in the fourth quarter. Fleet repositioning at year-end 1993 and in early 1994 resulted in a 14% growth in Asia.

The 1994 average Sedco Forex offshore rig utilization rate increased to 84% from 82% in 1993. Industry-wide competitive offshore rig utilization decreased from 78% to 77% over that period. Sedco Forex average land rig utilization fell from 51% in 1993 to 40% in 1994, although fourth quarter 1994 utilization was up to 47% versus 43% in 1993.

At December 31, 1994, the Sedco Forex fleet consisted of 74 rigs: 40 offshore and 34 land. During the fourth quarter, the jackup *Sonny Voss* was purchased and renamed *Trident 18*. In January 1995, it will commence a one-year plus options contract in Dubai.

Three major tender-assisted drilling contracts commenced in 1994: the *Sedco 600* in Malaysia, the *Sedco 706* in the North Sea, and the *Searex 10* in Angola. The *Sedco 700* and *Sedco 701* semisubmersibles were life enhanced in 1994 and are contracted for tender-assisted drilling in the Congo in 1995.

In 1994, Sedco Forex realigned its management structure and opened offices in Dubai and Caracas to target improved growth in the Middle East land business and the developing South American market.

In 1993, revenue decreased 15%.

Anadrill

Revenue in 1994 grew by 25% driven by strong activity in South America, North America, and Asia. Revenue in Europe increased mainly in Russia, while activity decreased in Africa due to the slowdown and strike in Nigeria.

Directional drilling activity increased by 46% mainly in North America, South America, and the Far East. This was made possible by the continued additions to the fleet of PowerPak* steerable motors, the successful integration of Great Land Directional Drilling, and strong synergy with measurement products such as the Slim1* MWD system and the GeoSteering* tool, an instru-

mented steerable motor.

During 1994, Anadrill consolidated its market and technological leadership in measurements-while-drilling (MWD) and logging while drilling (LWD) services. Strong growth continued in MWD with Slim1 increasing 56%. LWD services also continued to climb. New IDEAL* Integrated Drilling Evaluation and Logging systems technologies were launched, and the fleet of existing tools introduced during 1993 was expanded. The GeoSteering tool was run in the Gulf of Mexico, North Sea, Africa, and Far East with excellent results. The increased use of the PowerPulse* MWD tool further improves service quality and provides superior cost-effective functionality. The RAB* Resistivity-at-the-Bit tool produced the industry's first borehole images while drilling. The ISONIC* sonic-while-drilling tool was introduced in Europe, North and South America, and the Far East. TWIS* transportable wellsite information system created improved efficiency in Brazil, Canada, Germany, and the Middle East, especially for fast mobilizations, wash-down LWD jobs, and remote operations.

In 1993, revenue rose 19%, mainly in North America, South America, and Asia.

GeoQuest

Revenue grew 11% in 1994, with brisk growth in Software Products and slower growth in Data Services. During the year, GeoQuest firmly established itself as a key player in the Information Technology market. Long-term contracts were secured in Africa, Europe, North America, Latin America, and the Middle East to provide products and services to assist oil companies in maximizing the value of their computing environments and their exploration and production data.

Software Products revenue in 1994 grew 25% over 1993, reflecting strong demand for GeoQuest's traditional seismic interpretation products and new growth in the emerging data management, petrophysical, geologic, and visualization software products. Software sales grew worldwide fueled by the late 1993 release of IESX* interpretation software, and the introduction of enhanced versions of Charisma* and the state-of-the-art visualization product GeoViz*. Also contributing to this growth are new or enhanced software products including GeoFrame* reservoir characterization, Finder* and LogDB* data management, and RM* Reservoir Modeling. During 1994, GeoQuest acquired the CPS mapping software product line and the StratLog geologic interpretation software product line. These two industry-leading technologies served to continue the expansion of GeoQuest's integrated software offerings.

Interpretation, well data processing and related data services revenue increased 2% over last year as activity in North America and the Middle East continued to grow both in traditional and non-rig related services. Activity in Africa, Southeast Asia, and Latin America experienced a decline from 1993.

In 1993, revenue increased 30% due to internal growth and the GeoQuest Systems, Inc. acquisition.

MEASUREMENT & SYSTEMS

Electricity Management

In 1994, revenue rose 3% while orders were down 3%. This increase was mainly due to the recent acquisition of AEG's European metering operations.

Revenue grew in France on a sharp increase in energy management product sales and high demand for electromechanical meters on the domestic market, along with

high exports to Middle East and Eastern Europe. Heliowatt Germany, acquired in 1993, also had a positive impact on revenue. Additional improvements included higher revenue from Asia and the US, increased demand for Automatic Meter Reading systems, and strength in Latin America, Portugal, and Spain. The improvements were offset by decreases in the UK, Italy, and Canada where revenue was significantly below last year. Confronted with high inventories at the beginning of the year and uncertainties as to the new governmental controls on electricity distribution, utilities in the UK slowed down their investment in prepayment meters, having a significant impact on results. In Italy, projects to privatize ENEL have significantly slowed investment decisions in electricity distribution, while a factory move in Canada disrupted production.

In 1993, revenue fell 2% while orders were up 2%.

Water Management

In 1994, revenue and orders rose by 5% and 7%, respectively. Growth was driven by the continued strength of the US economy, the economic recovery in France and Germany, and high demand for water meters in Mexico and Argentina following the privatization of utilities.

In France, fueled by the increased cost of water, demand for water meters was up strongly, while in Germany sales of water and heat meters were buoyant due to the construction recovery. Service activity in France was up significantly. These positive trends were only slightly offset by an unfavorable business environment in Italy and by weak demand from Eastern Europe due to financing constraints. North America had solid growth in remote-readable water meters. In Mexico, demand for meters resulted from the modernization of water distribution systems following the privatization of utilities.

In 1993, revenue and orders were down 8% and 6%, respectively, compared with 1992.

Gas Management

Revenue for 1994 was down 1%, but orders were steady with lower demand for products being offset by growth in services. Maclean & Nuttall, a UK service company acquired in January 1994, expanded significantly during the year. The UK was strongly affected by the drastic curtailment in the conventional residential meter replacement program, while in Germany, high-pressure regulating and metering stations sales suffered from very weak demand and overcapacity in the sector. The effects of the domestic recession in Italy were compounded by delayed export orders for regulators and stations. France benefited from the growth in demand for residential meters in the CIS and Eastern Europe, as well as initial sales of the Dialogaz smart meter on the domestic market.

The stability in orders reflected the growth in services, particularly in the UK, where this increase compensated for the sharp downturn in residential meter demand. In Germany, orders were down as a result of the high pressure products sector but strengthened in the residential product range. France benefited significantly from strong export demand and a healthier domestic market, while orders in Italy remained flat despite the uncertain political climate.

In 1993, revenue and orders were down 12% and 16%, respectively.

Electronic Transactions

In 1994, revenue and orders increased by 9% and 6%, respectively, compared with 1993.

Retail Petroleum Systems revenue increased for both equipment and services in most countries; lower product prices resulted in significantly lower margins. Lower revenue in France for parking and banking terminals was offset by ticket vending machine shipments, along with growth in Scandinavia, Latin America, and Asia for pay phones and subscriber cards for cellular telephone applications. A German parking meter distributor and a US secure card manufacturer were acquired in late 1994.

In 1993, revenue decreased by 4% and orders were flat compared with 1992.

Automatic Test Equipment

Revenue and orders for the year grew 23% and 29%, respectively. Led by sustained strong demand in Component test for the ITS9000* family of semiconductor test systems, all product lines experienced growth during 1994. Diagnostic systems successfully introduced the IDS10000* system. Board systems rebounded from 1993 reflecting the growing success of its telecom test products. Automated systems doubled their 1993 activity run rate with the entire product range contributing.

Activity continued to increase in all regions, particularly Asia. All product lines grew in North America, while in Europe, gains in Component test more than offset a slight decrease in Board test systems.

In 1993, revenue and orders were up 22% and 35%, respectively, compared with 1992.

Net Income

(Stated in millions except per share amounts)

	1994		1993[1]		1992	
	Amount	Per Share	Amount	Per Share	Amount	Per Share
Net Income	**$536**	**$2.21**	$583	$2.40	$662	$2.75

[1]Income before cumulative effect of a change in accounting principle related to the Company's adoption of Statement of Financial Accounting Standards No. 106, "Employers' Accounting for Postretirement Benefits Other than Pensions."

In 1994, operating income of the Oilfield Services segment increased $27 million, or 6%, to $495 million. Strong oilfield activity in North America and an improved Geco-Prakla were only partially offset by declines in activity outside North America. Measurement & Systems operating income declined 34% to $121 million due mainly to lower results at Electronic Transactions, Gas Management, and Electricity Management. Improvements at Automatic Test Equipment were not sufficient to offset these shortfalls.

In 1993, operating income of the Oilfield Services segment declined $78 million, as strong oilfield activity in North America was more than offset by declines outside North America at Geco-Prakla, Sedco Forex and Wireline & Testing. Measurement & Systems operating income increased $6 million as significant improvement at Automatic Test Equipment was nearly offset by the effect of the strong US dollar versus key European currencies.

In 1992, operating income of Oilfield Services decreased due to declines at Wireline & Testing North America and Dowell Schlumberger, partially offset by improved results at Wireline & Testing outside North America, Sedco Forex and Geco-Prakla. Operating income at Measurement & Systems rose $8 million over 1991.

Research & Engineering

Expenditures were as follows:

	(Stated in millions)		
	1994	1993	1992
Oilfield Services	**$279**	$290	$260
Measurement & Systems	**139**	158	161
Other	**1**	2	–
	$419	$450	$421

Interest Expense

Interest expense decreased $6 million in 1994 and $9 million in 1993. The decline in 1994 was largely due to the repayment of the Dowell acquisition financing in 1993. Excluding the Dowell debt, interest expense remained constant as an increase in average debt outstanding was offset by a drop in average rates.

The decrease in 1993 was due to a drop in average rates, which more than offset the increase in average debt outstanding.

Liquidity

A key measure of financial position is liquidity, defined as cash plus short-term and long-term investments less debt. The following table summarizes the Company's change in consolidated liquidity for each of the past three years:

	(Stated in millions)		
	1994	1993	1992
Income before extraordinary item	**$ 536**	$ 583	$ 662
Depreciation & amortization	**776**	790	709
Other	**(5)**	(8)	(86)
	1,307	1,365	1,285
(Increase) decrease in working capital requirements	**(356)**	76	(189)
Fixed asset additions	**(783)**	(691)	(809)
Dividends paid	**(292)**	(291)	(289)
Other	**85**	71	46
	(39)	530	44
Proceeds from employee stock plans	**61**	71	70
Purchase of shares for Treasury	**(148)**	–	–
Acquisition of Dowell Schlumberger	**–**	(590)	–
Other businesses acquired	**(172)**	(63)	(163)
Proceeds on sale of businesses	**–**	93	–
Other	**6**	(8)	(12)
Net (decrease) increase in liquidity	**$ (292)**	$ 33	$ (61)
Liquidity – end of period	**$ 404**	$ 696	$ 663

In 1993, the increase in liquidity was sufficient to provide for the acquisition of the remaining 50% of Dowell Schlumberger.

The current consolidated liquidity level, combined with liquidity expected from operations, should satisfy future business requirements.

Common Stock, Market Prices and Dividends Declared per Share

Quarterly 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 1994 and 1993 were:

	Price Range		Dividends
	High	Low	Declared
1994			
Quarters			
First	$61½	$50¾	$ 0.30
Second	61⅞	51	0.30
Third	63	53¾	0.30
Fourth	59	50	0.30
1993			
Quarters			
First	$62½	$55⅞	$ 0.30
Second	68⅞	59	0.30
Third	68	60⅞	0.30
Fourth	68⅜	56⅞	0.30

The number of holders of record of the Common Stock of the Company at December 31, 1994 was approximately 27,000. 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.

Environmental Matters

The Company and its subsidiaries comply with government laws and regulations and responsible management practices for the protection of the environment. The Consolidated Balance Sheet includes accruals for the estimated future costs associated with certain environmental remediation activities related to the past use or disposal of hazardous materials. Substantially all such costs relate to divested operations and to facilities or locations that are no longer in operation. Due to a number of uncertainties, including uncertainty of timing, the scope of remediation, future technology, regulatory changes and other factors, it is possible that the ultimate remediation costs may exceed the amounts accrued. However, in the opinion of management, such additional costs are not expected to be material relative to consolidated liquidity, financial position or future results of operations. Consistent with the Company's commitment to protection of the environment, safety and employee health, additional costs, including capital expenditures, are incurred related to current operations.

CONSOLIDATED STATEMENT OF INCOME

(Stated in thousands except per share amounts)

Year Ended December 31,	**1994**	1993	1992
Revenue			
Operating	**$6,696,845**	$6,705,466	$6,331,509
Interest and other income	**83,898**	98,801	123,489
	6,780,743	6,804,267	6,454,998
Expenses			
Cost of goods sold and services	**5,107,889**	5,024,596	4,579,402
Research & engineering	**418,871**	450,185	421,237
Marketing	**251,750**	285,628	291,546
General	**321,433**	311,088	337,448
Interest	**63,328**	68,888	77,394
Taxes on income	**81,395**	81,119	86,368
	6,244,666	6,221,504	5,793,395
Income before cumulative effect of a change in accounting principle	**536,077**	582,763	661,603
Postretirement benefits	**–**	(248,000)	–
Net Income	**$ 536,077**	$ 334,763	$ 661,603
Net income per share:			
Before cumulative effect of a change in accounting principle	**$2.21**	$2.40	$2.75
Postretirement benefits	**–**	(1.03)	–
Net income per share	**$2.21**	$1.37	$2.75
Average shares outstanding (thousands)	**243,423**	242,672	240,878

See Notes to Consolidated Financial Statements
Schlumberger Limited (Schlumberger N.V., Incorporated in the Netherlands Antilles) and Subsidiary Companies

CONSOLIDATED BALANCE SHEET

ASSETS

December 31,	1994	1993
		(Stated in thousands)
Current Assets		
Cash and short-term investments	**$1,231,893**	$1,185,635
Receivables less allowance for doubtful accounts (1994 $52,700; 1993 $45,158)	**1,761,022**	1,545,949
Inventories	**696,272**	621,385
Other current assets	**134,564**	123,199
	3,823,751	3,476,168
Long-Term Investments, held to maturity	**273,052**	356,874
Fixed Assets less accumulated depreciation	**2,857,490**	2,818,948
Excess of Investment Over Net Assets of Companies Purchased less amortization	**1,204,690**	1,109,050
Other Assets	**163,116**	155,907
	$8,322,099	$7,916,947

LIABILITIES AND STOCKHOLDERS' EQUITY

Current Liabilities		
Accounts payable and accrued liabilities	**$1,704,755**	$1,722,773
Estimated liability for taxes on income	**301,269**	371,929
Bank loans	**621,470**	339,784
Dividend payable	**73,389**	73,605
Long-term debt due within one year	**85,771**	60,245
	2,786,654	2,568,336
Long-Term Debt	**394,167**	446,942
Postretirement Benefits	**327,282**	299,989
Other Liabilities	**231,042**	195,340
	3,739,145	3,510,607
Stockholders' Equity		
Common stock	**695,946**	660,129
Income retained for use in the business	**6,350,433**	6,106,461
Treasury stock at cost	**(2,406,321)**	(2,283,743)
Translation adjustment	**(57,104)**	(76,507)
	4,582,954	4,406,340
	$8,322,099	$7,916,947

See Notes to Consolidated Financial Statements
Schlumberger Limited (Schlumberger N.V., Incorporated in the Netherlands Antilles) and Subsidiary Companies

CONSOLIDATED STATEMENT OF CASH FLOWS

Year Ended December 31,	1994	1993	1992
		(Stated in thousands)	
Cash flows from operating activities:			
Income before extraordinary item	**$ 536,077**	$ 582,763	$ 661,603
Adjustments to reconcile income before extraordinary item to net cash provided by operating activities:			
Depreciation and amortization	**776,167**	790,169	708,788
Earnings of companies carried at equity, less dividends received (1994 $5,377; 1993 $10,408; 1992 $18,000)	**(1,621)**	(1,039)	(29,777)
Provision for losses on accounts receivable	**23,039**	15,820	5,018
Other adjustments	**(3,574)**	(7,106)	(55,242)
Change in operating assets and liabilities:			
(Increase) decrease in receivables	**(182,989)**	140,929	(38,750)
(Increase) decrease in inventories	**(37,444)**	2,654	17,428
(Decrease) increase in accounts payable and accrued liabilities	**(77,412)**	16,546	(65,879)
Decrease in estimated liability for taxes on income	**(73,801)**	(101,119)	(151,747)
Other – net	**(15,379)**	15,861	(52,598)
Net cash provided by operating activities	**943,063**	1,455,478	998,844
Cash flows from investing activities:			
Purchases of fixed assets	**(782,837)**	(691,101)	(809,486)
Sales/retirements of fixed assets	**105,240**	50,287	62,760
Proceeds from sale of businesses	**–**	93,000	–
Acquisition of Dowell Schlumberger	**–**	(590,000)	–
Payment for purchase of businesses	**(171,631)**	(39,450)	(172,616)
Decrease (increase) in investments	**50,230**	(181,329)	118,995
(Increase) decrease in other assets	**(88)**	(8,567)	38,621
Net cash used in investing activities	**(799,086)**	(1,367,160)	(761,726)
Cash flows from financing activities:			
Dividends paid	**(292,368)**	(290,793)	(288,622)
Proceeds from employee stock purchase plan	**36,183**	37,049	35,805
Proceeds from exercise of stock options	**25,145**	33,788	34,036
Purchase of shares for Treasury	**(148,089)**	–	–
Proceeds from issuance of long-term debt	**143,889**	182,861	201,047
Payments of principal on long-term debt	**(176,420)**	(85,887)	(204,710)
Net increase (decrease) in short-term debt	**261,616**	58,122	(13,374)
Net cash used in financing activities	**(150,044)**	(64,860)	(235,818)
Net (decrease) increase in cash	**(6,067)**	23,458	1,300
Cash, beginning of year	**63,738**	40,280	38,980
Cash, end of year	**$ 57,671**	$ 63,738	$ 40,280

See Notes to Consolidated Financial Statements
Schlumberger Limited (Schlumberger N.V., Incorporated in the Netherlands Antilles) and Subsidiary Companies

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY

(Dollar amounts in thousands)

	Common Stock					
	Issued		In Treasury		Translation	Income Retained for Use in
	Shares	Amount	Shares	Amount	Adjustment	the Business
Balance, January 1, 1992	304,943,447	$468,274	64,981,729	$2,351,130	$ 45,154	$5,690,588
Translation adjustment, 1992					(77,638)	
Sales to optionees less shares exchanged		760	(920,472)	(33,276)		
Shares issued for acquisition	236,813	13,300				
Employee stock purchase plan	715,388	35,805				
Net income						661,603
Dividends declared ($1.20 per share)						(289,186)
Balance, December 31, 1992	305,895,648	518,139	64,061,257	2,317,854	(32,484)	6,063,005
Translation adjustment, 1993					(44,023)	
Sales to optionees less shares exchanged		(323)	(943,146)	(34,111)		
Dowell acquisition		100,000				
Shares issued for acquisition	77,961	5,264				
Employee stock purchase plan	693,559	37,049				
Net income						334,763
Dividends declared ($1.20 per share)						(291,307)
Balance, December 31, 1993	306,667,168	660,129	63,118,111	2,283,743	(76,507)	6,106,461
Translation adjustment, 1994					19,403	
Sales to optionees less shares exchanged		(366)	(702,621)	(25,511)		
Purchases for Treasury			2,754,000	148,089		
Employee stock purchase plan	734,284	36,183				
Net income						536,077
Dividends declared ($1.20 per share)						(292,105)
Balance, December 31, 1994	307,401,452	$695,946	65,169,490	$2,406,321	$(57,104)	$6,350,433

See Notes to Consolidated Financial Statements

Schlumberger Limited (Schlumberger N.V., Incorporated in the Netherlands Antilles) and Subsidiary Companies

Summary of Accounting Policies

The Consolidated Financial Statements of Schlumberger Limited and its subsidiaries have been prepared in accordance with accounting principles generally accepted in the United States.

Principles of Consolidation

The Consolidated Financial Statements include the accounts of majority-owned subsidiaries. Significant 20%-50% owned companies are carried on the equity method and classified in Other Assets. The pro rata share of revenue and expenses of 50% owned companies is included in the individual captions in the Consolidated Statement of Income. Equity in undistributed earnings of all 50% owned companies at December 31, 1994 amounted to $3 million. The Company's pro rata share of after-tax earnings of other equity companies is included in Interest and other income.

Translation of Non-US Currencies

All assets and liabilities recorded in functional currencies other than US dollars are translated at current exchange rates. The resulting adjustments are charged or credited directly to the Stockholders' Equity section of the Consolidated Balance Sheet. Revenue and expenses are translated at the weighted average exchange rates for the period. All realized and unrealized transaction gains and losses are included in income in the period in which they occur. Included in the 1994 results were transaction gains of $2 million, compared to gains of $4 million and losses of $22 million in 1993 and 1992, respectively.

Currency exchange contracts are entered into as a hedge against the effect of future settlement of assets and liabilities denominated in other than the functional currency of the individual businesses. Gains or losses on the contracts are recognized when the currency exchange rates fluctuate, and the resulting charge or credit offsets the unrealized currency gains or losses on those assets and liabilities. At December 31, 1994, contracts were outstanding to purchase the US dollar equivalent of $56 million in various foreign currencies and to sell the equivalent of $58 million at forward rates on the dates the contracts were entered. These contracts mature on various dates in 1995.

Investments

In May 1993, Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, was issued by the Financial Accounting Standards Board. As permitted, the Company implemented this Standard on December 31, 1993; retroactive application is not permitted. The Consolidated Balance Sheet reflects the Company's investment portfolio separated between current and long-term based on maturity. Except for $95 million of investments which are considered trading at December 31, 1994, it is the Company's intent to hold the investments until maturity.

Both short-term and long-term investments held to maturity are stated at cost plus accrued interest, which approximates market, and comprise primarily Eurodollar time deposits, certificates of deposit and commercial paper and Euronotes, substantially all denominated in US dollars. Short-term investments that are designated as trading are stated at market. The adoption of this Standard had no material effect on the results of operations.

For purposes of the Consolidated Statement of Cash Flows, the Company does not consider short-term investments to be cash equivalents as they generally have original maturities in excess of three months. Short-term investments at December 31, 1994 and 1993 were $1.2 billion and $1.1 billion, respectively.

Inventories

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

Excess of Investment Over Net Assets of Companies Purchased

Cost in excess of net assets of purchased companies is amortized on a straight-line basis over periods ranging from 10 to 40 years. Accumulated amortization was $216 million and $162 million at December 31, 1994 and 1993, respectively.

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 oilfield technical equipment manufactured by subsidiaries of the Company. 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.

Taxes on Income

The Company 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, an appropriate provision for deferred income taxes is made. The provisions were not significant in 1994, 1993 or 1992.

Approximately $1.8 billion of consolidated income retained for use in the business at December 31, 1994 represented undistributed earnings of consolidated subsidiaries and the Company's pro rata share of 20%-50% owned companies. No provision is made for deferred income taxes on those earnings considered to be indefinitely reinvested or earnings that would not be taxed when remitted.

Tax credits and other allowances are credited to current income tax expense on the flow-through method of accounting.

In February 1992, Statement of Financial Accounting Standards No. 109, *Accounting for Income Taxes*, was issued by the Financial Accounting Standards Board. The Company implemented this Standard in 1993. The Company's US consolidated group is in an operating loss carryforward position and has no net deferred tax asset recorded. The adoption of this Standard did not have a material effect on the Company's results of operations or financial position.

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. The effect of common stock equivalents on the computation of earnings per share was not significant.

Research & Engineering

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

Acquisitions

During 1994, subsidiaries of the Company acquired the European metering activities of AEG, Messerschmidt Apparate, a parking equipment distributor, and Malco Plastics, a secure card manufacturer; the purchase prices were $113 million, $9 million, and $34 million, respectively. These acquistions were accounted for as purchases and the accounts have been fully consolidated with those of the Company. Costs in excess of net assets acquired were $108 million which are being amortized on a straight line basis over periods between 20 and 40 years.

In January 1993, Schlumberger acquired the remaining 50% interest in the Dowell Schlumberger group of companies. The purchase price was $675 million in cash and a warrant, expiring in 7.5 years and valued at $100 million, to purchase 7.5 million shares of Schlumberger Common Stock at an exercise price of $59.95 per share. The warrant is fully-vested and non-transferable. The acquisition was accounted for as a purchase; cost in excess of net assets acquired of $525 million, is being amortized on a straight-line basis over 40 years. If the acquisition had taken place on January 1, 1992, consolidated operating revenue for 1992 would have increased by 8% with an immaterial effect on consolidated net income after taking into account goodwill amortization and financing costs.

Fixed Assets

A summary of fixed assets follows:

	(Stated in millions)	
December 31,	**1994**	1993
Land	**$ 71**	$ 75
Buildings & improvements	**966**	968
Machinery and equipment	**7,501**	7,131
Total cost	**8,538**	8,174
Less accumulated depreciation	**5,681**	5,355
	$ 2,857	$ 2,819

Estimated useful lives of Buildings & improvements range from 8 to 50 years and of Machinery and equipment from 2 to 18 years.

Long-Term Debt

Long-term debt of $394 million is primarily denominated in US dollars, Italian lire, Japanese yen, British pounds and German marks, at money market-based rates varying up to 11%.

Long-term debt at December 31, 1994 is due $235 million in 1996, $154 million in 1997, $1 million in 1998, $1 million in 1999 and $3 million thereafter.

Interest rate swap arrangements are entered into to adjust non-US dollar denominated debt and interest rates into US dollars. At December 31, 1994, interest rate swap arrangements were outstanding with commercial banks having a total principal amount of $73 million. These arrangements mature at various dates through 1997 and the interest rates are adjusted semiannually. Interest rate swap arrangements had an immaterial effect on consolidated interest expense in 1994. In 1993 they reduced interest expense by $5 million. The exposure in the event of nonperformance by the other parties to the arrangements is not significant.

Lines of Credit

At December 31, 1994, the Company's principal US subsidiary had an available unused Revolving Credit Agreement with a group of banks. The Agreement provided that the subsidiary may borrow up to $500 million until December 1998 at money market-based rates. In addition, at December 31, 1994, the Company and its subsidiaries had available unused short-term lines of credit of approximately $552 million.

Capital Stock

The Company is authorized to issue 500,000,000 shares of Common Stock, par value $0.01 per share, of which 242,231,962 and 243,549,057 shares were outstanding on December 31, 1994 and 1993, respectively. The Company is also authorized to issue 200,000,000 shares of cumulative Preferred Stock, par value $0.01 per share, which may be issued in series with terms and conditions determined by the Board of Directors. No shares of Preferred Stock have been issued. Holders of Common Stock and Preferred Stock are entitled to one vote for each share of stock held.

The Company has a non-compensatory Employee Discounted Stock Purchase Plan. Under the Plan, employees may purchase Common Stock at the end of the Plan year through payroll deductions of up to 10% of compensation. The price per share is equal to 85% of the lower of the beginning or end of Plan year market price. With stockholder approval, in 1992 the Company amended the Plan to increase the aggregate number of shares available for purchase to 8,000,000 shares. During 1994, 734,284 shares were purchased under the Plan.

In 1994, the Company adopted the Schlumberger 1994 Stock Option Plan, under which stock options may be granted until January 26, 2004. The number of shares that may be issued under this plan cannot exceed 10,000,000 shares.

Options to purchase shares of the Company's Common Stock have been granted under various incentive plans to officers and key employees at prices equal to 100% of the fair market value at the date of grant.

Transactions under stock incentive plans were as follows:

	Number of Shares	Option Price Per Share
Outstanding Jan. 1, 1993	10,097,828	$29.25-67.00
Granted	848,250	$59.81-64.81
Exercised	(966,402)	$29.25-67.00
Lapsed or cancelled	(387,680)	$29.25-67.00
Outstanding Dec. 31, 1993	9,591,996	$29.25-67.00
Granted	3,178,150	$53.25-57.94
Exercised	(728,637)	$29.25-44.63
Lapsed or cancelled	(480,660)	$33.13-67.00
Outstanding Dec. 31, 1994	11,560,849	$29.25-67.00
Exercisable at Dec. 31, 1994	5,389,722	$29.25-67.00
Available for grant		
Dec. 31, 1993	2,557,070	
Dec. 31, 1994	9,853,745	

Income Tax Expense

The Company and its subsidiaries operate in over 100 taxing jurisdictions with statutory rates ranging up to about 50%.

The Company's US consolidated group has net operating loss carryforwards of $725 million and net deductible temporary differences of $650 million at December 31, 1994, and has no net deferred tax asset recorded. The tax benefit of these items is available to reduce future US federal income tax expense. Most of the carryforward will expire, if unutilized, in the years 2001-2003.

Leases and Lease Commitments

Total rental expense was $192 million in 1994, $177 million in 1993 and $166 million in 1992. Future minimum rental commitments under noncancelable leases for years ending December 31 are: 1995 $90 million; 1996 $63 million; 1997 $50 million; 1998 $40 million; and 1999 $35 million. For the ensuing three five-year periods, these commitments decrease from $39 million to $3 million. The minimum rentals over the remaining terms of the leases aggregate $9 million.

Contingencies

The Company and its subsidiaries comply with government laws and regulations and responsible management practices for the protection of the environment. The Consolidated Balance Sheet includes accruals for the estimated future costs associated with certain environmental remediation activities related to the past use or disposal of hazardous materials. Substantially all such costs relate to divested operations and to facilities or locations that are no longer in operation. Due to a number of uncertainties, including uncertainty of timing, the scope of remediation, future technology, regulatory changes and other factors, it is possible that the ultimate remediation costs may exceed the amounts accrued. However, in the opinion of management, such additional costs are not expected to be material relative to consolidated liquidity, financial position or future results of operations.

In a case in Texas involving the validity of a 1988 settlement and release in connection with an incidental business venture, the trial court, in 1993, rendered a judgment notwithstanding the verdict of the jury, exonerating Schlumberger from any liability. In late 1994, a Texas Court of Appeals reversed the trial court judgment and reinstated the jury award of about $75 million against Schlumberger. Schlumberger's motion to the Court of Appeals for rehearing is now pending. Schlumberger and outside counsel believe the decision of the trial court was correct, and Schlumberger intends to appeal any adverse decision of the Court of Appeals. Consequently, no provision has been made in the consolidated financial statements for this matter.

In addition, the Company and its subsidiaries are party to various other legal proceedings. Although the ultimate disposition of these proceedings is not presently determinable, in the opinion of the Company any liability that might ensue would not be material in relation to the consolidated financial statements.

Segment Information

The Company's business comprises two segments: Oilfield Services and Measurement & Systems. Services and products are described in more detail on pages 126-127 in this report.

Financial information for the years ended December 31, 1994, 1993 and 1992 by industry segment and by geographic area is as follows:

	Oilfield Services	Measurement & Systems	Adjust. & Elim.	Consolidated
				(Stated in millions)
INDUSTRY SEGMENT 1994				
Operating revenue				
Customers	$4,362	$2,335	$ –	$6,697
Intersegment transfers	3	4	(7)	–
	$4,365	$2,339	$ (7)	$6,697
Operating income	$ 495	$ 121	$(23)	$ 593
Interest expense				(63)
Interest and other income plus other credits – $3				87
Income before taxes				$ 617
Depreciation expense	$ 625	$ 92	$ 5	$ 722
Fixed asset additions	$ 661	$ 91	$ 31	$ 783
At December 31				
Identifiable assets	$4,766	$1,936	$(14)	$6,688
Corporate assets				1,634
Total assets				$8,322
INDUSTRY SEGMENT 1993				
Operating revenue				
Customers	$4,337	$2,368	$ –	$6,705
Intersegment transfers	1	2	(3)	–
	$4,338	$2,370	$ (3)	$6,705
Operating income	$ 468	$ 184	$(23)	$ 629
Interest expense				(69)
Interest and other income plus other credits – $5				104
Income before taxes				$ 664
Depreciation expense	$ 638	$ 95	$ 6	$ 739
Fixed asset additions	$ 570	$ 100	$ 21	$ 691
At December 31				
Identifiable assets	$4,707	$1,620	$(41)	$6,286
Corporate assets				1,631
Total assets				$7,917
INDUSTRY SEGMENT 1992				
Operating revenue				
Customers	$3,849	$2,483	$ –	$6,332
Intersegment transfers	–	1	(1)	–
	$3,849	$2,484	$ (1)	$6,332
Operating income	$ 546	$ 178	$(28)	$ 696
Interest expense				(77)
Interest and other income plus other credits – $6				129
Income before taxes				$ 748
Depreciation expense	$ 570	$ 99	$ 2	$ 671
Fixed asset additions	$ 693	$ 111	$ 5	$ 809
At December 31				
Identifiable assets	$3,865	$1,719	$(11)	$5,573
Corporate assets				1,434
Total assets				$7,007

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.

During the years ended December 31, 1994, 1993 and 1992, neither sales to any government nor sales to any single customer exceeded 10% of consolidated operating revenue.

Corporate assets largely comprise short-term and long-term investments.

	Western Hemisphere		*Eastern Hemisphere*			*(Stated in millions)*	
	US	*Other*	*France*	*Other European*	*Other*	*Adjust. & Elim.*	*Consol-idated*
GEOGRAPHIC AREA 1994							
Operating revenue							
Customers	$1,650	$749	$ 690	$1,609	$1,999	$ –	$6,697
Interarea transfers	251	10	111	29	30	(431)	–
	$1,901	$759	$ 801	$1,638	$2,029	$(431)	$6,697
Operating income	$ 177	$106	$ 58	$ (9)	$ 304	$ (43)	$ 593
Interest expense							(63)
Interest and other income plus other credits – $3							87
Income before taxes							$ 617
At December 31							
Identifiable assets	$1,660	$620	$ 596	$1,791	$2,210	$(189)	$6,688
Corporate assets							1,634
Total assets							$8,322
GEOGRAPHIC AREA 1993							
Operating revenue							
Customers	$1,491	$671	$ 748	$1,821	$1,974	$ –	$6,705
Interarea transfers	253	5	148	21	17	(444)	–
	$1,744	$676	$ 896	$1,842	$1,991	$(444)	$6,705
Operating income	$ 129	$ 86	$ 41	$ 100	$ 306	$ (33)	$ 629
Interest expense							(69)
Interest and other income plus other credits – $5							104
Income before taxes							$ 664
At December 31							
Identifiable assets	$1,485	$536	$ 576	$1,953	$1,854	$(118)	$6,286
Corporate assets							1,631
Total assets							$7,917
GEOGRAPHIC AREA 1992							
Operating revenue							
Customers	$1,014	$554	$ 850	$2,110	$1,804	$ –	$6,332
Interarea transfers	242	7	158	29	39	(475)	–
	$1,256	$561	$1,008	$2,139	$1,843	$(475)	$6,332
Operating income (loss)	$ (13)	$ 78	$ 61	$ 210	$ 388	$ (28)	$ 696
Interest expense							(77)
Interest and other income plus other credits – $6							129
Income before taxes							$ 748
At December 31							
Identifiable assets	$1,011	$438	$ 656	$2,006	$1,528	$ (66)	$5,573
Corporate assets							1,434
Total assets							$7,007

Pension and Other Benefit Plans

US Pension Plans

The Company and its US subsidiary sponsor several defined benefit pension plans that cover substantially all employees. The benefits are based on years of service and compensation on a career-average pay basis. These plans are substantially fully funded with a trustee in respect to past and current service. Charges to expense are based upon costs computed by independent actuaries. The funding policy is to contribute annually amounts that can be deducted for federal income tax purposes. These contributions are intended to provide for benefits earned to date and those expected to be earned in the future.

Net pension cost in the US for 1994, 1993 and 1992 included the following components:

	(Stated in millions)		
	1994	1993	1992
Service cost – benefits earned during the period	**$25**	$20	$16
Interest cost on projected benefit obligation	**44**	42	38
Expected return on plan assets (actual return: 1994 $3; 1993 $87; 1992 $44)	**(46)**	(42)	(41)
Amortization of transition asset	**(2)**	(2)	(2)
Amortization of prior service cost/other	**6**	3	5
Net pension cost	**$27**	$21	$16

The funded status of the plans at December 31, 1994 and 1993 was as follows:

	(Stated in millions)	
	1994	1993
Actuarial present value of obligations:		
Vested benefit obligation	**$577**	$567
Accumulated benefit obligation	**$579**	$570
Projected benefit obligation	**$645**	$643
Plan assets at market value	**584**	587
Excess of projected benefit obligation over assets	**(61)**	(56)
Unrecognized net loss (gain)	**9**	(3)
Unrecognized prior service cost	**28**	31
Unrecognized net asset at transition date	**(10)**	(12)
Pension liability	**$(34)**	$(40)

For 1994, assumed discount rate and rate of compensation increases used to determine the projected benefit obligation were 7.5% and 4.5%, respectively; the expected long-term rate of return on plan assets was 8.5%. For 1993, the rates were 7%, 4.5% and 9%, respectively. Plan assets at December 31, 1994 consist of common stocks ($367million), cash or cash equivalents ($55 million), fixed income investments ($102 million) and other investments ($60 million). Less than 1% of the plan assets at December 31, 1994 represents Schlumberger Limited Common Stock.

Non-US Pension Plans

Outside of the US, subsidiaries of the Company sponsor several defined benefit and defined contribution plans that cover substantially all employees who are not covered by statutory plans. For defined benefit plans, charges to expense are based upon costs computed by independent actuaries. These plans are substantially fully funded with trustees in respect to past and current service. For all defined benefit plans, pension expense was $16 million, $23 million and $20 million in 1994, 1993 and 1992,

respectively. The only significant defined benefit plan is in the UK.

Net pension cost in the UK plan for 1994, 1993 and 1992 (translated into US dollars at the average exchange rate for the periods) included the following components:

	(Stated in millions)		
	1994	1993	1992
Service cost – benefits earned during the period	**$10**	$12	$14
Interest cost on projected benefit obligation	**10**	10	10
Expected return on plan assets (actual return: 1994 ($11); 1993 $58; 1992 $30)	**(15)**	(13)	(12)
Amortization of transition asset and other	**(3)**	–	(1)
Net pension cost	**$ 2**	$ 9	$11

During 1992, the UK pension plan was amended to improve retirement benefits for retirees. The improvement is reflected as prior service cost.

The funded status of the plan (translated into US dollars at year-end exchange rates) was as follows:

	(Stated in millions)	
	1994	1993
Actuarial present value of obligations:		
Vested benefit obligation	**$106**	$122
Accumulated benefit obligation	**$106**	$122
Projected benefit obligation	**$130**	$146
Plan assets at market value	**187**	210
Excess of assets over projected benefit obligation	**57**	64
Unrecognized net gain	**(60)**	(72)
Unrecognized prior service cost	**4**	5
Unrecognized net asset at transition date	**(6)**	(6)
Pension liability	**$ (5)**	$ (9)

The assumed discount rate and rate of compensation increases used to determine the projected benefit obligation were 7.5% and 5%, respectively; the expected long-term rate of return on plan assets was 8.5%. Plan assets consist of common stocks ($149 million), cash or cash equivalents ($2 million) and fixed income investments ($36 million). None of the plan assets represents Schlumberger Limited Common Stock.

For defined contribution plans, funding and cost are generally based upon a predetermined percentage of employee compensation. Charges to expense in 1994, 1993 and 1992 were $12 million, $9 million and $14 million, respectively.

Other Deferred Benefits

In addition to providing pension benefits, the Company and its subsidiaries have other deferred benefit programs. Expense for these programs was $71 million, $63 million and $57 million in 1994, 1993 and 1992, respectively.

Health Care Benefits

The Company and its US subsidiary provide health care benefits for certain active employees. The cost of providing these benefits is recognized as expense when incurred and aggregated $34 million, $36 million and $34 million in 1994, 1993 and 1992, respectively. Outside of the United States, such benefits are mostly provided through government-sponsored programs.

Postretirement Benefits Other Than Pensions

In December 1990, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*. This statement requires the use of the accrual method for future postretirement benefits rather than accounting for these benefits on a pay-as-you-go

basis. The Company adopted this Statement effective January 1, 1993, as required.

The Company and its US subsidiary provide certain health care benefits to former employees who have retired under the US pension plans. The accumulated postretirement benefit charge on January 1, 1993 for all current retirees and the pro rata amount for active employees based on years of service was $248 million. Such amount was recorded as an extraordinary item (cumulative effect of an accounting change) in the first quarter of 1993.

In 1994 service cost and interest cost expenses were $13 million and $24 million, respectively, compared to $9 million and $23 million in 1993. The principal actuarial assumptions used to measure the above-mentioned costs were a discount rate of 7% in 1994 and 8.5% in 1993, and a medical cost trend rate of 13% graded to 6% over 10 years and 6% thereafter.

The funded status at December 31, 1994 and 1993 was as follows:

	(Stated in millions)	
	1994	1993
Accumulated Postretirement Benefit Obligation:		
Retirees	**$155**	$196
Fully eligible	**4**	2
Actives	**175**	131
	$334	$329
Unrecognized net loss	**(7)**	(29)
Postretirement benefit liability at December 31	**$327**	$300

The assumed discount rate used to determine the accumulated postretirement benefit obligation was 7.5% and 7% for 1994 and 1993, respectively.

If the assumed medical cost trend rate was increased by one percentage point, health care cost in 1994 would have been $43 million, and the accumulated postretirement benefit obligation would have been $386 million at December 31, 1994.

Supplementary Information

Operating revenue and related cost of goods sold and services comprised the following:

	(Stated in millions)		
Year ended December 31,	**1994**	1993	1992
Operating revenue			
Sales	**$2,632**	$2,576	$2,379
Services	**4,065**	4,129	3,953
	$6,697	$6,705	$6,332
Direct operating costs			
Goods sold	**$1,673**	$1,619	$1,533
Services	**3,435**	3,406	3,047
	$5,108	$5,025	$4,580

Cash paid for interest and income taxes was as follows:

	(Stated in millions)		
Year ended December 31,	**1994**	1993	1992
Interest	**$ 64**	$ 69	$ 81
Income taxes	**$148**	$136	$206

Accounts payable and accrued liabilities are summarized as follows:

	(Stated in millions)	
December 31,	**1994**	1993
Payroll, vacation and employee benefits	**$ 385**	$ 393
Trade	**470**	464
Other	**850**	866
	$1,705	$1,723

The caption "Interest and other income" includes interest income, principally from short-term and long-term investments, of $78 million, $89 million and $102 million for 1994, 1993 and 1992, respectively.

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, of stockholders' equity and of cash flows present fairly, in all material respects, the financial position of Schlumberger Limited and its subsidiaries at December 31, 1994 and 1993, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1994, in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

In 1993, the Company changed its methods of accounting for income taxes, certain investment securities and postretirement benefits as described in the Summary of Accounting Policies and Pension and Other Benefit Plans notes.

Price Waterhouse LLP

New York, New York
January 24, 1995

The following table summarizes results for each of the four quarters for the years ended December 31, 1994 and 1993. Gross profit equals operating revenue less cost of goods sold and services.

(Stated in millions except per share amounts)

	Operating		Net Income / (Loss)	
	Revenue	*Gross Profit*	*Amount*	*Per Share*
QUARTERS–1994				
First	$1,640	$ 376	$ 121	$ 0.50
Second	1,639	383	123	0.51
Third	1,637	399	137	0.56
Fourth	1,781	431	155	0.64
	$6,697	$1,589	$ 536	$ 2.21
QUARTERS–1993				
First	$1,598	$ 411	$ (115)[1]	$(0.48)[1]
Second	1,719	447	163	0.67
Third	1,642	429	163	0.67
Fourth	1,746	394	124	0.51
	$6,705	$1,681	$ 335[1]	$ 1.37[1]

[1] *Includes the cumulative effect of a change in accounting principle of $248 million ($1.03 per share).*

FIVE YEAR SUMMARY

(Stated in millions except per share amounts)

Year Ended December 31	**1994**	1993	1992	1991	1990
SUMMARY OF OPERATIONS					
Operating revenue:					
Oilfield Services	**$ 4,365**	$ 4,338	$ 3,849	$ 3,847	$ 3,240
Measurement & Systems	**2,339**	2,370	2,484	2,300	2,066
Total operating revenue	**$ 6,697**	$ 6,705	$ 6,332	$ 6,145	$ 5,306
% Increase over prior year	**–%**	6%	3%	16%	13%
Operating income:					
Oilfield Services	**$ 495**	$ 468	$ 546	$ 602	$ 542
Measurement & Systems	**121**	184	178	170	153
Eliminations	**(23)**	(23)	(28)	(38)	(17)
	$ 593	$ 629	$ 696	$ 734	$ 678
% (Decrease) increase from prior year	**(6%)**	(10%)	(5%)	8%	37%
Interest expense	**63**	69	77	102	87
Taxes on income	**81**	81	86	166	128
Income, before cumulative effect of a change in accounting principle	**$ 536**	$ 583	$ 662	$ 816[1]	$ 570
% (Decrease) increase from prior year	**(8%)**	(12%)	(19%)	43%	36%
Postretirement benefits	**–**	(248)	–	–	–
Net income	**$ 536**	$ 335	$ 662	$ 816[1]	$ 570
Income per share:					
Before cumulative effect of a change in accounting principle	**$ 2.21**	$ 2.40	$ 2.75	$ 3.42[1]	$ 2.40
Postretirement benefits	**–**	(1.03)	–	–	–
Net income	**$ 2.21**	$ 1.37	$ 2.75	$ 3.42[1]	$ 2.40
Cash dividends declared	**$ 1.20**	$ 1.20	$ 1.20	$ 1.20	$ 1.20
SUMMARY OF FINANCIAL DATA					
Income as % of revenue	**8%**	9%	10%	13%	11%
Return on average stockholders' equity	**12%**	14%	16%	24%	19%
Fixed asset additions	**$ 783**	$ 691	$ 809	$ 921	$ 675
Depreciation expense	**$ 722**	$ 739	$ 671	$ 627	$ 520
Average number of shares outstanding	**243**	243	241	239	238
AT DECEMBER 31					
Liquidity	**$ 404**	$ 696	$ 663	$ 724	$ 527
Working capital	**$ 1,037**	$ 908	$ 1,242	$ 1,094	$ 812
Total assets	**$ 8,322**	$ 7,917	$ 7,007	$ 6,854	$ 6,176
Long-term debt	**$ 394**	$ 447	$ 374	$ 341	$ 332
Stockholders' equity	**$ 4,583**	$ 4,406	$ 4,231	$ 3,853	$ 3,255
Number of employees	**48,000**	48,000	51,000	53,000	50,000

[1]*Includes a gain of $177 million ($0.74 per share) on the sale of an investment and a $25 million ($0.10 per share) charge for restructuring the North American oilfield operations.*

48,000 people of 95 nationalities at
930 facilities in 100 countries

OILFIELD SERVICES

Wireline & Testing
Dowell
Geco-Prakla
Sedco Forex
Anadrill
GeoQuest

MEASUREMENT & SYSTEMS

Electricity Management
Water Management
Gas Management
Electronic Transactions
Automatic Test Equipment

Organizing for Profitable Growth

Schlumberger today concentrates its expertise in two groups, OILFIELD SERVICES and MEASUREMENT & SYSTEMS. These groups comprise 11 product lines pursuing a coordinated plan for profitable growth. Common elements of this strategy are to:

- *Intensify our local presence worldwide.* Develop multicultural teams with talented people from the 100 countries where we work.
- *Boost efficiency.* Optimize resources to lower internal costs, building on established synergy between related product lines.
- *Expand technology leadership.* Deliver the highest value to clients and to Schlumberger, drawing on our unparalleled breadth of superior technology and services.
- *Be nimble.* Anticipate evolving needs of customers by continuing to cultivate a pool of resourceful, mobile professionals.
- *Build on existing financial strength.* Maintain independence of action to seize emerging opportunities.

To implement this strategy, the company maintains a decentralized structure, with responsibility devolved to those who are closest to the changing needs of customers—the teams that run the 11 product lines.

Here are their stories.

OILFIELD SERVICES

Victor E. Grijalva

Executive Vice-President

PREVIOUS JOB Executive vice-president, Wireline, Testing & Anadrill, New York

FIRST JOB Electrical design engineer, Philadelphia

EDUCATION MS degree in electrical engineering, University of Pennsylvania, Philadelphia; BS degree in electrical engineering, Carnegie-Mellon University, Pittsburgh

BORN Guayaquil, Ecuador, 1938

MEASUREMENT & SYSTEMS

Clermont A. Matton

Executive Vice-President

PREVIOUS JOB Executive vice-president, Schlumberger Technologies, New York

FIRST JOB Chartered accountant, Montréal

EDUCATION MBA and master's degrees in accounting, BA degree in commerce, Université de Sherbrooke, Québec, Canada

BORN Asbestos, Québec, 1942

Wireline & Testing

Andrew Gould
President

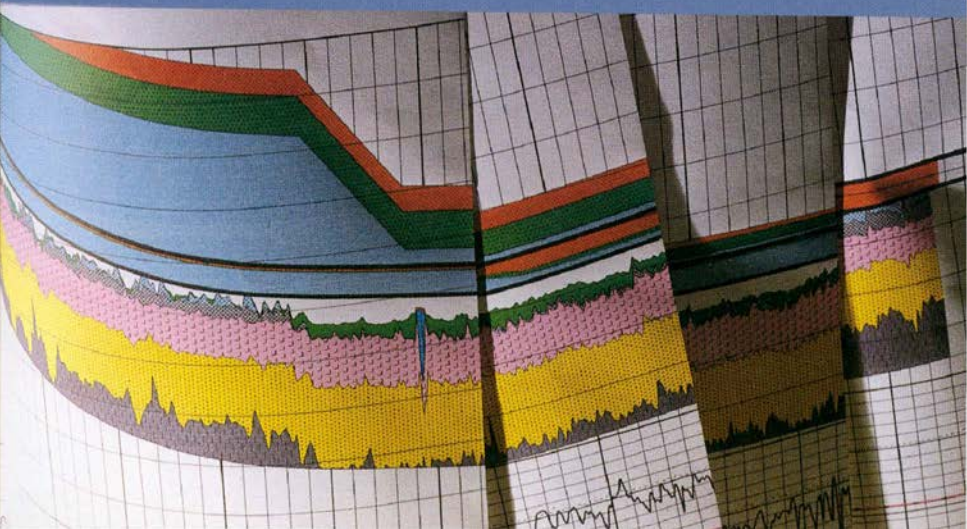
Andrew Gould

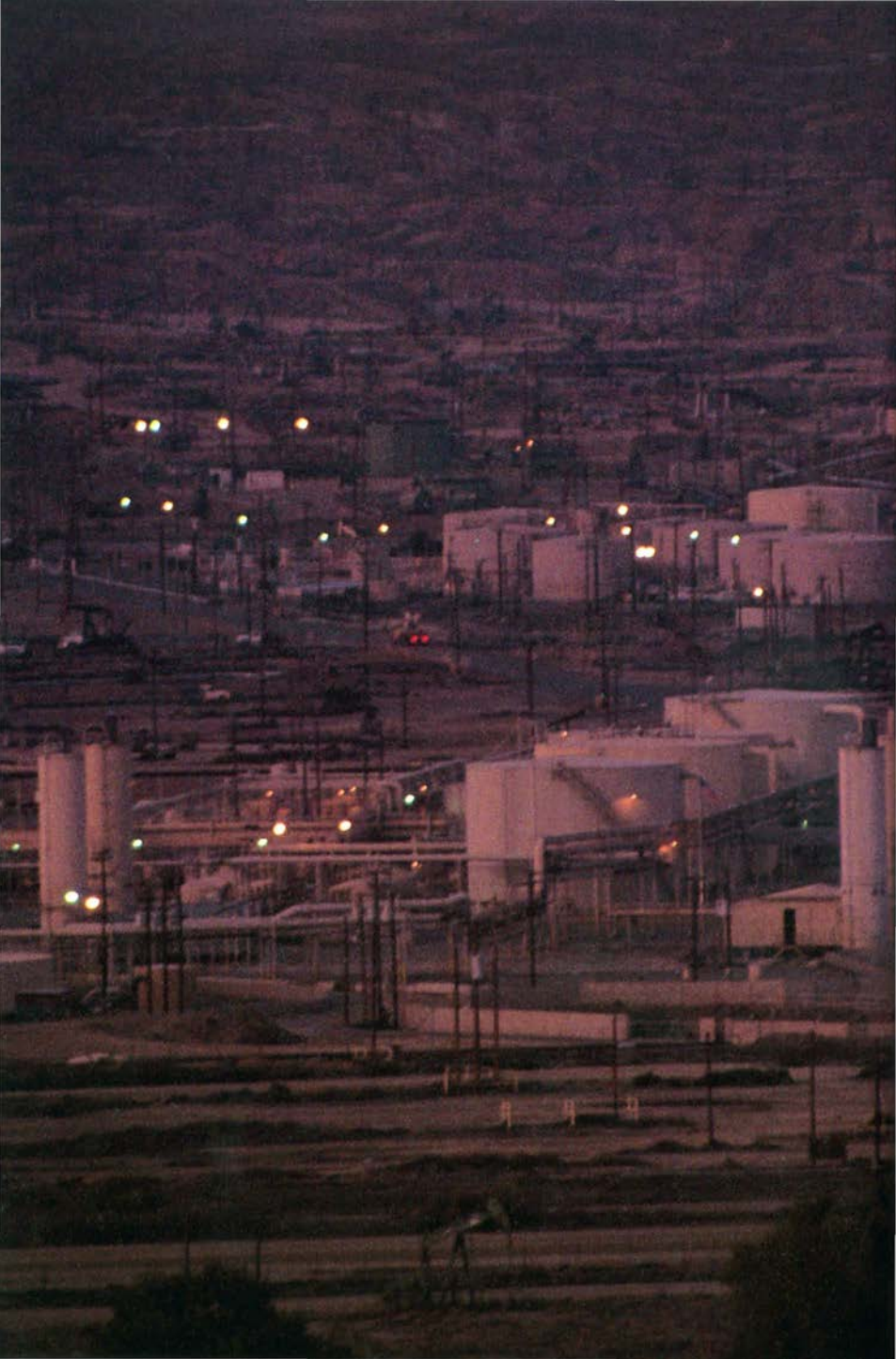
PREVIOUS JOB President, Sedco Forex, Montrouge, France

FIRST JOB Chartered accountant, London

EDUCATION Bachelor's degree in economic history, University College, Cardiff, Wales

BORN Walton-on-Thames, England, 1946





Since its founding, Schlumberger has maintained undisputed leadership in formation evaluation services, pioneering technologies that provide the energy industry with valuable knowledge of hydrocarbon reservoirs. Today, with oil and gas prices stabilized at low levels, energy companies strive to improve profitability by streamlining operations and boosting recovery from established fields. Wireline & Testing, drawing on its leadership in formation evaluation services, is seizing this opportunity by placing a new emphasis on production services—procedures that enhance the productivity of existing fields.

WIRELINE & TESTING AT A GLANCE

Evaluation, testing, and production services for oil and gas wells:

- **Borehole measurements of petrophysical, geological, and seismic properties; cement and corrosion evaluation**
- **Wireline- and tubing-conveyed perforating; well testing, production logging, and light remedial services**

9900 people of 76 nationalities at 339 facilities in 78 countries

"Demands of our customers are changing," says Andrew Gould, head of Wireline & Testing. "Until recently, producers focused on finding new reserves. Today they also want to maximize return on existing assets and reduce risk by reexamining familiar turf and using new technologies to enhance reserves. We are equipped to help them do this job with unmatched efficiency."

Paralleling this changing demand is the evolving role of production services, mainly from well monitoring and maintenance to seeking new ways to boost hydrocarbon recovery from existing fields. The viability of such services hinges on their ability to deliver technical, low-cost innovation. Three leading examples are the RST* Reservoir Saturation Tool, the HEGS*

(left) *Schlumberger Production logging contributes to extending the life of wells in the 96-year-old Kern River field in California, the fifth largest in the United States.*
(previous page) *ELAN* Elemental Log Analysis helps find oil in a Kern River well.*

High-Efficiency Gun System, and the Pivot Gun* system.

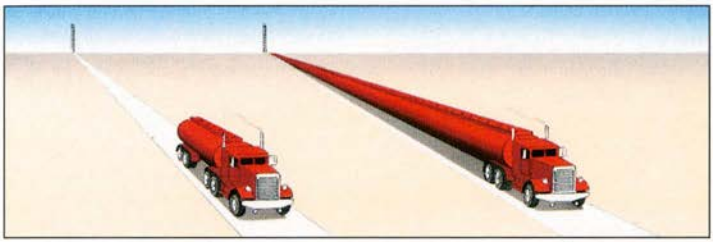
The RST measurement, a unique service in the industry, gives the customer previously unobtainable information about how to revive sick wells. New technology includes a sensor design that significantly improves the surveying of flowing wells. It provides the accurate diagnostics needed to plan more effective enhanced oil recovery—a procedure in which injected water or steam helps produce the remaining oil. It can detect where water is encroaching on oil, which can reduce oil flow. Unlike other formation evaluation measurements, it works through steel casing to determine the volume of hydrocarbons previously bypassed.

Schlumberger Sales Engineer Rod Kane, left, and Doug Eberts, president of Sierra Resources, review well logs before reperforating a gas well with the Pivot Gun service. "Without Pivot Gun perforating, this would not have been a commercial well," Eberts says. Sierra Resources, an independent in Bakersfield, California, has restored slumped production in other wells with the Pivot Gun technology.

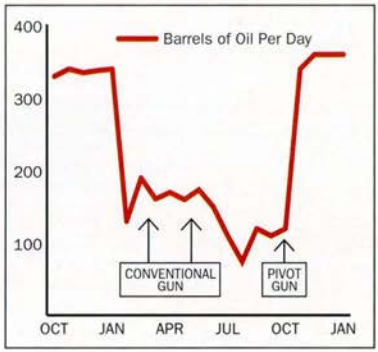
Schlumberger is working with Texaco, the major operator of the 518-million-barrel Kern River field in California, the fifth largest in the US, in investigating the use of RST logs over time to track methods of extending the life of 7000 producing wells. The RST measurement has the potential of identifying the "sweetest" areas to heat up with steam, which helps the thick oil flow more easily into wells and to the surface.

Once additional reserves are found, they are tapped with a perforating gun, which uses explosive charges to make small holes through the steel pipe cemented in the borehole. These holes let hydrocarbons flow from the rock into the well.

The making of these holes is a critical step. One perforating innovation is the HEGS High-Efficiency Gun System, which has a



Pivot Gun services help Marathon Alaska give new life to an aging well. Productivity of an oil well at Cook Inlet declined due to buildup of solid material that restricted the flow of oil. Conventional perforating guns were used twice to restore productivity, but provided only a minor and short-lived improvement. The deeper penetration of the Pivot Gun reached beyond the flow restriction to increase production from 70 barrels of oil per day to more than 300 barrels of oil per day. Productivity has been maintained at this level.



lower operating cost than conventional guns, providing a competitive advantage in mature areas. Originally designed for cost-sensitive markets in California, where wells are less than 8000 feet deep, it has found application in many shallow-well markets. Cost saving comes not only from the gun itself—a design that uses recyclable parts and requires less machining—but in its deployment from a high-efficiency Blue Streak* truck.

As customers seek oil from marginal and mature reservoirs, they need a perforating gun that can penetrate deeper into the rock. Longer perforations often mean greater flow of hydrocarbons. In these settings, the Pivot Gun system has become a

Horizontal Well Production Logging, Offshore Australia

Drilling technology has matured to the point where wells can be routinely extended horizontally for a mile or more. In certain geologic conditions, horizontal drilling provides a dramatic improvement in efficiency, allowing hydrocarbon production from fewer wells at a higher rate per well, and increasing recoverable reserves.

Once a well is drilled, engineers need more information to manage the reservoir and plan future wells: How much oil will flow? From what parts of the well? Will water or gas encroach on the well and hinder oil production?

When the Australian company BHP Petroleum drilled its first horizontal wells in the Griffin Development, located 40 miles offshore Western Australia, a key part of the answer to these and other questions came from Schlumberger production logs.

BHP's horizontal wells were drilled with a sinuous path so that each made multiple intersections with all the oil-bearing sands of the thin, layered reservoir.

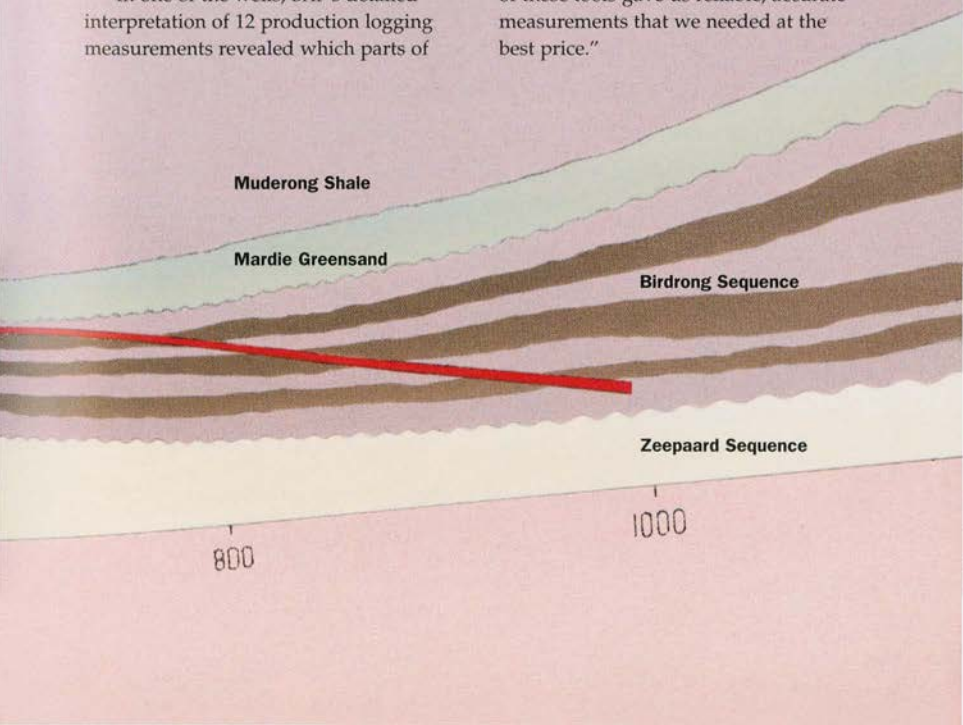
Production logs measure the flow, physical properties, and behavior of fluids entering the well. They are run with the well producing and may be repeated over a period of years to track changes in well behavior.

For BHP and partners Mobil and Inpex Alpha, the goal of the production logging program was to characterize the oil reservoir as completely as possible, and provide baseline measurements that would assist in later development of the field. Wells were drilled from the Sedco Forex semisubmersible *Sedco 708*. Production logging was performed with the aid of Dowell coiled tubing—a semirigid steel tube unreeled like a garden hose to push sensors to the depth of interest.

In one of the wells, BHP's detailed interpretation of 12 production logging measurements revealed which parts of the well produced oil, proved the success of the well design, and provided valuable information for reservoir management.

For BHP, an added value of the logging program was obtaining several measurements in one trip into the well. With rig time costing more than $150,000 per day, every minute counts. Making several measurements simultaneously with the PLT* Production Logging Tool and TDT* Thermal Decay Time tool meant less time logging and resulted in significant savings.

"We needed the highest quality information for the lowest cost," says Rick Aldred, the BHP petrophysicist overseeing the project. "Combinability of these tools gave us reliable, accurate measurements that we needed at the best price."



valuable tool for establishing flow, providing the deep penetration of a large-diameter gun, but in a slim package. The gun fits through tubing—a pipe in the well, like a straw, that carries hydrocarbons to the surface. The well can therefore be perforated without the expense of deploying a rig to remove tubing. Because the well is perforated with tubing in place, there is no need to kill the flow of hydrocarbons, which can permanently damage well productivity.

The RST and Pivot Gun services have contributed to the success of Production Enhancement Groups, a new service in the ClientLink* framework that helps customers improve production of existing wells. Production Enhancement Groups consist of specialists from Wireline & Testing and Dowell, working in hydrocarbon provinces worldwide. The team examines a customer's field to locate wells with potential for increased production and recommends a program to raise well productivity.

"Our revenue used to nearly parallel rig count," says Rod Nelson, an engineer who helped establish the first Production Enhancement Group in 1993. "Now with additional technologies, such as RST and Pivot Gun services, we provide a greater range of precision diagnostics for designing remedial treatments and cost-effective workovers. These technologies help our clients lower their overall cost, increase production, and boost our revenue, making it less dependent on the number of rigs."

"Creativity like this is key to increasing the profitability of production services," says Gould. "We grow not only by technical leadership, but by meeting customer's needs for efficiency."

Dowell

Roberto Monti
President

Roberto Monti

PREVIOUS JOB President, Wireline & Testing, Atlantic-Asia, Montrouge, France

FIRST JOB Wireline field engineer, Patagonia, Argentina

EDUCATION Electrical engineering degree, University of Buenos Aires

BORN Buenos Aires, Argentina, 1939

By simply going to the office, Engineer Lee Ramsey moves Dowell to the forefront of a new, more productive way of doing business.

A well treatment specialist with 20 years experience, Ramsey doesn't work at a Dowell facility. His desk, phone, and networked computer are in the office of his customer, Mobil Exploration & Producing U.S. in Midland, Texas. He works 10 steps away from his key client and one floor below the data archive. Arranging a brainstorming session takes nothing more than a stroll down the hall.

DOWELL AT A GLANCE

Fluids engineering and pumping services:

- **Cementing**
- **Drilling fluids**
- **Stimulation**
- **Sand control**
- **Coiled tubing**

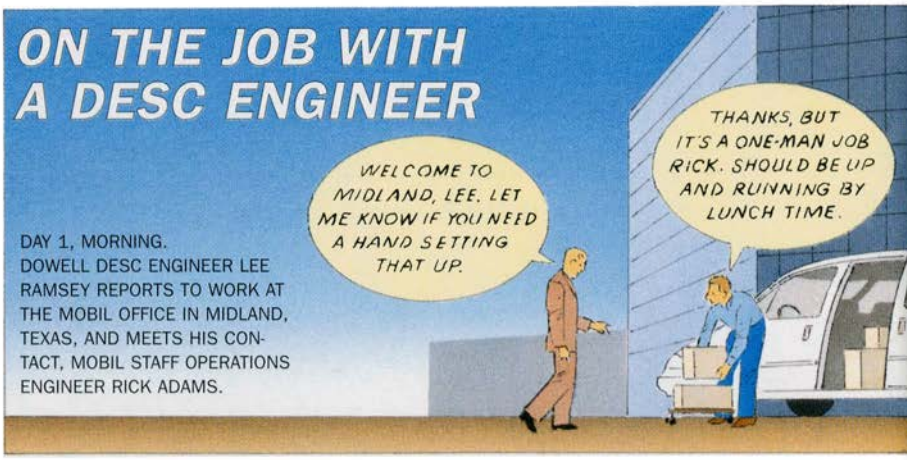
6400 people of 70 nationalities at 166 service centers in 67 countries

Lee Ramsey is one of more than 100 specially trained Dowell engineers providing DESC Design and Evaluation Services for Clients. Posted in oil and gas company offices worldwide, DESC engineers embody the ClientLink approach in its purest form, giving both parties higher profitability by lowering the total cost of supplying well treatment services. For customers, the DESC program provides a dedicated resource, additional technical knowledge, and a close relationship that results in greater productivity. For Dowell, the DESC program increases understanding of client needs, enhances logistics and two-way communication, and provides access to the expanding market for well treatment services that extend the life of producing fields.

(left) *Equipment Technician David Bartlett prepares Dowell pumping equipment to treat a well in Denver City, Texas.* (previous page) *Preparing for well treatment in Denver City, Texas. From left, Dowell DESC Engineer Lee Ramsey, Mobil Operations Engineer David Delao, Danny Kiser, consultant to Mobil, and Dowell Equipment Technician Nelson Shanklin.*

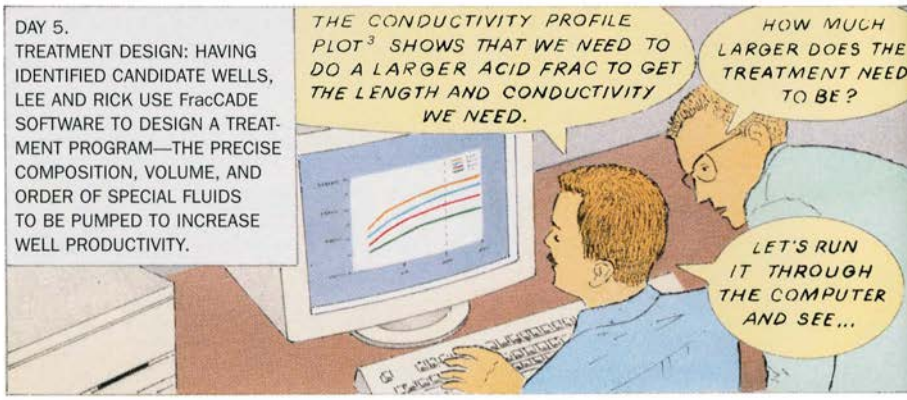
ON THE JOB WITH A DESC ENGINEER

DAY 1, MORNING.
DOWELL DESC ENGINEER LEE RAMSEY REPORTS TO WORK AT THE MOBIL OFFICE IN MIDLAND, TEXAS, AND MEETS HIS CONTACT, MOBIL STAFF OPERATIONS ENGINEER RICK ADAMS.



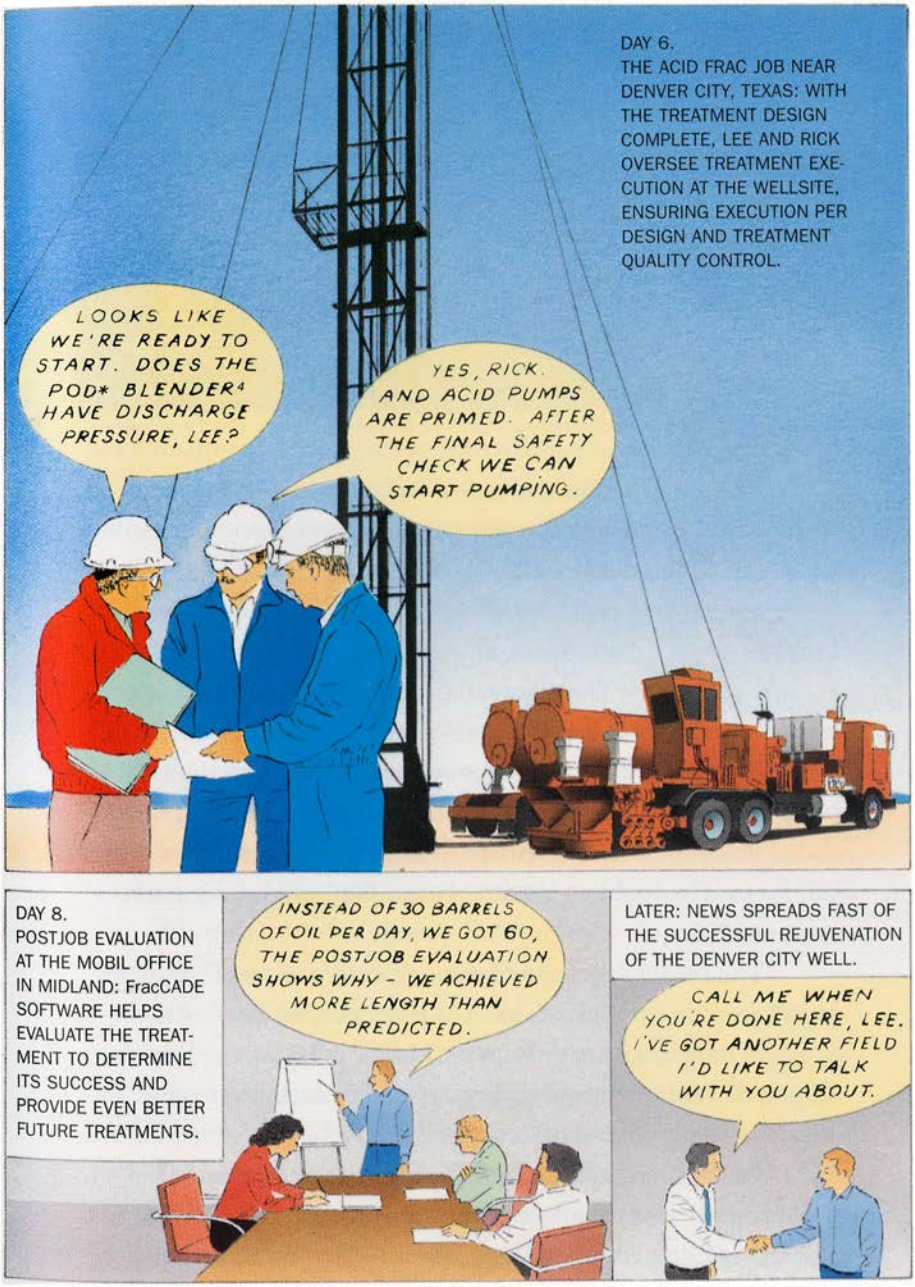
DAY 1, AFTERNOON.
CANDIDATE RECOGNITION: RICK, LEE AND MOBIL OPERATIONS ENGINEER DAVID DELAO REVIEW THE EXISTING STATUS OF THE FIELD. FracCADE* AND NODAL[1] SOFTWARE HELP FIND WELLS THAT ARE THE BEST CANDIDATES FOR TREATMENT TO BOOST PRODUCTION.

DAY 5.
TREATMENT DESIGN: HAVING IDENTIFIED CANDIDATE WELLS, LEE AND RICK USE FracCADE SOFTWARE TO DESIGN A TREATMENT PROGRAM—THE PRECISE COMPOSITION, VOLUME, AND ORDER OF SPECIAL FLUIDS TO BE PUMPED TO INCREASE WELL PRODUCTIVITY.



[1] *NODAL analysis determines whether a well is producing at or near its maximum potential. FracCADE is one of six Computer-Aided Design & Evaluation software packages that simulate well conditions and help evaluate treatment options.*

[2] *Acid frac: Creation of fractures in subsurface rock formations by injection of a dilute acid under pressure. The pressure opens existing fractures or creates new ones, and the acid etches the faces of the fractures, enhancing their ability to carry hydrocarbons into the well.*



[3]*Conductivity profile plot: A FracCADE output showing for a treatment plan how easily hydrocarbons will flow through various parts of an artificially produced fracture. The longer and more conductive the fracture, the more hydrocarbons it can carry toward the well.*

[4]*The POD Programmable Optimum Density blender provides precise control of the properties of fluids pumped into the well.*

Dowell coiled tubing equipment heads to a treatment job in Long Beach Harbor, California. Dowell is the leader in coiled tubing services.

The DESC program leverages Dowell's leadership in a wide range of fluids engineering and pumping services, including coiled tubing services, high-pressure pumping, and well stimulation. The program also advances growth of drilling fluids services.

In a relatively short time, the DESC program has made a big impact. This year in North America, where the service started in 1990, the DESC program contributed significantly to the 16% jump in revenue, despite only a 10% increase in drilling rigs and a 5% drop in workover rigs. Building on this success, plans call for nearly doubling the number of DESC engineers worldwide in 1995.

"The DESC program moves us toward a more efficient way of collaborating with customers to manage treatment of fields over the long term," says Roberto Monti, president of Dowell. "The goal is to grow by helping customers increase production while reducing cost—both ours and theirs."

The DESC engineer works closely with the customer to perform four tasks that are part of the Dowell overall Design-Execution-Evaluation* strategy. The first task is candidate

recognition. In this step, the engineer makes a rapid and accurate study of the customer's wells. Together with the customer, the engineer selects the best candidate wells for cost-effective remedial treatments that will boost hydrocarbon recovery.

Next comes treatment design. Using Dowell CADE Computer-Aided Design & Evaluation software, the DESC engineer and customer plan the optimum treatment. This involves selecting the type, volume, and sequence of fluids that Dowell will pump, and predicting the result of the treatment. The CADE programs provide seamless transition in the management of well treatments.

The Mobil/Dowell Enhanced Supplier Relationship Performance Improvement Team received the Mobil Corporation Chairman's Award in 1994. The team, operating in the ClientLink spirit, is helping to build "an organization committed to the relentless pursuit of cost reduction, productivity improvement, and breakthrough innovation," said W. S. Pointek, Mobil Executive Vice-President Americas, Exploration & Producing Division.

The third task is execution, in which the team goes to the wellsite to assure quality of the treatment. The fourth and final task is treatment evaluation. Results are compared with the predicted outcome to determine the effectiveness of the treatment and to learn ways of improving future treatments.

This process saves money for both the client and Dowell. For clients, a team devoted to meeting their needs means more cost-effective evaluation and treatment of wells. For Dowell, cost saving comes from being able to focus on delivery of the most efficient services. The logistics of setting up a job, for example, are easier to coordinate.

"In the past when the customer called, we might have had to bring in a pump truck from 500 miles away," says Ramsey, who works as a DESC engineer in the Mobil Oil/Dowell

Enhanced Supplier Relationship. "Now, because we work right next to the customer daily, we can plan further in advance to set logistics that best suit everyone."

"The DESC service has eliminated much wasted time and redundancy of effort," says Kevan Jenkins, drilling superintendent for Mobil's Southern Region Gas Asset Team. "It has reduced cycle time and made us more proactive in our efforts to cut costs and improve well productivity." Between 1993 and 1994, for example, the program helped the Mobil team reduce the cost of fracture treatments by 25% and raise average well productivity by 20 to 25%. Simultaneously, the program significantly boosted Dowell's business and therefore its profitability.

A less tangible but fundamental benefit of the DESC program is the dissolution of barriers between companies.

"The foremost benefit is improved communication with the supplier," says Rick Adams, Mobil's staff operations engineer for the Southern Region Gas Asset Team. "Our relationship has progressed to the point where we have a mutual sense of trust and have become partners in the design function. And it goes beyond the DESC engineer to personnel at the wellsite and in other support functions. At the end of the day, what matters is people, first and foremost."

Geco-Prakla

Claus Kampmann
President

Claus Kampmann

PREVIOUS JOB Vice-president personnel, Schlumberger Limited, New York

FIRST JOB Wireline field engineer, Ahwaz, Iran

EDUCATION Engineering degree, Ecole Centrale des Arts et Manufactures, Paris

BORN Copenhagen, Denmark, 1949


Schlumberger

The seismic industry has been characterized by repeated swings in activity levels, never-ending capital requirements to stay competitive, and an erosion of data acquisition and processing unit prices, especially in marine seismic. How can a seismic company create new opportunities in this tough market?

In 1994, Geco-Prakla addressed this challenge in two ways: by focusing on business basics to increase efficiency throughout the organization, and by continuing technical innovations that boost the value of seismic data and give long-term differentiation over competitors.

A focus on business basics was achieved by an aggressive and far-reaching Revenue, Quality and Cost (RQC) campaign, spearheaded by Claus Kampmann, president of Geco-Prakla. "In a nutshell, focusing on business essentials, with the involvement of the whole Geco-Prakla organization, is key to profitable seismic operations," says Kampmann. "During the second half of 1994, the RQC campaign contributed to major improvements in results."

GECO-PRAKLA AT A GLANCE

Seismic data acquisition, processing, and interpretation:

- **Marine**
- **Land and transition zone**
- **Seismic data processing and interpretation**

Also exploration services, primarily planning, acquisition, processing, and sales of non-exclusive seismic data

3550 people of 50 nationalities at 44 facilities in 22 countries

Key elements in maximizing revenue included aggressive introduction of new technology and better communications with customers. "By working closer with our clients, we improve our understanding of their needs, and we better communicate the

(left) *On board* Geco Diamond *in Galveston, Texas, Steinar Fjeldbo, foreground, and Barry Buhler load equipment for a three-month project in the Gulf of Mexico.*

(previous page) *New vibrators at work in a gas field in Oman. These 26-ton all-terrain vehicles have retractable baseplates that literally shake the earth, sending down acoustic pulses used in the search for hydrocarbons. A state-of-the-art transmission allows the vibrator to move quickly between sample points, increasing efficiency by reducing survey time.*

value-added technology we can provide," says Svein Kjellesvik, vice-president marketing and sales, and head of the Revenue Campaign. New technology released this year included the Digiseis-FLX (FLX for flexibility) acquisition system, designed for seismic surveys in areas overlapping land and sea, called the transition zone. The Digiseis-FLX system meets the technology needs of the transition zone, where demand for seismic surveys is on the rise. VIVID structural inversion services using massively parallel processing to help locate hydrocarbons in complex geologic settings, is another example of technology addressing a growing market need.

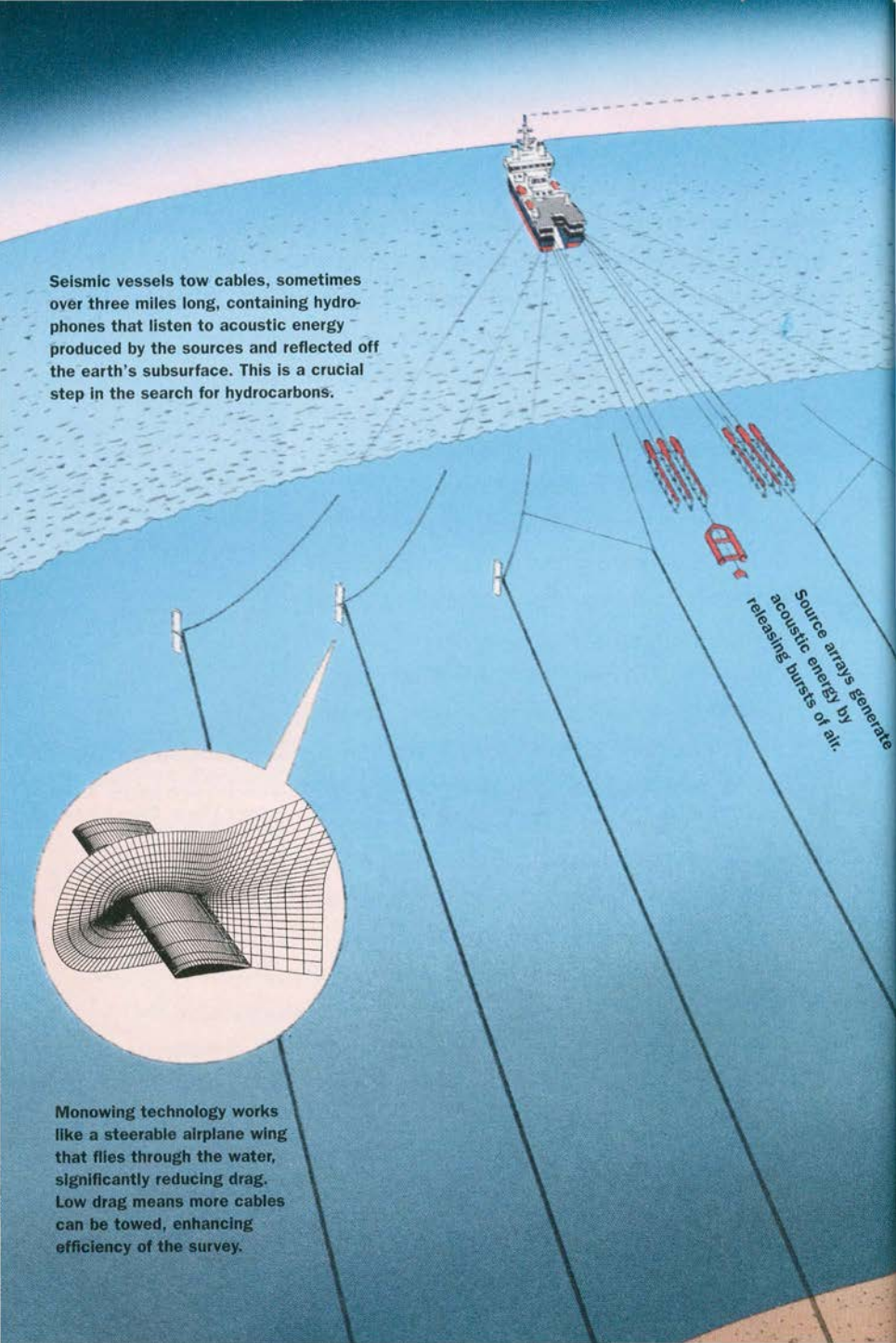
In 1994, Geco-Prakla reorganized from a geographically based to a product line organization. This move was a major contributor to the Cost Campaign. It allowed optimization of support organizations, closure of 17 facilities, and reduction in management layers and overhead. Cost saving also came from taking advantage of shared Schlumberger resources and the Schlumberger Information Network (SINet), a worldwide communications system. With SINet, 22 data processing facilities worldwide were linked to supercomputer capability concentrated at two Megacenters: Gatwick, England and Houston, Texas. This provided significant optimization of local resources and further reduced costs.

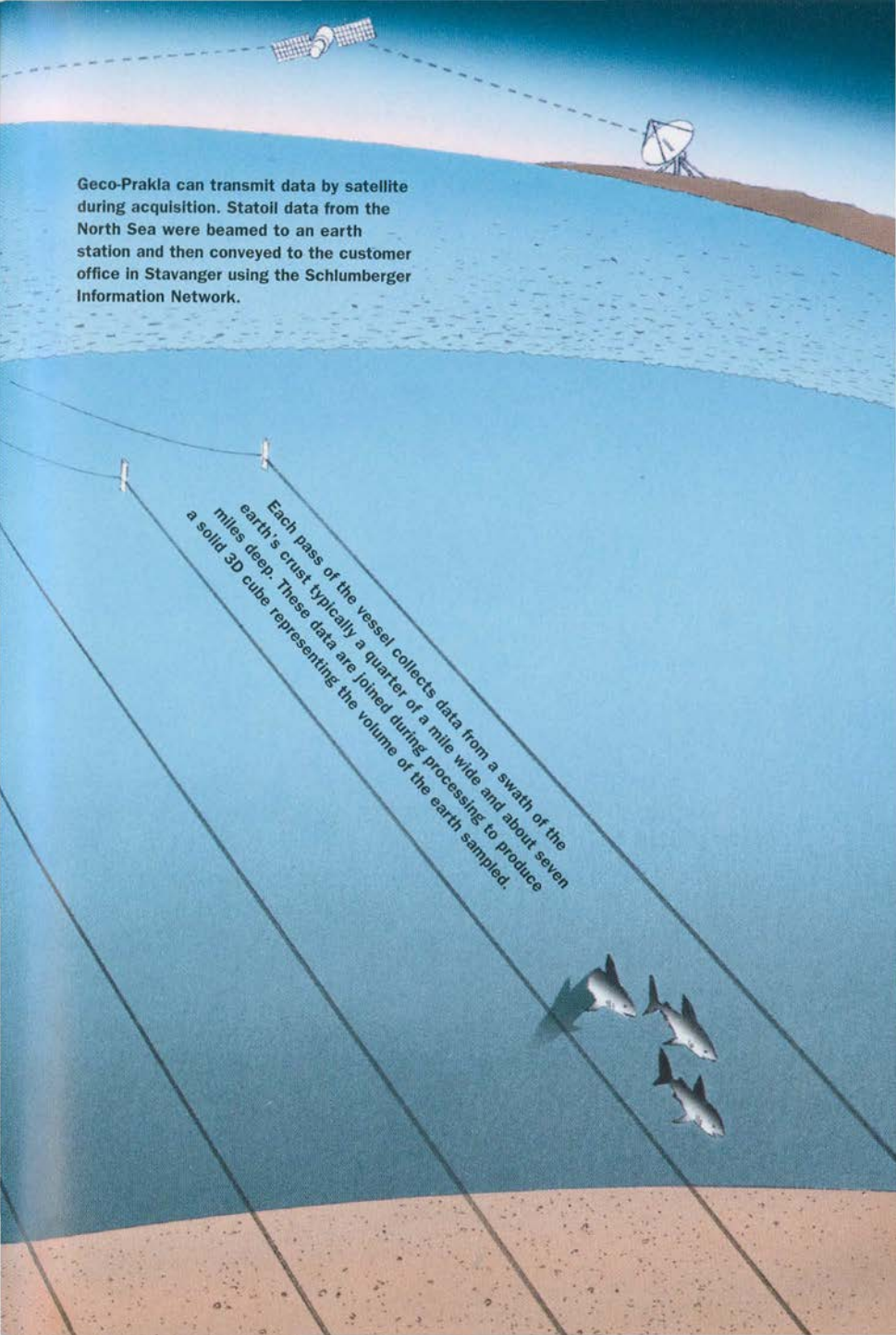
"Improving quality requires continuous review of the way things are done and how they can be improved by new technology, methodology, and training," says Philippe Régnault, director of quality, health, safety, and environment, and head of the Quality Campaign. In 1994, a major effort was undertaken to

improve seismic crew productivity in land and marine. In marine, the innovative Monowing technology boosted productivity and pioneered an unprecedented towing efficiency of the vast array of in-sea equipment used in marine surveys. This proprietary technology permitted the upgrading of several seismic vessels with very low capital expenditure. In land seismic, launch of the industry's first integrated land information management system, Olympus-IMS technology, supersedes many patchwork software packages. The Olympus-IMS system performs tasks faster, with greater flexibility, reliability, and accuracy, hence improving quality.

The Digiseis-FLX system assists with the search for hydrocarbons in nearshore Southern California. Data acquisition units connected to receivers pick up acoustic pulses and transmit them to a central computer. Use of radiotelemetry, instead of transmission by cable, allows quick and flexible deployment of receivers, reducing survey time and resulting in less disturbance to sensitive nearshore environments.

Geco-Prakla continues to invest in the future through research and by sustaining significant engineering efforts. The fruits of these undertakings include: marine acquisition systems providing new measurements that help improve models of oil and gas reservoirs and better predict the presence of hydrocarbons; a new generation land acquisition system that will improve efficiency and data quality; and new data processing technologies that help customers locate reserves in complex geologic settings. These investments assure a continued flow of technical innovations that increase the value of seismic data to customers and will provide technical differentiation for Geco-Prakla over the long term.


Seismic vessels tow cables, sometimes over three miles long, containing hydrophones that listen to acoustic energy produced by the sources and reflected off the earth's subsurface. This is a crucial step in the search for hydrocarbons.
Source arrays generate acoustic energy by releasing bursts of air.
Monowing technology works like a steerable airplane wing that flies through the water, significantly reducing drag. Low drag means more cables can be towed, enhancing efficiency of the survey.



Geco-Prakla can transmit data by satellite during acquisition. Statoil data from the North Sea were beamed to an earth station and then conveyed to the customer office in Stavanger using the Schlumberger Information Network.

Each pass of the vessel collects data from a swath of the earth's crust typically a quarter of a mile wide and about seven miles deep. These data are joined during processing to produce a solid 3D cube representing the volume of the earth sampled.

Geco-Prakla and the Concurrent Processing Revolution

The challenge of seismic data is managing its massive volume, squeezing the greatest value from that volume, and converting data into accurate, meaningful information as quickly as possible. "Speed is important," says Terje Flaten, a geophysicist with Statoil, the Norwegian national oil company, "because we need to cut the time between first money spent and first revenue."

As recently as 1992, a typical seismic survey took 52 weeks from the beginning of acquisition of seismic data to the first interpretation. Now, this time has been compressed to 10 weeks or less, thanks in part to data processing with the TRILOGY on-board data management system, the industry's only integrated system for data management. In the case of a North Sea survey for a group consisting of Mobil Exploration Norway Inc., Saga Petroleum a.s., and Statoil, that time shrank to only six and a half weeks.

Mobil, Saga, and Statoil wanted to see how fast high-quality data could be collected in Block 33/6, a 125-square-mile area in the Norwegian North Sea. The block is thought to be rich in oil, since adjacent reservoirs contain 700 to 900 million barrels of oil. The survey was conducted to prepare for development bids, which the Norwegian government has scheduled for 1995.

A major factor in reducing turnaround time is processing data on-board concurrently with acquisition. This eliminates time normally spent in manually transporting and loading data at an onshore center. With TRILOGY technology, Geco-Prakla geophysicists on board *Geco Gamma* started processing as soon as acquisition began.

As an added benefit, advanced on-board processing provided the customers significant savings by proving that data collected during rough weather passed quality checking. Without this on-board processing, data quality could not have been assured and data would had to have been collected again during calm weather, further delaying data delivery and increasing costs.

"We made *Geco Gamma* into a floating processing center networked to onshore facilities," says John Close, vice-president of data processing for Geco-Prakla. While new data were being gathered, analyzed data were beamed from the vessel by satellite to Geco-Prakla offices, where the Schlumberger Information Network completed the link to Statoil in Stavanger. There, geoscientists worked around the clock to check data quality and make critical decisions. The communications network enabled Statoil geophysicists to monitor data acquisition and processing from their office and send their decisions to Geco-Prakla geophysicists aboard the vessel.

"Thanks to good planning by Geco-Prakla, we didn't have one second of downtime on the computers or transmission lines," says Flaten. "Altogether, we learned what kind of technology and organization you need to get the job done. After all, we're in the business of exploiting data. Anything that slows us down is a waste of time and ultimately money."

Sedco Forex

Jean-Marie Brodin
President

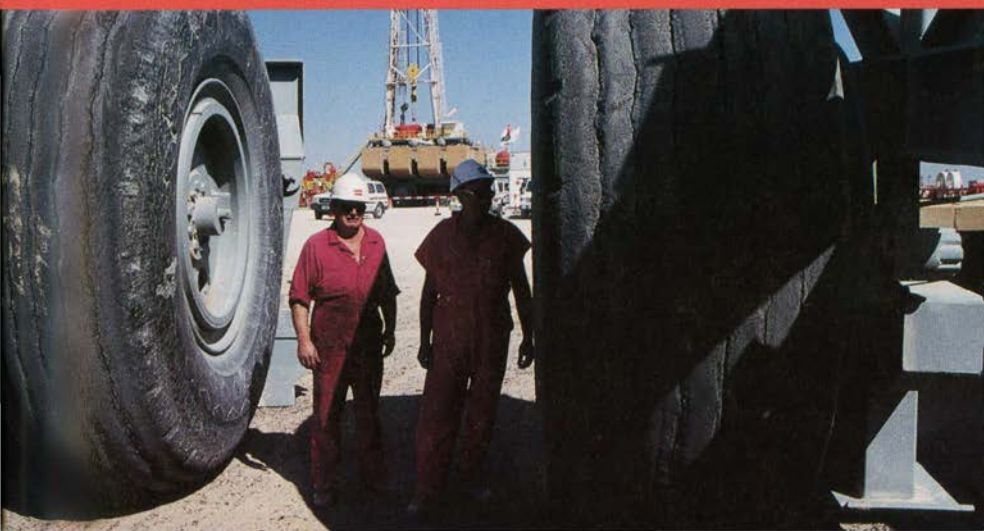
Jean-Marie Brodin

PREVIOUS JOB Vice-president and general manager, Water & Gas, Montrouge, France

FIRST JOB Personnel manager, Paris

EDUCATION MBA degree, Ecole Supérieure des Sciences Economique et Commerciales, Paris

BORN Paris, 1943



Sedco Forex, the largest drilling contractor and pioneer of cost-effective tender-assisted drilling, this year leveraged its position as the leader in global offshore drilling to boost its competitive advantage in growing markets for land drilling.

While maintaining expertise in the demanding offshore environment, the company is developing resources to tap expanding markets in land drilling, a highly diverse business with smaller margins and driven by intensely local needs. On land, providing high-value services therefore rests even more on the human element.

SEDCO FOREX AT A GLANCE

Offshore and land drilling with 74 rigs:

- **40 offshore**
- **34 land**

4900 people of 50 nationalities; 34 offices in 25 countries

"Profitable growth, especially in land drilling, requires superior knowledge of customer requirements," says Jean-Marie Brodin, head of Sedco Forex. "This knowledge comes from building good, local market intelligence."

Local intelligence will come from deepening the company's presence in areas with the highest potential for increased drilling demand. The cornerstone is a new management center in Dubai. The center is charged not only with securing customer relationships in expanding land markets in the Middle East, North Africa, and Pakistan, it will also liaise with other centers to help develop opportunities in land drilling. Another center for Latin and North America was established in Caracas, Venezuela.

(left) *Drillers work in a long twilight in Oman.*

(previous page) *Chief Mechanic Michel Péron, left, and Rig Superintendent Bernard Vergnaud dwarfed by wheels of a mobile rig in Oman. Fifteen-foot, low-pressure tires allow the rigs to safely and easily move to new drilling locations in about a half day.*

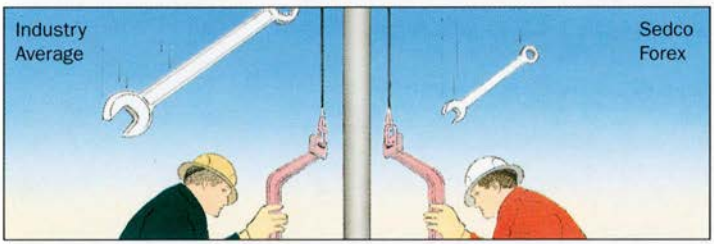
"The Dubai center will establish new rules of the game," Brodin says. The basic thrust is to draw on the company's global experience to develop local expertise worldwide.

The Dubai center functions as a technical and business hub, experimenting with new methodologies and making recommendations to other offices. Specialists there coordinate the rig fleet and select assignments, matching client needs with rig characteristics. They also assess new opportunities for drilling. Foremost, the center will eventually be staffed, from top to bottom, with local specialists.

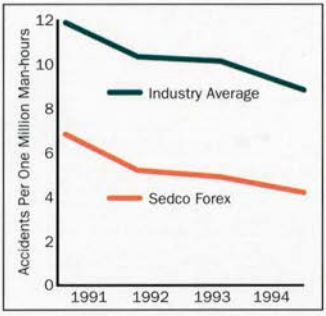
Adil Toubia heads the new land drilling management center in Dubai.

The strategy of developing local talent and market intelligence has four benefits. First, hiring locally improves understanding of client needs by enriching the company with people of the same background as their customers. Second, it opens access to a larger pool of expertise. Third, it builds motivation by promoting based on merit, irrespective of cultural origin. And fourth, it makes for deeply rooted relationships in countries where Sedco Forex works.

"In land drilling, success in growth markets means speaking the local language and mastering the subtleties of custom and culture," Brodin says. "You can do this only by fully integrating into the culture." The Dubai center, for example, draws on the company's global experience and integrates people from the countries served—and not just on the rig floor, but vertically throughout the regional organization. It is headed by Adil



Safety training keeps the Sedco Forex injury rate below the industry average. Every technical employee receives 50 hours of training per year, a large component of which covers health, safety, and protection of the environment (HSE). "Training is the key to maintaining leadership in technically challenging areas," says Don Munro, director of quality and HSE. "Our excellence in performance is linked with excellence in quality and HSE—you can't have one without the other."



Toubia, who speaks Arabic, English, Norwegian, and German.

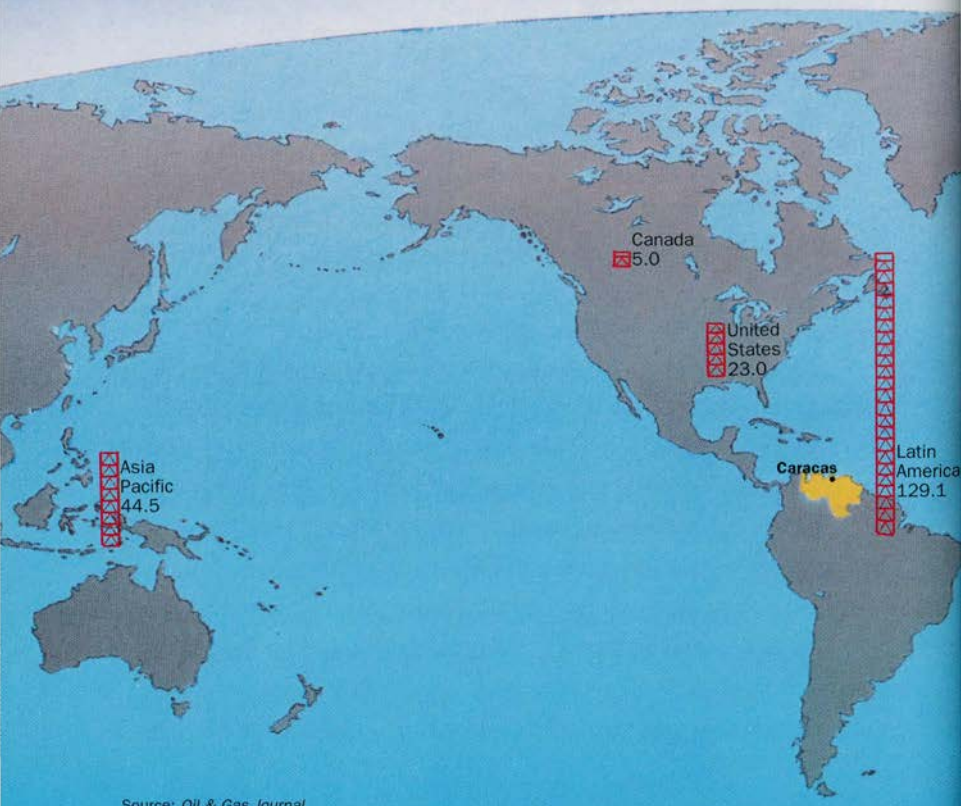
The Caracas and Dubai centers occupy the same sites as other Schlumberger oilfield companies. This colocation speeds the integration of Sedco Forex into expanding markets by drawing on the local expertise of established Schlumberger companies.

Cross-pollination between OILFIELD SERVICES companies has already begun to pay off, mainly through the ClientLink integrated services initiative. In Oman this year, integrated services by Sedco Forex, Dowell, and Anadrill helped a customer successfully drill difficult sidetracks—new horizontal wells that extend from existing vertical boreholes. The sidetracks doubled

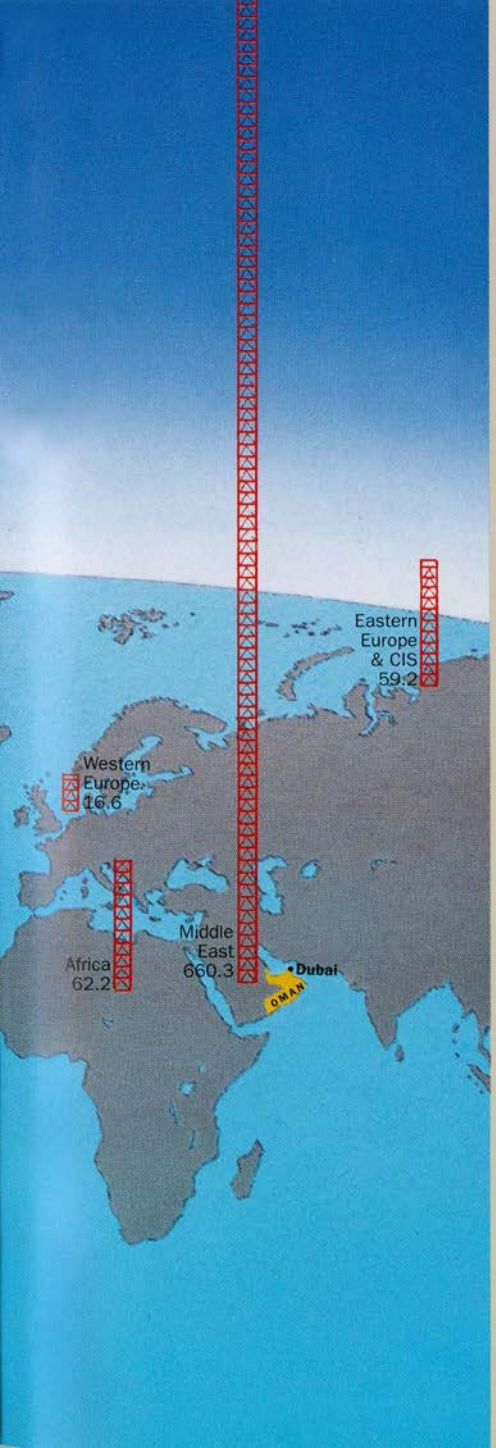
Worldwide Crude Oil Reserves, 1994

(billions of barrels)

The Middle East and Latin America together contain more than 75% of worldwide oil reserves. As global energy consumption continues its gradual climb, Sedco Forex is preparing for expanded drilling in these regions by the establishment this year of management centers in Dubai and Caracas.



Source: *Oil & Gas Journal*



Growing a Business in Oman

Land drilling in Oman is typically competitive and, for the Middle East, atypically challenging. The geology is complex, wells are deep and hot, and hydrocarbon recovery per well is lower than usually encountered in the Middle East. Efficient production and cost-effective operations therefore rely on an integrated approach to horizontal drilling.

The largest operator in the country is Petroleum Development Oman (PDO), a consortium of the Oman Government, Shell, Partex, and Total. As part of a technology trial program, PDO used services from four Schlumberger companies—Sedco Forex, Dowell, Anadrill, and Wireline & Testing—with the ultimate goal of boosting recovery. Coiled tubing was used to drill horizontal wells from the side of existing vertical wells. This approach, and improved efficiencies of rig logistics, is aimed at ultimately cutting drilling time from 15 to 10 days, and reducing cost by more than 30%.

"Technology is a key lever for reducing cost," says Brian Straub, PDO drilling manager. "Efficient horizontal drilling is the way of the future." Last year, 43% of PDO wells were horizontal; in 1994, the number rose to 71%.

"We've established our ability to provide superior technology, safety, and rig efficiency," says Adil Toubia, head of Sedco Forex in Dubai. "A key to growth is working closer with customers like PDO. This will enable us to anticipate their needs and provide our local expertise with the right rig in the right place at the right time."

or tripled well productivity for significantly less cost than starting new wells from the surface. Sedco Forex supplied the rigs and a team of drillers knowledgeable about Oman, Dowell provided coiled tubing expertise, and Anadrill furnished directional drilling specialists and technology.

"Opportunities like this in land drilling are increasing," says Brodin, "but only for those who are in the business for the long term, who contribute to the local economy, and who are prepared, as we are, to invest their experience and technology as well as their dollars."

Anadrill

Tom Bates
President

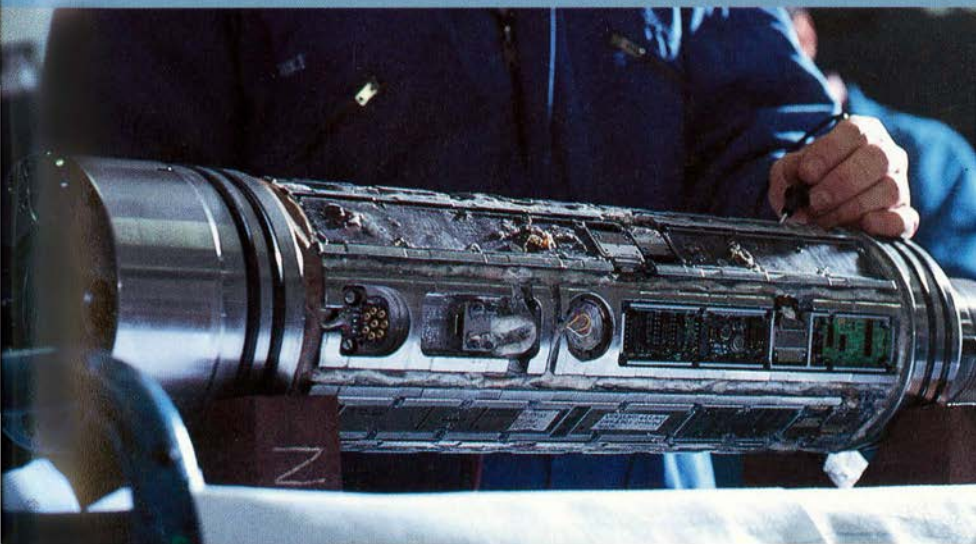
Tom Bates

PREVIOUS JOB Vice-president and general manager, Asia & Middle East, Sedco Forex, Singapore

FIRST JOB Drilling research, Houston

EDUCATION PhD, MSE, and BSE degrees in mechanical engineering, University of Michigan

BORN Detroit, Michigan, 1949



Low oil and gas prices are driving energy companies to find ways to produce more hydrocarbons for less money. Since drilling is the largest expense in field development, efficiencies in drilling can provide substantial value.

"More oil for fewer drilling dollars," says Tom Bates, Anadrill president, "requires technology that allows you to thread the needle—to precisely place a horizontal borehole, miles long, within a few yards of a target. This is what we're helping energy companies achieve in their battle to reduce field development costs."

Tom Bates heads the fastest growing division of OILFIELD SERVICES, with revenue up 25% from 1993. Driving this increase is a focus on directional drilling, coupled with technical innovations that are changing how energy companies realize the full potential of oil and gas reservoirs, and an ongoing campaign that boosts operational efficiency.

ANADRILL AT A GLANCE

Real-time drilling services:

- **Directional drilling**
- **Measurements-while-drilling**
- **Logging while drilling**

Also fishing services, mud logging services, and drilling tool rentals

1950 people of 51 nationalities at 88 locations in 48 countries

Anadrill's expertise addresses two changes in how energy companies drill for hydrocarbons. First, oil and gas increasingly come from wells that pierce the reservoir horizontally. These wells drain longer segments of a reservoir than vertical wells, thereby dramatically increasing production cost efficiency.

Second, energy companies increasingly use extended-reach

(left) *The drilling rig at Wytch Farm, visible at top center, makes a minimal impact on the surrounding natural area on the south coast of England.*

(previous page) *The GeoSteering tool, an instrumented steerable motor, undergoing a prejob checkup at the Anadrill shop in Aberdeen, Scotland. GeoSteering measurements are made immediately behind the bit, allowing for rapid correction to the direction of the well path.*

wells—wells that slant at a steep angle and traverse the subsurface for miles before reaching the reservoir target. Offshore, this technique allows a reservoir to be tapped from fewer platforms, dramatically reducing field development cost. The technique is allowing BP Exploration and partners to develop a nearshore field from the coastline using a land rig, reducing costs and minimizing environmental impact.

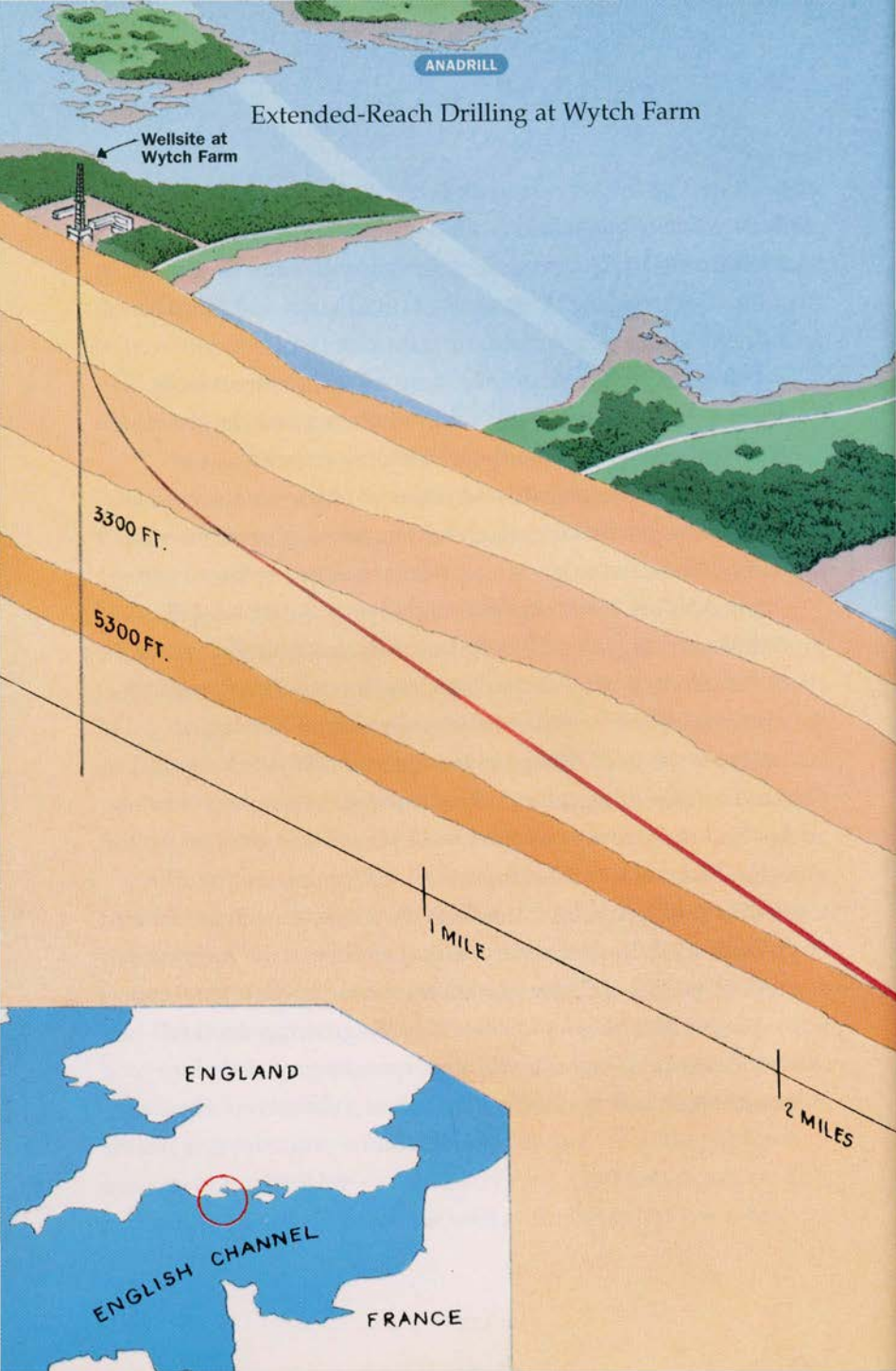
These drilling revolutions are fueled by two technologies, which are combined in Anadrill's IDEAL Integrated Drilling Evaluation and Logging system. In one technology, advanced sensors are engineered into the drill string near the drill bit, providing measurements-while-drilling (MWD) and logging while drilling (LWD) data in real time. The data reveal the precise trajectory of the well and the nature of the rock formations being drilled. They also enhance the safety and efficiency of the drilling process. This wealth of information allows energy companies to make crucial decisions as drilling progresses. Anadrill has established worldwide leadership in this market.

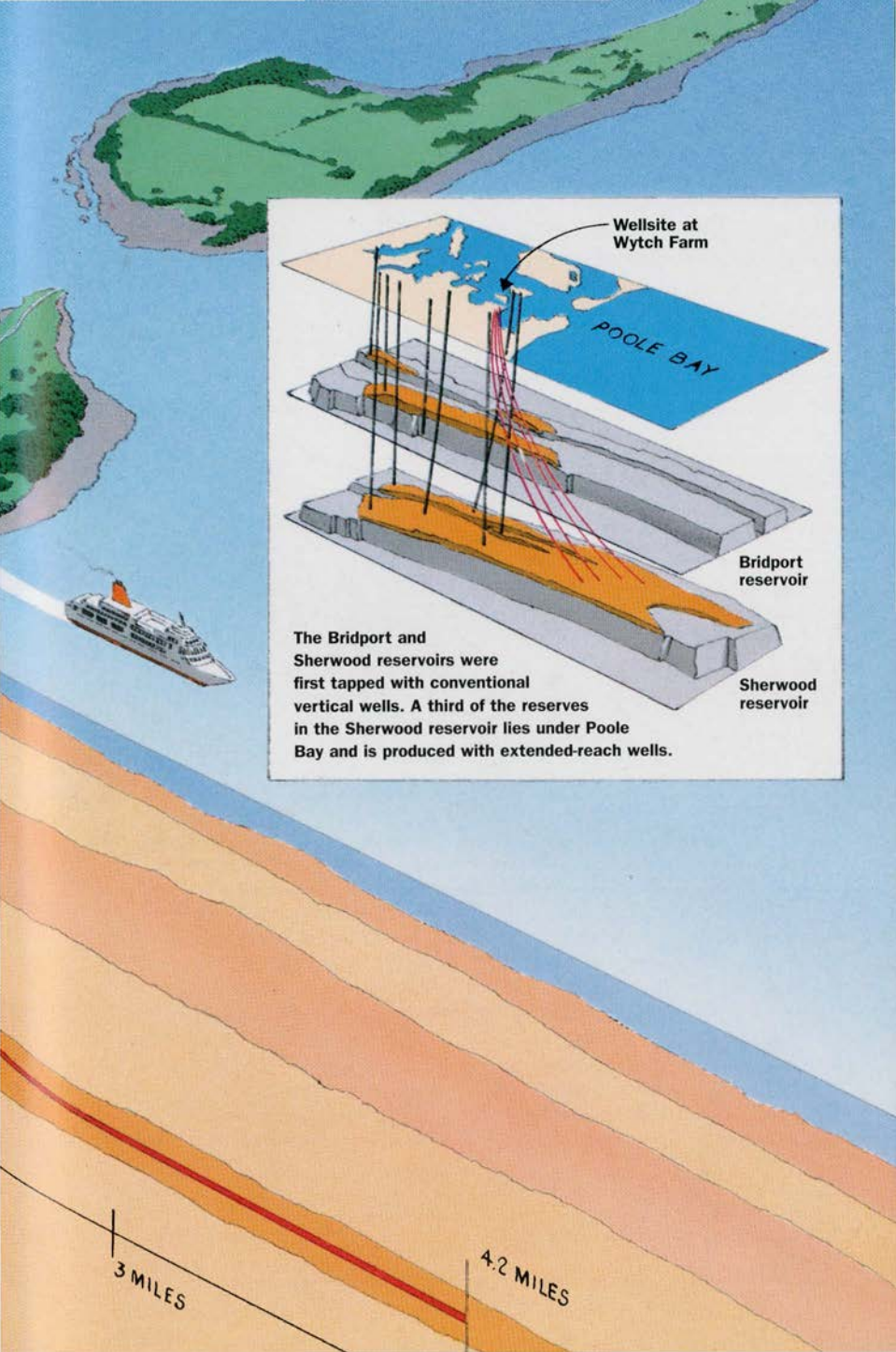
The other technology is advanced directional drilling, with revenue approaching that of MWD/LWD services. Special downhole equipment is used to guide the borehole along a precise path for thousands of feet. With its PowerPak drilling motor and GeoSteering technology, Anadrill has nearly tripled its activity in this market since 1992. The PowerPak motor sets new standards in reliability under tough drilling conditions of heat, shock, and pressure, while the GeoSteering technology places sensors at the drill bit—an industry first that enables rapid corrections to the direction of the well path. Both the PowerPak

motor and Slim1 MWD system have advanced the company's lead in cost-sensitive markets. "Integrating MWD/LWD services with directional drilling creates a service with benefits greater than those of its parts," Bates says. "It ultimately adds up to fewer dry holes and faster, safer drilling."

During a project, Anadrill teams remain at the wellsite 24 hours a day, 7 days a week, and sometimes months at a time until the well has been completed. This presence enhances teamwork between Anadrill and its client. Anadrill also provides customers with complete well engineering services—the know-how required to design and drill complex wells.

Anadrill has three essential ingredients for sustaining profitable growth: a team of professionals committed to meet client needs, innovative technology, and an expanding market. Anadrill's teamwork with clients has produced a string of successful wells in challenging settings, from Wytch Farm in England to Lake Maracaibo, where Anadrill engineered Venezuela's first successful horizontal well. Meanwhile, the company's Houston-based team of 160 scientists and engineers provides a fresh stream of technological advances, pushing back the limits of drillable hydrocarbon reserves, and adding to the increasing number of extended-reach and horizontal wells. This combination—people and technology to address a growing demand—secures Anadrill's leadership in the expanding markets for extended-reach and horizontal drilling.

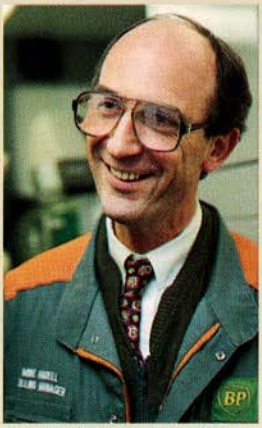

ANADRILL
Extended-Reach Drilling at Wytch Farm
Wellsite at Wytch Farm
3300 FT.
5300 FT.
1 MILE
2 MILES
ENGLAND
ENGLISH CHANNEL
FRANCE



The Bridport and Sherwood reservoirs were first tapped with conventional vertical wells. A third of the reserves in the Sherwood reservoir lies under Poole Bay and is produced with extended-reach wells.

Extended-Reach Drilling at Wytch Farm

In a National Heritage coastline area in the south of England, BP Exploration has contracted with Anadrill to drill some of the world's longest extended reach wells into an offshore oil reservoir. To develop the Wytch Farm reservoir, BP chose innovative extended-reach drilling rather than the approach of building an artificial island from which to drill. The results of this decision are impressive: no expensive offshore production facilities, well-concealed onshore facilities that lie adjacent to sites of special ecological value and adhere to strict environmental guidelines, a project cost estimated at $150 million less than a conventional offshore development, and production of oil three years sooner.



Mike Hazell of BP leads the drilling program at Wytch Farm in England.

The most productive part of the Wytch Farm reservoir lies more than one mile offshore under Poole Bay. The entire field contains an estimated 300 million barrels of oil and produces about 90,000 barrels a day, the most prolific onshore development in Europe. BP is developing the field with extended-reach wells, the most recent of which is a record-setting 4.7 miles long.

The wells begin on land and have to be carefully steered to avoid crossing other existing wells. They head offshore at more than 80° from vertical, then flatten to horizontal, passing through the reservoir for nearly a mile while staying within a 13-foot vertical window to maintain adequate distance from the water table.

Drilling and completing these technically sophisticated wells required close, daily collaboration among a team of specialists from BP, Anadrill, and several other service contractors. Anadrill's contribution has been in well trajectory design and providing MWD/LWD and directional drilling services, including the PowerPak and GeoSteering technologies.

"The most important factors have been teamwork, good communication, and advanced technologies," says Mike Hazell, BP's drilling manager at Wytch Farm. "The GeoSteering system, for example, has made a huge difference." Its inclination measurement at the drill bit permits rapid course corrections that keep the well within the required 13-foot depth window.

The offshore section of the Wytch Farm development represents new and exciting territory, where Anadrill is providing the means to produce previously unreachable reserves from an onshore drilling location. With the Wytch Farm success, BP is looking forward to pushing the envelope further, planning even longer extended-reach wells.

GeoQuest

Rex Ross
President

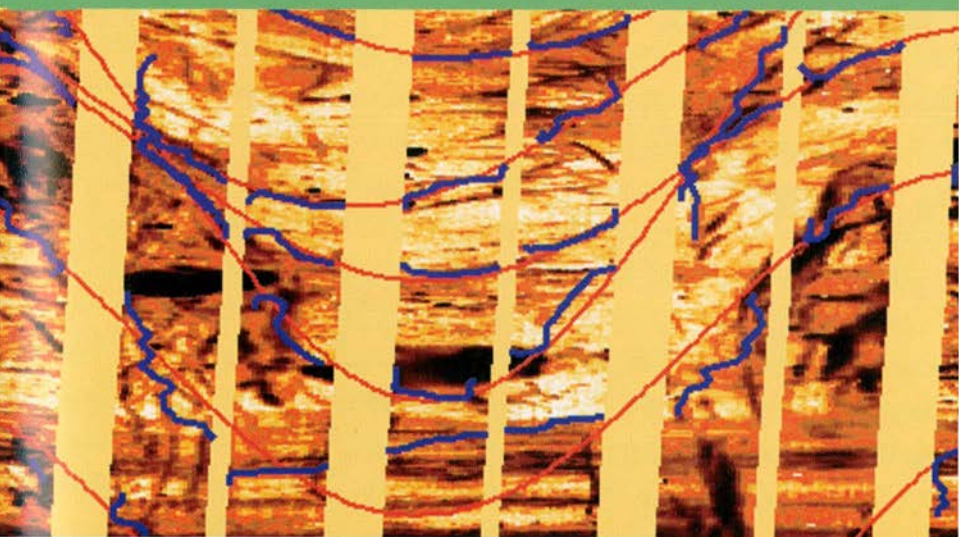
Rex Ross

PREVIOUS JOB President of GeoQuest Systems, Inc., Houston

FIRST JOB Design and development of modeling and business analysis software, Houston

EDUCATION MS degree in computer science/business administration, Stanford University, California; BS degree in electrical engineering, Massachusetts Institute of Technology

BORN Galveston, Texas, 1943



"In the ten years since their introduction, geoscience workstations have dramatically changed the exploration and production business," says Rex Ross, president of GeoQuest, Schlumberger's software products and computing services company. "With the technology and efficiency advantages provided by workstations, our customers are at the point where they wouldn't consider working without them."

GEOQUEST AT A GLANCE

Integrated technology for hydrocarbon exploration and production:

- **Software products**
- **Data services**
- **Information technology services**

1200 people of 64 nationalities in 70 Data Service and Software Support centers in 50 countries

Desktop computing has transformed how geoscientists find and produce hydrocarbons. Starting in the mid-1980s, geoscientists began shifting most of their work from mainframe computers and paper documents to desktop computer software that allows rapid, interactive analysis and viewing of data and interpretations. The microchip revolution—ever-faster integrated circuits at ever-lower prices—is the enabling technology that meets the demand for more powerful workstation software. Capitalizing on this technology shift is GeoQuest, the newest Schlumberger oilfield services company. GeoQuest has become the leader in software sales and data services that help customers make crucial decisions with greater efficiency and accuracy.

GeoQuest software allows geoscientists to display and interpret measurements of the earth's subsurface, giving a clear

(left) *Hard copy libraries of exploration and production data, sometimes dating back 100 years, are being replaced with computer systems. Moving data to GeoFrame* applications boosts exploration and production efficiency by providing rapid access to data and flexibility in processing and interpretation.*

(previous page) *Images of geologic layers in a wellbore, from the FMI* Fullbore Formation MicroImager, can be interactively interpreted in the GeoFrame BorView* module.*

picture of where hydrocarbons might be and how they may be best extracted. The user can easily apply knowledge of the reservoir to test many what-if scenarios, thereby refining the interpretation and reducing the chance of error. GeoQuest software is used both by customers in their offices as well as by the GeoQuest Data Services group—65 Data Services Centers and 35 Dedicated Client Centers in 50 countries.

Today, as energy companies look for ways to boost efficiency, they are reaching outward to suppliers for computer software and data services. This switch to "buy not build" technology is changing the landscape of the energy business, contributing this year to GeoQuest's 25% increase in software revenue. By combining the strengths of the software and data services businesses, the company is positioned for further expansion.

The centerpiece for continued growth is the GeoFrame reservoir characterization system. This suite of exploration and production software products, the first components of which were released in 1993, addresses the needs of diverse geoscience disciplines. The GeoFrame system is the architecture that will guide GeoQuest software development. When fully implemented, the GeoFrame system will allow users to easily share and analyze data in a fully integrated fashion. This will enable them to reach more accurate well placement decisions in less time. As today's customers seek to reduce turn-around time in exploration and development, and maximize well productivity, GeoFrame tools will make an increasing contribution to swift and accurate decision making.

Growth of the GeoFrame system over the next few years pivots on more software products with more functions, more

speed and greater ease of use. Today, the GeoFrame system consists of four software product families. By 1996, it will expand to seven, becoming an unrivaled tool for analyzing and visualizing the intricacies of hydrocarbon reservoirs. Wider usage of GeoFrame products is expected to come from both deeper penetration into existing markets and expansion to new users.

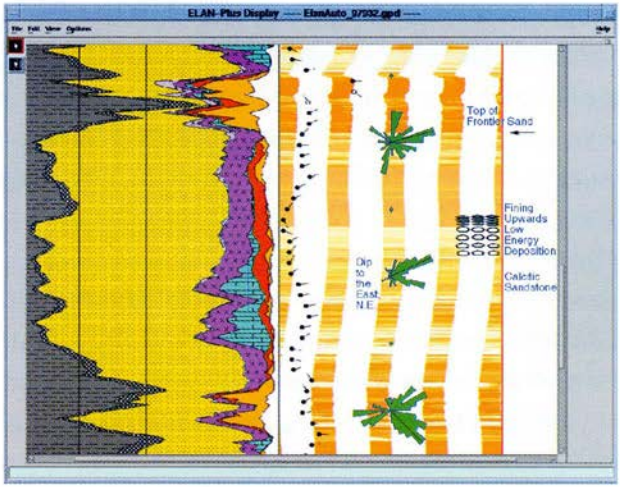
"Our strength," says Ross, "is that GeoQuest products are the point of convergence for integrating all oilfield measurements. In building and supporting our products, we can draw on talent from any exploration and production discipline, all of which are represented in the Schlumberger family. None of our competition can tap as rich a reserve of knowledge."

Another vehicle for GeoQuest's growth is an organizational structure that is highly sensitive and responsive to customers' near- and long-term needs. Various teams within the company—research, engineering, and marketing—are managed to create a high level of flexibility and foresight. This ensures that software development anticipates rapidly changing customer demands.

This flexibility also applies to the Data Services business. The traditional source of revenue—processing and interpretation of well data and measurements—is closely related to the number of drilling rigs. By shifting its resources, however, Data Services is accelerating growth in four new markets that are less sensitive to the number of drilling rigs: data needs associated with rigless work, enhanced reprocessing of old data to extract new answers, data processing outsourced by customers, and integrated field studies.

As a complement to its existing product lines, GeoQuest has created a new business segment known as Information Technology (IT) Services. Thus, with its unsurpassed expertise in geoscience applications, data management, and computing technology, GeoQuest is ideally positioned to handle the increasing data management and IT services needs of the industry.

"The creation of GeoQuest within Schlumberger," Ross says, "has advanced a software culture with a visionary entrepreneurial spirit, and a global reach in diverse and leading-edge oilfield services. It's a powerful formula for profit and growth."



GeoFrame borehole geology applications identify significant geologic features that can point the way to hydrocarbon deposits. This dipmeter and image processing program includes capabilities for processing and interpreting images of the earth made from borehole measurements. Schlumberger and AGIP are collaborating on a further enhancement of a dipmeter program (see *"Increasing the Value of Dipmeter Data,"* page 84).

What is the GeoFrame System?

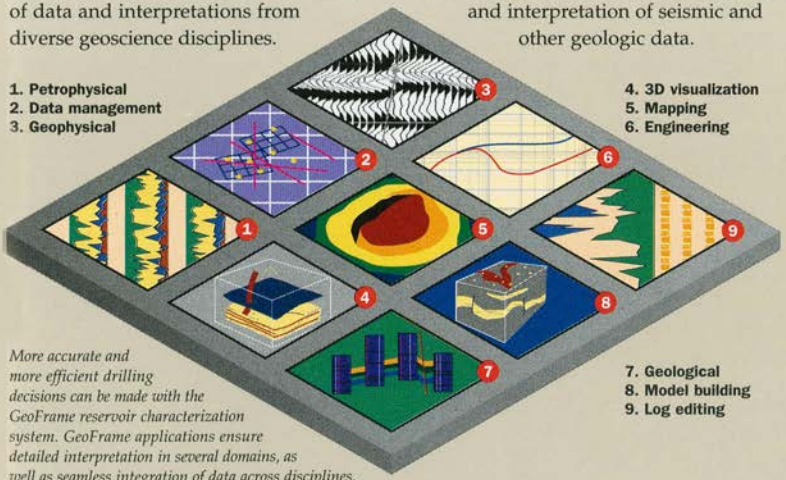
The exploration geoscientist focuses on answering two questions: Where to drill next and how to optimally drain the reservoir? These questions are addressed by manipulating and interpreting measurements on a workstation, testing ideas of how and where hydrocarbons might be trapped. The geoscientist uses various software tools to create a 3D picture of the earth's subsurface, and map the exact shape and location of hydrocarbon deposits.

Traditionally, the geophysicist worked with one set of software, the geologist with another, the reservoir engineer with a third. Often, data and interpretations resided only on paper, not in computerized form. Integrating ideas and insights was difficult.

This problem is solved by the GeoFrame system. For geoscientists to quickly and thoroughly consider as many scenarios as possible, they need software that enables interactive sharing of data and interpretations from diverse geoscience disciplines.

The GeoFrame system is a computing architecture and environment: a software structure that allows diverse software applications to operate and easily communicate with each other to address a full range of exploration and reservoir development needs of oil companies.

Today, four families of GeoFrame software products allow geoscientists to easily share information about several properties of subsurface rocks: the shape of rock bodies, their mineral composition, how fluids behave in porous rock, and the extent and shape of hydrocarbon deposits. GeoFrame data management software helps organize voluminous geoscience data bases for efficient use. This is no small task, since these data bases can contain more than one trillion bytes of data—equivalent to a stack of encyclopedias more than nine miles high. By the end of next year, three additional GeoFrame software families will be added for mapping and interpretation of seismic and other geologic data.



More accurate and more efficient drilling decisions can be made with the GeoFrame reservoir characterization system. GeoFrame applications ensure detailed interpretation in several domains, as well as seamless integration of data across disciplines.

Increasing the Value of Dipmeter Data

In its drive for higher efficiency, the Italian oil company AGIP decided to streamline handling of a special kind of geologic information called dipmeter logs. As one of the leading international oil companies, AGIP has thousands of dipmeter logs from wells worldwide, and acquires more than 200 new dipmeter logs each year. These logs provide information about the earth's subsurface that helps determine the likelihood and location of hydrocarbons.

At AGIP, a full, integrated interpretation of dipmeter logs required various software programs running on different platforms, and was performed partially by hand. AGIP needed software that would allow easy and standardized interpretation of dipmeter data. This would increase the value of dipmeter logs by allowing integration with other kinds of data. "We realized that the oil industry was not making the best use of increasingly complex new data and of huge investments in a large archive of logs," says Franco Frigoli, AGIP vice-president of Subsurface Geology. "In our pursuit of technical excellence, we sought an innovative way of working."

To design and develop software to meet these requirements, AGIP investigated an alliance with a service company and selected Schlumberger. Through a ClientLink joint R&D initiative, a team of five AGIP and five Schlumberger specialists is integrating geologic concepts in the development of new software on the GeoFrame platform. The platform will simplify the merging of dipmeter with other kinds of data.

The program, due for completion in 1995, is designed to improve analysis of subsurface data and correlation with other information, such as seismic. It will also allow more efficient quality control of dipmeter information by automating certain steps now done manually.

"Thanks to the new program," Frigoli says, "We will not only make an important step in improving interpretation of dipmeter logs, but also transfer to all AGIP branches the know-how that today is confined to a few specialists at headquarters."

Piero Balossino, left, of the Italian energy company AGIP with Hervé Anxionnaz of Schlumberger at Piazza del Duomo in Milan, Italy. Balossino and Anxionnaz jointly lead the AGIP/Schlumberger alliance developing a new GeoFrame software package for integrated analysis of hydrocarbon reservoirs. "The alliance reduces development costs for both parties," says Balossino, "and results in the best possible software product."

Electricity Management

Gérard Léger
Vice-President and General Manager

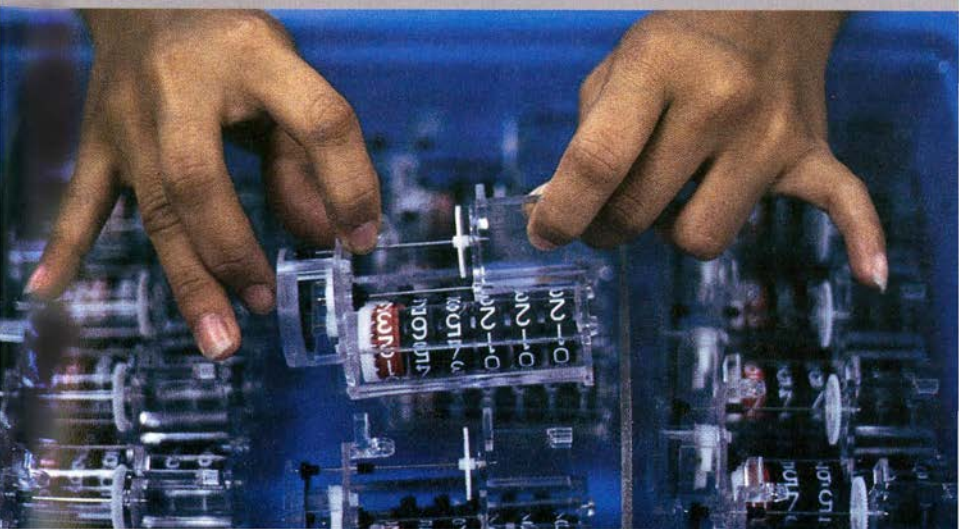
Gérard Léger

PREVIOUS JOB Vice-president and general manager, Water Group, Montrouge, France

FIRST JOB Wireline field engineer, offshore Thailand

EDUCATION Engineering degree in physics, Institut National des Sciences Appliquées de Lyon, France

BORN Malissard, France, 1948



Electricity consumption in Asia is on the rise. From 1986 to 1990, consumption increased more than 30% in Indonesia, Malaysia, Thailand, and Vietnam. This growth is projected to continue through the 1990s.

Asia's heady juxtaposition of ancient traditions and gleaming new cities floods the streets with a palpable energy. Bustling crowds, where rusty bicycles weave among crisp pinstripes, leave an overwhelming impression: Asia is on the move, bursting at the seams. The enviable problem is not how to propagate growth, but how to control it. This is why Electricity Management is providing metering systems and services to electric utilities and their customers.

ELECTRICITY MANAGEMENT AT A GLANCE

Systems for management of electricity usage:

- **Residential metering and energy management systems**
- **End-user and vendor-side prepayment systems**
- **Industrial transmission and distribution measurement and control products and services**
- **Local and remote automatic meter reading and load management systems**

8000 people of 35 nationalities at 48 facilities in 30 countries

Any long-term economic development demands a solid infrastructure—from railroads to runways, escalators to refrigerators—all dependent on the uninterrupted flow of electricity. This is particularly true of Asia, where gross domestic product increases at more than 6% per year, about twice that of the US. Safe, effective electricity management is integral to regional plans for modernization. As the only electricity management company focused expressly on electricity metering technology and expertise, Electricity Management is uniquely positioned to help direct this explosive growth. It brings to the local market a coherent global vision, garnered from more than a century of experience in more than 100 countries.

In Indonesia, for example, the numbers are staggering. Following recent industrialization and the government's push

(page 85) *Schlumberger electricity meters produced at P.T. Mecoindo in Jakarta, Indonesia. In 1995, with the opening of a new factory in Indonesia, Schlumberger will have the capacity to produce 1 million meters customized for installation in 10 countries in Asia.*

to broaden electricity access for the country's 193 million residents, more than 2 million new electricity consumers are added each year. The number of meters increases 13% per year, and consumption is projected to grow 15% each year for the next 5 years. By helping to manage the principal components of a utility's business—revenue, through better cash flow; resources, through better energy management; and utility-client relationships, through improved end-user services—Electricity Management helps ease the pressures of rapid modernization.

"We do not build factories in a country to realize short-term gains," says Gérard Léger, head of Electricity Management. "We are resident there with reciprocal responsibility for the construction of the local infrastructure, as supplier, as employer, as end user." In Indonesia, for example, Electricity Management has 500 people working at its Mecoindo factory, only 4 of which are not Indonesian. "Obviously, we have something at stake," Léger says. "And certainly, because we are creating strong partnerships during this buildup, we believe we will be an integral player when the market is fully developed."

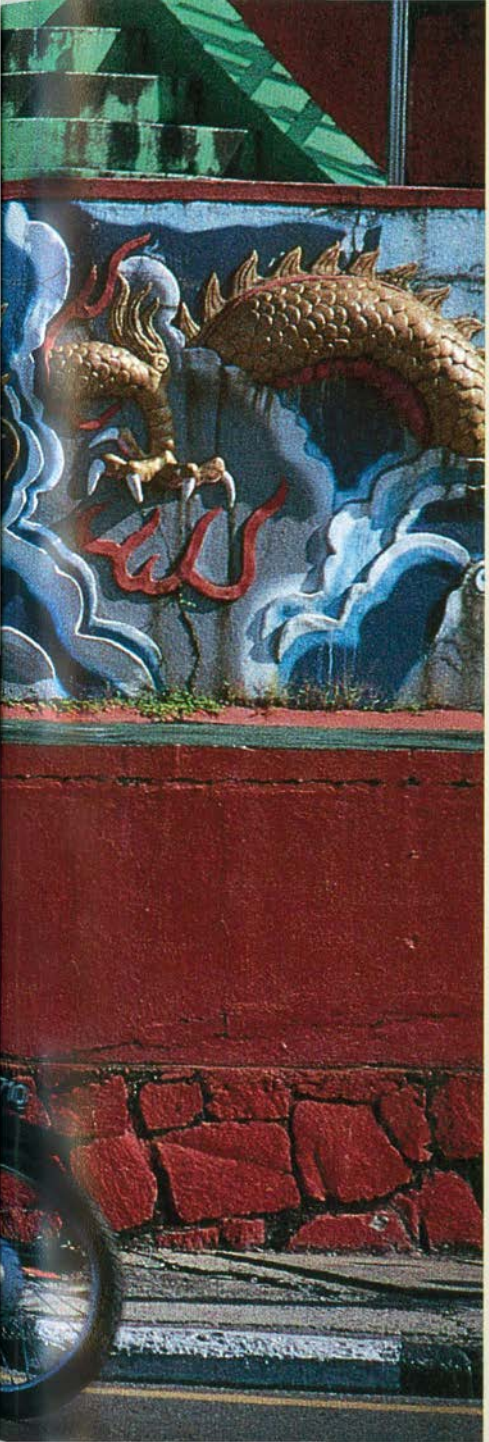
It also helps to locally produce meters that are deployed in less-than-ideal environments. Electricity meters are typically built to be tamper-proof and to withstand extreme temperatures. To ensure optimum manufacturing efficiency, meters are largely the same worldwide, but they are customized for specific needs of the Asian market. For example, many are fitted with large numeric displays to facilitate reading when mounted some six feet high to avoid damage during seasonal floods.

"Local customization of our products," adds Léger, "is one

At the site of a new MEASUREMENT & SYSTEMS *factory in Cikarang, Indonesia, Special Project Manager Bruno de Léotard, right, a mechanical engineer, with Sanjaya Atmaja, site manager for P.T. Indonakanogumi. De Léotard, a former Wireline engineer, coordinates construction of the multipurpose factory that will produce electricity meters, water meters, and pay phones for distribution in Asia.*

strategy that pushes us ahead of the competition." The company maintains a presence in more than 30 countries, each chosen for its strategic significance to its surrounding market. This presence will increase with the growing drive to cut time to market and further improve after-sale service.

Still, the cultural logistics of doing business in Asia are daunting. Unlike Latin America, where only two languages dominate, nearly every Asian country has its own language. China alone has at least seven major languages and dozens of dialects. To smooth the way, Electricity Management has long taken advantage of borderless careers. Schlumberger professionals move routinely between OILFIELD SERVICES and



Sarawak on the Move

A progressive program of electricity development is sweeping the Malaysian state of Sarawak. The state government's push toward industrialization has attracted large commercial and industrial companies that require a clean, reliable supply of electricity. Since 1990, electricity consumption has increased more than 10% each year. These largest users require the most sophisticated measurement and control systems, like Electricity Management's QUANTUM* or SPECTRA* meters.

"For our clients to remain competitive in tight markets while controlling costs, they need as much information as possible about their patterns of consumption," says Victor Wong, senior engineer with Sarawak Electricity Supply (SESCO). "Schlumberger's multifunction solid-state meters and the data we get from them provide the information they need to run at improved efficiency."

Another service-driven solution, automatic meter reading, allows remote and automatic meter reading over telephone lines, power lines, or using one- or two-way radio signals. This means data can be collected accurately at more regular intervals with better metering security. And because manual reading is all but eliminated, remote reading does away with scheduling and access problems associated with traditional methods. With promising early results, SESCO started Sarawak's first remote reading trial for select industrial clients in 1994.

Tua Pek Kong, the oldest Chinese temple in Kuching, Malaysia. Gross domestic product of Malaysia, a country of 19.5 million people, grew more than 8% in 1994.

MEASUREMENT & SYSTEMS, or between business units within these groups. This provides fresh, energetic talent, bringing new perspectives and new insights. In turn, this translates into sales.

In 1994, the ninth year of Schlumberger manufacturing in Asia, 750,000 Asian-produced electricity meters were sold, most for first-time installations. To meet increased demand, new factories were opened in Thailand and Taiwan, a Malaysian factory was enlarged, and in Indonesia, near Jakarta, a new flagship plant will be completed in mid-1995.

"As more competitors move into Asia," says Léger, "sustained growth will hinge on our ability to translate our technical and manufacturing expertise into a regional market presence. We have achieved success worldwide for many years, and while Asia presents its own set of challenges, the opportunities are tremendous. Our success in this area over the past nine years gives us a strong foundation."

Water Management

Phil Marlar
Vice-President and General Manager

Phil Marlar

PREVIOUS JOB Vice-president and general manager, Water & Gas, North America, Montgomery, Alabama

FIRST JOB Accountant, Chicago

EDUCATION Advanced Management Program, Harvard University Graduate School of Business Administration, Cambridge, Massachusetts; BS degree in business, Auburn University, Alabama

BORN Montgomery, Alabama, 1944

A small water leak quickly adds up to a lot of wasted water.

A pipe that leaks from:

- a 1/32-inch hole can fill 3 bathtubs in 1 day
- a 1/8-inch hole can fill 5 railroad tank cars in 1 month
- a 1/4-inch hole can fill the dome of London's St. Paul's Cathedral in half a year

Schlumberger water meters that accurately measure low flow rates typical of leaks can contribute to water conservation by improving leak detection.

Source: Water Department, Moline, Illinois

The fastest growth in Water Management is being stimulated by economic and social reforms in developing countries. There, lowering of trade barriers, privatization of utilities, and rising gross domestic product are driving the modernization of water distribution systems. These changes are dramatic in Latin America, and typified by sweeping improvements underway in Mexico City.

The world's largest city, with more than 16 million residents, Mexico City faces two challenges typical of burgeoning urban centers: water consumption exceeds additions to water reserves, and revenue does not cover the cost of supplying water.

High consumption has two causes. An estimated 30% of water is lost to leaks in distribution pipes, many of which are more than 100 years old. In addition, users are billed at a fixed rate regardless of consumption, which discourages water conservation. Per capita water usage in Mexico City averages 94 gallons per day, compared to 60 in Paris and 52 in Hamburg. To compound the problem of meeting escalating demand, insufficient cash flow hinders investment to improve the system.

To gather the capital and technology to renovate water services, the city's water utility, La Comisión de Aguas del Distrito Federal, awarded concessions for water distribution

WATER MANAGEMENT AT A GLANCE

Systems for management of water usage:

- **Automatic meter reading and billing systems**
- **Water management and meter installation services**
- **Water submetering services for multidwelling buildings**
- **Meters for measuring water, thermal energy, and industrial fluids consumption**

3000 people of 20 nationalities at 41 facilities in 24 countries

(page 93) *Residential water meters produced in Lerma, Mexico. As of September, the Lerma factory produced 12,000 meters per month for a large-scale modernization project in Mexico City. Schlumberger is the leader in water metering, producing and selling worldwide more than six million meters per year for residential and industrial use.*

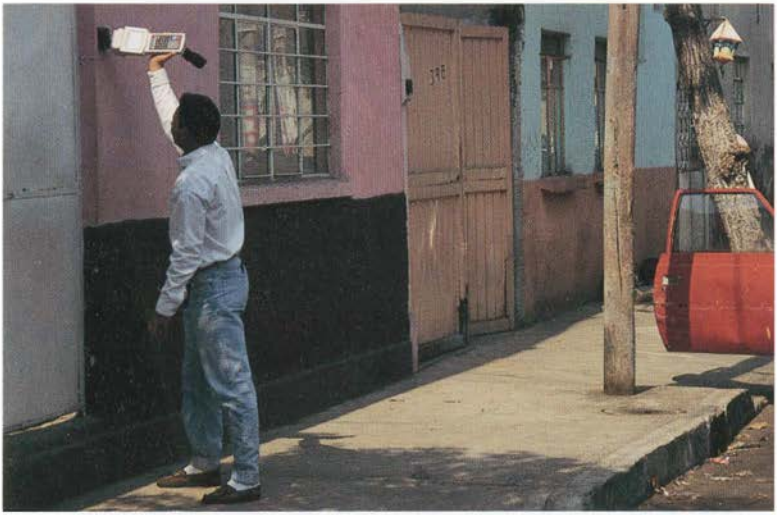
and invoicing to four joint ventures between Mexican, French, and British companies. The joint ventures are taking the first step toward modernization with the installation of meters. This allows invoicing by usage rather than at a fixed rate, which stimulates water conservation. Metering also permits quantifying how much water is lost through leaks and helps locate leaks for repair.

Schlumberger will provide nearly half the 1.2 million meters to be installed by the end of 1996. In one agreement, Schlumberger will supply meters; in another, it will perform installation and maintenance of the metering system.

"We chose Schlumberger not only because the product could meet all of the client specifications," says Thierry Krieg, general manager of one of the joint ventures, "but also because we could get a global package that includes the meter and meter installation." Krieg heads TECSA S.A. de C.V., the company created by Bufete Industrial, S.A. de C.V. of Mexico and Lyonnaise des Eaux of France.

The Mexico City program is being studied by other cities throughout Mexico—Puebla, Naucalpan and Cancún—and the rest of Latin America. Similar programs are emerging in other developing areas in the region.

To meet the immediate need for meters in Mexico City and the expected demand elsewhere in Latin America, a meter factory was opened last year in Lerma, near Mexico City. It is the fifth Schlumberger factory producing water meters in Latin America. As with many MEASUREMENT & SYSTEMS sites, Lerma and other Water Management facilities in Mexico will also be

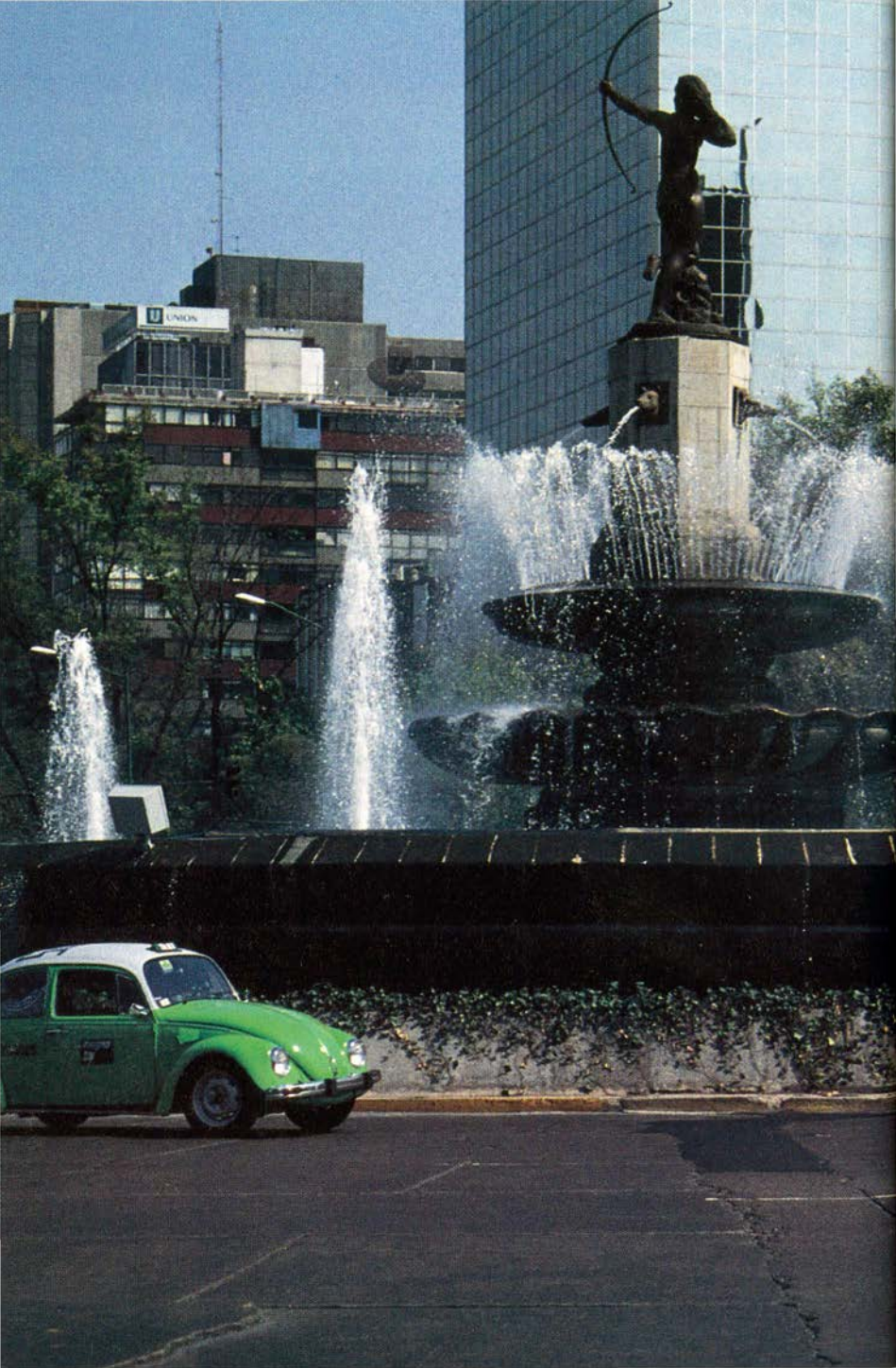


Remote reading of a water meter in Mexico City. This technology speeds reading and reduces errors through automation. The meter reader does not enter the dwelling but downloads meter data into a hand-held computer through a coupling on the outside of the building.

used for assembly and distribution of other Schlumberger products in demand: pay phones, smart cards, and parking meters.

"Colocation of multiple products is a key factor that gives us opportunities for profitable growth," says Alden Kiefer, manager of the Water and Services Division in Mexico. "Our work in Mexico embodies other factors," says Phil Marlar, head of Water Management. "We are committed to have a presence close to our customers, to hire and promote locally, and to provide complete water management services using innovative technology with high accuracy and long-term durability."

One technical innovation—remote meter reading—proves vital for the Mexico City program. Remote reading permits quick, automated download of meter data without entering the


UNIÓN

Meeting the Challenge of Low Flow

A water meter serves as a utility company's cash register. The more accurately it measures the volume of water used, the more accurate the water utility's invoicing.

The engineering challenge, which has been met by Schlumberger, is to develop a reliable, economic meter that achieves the highest accuracy over the widest range of flow rates. The main objective is to achieve high accuracy at low flow rates, which are typical of many domestic uses and characteristic of leaks. The flow can be so slow that it escapes measurement by some meters. This results in lost revenue for the utility.

Metering inaccuracies of only a few percent can translate into significant losses in revenue from slow but persistent flow of water. For example, if water costs $2 per cubic meter (264 gallons), a running toilet that wastes 3 gallons per hour—a rate unmeasurable by some meters—would add up to $230 of unmetered water per year. Much of this lost revenue can be recovered by installing a high-accuracy meter.

Schlumberger has become the leader in Class C meters—those with an extended range of accuracy at low flow rates. Their higher cost is offset by recovery of revenue from improved leak detection and measurement of uses at low flow rates. Schlumberger Class C meters have been selected for several meter replacement programs in Latin America, where the World Bank has encouraged modernization with meters that maximize return on investment.

La Fuente de la Diana Cazadora in Mexico City.

dwelling. The meter is read using a hand-held computer that connects to a coupling on the outside of the building. This ensures that meters can be read, even if the resident is not home.

"Mexico is moving quickly toward a sophisticated way of managing water resources," says Marlar. "Our unparalleled global experience and technical edge efficiently address their needs—not only for today, but also for tomorrow."

Gas Management

Mario Galletto
Vice-President and General Manager

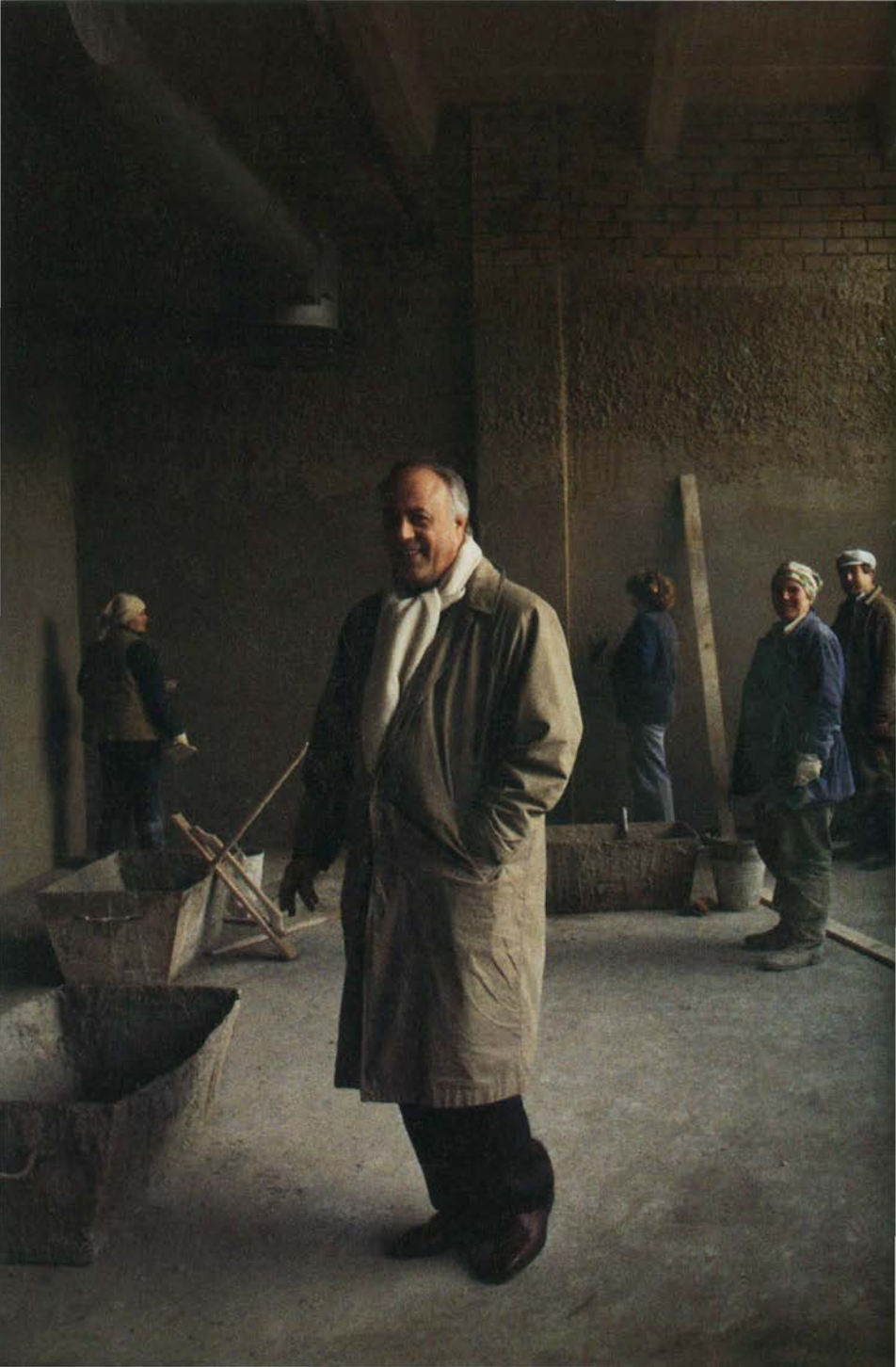
Mario Galletto

PREVIOUS JOB General manager, Italy Water & Gas, Milano, Italy

FIRST JOB Metallurgist, Brussels, Belgium

EDUCATION Mechanical engineering degree, Politecnico di Milano

BORN Trieste, Italy, 1941



From the Baltic States to the shores of the Caspian, generations of Eastern Europeans grew up with the kitchen stove perpetually aflame. Under the Soviet system, a combination of plentiful gas and price subsidies made gas too inexpensive to meter, so consumers were charged a flat rate regardless of consumption. Gas was cheaper than matches—a family of four in Kiev, Ukraine typically paid less than a half dollar per month.

Now, with the rapid movement toward a free-market economy, all this is changing. When gas prices were independent of consumption, there was rarely a need to measure usage or encourage conservation. In Ukraine, for example, a country of 55 million people, gas meters are installed in less than 10% of residences. Across the Commonwealth of Independent States (CIS), an estimated 40 million users are unmetered.

With the disappearance of cheap gas and the escalating cost of imported gas, the demand for gas management in the CIS is surging. Ukraine, a major gas producer 20 years ago, now imports 80% of its gas, mostly from Siberia, at international prices plus tariffs. Throughout the CIS, gas utilities are under pressure to reduce costs and cut trade deficits.

GAS MANAGEMENT AT A GLANCE

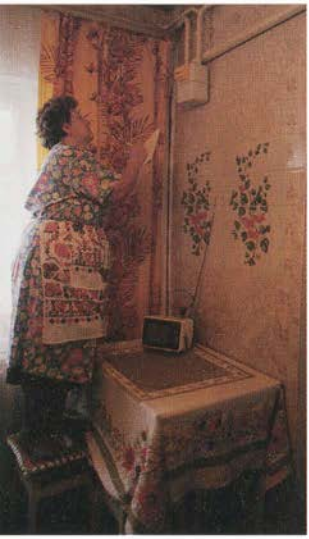
Systems for management of gas usage:

- **Residential, commercial, and industrial gas meters**
- **Regulators, governors, safety valves, stations, and systems**
- **Gas treatment: filtration, odorization, heating**
- **Network management systems: remote reading and control, prepayment systems**

4000 people of 17 nationalities at 42 facilities in 22 countries

(left) *Dominique Fache, head of Schlumberger operations in the CIS, during renovations at the Kiev factory where Schlumberger and Ukrgas, the Ukrainian Gas Corporation, will produce gas meters.*
(previous page) *Birth of a partnership. Michael V. Matsialko, president of Ukrgas, left, and Michel Fonteny of Schlumberger at a ceremony in Kiev establishing a joint venture. Schlumberger and its Ukrainian partner will manufacture, sell, and distribute gas meters in Ukraine. "We will need almost seven million meters by the turn of the century," says Matsialko. "Schlumberger meters, besides being more precise, are priced competitively because the company has committed to manufacturing here in Kiev. That counts for a lot."*

Utilities are therefore initiating metering programs to measure usage, charge for consumption, and encourage conservation. Developing a commitment to energy conservation is becoming recognized as a critical consideration, since it is often a prerequisite for international financing.



In Brovary, Ukraine, Galina Ivanova Pampuha, a Ukrgas employee, reads a meter installed in her kitchen as part of a pilot project.

This year, the Schlumberger MEASUREMENT & SYSTEMS organization opened offices in Saint Petersburg, Russia, with Gas Management paving the way for other MEASUREMENT & SYSTEMS services and technologies, such as smart cards, pay phones and water, heat, and electrical management systems. A joint venture with Ukrgas, the Ukrainian government organization that manages gas distribution, has established a significant presence in this potentially huge market. Under the agreement, Schlumberger will initiate meter manufacturing and assembly at a renovated factory in Kiev. "We will basically help Ukrgas manage its business," says Mario Galletto, director of Gas Management.

Failed Western enterprises in the CIS are almost legend. What is the trick to making it work today—and to keeping it going tomorrow?

"We follow the rule of the three P's," says Michel Fonteny, vice-president for marketing and business development, "patience, persistence, and presence." Schlumberger established its first office, in Moscow, in 1990 after developing relations in

the Soviet Union since the early 1980s. This presence built knowledge of the local utilities and central government agencies. "For most of those early years, we had very little business," Fonteny says. "You could say we were laying a foundation for the future."

This year, the future is arriving. More than 60,000 meters were purchased for Ukraine, and a factory in Kiev is being prepared for the assembly of state-of-the-art Gallus 2000* residential meters, from kits made in France and Italy. The factory will be the first in the CIS with modern calibration equipment and a test bench for domestic meters. Calibration of meters locally and immediately after assembly assures that they perform to specification when delivered.

"The cornerstone of success in the CIS is a commitment to invest in the region," says Dominique Fache, a Frenchman fluent in Russian who heads the Schlumberger group from the MEASUREMENT & SYSTEMS office in Saint Petersburg. "Anyone can come in and sell meters. We are working from the ground up to build a Ukrainian business with Ukrgas." A key to this commitment is hiring and training locally. Today the Schlumberger staff comprises 25% expatriates, a percentage that is expected to decrease rapidly.

Another component to success in the CIS is having the flexibility and resources to meet large orders quickly. Until the Kiev factory comes on line, factories in France and Italy will meet demand in other parts of the CIS. "In 1994, we had 100% on-time delivery of calibrated meters," says Fache. "No one else matched this."

Gas Distribution in the Commonwealth of Independent States


Most gas in the CIS comes from Siberia
RUSSIA
KAZAKHSTAN
UZBEKISTAN
CASPIAN SEA
TÜRKMENISTAN
GEORGIA
AZERBAIJAN
ARMENIA

A third strength is the ability to meet existing needs of customers. In parts of the CIS where utilities cannot afford new meters, Gas Management is recalibrating existing gas meters to improve their accuracy.

"The importance of a presence as proof of our commitment is essential," says Galletto. "We are not only selling meters but making available the knowledge we've gathered in markets worldwide. However our customers may grow, we can meet their demands."

Electronic Transactions

Jean-Paul Bize
Vice-President and General Manager

Jean-Paul Bize

PREVIOUS JOB Vice-president and general manager, Electricity Management, Montrouge, France

FIRST JOB Wireline engineering, Houston

EDUCATION Engineering degree, Ecole Centrale des Arts et Manufactures, Paris; finance degree, Institut d'Etudes Politiques, Paris

BORN Algiers, Algeria, 1942


PHARMACIE
PHARMACIE
Rue des BANQUES

The flow of cash and printed information is increasingly giving way to the flow of electrons. Transactions with currency and on paper are being replaced with electronic transactions using an emerging technology—the smart card.

A smart card is a plastic card containing information on an imbedded microchip. The chip has 60 times more memory than a conventional magnetic stripe, and has the added intelligence of a microprocessor, affording greater security. Smart cards were pioneered in France by Schlumberger, and today about 300 million Schlumberger cards have been produced and are used in 60 countries for pay phones, ticket vending machines, retail sales, and medical and banking applications.

ELECTRONIC TRANSACTIONS AT A GLANCE

Electronic transactions systems:

•Cards and Systems: hardware and software for applications in banking, telecommunications, transportation, and health care management
•Retail Petroleum Systems: fuel dispenser systems, controllers, and point-of-sale systems

3300 people of 35 nationalities at 19 facilities in 60 countries

Why take the trouble of replacing a simple magnetic stripe with a complex chip? There are several compelling reasons. Financial institutions like smart cards because of their ability to hold more information—about 30 pages of data on a chip, compared to a half page on the stripe. Greater capacity and increased intelligence provide the ability to add services other than simply recording a debit or credit. One possibility is expanding the range of loyalty services, such as frequent flier

(left top) *In Bayonne, France, Schlumberger smart card systems have been installed in pharmacies as part of a country-wide program to boost health care efficiency.* (left bottom) *Children take advantage of an empty stage at the Chinese Culture & Movie Center in Taipei. In Taiwan, replacement of 24 million magnetic stripe bank cards began this year with a program that calls for a half million Schlumberger banking smart cards.*

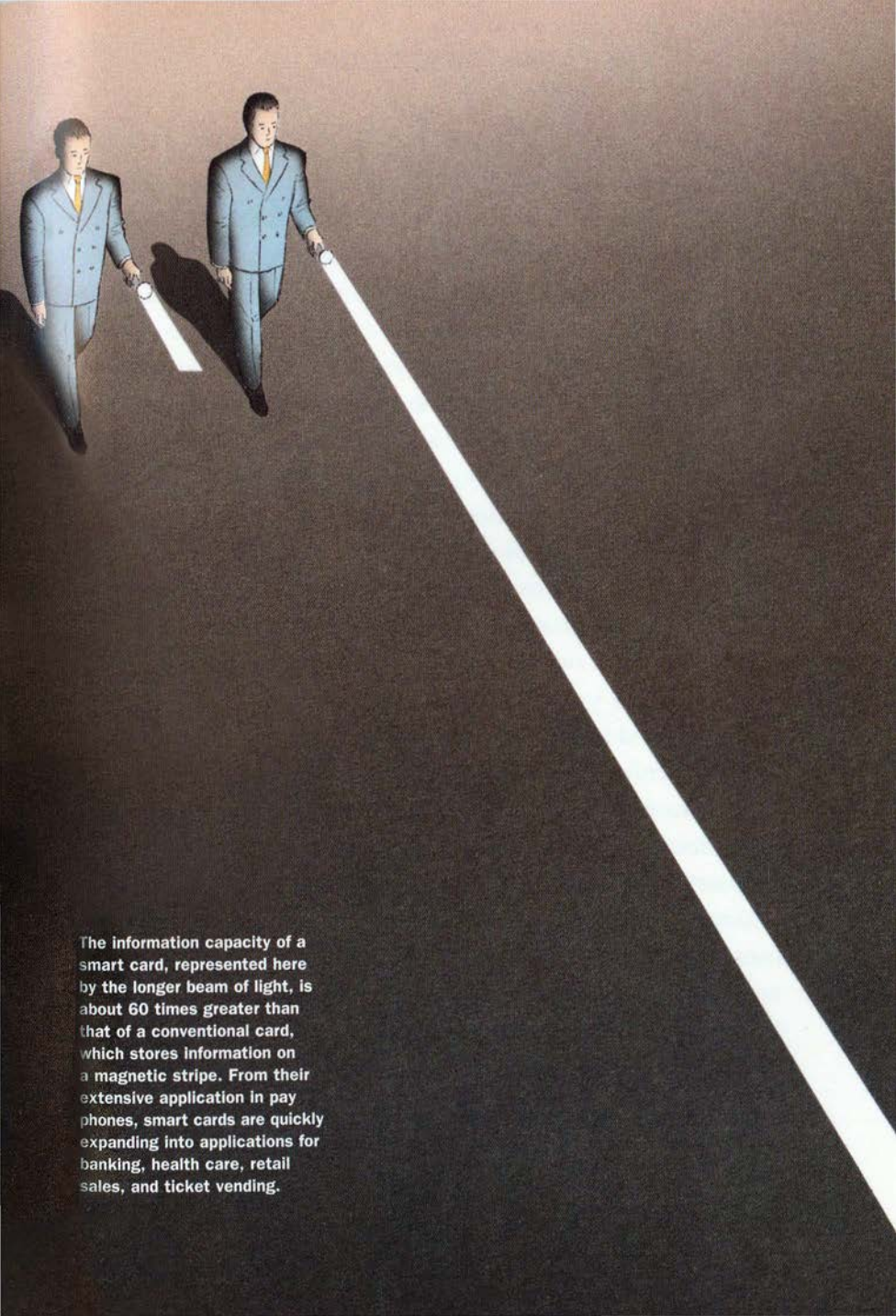
(previous page) *Manager of Health Management Systems Laurence de Talancé, left, with Marketing Assistant Stéphanie Crozier, at the French social security headquarters in Bayonne. Use of Schlumberger smart card systems results in faster reimbursement for the cost of health care and a ten-fold reduction in the time for processing claims.*

mileage or discount points applied toward the purchase of merchandise. Also in the near future are expanded financial services, such as banking from home over phone lines using a smart card-equipped personal computer or special terminal. The card can also act like an electronic purse: credit can be loaded onto the card, much like telephone cards now used in Europe.

Another motivation for adopting smart card technology is their tighter security. While card issuers have developed techniques to combat fraud, magnetic stripe technology affords limited protection—revenue losses from card fraud are skyrocketing worldwide. With the computing power of an integrated circuit, smart cards provide more sophisticated security to help verify that the person using the card is the legitimate card holder, and that card is not a counterfeit. In France from 1988 to 1992, a 20% increase in the number of banking smart cards paralleled a 50% drop in fraud.

This year, Schlumberger Cards and Systems expanded in two key growth markets, banking and health care. Schlumberger is one of two vendors selected by Visa International to develop the earliest available chip cards for payment services. The smart cards will replace credit and debit cards that use existing magnetic stripe technology. The cards will be made to international banking standards established jointly by Visa, MasterCard, and Europay. These financial service organizations have an annual growth rate in bank cards exceeding 15%.

In Taiwan this year, Schlumberger was selected to supply a half million smart cards for use with automatic teller machines (ATMs), telephones, and as debit and credit cards. The new cards



The information capacity of a smart card, represented here by the longer beam of light, is about 60 times greater than that of a conventional card, which stores information on a magnetic stripe. From their extensive application in pay phones, smart cards are quickly expanding into applications for banking, health care, retail sales, and ticket vending.

initiate a program for the gradual replacement of 24 million magnetic stripe cards now circulating in Taiwan. "It's a smart and secure payment instrument," says Silvia S.F. Lee, executive vice-president of the Financial Information System Center, which oversees the replacement program.

The transition to banking smart cards will open a new era in international banking. "Banks will be able to conduct business wherever their customers are, through smart card interfaces on phones, personal communicators, and the information superhighway," says Nadaradjane Ramatchandirane, Schlumberger's manager of strategic development for smart cards. Expansion of banking smart cards will also stimulate demand for smart card use in electronic fund transfer and point-of-sale applications, markets in which Schlumberger is a key player.

To fuel growth in banking applications of smart cards, Schlumberger has established a partnership with Diebold, the North American leader in ATMs. Diebold will distribute Schlumberger terminals that can read cards containing either the microchip or the conventional magnetic stripe. To meet growing demand for all applications of smart cards, Schlumberger acquired Malco, Inc., the leading manufacturer of secure bank cards in North America.

(above) *On Park Avenue in New York City, Peter Hill and Philip Yen of Visa International, center and right, with from left, Mike Smith, Jim Davis, and Nadaradjane Ramatchandirane of Schlumberger. "The agreement between Visa and Schlumberger provides us with the vast implementation experience of Schlumberger," says Yen, director of payment technologies for Visa. "It will help us grow our worldwide smart card program in the best way possible." Visa is the industry leader in financial services, carrying $560 billion in transactions in more than 112 countries.*

In coming years, a substantial market for smart cards will develop in health care. With health care costs doubling every 10 years, and absorbing more than 10% of gross domestic product of most European countries, there is a strong incentive to reduce administrative costs and increase the productivity and quality of health care.

Applying expertise from leadership in pay phones and point-of-sale terminals, Schlumberger is entering the health care sector by providing patient cards, smart card readers, and software systems for health providers and payers. The replacement of paper trails with automated electronic systems reduces costs and raises the efficiency and quality of care.

One of several projects is for diabetes care in France. In this program, patients with diabetes are issued a smart card. About 100 items covering basic medical history and diabetes therapy are loaded onto the smart card by a nurse or doctor, using a special pen computer and an attached card reader. Each day at home, the patient then enters his or her blood sugar level onto the card, using a specially equipped smart card reader connected to a glucometer. During routine check-ups, the patient hands the card to the practitioner, who can study an entire recent record and download it into the patient's medical records. The system helps ensure accuracy and reduces redundancy in information and procedures. In a pilot project this year, patients at home can use a network to enter information into data bases at the hospital or their general practitioner's office.

"Security and privacy of data are paramount," says Laurence de Talancé, Schlumberger's manager of Health

Management Systems. "State-of-the-art encryption helps prevent unauthorized personnel from accessing medical files."

In another project, GIE SESAM-VATALE is working on behalf of the French Social Security Administration to develop a smart card-based project to replace paper claims for reimbursement with electronic transactions. By introducing the smart card, processing costs and reimbursement time will be drastically reduced. The project is currently in pilot phase; Schlumberger has been selected to provide the smart card readers in four pilot cities.

"Smart cards are only the visible tip of the iceberg," says Jean-Paul Bize, head of Electronic Transactions. "We are in the unique position of developing entire packages: the chip, the card, high-security software for operating systems, readers, and networks that move electronic transactions in the coming paperless world. This is the basis for our competitive advantage."

Automatic Test Equipment

Irwin Pfister
President and General Manager

Irwin Pfister

PREVIOUS JOB Vice-president and general manager of Component Test, San Jose, California

FIRST JOB Software programmer, Pasadena, California

EDUCATION BA degree in mathematics, California State University, Los Angeles

BORN Covington, Kentucky, 1944

In the Darwinian world of semiconductor manufacturing, survival belongs not only to the fittest, but to the fastest. Semiconductor technology evolves so quickly that only manufacturers working at peak efficiency can meet the demand for more powerful semiconductors at lower prices.

Tools to achieve this efficiency come from Automatic Test Equipment (ATE), the leader in high-performance testers for semiconductor manufacturers. The ITS 9000* family of testers provides unmatched productivity, flexibility, accuracy, and speed in testing semiconductors on the assembly line. This year, ATE expanded this strong core business in testing to include device handlers, which automate various phases of semiconductor assembly.

AUTOMATIC TEST EQUIPMENT AT A GLANCE

Systems for semiconductor design and manufacture:

- **Automated systems for back-end processes**
- **Board test systems**
- **Diagnostic systems**
- **Test systems**

1200 people of 35 nationalities at 15 facilities in 12 countries

The logic of adding handlers to the product line is simple. Integrated circuit manufacturing involves hundreds of steps and is only as efficient as the slowest step. The ITS 9000 testers remove the bottleneck at the stage of the most sophisticated testing. Now, an expanded product line enhances the efficiency of other steps in the chain. Linkage of similarly engineered handlers and testers helps semiconductor makers achieve three key goals: faster throughput of devices at each step, shorter production time from beginning to end, and higher yield of semiconductors that pass quality testing.

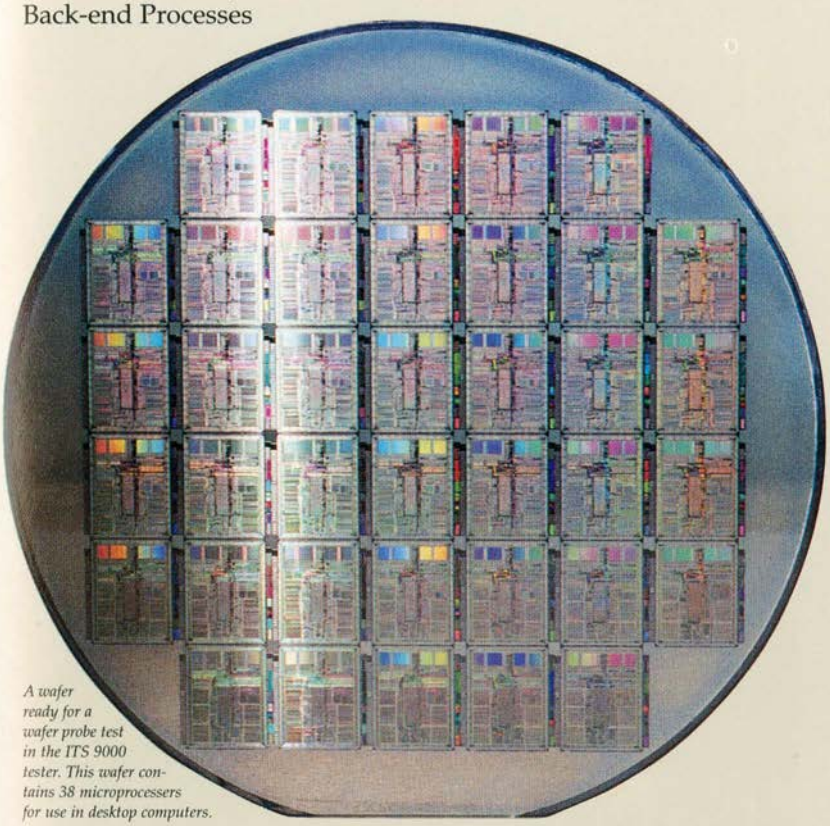
(left) *K.P. Fan of TSMC, the leading semiconductor maker in Taiwan, uses a stereoscope during testing of a semiconductor on the ITS 9000 tester. "Productivity and versatility are the main reasons we chose the ITS 9000 system," says John Chen, senior director for TSMC.* (previous page) *Celebratory wreaths in Taiwan.*

Senior Test Specialist Neil Mao, left, and Electronic Technician Tamara Hanson set up a calibration test for a device handler at the ATE factory in Simi Valley, California.

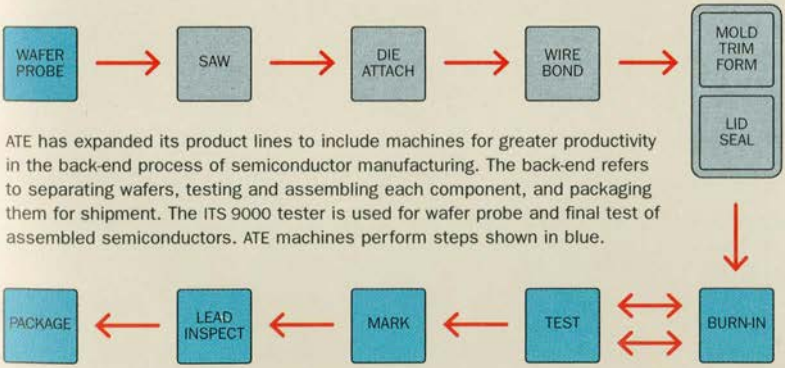
"Adding handlers not only expands our offering to customers," says Irwin Pfister, president of ATE, "it gives customers the cost-effectiveness of one-stop shopping when assembling and maintaining a manufacturing line." The handlers pave the way for ATE to become the leader in integrating the back-end phase of semiconductor manufacturing—from the sawing of a thin, round silicon disk, called a wafer, into individual units, to testing them and packaging them for shipment.

The handlers arrive at an opportune time. ATE revenue increased 23% in 1994, paralleling an upswing in the semiconductor industry fueled by new generations of microprocessors. Driving this growth is demand for computers, telecommunications equipment, and automotive electronics.

Better Productivity in Back-end Processes



A wafer ready for a wafer probe test in the ITS 9000 tester. This wafer contains 38 microprocessers for use in desktop computers.



ATE has expanded its product lines to include machines for greater productivity in the back-end process of semiconductor manufacturing. The back-end refers to separating wafers, testing and assembling each component, and packaging them for shipment. The ITS 9000 tester is used for wafer probe and final test of assembled semiconductors. ATE machines perform steps shown in blue.

With ATE's expansion into the back-end process comes renewed commitment to customer service. In 1994, customer support was increased for Russia and China, expanding ATE's established presence in 100 locations in 31 countries. ATE continues to expand its presence in Southeast Asia.

(above) *Optical self-calibration of the NGH new generation handler allows the robotic arm to align components with a precision finer than the thickness of a human hair.*
(far right) *Electromechanical Assembler Horacio Hurtado checks circuitry on the test head of the ITS 9000 tester in Simi Valley, California.*

"Wherever semiconductors are built, ATE has established a presence," says Pfister. "But technical leadership is not enough. Our continued profitability depends on our commitment to lifetime customer support, often with an engineer posted at the customer facility." This presence, and an emphasis on training, has fueled growth by speeding up the process of installing equipment. What took weeks a few years ago now takes five days.

"Prompt installation, coupled with on-time delivery and vigilant support, means customers can work sooner and more productively," Pfister says. When a customer relies on ATE equipment to make 100,000 semiconductors per week, at $400 per device, success rests on maximizing utilization time.

Expansion of the product line also means redefining relationships with customers. "Our partnering with key customers has become integral to how we work," says Pfister. Senior managers with ATE meet monthly with their customer counterparts to understand their changing business requirements, define the next generation of equipment, and keep support programs on track.

"We've been highly focused and successful this year," Pfister says. "By working closely with our customers, we help maximize their productivity and encourage partnering to create complete solutions. We are confident that we can uniquely meet the growing demand for even higher productivity."

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Evaluation, testing, and production monitoring services for oil and gas wells: borehole measurements of petrophysical, geological, and seismic properties; cement and corrosion evaluation; wireline- and tubing-conveyed perforating; well testing, production logging, and light remedial services.

DOWELL

Fluids engineering and pumping services: cementing, drilling fluids, stimulation, sand control, and coiled tubing.

GECO-PRAKLA

Seismic data acquisition, processing, and interpretation: Marine, land and transition zone, and seismic data processing and interpretation. Also exploration services, primarily planning, acquisition, processing, and sales of non-exclusive seismic data.

SEDCO FOREX

Offshore and land drilling with 74 rigs: 40 offshore and 30 on land.

ANADRILL

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ELECTRICITY MANAGEMENT

Systems for management of electricity usage: residential metering and energy management systems; end-user and vendor-side prepayment systems; industrial transmission and distribution measurement and control products and services; and local and remote automatic meter reading and load management systems.

WATER MANAGEMENT

Systems for management of water usage: automatic meter reading and billing systems; water management and meter installation services; water submetering services for multi-dwelling buildings; and meters for measuring water, thermal energy, and industrial fluids consumption.

GAS MANAGEMENT

Systems for management of gas usage: residential, commercial, and industrial gas meters; regulators, governors, safety valves, stations, and systems; gas treatment including filtration, odorization, and heating; network management systems including remote reading and control, and prepayment systems.

ELECTRONIC TRANSACTIONS

Electronic transactions systems: hardware and software for applications in banking, telecommunications, transportation, and health care management; fuel dispensers, controllers, and point-of-sale systems.

AUTOMATIC TEST EQUIPMENT

Systems for semiconductor design and manufacture: automated systems for back-end processes, board test systems, diagnostic systems, and test systems.

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Schlumberger stock is listed on the New York Stock Exchange, trading symbol SLB, and on exchanges in Paris, London, Amsterdam, Brussels, Frankfurt, Basel, Geneva, Lausanne, Zurich, and Tokyo.

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The company's 1994 annual report on Form 10-K filed with the Securities and Exchange Commission is available without charge. From the US and Canada, call 1-800-99-SLB-99. International callers dial 1-402-573-9796. Alternatively, write to the Secretary, Schlumberger Limited, 277 Park Avenue, New York, NY 10172.

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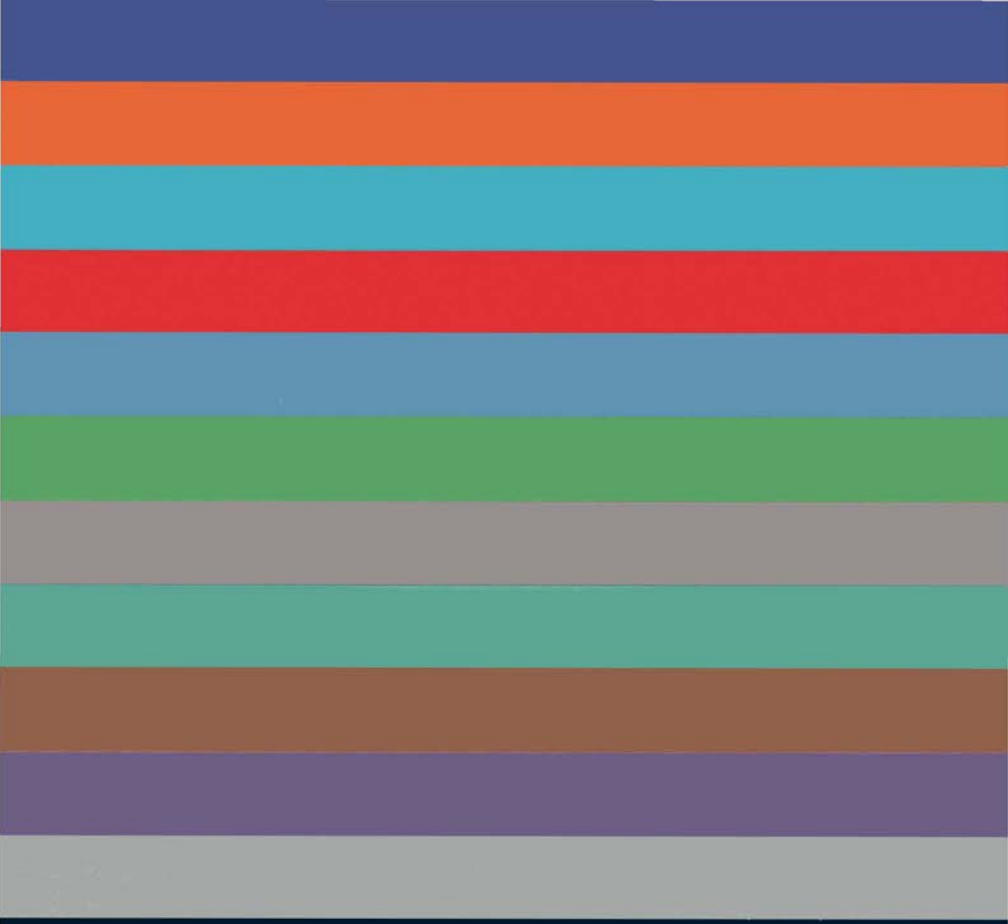

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