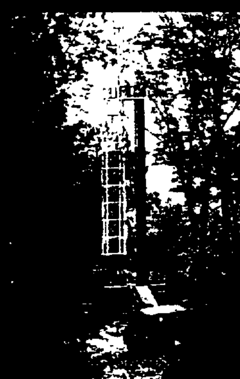
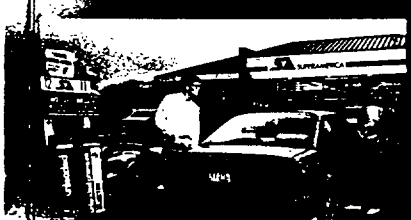
ASHLAND OIL, INC.



Balance ... opportunity ... and advantage.



Ashland's strategy of emphasizing its highly competitive core in refining and marketing, while expanding its related, non-refining businesses, provides both balance and opportunity—balance in earnings ability and opportunity for still greater growth. As the 1990s begin, Ashland's continuing strategy is a key competitive advantage.



# 1989 ANNUAL REPORT

A diversified energy corporation based in Ashland, Ky., Ashland Oil is the 55[th]
largest U.S. industrial company. Ashland's ongoing strategy is to maintain a strong, competitive position in its traditional petroleum refining and marketin[g] businesses, while seeking to broaden its earnings base by investing in an equall[y] strong group of related, non-refining operations. These operations include ret[ail] marketing, motor oil marketing, chemicals, construction, and oil and gas expl[ora]tion and production. Ashland also is involved in the coal industry through eq[uity] positions in Ashland Coal, Inc. and Arch Mineral Corporation.

For a larger snapshot of Ashland, please turn to "Ashland Oil i[n] Brief" on Page 8. For a history of the company and the performance of its st[ock] please turn to Page 32.

Years Ended September 30

| (Dollars in millions except per share data) | 1989 | 1988 | 1987 |
|---|---|---|---|
| Sales and operating revenues (including excise taxes) | **$8,464** | $8,196 | $6,990 |
| Operating income[1] | **329** | 413 | 238 |
| Net income[1] | | | |
| Income before the cumulative effect of the change in accounting for income taxes | **86** | 184 | 133 |
| Cumulative effect of the change in accounting for income taxes | **—** | 40 | — |
| | **86** | 224 | 133 |
| Primary earnings per share | | | |
| Income before the cumulative effect of the change in accounting for income taxes | **1.55** | 3.29 | 2.14 |
| Cumulative effect of the change in accounting for income taxes | **—** | .72 | — |
| | **1.55** | 4.01 | 2.14 |
| Dividends per common share | **1.00** | .95 | .90 |
| Book value per common share[2] | **21.45** | 21.14 | 19.25 |
| Return on average common stockholders' equity | **7.6%** | 16.5%[3] | 13.1% |
| Cash flows from operations | **85** | 397 | 309 |
| Additions to property, plant and equipment | **413** | 343 | 339 |
| Number of common stockholders of record | **30,200** | 30,900 | 33,900 |

(1) See Management's Discussion and Analysis on pages 34 to 40 for a discussion of unusual items.
(2) Excludes effect of loan and prepaid contribution to leveraged employee stock ownership plan on common stockholders' equity.
(3) Excludes the cumulative effect of the change in accounting for income taxes.

R8-001440
1/17/02
NUECES

**John R. Hall**
**Chairman and**
**chief executive officer**

Ashland had mixed results in 1989. The company's financial performance was dominated by the adverse effect of several unusual items, many of which will be favorable for the company in the long term.

Net income was $86 million, or $1.55 a share, compared to $224 million, or $4.01 a share in 1988. The year's financial performance was disappointing and does not reflect the progress made in 1989 in many important areas. Excluding unusual items in both years, net income was $159 million, or $2.86 a share, compared to $212 million, or $3.79 a share, in 1988.

**Favorable NIOC settlement**

Perhaps the year's most significant development was the settlement of a 10-year dispute with the National Iranian Oil Company. As previously disclosed, the dispute involved $283 million in unpaid invoices for crude oil shipments from NIOC in 1979.

In litigation against Ashland, NIOC made claims in excess of $768 million, including the amount of the invoices plus about $485 million in interest. Ashland made counterclaims for breaches of contracts by NIOC. Ashland settled the dispute for $325 million, resulting in a $38 million, after-tax charge against 1989 earnings.

Despite the earnings impact, we believe the settlement was favorable, in the best interest of shareholders and fairly compensated Ashland for its damages.

### Cajun dispute concluded

In addition to the NIOC settlement, a longstanding dispute between our Riley Consolidated subsidiary and Cajun Electric Power Cooperative was concluded through arbitration. This dispute involved power generation equipment built by Riley and pre-dated Ashland's 1981 acquisition of that company as part of U.S. Filter Corporation.

In its litigation, Cajun had made claims ranging from $500 million to $700 million. As a result of arbitration, Ashland paid Cajun a net award of about $22 million. This resulted in an after-tax charge of $13 million against 1989 earnings. Although the earnings impact was adverse, we are glad to have put this major potential exposure behind us.

### Reserves for Riley increased

In the year's biggest disappointment, Riley Consolidated continued to experience difficulties in meeting guarantees on multi-solid fluidized bed boilers built for customers. Accordingly, Ashland increased its reserves to provide for anticipated expenditures to correct performance problems. This resulted in a $25 million, after-tax charge against earnings. We believe we have established adequate reserves for these problems.

### Divestitures continue

Part of our continuing strategy is to divest those operations which either do not fit overall corporate strategy or which do not earn a satisfactory return on investment. In 1989, this strategy led to the sale of carbon black operations for $61 million, nearly 12 times 1988 pre-tax earnings. The sale resulted in an after-tax gain of $18 million in fiscal 1989.

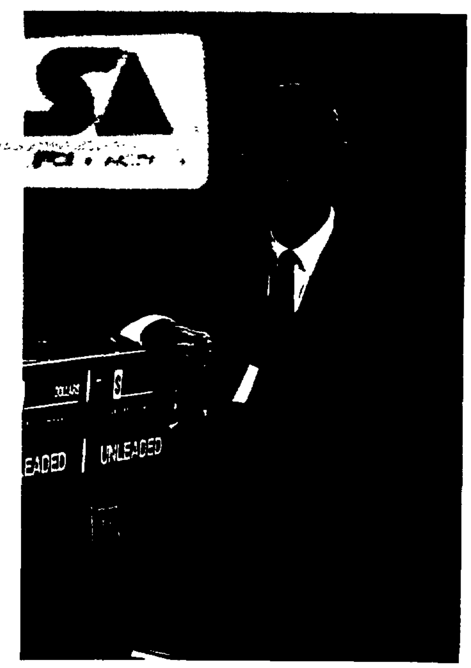
In addition, we announced that we plan to sell Ashland Technology Corp., an architectural and engineering services subsidiary. The planned disposition resulted in an after-tax charge of $15 million. Negotiations are continuing to complete the sale in fiscal 1990.

We have also retained First Boston Corporation to assist with the sale of Beaird Industries, another engineering subsidiary. We expect to complete this transaction during fiscal 1990.

### Financial developments

The NIOC settlement was financed with cash and short-term debt, resulting in higher financial leverage than we carried during most of the 1980s. Long-term debt was $1 billion at the end of the fiscal year, and the total debt-to-capitalization ratio increased to 46 percent from 38 percent at the end of 1988. Maintaining a strong financial position continues to be a cornerstone of our strategy, and we plan to reduce leverage over the next few years. But a heavy capital spending program for refining will prevent a rapid reduction.

**Charles J. Luellen**
**President and chief operating officer**



Richard W. Spears
Senior vice president, human resources and law
and
Paul W. Chellgren
Senior vice president and chief financial officer

**Results of operations**

Operating income was $329 million, compared to $413 million in 1988. However, excluding unusual items for both periods, operating income of $372 million more nearly approached last year's level of $433 million. Cash flow from operations of $85 million is down from last year. However, without the NIOC settlement, cash flow from operations would have been very strong at $410 million.

The decline in operating income was due primarily to unusual items in the engineering segment, as well as lower results from petroleum and construction operations. Refining margins were weak in the fourth quarter, and major maintenance turnarounds earlier in the year prevented Ashland Petroleum from obtaining the full benefits of good margins in the June quarter. Despite these problems, Ashland Petroleum contributed a respectable $142 million to operating income, 43 percent of the total.

Unusually heavy rainfall adversely affected APAC construction operations, and operating income declined. Lower equity income from our coal investments was due in part to a national union dispute with another company which resulted in union work stoppages.

However, the majority of our non-refining businesses performed admirably. SuperAmerica had a second consecutive year of record-high earnings. Valvoline improved its results despite intense competitive pressures. Ashland Chemical had an excellent year. Excluding the impact of carbon black operations in both 1988 and 1989, chemical operating income was slightly above last year's record results. Ashland Chemical has exceeded prior-year results in each of the past four years. Ashland Exploration's operating income was 10 times higher than that of 1988. Operating highlights for each of these operations are discussed in later sections of this report.

**Outlook for non-refining businesses**

Looking to the future, we will continue to emphasize growth in non-refining businesses.

SuperAmerica provides us with a strong competitive position in retail marketing, and we expect to add 30 more stores in fiscal 1990.

Valvoline has done well in the highly competitive motor oil marketing business. As Valvoline Instant Oil Change matures, we expect significant improvement in earnings. VIOC plans to add 30 units next year.

Ashland Chemical should continue to grow, through acquisitions and internally, as we capitalize on our strengths in specialty chemicals and distribution.

Although APAC had a difficult year, we do not expect a repeat of last year's poor weather. The construction backlog is strong, and with the nation's pressing need for infrastructural repairs, the outlook for the future is good.

Ashland Exploration will seek to expand and exploit its asset base, emphasizing expansion of domestic natural gas reserves.

Ashland Coal and Arch Mineral should continue to grow. Acquisitions made this year should result in greater production in 1990.

In total, our non-refining businesses contributed 57 percent of operating income in both 1988 and 1989. We believe these businesses are positioned for still greater growth in the 1990s.

**Board changes**

We were pleased to have two directors join our board in 1989. Frank C. Carlucci, vice chairman of the board of The Carlyle Group and former U.S. Secretary of Defense, was elected in January. Mr. Carlucci has had a long and distinguished career in public service as well as prior business experience in the private sector.

Ralph E. Gomory, president of the Alfred P. Sloan Foundation and former IBM executive, was elected in July. He is a member of the National Academy of Sciences, the National Academy of Engineering, and the National Academy of Arts and Sciences. He is also a Fellow of the Economics Society.

Richard E. Terrell retired from our board in January 1989, having served since 1980. A tribute to Mr. Terrell appears on Page 65.

**Issues for the 1990s**

As we look ahead, we expect environmental considerations to dominate the refining industry in the 1990s. Proposed regulations governing diesel fuel specifications and President Bush's clean air plan are two examples.

The Environmental Protection Agency has proposed new rules requiring an 80 percent reduction in the sulfur content of on-highway diesel fuel. The rules, slated to take effect October 1, 1993, would limit sulfur in diesel fuel to 0.05 percent by weight. They are intended to ensure that the trucking industry meets stricter standards for sulfate particulate emissions.

To enable the company to produce the new product competitively, Ashland expects to spend more than $200 million in the next three years for distillate desulfurizers and additional sulfur recovery capacity at our refineries.

President Bush's clean air plan also contains a number of proposals which could have a significant impact on the refining industry. In addition to tighter gasoline volatility standards, the plan calls for a reduction in vehicle emissions as well as the implementation of vapor recovery controls in areas not in compliance with clean air standards. He has also called for the production of a million "clean-fuel" vehicles a year by 1997 and has emphasized methanol as the "clean-burning" fuel of the future.

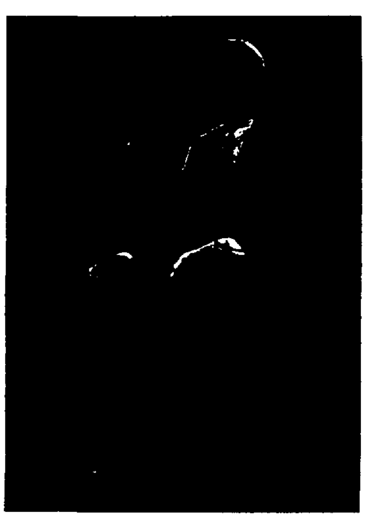
**(From left)**
**William C. Voss**
**John A. Brothers**
**Robert E. Yancey, Jr.**
**Senior vice presidents and group operating officers**

As a methanol producer, we do not believe that methanol is an environmentally superior product to gasoline. It is only one step away from formaldehyde in chemical composition. Studies have shown that burning methanol in a combustion engine results in three to five times more formaldehyde emissions. Formaldehyde is highly reactive and promotes the formation of ground-level ozone. Moreover, adequate technology does not yet exist to control formaldehyde emissions. Methanol is odorless, colorless and burns with an invisible flame, posing a higher risk to human health than does gasoline.

Ashland is one of 14 companies participating with the Big Three automakers in a joint research and testing study of a wide range of motor fuels for current and future use.

Due next summer, the study's first phase will examine the emissions, air quality effects and cost benefits of several alternative fuels. It also will examine reformulated gasoline. We believe that reformulated gasoline is more promising than methanol as the longer term solution to reducing auto emissions, but it also could require significant capital expenditures by the refining industry. Although proposed regulations, if enacted, will make our business more capital intensive, they also will increase the barriers to entry by new competitors.

John P. Ward
Secretary
of the corporation



Moreover, we expect the fundamentals of the refining industry to continue to improve. Demand for petroleum products is expected to grow by nearly 1 percent a year through the year 2000. And environmental regulations will make it more difficult to import petroleum products unless foreign refiners also make the necessary capital investments. Thus, we believe that future refinery margins will provide a satisfactory return on our capital expenditures.

Debate continues on other environmental issues which could affect several of our businesses in the coming decade.

Gasoline volatility standards were tightened in 1989, and further reduction is expected. New rules would have an impact on refining operations. Proposals to recover gasoline vapors as cars are being refueled could affect SuperAmerica. Legislation governing waste oil disposal and recycling, chlorofluorocarbons and similar issues will affect Valvoline. Ashland's coal investments stand to benefit from acid rain legislation allowing utilities to choose the least costly method of meeting sulfur dioxide standards. Chemical and exploration operations are already subject to a myriad of regulations.

Ashland will continue to monitor and participate in the debate concerning these issues.

**Environmental compliance**

Ashland is preparing in other ways to meet expected new environmental regulations. Corporate policy is to comply with all applicable federal, state and local laws and regulations.

RS-001445
1/17/02
NUECES

In fiscal 1989, the company prepared and sent to all employees an Environmental Policy Statement that clearly states this policy. The president of each operating company is responsible for making sure operations are in compliance. Comprehensive environmental health and safety programs are in place at all operating companies. The company has created a corporate environmental affairs group responsible for oversight and audit of compliance efforts. Beyond that, Ashland has communicated that environmental protection is the responsibility of every employee.

**Ashland: A retrospective**

As we enter the 1990s, we believe our strategy is still viable. It is to:

- emphasize and maintain a competitive position in refining and wholesale marketing;
- generate additional earnings from related, non-refining businesses, and our growth areas in particular; and
- maintain a strong financial position.

As we close out the 1980s, Ashland is much the same and yet very different from 10 years ago. Our refining and wholesale marketing operations are smaller, but more complex and efficient. Our non-refining businesses are clearly focused in areas where Ashland has proven expertise and a strong competitive position. We have divested a number of businesses which were unrelated to our strategy or which were not providing an adequate return on investment. In addition, we successfully implemented an employee stock ownership plan through which employees own nearly 20 percent of Ashland common stock.

**Shareholder returns**

We also initiated a stock repurchase program which has returned $318 million to shareholders since 1986. Between September 30, 1981, and the end of fiscal 1989, Ashland's common stock had nearly tripled in value. During that period, the average annual return to shareholders was 18.3 percent, based on stock price appreciation plus dividends compounded quarterly.

In summary, we believe Ashland has made progress in its mission to provide long-term shareholder value. With a solid core of profitable refining and non-refining businesses and with an innovative corps of about 37,800 employees, we look forward to a new decade of growth in the 1990s.

John R. Hall

Chairman of the board
and chief executive officer

November 7, 1989

RS-001448
1/17/02
NUECES

## PETROLEUM

With refining capacity of about 347,000 barrels of crude oil per calendar day, Ashland Petroleum is one of the nation's largest independent refiners. Ashland's three refineries produce a full range of petroleum products, which are sold to resellers and consumers from the East Coast to the Upper Great Plains. Gasoline sales represented about 23 percent, 23 percent and 25 percent of Ashland's consolidated sales and operating revenues in the fiscal years 1989, 1988 and 1987, respectively.

## SUPERAMERICA

The SuperAmerica chain, which has more than doubled in size since 1983, includes 585 high-volume SuperAmerica® stores in 17 states from the Upper Midwest to the Ohio Valley and Florida. Also included in the SuperAmerica Group are about 1,500 company- and dealer-operated outlets that sell gasoline under Ashland® and various other brand names.

## VALVOLINE

One of the nation's leading motor oil marketers, Valvoline is also a leading supplier of automotive and industrial products and services in more than 100 countries. It has core businesses in automotive, industrial and commercial lubricants, chemicals and coatings, and automotive services. Valvoline's growing presence in the quick-lube business includes 231 outlets operated by its Valvoline Instant Oil Change division.

## CHEMICAL

A worldwide leader in many specialty chemical markets, Ashland Chemical is also the leading North American distributor of chemicals and plastics. Continuing emphasis on quality products and fast, friendly customer service is one of Ashland Chemical's key strengths.

## CONSTRUCTION

With operations in 15 states, the APAC® group of construction companies is the leading highway contractor in the United States. In addition, APAC companies are major suppliers of such materials as hot-mix asphalt, ready-mix concrete, construction aggregates and other specialized construction materials.

## ENGINEERING

Operations include Ashland Technology Corp., an architectural and engineering design firm; Riley Consolidated, Inc., which provides power generation equipment; and Beaird Industries, Inc., a provider of industrial products and services.

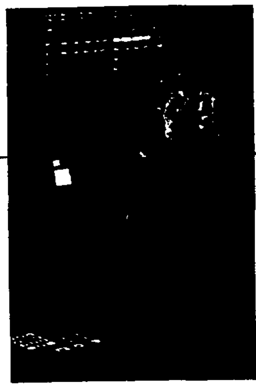
## EXPLORATION

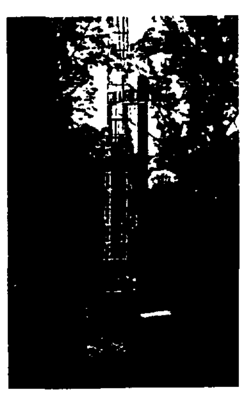
Ashland Exploration participates in oil and gas exploration and production in the United States and Nigeria. The company has proved domestic reserves of 2.5 million barrels of crude oil and 232 billion cubic feet of natural gas. Foreign reserves consist of about 41 million barrels of crude oil.

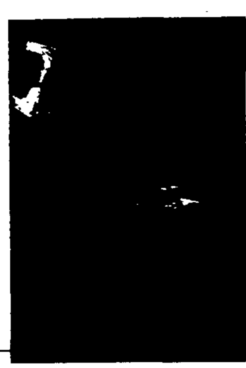
## COAL

Ashland owns 46 percent of Ashland Coal, Inc., a NYSE-listed company, and 50 percent of Arch Mineral Corporation. Both specialize in large-scale mining technology and market coal to utility and industrial customers in the United States and abroad.

RS-001447
1/17/02
NUECES

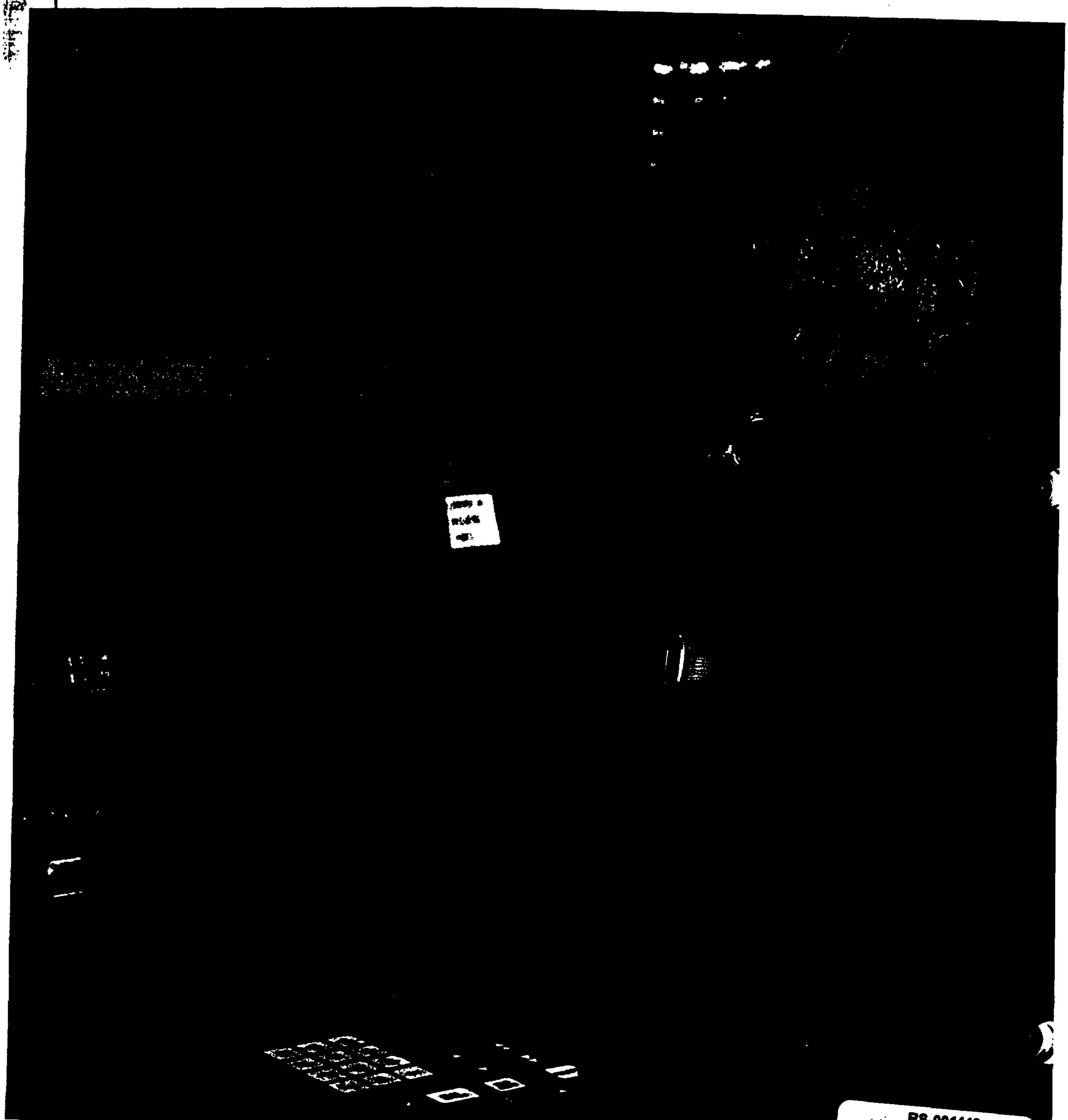


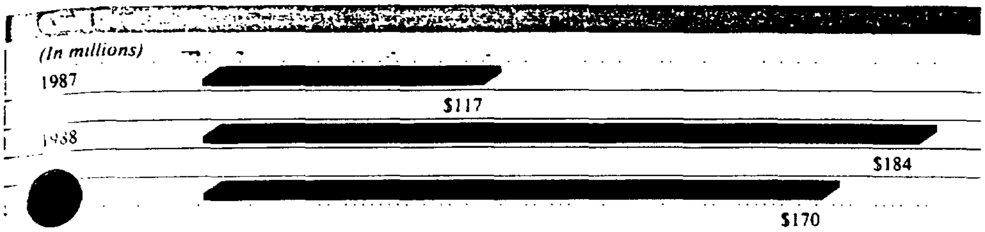




**Balance ... opportunity ... and advantage. Ashland's strategy of emphasizing its highly competitive core in refining and marketing, while expanding its related, non-refining businesses, provides both balance and opportunity—balance in earnings ability and opportunity for still greater growth. As the 1990s begin, Ashland's continuing strategy is a key competitive advantage.**

**Refining flexibility, strategically located refineries, and a highly efficient supply and distribution network help Ashland maintain a strong competitive advantage.**

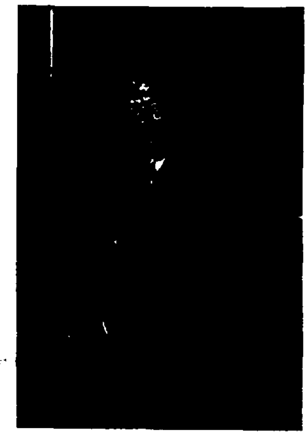





| (In millions) | 1989 | 1988 |
|---|---|---|
| Sales and operating revenues | $3,177 | $3,146 |
| Operating income | $ 142 | $ 179 |
| *(Barrels per day)* | | |
| Product sales | 334,012 | 355,683 |
| Crude oil refined | 304,219 | 320,669 |
| *(Dollars per barrel)* | | |
| Petroleum product sales prices | $23.08 | $21.57 |
| Crude oil purchase costs | $17.95 | $17.12 |

Ashland Petroleum Company, one of the nation's largest independent refiners, had operating income of $142 million in fiscal 1989, compared to $179 million in 1988. The decline reflected a negative swing in futures trading as well as the impact of major maintenance turnarounds at company refineries.

Although refinery margins on average were higher in 1989 than in 1988, they continued to be volatile. Margins were excellent when the year began, but were slow to respond to rapid crude oil price increases beginning in December 1988. Although margins recovered in the spring when product prices strengthened, previously scheduled maintenance turnarounds at two refineries kept Ashland from enjoying the full benefit of the improvement. The industry anticipated tight summer gasoline supply because of stricter, yield-reducing gasoline volatility requirements, but this did not occur. Rather, refinery utilization increased, and demand did not meet expectations. Gasoline stocks remained adequate, and margins declined in the September quarter as inventories began to build.



**Robert E. Yancey, Jr.**
**President**
**Ashland Petroleum Company**

## REFINING

Ashland's three refineries have a total refining capacity of about 347,000 barrels of crude oil per calendar day. Located at Catlettsburg, Ky.; St. Paul Park, Minn.; and Canton, Ohio, the refineries are in the heart of Ashland's major marketing areas. A current project to upgrade computerized controls at all locations will further enhance refinery yields and production rates and reduce operating costs as various phases are completed.

With continuous catalytic regeneration reformers, isomerization and alkylation units and other state-of-the-art refining technologies, the refineries can produce 185,000 b/d of unleaded gasoline. In June, the Catlettsburg and Canton refineries ceased production of leaded gasoline and added an unleaded midgrade to complement Ashland's regular unleaded and premium unleaded products. To help Ashland comply with federal requirements to reduce gasoline vapor pressure as well as to enhance octane capacity, a $15 million, 3,200 b/d methyl tertiary butyl ether unit is being added at Catlettsburg, Ashland's largest and most complex refinery. The MTBE unit is expected to come on stream in 1991. Because of the heavy oil upgrading capability at the Catlettsburg refinery, Ashland can process a wide variety of crude oils and still maximize the production of gasoline. Conversely, when conditions are appropriate, production of asphalt and other heavy oil products can be emphasized. Additional sulfur recovery units at all three refineries also will enable the company to run more high-sulfur crude oil, reduce sulfur dioxide emissions and provide other environmental benefits.

**At Ashland's largest and most complex refinery at Catlettsburg, Ky. (above), a $15 million expansion of the lube plant, which makes lube oil stocks for Valvoline, included computerizing control systems (left).**

Production of specialty products is an important part of Ashland Petroleum's strategy to guard against volatility in gasoline margins. Asphalts are produced for APAC and other road construction operations. The refinery supplies lube oil to Valvoline's motor oil blending and packaging plants as well as cumene and other petrochemicals marketed by Ashland Chemical. Expansions completed in the fall of 1989 at the Catlettsburg refinery increased lube oil volume by 20 percent to 8,500 b/d and cumene production by 25 percent to 5,000 b/d. Production of petroleum pitch, a specialty product used primarily for making carbon and graphite electrodes for the electric steel and aluminum industries, will be expanded by 50 percent to 1,800 b/d in the spring of 1990.

## SUPPLY AND TRANSPORTATION

Ashland Petroleum has an extensive, highly efficient transportation network for the supply and distribution of crude oil and petroleum products. Pipelines trans- port crude oil to the refineries, while pipelines, trucks and economical river trans- portation deliver products to distribution points. This network and the strategic location of Ashland's refineries provide significant transportation cost advan- tages. More than half of Ashland's crude oil is supplied by foreign sources and is off-loaded at the Louisiana Offshore Oil Port. Ashland Petroleum owns an 18.6 percent equity interest in LOOP, the nation's only deep-water unloading facility for very large crude oil tankers. Higher crude oil imports in 1989 led to increased throughput and improved financial performance at LOOP. Domestic crude oil is gathered by Scurlock Oil Company, a wholly owned subsidiary and one of the largest crude oil gathering and transportation companies in the nation.

Petroleum products are shipped via rivers to 30 strategically located terminals. This system continues to be upgraded, as demonstrated by a modern, new facility at Midland, Pa. This facility offers additional distribution flexibility by linking the Catlettsburg refinery's river transportation network with a pipelin system which serves the Canton refinery.

## WHOLESALE MARKETING

Ashland Petroleum is a leading supplier of gasoline and other petroleum produc to independent marketers, rail, airline and motor vehicle fleet operators, and other industrial customers. A full line of quality products and a flexible gasoline ethanol blending program at company-controlled terminals and refinery shippin points, as well as responsive customer service, are key competitive advantages.

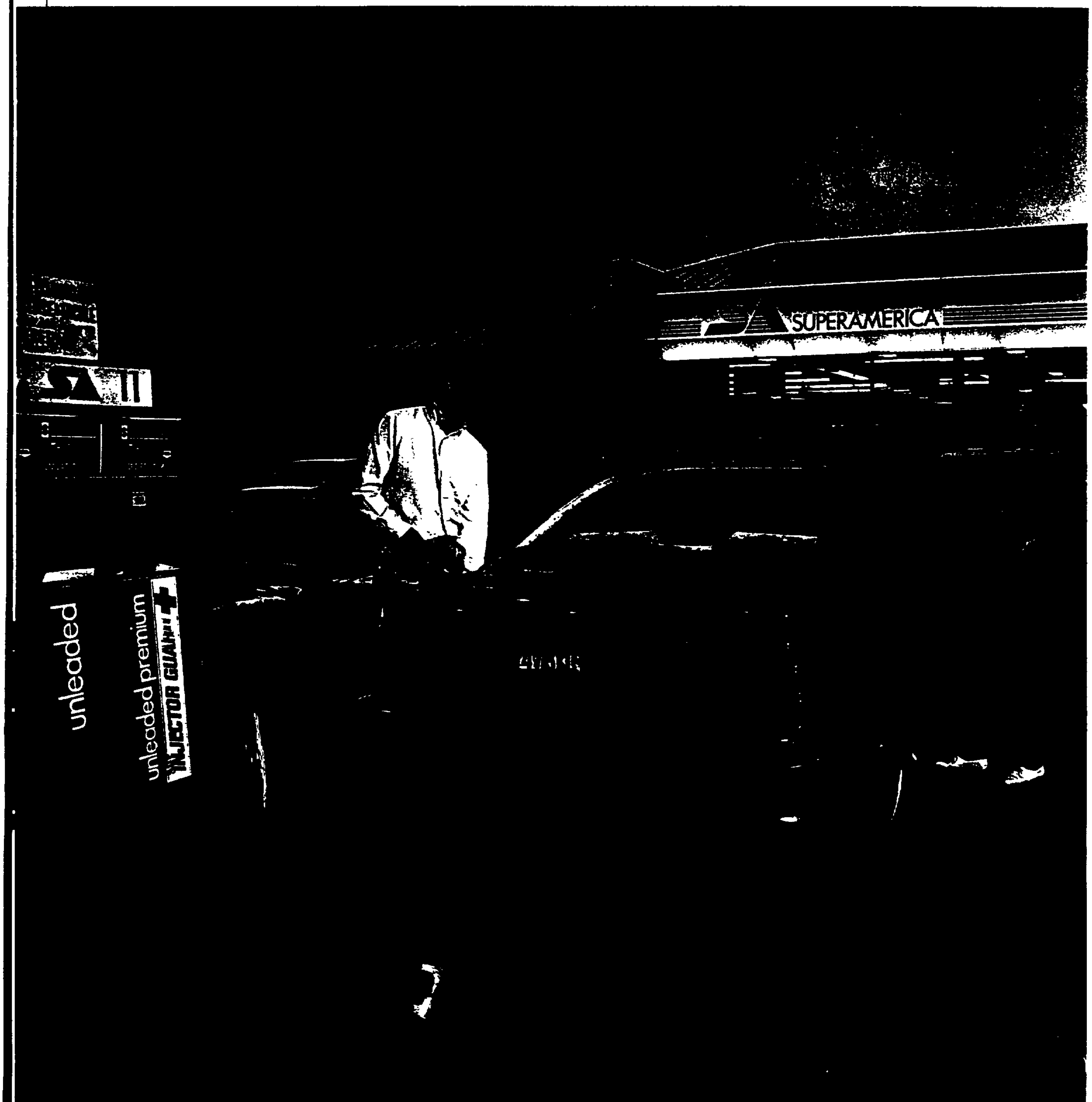
Lower production due to the maintenance turnarounds affected gasoline and distillate sales volumes in fiscal 1989. Asphalt volumes were down slightly because of unusually heavy rainfall during the construction season. Ashland is among the top U.S. asphalt marketers, with 20 asphalt cement and emulsion marketing locations. In addition, a newly constructed terminal in Indianapolis will enhance Ashland's future ability to serve this market.

## OUTLOOK

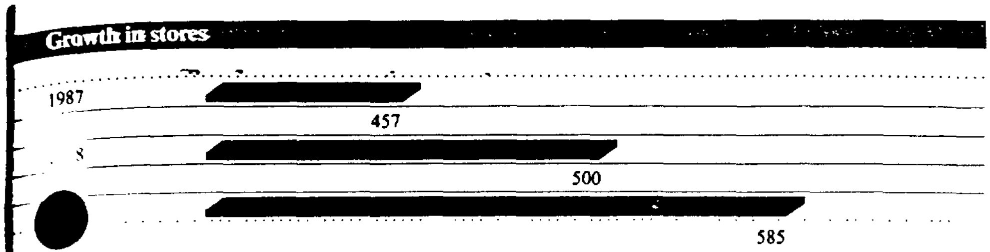
Due to tight capacity, the outlook for the refining industry is greatly improved from four or five years ago. Refiners are cautious in capacity expansion plans, concentrating capital spending on marketing, octane generation and compliance with environmental rules.

Increasingly complex environmental regulations, related public cor cerns and enormous capital requirements make it unlikely that new refineries ca be built economically in the United States. On the other hand, demand for petro leum products continues to grow, although at a slower rate than in the past thre years. Ashland Petroleum's strengths make it well-positioned to take advantage of this economic environment.

The addition of 300 stores during the 1980s is clearly evident in increased sales and profits. Thirty more SuperAmerica stores are planned for fiscal 1990.



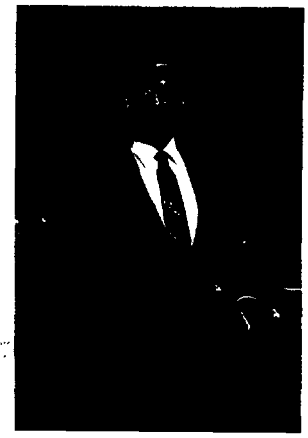

RS-001453
1/17/02
NUECES




| (In millions) | 1989 | 1988 |
|---|---|---|
| Sales and operating revenues | $1,795 | $1,604 |
| Operating income | $ 53 | $ 50 |
| Merchandise sales | $ 479 | $ 428 |
| (Barrels per day) | | |
| Product sales | 88,555 | 85,457 |

The SuperAmerica Group, Inc., Ashland's retail gasoline marketing subsidiary, had a second consecutive year of record-high earnings. Operating income was $53 million, 5 percent above last year. Strong gasoline margins in the first and part of the fourth quarters, along with strong gasoline and merchandise volumes throughout the year and higher merchandise margins, offset a second-quarter lag in retail gasoline margins.

The group includes the SuperAmerica® chain of combination gasoline and merchandise stores, as well as 156 other company-operated retail gasoline outlets in eight states. Also included are 136 bulk plants which market gasoline and fuel oil and about 1,400 Ashland® branded dealer operations and reseller outlets. Ashland's branded group markets gasoline and fuel oil to both resellers and consumers and continues to fill a niche in the marketplace through full-service, dealer-operated outlets.



**John F. Pettus**
**President**
**SuperAmerica Group, Inc.**

## SUPERAMERICA STORES

The SuperAmerica chain is the largest contributor to SuperAmerica Group sales and earnings. The chain boosted sales volumes of gasoline and merchandise for the sixth straight year.

SuperAmerica, which has more than doubled in size since 1983, is still growing. In August, it acquired 66 7-Eleven properties in Minnesota and Wisconsin from The Southland Corporation. Fifty-four of the properties are urban locations in the Minneapolis/St. Paul area, providing SuperAmerica with an even stronger presence in this important market. SuperAmerica also opened an additional 29 stores in 1989, for a net total of 585. Stores are located in 17 states, primarily in the Upper Midwest, Central Ohio Valley and Florida.

In addition to competitive gasoline prices, SuperAmerica stores attract customers with spacious facilities, including pump islands with as many as 48 nozzles. A new, mid-grade unleaded gasoline, introduced in some markets last summer, expanded SuperAmerica's fuel product line. Merchandise sales increased 14 percent over 1988, reflecting continued emphasis on clean, attractive stores, a friendly, well-trained staff, and well-stocked shelves. SuperAmerica stores carry a wide range of nationally known products as well as many private-label products and a line of fast foods and fresh-baked goods.

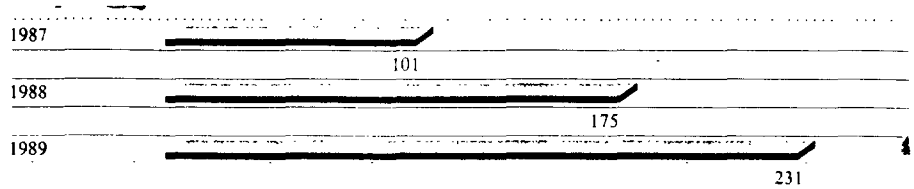
**SuperAmerica stores cater to their customers' needs with well-designed fueling islands, high-quality merchandise and such time-saving services as ATMs, videotape rentals and fast food and deli items.**

## OUTLOOK

As the U.S. population ages and the number of two-income families increases, consumers place increasing emphasis on convenience and time value.

Already offering such innovations as automated teller machines, video rentals, facsimile machines and a broad selection of fast foods, SuperAmerica should maintain its position as industry leader in appeal and value to its customers. Although competition is increasing, a commitment to quality, service and innovation will keep SuperAmerica at the forefront of the industry. With the expected addition of approximately 30 new stores, total sales volumes should increase again in 1990, and SuperAmerica anticipates continued growth.

| (In millions) | 1989 | 1988 |
|---|---|---|
| Sales and operating revenues | $616 | $571 |
| Operating income | $ 36 | $ 30 |
| (Barrels per day) | | |
| Product sales | 12,397 | 13,124 |




One of the nation's leading motor oil marketers, Valvoline, Inc. is also a leading supplier of automotive and industrial products and services in more than 100 countries, with core businesses in automotive, industrial and commercial lubricants, chemicals and coatings, and automotive services. In 1989, operating incoı grew by 18 percent to $36 million.

In an intensely competitive climate, Valvoline committed itself to a marketing strategy emphasizing quality, brand image and value. The branded sa and marketing groups reorganized to increase emphasis on customer service and responsiveness. An aggressive television advertising campaign promoted Valvoline's proven performance. Primary sponsorship of the nationally televised "Valvoline National Driving Test" brought unprecedented, quality exposure to t company and its branded motor oil products. Continued alliance with such motorsports events as the Indianapolis 500 and the event sponsorship of the Valvoli Detroit Grand Prix CART Race enhanced brand recognition. Branded operatin income increased as a result of these activities and favorable margins, even thou sales volumes were down due to less reliance upon price promotions.

Valvoline continues to expand its quick-lube presence to capitalize on the growing trend toward having service operators install motor oil and relat automotive products. Valvoline Instant Oil Change has 231 company-owned uni in 12 states with plans to open 30 more by fiscal year-end 1990. Valvoline Insta Oil Change Franchising, Inc. also continues to grow. Eight franchisees have co mitted to open 36 units in seven states.

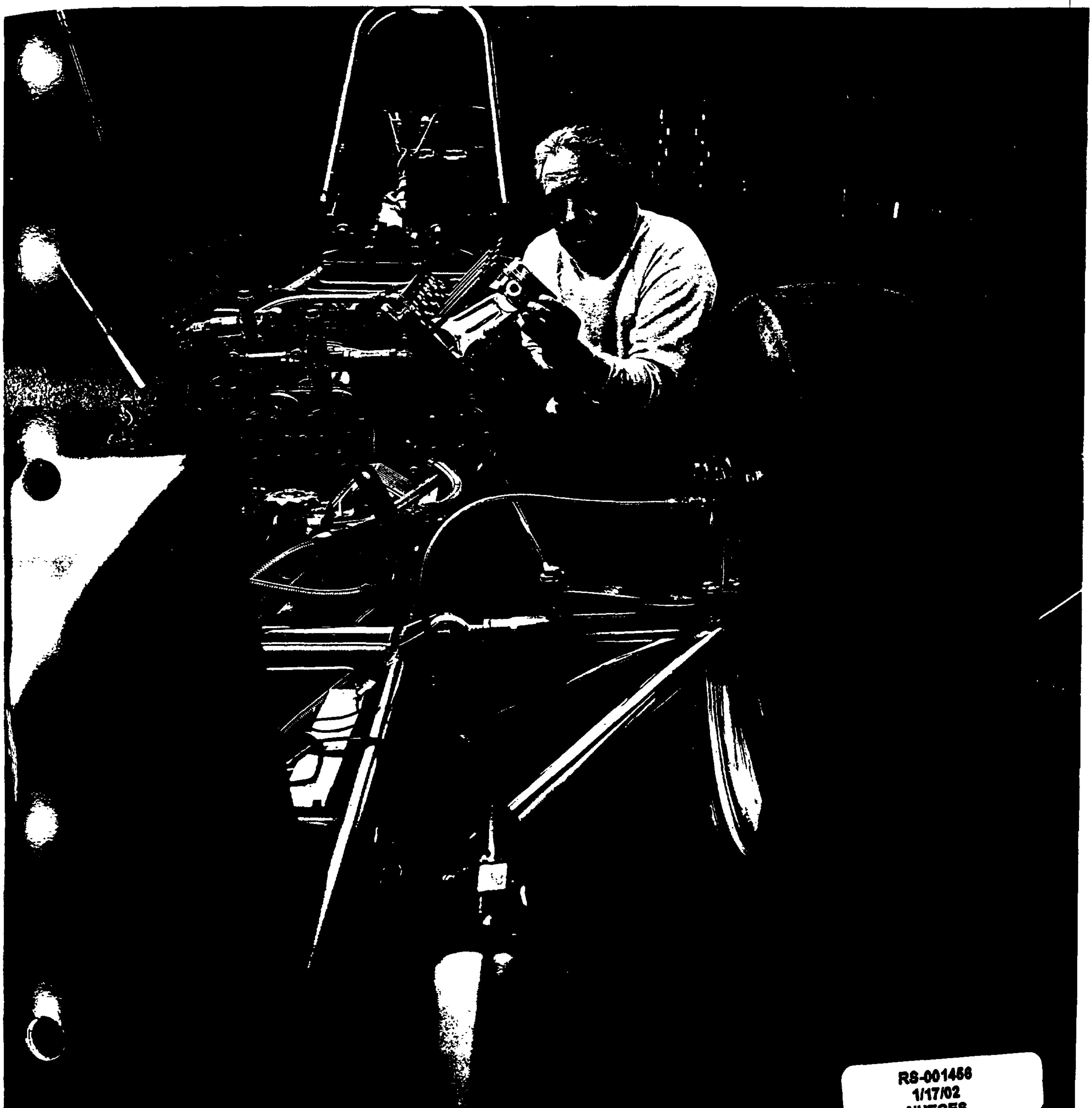
International operations reported excellent results. Valvoline's Aus tralian and Canadian affiliates had record performances, and it was a good yeaı for the company's United Kingdom affiliate as well. New affiliate companies we established in Denmark and Sweden.

## AUTOMOTIVE CHEMICALS

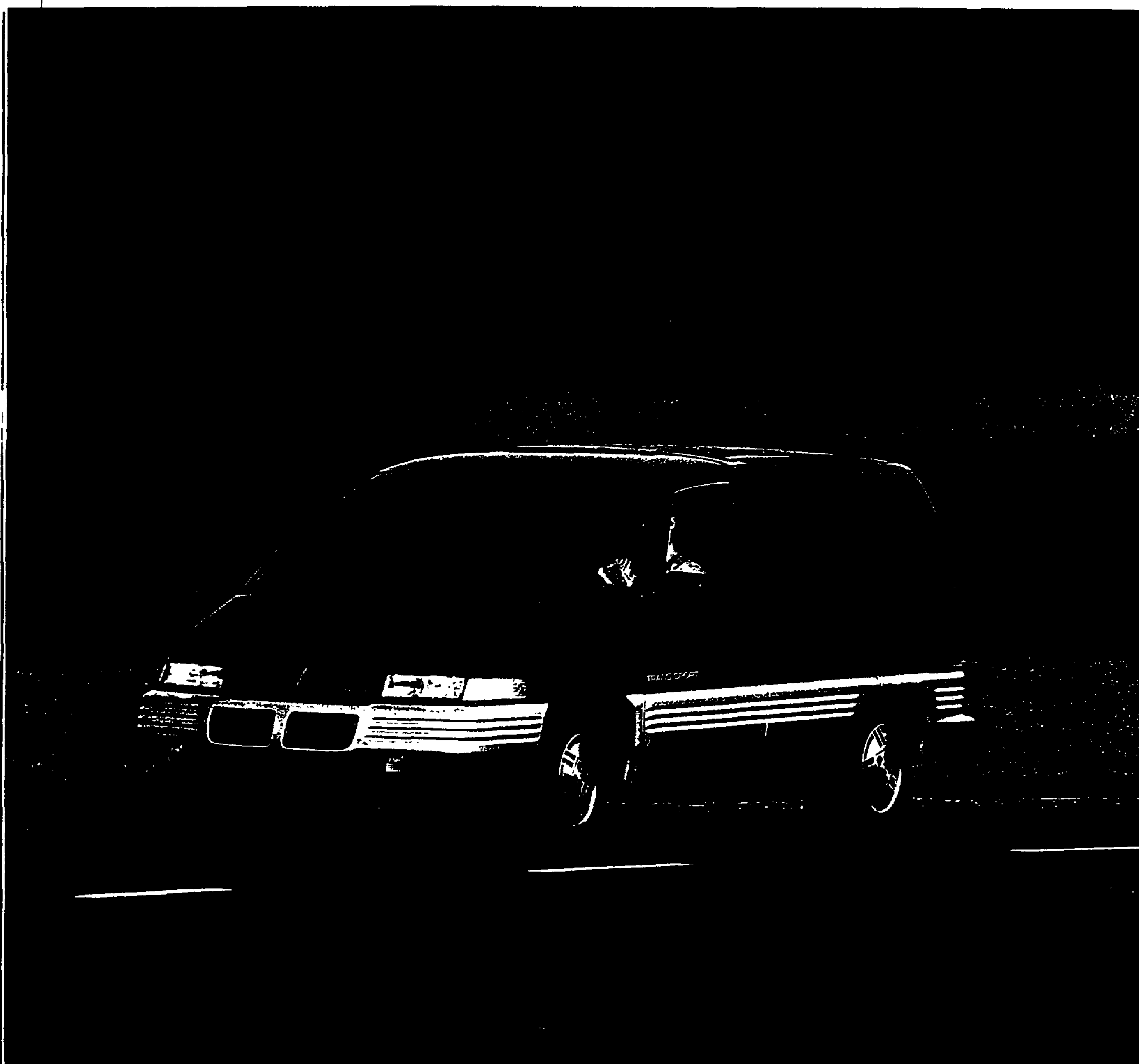
Valvoline's IG-LO division had a successful year. The acquisition last fall of Pyroil, a manufacturer of automotive chemicals, diversified the IG-LO® product li and expanded its marketing base. Pyroil and NAPA/Mac's packaging plants weı relocated to an expanded Hernando, Miss., facility, demonstrating Valvoline's long-term commitment to those product lines. The move reduced costs and improved competitive position. As the transition from chlorofluorocarbons to oth alternative refrigerants continues, Valvoline entered a joint venture to produce and market CFC reclamation equipment.

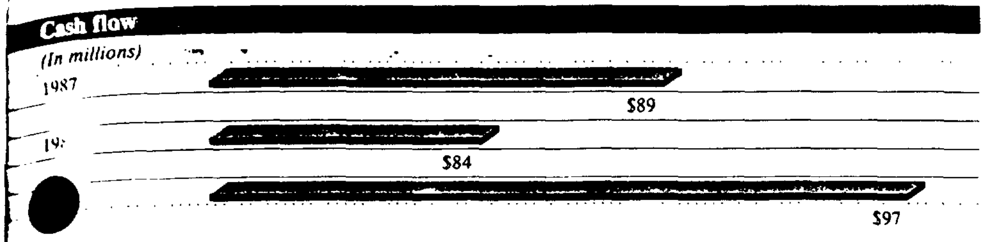
## OUTLOOK

Valvoline plans a continuing emphasis on product quality and added value through carefully directed marketing and advertising. Through its 1989 brand re positioning efforts, programs are in place to rebuild volumes to maintain or increase market share. As VIOC units mature, the installed business will become increasingly important component of Valvoline's profitability. Already active in waste oil and plastics recycling, the company will continue to take a role in addressing environmental concerns now facing the industry.



**Ashland Chemical plans to continue to grow by acquisition and to increase earnings by stressing quality, customer service, efficiency and employee involvement.**






| (In millions) | 1989 | 1988 |
|---|---|---|
| Sales and operating revenues | $2,230 | $2,090 |
| Operating income | $ 128 | $ 102 |

A worldwide leader in many specialty chemical markets, Ashland Chemical, Inc. is also the leading North American distributor of chemicals and plastics. The company experienced strong global demand throughout most of 1989 and expanded both its product lines and geographic distribution. Ashland Chemical sold its carbon black operations in 1989, resulting in a pre-tax gain of $30 million. Excluding carbon black operations from both years, operating income of $98 million exceeded last year's record results.

Ashland Chemical's ability to adapt quickly to changing market conditions is an important advantage in the competitive chemical industry. Its 11 divisions are grouped into three lines of business: chemical and plastics distribution, specialty chemicals and commodity chemicals.

**David J. D'Antoni**
**President**
**Ashland Chemical, Inc.**

## DISTRIBUTION

As the second largest North American distributor of industrial chemicals, Ashland's Industrial Chemicals & Solvents Division markets some 4,000 products in less-than-truckload quantities from more than 70 facilities. IC&S traditionally has served industrial markets, but recently targeted non-traditional markets as a way to increase growth. The division's Fine Ingredients Department was established early in 1989, and IC&S is actively obtaining new product lines to complement this growing food and beverage, cosmetics and pharmaceutical ingredients distribution business.

Already the leading U.S. distributor of prime thermoplastic raw materials for injection molding and other processes, General Polymers penetrated the Canadian market with a successful new distribution center in Brampton, Ontario. A Montreal facility will open in 1990. General Polymers expanded its product line in October 1989, as it was appointed exclusive national distributor for seven E. I. duPont de Nemours & Company engineering thermoplastic resins.

The Thermoplastics Services Division, a bulk distributor of commodity thermoplastic resins, continued its rapid growth in the domestic market. Supply arrangements were further solidified with several key producers.

FRP Supply Division, the nation's largest distributor of resins, fiberglass and other materials to fabricators serving the transportation, construction, marine and industrial markets, entered West Coast markets in 1989. It established a Los Angeles-area distribution business and acquired Royell, Inc. in San Francisco. The acquisition of Henry & Frick, a Bridgewater, Mass., distributor, expanded East Coast markets as well. FRP Supply also gained national distributor status for DuPont's dibasic ester solvent.

**Ashland Chemical supplies a wide variety of specialty chemicals, including products for General Motors' new A-vans (left) and marine chemicals to more than 15,000 vessels in the world's merchant marine fleets (above).**

## SPECIALTY CHEMICALS

Ashland manufactures and markets a variety of specialty chemicals, resins and adhesives for industry. Ashland provides a majority of the resins and adhesives used in the all-plastic body of General Motors' new GM-200 all-purpose van. Ashland's PHASE ALPHA SMC® resin is used in many of the body panels, while PLIOGRIP® adhesives attach the van's panels to its steel frame. This involvement led to expansion of the Ashland, Ohio, adhesives plant. While this new opportunity is expected to boost 1990 earnings, the long-term potential is more significant.

RS-001458
1/17/02
NUECES

To complement its PLIOBOND® industrial adhesives business, the S cialty Polymers & Adhesives Division acquired the adhesives and sealants busin of Rocket Research Company, which supplies materials for single-ply roofing sy tems. The division also began a significant expansion of pressure-sensitive adhe sive production capacity at its Calumet City, Ill., plant.

The Drew Ameroid® Marine Division, the world's leading supplier marine service chemicals, had its best year since joining Ashland in 1981, reflec ing a strong worldwide market and record sales. A leading world supplier of wa treatment chemicals, the Drew Industrial Division had another excellent year. Sales from continuing operations were a record, due in part to three 1988 acqui tions. Drew Industrial expects more growth through acquisition.

The Electronic & Laboratory Products Division, a supplier of higl purity chemicals for semiconductor production and other uses, penetrated the Korean market, a credit to the product line's superior quality. The division bega using its clean room automated packaging facilities at Easton, Pa., and Dallas t package for other companies needing controlled environments.

Strong worldwide demand and continued acceptance of patented products led to excellent results for the Foundry Products Division, the world's leading supplier of foundry chemicals. The completion and start-up of two new computerized reactors at a Cleveland plant will improve quality and efficiency a well as boost production to meet increasing demand. Numerous foreign operations were expanded.

## COMMODITY CHEMICALS

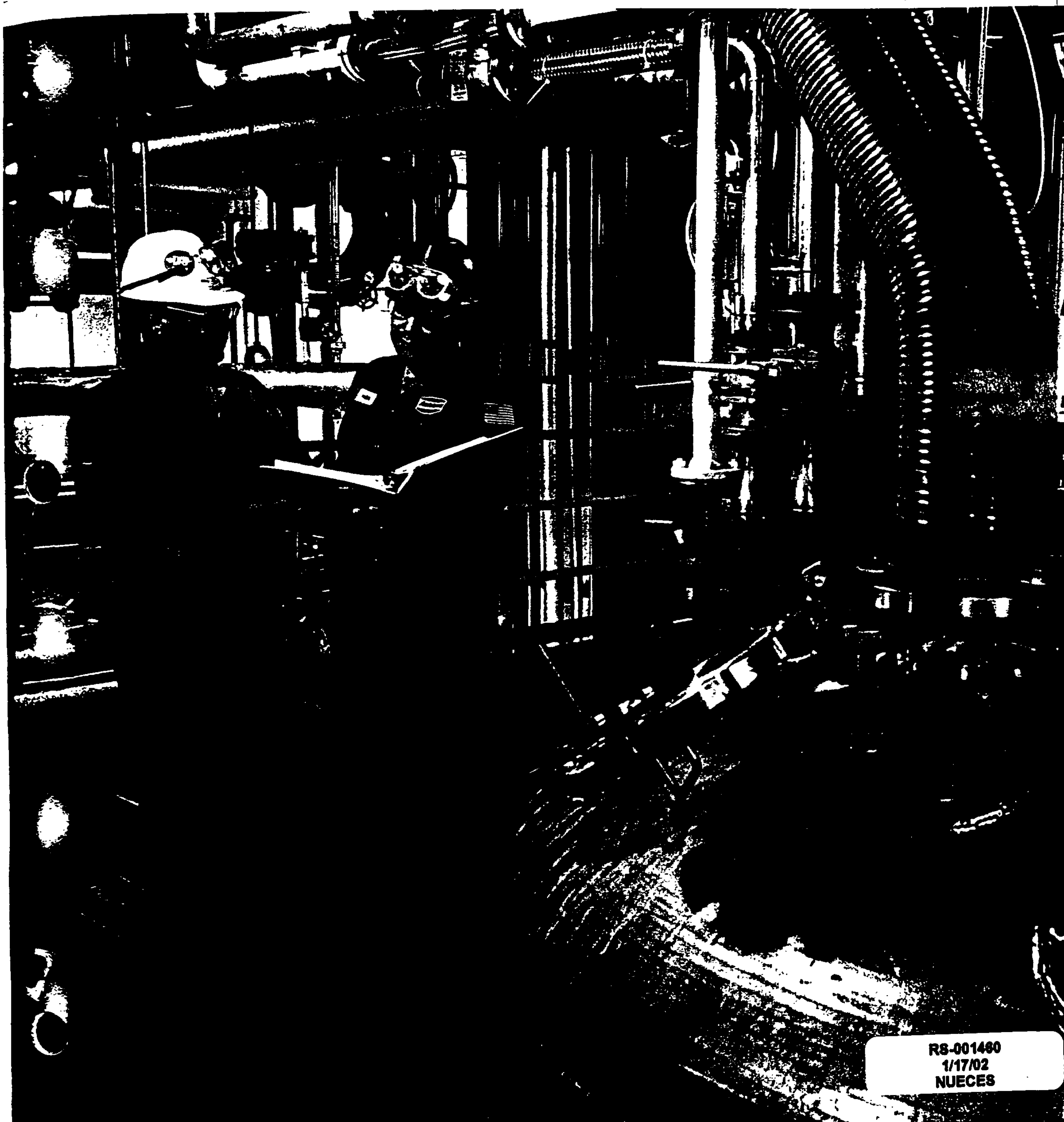
A generally tight supply/demand balance resulted in a good year for commodity product lines. Maleic anhydride operations had a strong year following the 1988 completion of a 40-percent expansion in capacity. In 1989, the Neal, W.Va., plai installed additional computerized controls to increase efficiency and product co: sistency. Improved demand and higher prices for methanol prompted Ashland t re-open a Plaquemine, La., methanol manufacturing plant. Ashland Chemical purchased its previous partner's 50-percent interest in the plant and secured a long-term sales agreement to provide much of the plant's output to a major user of methanol for MTBE production.



## OUTLOOK

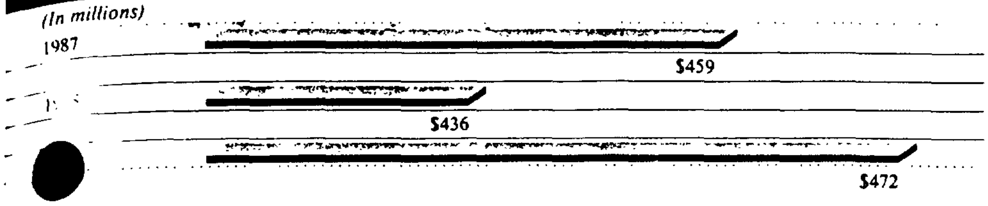
If the U.S. economy slows, a comparable slowdown in some chemical businesse is forecast, especially in those product lines which supply the automotive, housi and appliance industries. Due to its broad earnings base, Ashland Chemical is n totally reliant on those segments most affected by an economic slowdown. In ad dition, because of the expectation of continued strong international demand, a 1990 downturn in the U.S. economy would have less effect on those businesses i which Ashland has a strong international presence.

Ashland Chemical actively supports the Chemical Manufacturers Association's initiative, called Responsible Care, to implement codes of management practices for member companies, which are aimed at improving the industry's performance in health, safety and environmental quality.


RS-001460
1/17/02
NUECES

**APAC's competitive strengths are localized operations, more than 10,000 pieces of mobile construction equipment, and significant capacity to produce construction materials for use and sale.**

**Construction backlog**




| (In millions) | 1989 | 1988 |
|---|---|---|
| Sales and operating revenues | | |
| Construction | $1,066 | $1,064 |
| Engineering | $ 601 | $ 647 |
| Operating income (loss) | | |
| Construction | $ 40 | $ 68 |
| Engineering | $ (90) | $ (18) |

An unusually wet construction season, which prevented normal activity, and a soft Arizona market for ready-mix concrete and other construction materials hurt APAC's earnings. Operating income declined to $40 million.

A leading provider of highway construction services and materials, APAC has operations in 15 Sun Belt states. Expanding highway tax revenues in Virginia, North Carolina and Tennessee make prospects in these states particularly good. The acquisition of Ashburn and Gray, Inc., a 40-year-old, Huntsville, Ala., highway contractor, strengthens APAC's position in that market.

Revenues are split about evenly between public and private sectors, a desirable and long-pursued strategy, which means APAC is not totally dependent on either public funding or private contracts. APAC companies market their services to federal, state and local agencies responsible for building and maintaining the nation's streets and highways, as well as to private developers of shopping centers, housing developments and office and apartment complexes. A large base of construction assets enables APAC to capitalize on growth in both sectors.

APAC companies are major suppliers of such materials as hot-mix asphalt, ready-mix concrete, construction aggregates and other specialized construction materials. APAC added new plants in Richmond, Va., Memphis and Atlanta to its network of 164 strategically located asphalt plants.

**G. William Jones**
**President**
**APAC, Inc.**

## OUTLOOK

Knowledgeable employees who estimate costs, manage construction and maximize efficiency make APAC companies versatile competitors. APAC entered fiscal 1990 with a combined backlog of $472 million, and both public funding and interest rates are at favorable levels. APAC companies will seek growth through acquisition, internal expansion and increased materials production and sales.

## ENGINEERING

This segment includes Ashland Technology Corp., Riley Consolidated, Inc. and Beaird Industries, Inc. A $90 million operating loss was due mainly to unusual items: a $38 million addition to reserves to correct problems with certain boilers Riley built, a $20 million charge related to an arbitration award ending a dispute between Riley and a customer, and a $15 million charge related to the planned disposition of ATC.

Ashland has announced plans to sell ATC to subsidiary management and employees. Negotiations to complete the sale are continuing. ATC offers high-technology architectural, engineering and related construction, operations and maintenance services to private and governmental customers worldwide.

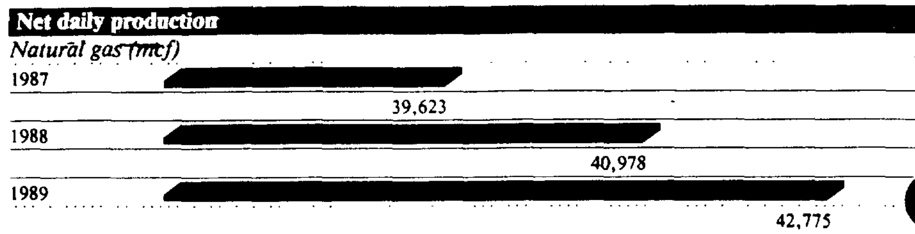
Ashland also plans to sell Beaird Industries. The Shreveport, La., subsidiary manufactures metal products and makes industrial silencers, desalinators, evaporators, and heat exchange and gas-processing equipment under trademark. Beaird significantly improved its profits in 1989.

Riley provides steam and power generation equipment, services, construction and complete facilities, primarily for domestic electric utilities, industry and communities. Riley continued to have problems in meeting guarantees on some multi-solid fluidized bed boilers, and Ashland added to related reserves.

**APAC was chosen to fulfill the demanding specifications of paving Dunlop Tire Corp.'s tire test track (above) and NASA's Marshall Space Flight Center (left). These Huntsville, Ala., projects reflect the diversity of APAC's expertise.**

RS-001462
1/17/02
NUECES

| (In millions) | 1989 | 1988 |
| --- | --- | --- |
| Sales and operating revenues | $253 | $199 |
| Operating income | $ 20 | $ 2 |
| *Net daily production* | | |
| Domestic crude oil (barrels) | 2,084 | 2,366 |
| Foreign crude oil (barrels) | 33,540 | 30,922 |
| Natural gas (mcf) | 42,775 | 40,978 |




**James R. Boyd**
**President, Ashland Exploration, Inc.**

Operating income from Ashland Exploration, Inc. increased dramatically to $20 million in 1989. Profit contributions from overseas operations and higher revenues from domestic natural gas sales were key factors in this success. Ashland made progress in recovering capital costs associated with overseas operations anc began recognizing operating income in excess of interest costs incurred.

Ashland Exploration operates in the United States and Nigeria. Located primarily in the Appalachian and Illinois basins and along the Gulf Coast, Ashland's U.S. reserves consist of 2.5 million barrels of crude oil and 232 billion cubic feet of natural gas. Domestic crude oil production averaged 2,084 b/d, down from the 2,366 b/d produced in 1988. Domestic natural gas production averaged 43 million cubic feet per day, up 4 percent from last year.

Ashland's strategy is to concentrate its future domestic activity on natural gas, which is becoming more economical and environmentally attractive for domestic producers. Properties in Kentucky and West Virginia contribute approximately 90 percent of Ashland's current domestic natural gas production. Ashland's decision to expand natural gas deliveries in this region will result in continued drilling to increase proved developed reserves. Ashland drilled 108 wells i this area in 1989 and all were successful.

Ashland drilled two successful gas discovery wells on Gulf Coast prospects. The company has a 50-percent interest in a Matagorda County, Texas well, and a 67-percent interest in the Vermilion Block 166 well offshore Louisian

Ashland's Nigerian operations are conducted under a production-sharing contract with the Nigerian National Petroleum Corporation. Internatior reserves are estimated at approximately 41 million barrels of crude oil. In 1989, Nigerian production averaged 33,540 b/d, compared to 30,922 b/d in 1988.

Development drilling and workovers of existing wells resulted in increased production. The Ukpam production platform, brought on stream durin the second quarter, currently produces 3,400 b/d of crude oil. In addition, a thr well workover program was initiated onshore in the Izombe field, resulting in a 2,700 b/d production increase. One of two new wells drilled in the Mimbo field logged 106 feet of net oil pay in one sand, a record for Ashland's Nigerian offshore drilling program. The new drilling at Mimbo should increase proved reserves by at least 2.4 million barrels.

**(Above) The Antan offshore terminal serves the company's Nigerian operations.**

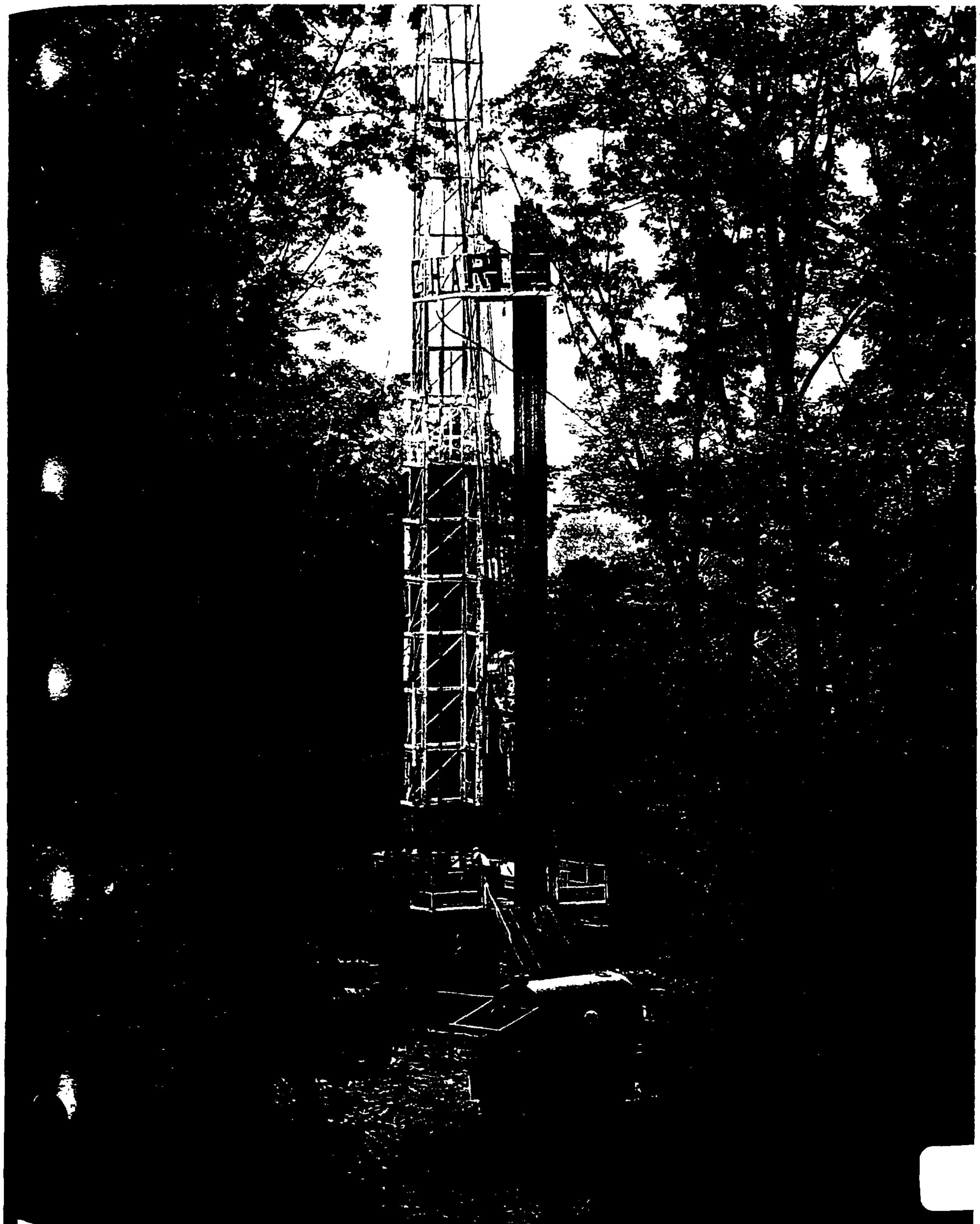
**(Right) Ashland Exploration stepped up its Eastern Region drilling program, concentrating on natural gas wells such as this one in Pike County, Ky.**

## O U T L O O K

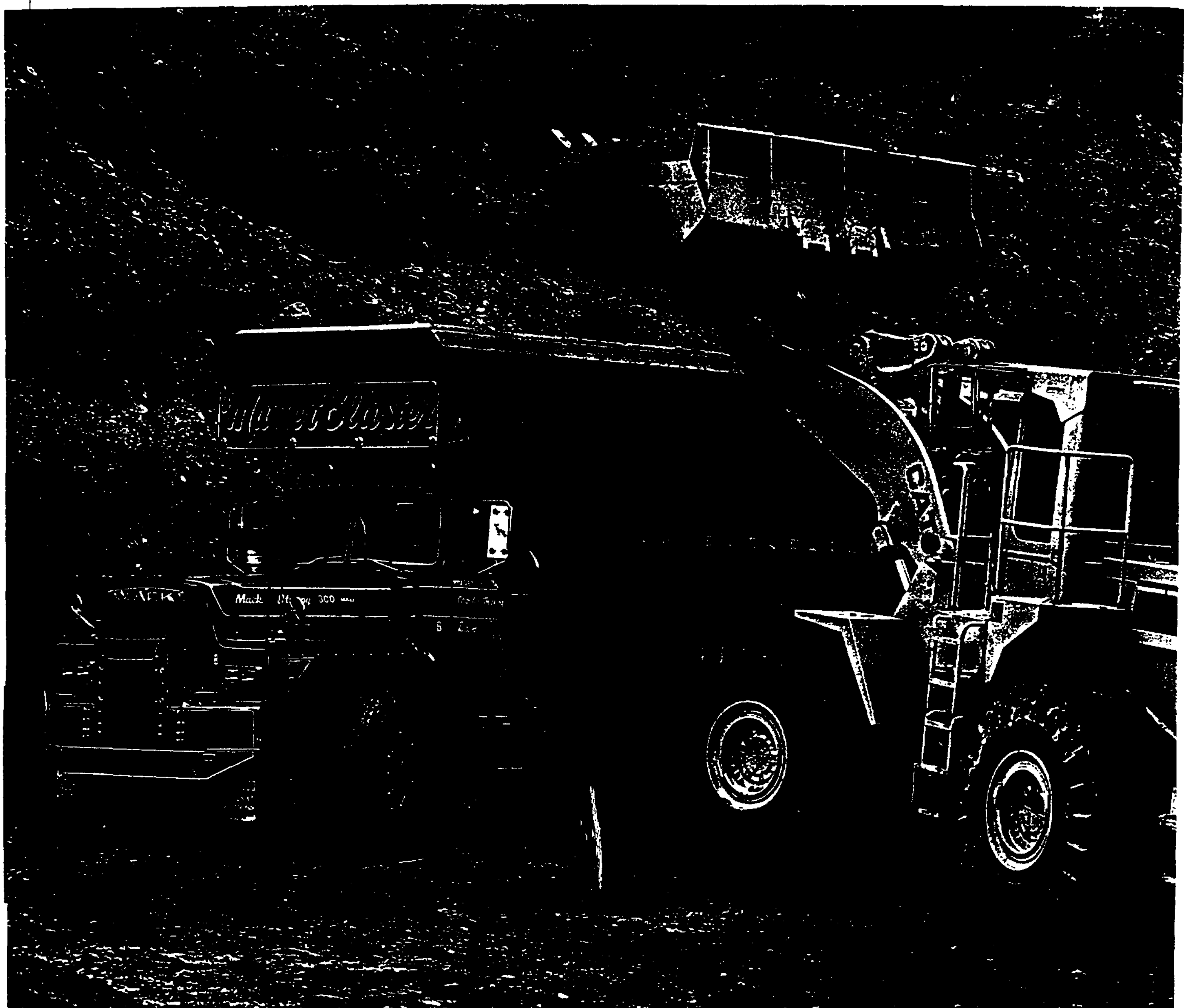
In today's volatile marketplace, Ashland Exploration is aggressive in seeking ne opportunities to explore and exploit its asset base. Ashland's strategy is to add t reserves primarily through acquisition or drilling on internally generated prospects. In the Eastern Region, accelerated drilling will allow the company to take full advantage of strong and growing natural gas markets. For the long term, Ashland continues to investigate acquisitions, possible partnerships or other coi binations to add to size and scope.

RS-001463
1/17/02
NUECES

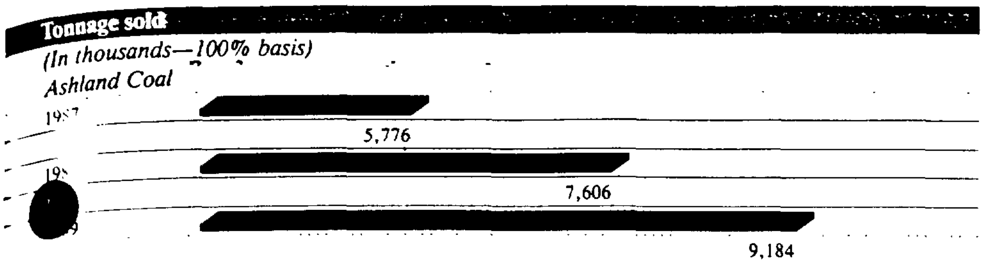
**Ashland Exploration will continue to seek new opportunities to expand and exploit its asset base and capitalize on such strengths as its long-life natural gas reserves in the Appalachian Basin.**



**Both Ashland Coal and Arch Mineral are well-positioned for expected new clean air standards requiring industry to use low-sulfur coal or invest in scrubbing technology.**



RS-001466
1/17/02
NUECES




| (In millions) | 1989 | 1988 |
|---|---|---|
| *Equity income* | | |
| Ashland Coal | $10 | $19 |
| Arch Mineral (including royalties to Ashland) | $21 | $28 |
| *(In thousands—100% basis)* | | |
| *Tonnage sold* | | |
| Ashland Coal | 9,184 | 7,606 |
| Arch Mineral | 20,025 | 17,994 |

Ashland participates in the coal industry through ownership interests in Ashland Coal, Inc. and Arch Mineral Corporation. Ashland also receives royalty income from certain coal lands leased to Arch Mineral. Equity income from coal investments declined 33 percent to $31 million. Union work stoppages, primarily caused by a national union dispute with another company, affected both Ashland Coal and Arch Mineral. Contract negotiations, which reduced sales prices, also played a large part in results for both. Ashland's equity income also was affected by its reduced ownership in Ashland Coal, resulting from that company's 1988 restructuring. Despite these factors, Ashland Coal contributed $10 million in equity income to Ashland, while Arch Mineral contributed $21 million. Equity income from Arch Mineral includes net income from royalties.

**William C. Payne**
**President and chief executive officer**
**Ashland Coal, Inc.**

## ASHLAND COAL

Ashland has a 46-percent interest in NYSE-listed Ashland Coal, a regional producer with more than 400 million tons of proven and probable reserves of high-quality, low-sulfur steam coal in southern West Virginia and eastern Kentucky.

In January, Ashland Coal acquired Coal-Mac, Inc., an eastern Kentucky producer and marketer of low-sulfur steam coal. An independent subsidiary, Coal-Mac was the major source of Ashland Coal's increased revenue and a significant contributor to its earnings. Coal-Mac's strengths include low-cost production, a skilled workforce and four long-term contracts. Mining approximately 2.3 million tons a year from small, highly efficient surface and deep mines, Coal-Mac can competitively deliver its coal by rail, truck or water. Ashland Coal's April acquisition of Bebe Coal Corporation, in which Coal-Mac had a 50 percent ownership interest, complements Coal-Mac's operations. Bebe's 90-railcar coal-loading facility is strategically located on the CSX railroad in eastern Kentucky.

Ashland Coal's independent operating subsidiary in West Virginia, Hobet Mining, Inc., continued to seek productivity gains through technological improvements. New computer equipment at Hobet's two, large-scale surface mines optimizes production capabilities from the dragline at each mine. New equipment at Hobet's Beth Station preparation plant uses more efficient separation methods to remove impurities and increase the yield of salable coal.

Ashland Coal employs highly efficient, low-cost means to mine, process and transport low-sulfur coal primarily for domestic utility consumption, but also for export. Coal exports strengthened during 1989, reflecting increased demand for coal-fired power in Europe.

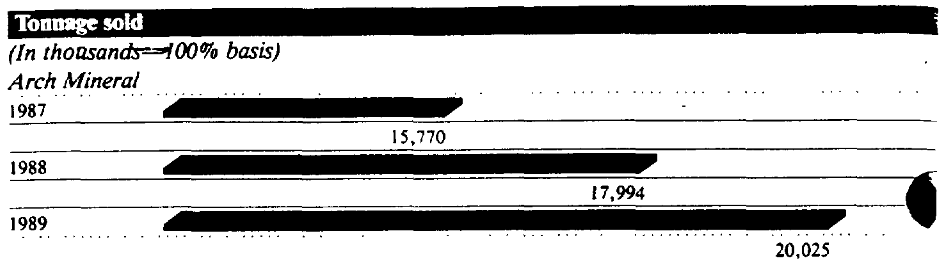
**(Above) At Ashland Coal's Lockwood Dock barge-loading facility in eastern Kentucky, coal can be shipped to domestic customers or export terminals.**

**(Left) The acquisition of Coal-Mac, Inc. brought new mines and production in Kentucky.**

### OUTLOOK

Ashland Coal is optimistic about the future. In the near term, spot market prices should maintain their current strength. Demand should remain strong, particularly as utilities rebuild coal stockpiles depleted during the work stoppage. Domestic growth rates and the likelihood that acid rain legislation will be enacted should benefit low-sulfur coal demand. The international market should increase in importance as European power demand continues to grow at a healthy pace. Ashland Coal's solid financial condition will allow it to grow in this environment through its active acquisition program and development of its own reserves.

RS-001486
1/17/02
NUECES




## ARCH MINERAL

**William G. Heckman**
**Chairman**
**and**
**R. E. Samples**
**President and chief executive officer**
**Arch Mineral Corporation**

Ashland has a 50-percent ownership interest in Arch Mineral Corporation. The St. Louis-based company, which provides coal to domestic and foreign utility and industrial customers, operates mines in Illinois, Kentucky, West Virginia and Wyoming. At June 30, the end of its fiscal year, Arch had an estimated 2.7 billion tons of recoverable reserves in the proven and probable categories.

Continued improvements in cost containment, as well as productivity gains at all locations, strengthened Arch's position as a low-cost producer and enhanced sales opportunities during 1989. As a result, Arch posted record-high operating income, production and tonnage sales during its fiscal year. However, the United Mine Workers' work stoppage and relatively low spot market prices stemming from over-capacity and industry competition adversely affected sales and profits, resulting in lower equity income during Ashland's fiscal year.

Arch expects to continue to improve its productivity and competitiv market position as a result of upgrading equipment and through new, low-cost mine development. During October, the longwall mining equipment at an Arch of Kentucky, Inc. underground mine was significantly upgraded with new, more technologically advanced equipment. Arch plans to install similar equipment in a Illinois underground mine during calendar 1991. Other productivity gains were made by relocating a large dragline from an idled Alabama mine to an Arch of West Virginia, Inc. mine. In addition, Arch of Illinois continues development of the Galum Creek surface mine in southern Illinois and recently has completed a capital program to enhance coal recovery from its preparation plant.

Arch expanded operations with the July acquisition of additional West Virginia coal mines and high-quality coal reserves. The acquired operations have total recoverable reserves of 72.4 million tons and produce more than 580,000 tons of coal a year. Western operations expanded with the July acquisitio of an underground coal mine in Wyoming. Arch's acquisition of the Dock's Cree River Terminal in Kenova, W.Va., will open new market opportunities on the Big Sandy River, a tributary of the Ohio. With 5 million tons of capacity per year, th terminal provides Arch with transportation flexibility as well as additional oppor tunities for Arch Coal Sales, a coal brokerage subsidiary.

**(Above) Coal from the Ruffner mine near Logan, W. Va., is crushed and loaded onto trains for delivery to customers.**

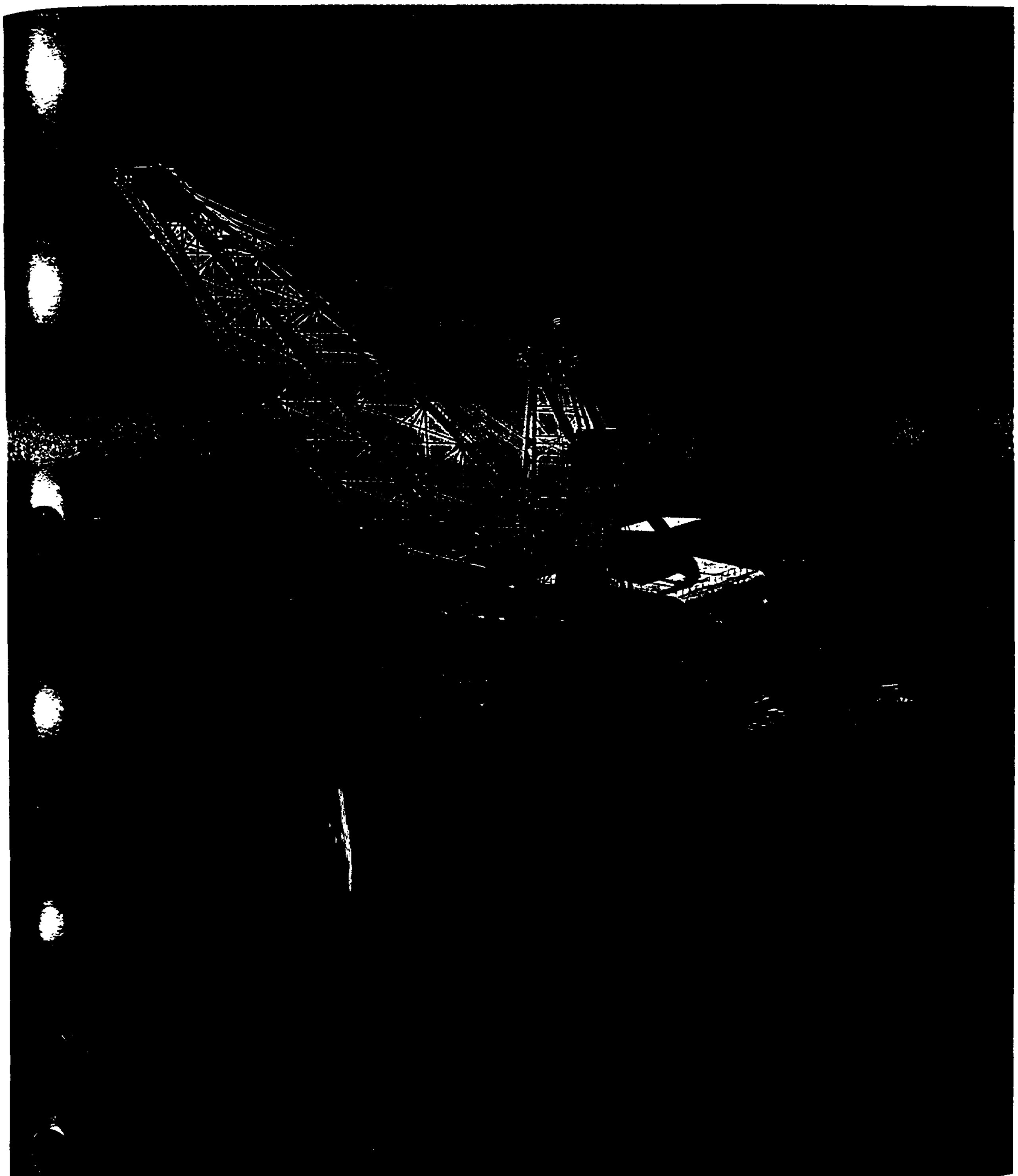
**(Right) Arch of West Virginia's new dragline at the Ruffner mine increased production while significantly reducing operating costs.**

### OUTLOOK

In the short-term, Arch expects increased demand and higher prices for higher quality, low-sulfur coal as utilities strive to meet expected new clean air standards Arch also should continue to be an attractive supplier of high-sulfur coal to thos users which have previously invested in scrubbing technology or are currently cor sidering this type of investment.

Arch's personnel will continue to explore such cost containment and productivity improvements of existing active operations as those experienced during 1989. Arch plans continued growth through acquisition of high-quality d veloped and undeveloped coal reserves to complement its current reserve base.

RS-001467
1/17/02
NUECES



RS-001468
1/17/02
NUECES

Ashland Oil demonstrates its commitment as a good corporate citizen by supporting a variety of civic, cultural, environmental and social welfare causes as well as maintaining its staunch support of educational programs. Ashland believes quality education is the backbone of economic growth and the key to ensuring well-trained, highly skilled employees for the future.

For the seventh consecutive year, Ashland is devoting its corporate regional advertising to education. The company's Teacher Achievement Awards program continues in four states. In recognition of these and other efforts, Ashland has received numerous honors, including an "Advancement of Learning through Broadcasting" award from the National Education Association and "Friend of Education" awards from Kentucky and West Virginia associations.

The Ashland Oil Foundation, a non-profit organization funded by Ashland with tax-deductible contributions, provides direct support to education through grants to academic institutions and scholarship programs. The foundation also funds educational-television and literacy programs for children and adults. About 55 percent of the foundation's gifts go to education.

**(Left) Sponsored in part by Ashland Oil, Lt. Drew Brown, a former Navy fighter pilot, talks to thousands of students each year. "Education plus hard work minus drugs" is his simple equation for "success."**

## E N V I R O N M E N T A L   A F F A I R S

Ashland recognizes its responsibility to protect and maintain the quality of the environment for its employees, customers and neighbors. The company has taken steps to limit exposure, reduce emissions and wastes, operate responsibly and make its products safer to use. It has implemented environmental, health and safety audits and a wide range of emergency preparedness and employee training programs. Ashland provides the human and financial resources needed to ensure compliance with all applicable federal, state and local laws and regulations.

## E M P L O Y E E   A F F A I R S

Ashland employees act as company ambassadors in their communities, putting their time, talents and money into a broad spectrum of civic, cultural, educational and other social programs. As a member of the United Way's National Corporate Leadership program, Ashland sponsors United Way fund-raising campaigns at all of its facilities in hundreds of communities nationwide.

Ashland's success as a business enterprise and good corporate citizen is made possible through the efforts of its more than 37,800 employees. Employee ideas, dedication and commitment to quality are among Ashland's greatest resources. Because they own nearly 23 percent of Ashland's common stock through an Employee Stock Ownership Plan and other benefit plans, employees have a great stake in the company's future. An equal opportunity employer, Ashland provides employment and advancement opportunities on the basis of ability and aptitude without regard to race, creed, color, age, sex or national origin. Ashland also fosters equal opportunity through Equal Opportunity Finance, Inc., a minority enterprise, small-business investment company based in Louisville, Ky. EOF is a joint venture in which Ashland is a major participant. EOF provides assistance to business people whose participation in the free enterprise system is hampered because of social or economic disadvantages. The company is licensed to do business in Georgia, Indiana, Kentucky, Ohio and West Virginia.

**(Above) By promoting quality education through its Teacher Achievement Awards, Ashland has worked to boost the quality of education in its primary operating areas in fulfilling its goal to be a responsible corporate citizen.**

## HISTORY

Ashland Oil began in 1924 when Swiss Oil Company of Lexington, Ky., acquire a 1,000-barrel-per-day skimming plant at Catlettsburg, Ky., on the recommenda- tion of Paul G. Blazer. Twelve years later, Ashland merged with Swiss Oil and be came a public company.

In the early years, Ashland concentrated on increasing refining ca- pacity and its petroleum marketing territory. Much of this growth came through the acquisition of other regional refiners and marketers.

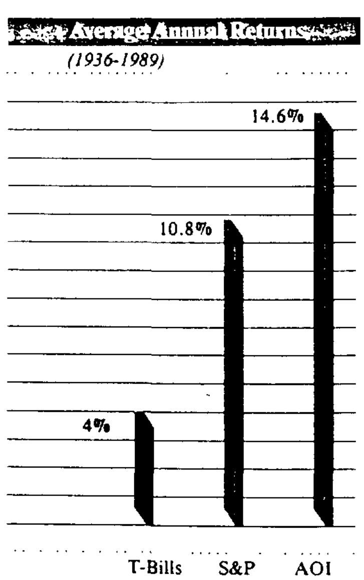
In the 1960s, the company began diversifying into chemicals and la ter expanded into road construction, coal and other businesses, while continuing to strengthen petroleum refining and marketing operations.

Today, Ashland is a large, diversified energy company with a solid core in its traditional refining and wholesale marketing businesses and a clearly focused group of related, non-refining businesses.

## STOCK PERFORMANCE

If you had invested $10,000 in the company in 1936, that investment would have purchased approximately 1,500 shares of Ashland common stock. If you had h on to those shares all these years, today you would have a total of nearly 22,900 shares worth about $924,000 at the end of Ashland's fiscal year. And, you would have received more than $454,000 in dividends.

Since November 2, 1936, when Ashland became a public company and the end of fiscal 1989, our annual total return to shareholders has averaged 14.6 percent. This was calculated using annual stock appreciation, plus dividend compounded quarterly.




In comparison, the average annualized return for companies on Standard & Poor's Composite Index was 10.8 percent during the same period, a cording to Ibbotson Associates, a well-known financial consulting firm. Ashlan return also far exceeds that of long-term government bonds, which produced ar average annual return of 4.4 percent; long-term corporate bonds, which had a r turn of 4.8 percent; and the 4.0 percent return on U.S. Treasury bills. Annual ir flation during the period, as measured by the Consumer Price Index, averaged 4 percent. One share of Ashland stock purchased in 1936 is the equivalent of near 16 shares today. A share which sold in 1936 for $6.875 is now worth $635.25.

Ashland's continuing mission as stated in corporate strategy is to maximize long-term shareholder value. By these measures, the company has suc ceeded in doing so in the past and is well-positioned for future growth.

CONTENTS

34 Management's Discussion and Analysis
41 Statements of Consolidated Income
42 Consolidated Balance Sheets
44 Statements of Consolidated Common Stockholders' Equity
45 Statements of Consolidated Cash Flows
46 Notes to Consolidated Financial Statements
56 Report of Management
56 Report of Independent Auditors
57 Five Year Selected Financial Information
58 Five Year Information by Industry Segment
60 Supplemental Oil and Gas Information

RS-001472
1/17/02
NUECES

## MANAGEMENT'S DISCUSSION AND ANALYSIS

Years Ended September 30

| **Sales and operating revenues** (in millions) | 1989 | 1988 | 198 |
|---|---|---|---|
| Ashland Petroleum | **$ 3,177** | $ 3,146 | $ 2,91 |
| SuperAmerica Group | **1,795** | 1,604 | 1,36 |
| Valvoline | **616** | 571 | 55 |
| Chemical | **2,230** | 2,090 | 1,64 |
| Construction | **1,066** | 1,064 | 76 |
| Engineering | **601** | 647 | 55 |
| Exploration | **253** | 199 | 24 |
| Intersegment sales | **(1,274)** | (1,125) | (1,05 |
| | **$ 8,464** | $ 8,196 | $ 6,99 |

| **Operating income** (in millions) | | | |
|---|---|---|---|
| Ashland Petroleum | **$ 142** | $ 179 | $ 1 |
| SuperAmerica Group | **53** | 50 | 1 |
| Valvoline | **36** | 30 | 4 |
| Chemical | **128** | 102 | 9 |
| Construction | **40** | 68 | 6 |
| Engineering | **(90)** | (18) | 1 |
| Exploration | **20** | 2 | |
| | **$ 329** | $ 413 | $ 23 |

| **Equity income** (in millions)(1) | | | |
|---|---|---|---|
| Ashland Coal, Inc. | **$ 10** | $ 19 | $ 1 |
| Arch Mineral Corporation(2) | **21** | 28 | 2 |
| Other | **9** | 7 | |
| | **$ 40** | $ 54 | $ 4 |

| **Operating information** | | | |
|---|---|---|---|
| Ashland Petroleum | | | |
| Product sales (barrels per day)(3) | **334,012** | 355,683 | 347,63 |
| Crude oil refined (barrels per day) | **304,219** | 320,669 | 319,08 |
| Petroleum product sales prices per barrel | **$ 23.08** | $ 21.57 | $ 21.3 |
| Crude oil purchase costs per barrel | **$ 17.95** | $ 17.12 | $ 18.3 |
| SuperAmerica Group | | | |
| Product sales (barrels per day)(3) | **88,555** | 85,457 | 79,26 |
| Merchandise sales (in millions) | **$ 479** | $ 428 | $ 37 |
| Valvoline product sales (barrels per day)(3) | **12,397** | 13,124 | 13,49 |
| Backlog (in millions) | | | |
| Construction | **$ 472** | $ 436 | $ 45 |
| Engineering(4) | **$ 331** | $ 335 | $ 40 |
| Exploration | | | |
| Net daily production | | | |
| Domestic crude oil (barrels) | **2,084** | 2,366 | 2,41 |
| Nigeria crude oil (barrels) | **33,540** | 30,922 | 35,15 |
| Natural gas (thousands of cubic feet) | **42,775** | 40,978 | 39,62 |
| Sales price | | | |
| Domestic crude oil (per barrel) | **$ 16.62** | $ 16.30 | $ 16.1 |
| Nigeria crude oil (per barrel) | **$ 15.01** | $ 13.82 | $ 14.8 |
| Natural gas (per thousand cubic feet) | **$ 2.45** | $ 2.20 | $ 2.4 |
| Ashland Coal, Inc.(1) | | | |
| Tons sold (in thousands) | **9,184** | 7,606 | 5,77 |
| Sales price per ton | **$ 30.27** | $ 31.97 | $ 34.4 |
| Arch Mineral Corporation(1) | | | |
| Tons sold (in thousands) | **20,025** | 17,994 | 15,77 |
| Sales price per ton | **$ 28.04** | $ 30.54 | $ 29.5 |

(1) Ashland's interest is 46% in Ashland Coal (65% prior to August 11, 1988) and 50% in Arch Mineral.
(2) Includes net income from royalties received by Ashland from Arch Mineral.
(3) Includes intersegment sales.
(4) Excludes projects commencing after one year.

**sults of operations**

Ashland's net income amounted to $86 million in 1989, compared to $224 million in 1988 and $133 million in 1987. However, unusual items affect the comparability of Ashland's reported earnings for these periods as shown in the following table.

| | Operating income | | | Net income | | |
|---|---|---|---|---|---|---|
| (In millions) | 1989 | 1988 | 1987 | 1989 | 1988 | 1987 |
| Income excluding unusual items | $372 | $433 | $232 | $159 | $212 | $119 |
| Unusual items | | | | | | |
| Chemical—Sales of operations | 30 | — | 14 | 18 | — | 10 |
| Engineering | | | | | | |
| Boiler reserves | (38) | (20) | — | (25) | (12) | — |
| Arbitration award | (20) | — | — | (13) | — | — |
| ATC disposition | (15) | — | — | (15) | — | — |
| Exploration—Abandonment costs | — | — | (8) | — | — | (5) |
| NIOC settlement | — | — | — | (38) | — | — |
| Employee lawsuit settlements | — | — | — | — | (16) | — |
| Income tax accounting change | — | — | — | — | 40 | — |
| Other—net | — | — | — | — | — | 9 |
| Income as reported | $329 | $413 | $238 | $ 86 | $224 | $133 |

Excluding unusual items, the decline in net income from $212 million in 1988 to $159 million in 1989 was due primarily to lower operating income from Ashland Petroleum and Construction as well as lower equity income from Ashland's coal investments. On the same basis, net income of $212 million for 1988 was up from the 1987 level of $119 million. Strong earnings from Ashland Petroleum and record results from Chemical, SuperAmerica and Ashland's coal investments were largely responsible for this improvement.

**Ashland Petroleum**

Operating income of Ashland Petroleum for 1989 amounted to $142 million, compared to $179 million in 1988. Refining margins were excellent when the year began, but were slow to respond to rapid crude oil price increases beginning in December, 1988. Refining margins improved during the spring, then declined during the summer driving period, when the industry was characterized by lower than anticipated demand, higher than expected gasoline production, and strong crude oil prices and production. Ashland Petroleum's overall refining margin between petroleum product prices and crude oil costs increased from $4.45 per barrel in 1988 to $5.13 per barrel in 1989. However, this improvement was more than offset by the impact of major maintenance turnarounds at two refineries and a negative swing in futures trading. The turnarounds decreased throughput and were largely responsible for a $.49 per barrel increase in refining costs during 1989. Futures trading, which is used in an attempt to protect or enhance refining margins, resulted in a loss of $15 million in 1989 versus income of $13 million in 1988. Results of transportation operations declined $8 million due to reduced throughput, reflecting the refinery turnarounds, and higher operating and maintenance costs.

As a result of recent narrowing of refining margins and a partial turnaround to complete unit expansions at the Catlettsburg refinery in October, 1989, earnings from Ashland Petroleum in the December, 1989 quarter will probably be below last year's record results for that period. However, the fundamentals of the refining business are expected to improve over time as a result of demand growth, continued operation at a high rate of capacity and restraints on new capacity from stringent environmental standards governing both product quality and refinery operations.

After a very difficult year in 1987, conditions in the refining industry improved considerably in 1988. As a result, operating income of Ashland Petroleum increased from $10 million in 1987 to $179 million in 1988. Despite a slow start, earnings improved dramatically in the last half of 1988 as the industry's supply and demand trends came into balance, increasing refining margins to historic highs. Gasoline consumption was strong, while industry inventories reached near-record lows

RS-001474
1/17/02
NUECES

**Ashland Petroleum (continued)**
during the peak driving season. Reflecting these strong fundamentals, product prices remained strong, while crude oil costs weakened in the face of OPEC disarray. Ashland Petroleum's refining margin reflected these conditions, increasing from $2.93 per barrel in 1987 to $4.45 per barrel in 1988. In addition, Ashland Petroleum's refineries operated efficiently at about 93% of capacity, a slightly higher level than in 1987, even though several minor maintenance turnarounds occurred in 1988. Results of transportation operations were mixed, as further reductions in Scurlock's margins because of intense competition for lower available crude oil production were partially offset by the effects of increased volumes transported by marine, trucking and other pipeline operations.

**SuperAmerica Group**
The SuperAmerica Group reported a second consecutive year of record earnings in 1989. Operating income amounted to $53 million in 1989, a 5% improvement over the $50 million earned in 1988. The improvement reflects continued growth in sales volumes and margins of both gasoline and merchandise at the SuperAmerica stores. While gasoline sales volume increased 9%, mirroring the average number of stores in operation, merchandise sales increased 14%, indicating greater sales per store. At September 30, 1989, 585 stores were operating, compared to 500 in 1988 and 457 in 1987. In late July, 1989, 59 7-Eleven operating stores and 7 surplus properties in Minnesota and Wisconsin were acquired, expanding SuperAmerica's presence in the Minneapolis/St. Paul area.

The SuperAmerica Group achieved operating income of $50 million in 1988, compared to $16 million in 1987. These results reflect improved gasoline margins, higher gross margins on merchandise sales, and increased volumes of both gasoline and merchandise. For the SuperAmerica stores, gasoline sales volumes were up 15% and merchandise sales increased 17%, reflecting the growing number of stores and higher sales volumes per store. Other retail operations also had improved results, reflecting higher product margins.

**Valvoline**
Operating income of Valvoline amounted to $36 million in 1989, compared to $30 million in 1988. The improvement reflects increased sales of automotive chemicals and Valvoline's motor oil marketing strategy emphasizing quality, brand image and value, while placing less reliance upon price promotions to maintain market share. While sales volumes declined, the impact of improved motor oil margins were more than offsetting. Start-up losses from the continued expansion of Valvoline Instant Oil Change were comparable to 1988, but are expected to decline in 1990 as more outlets mature. At September 30, 1989, there were 231 company-owned quick-lube outlets in operation, compared to 175 outlets in 1988 and 101 outlets in 1987. In addition, eight franchisees have committed to open 36 outlets in seven states.

Valvoline had a difficult year in 1988 with operating income amounting to $30 million, compared to the record $48 million in 1987. Intensely competitive conditions resulted in reduced motor oil margins as demand declined and the five leading marketers competed for market share. Although industry-wide price increases occurred during 1988, they did not offset higher product costs due to motor oil chemistry changes and increased costs of plastic bottles. In addition, the quick-lube business operated at a greater loss during 1988 due to the start-up costs of rapid expansion and operating losses of additional new outlets.

**Chemical**
Excluding a gain of $30 million from the sale of its carbon black business in 1989, operating income of $98 million for Chemical nearly equaled its record $102 million in 1988. Sales of the distribution businesses reflected increased prices, but higher operating expenses caused operating income to decline by 7%. Earnings from specialty chemicals increased 14%, led by higher sales volumes of foundry products, water treatment chemicals for the maritime industry, and high-purity electronic and laboratory chemicals. Results from continuing commodity chemical lines were comparable to those realized in 1988. Overall, Chemical experienced some softening in both prices and volumes late in the year, as the pace of economic growth slowed.

RS-001475
1/17/02
NUECES

Operating income of $102 million for Chemical in 1988 marked the third consecutive year of record results. In comparison, operating income for 1987 was $91 million, which included a gain of $14 million resulting from the public offering of an interest in Melamine Chemicals. Operating income of the chemical and plastic distribution businesses was up 18% on the strength of increased sales volumes, but rising raw material prices contributed to a margin squeeze. Operating income of the specialty chemical operations increased 27%, as nearly all of these divisions reported improved results fueled by higher sales volumes. The major impacts were felt by the foundry products, specialty polymers and adhesives, and Drew marine divisions. Results from commodity chemicals increased 59%, reflecting increased sales volumes and reduced petroleum based feedstock costs.

**Construction**

An unusually wet construction season from April to July, which prevented normal activity, and a soft Arizona market for ready-mix concrete and other construction materials hurt Construction's earnings for 1989. However fourth-quarter earnings approached the prior year results, as weather conditions improved. Operating income for the year declined from $68 million in 1988 to $40 million in 1989. Construction's backlog at September 30, 1989 amounted to $472 million. While expected margins in this backlog are somewhat less than those in the 1988 backlog, results for 1990 should still improve assuming more normal weather conditions.

Construction results increased from $62 million in 1987 to $68 million in 1988, primarily due to a full year's earnings from Tanner Southwest, which was acquired in July, 1987. Construction benefited from dry weather conditions during the 1988 summer months in many parts of its operating area. These favorable conditions offset the effects of a particularly wet winter season throughout much of the South.

**Engineering**

Although Beaird Industries' metal fabrication operations reported improved profits in 1989, results of Engineering were dominated by unusual items, resulting in a combined operating loss of $90 million. Results of Riley Consolidated, which manufactures steam-generating and fuel burning equipment, were adversely affected by a charge of $20 million for an arbitration award involving coal-fired steam generators installed at a customer's facility in 1981, by an additional $38 million reserve for estimated future costs of correcting performance problems associated with custom boilers built using multi-solid fluidized bed (MSFB) boiler technology, and by cost overruns of $9 million on MSFB contracts. Additional costs could be incurred if guaranteed boiler performance is not achieved, but the amounts, if any, are uncertain at this time. In addition, a write-down of $15 million in the carrying value of Ashland Technology Corp. (ATC) was recognized, and its fourth-quarter earnings were reserved, as a result of a decision to sell that company.

Engineering operations, which reported operating income of $10 million in 1987, incurred a loss of $18 million in 1988. Results of Beaird Industries and ATC's architectural and engineering services improved, but the improvements were more than offset by disappointing results from Riley Consolidated. In addition to a charge of $20 million to provide for anticipated cost overruns on MSFB boiler contracts, results for Riley Consolidated were adversely affected by poor margins and cost adjustments on its traditional utility and resource recovery contracts.

**Exploration**

Operating income for Exploration amounted to $20 million in 1989, compared to $2 million in 1988. Domestic operations contributed $6 million of this improvement as a result of higher natural gas sales prices and production, settlement of a contract price dispute and lower dry hole costs. These favorable variances were partially offset by increased impairment expenses, production costs and crude oil trading losses. Operating income from Nigerian operations increased from $10 million in 1988 to $22 million in 1989. During 1989, Ashland began recognizing income in excess of interest costs incurred, reflecting the recovery of a substantial portion of the capital costs associated with its Nigerian operations. Development drilling and workovers of existing wells resulted in increased Nigerian offshore production in 1989.

RS-001476
1/17/02
NUECES

**Exploration (continued)**
Reflecting continued depressed energy markets, operating income for Exploration amounted to $2 million in 1988, compared to $1 million in 1987. Domestic operations incurred a loss of $8 million in both years. While 1987 results include abandonment costs of $8 million associated with a shut-down oil field, results for 1988 include reduced crude oil trading gains and additional exploration expenses associated with a modest drilling program. Operating income from Nigerian operations amounted to $10 million in 1988 and $9 million in 1987. An amended contract in 1986 with the Nigerian National Petroleum Corporation granted Ashland accelerated recovery of its capital costs. Until such costs were substantially recovered, reported operating income was equal to interest costs incurred. Nigerian crude oil production decreased in 1988, reflecting natural declines in existing fields and the shut-in of some production due to an ongoing work program offshore.

**Equity income**
Equity income from Ashland Coal amounted to $10 million in 1989 and $19 million in 1988. Despite higher coal shipments resulting from acquisitions, Ashland Coal's earnings declined due to lower negotiated prices under long-term contracts, reduced deliveries to a major customer, a union work stoppage, and increased net financing costs related to its acquisitions and 1988 restructuring. In addition, Ashland's equity income reflects a reduction in its ownership from 65% to 46% as a result of the restructuring. Equity income increased from $10 million in 1987 to $19 million in 1988, reflecting increased sales tonnage, particularly on long-term contracts, and higher margins. Although sales prices decreased during 1988, the effect was more than offset by lower purchased coal costs and by reduced mining costs related to the dragline placed in service in July, 1987.

Equity income from Arch Mineral (including net income from royalties paid to Ashland) decreased from $28 million in 1988 to $21 million in 1989. The decline resulted principally from the union work stoppage, lower negotiated sales prices under long-term contracts and income in 1988 from a coal contract settlement. Cost and productivity improvements strengthened Arch's position as a low-cost producer and enhanced its sales tonnage. Equity income increased from $25 million in 1987 to $28 million in 1988, reflecting a full year's results of the mining operations acquired in 1987. Both 1988 and 1987 reflect income from coal contract settlements.

Equity income from other operations increased from $5 million in 1987 to $9 million in 1989, reflecting improved results from LOOP and LOCAP on higher throughputs of imported crude oil.

**Other income (expense)**
The fluctuations in interest income reflect changes in the level of investments in cash equivalents. However, 1987 also included interest income of $8 million on income tax refunds.

Interest expense increased from $52 million in 1987 to $92 million in 1989 due to additional long-term borrowings, plus higher rates on floating-rate debt issues. Since September, 1987, Ashland has issued $200 million of 11.125% debentures, $200 million of 6-3/4% convertible subordinated debentures and $135 million of medium term notes.

Corporate administrative expenses for 1989 include $42 million for the settlement of litigation involving the National Iranian Oil Company (NIOC). Corporate administrative expenses for 1988 reflect a provision of $25 million for the settlement of lawsuits filed by two former employees. Excluding these unusual items, corporate administrative expenses amounted to $106 million in 1989, $99 million in 1988 and $75 million in 1987. Such expenses reflect increased litigation, salary and benefit costs, plus higher incentive compensation costs in 1988.

## Financial position

**Liquidity**
Ashland's financial position has enabled it to achieve a rating in the A category from both major credit rating agencies and obtain capital for its financing needs. Ashland has revolving credit agree-



RS-001477
1/17/02
NUECES

ments providing for up to $370 million in borrowings, none of which were in use at September 30, 1989. Under a shelf registration with the Securities and Exchange Commission, Ashland could issue an additional $165 million in medium term notes as future opportunities or needs arise, and $20 million of such notes were issued in October, 1989. For short-term financing needs, Ashland has access to commercial paper markets and various uncommitted lines of credit.

Cash and cash equivalents at September 30, 1989 were $70 million, compared to $140 million for 1988 and $87 million for 1987. Such amounts were maintained, in spite of the $325 million NIOC settlement in 1989 and common stock purchases of about $125 million during 1988 and 1989, through net borrowings of about $425 million. Cash flows from operations, a major source of Ashland's liquidity, amounted to $410 million before the NIOC settlement in 1989, $397 million in 1988 and $309 million in 1987. These amounts have approximated net property additions and dividends over the same three-year period.

Ashland plans to sell Ashland Technology Corp. and Beaird Industries in fiscal 1990. Although negotiations are continuing, Ashland currently expects to generate approximately $80 million in net cash proceeds in 1990 from the sales after payment of the related income taxes.

Working capital at September 30, 1989 was $262 million and liquid assets (cash, cash equivalents and accounts receivable) as a percent of current liabilities amounted to 69% at that date. Ashland's working capital is significantly impacted by its use of the last-in, first-out (LIFO) method of inventory valuation, which understates the value of such inventories on Ashland's consolidated balance sheet by approximately $425 million at September 30, 1989.

**Capital resources**

During fiscal 1990, Ashland anticipates capital expenditures of approximately $475 million (including exploration and geophysical costs). Capital requirements for property additions and dividends generally have been met from Ashland's cash flows from operations. Ashland anticipates meeting such capital requirements during 1990 from internally generated funds, with minimal external financing. Additional borrowings may be required for acquisitions, common stock purchases and repayment of long-term borrowings, but the amounts are uncertain at this time.

Ashland faces significant exposure from actual and potential claims and lawsuits involving environmental matters. These matters involve alleged soil and water contamination and air pollution, and personal injuries or property damage allegedly caused by exposure to toxic materials manufactured, handled or used by Ashland. Ashland's policy is to accrue environmental and clean-up costs when it is probable that a liability has been incurred and the amount of the liability is reasonably estimable. However, future environmental related expenditures cannot be reasonably quantified in many circumstances due to the speculative nature of remediation and clean-up cost estimates and methods, the imprecise and conflicting data regarding the characteristics of various types of waste, the unknown number of other potentially responsible parties involved, the extent to which such costs may be recoverable from insurance, and changing environmental laws and interpretations. As a result, Ashland believes environmental related expenditures will continue to be substantial, but the amounts are uncertain at this time.

At September 30, 1989, up to an additional 4 million shares of common stock can be purchased from time to time in open market transactions under Ashland's repurchase program. The number of shares ultimately purchased and the prices Ashland will pay for its stock are subject to periodic review by management.

Ashland's capitalization at September 30, 1989 consists of debt due within one year (6%), long-term borrowings (40%), deferred income taxes (11%) and common stockholders' equity (43%). Such capitalization reflects higher indebtedness than in prior years, principally due to the NIOC settlement. This capitalization could change somewhat during 1990 as a result of borrowings or purchases of common stock under Ashland's repurchase program. Approximately 22% of Ashland's long-term borrowings are floating-rate instruments on which interests costs will vary in 1990.

RS-001478
1/17/02
NUECES

## Effects of inflation and changing prices

Ashland's consolidated financial statements are prepared on the historical cost method of accounting and, as a result, do not reflect changes in the dollar's purchasing power. Although inflation rates were low in 1989, Ashland's results are still affected by the inflationary trend in prior years.

In the capital intensive industries in which Ashland operates, the replacement costs for its properties would generally exceed their historical costs. Accordingly, depreciation, depletion and amortization expense would be greater if it were based on current replacement costs. However, since replacement facilities would reflect technological improvements and changes in business strategies, such facilities would be expected to be more productive than existing facilities, mitigating somewhat the increased depreciation expense.

Ashland uses LIFO to value inventories to provide a matching of revenues with current costs. However, LIFO understates the value of inventories on Ashland's consolidated balance sheets.

Monetary assets (such as cash and accounts receivable) lose purchasing power as a result of inflation and monetary liabilities (such as accounts payable and indebtedness) result in a gain because they can be settled with dollars of diminished purchasing power. Ashland's monetary liabilities have exceeded its monetary assets in recent years, resulting in net purchasing power gains and providing a hedge against the effects of future inflation.

## Quarterly financial information

The following table presents quarterly financial information and per share data relative to Ashland's common stock.

| **Quarters ended** | **December 31** | | **March 31** | | **June 30** | | **September 30** | |
|---|---|---|---|---|---|---|---|---|
| (In millions except per share data) | 1988 | 1987 | 1989 | 1988 | 1989 | 1988 | 1989 | 1988 |
| Sales and operating revenues | $2,110 | $1,965 | $1,888 | $1,858 | $2,210 | $2,146 | $2,256 | $2,227 |
| Operating income[1] | 183 | 84 | 9 | 54 | 102 | 121 | 35 | 154 |
| Net income (loss)[1] | 96 | 40[2] | (14) | 21 | 43 | 57 | (39) | 66 |
| Earnings (loss) per share | | | | | | | | |
| Primary | 1.72 | .70[2] | (.25) | .37 | .78 | 1.02 | (.71) | 1.19 |
| Assuming full dilution | 1.72 | .70[2] | (.25) | .37 | .78 | 1.02 | (.71) | 1.19 |
| Dividends per common share | .25 | .225 | .25 | .225 | .25 | .25 | .25 | .25 |
| Market price per common share | | | | | | | | |
| High | 36¾ | 34 | 41¼ | 33⅝ | 43 | 36¾ | 42 | 38½ |
| Low | 31⅝ | 23¼ | 33⅛ | 26⅜ | 38¼ | 31⅝ | 36 | 32 |

(1) Amounts include unusual items which increased (decreased) operating and net income as shown below.

| Quarters ended | December 31 | | March 31 | | June 30 | | September 30 | |
|---|---|---|---|---|---|---|---|---|
| (In millions) | 1988 | 1987 | 1989 | 1988 | 1989 | 1988 | 1989 | 1988 |
| Effect on operating income | | | | | | | | |
| Sale of carbon black operations | $ 30 | $ — | $ — | $ — | $ — | $ — | $ — | $ — |
| Boiler reserves | — | — | — | — | — | — | (38) | (20) |
| Arbitration award | (6) | — | (14) | — | — | — | — | — |
| ATC disposition | — | — | — | — | — | — | (15) | — |
| | $ 24 | $ — | $(14) | $ — | $ — | $ — | $(53) | $(20) |
| Effect on net income | | | | | | | | |
| Sale of carbon black operations | $ 18 | $ — | $ — | $ — | $ — | $ — | $ — | $ — |
| Boiler reserves | — | — | — | — | — | — | (25) | (12) |
| Arbitration award | (4) | — | (9) | — | — | — | — | — |
| ATC disposition | — | — | — | — | — | — | (15) | — |
| NIOC settlement | — | — | — | — | — | — | (38) | — |
| Employee lawsuit settlements | — | — | — | — | — | (3) | — | (13) |
| | $ 14 | $ — | $ (9) | $ — | $ — | $ (3) | $(78) | $(25) |

(2) Amounts are before the cumulative effect of the change in accounting for income taxes.

RS-001479
1/17/02
NUECES

## STATEMENTS OF CONSOLIDATED INCOME

Years Ended September 30

| (In thousands except per share data) | 1989 | 1988 | 1987 |
|---|---|---|---|
| **Revenues** | | | |
| Sales and operating revenues (including excise taxes) | **$8,463,631** | $8,195,541 | $6,990,211 |
| Other | **72,683** | 73,060 | 104,420 |
| | **8,536,314** | 8,268,601 | 7,094,631 |
| **Costs and expenses** | | | |
| Cost of sales and operating expenses | **6,590,040** | 6,346,872 | 5,599,609 |
| Excise taxes on products and merchandise | **474,371** | 442,470 | 318,349 |
| Selling, general and administrative expenses | **875,519** | 806,331 | 700,660 |
| Depreciation, depletion and amortization (including capitalized leases)—Notes A and B | **267,299** | 259,613 | 238,249 |
| | **8,207,229** | 7,855,286 | 6,856,867 |
| **Operating income** | **329,085** | 413,315 | 237,764 |
| **Other income (expense)** | | | |
| Interest income | **13,349** | 6,312 | 18,330 |
| Interest expense | **(92,374)** | (78,026) | (52,189) |
| Equity income—Note D | **40,323** | 53,819 | 39,856 |
| Corporate administrative expenses—Note A | **(148,148)** | (124,419) | (75,111) |
| Gain from restructuring of employee benefit plans—Note J | **—** | — | 26,539 |
| **Income before income taxes and the cumulative effect of the change in accounting for income taxes** | **142,235** | 271,001 | 195,189 |
| Income taxes—Notes A and E | **56,030** | 87,250 | 61,757 |
| **Income before the cumulative effect of the change in accounting for income taxes** | **86,205** | 183,751 | 133,432 |
| Cumulative effect of the change in accounting for income taxes—Note A | **—** | 40,193 | — |
| **Net income** | **$ 86,205** | $ 223,944 | $ 133,432 |
| **Earnings per share—Note A** | | | |
| Primary | | | |
| Income before the cumulative effect of the change in accounting for income taxes | **$1.55** | $3.29 | $2.14 |
| Cumulative effect of the change in accounting for income taxes | **—** | .72 | — |
| Net income | **$1.55** | $4.01 | $2.14 |
| Assuming full dilution | **$1.55** | $4.00 | $2.13 |
| **Average common shares and equivalents outstanding** | | | |
| Primary | **55,463** | 55,857 | 62,424 |
| Assuming full dilution | **55,556** | 56,019 | 62,575 |

RS-001480
1/17/02
NUECES

See Notes to Consolidated Financial Statements.

# CONSOLIDATED BALANCE SHEETS

September 30

| (In thousands) | 1989 | 1988 |
|---|---|---|
| **Assets** | | |
| **Current assets** | | |
| Cash and cash equivalents—Note A | $ 70,167 | $ 139,761 |
| Accounts receivable (less allowances for doubtful accounts of $19,636,000 in 1989 and $20,402,000 in 1988) | 973,078 | 897,372 |
| Construction completed and in progress—at contract prices | 125,554 | 126,575 |
| Inventories—Note A | 528,044 | 419,118 |
| Deferred income tax benefits—Note E | — | 67,307 |
| Other current assets | 80,716 | 61,349 |
| | 1,777,559 | 1,711,482 |
| **Investments and other assets** | | |
| Investments in and advances to unconsolidated affiliates—Note D | 279,830 | 257,179 |
| Cost in excess of net assets of companies acquired (less accumulated amortization of $31,294,000 in 1989 and $12,192,000 in 1988)—Notes A and B | 62,483 | 80,157 |
| Investments of captive insurance companies—Note A | 119,573 | 97,129 |
| Other noncurrent assets | 163,163 | 168,384 |
| | 625,049 | 602,849 |
| **Property, plant and equipment**—Notes A and G | | |
| Cost | | |
| Ashland Petroleum | 1,809,609 | 1,692,139 |
| SuperAmerica Group | 458,497 | 390,846 |
| Valvoline | 180,522 | 145,710 |
| Chemical | 416,680 | 448,525 |
| Construction | 531,497 | 486,481 |
| Engineering | 99,992 | 94,022 |
| Exploration | 686,900 | 653,142 |
| Corporate | 162,740 | 135,505 |
| | 4,346,437 | 4,046,370 |
| Accumulated depreciation, depletion and amortization | (2,293,302) | (2,106,215) |
| | 2,053,135 | 1,940,155 |
| | $4,455,743 | $4,254,486 |

RS-001481
1/17/02
NUECES

| (In thousands) | 1989 | 1988 |
|---|---|---|
| **Liabilities and Stockholders' Equity** | | |
| **Current liabilities** | | |
| Debt due within one year | | |
| Notes payable to banks | **$ 44,110** | $ 4,018 |
| Commercial paper | **74,943** | — |
| Current portion of long-term debt and capitalized lease obligations | **42,134** | 40,834 |
| Trade and other payables—Note A | **1,320,415** | 1,370,123 |
| Income taxes | **33,892** | 74,010 |
| | **1,515,494** | 1,488,985 |
| **Noncurrent liabilities** | | |
| Long-term debt (less current portion)—Note F | **1,008,054** | 765,050 |
| Capitalized lease obligations (less current portion)—Note G | **65,783** | 77,018 |
| Accrued pension costs—Note J | **76,487** | 76,263 |
| Claims and reserves of captive insurance companies | **104,516** | 88,206 |
| Other long-term liabilities and deferred credits | **265,552** | 311,352 |
| Deferred income taxes—Note E | **279,333** | 326,631 |
| | **1,799,725** | 1,644,520 |
| **Common stockholders' equity**—Notes H and K | | |
| Common stock, par value $1.00 per share | | |
| Authorized—150,000,000 shares | | |
| Issued—58,143,000 shares in 1989 and 58,813,000 shares in 1988 | **58,143** | 58,813 |
| Paid-in capital | **81,574** | 107,602 |
| Retained earnings | **1,109,658** | 1,078,686 |
| Deferred translation adjustments | **(1,949)** | (1,773) |
| Loan to leveraged employee stock ownership plan (LESOP) | **(34,519)** | (34,519) |
| Prepaid contribution to LESOP | **(72,383)** | (87,828) |
| | **1,140,524** | 1,120,981 |
| Commitments and contingencies—Notes G and I | | |
| | **$4,455,743** | $4,254,486 |

See Notes to Consolidated Financial Statements.

RS-001482
1/17/02
NUECES

## STATEMENTS OF CONSOLIDATED COMMON STOCKHOLDERS' EQUITY

| (In thousands) | Common stock | Paid-in capital | Retained earnings | Deferred translation adjustments | Loan to LESOP | Prepaid contribution to LESOP | Common shares in treasury | Total |
|---|---|---|---|---|---|---|---|---|
| **Balance at October 1, 1986** | $32,941 | $371,347 | $ 831,271 | $(5,884) | $(246,500) | $ — | $(12,131) | $ 971,044 |
| Net income | | | 133,432 | | | | | 133,432 |
| Dividends | | | | | | | | |
| Preferred stock | | | (133) | | | | | (133 |
| Common stock, $.90 a share | | | (57,864) | | | | | (57,864 |
| Purchased and retired common stock | (1,692) | (105,917) | | | | | | (107,609 |
| Issued common stock under stock incentive plan | 229 | 7,735 | | | | | (3,630) | 4,334 |
| Repayment of loan and contribution to LESOP | | | | | 211,981 | (105,991) | | 105,990 |
| Allocation of LESOP shares to participants | | | | | | 11,394 | | 11,394 |
| Other changes | 7 | 691 | | 4,118 | | | (5) | 4,811 |
| **Balance at September 30, 1987** | 31,485 | 273,856 | 906,706 | (1,766) | (34,519) | (94,597) | (15,766) | 1,065,399 |
| Net income | | | 223,944 | | | | | 223,944 |
| 2-for-1 stock split | 29,925 | (29,925) | | | | | | — |
| Common stock dividends, $.95 a share | | | (51,964) | | | (4,165) | | (56,129 |
| Purchased and retired common stock | (1,810) | (93,817) | | | | | | (95,627 |
| Issued common stock under stock incentive plan | 183 | 4,870 | | | | | (2,224) | 2,829 |
| Contribution to LESOP | | | | | | (2,900) | | (2,900 |
| Allocation of LESOP shares to participants | | | | | | 13,834 | | 13,834 |
| Cancellation of treasury shares | (984) | (17,006) | | | | | 17,990 | — |
| Deferred taxes applicable to subsidiary stock sale | | (24,701) | | | | | | (24,701 |
| Other changes | 14 | (5,675) | | (7) | | | | (5,668 |
| **Balance at September 30, 1988** | 58,813 | 107,602 | 1,078,686 | (1,773) | (34,519) | (87,828) | — | 1,120,981 |
| Net income | | | 86,205 | | | | | 86,205 |
| Common stock dividends, $1.00 a share | | | (55,233) | | | (3,171) | | (58,404 |
| Purchased and retired common stock | (821) | (27,889) | | | | | | (28,710 |
| Issued common stock under stock incentive plans | 108 | 1,132 | | | | | | 1,240 |
| Allocation of LESOP shares to participants | | | | | | 18,616 | | 18,616 |
| Other changes | 43 | 729 | | (176) | | | | 596 |
| **Balance at September 30, 1989** | $58,143 | $ 81,574 | $1,109,658 | $(1,949) | $ (34,519) | $ (72,383) | $ — | $1,140,524 |

See Notes to Consolidated Financial Statements.

Ashland Oil, Inc. and Subsidiaries

## STATEMENTS OF CONSOLIDATED CASH FLOWS

Years Ended September 30

| (In thousands) | 1989 | 1988 | 1987 |
|---|---|---|---|
| **Cash flows from operations** | | | |
| Income before the cumulative effect of the change in accounting for income taxes | **$ 86,205** | $ 183,751 | $ 133,432 |
| Expense (income) not affecting cash | | | |
| Depreciation, depletion and amortization[1] | **279,244** | 270,162 | 248,663 |
| Deferred income taxes | **14,210** | (60,341) | 72,456 |
| Undistributed earnings of unconsolidated affiliates | **(33,070)** | (39,496) | (27,472) |
| Gain from sale of operations—net of current income taxes | **(12,564)** | — | — |
| Gain from restructuring of employee benefit plans | **—** | — | (26,539) |
| Other noncash items | **63,452** | 3,051 | 41,922 |
| Change in operating assets and liabilities[2] | **(312,535)[3]** | 39,596 | (133,348) |
| | **84,942** | 396,723 | 309,114 |
| **Cash flows from financing** | | | |
| Proceeds from issuance of long-term debt | **262,492** | 334,056 | 19,749 |
| Proceeds from issuance of common stock | **886** | 1,682 | 2,649 |
| Recovery of excess pension assets | **—** | 20,500 | 215,000 |
| Repayment of long-term debt and capitalized lease obligations | **(46,682)** | (75,019) | (263,031) |
| Purchase of capital stock | **(28,710)** | (95,627) | (113,862) |
| Increase (decrease) in short-term notes and commercial paper | **135,035** | (184,470) | 177,223 |
| Dividends paid | **(58,404)** | (56,129) | (57,997) |
| | **264,617** | (55,007) | (20,269) |
| **Cash flows from investment** | | | |
| Additions to property, plant and equipment | **(413,346)** | (343,168) | (338,956) |
| Net assets of companies acquired | | | |
| Working capital (excluding cash and cash equivalents) | **(6,198)** | (7,689) | (29,046) |
| Investments and other assets | **(11,180)** | (18,524) | (100,997) |
| Property, plant and equipment | **(44,035)** | (9,167) | (106,847) |
| Noncurrent liabilities | **—** | — | 42,749 |
| Proceeds from sale or restructuring of operations | **61,323** | 57,500 | 19,748 |
| Disposals of property, plant and equipment | **16,727** | 16,244 | 21,753 |
| Decrease (increase) in various investments | **(22,444)** | 15,935 | 6,340 |
| | **(419,153)** | (288,869) | (485,256) |
| **Increase (decrease) in cash and cash equivalents** | **$ (69,594)** | $ 52,847 | $(196,411) |
| **Decrease (increase) in operating assets[2]** | | | |
| Accounts receivable | **$ (79,021)** | $ (14,873) | $(120,325) |
| Construction completed and in progress | **1,192** | (46,451) | (2,961) |
| Inventories | **(107,812)** | (38,573) | (30,134) |
| Deferred income tax benefits | **4,228** | (2,846) | (15,496) |
| Other current assets | **(18,462)** | 49,357 | (11,164) |
| Investments and other assets | **23,089** | 14,451 | (65,712) |
| **Increase (decrease) in operating liabilities[2]** | | | |
| Trade and other payables | **(50,745)[3]** | 69,083 | 80,688 |
| Income taxes | **(57,715)** | 61,036 | (520) |
| Noncurrent liabilities | **(27,289)** | (51,588) | 32,276 |
| **Change in operating assets and liabilities** | **$(312,535)** | $ 39,596 | $(133,348) |

(1) Includes amounts charged to corporate administrative expenses.
(2) Excludes changes resulting from companies acquired or operations sold.
(3) Includes a decrease of $282,917,000 resulting from the NIOC settlement (see Note A).

RS-001484
1/17/02
NUECES

See Notes to Consolidated Financial Statements.

## Note A—Significant accounting policies

**Principles of consolidation**

The consolidated financial statements include the accounts of Ashland and its majority-owned subsidiaries. Investments in Construction and Engineering joint ventures are accounted for on the equity method in the consolidated balance sheets and on the proportionate consolidation method in the statements of consolidated income. Investments in other joint ventures and in 20% to 50% owned affiliates are accounted for on the equity method.

**Inventories**

| (In thousands) | 1989 | 198 |
|---|---|---|
| Crude oil | $347,616 | $198,13 |
| Petroleum products | 256,774 | 212,05 |
| Chemicals and other products | 311,297 | 318,76 |
| Materials and supplies | 37,803 | 36,46 |
| Excess of replacement costs over LIFO carrying values | (425,446) | (346,30 |
| | $528,044 | $419,11 |

Crude oil, petroleum products and chemicals carried at approximately $233,000,000 at Septembe 30, 1989 and $250,000,000 at September 30, 1988 are valued using the last-in, first-out (LIFO) method. The remaining inventories are stated generally at the lower of cost (using the first-in, first-out (FIFO) or average cost method) or market.

**Property, plant and equipment**

Oil and gas exploration and development costs are accounted for using the successful efforts method. Capitalized exploration and development costs are depleted by the units-of-production method over the estimated recoverable reserves.

The cost of plant and equipment (other than assets under capital leases and capitalized exploratior and development costs) is depreciated principally by the straight-line method over the estimated useful lives of the assets. Assets under capital leases are depreciated by the straight-line method over the shorter of the lease terms or the useful lives of the assets. Costs in excess of net assets o companies acquired are amortized by the straight-line method over periods generally ranging from ten to forty years (with an average remaining life of 17 years).

Estimated costs of major refinery turnarounds are accrued through charges to expense. All other maintenance and repair costs are expensed as incurred. Maintenance and repairs expense chargec to income amounted to $262,460,000 in 1989, $226,983,000 in 1988 and $198,394,000 in 1987

**Trade and other payables**

Trade and other payables at September 30, 1988 included $282,917,000 of unpaid invoices from the National Iranian Oil Company (NIOC) for the 1979 purchase of crude oil against which a setof was made based upon claims against NIOC, not recorded in Ashland's consolidated financial statements, for breach of contracts and other matters. An agreement was reached in 1989, with Ashland paying NIOC $325,000,000 in settlement of all litigation involving NIOC and Ashland. The resulting charge of $42,083,000 ($37,617,000 after income taxes) is included in corporate administrative expenses for 1989.

**Income taxes**

Effective October 1, 1987, Ashland adopted Financial Accounting Standards Board Statement No. 96, "Accounting for Income Taxes." The cumulative effect of the change in accounting for income taxes at that date amounted to $40,193,000 ($.72 per share). In addition, paid-in capital was charged for deferred income taxes of $24,701,000 applicable to a 1981 credit to paid-in capital from a sale of stock by a subsidiary. The effect of the new statement on income before the cumulative effect of the change in accounting for income taxes for 1988 was not significant.

Allowable investment and other tax credits (including credits on qualified progress expenditures) are recognized currently as a reduction of the provision for income taxes.

**Earnings per share**
Primary earnings per share are based on net income less preferred dividends divided by the average number of common shares and equivalents outstanding during the respective years. Average common shares outstanding exclude average unallocated shares (3,169,000 shares in 1989, 3,700,000 shares in 1988 and 2,268,000 shares in 1987) related to the prepaid contribution to the leveraged employee stock ownership plan. Shares of common stock issuable under stock options are treated as common stock equivalents when dilutive.

Earnings per share assuming full dilution begin with the primary earnings per share computation. Net income is further adjusted by adding back interest expense (net of income taxes) on convertible debentures and shares issuable upon the conversion of these debentures are added to average common shares and equivalents outstanding when dilutive.

**Other**
Cash equivalents include highly liquid investments maturing within three months when purchased. Investments of captive insurance companies are primarily foreign corporate and government debt obligations. Both are recorded at cost plus accrued interest, which approximates market.

Revenues and income related to construction contracts are recognized on the percentage-of-completion method. Anticipated losses, if any, on such contracts are charged against operations as soon as such losses are determined.

Research and development costs are expensed as incurred ($15,641,000 in 1989, $16,364,000 in 1988 and $17,278,000 in 1987).

Certain prior year amounts have been reclassified in the consolidated financial statements to conform with 1989 classifications.

## Note B—Acquisitions and divestitures

**Acquisitions**
In 1987, Ashland acquired Tanner Southwest, Inc., a highway contractor and producer of construction materials and aggregates based in Phoenix, Arizona. In addition, Ashland acquired three quick-lube businesses, an engineering firm, various chemical distribution and specialty chemical operations, and various road building and construction materials operations. During 1988, Ashland acquired various chemical manufacturing and distribution operations and a construction services and materials company. During 1989, Ashland acquired 66 7-Eleven properties in Minnesota and Wisconsin from The Southland Corporation, the highway construction operations of an Alabama company, a joint venture partner's interest in a methanol plant and a chemical distribution business. These acquisitions were accounted for as purchases and did not have a significant effect on Ashland's consolidated financial statements.

**Divestitures**
During 1987, Ashland completed the sale of Scientific Gas Products, a manufacturer of specialty gases for the electronics industry. This divestiture did not have a significant impact on Ashland's consolidated financial statements. Also during 1987, Ashland divested a portion of its interest in Melamine Chemicals, Inc., a chemical joint venture, through an initial public offering of stock. As a result of the offering, a gain of $14,395,000 ($9,812,000 after income taxes) was recognized.

In 1988, Ashland Coal, Inc. executed a series of restructuring transactions and offered shares of its common stock to the public through an initial public offering. As a result, Ashland received cash proceeds of $57,500,000 and reduced its interest in Ashland Coal from 65% to 46%. No gain or loss resulted from these transactions.

In 1989, Ashland sold its remaining carbon black operations, resulting in a gain of $30,161,000 ($18,242,000 after income taxes). Also during 1989, a decision was made by Ashland to sell Ashland Technology Corp. As the anticipated selling price is less than Ashland's carrying value, cost in excess of net assets of companies acquired was written down by $15,000,000 with no income tax effect.

RS-001486
1/17/02
NUECES

**Note C—Information by industry segment**

Ashland's operations are conducted primarily in the United States and are generally managed along industry segments, which include Ashland Petroleum, SuperAmerica Group, Valvoline, Chemical, Construction, Engineering and Exploration. In addition, Ashland is involved in the coal industry through equity interests in Arch Mineral Corporation and Ashland Coal, Inc. (see Note D). Information by industry segment is shown on pages 58 and 59. Certain information with respect to foreign operations follows the industry segment descriptions.

Ashland Petroleum is one of the nation's largest independent petroleum refiners and a leading supplier of petroleum products to the transportation and commercial fleet industries, other industrial customers and independent marketers. Principal products include gasoline, distillates and kerosene, asphalt, and jet and turbine fuel. Ashland Petroleum also gathers and transports crude oil and petroleum products in connection with its refining and wholesale marketing operations.

The SuperAmerica Group includes all of Ashland's retail marketing operations, including the SuperAmerica chain of high-volume retail gasoline and merchandise stores. Gasoline and merchandise is also sold from outlets operated by Ashland or dealers under various other brand names. Operations are conducted primarily in the Upper Midwest, Central Ohio Valley and Florida.

Valvoline is one of the nation's leading marketers of branded, packaged motor oil and markets automotive chemicals, filters, rust preventives and coolants. In addition, Valvoline is engaged in the quick-lube business through outlets operating under the Valvoline Rapid Oil Change and Valvoline Instant Oil Change names.

Chemical distributes industrial chemicals, solvents, thermoplastics and resins, and fiberglass materials, and manufactures a wide variety of specialty chemicals and certain commodity chemicals. Major specialty chemicals include water treatment products, polyester and specialty resins, foundry products, and high-purity electronic and laboratory chemicals. Principal commodity chemicals include petrochemicals, maleic anhydride and methanol.

Construction produces asphaltic and ready-mixed concrete, aggregate, concrete blocks and certain specialized construction materials, and performs contract construction work including highway paving and repair, excavation and grading, and bridge and sewer construction in the southern United States.

Engineering provides architectural, design, engineering and project management services worldwide through Ashland Technology Corp. Engineering also designs and manufactures steam-generating and fuel-burning equipment and fabricates heavy metal products.

Exploration produces crude oil and natural gas principally in the eastern United States and Gulf Coast and crude oil in Nigeria.

Arch Mineral produces metallurgical and steam coal from surface and deep mines in Illinois, Kentucky, West Virginia and Wyoming for sale to utility and steel companies. Ashland Coal produces low-sulfur steam coal from surface mines in central Appalachia for sale to domestic and foreign electric utility and industrial markets. Arch Mineral and Ashland Coal each market coal mined by independent producers.

| | Total assets | | Income before income taxes | | |
|---|---|---|---|---|---|
| (In thousands) | 1989 | 1988 | 1989 | 1988 | 1987 |
| Foreign operations | | | | | |
| Ashland Petroleum | $ — | $ — | $ 1,602 | $ 1,752 | $ 1,771 |
| Valvoline | 43,036 | 35,015 | 5,080 | 4,226 | 4,582 |
| Chemical | 140,863 | 126,627 | 24,628 | 21,908 | 18,655 |
| Engineering | 9,690 | 8,841 | 439 | 234 | 2,566 |
| Exploration | 58,913 | 79,951 | 12,243 | — | — |
| | $252,502 | $250,434 | $43,992 | $28,120 | $27,574 |

RS-001487
1/17/02
NUECES

**Note D—Unconsolidated affiliates**

Investments accounted for on the equity method include: Arch Mineral Corporation (a 50% owned coal company), Ashland Coal, Inc. (a 46% owned publicly traded coal company, which was 65% owned prior to August 11, 1988), LOOP INC. and LOCAP INC. (18.6% and 21.4% owned joint ventures operating a deepwater offshore port and related pipeline facilities in the Gulf of Mexico) and various petroleum, chemical and engineering companies. Summarized financial information reported by these investments and a summary of the amounts recorded in Ashland's consolidated financial statements follow.

| (In thousands) | Arch Mineral Corporation | Ashland Coal, Inc. | LOOP INC. and LOCAP INC. | Engineering joint ventures(1) | Other | Total |
|---|---|---|---|---|---|---|
| **September 30, 1989** | | | | | | |
| Financial position | | | | | | |
| Current assets | $162,469 | $ 56,691 | $ 19,770 | $87,891 | $ 55,953 | |
| Current liabilities | (124,068) | (29,579) | (141,833) | (65,995) | (37,572) | |
| Working capital | 38,401 | 27,112 | (122,063) | 21,896 | 18,381 | |
| Noncurrent assets | 669,337 | 266,894 | 793,965 | 1,475 | 132,993 | |
| Noncurrent liabilities | (406,770) | (120,300) | (634,246) | (1,303) | (46,013) | |
| Redeemable preferred stock | — | (30,034) | — | — | — | |
| Stockholders' equity | $300,968 | $143,672 | $ 37,656 | $22,068 | $105,361 | |
| Results of operations | | | | | | |
| Sales and operating revenues | $561,425 | $290,400 | $136,444 | $ — | $196,161 | |
| Gross profit | 72,298 | 46,997 | 59,624 | — | 61,580 | |
| Net income | 30,282 | 22,936 | 9,045 | — | 21,921 | |
| Amounts recorded by Ashland | | | | | | |
| Investments and advances | 158,831 | 72,964(2) | 6,141 | 8,469 | 33,425 | $279,830 |
| Equity income | 21,344(3) | 10,358 | 1,321 | — | 7,300 | 40,323 |
| Dividends received | 4,000 | 1,385 | — | — | 1,868 | 7,253 |
| **September 30, 1988** | | | | | | |
| Financial position | | | | | | |
| Current assets | $161,152 | $ 57,243 | $ 21,625 | $80,286 | $ 60,654 | |
| Current liabilities | (113,994) | (24,685) | (153,701) | (59,802) | (38,955) | |
| Working capital | 47,158 | 32,558 | (132,076) | 20,484 | 21,699 | |
| Noncurrent assets | 635,994 | 188,072 | 825,382 | 1,730 | 96,018 | |
| Noncurrent liabilities | (404,468) | (65,810) | (664,695) | (1,576) | (23,077) | |
| Redeemable preferred stock | — | (28,904) | — | — | — | |
| Stockholders' equity | $278,684 | $125,916 | $ 28,611 | $20,638 | $ 94,640 | |
| Results of operations | | | | | | |
| Sales and operating revenues | $547,999 | $252,340 | $132,145 | $ — | $214,491 | |
| Gross profit | 75,013 | 49,468 | 52,525 | — | 68,405 | |
| Net income (loss) | 42,081(4) | 30,495(4) | (260) | — | 21,662 | |
| Amounts recorded by Ashland | | | | | | |
| Investments and advances | 147,588 | 63,845 | 4,820 | 9,221 | 31,705 | $257,179 |
| Equity income | 28,317(3) | 18,821 | 18 | — | 6,663 | 53,819 |
| Dividends received | 4,000 | 6,500 | — | — | 3,823 | 14,323 |
| **September 30, 1987** | | | | | | |
| Results of operations | | | | | | |
| Sales and operating revenues | $466,319 | $199,040 | $109,644 | $ — | $186,124 | |
| Gross profit | 58,048 | 33,261 | 37,250 | — | 52,237 | |
| Net income (loss) | 31,713 | 15,188 | (15,664) | — | 17,031 | |
| Amounts recorded by Ashland | | | | | | |
| Equity income (loss) | 24,759(3) | 9,872 | (1,620) | — | 6,845 | $ 39,856 |
| Dividends received | 4,000 | 2,600 | — | — | 5,784 | 12,384 |

(1) Results of operations of Engineering joint ventures are accounted for on the proportionate consolidation method in Ashland's statements of consolidated income.

(2) The market value of Ashland's investment amounts to $108,172,000 based on the closing market price of Ashland Coal's common stock on September 30, 1989.

(3) Includes net income from royalties received by Ashland from Arch Mineral of $6,099,000 in 1989, $7,310,000 in 1988 and $8,751,000 in 1987.

(4) Excludes the cumulative effect of the change in accounting for income taxes of $18,000,000 for Arch Mineral and $1,819,000 for Ashland Coal, Ashland's share of which is included in that caption in the statements of consolidated income.

Ashland's retained earnings include $197,480,000 of undistributed earnings from unconsolidated affiliates accounted for on the equity method.

## Note E—Income taxes

A summary of the provision for income taxes follows.

| (In thousands) | 1989 | 1988 | 1987 |
|---|---|---|---|
| Current[1] | | | |
| Federal | $ 24,280 | $118,349 | $ (18,958) |
| State | 9,650 | 20,090 | 2,124 |
| Foreign | 7,890 | 9,152 | 6,135 |
| | 41,820 | 147,591 | (10,699) |
| Deferred | | | |
| Federal and state | 14,040 | (60,401) | 71,973 |
| Foreign | 170 | 60 | 483 |
| | 14,210 | (60,341) | 72,456 |
| | $ 56,030 | $ 87,250 | $ 61,757 |

(1) Income tax payments amounted to $92,427,000 in 1989, $86,915,000 in 1988 and $28,280,000 in 1987.

Deferred income taxes and benefits are provided for significant income and expense items recognized in different time periods for tax and financial reporting purposes. Deferred income taxes result principally from the use of accelerated depreciation for tax purposes, prepaid contributions to the leveraged employee stock ownership plan (LESOP), intangible drilling costs expensed for tax purposes, and undistributed equity income. Deferred income tax benefits result principally from reserves not being deductible until paid, including insurance reserves and claims, accrued pension costs, and construction contract and environmental reserves. Major components of the deferred income tax provision follow.

| (In thousands) | 1989 | 1988 | 1987 |
|---|---|---|---|
| Accelerated depreciation | $ (3,366) | $ 8,348 | $ 26,203 |
| NIOC settlement | 19,688 | — | — |
| Restructuring of Ashland Coal | — | (21,650) | — |
| Insurance reserves and claims | (6,059) | (9,645) | (2,500) |
| Construction contract reserves | 1,489 | (7,933) | 5,538 |
| Performance compensation reserves | 5,245 | (5,491) | (2,363) |
| Intangible drilling costs | 4,075 | (2,079) | (1,751) |
| Depletion | (2,952) | — | (351) |
| Other property related items | 11,159 | (2,392) | 9,754 |
| Environmental reserves | (6,993) | (3,623) | 457 |
| Restructuring of employee benefit plans | — | (9,840) | 14,390 |
| LESOP costs | (5,889) | (5,257) | (6,605) |
| Pension costs | 417 | 1,147 | 6,055 |
| Other items | (2,604) | (1,926) | 23,629 |
| | $ 14,210 | $ (60,341) | $ 72,456 |

The U.S. and foreign components of income before income taxes and a reconciliation of the normal statutory federal income tax with the provision for income taxes follow.

| (In thousands) | 1989 | 1988 | 1987 |
|---|---|---|---|
| Income before income taxes | | | |
| United States | $ 98,243 | $242,881 | $167,615 |
| Foreign | 43,992 | 28,120 | 27,574 |
| | $142,235 | $271,001 | $195,189 |
| Income taxes computed at U.S. statutory rates | $ 48,360 | $ 92,140 | $ 83,931 |
| Increase (decrease) in amount computed resulting from | | | |
| Equity income | (11,044) | (14,423) | (15,595) |
| State income taxes | 6,615 | 9,350 | 4,429 |
| Net impact of foreign results | 11,708 | (895) | (6,113) |
| Amortization of goodwill | 6,911 | 1,667 | 1,962 |
| Other items | (6,520) | (589) | (6,857) |
| | $ 56,030 | $ 87,250 | $ 61,757 |

The Internal Revenue Service (IRS) has examined Ashland's consolidated U.S. income tax returns through 1985. As a result of its examinations, the IRS has proposed significant adjustments, certain of which are being contested by Ashland. Ashland believes it has adequately provided for any income taxes which may ultimately be assessed on contested issues.

RS-001489
1/17/02
NUECES

## Note F—Long-term debt

| (In thousands) | 1989 | 1988 |
|---|---|---|
| Senior debt | | |
| 11.125% sinking fund debentures, due 2017 | $ 199,980 | $200,000 |
| Pollution control and industrial revenue bonds, due 1996 to 2016, interest at an average rate of 8% at September 30, 1989 (6.2% to 12.4%) | 142,000 | 142,000 |
| Medium term notes, due 1993-1999, interest at an average rate of 9.7% at September 30, 1989 (9% to 10.1%) | 135,010 | 78,010 |
| Note payable to bank, due 1990-1993, interest at ⅜% over London Interbank Offered Rate (9.3% at September 30, 1989) | 100,000 | 125,000 |
| 8.45% sinking fund notes, due 1997 | 53,100 | 59,800 |
| 8.20% sinking fund debentures, due 2002 | 40,842 | 41,042 |
| 8.80% sinking fund debentures, due 2000 | 37,420 | 38,376 |
| Note payable to banks for financing of leveraged employee stock ownership plan, due 1994-1996, interest at 74% to 76% of the prime rate (7.8% at September 30, 1989) | 34,519 | 34,519 |
| Short-term debt subsequently refunded | 20,000(1) | — |
| 6.15% sinking fund debentures, due 1992 | 16,160 | 16,295 |
| 8.95% sinking fund notes, due 1998 | 15,800 | 17,500 |
| Other | 28,961 | 24,557 |
| | 823,792 | 777,099 |
| Subordinated and subsidiary debt | | |
| 6-¾% convertible subordinated debentures, due 2014, convertible into common stock at $51.34 per share | 200,000 | — |
| 11.10% subordinated sinking fund debentures, due 2004 | 18,816 | 18,816 |
| 4-¾% convertible subordinated sinking fund debentures, convertible into common stock at $16.67 per share | — | 1,426 |
| Subsidiary debt not guaranteed by Ashland | 919 | 1,486 |
| | 219,735 | 21,728 |
| | 1,043,527 | 798,827 |
| Current portion | (35,473) | (33,777) |
| | $1,008,054 | $765,050 |

(1) Represents commercial paper refunded in October, 1989 from the proceeds of additional medium term notes.

Aggregate maturities of long-term debt are $35,473,000 in 1990, $65,913,000 in 1991, $50,555,000 in 1992, $61,587,000 in 1993 and $48,611,000 in 1994. Excluded from such maturities are $80,700,000 of floating rate pollution control and industrial revenue bonds, due between 2003 and 2009, which are generally subject to early redemptions at the bondholders' option, but not before 1991.

Under various revolving credit agreements, Ashland can borrow up to $370,000,000 with the interest rate based on the prime rate, the London Interbank Offered Rate or, in certain cases, an adjusted certificate of deposit rate, at Ashland's option. Agreements providing for $70,000,000 in borrowings expire on March 1, 1991. Any unpaid balance at October 31, 1991 under the remaining agreement will convert to a term loan repayable in equal annual installments through October 31, 1996. No borrowings were outstanding under these agreements at September 30, 1989.

Interest payments on all indebtedness amounted to $86,795,000 in 1989, $68,052,000 in 1988 and $53,951,000 in 1987.

## Note G—Leases and other commitments

### Leases

Ashland and its subsidiaries are lessees in noncancelable leasing agreements for office buildings, pipelines, tankers, service stations, manufacturing facilities and other equipment and properties which expire at various dates. Future minimum lease payments at September 30, 1989 and assets (included in property, plant and equipment) under capital leases follow.

(In thousands)

| Future minimum lease payments | |
|---|---|
| 1990 | $ 12,122 |
| 1991 | 12,024 |
| 1992 | 12,501 |
| 1993 | 10,414 |
| 1994 | 8,154 |
| Later years | 56,570 |
| | 111,785 |
| Imputed interest | (39,341) |
| Capitalized lease obligations | $ 72,444 |

| Assets under capital leases | 1989 | 1988 |
|---|---|---|
| Cost | | |
| Ashland Petroleum | $121,599 | $122,678 |
| SuperAmerica Group | — | 3,843 |
| Valvoline | — | 933 |
| Chemical | 7,349 | 16,149 |
| Construction | 234 | 640 |
| Engineering | 26,102 | 26,121 |
| Corporate | 7,600 | 7,600 |
| | 162,884 | 177,964 |
| Accumulated depreciation | (101,272) | (110,306) |
| Net assets | $ 61,612 | $ 67,658 |

Future minimum rental payments at September 30, 1989 and rental expense under operating leases follow.

(In thousands)

| Future minimum rental payments | |
|---|---|
| 1990 | $ 59,259 |
| 1991 | 54,113 |
| 1992 | 48,333 |
| 1993 | 41,918 |
| 1994 | 31,995 |
| Later years | 208,566 |
| | $444,184 |

| Rental expense | 1989 | 1988 | 1987 |
|---|---|---|---|
| Minimum rentals (including rentals under short-term leases) | $105,610 | $90,951 | $83,131 |
| Contingent rentals | 12,341 | 11,815 | 10,388 |
| Sublease rental income | (11,938) | (14,701) | (10,922) |
| | $106,013 | $88,065 | $82,597 |

### Other commitments

Under agreements with LOOP and LOCAP (see Note D), Ashland is committed to advance funds against future transportation charges when these joint ventures are unable to meet their cash requirements. Such advances are limited to Ashland's share, based on its equity interests, of the total debt service and defined operating and administrative costs of these companies. Such advances, however, are reduced by (1) transportation charges Ashland paid, (2) a pro rata portion of transportation charges paid by other equity participants in excess of their required amounts and (3) a pro rata portion of transportation charges paid by third parties who are not equity participants. Advances made to LOOP and LOCAP by Ashland which had not yet been applied to subsequent transportation charges amounted to $11,374,000 at September 30, 1989 and $11,743,000 at September 30, 1988. Transportation charges incurred amounted to $22,155,000 in 1989, $20,583,000 in 1988 and $19,392,000 in 1987. At September 30, 1989, Ashland's contingent liability for its share of the indebtedness of LOOP and LOCAP secured by throughput and deficiency agreements amounted to approximately $121,000,000.

Ashland is contingently liable under guarantees of certain debt and lease obligations of Ashland Coal, Inc., an unconsolidated affiliate. At September 30, 1989, such obligations have a present value of approximately $20,400,000.

RS-001491
1/17/02
NUECES

**Note H—Capital stock**

Ashland has 30,000,000 authorized shares of no par cumulative preferred stock, of which 10,000,000 shares are reserved for potential issuance under the Shareholder Rights Plan. No preferred shares have been outstanding since December, 1986 when the remaining 6,250 shares of the 8.50% Series were redeemed for $6,250,000.

On April 1, 1986, Ashland's Board of Directors authorized the purchase from time to time in open market transactions of up to 15,000,000 shares of common stock, of which 11,016,000 shares have been purchased through September 30, 1989 at a cost of $318,075,000. In addition, Ashland purchased 53,000 shares from numerous shareholders under an odd-lot tender offer in 1988 at a cost of $1,828,000.

Ashland has a Shareholder Rights Plan designed to deter coercive takeover tactics. Under the Plan, each share of common stock is accompanied by one-half of a Right. A Right entitles the holder to purchase one-tenth share of preferred stock for $120. Each one-tenth share of preferred stock will be entitled to dividends and to vote on an equivalent basis with two shares of common stock. The Rights are not exercisable or detachable from the common shares until ten days after any person or group acquires 15 percent or more (or announces a tender offer for 20 percent or more) of Ashland's common stock. If any person or group acquires 20 percent or more of Ashland's common stock or acquires Ashland in a merger or other business combination, each Right (other than those held by the acquiring party) will entitle the holder to purchase stock of Ashland or the acquiring company having a market value of two times the $120 exercise price. The Rights expire on May 15, 1996 and can be redeemed at any time prior to becoming exercisable.

At September 30, 1989, 6,013,000 shares of common stock are reserved for conversion of the 6-¾% Convertible Subordinated Debentures and issuance under outstanding stock options.

**Note I—Litigation, claims and contingencies**

Ashland is subject to various environmental laws and regulations of the United States and foreign countries. As is the case with other companies engaged in similar industries, Ashland faces significant exposure from actual or potential claims and lawsuits involving environmental matters. These matters involve alleged soil and water contamination and air pollution, and personal injuries or property damage allegedly caused by exposure to toxic materials manufactured, handled or used by Ashland. Ashland's policy is to accrue environmental and clean-up costs when it is probable that a liability has been incurred and the amount of the liability is reasonably estimable. However, future environmental related expenditures cannot be reasonably quantified in many circumstances due to the speculative nature of remediation and clean-up cost estimates and methods, the imprecise and conflicting data regarding the characteristics of various types of waste, the number of other potentially responsible parties involved and changing environmental laws and interpretations.

Riley Consolidated, a subsidiary which manufactures steam-generating and fuel-burning equipment, has experienced significant technical problems with custom boilers built using multi-solid fluidized bed boiler technology. As a result, charges of $38,000,000 in 1989 and $20,000,000 in 1988 were provided for estimated future costs of correcting performance problems associated with these boilers. Additional charges could be incurred if guaranteed boiler performance is not achieved, but the amounts, if any, are uncertain at this time.

Certain actions have been filed against Ashland seeking damages of approximately $850,000,000 for alleged air pollution from the company's Catlettsburg, Kentucky refinery. In addition, Ashland and its subsidiaries are parties to numerous other claims and lawsuits (some of which are also for substantial amounts) with respect to commercial matters, product liability and other matters. While these matters are being contested, the outcome of individual matters is not predictable with assurance.

Although any actual liability is not determinable as of September 30, 1989, Ashland believes that any liability resulting from these matters involving Ashland and its subsidiaries, after taking into consideration Ashland's insurance coverages and amounts already provided for, should not have a material adverse effect on Ashland's consolidated financial position.

## Note J—Employees' pension and retirement benefits

Ashland sponsors pension and retirement plans which cover substantially all employees, other than union employees covered by multiemployer pension plans under collective bargaining agreements. Benefits under these plans generally are based on the employee's years of service and compensation during the years immediately preceding retirement. For certain plans, such benefits are expected to come in part from one-half of employees' leveraged employee stock ownership plan (LESOP) accounts. Although final retirement benefits under these plans remain unchanged, the LESOP reduces Ashland's pension costs and contributions. Ashland's general funding policy is to contribute amounts deductible for federal income tax purposes.

The following tables detail the components of pension expense and income, the funded status of the plans and amounts recognized in Ashland's consolidated balance sheets, and major assumptions used to determine these amounts.

| (In thousands) | 1989 | 1988 | 1987 |
|---|---|---|---|
| Components of pension expense (income) | | | |
| Service cost | $ 8,905 | $ 10,520 | $12,415 |
| Interest cost | 14,060 | 11,465 | 10,089 |
| Actual return on plan assets | (22,112) | 331 | (19,154) |
| Deferred investment gain (loss) | 9,334 | (12,055) | (2,128) |
| Other amortization and deferral (principally transition gain) | (5,921) | (6,416) | (5,364) |
| | $ 4,266 | $ 3,845 | $ (4,142) |
| Actuarial present value of projected benefit obligations | | | |
| Accumulated benefit obligations | | | |
| Vested | $ 87,017 | $ 64,364 | |
| Nonvested | 11,811 | 8,648 | |
| Provision for future salary increases | 91,910 | 77,945 | |
| Plan assets at fair value (primarily listed stocks, bonds and guaranteed investment contracts) | (169,016) | (139,436) | |
| Unfunded projected benefit obligations | 21,722 | 11,521 | |
| Unrecognized transition gain | 52,125 | 57,548 | |
| Unrecognized net gain (loss) | (4,510) | 2,927 | |
| Unrecognized prior service credit | 5,703 | 6,096 | |
| Net accrued pension cost[1] | $ 75,040 | $ 78,092 | |
| Major assumptions at year-end[2] | | | |
| Discount rate | 8½ % | 9% | 9% |
| Rate of increase in compensation levels | 5 % | 5% | 5% |
| Expected long-term rate of return on plan assets | 9 % | 9% | 9% |

(1) Amounts are recorded in various asset and liability accounts on Ashland's consolidated balance sheets.
(2) Pension costs are determined using the assumptions as of the beginning of the year. The funded status is determined using the assumptions as of the end of the year.

During 1987, Ashland purchased annuities covering most of the accumulated benefit obligations of its pension plans. Excess pension funds in certain plans totaling $215,000,000 were contributed to the LESOP and used to service the LESOP debt. As a result of the annuity purchase, a settlement gain of $132,529,000 was recognized, which was largely offset by the LESOP contribution of $105,990,000 charged to expense (see Note K). This restructuring of employee benefit plans resulted in a gain of $26,539,000 ($12,470,000 after income taxes).

Certain union employees are covered under multiemployer defined benefit plans administered by unions. Amounts charged to pension expense and contributed to the plans were $2,770,000 in 1989, $2,544,000 in 1988 and $1,008,000 in 1987.

Ashland sponsors a Thrift Plan to assist eligible employees in providing for retirement or other future financial needs. Ashland matches employee contributions (up to 6% of their earnings) at a rate of 70% (20% for LESOP participants). Ashland's contributions to the Plan amounted to $5,477,000 in 1989, $4,972,000 in 1988 and $4,769,000 in 1987.

Health care and life insurance benefits are provided for most employees who reach retirement while working for Ashland. The costs of such benefits (approximately $6,000,000 in 1989, $5,300,000 in 1988 and $4,200,000 in 1987 after employee contributions) are generally expensed as claims are paid.

**Note K—Stock ownership plans**

**Leveraged employee stock ownership plan**

During 1986, Ashland established a leveraged employee stock ownership plan (LESOP) to cover the majority of its salaried employees. LESOP purchases of Ashland common stock that year were generally funded through a loan from Ashland, of which the remaining principal at September 30, 1986 amounted to $246,500,000. In 1987, Ashland contributed $215,000,000 to the LESOP from excess assets recovered from certain company pension plans. Such contribution was used by the LESOP to service the loan from Ashland and prepay $211,981,000 of the remaining principal. Because one-half of employees' LESOP accounts serve to fund future benefits paid by certain pension plans, one-half of the funds used to prepay debt was accounted for by Ashland as a prepaid LESOP contribution. The remainder ($105,990,000) was expensed as an offset to the pension settlement gain (see Note J).

Ashland common shares held by the LESOP related to the contribution of excess pension assets are being allocated to employees' accounts over an eight-year period from October 1, 1986. The remaining shares will be allocated as the loan to the LESOP is repaid. The projected costs of the LESOP (including the prepaid contribution, projected dividends on the related unallocated shares and projected future contributions) are being expensed ($18,616,000 in 1989, $13,834,000 in 1988 and $14,412,000 in 1987) on a pro rata basis as the original shares are allocated to employees. Dividends on unallocated shares exceed interest and administrative costs, and the excess is currently used to purchase additional shares of Ashland common stock.

**Stock incentive plans**

Ashland has stock incentive plans under which key employees or directors can purchase shares of common stock under stock options or restricted stock awards. Stock options are granted to employees at a price equal to the fair market value of the stock on the date of grant, become exercisable over periods of one to four years and may be accompanied by stock appreciation rights (SARs). SARs entitle employees to surrender stock options and receive cash or stock in an amount equal to the excess of the market value of the optioned shares over their option price. Unexercised options and any accompanying SARs lapse ten years after the date of grant. Restricted stock awards entitle employees or directors to purchase shares at a nominal cost, to vote such shares and to receive any dividends thereon, but such shares are subject to forfeiture upon termination of service before the restriction period ends.

| | | 1989 | | 1988 | | 1987 |
|---|---|---|---|---|---|---|
| (In thousands except per share data) | Common shares | Price range per share | Common shares | Price range per share | Common shares | Price range per share |
| Options outstanding—beginning of year | 1,809 | $13⅜ - 35⅝ | 1,951 | $12⅛ - 33⅜ | 1,963 | $12⅛ - 30 |
| Options granted | 558 | 41 | 401 | 35⅝ | 553 | 33⅜ |
| Options exercised | (245) | 13⅜ - 35⅝ | (517) | 12⅛ - 30 | (559) | 13⅜ - 15¾ |
| Options canceled | (4) | 30 - 35⅝ | (26) | 14¼ - 33⅜ | (6) | 13⅜ - 30 |
| Options outstanding—end of year[1] | | | | | | |
| Accompanied by SARs | 867 | $14¼ - 41 | 729 | $14¼ - 35⅝ | 755 | $14¼ - 33⅜ |
| Other | 1,251 | $13⅜ - 41 | 1,080 | $13⅜ - 35⅝ | 1,196 | $12⅛ - 33⅜ |

(1) At September 30, 1989, options to purchase 1,078,000 shares of common stock are exercisable and additional options or awards to purchase 2,430,000 shares of common stock can be granted to key employees or directors.

RS-001494
1/17/02
NUECES

## REPORT OF MANAGEMENT

Ashland Oil, Inc. and Subsidiaries

Management is responsible for the consolidated financial statements and other financial information included in this Annual Report. This responsibility entails preparing financial statements in accordance with generally accepted accounting principles and selecting those principles and reporting information which, using management's best judgment and estimates, present fairly Ashland's consolidated financial position, results of operations and cash flows. The other financial information is consistent with the consolidated financial statements.

Management is also responsible for establishing and maintaining internal control systems designed to provide reasonable assurance that assets are safeguarded and records reflect, in all material respects, the transactions of Ashland in accordance with management's authorization. The concept of reasonable assurance is based on the recognition that the cost of a system of internal control should not exceed the related benefits. Management believes that an adequate internal control system is maintained by the selection and training of qualified personnel, by an appropriate division of responsibility in all organizational arrangements, by the establishment and communication of accounting and business policies, and by internal audits.

The Board, subject to stockholder ratification, selects and engages the independent auditors. The Audit Committee, composed of directors who are not members of management, reviews Ashland's accounting and auditing policies and practices, reviews the scope of services performed by the independent auditors, and holds meetings with Ashland's internal auditor and the independent auditors, with and without management present, to discuss the scope, timing and findings of the audits.

Ernst & Young, independent auditors, are engaged to audit management's consolidated financial statements and to issue an opinion as to whether such statements, considered in their entirety, present fairly Ashland's consolidated financial position, results of operations and cash flows. Their audit is conducted in accordance with generally accepted auditing standards (including a review of Ashland's internal accounting controls to the extent they consider necessary in the circumstances), and their report follows.

## REPORT OF INDEPENDENT AUDITORS

Ernst & Young

**To the Stockholders and Board of Directors Ashland Oil, Inc. Ashland, Kentucky**

We have audited the accompanying consolidated balance sheets of Ashland Oil, Inc. and subsidiaries as of September 30, 1989 and 1988, and the related consolidated statements of income, common stockholders' equity and cash flows for each of the three years in the period ended September 30, 1989. These financial statements are the responsibility of Ashland's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards 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. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above (appearing on pages 41 to 55 of this Annual Report) present fairly, in all material respects, the consolidated financial position of Ashland Oil, Inc. and subsidiaries at September 30, 1989 and 1988, and the consolidated results of their operations and their cash flows for each of the three years in the period ended September 30, 1989 in conformity with generally accepted accounting principles.

As discussed in Note A to the consolidated financial statements, in fiscal 1988 Ashland changed its method of accounting for income taxes.

Louisville, Kentucky
November 1, 1989

Ernst + Young

RS-001495
1/17/02
NUECES

Ashland Oil, Inc. and Subsidiaries

# FIVE YEAR SELECTED FINANCIAL INFORMATION

Years Ended September 30

| (In millions except per share data) | 1989 | 1988 | 1987 | 1986 | 1985 |
|---|---|---|---|---|---|
| **Summary of operations** | | | | | |
| Revenues | | | | | |
| Sales and operating revenues (including excise taxes) | **$8,464** | $8,196 | $6,990 | $7,092 | $7,988 |
| Other | **72** | 73 | 105 | 73 | 41 |
| Costs and expenses | | | | | |
| Cost of sales and operating expenses | **(6,590)** | (6,347) | (5,600) | (5,550) | (6,614) |
| Excise taxes on products and merchandise | **(474)** | (443) | (318) | (291) | (293) |
| Selling, general and administrative expenses | **(876)** | (806) | (701) | (644) | (593) |
| Depreciation, depletion and amortization | **(267)** | (260) | (238) | (221) | (192) |
| Operating income | **329** | 413 | 238 | 459 | 337 |
| Other income (expense) | | | | | |
| Interest income | **13** | 6 | 18 | 26 | 19 |
| Interest expense | **(92)** | (78) | (52) | (61) | (67) |
| Equity income | **40** | 54 | 40 | 27 | 19 |
| Corporate administrative expenses | **(148)** | (124) | (75) | (84) | (54) |
| Gain from restructuring of employee benefit plans | **—** | — | 26 | — | — |
| Divestitures and asset write-offs | **—** | — | — | — | (40) |
| Income before income taxes and the cumulative effect of the change in accounting for income taxes | **142** | 271 | 195 | 367 | 214 |
| Income taxes | **56** | 87 | 62 | 158 | 67 |
| Income before the cumulative effect of the change in accounting for income taxes | **86** | 184 | 133 | 209 | 147 |
| Cumulative effect of the change in accounting for income taxes | **—** | 40 | — | — | — |
| Net income | **$ 86** | $ 224 | $ 133 | $ 209 | $ 147 |
| **Balance sheet information** | | | | | |
| Working capital | | | | | |
| Current assets | **$1,778** | $1,711 | $1,566 | $1,494 | $1,606 |
| Current liabilities | **1,516** | 1,489 | 1,336 | 1,238 | 1,481 |
| | **$ 262** | $ 222 | $ 230 | $ 256 | $ 125 |
| Total assets | **$4,456** | $4,254 | $4,074 | $3,787 | $3,915 |
| Capitalization | | | | | |
| Debt due within one year | **$ 161** | $ 45 | $ 24 | $ 80 | $ 30 |
| Long-term debt (less current portion) | **1,008** | 765 | 704 | 703 | 510 |
| Capitalized lease obligations (less current portion) | **66** | 77 | 85 | 96 | 106 |
| Deferred income taxes | **279** | 327 | 393 | 433 | 350 |
| Redeemable preferred stock | **—** | — | — | 6 | 249 |
| Common stockholders' equity | **1,141** | 1,121 | 1,065 | 971 | 929 |
| | **$2,655** | $2,335 | $2,271 | $2,289 | $2,174 |
| **Cash flow information** | | | | | |
| Cash flows from operations | **$ 85** | $ 397 | $ 309 | $ 431 | $ 383 |
| Additions to property, plant and equipment | **413** | 343 | 339 | 277 | 283 |
| Dividends | **58** | 56 | 58 | 67 | 74 |
| **Common stock information** | | | | | |
| Primary earnings per share | **$ 1.55** | $ 3.29[1] | $ 2.14 | $ 3.07 | $ 2.06 |
| Dividends per share | **1.00** | .95 | .90 | .85 | .80 |

(1) Excludes the cumulative effect of the change in accounting for income taxes.

RS-001496
1/17/02
NUECES

# FIVE YEAR INFORMATION BY INDUSTRY SEGMENT

Years Ended September 30

| (In millions) | 1989 | 1988 | 1987 | 1986 | 1985 |
|---|---|---|---|---|---|
| **Sales and operating revenues** | | | | | |
| Petroleum Group (including excise taxes) | | | | | |
| Ashland Petroleum | **$3,177** | $3,146 | $2,919 | $3,366 | $4,399 |
| SuperAmerica Group | **1,795** | 1,604 | 1,364 | 1,364 | 1,409 |
| Valvoline | **616** | 571 | 552 | 529 | 488 |
| Chemical | **2,230** | 2,090 | 1,643 | 1,477 | 1,499 |
| Construction | **1,066** | 1,064 | 760 | 721 | 690 |
| Engineering | **601** | 647 | 557 | 464 | 527 |
| Exploration | **253** | 199 | 248 | 232 | 287 |
| Intersegment sales[1] | | | | | |
| Ashland Petroleum | **(1,033)** | (930) | (813) | (851) | (1,041) |
| Exploration | **(203)** | (168) | (213) | (184) | (243) |
| Other | **(38)** | (27) | (27) | (26) | (27) |
| | **$8,464** | $8,196 | $6,990 | $7,092 | $7,988 |
| **Operating income** | | | | | |
| Petroleum Group[2] | | | | | |
| Ashland Petroleum | **$ 142** | $ 179 | $ 10 | $ 252 | |
| SuperAmerica Group | **53** | 50 | 16 | 37 | |
| Valvoline | **36** | 30 | 48 | 37 | |
| | **231** | 259 | 74 | 326 | $ 213[3] |
| Chemical | **128**[4] | 102 | 91[5] | 71 | 68 |
| Construction | **40** | 68 | 62 | 69 | 40 |
| Engineering | **(90)**[6] | (18)[7] | 10 | 17 | 14 |
| Exploration | **20** | 2 | 1 | (23) | 5 |
| Other | **—** | — | — | (1) | (3) |
| | **$ 329** | $ 413 | $ 238 | $ 459 | $ 337 |
| **Identifiable assets** | | | | | |
| Petroleum Group[2] | | | | | |
| Ashland Petroleum | **$1,386** | $1,198 | $1,288 | $1,214 | |
| SuperAmerica Group | **422** | 360 | 320 | 245 | |
| Valvoline | **306** | 285 | 236 | 164 | |
| | **2,114** | 1,843 | 1,844 | 1,623 | $1,782 |
| Chemical | **744** | 754 | 603 | 527 | 496 |
| Construction | **504** | 500 | 419 | 228 | 221 |
| Engineering | **258** | 286 | 286 | 226 | 212 |
| Exploration | **217** | 242 | 271 | 369 | 414 |
| Other | **—** | — | — | — | 7 |
| Coal investments | **245** | 227 | 250 | 231 | 220 |
| Corporate[8] | **374** | 402 | 401 | 583 | 563 |
| | **$4,456** | $4,254 | $4,074 | $3,787 | $3,915 |

RS-001497
1/17/02
NUECES

| (In millions) | 1989 | 1988 | 1987 | 1986 | 1985 |
|---|---|---|---|---|---|
| **Cash flows from operations** | | | | | |
| Income adjusted for noncash charges[9] | | | | | |
| Petroleum Group[2] | | | | | |
| Ashland Petroleum | **$170** | $184 | $117 | $246 | |
| SuperAmerica Group | **64** | 56 | 27 | 36 | |
| Valvoline | **37** | 29 | 35 | 20 | |
| | **271** | 269 | 179 | 302 | $242 |
| Chemical | **97** | 84 | 89 | 63 | 63 |
| Construction | **70** | 82 | 52 | 63 | 44 |
| Engineering | **(33)** | (22) | 21 | 14 | 14 |
| Exploration | **102** | 43 | 99 | 51 | 67 |
| Other | **—** | — | — | 2 | 1 |
| Coal investments | **12** | 18 | 16 | 13 | 10 |
| Corporate | **(121)** | (117) | (14) | 7 | (11) |
| Change in operating assets and liabilities | **(313)** | 40 | (133) | (84) | (47) |
| | **$ 85** | $397 | $309 | $431 | $383 |
| **Additions to property, plant and equipment** | | | | | |
| Petroleum Group | | | | | |
| Ashland Petroleum | **$142** | $ 89 | $ 94 | $ 60 | $ 39 |
| SuperAmerica Group | **50** | 46 | 88 | 61 | 37 |
| Valvoline | **38** | 43 | 28 | 15 | 10 |
| Chemical | **46** | 53 | 41 | 35 | 39 |
| Construction | **52** | 55 | 41 | 27 | 25 |
| Engineering | **8** | 6 | 6 | 4 | 5 |
| Exploration | **51** | 39 | 31 | 45 | 120 |
| Corporate | **26** | 12 | 10 | 30 | 8 |
| | **$413** | $343 | $339 | $277 | $283 |
| **Depreciation, depletion and amortization** | | | | | |
| Petroleum Group | | | | | |
| Ashland Petroleum | **$ 89** | $ 87 | $ 83 | $ 81 | $ 78 |
| SuperAmerica Group | **28** | 24 | 20 | 15 | 12 |
| Valvoline | **14** | 12 | 9 | 3 | 3 |
| Chemical | **37** | 35 | 29 | 26 | 24 |
| Construction | **45** | 37 | 24 | 19 | 18 |
| Engineering | **23** | 9 | 10 | 9 | 10 |
| Exploration | **31** | 56 | 63 | 69 | 47 |
| Corporate | **12** | 10 | 11 | 9 | 7 |
| | **$279** | $270 | $249 | $231 | $199 |

(1) Intersegment sales are accounted for at prices which approximate market value.
(2) A breakdown between segments is not available for 1985.
(3) Includes income of $12,000,000 from LIFO inventory liquidations.
(4) Includes a gain of $30,000,000 from the sale of Ashland's carbon black operations.
(5) Includes a gain of $14,000,000 resulting from the public offering of an interest in a chemical joint venture.
(6) Includes a provision of $38,000,000 for estimated expenditures to correct problems with certain boiler contracts, a charge of $20,000,000 resulting from an arbitration award in a dispute with a customer and a write-down of $15,000,000 in the carrying value of Ashland Technology Corp.
(7) Includes a provision of $20,000,000 for anticipated cost overruns on certain boiler contracts.
(8) Includes principally cash, cash equivalents, investments in and advances to unconsolidated affiliates (other than Arch Mineral Corporation and Ashland Coal, Inc.) and investments of captive insurance companies.
(9) Income before the cumulative effect of the change in accounting for income taxes, plus expense (income) not affecting cash.

See Management's Discussion and Analysis on pages 34 to 40 for a discussion of results of operations by industry segment for the three years ended September 30, 1989.

RS-001498
1/17/02
NUECES

## SUPPLEMENTAL OIL AND GAS INFORMATION

**Oil and gas reserves, revenues and costs**

The following tables summarize Ashland's (1) crude oil and natural gas reserves, (2) results of operations from oil and gas producing and marketing activities, (3) costs incurred, both capitalized and expensed, in oil and gas producing activities and (4) capitalized costs for oil and gas producing activities, along with the related accumulated depreciation, depletion and amortization. U.S. crude oil and natural gas reserves are reported net of royalties and interests owned by others. Nigerian crude oil reserves relate to reserves available to Ashland, as producer, under a long-term contract extending through 1993 with the Nigerian National Petroleum Corporation. Reserves reported in the table are estimated and may be revised significantly in the future.

| Years ended September 30 | | | 1989 | | | 1988 | | | 1987 |
|---|---|---|---|---|---|---|---|---|---|
| | U. S. | Nigeria | Total | U. S. | Nigeria | Total | U. S. | Nigeria | Total |
| **Crude oil reserves** (in millions of barrels) | | | | | | | | | |
| Proved developed and undeveloped reserves | | | | | | | | | |
| Beginning of year | 2.4 | 45.3 | 47.7 | 2.8 | 51.8 | 54.6 | 3.0 | 55.2 | 58.2 |
| Revisions of previous estimates | .4 | 4.3 | 4.7 | .2 | (.7) | (.5) | .6 | 3.7 | 4.3 |
| Extensions and discoveries | .5 | 3.6 | 4.1 | .3 | 5.5 | 5.8 | .1 | 5.7 | 5.8 |
| Production | (.8) | (12.2) | (13.0) | (.9) | (11.3) | (12.2) | (.9) | (12.8) | (13.7) |
| End of year | 2.5 | 41.0 | 43.5 | 2.4 | 45.3 | 47.7 | 2.8 | 51.8 | 54.6 |
| Proved developed reserves | | | | | | | | | |
| Beginning of year | 2.4 | 38.3 | 40.7 | 2.8 | 43.2 | 46.0 | 3.0 | 46.4 | 49.4 |
| End of year | 2.5 | 41.0 | 43.5 | 2.4 | 38.3 | 40.7 | 2.8 | 43.2 | 46.0 |
| **Natural gas reserves** (in billions of cubic feet) | | | | | | | | | |
| Proved developed and undeveloped reserves | | | | | | | | | |
| Beginning of year | 212.1 | | | 198.4 | | | 206.8 | | |
| Revisions of previous estimates | 1.0 | | | 12.3 | | | (5.1) | | |
| Purchase of minerals in place | — | | | 6.3 | | | 3.6 | | |
| Extensions and discoveries | 34.8 | | | 10.1 | | | 7.6 | | |
| Production | (15.6) | | | (15.0) | | | (14.5) | | |
| End of year | 232.3 | | | 212.1 | | | 198.4 | | |
| Proved developed reserves | | | | | | | | | |
| Beginning of year | 168.8 | | | 161.8 | | | 158.0 | | |
| End of year | 187.9 | | | 168.8 | | | 161.8 | | |
| **Results of operations** | | | | | | | | | |
| Revenues | | | | | | | | | |
| Sales to third parties | $ 50,461 | $ — | $ 50,461 | $ 31,166 | $ — | $ 31,166 | $ 35,089 | $ — | $ 35,089 |
| Intersegment sales[1] | 14,284 | 188,303 | 202,587 | 15,722 | 151,915 | 167,637 | 15,312 | 197,417 | 212,729 |
| | 64,745 | 188,303 | 253,048 | 46,888 | 151,915 | 198,803 | 50,401 | 197,417 | 247,818 |
| Costs and expenses | | | | | | | | | |
| Production (lifting) costs[2] | (20,710) | (62,580) | (83,290) | (15,850) | (70,189) | (86,039) | (26,111) | (49,735) | (75,846) |
| Exploration expenses | (5,088) | (2,906) | (7,994) | (8,482) | (3) | (8,485) | (6,965) | (2,723) | (9,688) |
| Depreciation, depletion, amortization and valuation provisions | (31,249) | (52,480) | (83,729) | (29,803) | (20,177) | (49,980) | (27,539) | (71,354) | (98,893) |
| Other costs | (10,164)[3] | (2,087) | (12,251) | (1,127)[3] | (1,640) | (2,767) | 2,224[3] | (1,290) | 934 |
| Income and foreign exploration taxes | 3,360 | (45,377) | (42,017) | 6,116 | (49,514) | (43,398) | 14,709 | (63,279) | (48,570) |
| | $ 894 | $ 22,873 | $ 23,767 | $ (2,258) | $ 10,392 | $ 8,134 | $ 6,719 | $ 9,036 | $ 15,755 |
| **Costs incurred** | | | | | | | | | |
| Property acquisition costs | $ 2,004 | $ — | $ 2,004 | $ 9,285 | $ — | $ 9,285 | $ 5,313 | $ — | $ 5,313 |
| Exploration costs | 7,106 | 2,915 | 10,021 | 8,263 | 9 | 8,272 | 7,044 | 4,860 | 11,904 |
| Development costs | 25,464 | 24,461 | 49,925 | 6,688 | 19,349 | 26,037 | 11,311 | 12,161 | 23,472 |
| **Capitalized costs** | | | | | | | | | |
| Proved properties | $270,370 | $389,501 | $659,871 | $243,979 | $367,497 | $611,476 | | | |
| Unproved properties | 19,678 | — | 19,678 | 34,502 | — | 34,502 | | | |
| | 290,048 | 389,501 | 679,549 | 278,481 | 367,497 | 645,978 | | | |
| Accumulated depreciation, depletion and amortization | (157,641) | (360,726) | (518,367) | (144,065) | (308,154) | (452,219) | | | |
| | $132,407 | $ 28,775 | $161,182 | $134,416 | 59,343 | $193,759 | | | |

(1) Intersegment sales are accounted for at prices which approximate market value.
(2) Includes only costs incurred to operate and maintain wells, related equipment and facilities. Amounts do not include depreciation, depletion and amortization of capitalized exploration and development costs.
(3) Includes gains and losses from crude oil trading.

**Standardized measure of discounted future net cash flows relating to oil and gas reserves**

The following tables summarize discounted future net cash flows and changes in such flows in accordance with Financial Accounting Standards Board Statement No. 69, "Disclosures about Oil and Gas Producing Activities." Under the guidelines of the Statement, estimated future cash flows are determined based on current prices for crude oil and natural gas, estimated production of Ashland's proved crude oil and natural gas reserves, estimated future production and development costs of those reserves based on current costs and economic conditions, and estimated future income and foreign exploration taxes based on taxing arrangements in effect at year-end. Such cash flows are then discounted using the prescribed 10% rate.

Many other assumptions could have been made which may have resulted in significantly different estimates. Ashland does not rely upon these estimates in making investment and operating decisions. Accordingly, these estimates should not be viewed as indicative of future cash flows or the current value of Ashland's proved reserves. Such estimates are disclosed in accordance with the Statement to provide readers with standardized data for use in making their own estimates of future cash flows or comparing proved crude oil and natural gas reserves among companies.

| Discounted future net cash flows (in millions) | U.S. | Nigeria | Total |
|---|---|---|---|
| **September 30, 1989** | | | |
| Future cash inflows | $657.7 | $704.8 | $1,362.5 |
| Future production (lifting) costs | (220.0) | (340.9) | (560.9) |
| Future development costs | (36.2) | (5.0) | (41.2) |
| Future income and foreign exploration taxes | (98.7) | (273.6) | (372.3) |
| | 302.8 | 85.3 | 388.1 |
| Annual 10% discount | (146.8) | (10.4) | (157.2) |
| | $156.0 | $ 74.9 | $ 230.9 |
| **September 30, 1988** | | | |
| Future cash inflows | $613.6 | $582.1 | $1,195.7 |
| Future production (lifting) costs | (238.8) | (265.5) | (504.3) |
| Future development costs | (30.2) | (16.6) | (46.8) |
| Future income and foreign exploration taxes | (106.9) | (187.4) | (294.3) |
| | 237.7 | 112.6 | 350.3 |
| Annual 10% discount | (119.6) | (19.5) | (139.1) |
| | $118.1 | $ 93.1 | $ 211.2 |

| Changes in discounted future net cash flows (in millions) | | | 1989 | | | 1988 | | | 1987 |
|---|---|---|---|---|---|---|---|---|---|
| | U. S. | Nigeria | Total | U. S. | Nigeria | Total | U. S. | Nigeria | Total |
| Net change due to extensions and discoveries | $ 30.6 | $ 36.5 | $ 67.1 | $ 6.4 | $ 41.0 | $ 47.4 | $ 4.3 | $ 52.2 | $ 56.5 |
| Sales of oil and gas produced—net of production (lifting) costs | (44.0) | (125.7) | (169.7) | (31.0) | (81.7) | (112.7) | (24.3) | (147.7) | (172.0) |
| Changes in prices | 17.3 | 63.4 | 80.7 | 41.1 | (139.7) | (98.6) | (55.8) | 167.8 | 112.0 |
| Development costs incurred | 10.0 | 16.6 | 26.6 | 4.2 | 21.7 | 25.9 | 5.5 | 6.0 | 11.5 |
| Net change due to revisions of previous estimates of reserves | 3.6 | 49.7 | 53.3 | 11.3 | (7.0) | 4.3 | 2.5 | 33.5 | 36.0 |
| Purchase of minerals in place | — | — | — | 4.3 | — | 4.3 | 3.3 | — | 3.3 |
| Accretion of 10% discount | 11.8 | 9.3 | 21.1 | 9.2 | 10.1 | 19.3 | 12.3 | 11.2 | 23.5 |
| Other—net[1] | (5.1) | 1.7 | (3.4) | (8.5) | (27.3) | (35.8) | (26.9) | (8.5) | (35.4) |
| Net change in income and foreign exploration taxes | 13.7 | (69.7) | (56.0) | (10.6) | 175.1 | 164.5 | 47.4 | (125.6) | (78.2) |
| | 37.9 | (18.2) | 19.7 | 26.4 | (7.8) | 18.6 | (31.7) | (11.1) | (42.8) |
| Discounted future net cash flows Beginning of year | 118.1 | 93.1 | 211.2 | 91.7 | 100.9 | 192.6 | 123.4 | 112.0 | 235.4 |
| End of year | $156.0 | $ 74.9 | $230.9 | $118.1 | $ 93.1 | $211.2 | $ 91.7 | $100.9 | $ 192.6 |

(1) Includes changes in future production and development costs and changes in the timing of future production.

RS-001500
1/17/02
NUECES

# EXECUTIVE AND ADMINISTRATIVE OFFICERS

**Executive Officers**

John R. Hall
Chairman of the Board and Chief Executive Officer

Charles J. Luellen
President and Chief Operating Officer

Paul W. Chellgren
Senior Vice President and Chief Financial Officer

John A. Brothers
Senior Vice President and Group Operating Officer: Ashland Chemical, Inc., Valvoline, Inc. and SuperAmerica Group, Inc.

William C. Voss
Senior Vice President and Group Operating Officer: APAC, Inc., Arch Mineral Corporation, Ashland Exploration, Inc. and Ashland Technology Corp.

Robert E. Yancey, Jr.
Senior Vice President and Group Operating Officer: Ashland Petroleum Company and South Point Ethanol; and President, Ashland Petroleum Company

Richard W. Spears
Senior Vice President, Human Resources and Law

David J. D'Antoni
Senior Vice President, and President, Ashland Chemical, Inc.

G. William Jones
Senior Vice President, and President, APAC, Inc.

Harry M. Zachem
Senior Vice President, External Affairs

John D. Barr
Senior Vice President, and President, Valvoline, Inc.

James R. Boyd
Senior Vice President, and President, Ashland Exploration, Inc.

John F. Pettus
Senior Vice President, and President, SuperAmerica Group, Inc.

William R. Sawran
Vice President, and President, Ashland Services Company

**Administrative Officers**

Robert H. Compton
Administrative Vice President, Environmental

Kenneth B. Denton
Administrative Vice President and Controller

Thomas L. Feazell
Administrative Vice President and General Co

William E. Perrine
Administrative Vice President

J. Marvin Quin
Administrative Vice President and Treasurer

Philip W. Block
Vice President, Corporate Human Resources

Sean T. Crimmins
Vice President and General Tax Counsel

John W. Dansby
Vice President, Planning

Frank P. Justice, Jr.
Vice President, Community Affairs

J. Dan Lacy
Vice President, Corporate Communications

James G. Stephenson
Vice President, Law

John P. Ward
Secretary

John H. Wallace, Jr.
Auditor

# CORPORATE GOVERNANCE

Ashland Oil is organized as a modified holding company managed by a core group and governed by a 16-member board of directors. The board consists of 14 people from outside the company and two company officers.

The board conducted seven formal meetings in fiscal 1989. Its seven standing committees met a total of 18 times. These committees include Audit, Benefit Plans, Energy, Finance, Nominating, Manufacturing & Transportation and Personnel & Compensation committees.

The Audit, Energy, Nominating and Personnel & Compensation committees consist entirely of outside directors. The chairman and most members of the Benefit Plans and Finance committees also are outside directors. The remaining committee is chaired by a director who is also an officer of the company.

**Ashland Petroleum Company**

Robert E. Yancey, Jr.
President

Robert B. Keifer
Group Vice President, Supply, Transportation

Charles R. Lovorn
Group Vice President, Marketing

A. V. Peppard
Group Vice President, Manufacturing and Technical

Don C. Weller
Group Vice President, Crude Oil Supply and Transportation

Ernie W. Stamper
Administrative Vice President

Richard P. Thomas
Administrative Vice President and General Counsel

Carlos C. Rabb
President, Scurlock Oil Company

Malcolm F. Howard
President, Ashland Pipe Line Company

Ross H. Chatfield
President, Allied Oil Company

Charles D. Hoertz
President, Ashland Carbon Fibers

**SuperAmerica Group, Inc.**

John F. Pettus
President

R. J. Maxwell
Senior Vice President, and General Manager, Southern

George K. Townsend
Senior Vice President, and General Manager, Midwest

Gerald L. Wipf
Vice President, and General Manager, Florida

John T. Doyle
Administrative Vice President

J. Michael Wilder
Vice President and General Counsel

**Valvoline, Inc.**

John D. Barr
President

James B. Baylor
Senior Vice President, Supply, Operations and Administration

Carl F. Frey
Senior Vice President, Marketing

Robert M. Harbison
President, Valvoline Instant Oil Change

Russell H. Long
President, Valvoline International

John D. Van Meter
Administrative Vice President

**Ashland Chemical, Inc.**

David J. D'Antoni
President

Phillip D. Ashkettle
Group Vice President

Donald L. Coticchia
Group Vice President

Robert E. Gottlieb
Group Vice President

D. S. Boston, Jr.
Administrative Vice President

Thomas F. Davis
Administrative Vice President and General Counsel

Scotty B. Patrick
Administrative Vice President, Technical

**Engineering and Construction Segments**

G. William Jones
President, APAC, Inc.

Albert A. Dorman
Chairman, Ashland Technology Corp.

H. Kerner Smith
President, Riley Consolidated, Inc.

William E. Adams
President, Beaird Industries, Inc.

Jack H. Hinds
Senior Vice President, APAC, Inc.

Dan L. Denison
Administrative Vice President and General Counsel

Lewis G. Noe, Jr.
Administrative Vice President and Chief Financial Officer

**Ashland Exploration, Inc.**

James R. Boyd
President

G. Thomas Wilkinson
Senior Vice President

W. Paul Tiefel
Vice President, International

Fred D. Blake
Vice President, Law and Tax

William H. Powell
Vice President, Human Resources and Administration

Leon R. Volterre
Vice President, West Africa

Robert C. Bilger
Vice President, Development

John V. Connolly
Controller

**Arch Mineral Corporation (50-percent owned)**

William Guy Heckman
Chairman

R. E. Samples
President and Chief Executive Officer

**Ashland Coal, Inc. (46-percent owned)**

William C. Payne
President and Chief Executive Officer

Steven F. Leer
Senior Vice President, Marketing

Kenneth G. Woodring
Senior Vice President, Operations

C. Henry Besten, Jr.
Administrative Vice President, Coal Resources and Administration

Marc R. Solochek
Administrative Vice President, Chief Financial Officer and Treasurer

**Ashland Services Company**

William R. Sawran
President

Gaige R. Paulsen
Vice President, and Chief MIS Officer, Ashland Oil, Inc.

Rowland Pagan
Vice President, Risk and Insurance

Alfred C. Hamm
Controller

RS-001502
1/17/02
NUECES

# D I R E C T O R S

**Jack S. Blanton** (1, 3, 5)
President, Eddy Refining Company,
Houston, Texas

**Thomas E. Bolger** (2*, 6, 7)
Chairman of the Executive Committee of
Bell Atlantic Corporation,
Philadelphia, Pennsylvania

**Samuel C. Butler** (2, 4*, 6)
Partner of Cravath, Swaine & Moore, Attorneys,
New York, New York

**Frank C. Carlucci** (1, 2, 5)
Vice Chairman of the Board of The Carlyle Group,
Washington, D.C.

**James B. Farley** (1*, 6, 7)
Chairman of the Board, President and Chief
Executive Officer of MONY Financial Services,
New York, New York

**Ralph E. Gomory** (1, 2)
President of the Alfred P. Sloan Foundation,
New York, New York

**Robert D. Gordon, Jr.** (2, 3, 6)
Retired Executive, Oklahoma City, Oklahoma

**John R. Hall**** (4)
Chairman of the Board
and Chief Executive Officer of Ashland

**Charles J. Luellen**** (2, 4, 5*)
President and Chief Operating Officer of Ashland

**Don T. McKone** (1, 5, 7)
Chairman of the Board of TRINOVA Corporation,
Maumee, Ohio

**Jane C. Pfeiffer** (3, 4, 6*, 7)
Management Consultant, Greenwich, Connecticut

**James R. Rinehart** (1, 4, 5)
Business and Labor Consultant, Hiram, Ohio

**Michael D. Rose** (2, 4, 5)
Chairman of the Board, President and Chief
Executive Officer of Holiday Corporation,
Memphis, Tennessee

**W. L. Rouse, Jr.** (1, 3, 4)
Chairman of the Board, President and Chief
Executive Officer of First Security Corporation,
Lexington, Kentucky

**Dr. Robert B. Stobaugh** (3, 4, 5, 7*)
Professor, Harvard Business School,
Boston, Massachusetts

**James W. Vandeveer** (1, 3*, 5)
Oil and Gas Producer, Chairman of the Board
of Vantex Enterprises, Inc., Dallas, Texas

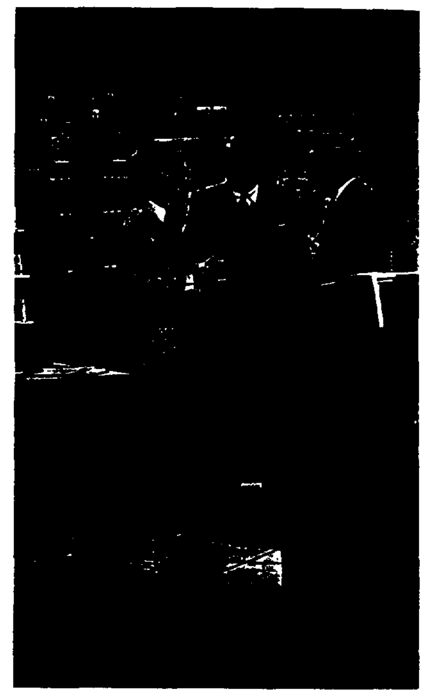
**Committees:**

(1) Audit (2) Benefit Plans (3) Energy (4) Finance
(5) Manufacturing & Transportation (6) Nominating
(7) Personnel & Compensation
* Committee Chairman ** Officer/Director

**Ralph E. Gomory**

**Jack S. Blanton**

**Dr. Robert B. Stobaugh**



**Jane C. Pfeiffer**

**Robert D. Gordon, Jr.**

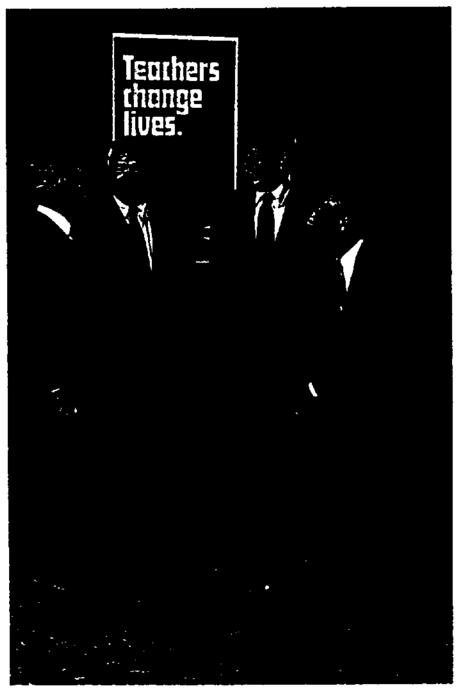
**Thomas E. Bolger**

RS-001503
1/17/02
NUECES

Charles J. Luellen

Don T. McKone

James B. Farley




Frank C. Carlucci

John R. Hall

Samuel C. Butler

Michael D. Rose

Richard L. Terrell

Mr. Terrell joined Ashland's board in 1980 and retired in January 1989. Formerly vice chairman of General Motors Corporation, his experience and insight into the auto industry was invaluable. His expert advice was instrumental in Ashland's aggressive expansion of SuperAmerica and Valvoline. His experience in business and management also benefited the board's Benefit Plans, Personnel & Compensation, and Manufacturing & Transportation committees.

W. L. Rouse, Jr.

James W. Vandeveer

James R. Rinehart

### Common Stock

Ashland's common stock is listed and traded on the New York and Midwest stock exchanges and also has trading privileges on the Philadelphia, Boston, Cincinnati, Pacific and Amsterdam stock exchanges. Options for the company's common stock are traded on the Philadelphia Stock Exchange.

Ticker symbol: ASH

| *Fiscal 1989 stock prices per common share:* | |
|---|---|
| High | $43 |
| Low | $31⅛ |
| Year-end | $40⅛ |

Ashland Oil, Inc. is incorporated under the laws of the Commonwealth of Kentucky.

### Dividends

Dividends are mailed on approximately the 15th day of December, March, June and September. The fiscal year ends on September 30.

### Stock Information

Questions regarding stockholder records, stock certificates, dividends, the Dividend Reinvestment Plan or other stock inquiries should be directed to:

Stock Transfer Department
Ashland Oil, Inc.
P. O. Box 12328
Lexington, KY 40582
Telephone: (606) 268-7162

The Chase Manhattan Bank
Shareholder Services Division
14th Floor
1 New York Plaza
New York, NY 10081

### Registrars

First Security National
Bank & Trust Company
Lexington, Ky.

The Chase Manhattan Bank
New York, N.Y.

### Annual Meeting

Ashland's annual stockholders' meeting will be held in Ashland, Ky., at 10:30 a.m. on Thursday, Jan. 25, 1990. Proxies are mailed to stockholders in the month of December.

### Financial Information

Copies of Ashland's Financial and Operating Supplement to this Ann Report, the Securities and Exchang Commission Form 10-K, and the Highlights of the Annual Meeting booklet are available without charg Direct requests for these document and other stockholder and security analyst inquiries to:

Financial Communications
Department
William P. Hartl, Director
Ashland Oil, Inc.
535 Madison Avenue
New York, NY 10022
Telephone: (212) 421-1250

### Media Inquiries

Corporate Communications
Ashland Oil, Inc.
1000 Ashland Drive
Russell, KY 41169
Telephone: (606) 329-4061

### General Offices

Ashland Oil, Inc.
P.O. Box 391
Ashland, KY 41114
Telephone: (606) 329-3333

### Independent Auditors

Ernst & Young
1900 Meidinger Tower
Louisville, KY 40202
Telephone: (502) 583-0251

# REFERENCE GUIDE


**A**
- Accounting policies [illegible]
- Acquisitions [illegible]
- Additions to property, plant and equipment [illegible]
- APAC [illegible]
- Arch Mineral [illegible]
- Ashland Chemical [illegible]
- Ashland Coal [illegible]
- Ashland Petroleum [illegible]
- Ashland Technology Corp. [illegible]
- Assets [illegible]
- Auditors' report [illegible]

**B**
- Balance sheets [illegible]
- Book value per common share 1

**C**
- Capitalization [illegible]
- Capital expenditures [illegible]
- Capital resources [illegible]
- Cash flows [illegible]
- Chemical [illegible]
- Coal [illegible]
- Common stockholders' equity [illegible]
- Consolidated balance sheets [illegible]
- Construction [illegible]
- Corporate affairs [illegible]
- Corporate governance [illegible]
- Crude oil reserves [illegible]

**D**
- Deferred income taxes [illegible]
- Depreciation, depletion and amortization [illegible]
- Directors [illegible]
- Divestitures [illegible]
- Divisional personnel [illegible]
- Dividends per common share 1, [illegible]

**E**
- Earnings per share 1, [illegible]
- Employees [illegible]
- Employees' pension and retirement benefits [illegible]
- Employee Stock Ownership Plan [illegible]
- Engineering [illegible]
- Equity income [illegible]
- Executive officers [illegible]
- Exploration [illegible]
- Exploration and development costs [illegible]

**F**
- Financial highlights 1
- Financial position [illegible]
- Five year information by industry segment [illegible]
- Five year selected financial information [illegible]

**I**
- Identifiable assets [illegible]
- Income statement [illegible]
- Income taxes [illegible]
- Industry segments [illegible]
- Inflation [illegible]
- Inventories [illegible]

**L**
- Leases and other commitments [illegible]
- Letter to stockholders [illegible]
- Liabilities, current and non-current [illegible]
- Liquidity [illegible]
- Litigation, claims and contingencies [illegible]
- Long-term debt [illegible]

**M**
- Management's discussion and analysis [illegible]

**N**
- Natural gas reserves [illegible]
- Net income 1, [illegible]
- Number of common stockholders [illegible]

**O**
- Officers [illegible]
- Oil and gas information [illegible]
- Operating income [illegible]
- Operating information [illegible]
- Other income (expense) [illegible]

**P**
- Pension costs [illegible]
- Petroleum [illegible]
- Preferred stock [illegible]
- Principles of consolidation [illegible]
- Property, plant and equipment [illegible]

**Q**
- Quarterly financial information [illegible]

**R**
- Redeemable preferred stock [illegible]
- Registrars [illegible]
- Report of independent auditors [illegible]
- Report of management [illegible]
- Results of operations [illegible]
- Retirement benefits [illegible]
- Return on average common stockholders' equity 1

**S**
- Sales and operating revenues 1, [illegible]
- Stock incentive plan [illegible]
- Stock ownership plans [illegible]
- Stock trading symbol [illegible]
- Stock transfer agent [illegible]
- Stockholders' meeting [illegible]
- Stockholders of record 1
- SuperAmerica Group [illegible]

**T**
- Thrift Plan [illegible]
- Trade and other payables [illegible]

**U**
- Unconsolidated affiliates [illegible]

**V**
- Valvoline [illegible]
- Valvoline Instant Oil Change [illegible]

**W**
- Working capital [illegible]


RS-001506
1/17/02
NUECES


Design:
Stewart Lopez-Bonilla and Associates Inc., Louisville, KY
Major Photography:
Chris Jones, New York, NY

ASHLAND OIL, INC.
ASHLAND, KENTUCKY 41114

(606) 329-3333

Bulk Rate
U.S. Postage
PAID

Ashland Oil, Inc.

Return postage guaranteed