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SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 10-K/A AMENDMENT NO. 1

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 1998 Commission file number 1-2918

ASHLAND INC. (a Kentucky corporation)

I.R.S. No. 61-0122250 50 E. RiverCenter Boulevard Covington, Kentucky 41012

Telephone Number: (606) 815-3333

Securities Registered Pursuant to Section 12(b):

Title of each class

Name of each exchange on which registered

Common Stock, par value \$1.00 per share

Rights to Purchase Series A Participating Cumulative Preferred Stock

New York Stock Exchange and Chicago Stock Exchange New York Stock Exchange and Chicago Stock Exchange

Securities Registered Pursuant to Section 12(g): None

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [X]

At October 30, 1998, based on the New York Stock Exchange closing price, the aggregate market value of voting stock held by non-affiliates of the Registrant was approximately \$3,249,504,576. In determining this amount, the Registrant has assumed that directors, certain of its executive officers, and persons known to it to be the beneficial owners of more than five percent of its common stock are affiliates. Such assumption shall not be deemed conclusive for any other purpose.

At October 30, 1998, there were 75,057,315 shares of Registrant's common stock outstanding.

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# EXPLANATORY NOTE

This amendment to the Annual Report on Form 10-K for the fiscal year ended September 30, 1998 of Ashland Inc. ("Ashland") is being filed by Ashland to include the audited financial statements of Marathon Ashland Petroleum LLC ("MAP") for the fiscal year ended December 31, 1998 and the audited financial statements of Arch Coal, Inc. ("Arch") for the fiscal year ended December 31, 1998 as required by Rule 3-09 of Regulation S-X. Ashland has a 38% equity interest in MAP and a 56% equity interest in Arch and accounts for these investments using the equity method of accounting. In accordance with Rule 12b-15 under the Securities Exchange Act of 1934, as amended, the text of the amended item is set forth in its entirety in the pages attached hereto.

A consent of PricewaterhouseCoopers LLP, independent accountants for MAP, and a consent of Ernst & Young, independent auditors for Arch, are being filed as exhibits hereto.

- (a) Documents filed as part of this Report
  - (1) and (2) Financial Statements and Financial Schedule

The consolidated financial statements and financial schedule of Ashland presented or incorporated by reference in this report are listed in the index on Page 19.

Audited financial statements of Marathon Ashland Petroleum LLC. Financial statement schedules are omitted because they are not applicable as the required information is contained in the applicable financial statements or notes thereto.

Audited financial statements and schedule of Arch Coal, Inc.

## (3) Exhibits

- 3.1 Second Restated Articles of Incorporation of Ashland, as amended to January 30, 1998 (filed as Exhibit 3 to Ashland's Form 10-Q for the quarter ended December 31, 1997, and incorporated herein by reference).
- 3.2 Bylaws of Ashland, as amended to March 19, 1998 (filed as Exhibit 3 to Ashland's Form 10-K/A (Amendment No. 1) for the fiscal year ended September 30, 1997 filed on May 1, 1998, and incorporated herein by reference).
- 4.1 Ashland agrees to provide the SEC, upon request, copies of instruments defining the rights of holders of long-term debt of Ashland, and all of its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed with the SEC.
- 4.2 Indenture, dated as of August 15, 1989, as amended and restated as of August 15, 1990, between Ashland and Citibank, N.A., as Trustee (filed as Exhibit 4(a) to Ashland's Form 10-K for the fiscal year ended September 30, 1991, and incorporated herein by reference).
- 4.3 Rights Agreement, dated as of May 16, 1996, between Ashland Inc. and Harris Trust and Savings Bank, together with Form of Right Certificate (filed as Exhibits 4(a) and 4(c), respectively, to Ashland's Form 8-A filed with the SEC on May 16, 1996, and incorporated herein by reference).

The following Exhibits 10.1 through 10.18 are compensatory plans or arrangements or management contracts required to be filed as exhibits pursuant to Item 601(b)(10)(ii)(A) of Regulation S-K.

- 10.1 Amended Stock Incentive Plan for Key Employees of Ashland Inc. and its Subsidiaries (filed as Exhibit 10.1 to Ashland's Form 10-K for the fiscal year ended September 30, 1996, and incorporated herein by reference).
- 10.2 Ashland Inc. Deferred Compensation and Stock Incentive Plan for Non-Employee Directors.
- 10.3 Ashland Inc. Director Retirement Plan (filed as Exhibit 10(c).3 to Ashland's Form 10-K for the fiscal year ended September 30, 1988, and incorporated herein by reference).
- 10.4 Ninth Amended and Restated Ashland Inc.
  Supplemental Early Retirement Plan for Certain Key
  Executive Employees.

- 10.5 Ashland Inc. Amended Performance Unit Plan (filed as Exhibit 10.5 to Ashland's Form 10-K for the fiscal year ended September 30, 1994, and incorporated herein by reference).
- 10.6 Ashland Inc. Incentive Compensation Plan (filed as Exhibit 10.6 to Ashland's Form 10-K for the fiscal year ended September 30, 1993, and incorporated herein by reference).
- 10.7 Ashland Inc. Director Death Benefit Program (filed as Exhibit 10(c).10 to Ashland's Form 10-K for the fiscal year ended September 30, 1990, and incorporated herein by reference).
- incorporated herein by reference).

  10.8 Ashland Inc. Salary Continuation Plan (filed as Exhibit 10(c).11 to Ashland's Form 10-K for the fiscal year ended September 30, 1988, and incorporated herein by reference).
- 10.9 Forms of Ashland Inc. Executive Employment Contract between Ashland Inc. and certain executive officers of Ashland (filed as Exhibit 10(c).12 to Ashland's Form 10-K for the fiscal year ended September 30, 1989, and incorporated herein by reference).
- 10.10 Form of Indemnification Agreement between Ashland Inc. and each member of its Board of Directors (filed as Exhibit 10(c).13 to Ashland's Form 10-K for the fiscal year ended September 30, 1990, and incorporated herein by reference).
- incorporated herein by reference).

  10.11 Ashland Inc. Nonqualified Excess Benefit Pension Plan.
- 10.12 Ashland Inc. Long-Term Incentive Plan (filed as Exhibit 10.12 to Ashland's Form 10-K for the fiscal year ended September 30, 1996, and incorporated herein by reference).
- 10.13 Ashland Inc. Directors' Charitable Award Program
  (filed as Exhibit 10.13 to Ashland's Form 10-K for
  the fiscal year ended September 30, 1996, and
  incorporated herein by reference).
- 10.14 Ashland Inc. 1993 Stock Incentive Plan (filed as Exhibit 10.14 to Ashland's Form 10-K for the fiscal year ended September 30, 1996, and incorporated herein by reference).
- 10.15 Ashland Inc. 1995 Performance Unit Plan (filed as Exhibit 10.15 to Ashland's Form 10-K for the fiscal year ended September 30, 1996, and incorporated herein by reference).
- 10.16 Ashland Inc. Incentive Compensation Plan for Key
  Executives (filed as Exhibit 10.16 to Ashland's Form
  10-K for the fiscal year ended September 30, 1996,
  and incorporated herein by reference).
- 10.17 Ashland Inc. Deferred Compensation Plan (filed as Exhibit 10.17 to Ashland's Form 10-K for the fiscal year ended September 30, 1997, and incorporated herein by reference).
- 10.18 Ashland Inc. 1997 Stock Incentive Plan.
- 10.19 Limited Liability Company Agreement of Marathon Ashland Petroleum LLC dated as of January 1, 1998 (filed as Exhibit 10.1 to Ashland's Form 8-K, dated January 1, 1998, and incorporated herein by reference).
- 10.20 Put/Call, Registration Rights and Standstill
  Agreement dated as of January 1, 1998 among Marathon
  Oil Company, USX Corporation, Ashland Inc. and

Marathon Ashland Petroleum LLC (filed as Exhibit 10.2 to Ashland's Form 8-K, dated January 1, 1998, and incorporated herein by reference).

- 11 Computation of Earnings Per Share (appearing on Page 49 of Ashland's Annual Report to Shareholders, incorporated by reference herein, for the fiscal year  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ ended September 30, 1998).
- Portions of Ashland's Annual Report to Shareholders, incorporated by reference herein, for 13 the fiscal year ended September 30, 1998.
- 21 List of subsidiaries.
- 23.1 Consent of Ernst & Young LLP.
- 23.2 Consent of PricewaterhouseCoopers LLP.
- 23.3 Consent of Ernst & Young LLP.
- Power of Attorney, including resolutions of the Board of Directors.  $% \left( \frac{1}{2}\right) =\frac{1}{2}\left( \frac{1}{2}\right) +\frac{1}{2}\left( \frac{1}{2}\right) +\frac{1}{2}$ 24
- Financial Data Schedule for the fiscal year ended September 30, 1998.

  Restated Financial Data Schedule for the fiscal year ended September 30, 1997.

  Restated Financial Data Schedule for the fiscal year ended September 30, 1996. 27.1
- 27.2
- 27.3

Upon written or oral request, a copy of the above exhibits will be furnished at cost.

(b) Reports on Form 8-KNone

# SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Amendment to be signed on its behalf by the undersigned thereunto duly authorized.

ASHLAND INC. (Registrant)

Date: March 17, 1999 /s/ David L. Hausrath

/s/ David L. Hausrath

Name: David L. Hausrath
Title: Vice President and
General Counsel

# AUDITED CONSOLIDATED FINANCIAL STATEMENTS

December 31, 1998

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February 9, 1999, except as to Note R, which is as of March 1, 1999

To the Board of Managers of Marathon Ashland Petroleum LLC

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of operations, of cash flows and of members' capital present fairly, in all material respects, the financial position of Marathon Ashland Petroleum LLC and its subsidiaries (MAP) at December 31, 1998, and the results of their operations and their cash flows for the year then ended, in conformity with generally accepted accounting principles. These financial statements are the responsibility of MAP's management; our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit of these financial statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for the opinion expressed above.

PricewaterhouseCoopers LLP

# MARATHON ASHLAND PETROLEUM LLC AND SUBSIDIARIES

	Year Ended December 31, 1998
Revenues:	
Sales - Note E	\$ 19,300
Dividend and affiliate income	13
Gain on disposal of assets	6
Other income	20
Total revenues	19,339
Costs and expenses:	
Cost of sales (excludes items shown below)	14,083
Selling, general and administrative expenses	387
Depreciation and amortization	275
Taxes other than income taxes	3,687
Inventory market valuation charge - Note I	269 
	40.504
Total costs and expenses	18,701 
Income from operations	638
Net interest and other financial income - Note F	17
Net Interest and Other Imancial income - Note r	
Income before income taxes	655
Provision for estimated income taxes - Note H	1
Net income	\$ 654
	======

The accompanying notes are an integral part of these consolidated financial statements.

	December 31 1998
ASSETS	
Current assets:	
Cash and cash equivalents, including amounts invested with	
related parties of \$272 - Note D	\$ 272
Receivables, less allowance for doubtful accounts of \$3	911
Inventories - Note I	1,264
Related party receivables - Note D	35 82
Other current assets	82
Total current assets	2,564
Investments and long-term receivables - Note J	110
Long-term related party receivables - Note D	6
Property, plant and equipment - net - Note K	3,525
Prepaid pensions - Note G Other noncurrent assets	44
Other noncurrent assets	81
Total assets	\$ 6,330 ======
LIABILITIES	
Current liabilities:	A 1 467
Accounts payable	\$ 1,467 13
Accounts payable to related parties - Note D Distribution payable to related parties - Note D	272
Payroll and benefits payable	78
Accrued taxes	35
neerded caneb	
Total current liabilities	1,865
Long-term debt - Note L	7
Long-term deferred income taxes - Note H	3
Employee benefits - Note G	250
Deferred credits and other liabilities	22
Total liabilities	2,147
MEMBERS' CAPITAL (details on page 5)	
Members' contributed capital	4,188
Retained earnings	
Accumulated other comprehensive (losses)	(5)
Total members' capital	4,183
Total liabilities and members' capital	\$ 6,330
· /	======

The accompanying notes are an integral part of these consolidated financial statements.

	Year Ended December 31, 1998
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	
OPERATING ACTIVITIES: Net income Adjustments to reconcile to net cash provided from operating activities: Depreciation and amortization Inventory market valuation charge Pensions and other postretirement benefits Deferred income taxes Gain on disposal of assets	\$ 654 275 269 22 (2) (6)
Changes in:     Current receivables     Inventories     Current accounts payable and accrued expenses     Net receivables and payables with related parties All other - net  Net cash provided from operating activities	194 (19) (126) 28 (69) 
INVESTING ACTIVITIES: Capital expenditures Disposal of assets Affiliates - investments - repayments of advances	(400) 16 (22) 1
Net cash used in investing activities  FINANCING ACTIVITIES:  Debt - additions - repayments  Member distributions	(405)  1 (24) (555)
Net cash used in financing activities	(578) 
NET INCREASE IN CASH AND CASH EQUIVALENTS	237
Cash and cash equivalents at beginning of year	35 
CASH AND CASH EQUIVALENTS AT END OF YEAR	\$ 272

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See Note M for supplemental cash flow information.

The accompanying notes are an integral part of these consolidated financial statements.

	Members' Capital Year Ended December 31, 1998	Comprehensive Income Year Ended December 31, 1998		
Members' contributed capital:				
Balance at beginning of year	\$ 4,361			
Distribution to members	(173)			
Balance at end of year	4,188			
•	<u>-</u>			
Retained earnings:				
Balance at beginning of year				
Net income	654	\$ 654		
Distributions to members	(654)			
Balance at end of year				
Accumulated other comprehensive (losses): Minimum pension liability adjustments:				
Balance at beginning of year	(4)			
Changes during the year	(1)	(1)		
Balance at end of year	(5)			
Total comprehensive income		\$ 653		
		=======		
Total members' capital	\$ 4,183			
	======			

The accompanying notes are an integral part of these consolidated financial statements.

## MARATHON ASHLAND PETROLEUM LLC AND SUBSIDIARIES

## NOTE A - BUSINESS DESCRIPTION AND BASIS OF PRESENTATION

On December 12, 1997 Marathon Oil Company (Marathon), a wholly owned subsidiary of USX Corporation (USX), entered into an Asset Transfer and Contribution Agreement with Ashland Inc. (Ashland) providing for the formation of Marathon Ashland Petroleum LLC (MAP). Effective January 1, 1998, Marathon contributed substantially all of its refining, marketing and transportation (RM&T) operations to MAP. Also, on January 1, 1998, Marathon acquired certain RM&T net assets from Ashland in exchange for a 38% interest in MAP. The purchase price was determined to be \$1.9 billion, based upon an external valuation. The acquisition of Ashland's net assets was accounted for under the purchase method of accounting.

In connection with the formation of MAP, Marathon and Ashland entered into a Limited Liability Company Agreement (LLC Agreement) dated January 1, 1998. The LLC Agreement provides for an initial term expiring on December 31, 2022 (25 years from its formation). The term will automatically be extended for ten-year periods, unless a termination notice is given by either party.

Also in connection with the formation of MAP, the parties entered into a Put/Call, Registration Rights and Standstill Agreement (the Put/Call Agreement). The Put/Call Agreement provides that at any time after December 31, 2004, Ashland will have the right to sell to Marathon all of Ashland's ownership interest in MAP, for an amount in cash and/or Marathon or USX debt or equity securities equal to the product of 85% (90% if equity securities are used) of the fair market value of MAP at that time, multiplied by Ashland's percentage interest in MAP. Payment could be made at closing, or at Marathon's option, in three equal annual installments, the first of which would be payable at closing. At any time after December 31, 2004, Marathon will have the right to purchase all of Ashland's ownership interests in MAP, for an amount in cash equal to the product of 15% of the fair market value of MAP at that time, multiplied by Ashland's percentage interest in MAP.

MAP is engaged in petroleum supply, refining, marketing & transportation operations and includes Speedway SuperAmerica LLC, a wholly owned subsidiary, which operates retail outlets for petroleum products. In addition, MAP, through its wholly owned subsidiary, Scurlock Permian LLC, is actively engaged in the purchasing, selling and trading of crude oil in Texas, Oklahoma and Louisiana.

# NOTE B - SUMMARY OF PRINCIPAL ACCOUNTING POLICIES

PRINCIPLES APPLIED IN CONSOLIDATION - The consolidated financial statements include the accounts of MAP and the majority-owned subsidiaries which it controls. Investments in undivided interest pipelines are consolidated on a pro rata basis. Investments in other entities over which MAP has significant influence are accounted for using the equity method of accounting and are carried at MAP's share of net assets plus advances. Investments in companies whose stocks have no readily determinable fair value are carried at cost.

USE OF ESTIMATES - Generally accepted accounting principles require management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at year-end and the reported amounts of revenues and expenses during the year. Significant items subject to such estimates and assumptions include the carrying value of long-lived assets; valuation allowances for receivables and inventories; environmental liabilities, liabilities for potential tax deficiencies and potential litigation claims and settlements; and assets and obligations related to employee benefits. Additionally, certain estimated liabilities are recorded when management commits to a plan to close an operating facility or to exit a business activity. Actual results could differ from the estimates and assumptions used.

REVENUE RECOGNITION - Revenues principally include sales, dividend and affiliate income and gains or losses on the disposal of assets.

Sales are recognized when products are shipped or services are provided to customers. Consumer excise taxes on petroleum products and merchandise and matching crude oil and refined products buy/sell transactions settled in cash are included in both revenues and costs and expenses, with no effect on income.

## NOTE B - SUMMARY OF PRINCIPAL ACCOUNTING POLICIES - Continued

Dividend and affiliate income includes MAP's proportionate share of income from equity method investments and dividend income from other investments. Dividend income is recognized when dividend payments are received.

When long-lived assets depreciated on an individual basis are sold or otherwise disposed of, any gains or losses are reflected in income. Such gains or losses on the disposal of long-lived assets are recognized when title passes to the buyer and, if applicable, all significant regulatory approvals are received. Proceeds from disposal of long-lived assets depreciated on a group basis are credited to accumulated depreciation and amortization with no immediate effect on income.

CASH AND CASH EQUIVALENTS - Cash and cash equivalents include cash on hand and on deposit and investments with related parties in highly liquid debt instruments with maturities of three months or less. See Note D for information regarding investments with related parties.

INVENTORIES - Inventories are carried at lower of cost or market. Cost of inventories is determined primarily under the last-in, first-out (LIFO) method.

derivative instruments (see Note 0). Management is authorized to manage exposure to price fluctuations related to the purchase or sale of crude oil, refined products and natural gas through the use of a variety of derivative financial and nonfinancial instruments. Derivative financial instruments require settlement in cash and include such instruments as over-the-counter (OTC) commodity swap agreements and OTC commodity options. Derivative nonfinancial instruments require or permit settlement by delivery of commodities and include exchange-traded commodity futures contracts and options. At times,  $% \left( 1\right) =\left( 1\right) \left( 1\right) =\left( 1\right) \left( 1\right$ maturity, simultaneous with the underlying physical transaction, and the effects are recognized in income accordingly. MAP's practice does not permit derivative positions to remain open if the underlying physical market risk has been removed. Changes in the market value of derivative instruments are deferred, including both closed and open positions, and are subsequently recognized in income, as sales or cost of sales, in the same period as the underlying transaction. The effects of changes in the market indices related to OTC swaps are recorded and recognized in income with the underlying transaction. Premiums on all commodity-based option contracts are initially recorded based on the amount paid or received; the options' market value is subsequently recorded as a receivable or payable, as appropriate. The margin receivable accounts required for open commodity contracts reflect changes in the market prices of the underlying commodity and are settled on a daily basis.

Recorded deferred gains or losses are reflected within other current assets or accounts payable. Cash flows from the use of derivative instruments are reported in the same category as the hedged item in the statement of cash flows.

LONG-LIVED ASSETS - Property, plant and equipment are depreciated principally by the straight-line method. Expenditures for refinery turnarounds are expensed ratably in the calendar year in which they occur. MAP evaluates impairment of its assets on an individual asset basis or by logical groupings of assets. Assets deemed to be impaired are written down to their fair value, including any related goodwill, using discounted future cash flows and, if available, comparable market values.

ENVIRONMENTAL LIABILITIES - MAP provides for remediation costs and penalties when the responsibility to remediate is probable and the amount of associated costs is reasonably determinable. Generally, the timing of remediation accruals coincides with completion of a feasibility study or the commitment to a formal plan of action. Remediation liabilities are accrued based on estimates of known environmental exposure and could be discounted in certain instances. If recoveries of remediation costs from third parties are probable, a receivable is recorded.

INSURANCE - MAP is insured for catastrophic casualty and certain property and business interruption exposures, as well as those risks required to be insured by law or contract. Costs resulting from noninsured losses are charged against income upon occurrence.

INCOME TAXES - MAP is a limited liability company, and therefore, is not subject to U.S. federal income taxes. Accordingly, the taxable income or loss resulting from operations of MAP is ultimately included in the U.S. federal income tax returns of USX and Ashland. MAP is, however, subject to income taxes in certain state, local and foreign jurisdictions.

#### NOTE C - NEW ACCOUNTING STANDARD

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Instruments and Hedging Activities" (SFAS No. 133). This new Standard requires recognition of all derivatives as either assets or liabilities at fair value. SFAS No. 133 may result in additional volatility in both current period earnings and other comprehensive income as a result of recording recognized and unrecognized gains and losses resulting from changes in the fair value of derivative instruments. SFAS 133 requires a comprehensive review of all outstanding derivative instruments to determine whether or not their use meets the hedge accounting criteria. It is possible that there will be derivative instruments employed in MAP's businesses that do not meet all of the designated hedge criteria, and they will be reflected in income on a mark-to-market basis. Based upon the strategies currently employed by MAP, the relatively short-term duration of most of MAP's derivative strategies, and the level of activity related to commodity-based derivative instruments in recent periods, MAP does not anticipate the effect of adoption to have a material impact on either financial position or results of operations. MAP plans to adopt SFAS No. 133 effective January 1, 2000, as required.

## NOTE D - RELATED PARTY TRANSACTIONS

MAP sales in 1998 to Ashland and its affiliates were \$185 million and sales to USX and its affiliates were \$10 million. MAP purchases from Ashland and its affiliates totaled \$18 million and purchases from USX and its affiliates totaled \$284 million. Such transactions were in the ordinary course of business and include the purchase, sale and transportation of crude oil and petroleum products. These transactions were conducted on an arm's-length basis.

During the year ended December 31, 1998, Ashland and Marathon provided computer, treasury, accounting, internal auditing and legal services and facilities to MAP. Billings to MAP for these services and facilities for the year ended December 31, 1998 from Ashland and Marathon totaled \$27 million and \$83 million, respectively.

As of December 31, 1998, related party receivables include \$22 million of accounts receivable due from Ashland and its affiliates and accounts payable to related parties include \$3 million due to Ashland and its affiliates. As of December 31, 1998, related party receivables include \$13 million of accounts receivable due from USX and its affiliates and accounts payable to related parties include \$10 million due to USX and its affiliates.

As of December 31, 1998, the distribution payable to related parties includes \$169 million due to Marathon and \$103 million due to Ashland.

In connection with the formation of MAP, certain Marathon debt was assigned to MAP. Marathon agreed to reimburse MAP for this debt and related interest expense. During the year, Marathon reimbursed MAP \$24 million for debt repayments. Long-term related party receivables at December 31, 1998, included \$6 million due from Marathon for future debt payment reimbursements.

A revolving credit agreement was entered into as of January 1, 1998, among Ashland and Marathon (collectively the Lenders) and MAP (Borrower). This agreement provides that the Lenders may loan to the Borrower up to \$500 million at defined short-term market rates. At December 31, 1998, there were no borrowings against this facility.

On November 16, 1998, MAP entered into agreements with USX and Ashland, which allow MAP to invest its surplus cash balances on a daily basis at competitive interest rates with USX and Ashland in proportion to their ownership interests in MAP. At December 31, 1998, amounts held by USX and Ashland, which are included in cash and cash equivalents, were \$169 million and \$103 million, respectively. The agreements provide that invested cash balances are payable upon the demand of MAP or March 15, 1999, whichever is earlier.

## NOTE E - REVENUES

The items below are included in revenues and costs and expenses, with no effect on income.

	Year Ende December 31,	, 1998
	(Millions	
Consumer excise taxes on petroleum products and merchandise Matching crude oil and refined product buy/sell transactions settled in cash	\$ 3,581 3,657	
NOTE F - OTHER ITEMS	Year Ende	, 1998
	(Millions	s)
NET INTEREST AND OTHER FINANCIAL INCOME		
INTEREST AND OTHER FINANCIAL INCOME: Interest income - third parties Interest income - related parties	\$ 22 1	
Total	23	
INTEREST AND OTHER FINANCIAL COSTS: Interest incurred Other	1 5	
Total	6	
NET INTEREST AND OTHER FINANCIAL INCOME	\$ 17 ======	

# NOTE G - PENSIONS AND OTHER POSTRETIREMENT BENEFITS

MAP has noncontributory defined pension benefit plans covering substantially all employees. Benefits under its final pay plans are based primarily upon years of service and the highest three years earnings during the last ten years before retirement. Benefits under its pension equity plan are based primarily upon age and years of service at retirement. Certain subsidiaries provide benefits for employees covered by other plans based primarily upon employees' service and career earnings.

MAP also has defined benefit retiree health and life insurance plans (other benefits) covering most employees upon their retirement. Health benefits are provided, for the most part, through comprehensive hospital, surgical and major medical benefit provisions subject to various cost sharing features. Life insurance benefits are provided to certain nonunion and most union represented retiree beneficiaries primarily based on employees' annual base salary at retirement. Other benefits have not been prefunded.

	Pension Benefits	Other Benefits
	1998 (Millions	1998
	(1111110110	,
CHANGE IN PROJECTED BENEFIT OBLIGATION		
Benefit obligation at January 1	\$ 52	\$ 6
Service cost	26	7
Interest cost	20	10
Plan amendments	(10)	(30)
Actuarial losses	57	66
Acquisition and merger	392	184
Benefits paid	(12)	(1)
Benefit obligations at December 31	\$ 525	\$ 242

# NOTE G - PENSIONS AND OTHER POSTRETIREMENT BENEFITS - Continued

	Pension Be			Benefits
- -	1998	(Millions)	199	
CHANGE IN PLAN ASSETS				
Fair value of plan assets at January 1	\$ 2	4		
Actual return on plan assets	4			
Acquisition and merger	46			
Employer contributions Benefits paid	(1	8		
Deneries para		,		
Fair value of plan assets at December 31	\$ 52	8		
	======	==		
FUNDED STATUS OF PLANS AT DECEMBER 31 (a)	\$	3	\$	(242)
Unrecognized net gain from transition	(1		Ÿ	(242)
Unrecognized prior service cost (credit)	•	6		(35)
Unrecognized actuarial (gains) losses	(	4)		86
Additional minimum liability (b)		6)		
December 1 to 1 t				(101)
Accrued benefit cost	\$ (1 ======	,	\$ =====	(191)
(a) Includes several small plans that have accumulated benefit obligation	ons			
and no plan assets:				
Projected benefit obligation	\$ (1	5)		
(b) Additional minimum liability recorded was offset by the following:				
Intangible asset	\$	1		
		-		
Accumulated other comprehensive (losses):				
Beginning of year	, ,	4)		
Change during year	(	1)		
Balance at end of year	\$ (	5)		
•	======	==		
COMPONENTS OF NET PERIODIC BENEFIT COST (CREDIT)				
Service cost	\$ 2	6	\$	7
Interest cost	2			10
Return on plan assets - actual	(4	1)		
- deferred gain		9		
Other plans		2		
Net periodic benefit cost	\$ 1		\$	17
Not periodic sondite door	=======		======	
ACTUARIAL ASSUMPTIONS:	_	F 0	_	· F0
Discount rate	6.			5.5%
Expected annual return on plan assets Increase in compensation rate	9. 5.			.5% .0%
increase in compensation rate	٥.	0 0	J	
For measurement purposes, an 8% annual rate of increase in the per cap				
cost of covered health care benefits was assumed for 1999. The rate				
assumed to decrease gradually to 5% for 2005 and remain at that le	evel			

assumed to decrease gradually to 5% for 2005 and remain at that level thereafter.

	1-Percentage- Point Increase			1-Percentage- Point Decrease	
			(Millions)		
Effect on total of service and interest cost components Effect on postretirement benefit obligation	\$	6 47		\$	(4) (36)

## NOTE H - INCOME TAXES

The taxable income or loss resulting from operations of MAP is ultimately included in the federal income tax returns of USX and Ashland. MAP is, however, subject to taxation in certain state, local and foreign jurisdictions.

Provisions (credits) for estimated income taxes:

	Year	Ended	Decemb	er 31,	1998	
Curre	nt	I	Deferre		Total	
		(1)	Million	.s)		
\$	3	\$	\$ (2	)	\$	1
		_		_		

Total state and local taxes

Deferred tax liabilities of \$5 million principally arise from differences between the book and tax basis of inventories and property, plant and equipment. Pretax income included \$1 million attributable to foreign sources in 1998.

## NOTE I - INVENTORIES

Inventories consist of the following:

	December 31, 1998
	(Millions)
Crude oil and natural gas liquids Refined products and merchandise Supplies and sundry items	\$ 715 1,028 73
Total (at cost) Less inventory market valuation reserve	1,816 552
Net inventory carrying value	\$ 1,264 ======

Inventories of crude oil and refined products are valued by the LIFO method. The LIFO method accounted for 90% of total inventory at December 31, 1998.

The inventory market valuation reserve reflects the extent that the recorded LIFO cost basis of crude oil and refined products inventories exceeds net realizable value. The reserve is decreased to reflect increases in market prices and inventory turnover and increased to reflect decreases in market prices. Changes in the inventory market valuation reserve result in noncash charges or credits to costs and expenses.

#### NOTE J - INVESTMENTS AND LONG-TERM RECEIVABLES

NOTE 0 - INVESTMENTS AND LONG-TERM RECEIVABLES		
		nber 31, 1998
	(Mil	Llions)
Equity method investments Receivables due after one year		106 4
		440
Total	\$ ====	110

	Year Ended December 31 1998
	(Millions)
Income data:	
Revenues	\$ 171
Operating income	61
Net income	31
	December 31 1998
Balance sheet data:	1998
Balance sheet data: Current assets	1998
	1998  (Millions)
Current assets	1998 (Millions) \$ 57

Dividends and partnership distributions received from equity affiliates were \$14 million in 1998. MAP purchases from equity affiliates totaled \$63 million in 1998. MAP sales to equity affiliates were immaterial.

# NOTE K - PROPERTY, PLANT AND EQUIPMENT

NOIS N THOUSANT, TERMI TRAD EQUITIENT	December 31, 1998 (Millions)
Refining Marketing Transportation Other	\$ 2,027 1,945 1,310 5
Total Less accumulated depreciation and amortization	5,287 1,762
Net	\$ 3,525 ======

NOTE L - LONG-TERM DEBT

		mber 31, .998
	(Mil	lions)
Variable rate Michigan Underground Storage Tank Interest Rate Subsidy Loan due 2000 (a) 5% Promissory Note due 2009 Revolving Credit Facilities (b) (c)	Ş	6 1 
Total long-term debt due after one year	\$ =====	7

- (a) This program was created in connection with the Michigan Underground Storage Tank Assurance Act to assist owners in the clean up of underground storage tank systems. MAP pays interest monthly, based on a monthly LIBOR rate plus 5/8%. An interest subsidy is received quarterly from the State of Michigan calculated at a rate of 6.1% per annum. The effective rate of this loan during 1998, including the effect of the interest subsidy was 1.6%. Marathon is obligated to reimburse MAP for all payments with respect to this debt.
- (b) In 1998, MAP entered into a revolving credit facility for \$100 million In 1998, MAP entered into a revolving credit facility for \$100 million that terminates in July 1999 and a \$400 million revolving credit facility that terminates in July 2003. Interest is based on defined short-term market rates for both facilities. During the terms of the agreements, MAP is obligated to pay a variable facility fee on total commitments. At December 31, 1998, the facility fee was 0.10% for the \$100 million facility and 0.125% for the \$400 million facility. At December 31, 1998, the unused and available credit was \$500 million. In the event MAP defaults on indebtedness (as defined in the agreement) in excess of \$100 million, USX has guaranteed the payment of any outstanding obligations.
- (c) In 1998, MAP entered into a revolving credit agreement with Marathon and Ashland for \$500 million that terminated on December 31, 1998, and which was renewed on an uncommitted basis for 1999. Interest is based on defined short-term market rates. At December 31, 1998, the unused and available credit was \$500 million.

NOTE M - SUPPLEMENTAL CASH FLOW INFORMATION

Year Ended December 31, 1998 (Millions)

CASH PROVIDED FROM OPERATING ACTIVITIES INCLUDES: Interest and other financial costs paid Income taxes paid

(1) (3)

## NOTE N - LEASES

Future minimum commitments for operating leases having remaining noncancelable lease terms in excess of one year are as follows:

	Operating Leases
	(Millions)
1999 2000 2001 2002 2003 Later years Sublease rentals	\$ 53 49 34 20 11 30 (10)
Total minimum lease payments	\$ 187 ======

Operating lease rental expense:

	December 31, 1998
	(Millions)
Minimum rental Contingent rental Sublease rentals	\$ 74 11 (1)
Net rental expense	\$ 84 ======

MAP leases a wide variety of facilities and equipment under operating leases, including land and building space, office equipment, production facilities and transportation equipment. Most long-term leases include renewal options and, in certain leases, purchase options.

#### NOTE O - DERIVATIVE INSTRUMENTS

MAP uses commodity-based derivative instruments to manage exposure to price fluctuations related to the anticipated purchase or sale of crude oil, refined products, and natural gas. The derivative instruments used, as part of an overall risk management program, include exchange-traded futures contracts and options, and instruments which require settlement in cash such as OTC commodity swaps and OTC options. While risk management activities generally reduce market risk exposure due to unfavorable commodity price changes for raw material purchases and products sold, such activities can also encompass strategies which assume certain price risk in isolated transactions.

MAP remains at risk for possible changes in the market value of the derivative instrument; however, such risk should be mitigated by price changes in the underlying hedged item. MAP is also exposed to credit risk in the event of nonperformance by counterparties. The credit worthiness of counterparties is subject to continuing review, including the use of master netting agreements to the extent practical, and full performance is anticipated.

The following table sets forth quantitative information by class of derivative instrument:

	Fair Value Assets (Liabilities) (a)	Carrying Amount Assets (Liabilities)	Recorded Deferred Gain or (Loss)	Aggregate Contract Values (b)
		(M:	illions)	
December 31, 1998: Exchange-traded commodity futures Exchange-traded commodity options OTC commodity swaps (d)	\$	\$	\$ (3)	\$ 96
	1 (c)	1	1	709
	(e)			140
Total commodities	\$ 1	\$ 1	\$ (2)	\$ 945
	======	=====	======	=====

- (a) The fair value amounts for OTC positions are based on various indices or dealer quotes. The exchange-traded futures contracts and certain option contracts do not have a corresponding fair value since changes in the market prices are settled on a daily basis.
- (b) Contract or notional amounts do not quantify risk exposure, but are used in the calculation of cash settlements under the contracts. The contract or notional amounts do not reflect the extent to which positions may offset one another.
- (c) Includes fair values as of December 31, 1998, for assets of \$20 million and liabilities of (\$19) million, respectively.
- (d) The OTC swap arrangements vary in duration with certain contracts extending into  $\min -1999$ .
- (e) Includes fair values as of December 31, 1998, for assets of \$25 million and for liabilities of (\$25) million, respectively.

#### NOTE P - FAIR VALUE OF FINANCIAL INSTRUMENTS

The carrying value of most financial instruments are based on historical costs. The carrying values of cash and cash equivalents, receivables, payables, and debt approximate their fair value.

MAP's unrecognized financial instruments consist of financial guarantees. It is not practicable to estimate the fair value of these forms of financial instrument obligations because there are no quoted market prices for transactions which are similar in nature. For details relating to financial guarantees, see Note  $\mathbb Q$ .

## NOTE O - CONTINGENCIES AND COMMITMENTS

MAP is the subject of, or party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. Certain of these matters are discussed below. The ultimate resolution of these contingencies could, individually or in the aggregate, be material to the MAP financial statements. However, management believes that MAP will remain a viable and competitive enterprise even though it is possible that these contingencies could be resolved unfavorably to MAP.

ENVIRONMENTAL MATTERS - MAP is subject to federal, state, local and foreign laws and regulations relating to the environment. These laws generally provide for control of pollutants released into the environment and require responsible parties to undertake remediation of hazardous waste disposal sites. Penalties may be imposed for noncompliance. Marathon and Ashland have retained the liabilities subject to certain thresholds for costs associated with remediating properties conveyed to MAP for conditions existing prior to January 1, 1998. The costs associated with these thresholds are not expected to be material to the MAP financial statements. At December 31, 1998, MAP's accrued liabilities for remediation totaled \$3 million. It is not presently possible to estimate the ultimate amount of all remediation costs that might be incurred or the penalties that may be imposed. Receivables for recoverable costs from certain states, under programs to assist companies in clean up efforts related to underground storage tanks at retail marketing outlets, were \$1 million at December 31, 1998.

MAP has made substantial capital expenditures to bring existing facilities into compliance with various laws relating to the environment. In 1998, such capital expenditures for environmental controls totaled \$82 million. MAP anticipates making additional such expenditures in the future; however, the exact amounts and timing of such expenditures are uncertain because of the continuing evolution of specific regulatory requirements.

GUARANTEES - At December 31, 1998, MAP's pro rata share of obligations of LOCAP INC. and Southcap Pipe Line Company secured by throughput and deficiency agreements totaled \$23 million. Under the agreements, MAP is required to advance funds if the affiliates are unable to service debt. Any such advances are treated as prepayments of future transportation charges.

COMMITMENTS - At December 31, 1998, MAP's contract commitments for capital expenditures for property, plant and equipment totaled \$38\$ million.

# NOTE R - SUBSEQUENT EVENT

On March 1, 1999, MAP announced that it had signed a memorandum of understanding to sell Scurlock Permian LLC, which is actively engaged in the purchasing, selling and trading of crude oil. The transaction, subject to customary closing conditions, is expected to close in the second quarter of 1999.

# ARCH COAL, INC. AND SUBSIDIARIES AUDITIED CONSOLIDATED FINANCIAL STATEMENTS

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All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and, therefore, have been omitted.	

\*Page numbers correspond to Arch Coal's 1998 Annual Report to Stockholders or Form 10-K, as appropriate.

To the Stockholders and Board of Directors Arch Coal, Inc.

We have audited the accompanying consolidated balance sheets of Arch Coal, Inc. and subsidiaries as of December 31, 1998 and 1997 and the related consolidated statements of income, stockholders' equity, and cash flows for the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. The consolidated financial statements of Arch Coal, Inc. as of December 31, 1996 and for the year then ended were audited by other auditors whose report dated January 16, 1997, expressed an unqualified opinion on those statements.

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 1998 and 1997 financial statements referred to above (appearing on pages 42 to 64 of this Annual Report) present fairly, in all material respects, the consolidated financial position of Arch Coal, Inc. and subsidiaries at December 31, 1998 and 1997, and the consolidated results of their operations and their cash flows for the years then ended, in conformity with generally accepted accounting principles.

Ernst & Young LLP

Louisville, Kentucky January 22, 1999

	1001		
(In thousands of dollars except per share data)		1997	
REVENUES			
Coal sales	\$ 1,428,171 6,786	\$ 1,034,813 	\$ 750 <b>,</b> 123
Other revenues	70 <b>,</b> 678	32,062	 30,498
	1,505,635	1,066,875	 780,621
COSTS AND EXPENSES			
Cost of coal sales	1,313,400	916,802 28,885	669,295
Selling, general and administrative expenses			20,433
Merger-related expenses	J4, JJ1 	18,063 39,132	12,004
Other expenses	25,070	22,111	22,175
	1,417,788	1,024,993	724,509
Income from operations	87,847		56,112
Interest expense, net:			
Interest expense	(62,202)	(17,822)	(18,783)
Interest income	756	721	 1,191
		(17,101)	
Income before income taxes and extraordinary item			
Provision (benefit) for income taxes	(5,100)	(5,500)	
Income before extraordinary item	31,501	30,281	33,020
Extraordinary item from the extinguishment of debt			
NET INCOME	\$ 30,013	\$ 30,281	\$ 33,020
Basic and diluted earnings per common share before extraordinary item	\$ 0.79	\$ 1.00	\$ 1.58
Basic and diluted earnings per common share	\$ 0.76	\$ 1.00	\$

Year Ended December 31

The accompanying  $% \left( 1\right) =\left( 1\right) +\left( 1\right) +\left$ 

	Decemb	per 31
(In thousands of dollars except share and per share data)	1998	1997
ASSETS		
Commands asserts		
Current assets Cash and cash equivalents Trade accounts receivable Other receivables Inventories Prepaid royalties Deferred income taxes Other	202,871 24,584 68,455 13,559 8,694 7,757	133,810 14,046 50,419 17,745 8,506
Total current assets	353 <b>,</b> 334	243,178
Property, plant and equipment		
Coal lands and mineral rights	1,111,120 80,926	890,303
Less accumulated depreciation, depletion and amortization	2,668,749 (732,005)	1,846,265 (696,339)
Property, plant and equipment, net		1,149,926
Other assets		
Prepaid royalties  Coal supply agreements  Deferred income taxes  Investment in Canyon Fuel  Other	83,209 272,149	185,306 44,023 
Total other assets		263,220
Total assets	\$ 2,918,220	\$ 1,656,324
LIABILITIES AND STOCKHOLDERS' EQUITY		
Command Maddilled as		
Current liabilities Accounts payable	\$ 129 <b>,</b> 528	\$ 84,692
Accrued expenses		88,082
Current portion of debt	61,000	
Total current liabilities	333,158	202,274
Long-term debt	1,309,087	248,425
Accrued postretirement benefits other than pension	343,553	323,115
Accrued reclamation and mine closure	150,636	116,199
Accrued workers' compensation	105,333	97,759
Accrued pension cost	18,524	21,730
Other noncurrent liabilities	39,713	35,324
Total liabilities	2,300,004	
Stockholders' equity		
Common stock, \$.01 par value, 100,000,000 shares author	ized,	
39,371,581 issued and outstanding in 1998 and 39,657,898 issued and outstanding in 1997	397	397
Paid-in capital		472,425
Retained earnings	(5,720)	138,676
Total stockholders' equity	618,216	611,498

The accompanying  $% \left( 1\right) =\left( 1\right) +\left( 1\right) +\left$ 

Three Years Ended December 31, 1998

(In thousands of dollars except share and per share data)	ock	Capit	-In tal		at cost	Total
Balance at December 31, 1995	\$ 209	\$ 8	8,392	\$ 105,091	\$ 	\$ 113,692
Net income  Dividends paid (\$.38 per share)  Income tax charge related to assets acquired				33,020 (8,000)		33,020 (8,000)
from related parties				(8,086)		(8,086)
Balance at December 31, 1996	 209		8,392	122,025	 	130,626
Net income				30,281 (13,630)		30,281 (13,630)
to the merger agreement	187	462	2,984			463,171
Issuance of 49,400 shares of common stock under the stock incentive plan	1					1,050
Balance at December 31, 1997	 397			138,676		611,498
Net income				30,013 (18,266)		30,013 (18,266)
under the stock incentive plan			691		(5,720)	691 (5,720)
Balance at December 31, 1998	\$ 397	\$ 473	3,116	\$ 150,423	\$ (5,720)	

The accompanying notes are an integral part of the consolidated financial statements.

		ar Ended December	
(In thousands of dollars)	1998	1997	1996
OPERATING ACTIVITIES			
Net income	\$ 30,013	\$ 30,281	\$ 33,020
Depreciation, depletion and amortization	204,307	143,632	114,703
Prepaid royalties expensed	19,694	8,216	4,754
Net gain on disposition of assets	(41,512)	(4,802)	(7,959)
Income from equity investment	(6,786)		
Distributions from equity investment	18,850		
Merger-related expenses		33,096	
Changes in operating assets and liabilities	(24,671)	(28,842)	(551)
Other	(11,872)	8,682	(5,496)
Cash provided by operating activities		190,263	
INVESTING ACTIVITIES			
Payments for acquisition	(1,126,706)		
Additions to coal supply agreements	(141,737)	(77 <b>,</b> 309)	(62,490) (7,150)
Additions to prepaid royalties	(26,252)	(7,967)	(7,071)
Additions to notes receivable	(10,906)	(7 <b>,</b> 507)	( / <b>,</b> 0 / ± )
Proceeds from dispositions of property, plant and equipment	34,230		4,073
Cash used in investing activities		(80,009)	
FINANCING ACTIVITIES			
Proceeds from (payments on) revolver and lines of credit  Net proceeds from term loans	176,582 958,441	78 <b>,</b> 897	(11,000)
Payments on notes	(42,860)	(181,110)	(50,619)
Payments for debt issuance costs	(12,725)	(101,110)	(30,619)
Proceeds from sale and leaseback of equipment			
Dividends paid	45,442 (18,266)	(13,630)	(8,000)
Proceeds from sale of common stock	(10,200)	1,050	(0,000)
Purchases of treasury stock	(5,720)		
Cash provided (used) in financing activities		(114,793)	
Increase (decrease) in cash and cash equivalents	18,237	(4,539)	(3,786)
Cash and cash equivalents, beginning of year		13,716	
Cash and cash equivalents, end of year	\$ 27,414	\$ 9 <b>,</b> 177	\$ 13,716
SUPPLEMENTAL CASH FLOW INFORMATION			
Cook and daulan the area for laboure	ć 40 360	A 10 500	¢ 20 00:
Cash paid during the year for interest	\$ 48,760 \$ 29,090	\$ 18,593 \$ 21,918	\$ 20,294 \$ 14,731

The accompanying  $% \left( 1\right) =\left( 1\right) +\left( 1\right) +\left$ 

(in thousands of dollars except share and per share data)

#### 1. ACCOUNTING POLICIES

## Principles of Consolidation

The consolidated financial statements include the accounts of Arch Coal, Inc. and its subsidiaries ("the Company"), which operate in the coal mining industry. The Company operates one reportable segment: the production of steam and metallurgical coal from surface and deep mines throughout the United States, for sale to utility, industrial and export markets. The Company's mines are primarily located in the central Appalachian and western regions of the United States. All subsidiaries (except as noted below) are wholly owned. Significant intercompany transactions and accounts have been eliminated in consolidation.

The Company's 65% ownership of Canyon Fuel, LLC (Canyon Fuel) is accounted for on the equity method in the consolidated financial statements as a result of certain super-majority voting rights in the joint venture agreement. Income from Canyon Fuel is reflected in the consolidated statements of income as income from equity investment. (See additional discussion in "Investment in Canyon Fuel" in Note 3).

The Company's 17.5% partnership interest in Dominion Terminal Associates is accounted for on the equity method in the consolidated balance sheets. Allocable costs of the partnership for coal loading and storage are included in other expenses in the consolidated statements of income.

## Accounting Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

## Cash and Cash Equivalents

Cash and cash equivalents are stated at cost. Cash equivalents consist of highly liquid investments with an original maturity of three months or less when purchased.

# Inventories

Inventories are comprised of the following:

	Decer	mber 31
	1998	1997
Coal	\$25,789 42,666	\$25,359 25,060
	\$68,455	\$50 <b>,</b> 419

Coal and supplies inventories are valued at the lower of average cost or market. The Company has recorded a valuation allowance for slow-moving and obsolete supplies inventories of \$23.9 million and \$17.7 million at December 31, 1998 and 1997, respectively.

# Coal Acquisition Costs and Prepaid Royalties

Coal lease rights obtained through acquisitions are capitalized and amortized primarily by the units-of-production method over the estimated recoverable reserves.

Rights to leased coal lands are often acquired through royalty payments. Where royalty payments represent prepayments recoupable against production, they are capitalized, and amounts expected to be recouped within one year are classified as a current asset. As mining occurs on these leases, the prepayment is offset against earned royalties and is included in the cost of coal sales.

# Coal Supply Agreements

Acquisition costs related to coal supply agreements (sales contracts) are capitalized and amortized on the basis of coal to be shipped over the term of the contract. Accumulated amortization for sales contracts was \$94.8 million and \$60.3 million at December 31, 1998 and 1997, respectively.

#### Exploration Costs

Costs related to locating coal deposits and determining the economic mineability of such deposits are expensed as incurred.

## Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Interest costs applicable to major asset additions are capitalized during the construction period. Expenditures which extend the useful lives of existing plant and equipment are capitalized. Costs of purchasing rights to coal reserves and developing new mines or significantly expanding the capacity of existing mines are capitalized and amortized using the units-of-production method over the estimated recoverable reserves. Plant and equipment are depreciated principally on the straight-line method over the estimated useful lives of the assets, which range from three to 20 years.

## Asset Impairment

If facts and circumstances suggest that a long-lived asset may be impaired, the carrying value is reviewed. If this review indicates that the value of the asset will not be recoverable, as determined based on projected undiscounted cash flows related to the asset over its remaining life, then the carrying value of the asset is reduced to its estimated fair value.

## Revenue Recognition

Coal sales revenues include sales to customers of coal produced at Company operations and purchased from other companies. The Company recognizes revenue from coal sales at the time title passes to the customer. Revenues from sources other than coal sales, including gains and losses from dispositions of long-term assets, are included in other revenues and are recognized as services are performed or otherwise earned.

## Interest Rate Swap Agreements

The Company enters into interest-rate swap agreements to modify the interest characteristics of outstanding Company debt. The swap agreements essentially convert variable-rate debt to fixed-rate debt. These agreements require the exchange of amounts based on variable interest rates for amounts based on fixed interest rates over the life of the agreement. The Company accrues amounts to be paid or received under interest-rate swap agreements over the lives of the agreements. Such amounts are recognized as adjustments to interest expense over the lives of agreements, thereby adjusting the effective interest rate on the Company's debt. The fair values of the swap agreements are not recognized in the financial statements. Gains and losses on terminations of interest-rate swap agreements would be deferred on the balance sheet (in other long-term liabilities) and amortized as an adjustment to interest expense over the remaining term of the terminated swap agreement.

# Income Taxes

Deferred income taxes are based on temporary differences between the financial statement and tax basis of assets and liabilities existing at each balance sheet date using enacted tax rates for years during which taxes are expected to be paid or recovered.

# Stock Based Compensation

These financial statements include the disclosure requirements of Financial Accounting Standards Board Statement No. 123 ("FAS 123"), Accounting for Stock-Based Compensation. With respect to accounting for its stock options, as permitted under FAS 123, the Company has retained the intrinsic value method prescribed by Accounting Principles Board Opinion No. 25 ("APB 25"), Accounting for Stock Issued to Employees, and related Interpretations.

# Earnings Per Common Share

In 1997, FAS 128, Earnings per Share, was issued. FAS 128 replaced the calculation of primary and fully diluted earnings per share ("EPS") with basic and diluted EPS. Unlike primary, basic EPS excludes any dilutive effects of

(in thousands of dollars except per share and per share data)

options, warrants and convertible securities. Diluted EPS is very similar to the previously reported fully diluted EPS. The adoption of the provisions of FAS 128 did not have any effect on previously reported EPS amounts.

#### Reclassifications

Certain amounts in the 1997 and 1996 financial statements have been reclassified to conform with the classifications in the 1998 financial statements with no effect on previously reported net income or stockholders' equity.

## 2. MERGER AND ACQUISITION

On June 1, 1998, the Company acquired the Colorado and Utah coal operations of Atlantic Richfield Company ("ARCO") and simultaneously combined the acquired ARCO operations and the Company's Wyoming operations with ARCO's Wyoming operations in a new joint venture named Arch Western Resources, LLC ("Arch Western"). The principal operating units of Arch Western are Thunder Basin Coal Company, L.L.C., owned 100% by Arch Western, which operates two coal mines in the Southern Powder River Basin in Wyoming; Mountain Coal Company, L.L.C., owned 100% by Arch Western, which operates one coal mine in Colorado; Canyon Fuel Company, LLC ("Canyon Fuel"), 65% owned by Arch Western and 35% by ITOCHU Coal International, Inc., a subsidiary of ITOCHU Corporation, which operates three coal mines in Utah; and Arch of Wyoming, LLC, owned 100% by Arch Western, which operates two coal mines in the Hanna Basin of Wyoming.

Arch Western is 99% owned by the Company and 1% owned by ARCO. The transaction is valued at approximately \$1.14 billion and a wholly owned subsidiary of the Company is the managing member of Arch Western. The transaction has been accounted for under the purchase method of accounting. Accordingly, the cost to acquire ARCO's U.S. coal operations has been allocated to the assets acquired and liabilities assumed according to their respective estimated fair values. Results of operations of the acquired operations are included in the consolidated statements of income effective June 1, 1998. The acquired ARCO operations will continue to produce low-sulfur coal for sale to primarily domestic utility customers.

On July 1, 1997, Ashland Coal, Inc. ("Ashland Coal") merged with a subsidiary of the Company. Under the terms of the merger, Ashland Coal's stockholders received one share of the Company's common stock for each common share of Ashland Coal and 20,500 shares of the Company's common stock for each share of Ashland Coal preferred stock. A total of 18,660,054 shares of Company common stock were issued in the merger, resulting in a total purchase price (including fair value of stock options and transaction related fees) of approximately \$464.8 million. The merger was accounted for under the purchase method of accounting. Results of operations of Ashland Coal are included in the consolidated statements of income effective July 1, 1997.

Summarized below are the unaudited pro forma combined results of operations for the years ended December 31, 1998 and 1997. These results reflect the July 1, 1997 Ashland Coal merger as if it had occurred on January 1, 1997 and the June 1, 1998 Arch Western transaction as if it had occurred on January 1, 1998 and 1997.

	1998	1997
Revenues	\$1,669,824	\$1,792,582
Income before		
extraordinary item	22,994	36,175
Net income	21,506	36,175
Earnings per share before		
extraordinary item	\$ .58	\$ .91
Earnings per share	\$ .54	\$ .91

In the opinion of the management of the Company, all adjustments necessary to present pro forma results of operations have been made. The unaudited pro forma results of operations do not purport to be indicative of

the results that would have occurred had these transactions actually occurred at the beginning of the relevant periods or of the results of operations that may be achieved in the future.

## 3. INVESTMENT IN CANYON FUEL

The following tables present unaudited summarized financial information for Canyon Fuel which, as part of the June 1, 1998 Arch Western transaction (described in Note 2), was acquired by the Company and is accounted for on the equity method.

CONDENSED INCOME STATEMENT INFORMATION	SEVEN MONTHS ENDED DECEMBER 31, 1998
Revenues	\$155,634 153,039
Net income Effect of purchase adjustments	2,595 4,191
Arch Coal's income from its equity investment in Canyon Fuel	\$ 6,786 ======

The Company's income from its equity investment in Canyon Fuel represents 65% of Canyon Fuel's net income after adjusting for the effect of its investment in Canyon Fuel. The Company's investment in Canyon Fuel reflects purchase adjustments primarily related to sales contracts, mineral reserves and other property, plant and equipment. The condensed balance sheet information below reflects Canyon Fuel Company LLC's asset and liability values and does not reflect the Company's investment in Canyon Fuel.

	AT	DECEMBER
CONDENSED BALANCE SHEET INFORMATION		31, 1998
Current assets	. :	\$ 87,620
Noncurrent assets		532,119
Current liabilities		31,459
Noncurrent liabilities		19,247
Members' equity		569,033

# 4. ACCRUED EXPENSES

Accrued expenses consist of the following:

	December 31	
	1998	1997
Accrued payroll and related benefits	\$ 29,878	\$17,314
Accrued taxes other than income taxes	44,665	22,259
Accrued postretirement benefits other than	15 555	14 200
pension	15,555	14,390
compensation	15,869	12,649
Accrued interest	17,007	3,566
Other accrued expenses	19,656	17,904
	\$142,630	\$88,082

# 5. INCOME TAXES

Significant components of the provision (benefit) for income taxes are as follows:

Current: Federal State	\$ 8,467 (650)	\$ 8,250 (250)	\$ 9,200 1,050
Total current Deferred:	7,817	8,000	10,250
Federal	(12,517) (400)	(13,100) (400)	(4,050) (700)
Total deferred	(12,917)	(13,500)	(4,750)
	\$ (5,100)	\$ (5,500)	\$ 5,500

(in thousands of dollars except share and per share data)

A reconciliation of the statutory federal income tax expense (benefit) on the Company's pretax income before extraordinary item to the actual provision (benefit) for income taxes follows:

	1998	1997	1996
Income tax expense			
at statutory rate	\$ 9,240	\$ 8,673	\$ 13,482
Percentage depletion			
allowance	(14,437)	(13,543)	(10,431)
State taxes, net of effect	, , - ,	( -,,	, , , , ,
of federal taxes	(594)	(570)	350
Non-deductible	(551)	(370)	330
	621	236	1,000
expenses	*		,
Other, net	70	(296)	1,099
	\$ (5,100)	\$ (5,500)	\$ 5,500
	=========		========

The Company's federal income tax returns for the years ending 1995 and 1996 are currently under review by the Internal Revenue Service (IRS). During 1996, the IRS completed its audits for the tax years 1990 and 1991 and the Company and the IRS agreed to a partial settlement of various tax issues for a payment of \$6.5 million including interest which was charged against previously recorded reserves. Part of the settlement related to the acquisition from the Company's stockholders of certain Illinois coal reserves for \$55.2 million. The acquisition was valued for accounting purposes at the stockholders' net book value of \$22.8 million with the \$32.4 million difference between the net book value and fair market value less \$12.3 million of deferred tax benefits being recorded as a reduction to stockholders' equity. As part of the settlement with the IRS, the Company agreed to adjust the fair market value of the coal properties to \$33.8 million for tax purposes resulting in a decrease to the deferred tax asset of \$8.1 million from \$12.3 million to \$4.2 million. The decrease in the deferred tax asset was charged directly to stockholders' equity in

During 1997, the Company settled its protest of certain adjustments proposed by the IRS for federal income tax returns for the years 1987 through 1989. A deposit of \$8.0 million was made in April 1997 in anticipation of the settlement and a final payment of approximately \$4.0 million was made in 1998.

During 1998, the Company settled its protest of certain unagreed issues with the IRS for the federal income tax returns for years 1990 and 1991. A final payment of \$0.5 million was paid in June 1998 and charged against previously recorded reserves. The IRS audit of the federal income tax returns for years 1992 through 1994 was completed during 1998 and agreed to at the examination level. A payment of \$15.5 million was made in December 1998 in settlement of all issues. A significant amount of the issues were timing in nature and the tax paid related to these temporary differences is accounted for as a deferred tax asset and the remaining tax and interest paid was charged against previously recorded reserves. A portion of the payment related to items that were settled in the 1987 through 1991 audits previously discussed. Permanent differences included a reduction in percentage depletion and a decrease in cost depletion related to the settlement for the adjustment in fair market value of the Illinois coal reserves.

Management believes that the Company has adequately provided for any income taxes and interest  $% \left( 1\right) =\left( 1\right) +\left( 1\right) +\left($ 

Significant components of the Company's deferred tax assets and liabilities that result from carry forwards and

temporary differences between the financial statement basis and tax basis of assets and liabilities are summarized as follows:

	December 31	
	1998	1997
Deferred tax assets: Postretirement benefits other		
than pension	\$136,004	\$129,818
carryforward	70,897	
Workers' compensation Reclamation and mine closure	29,345 22,567	30,503 23,905
Net operating loss carryforwards	,	8,214
Other	17,983	28,498
Total deferred tax assets	•	301,379
Deferred tax liabilities:		
Coal lands and mineral rights Plant and equipment	78,869 78,359	86,471 79,962
Deferred mine development	941	3,643
Coal supply agreements Other	17,390 19,566	38,406 40,368
Total deferred tax liabilities	195,125	248,850
Net deferred tax asset Less current asset	•	52,529 8,506
Long-term deferred tax asset		\$ 44,023

If not used, the carryforwards for net operating losses of \$26.2\$ million will expire in the years 2008 through 2019. The alternative minimum tax credit carryforward has no statutory expiration date.

The Company is required to record a valuation allowance when it is more likely than not that some portion or all of the deferred tax assets will not be realized. It is management's belief that the Company's net deferred income tax asset will more likely than not be realized by generating sufficient taxable income in the future.

# 6. DEBT AND FINANCING ARRANGEMENTS

Debt consists of the following:

	December 31	
	1998	1997
Indebtedness to banks under lines of credit (weighted average rate at December 31,1998-5.40%; 1997-7.05%)	\$ 12,884	\$ 36,302
revolving credit agreement, expiring May 31, 2003 (weighted average rate at December 31, 1998-6.27%)	390,000	
Variable rate fully amortizing term loan payable quarterly through May 31, 2003 (weighted average rate at December 31, 1998-6.16%)	285,000	
Variable rate non-amortizing term loan due May 31, 2003 (weighted average rate at	·	
December 31, 1998-6.87%) Indebtedness to banks under the 1997 revolving credit	675,000	100.000
agreement 7.79% senior unsecured notes Other	  7,203	190,000 42,860 8,763
Less current portion		277,925 29,500
Long-term debt	\$1,309,087	\$ 248,425

On July 1, 1997, concurrent with the Ashland Coal merger, the Company entered into a \$500 million revolving credit agreement which was repaid in its entirety and the facility terminated effective June 1, 1998, using proceeds from a new Company credit facility entered into effective June 1, 1998.

In connection with the Arch Western transaction, the Company entered into two new five-year credit facilities: a \$675 million non-amortizing term loan to Arch Western and a \$900 million credit facility to Arch Coal, including a \$300 million fully amortizing term loan and a \$600 million revolver. Borrowings under the new Arch Coal credit facilities were used to finance the acquisition of ARCO's Colorado and Utah coal operations, to pay related fees and expenses, to refinance existing corporate debt and for general corporate purposes. The Company recognized an extraordinary charge  $\frac{1}{2}$ of \$1.5 million (net of a tax benefit of \$.9 million) related to the refinancing of the July 1, 1997 credit facility and the prepayment of its 7.79% senior unsecured notes. Borrowings under the Arch Western credit facility were used to fund a portion of a \$700 million cash distribution by Arch Western to ARCO, which distribution occurred simultaneously with ARCO's contribution of its Wyoming coal operations and certain other assets to Arch Western. The \$675 million term loan is secured by Arch Western's membership interests in its subsidiaries. The Arch Western credit facility is not guaranteed by the Company. The rate of interest on the borrowings under the agreements is, at the Company's option, the PNC Bank base rate or a rate based on LIBOR.

The Company periodically establishes uncommitted lines of credit with banks. These agreements generally provide for short-term borrowings at market rates. At December 31, 1998, there were \$45 million of such agreements in effect, of which \$12.9 million were outstanding at December 31, 1998.

Except for amounts expected to be repaid in 1999, amounts borrowed under the revolving credit agreement and the bank lines of credit are classified as long-term as the Company has the intent and the ability to maintain these borrowings on a long-term basis. Aggregate maturities of debt at December 31, 1998 are \$61.0 million in 1999, \$60.6 million in 2000, \$60.5 million in 2001, \$60.5 million in 2002 and \$1,127.5 million in 2003.

Terms of the Company's credit facilities and leases contain financial and other restrictive covenants that limit the ability of the Company to, among other things, pay dividends, effect acquisitions or dispositions and borrow additional funds, and require the Company to, among other things, maintain various financial ratios and comply with various other financial covenants. Failure by the Company to comply with such covenants could result in an event of default which, if not cured or waived, could have a material adverse effect on the Company.

The Company enters into interest-rate swap agreements to modify the interest characteristics of outstanding Arch Coal debt. At December 31, 1998, the Company had interest-rate swap agreements having a total notional value of \$815 million. These swap agreements are used to convert variable-rate debt to fixed-rate debt. Under these swap agreements, the Company pays a weighted-average fixed rate of 5.54% (before the credit spread over LIBOR) and is receiving a weighted-average variable rate based upon 3 day and 90-day LIBOR. At December 31, 1998, the remaining terms of the swap agreements ranged from 44 to 68 months.

## 7. FAIR VALUES OF FINANCIAL INSTRUMENTS

The following methods and assumptions were used by the Company in estimating its fair value disclosures for financial instruments:

Cash and cash equivalents: The carrying amounts approximate fair value.

Debt: The carrying amounts of the Company's borrowings under its revolving credit agreement, lines of credit and variable rate term loans approximate their fair value. The fair values of the Company's senior notes and other long-term debt are estimated using discounted cash flow analyses,

based on the Company's current incremental borrowing rates for similar types of borrowing arrangements at the end of each year presented.

Interest rate swaps: The fair values of interest rate swaps are based on quoted market prices, which reflect the present value of the difference between estimated future amounts to be paid and received.

The carrying amounts and fair values of the Company's financial instruments at December 31, 1998 and 1997 are as follows:

	1	1998		97
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Cash and cash equivalents	\$ 27,414	\$ 27,414	\$ 9,177	\$ 9,177
Lines of credit	12,884	12,884	36,302	36,302
Revolving credit agreements	390,000	390,000	190,000	190,000
Variable rate term loans	960,000	960,000		
Senior notes			42,860	44,690
Other debt	7,203	7,203	8,763	8,763
Interest rate swaps		(14,151)		(93)

#### 8. ACCRUED WORKERS' COMPENSATION

The Company is liable under the federal Mine Safety and Health Act of 1977, as amended, to provide for pneumoconiosis (black lung) benefits to eligible employees, former employees, and dependents with respect to claims filed by such persons on or after July 1, 1973. The Company is also liable under various states' statutes for black lung benefits. The Company currently provides for federal and state claims principally through a self-insurance program. Charges are being made to operations as determined by independent actuaries, at the present value of the actuarially computed present and future liabilities for such benefits over the employees' applicable years of service. In addition, the Company is liable for workers' compensation benefits for traumatic injuries which are accrued as injuries are incurred. Workers' compensation costs (credits) include the following components:

	1998	1997	1996
Self-insured black lung benefits:			
Service cost	\$ 1,022 3,173	\$ 678 2,353	\$ 639 1,735
and deferral	111	(10,084)	(9,766)
Other workers' compensation	4,306	(7,053)	(7,392)
benefits	19,396	12,182	13,350
	\$ 23,702	\$ 5,129	\$ 5,958 ======

The actuarial assumptions used in the determination of black lung benefits included a discount rate of 7.0% as of December 31, 1998 (7.25% and 7.5% as of December 31, 1997 and 1996, respectively) and a black lung benefit cost escalation rate of 4% in 1998, 1997 and 1996. In consultation with independent actuaries, the Company changed the discount rate, black lung benefit cost escalation rate, rates of disability and other assumptions used in the actuarial determination of black lung liabilities as of January 1, 1993, to better reflect actual experience. The effect of these changes was a significant increase in the unrecognized net gain. This gain was amortized through 1997 and totaled \$10.8 million (before tax) and \$6.6 million (after tax) in each of the years 1997 and 1996.

Summarized below is information about the amounts recognized in the consolidated balance sheets for workers' compensation benefits:

	December 31,		
		1997	
Actuarial present value for self-insured black lung: Benefits contractually recoverable from others Benefits for Company employees	\$ 4,649	\$ 5,053	
Accumulated black lung benefit obligation Unrecognized net loss		47,730 (3,004)	
Traumatic and other workers' compensation	54,064 67,138	44,726 65,682	
Accrued workers' compensation Less amount included in accrued expenses	121,202 15,869	110,408 12,649	
		\$ 97 <b>,</b> 759	

Receivables related to benefits contractually recoverable from others of \$4,649\$ in 1998 and \$5,053\$ in 1997 are recorded in other long-term assets.

## 9. ACCRUED RECLAMATION AND MINE CLOSING COSTS

The federal Surface Mining Control and Reclamation Act of 1977 and similar state statutes require that mine property be restored in accordance with specified standards and an approved reclamation plan. The Company accrues for the costs of final mine closure reclamation over the estimated useful mining life of the property. These costs relate to reclaiming the pit and support acreage at surface mines and sealing portals at deep mines. Other costs of final mine closure common to both types of mining are related to reclaiming refuse and slurry ponds. The Company also accrues for significant reclamation that is completed during the mining process prior to final mine closure. The establishment of the final mine closure reclamation liability and the other ongoing reclamation liability is based upon permit requirements and requires various estimates and assumptions, principally associated with costs and productivities. The Company accrued \$12.5 million, \$10.8 million and \$6.1 million in 1998, 1997 and 1996, respectively, for current and final mine closure reclamation excluding reclamation recosting adjustments identified below. Cash payments for final mine closure reclamation and current disturbances approximated \$15.0 million, \$8.5 million and \$9.8 million for 1998, 1997 and 1996, respectively. Periodically, the Company reviews its entire environmental liability and makes necessary adjustments, including permit changes as granted by state authorities and revisions to costs and productivities, to reflect current experience. These recosting adjustments are recorded in cost of coal sales. Adjustments included an increase in the liability of \$4.9 million in 1998, and decreases in the liability were \$4.4 million and \$4.5 million in 1997 and 1996, respectively. The Company's management believes it is making adequate provisions for all expected reclamation and other costs associated with mine closures.

#### 10. EMPLOYEE BENEFIT PLANS

Defined Benefit Pension and Other Postretirement Benefit Plans.

The Company has non-contributory defined benefit pension plans covering certain of its salaried and non-union hourly employees. Benefits are generally based on the employee's years of service and compensation. The Company funds the plans in an amount not less than the minimum statutory funding requirements nor more than the maximum amount that can be deducted for federal income tax purposes.

The Company also currently provides certain postretirement health and life insurance coverage for eligible employees. Generally, covered employees who terminate employment after meeting the eligibility requirements for pension benefits are also eligible for postretirement coverage for themselves and their dependents. The salaried employee postretirement medical and dental plans are contributory,

with retiree contributions adjusted periodically, and contain other cost-sharing features such as deductibles and coinsurance. The postretirement medical plan for retirees who were members of the UMWA is not contributory. The Company's current funding policy is to fund the cost of all postretirement health and life insurance benefits as they are paid. Summaries of the changes in the benefit obligations, plan assets (primarily listed stocks and debt securities) and funded status of the plans are as follows:

	Pension		ther postreti	rement benefits
	1998	1997	1998	1997
CHANGE IN BENEFIT OBLIGATIONS Benefit obligations at January 1	\$ 84,085			
Service cost Interest cost Benefits paid Plan amendments Acquisition of ARCO Coal operations in	8,137 (8,562)	4,970 (2,769)	3,715 23,101 (13,224) (15,924)	19,546 (10,442)
1998 and the Ashland Coal merger in 1997 Other-primarily actuarial (gain) loss			13,625 (9,378)	
Benefit obligations at December 31	\$ 139,433	\$ 84,085	\$ 335,823	\$ 333,908
CHANGE IN PLAN ASSETS Value of plan assets at January 1	\$ 64,577	\$ 45,929	\$	\$
Actual return on plan assets		7,339		10,442
1998 and the Ashland Coal merger in 1997 Benefits paid	41,142 (8,562)	13,579 (2,769)	 (13,224)	 (10,442)
Value of plan assets at December 31	\$ 127,274	\$ 64,577	\$ \$	\$
FUNDED STATUS OF THE PLANS Accumulated obligations less plan assets Unrecognized actuarial gain (loss) Unrecognized net transition asset	6,920 887	3,451 1,085		(2,179) 
Unrecognized prior service gain (cost)			16,367 	
Net liability recognized			\$ 359,108 ======	
BALANCE SHEET LIABILITIES (ASSETS)				
Prepaid benefit costs		23,165	\$ 359,108	337,505
Net liability recognized	\$ 22,633	\$ 23,165	\$ 359,108	\$ 337,505

The Company's primary defined benefit pension plan was amended January 1998 to a cash balance plan, which resulted in a \$3.8 million gain. Changes in demographic information resulted in a \$14.1 million actuarial loss for 1998. In addition, a January 1997 amendment to the postretirement benefit plan resulted in a \$15.9 million gain. The gain resulted from the implementation of a defined dollar benefit cap which limits the Company's disbursements under the plan. The \$9.4 million actuarial gain resulted from favorable claims experience compared to previous projections.

	Pension benefits		Other postretir	ement benefits	
	1998	1997	1998	1997	
Weighted Average Assumptions as of December 31					
Discount rate	7.00%	7.25%	7.00%	7.25%	
Rate of compensation increase	4.75%	5.00%	N/A	N/A	
Expected return on plan assets	9.00%	9.00%	N/A	N/A	
Health care cost trend on covered charges	N/A	N/A	4.5%	6.0% in 1998;	
				5.0% thereafter	c

The following table details the components of pension and other postretirement benefit costs.  $% \left( 1\right) =\left( 1\right) \left( 1\right) \left$ 

	P	ension benefits	3	Other pos	tretirement b	enefits
	1998	1997	1996	1998	1997	1996
Service cost	\$5,841 8,137 (7,521) 790	\$ 2,788 4,970 (4,391) (503)	\$2,295 4,051 (3,520) 642	\$ 3,715 23,101  (2,884)	\$ 3,717 19,546  (2,573)	\$ 2,246 15,648  (1,527)
	\$7 <b>,</b> 247	\$ 2,864	\$3 <b>,</b> 468	\$23 <b>,</b> 932	\$20 <b>,</b> 690	\$16,367

The health care cost trend rate assumption has a significant effect on the amounts reported. For example, increasing the assumed health care cost trend rate by one percentage point each year would increase the accumulated postretirement obligation as of December 31, 1998 by \$48.0 million, or 14.3%, and the net periodic postretirement benefit cost for 1998 by \$4.2 million, or 20.0%.

## Multiemployer Pension and Benefit Plans

Under the labor contract with the United Mine Workers of America ("UMWA"), the Company made payments of \$1.3 million, \$2.0 million and \$1.9 million in 1998, 1997 and 1996, respectively, into a multiemployer defined benefit pension plan trust established for the benefit of union employees. Payments are based on hours worked and are expensed as paid. Under the Multiemployer Pension Plan Amendments Act of 1980, a contributor to a multiemployer pension plan may be liable, under certain circumstances, for its proportionate share of the plan's unfunded vested benefits (withdrawal liability). The Company has estimated its share of such amount to be \$53.4 million at December 31, 1998. The Company is not aware of any circumstances which would require it to reflect its share of unfunded vested pension benefits in its financial statements.

The Coal Industry Retiree Health Benefit Act of 1992 ("Benefit Act") provides for the funding of medical and death benefits for certain retired members of the UMWA through premiums to be paid by assigned operators (former employers), transfers of monies in 1993 and 1994 from an overfunded pension trust established for the benefit of retired UMWA members, and transfers from the Abandoned Mine Lands Fund (funded by a federal tax on coal production) commencing in 1995. The Company treats its obligation under the Benefit Act as a participation in a multiemployer plan and recognizes expense as premiums are paid. The Company recognized \$3.7 million in 1998, \$3.9 million in 1997 and \$2.8 million in 1996 in expense relative to premiums paid pursuant to the Benefit Act.

The Company sponsors savings plans which were established to assist eligible employees in providing for their future retirement needs. The Company's contributions to the plans were \$6.8 million in 1998, \$4.6 million in 1997 and \$3.4 million in 1996.

#### 11. CAPITAL STOCK

On April 4, 1997, the Company changed its capital stock whereby the number of authorized shares was increased to 100,000,000 common shares, the par value was changed to \$.01 per share, and a common stock split of 338.0857-for-one was effected. All share and per share information reflect the stock split.

On September 29, 1998, Arch Coal's Board of Directors authorized the Company to repurchase up to 2 million shares of Company common stock. The timing of the purchases and the number of shares to be purchased are dependent on market conditions. As of December 31, 1998, the Company has acquired 330,200 shares under the repurchase program at the average price of \$17.08 per share.

#### 12. STOCK INCENTIVE PLAN

On April 22, 1998, the stockholders ratified the adoption of the 1997 Stock Incentive Plan (the "Company Incentive Plan") reserving 6,000,000 shares of Arch Coal common stock for awards to officers and other selected key management employees of the Company. The Company Incentive Plan provides the Board of Directors with the flexibility to grant stock options, stock appreciation rights (SARs), restricted stock, restricted stock units, performance stock, performance units, merit awards, phantom stock awards and rights to acquire stock through purchase under a stock purchase program ("Awards"). Stock options outstanding under the Ashland Coal stock incentive plans at the date of the merger were substituted for fully vested stock options in the Company Incentive Plan (and are exercisable on the same terms and conditions including per share exercise prices as were applicable to such options when granted.) Stock options generally become exercisable in full or in part one year from the date of grant and are granted at a price equal to 100% of the fair market value of the stock on the date of grant. SARs entitle employees to receive a payment equal to the appreciation in market value of the stated number of common shares from the SARs exercise price to the market value of the shares on the date of its exercise. Unexercised options and SARs' lapse 10 years after the date of grant. Restricted stock awards entitle employees to purchase shares at a grant. Restricted stock awards entitle employees to purchase shares at a nominal cost. Such awards entitle employees to vote shares acquired and to receive any dividends thereon, but such shares cannot be sold or transferred and are subject to forfeiture if employees terminate their employment prior to the prescribed period, which can be from one to five years. Merit awards are grants of stock without restriction and at a nominal cost. Performance share or unit awards can be earned by the recipient if the Company meets certain pre-established performance measures. Until earned, the performance awards are nontransferable, and when earned, performance awards are payable in cash, stock, or restricted stock as determined by the Board of Directors. Phantom stock awards are based on the appreciation of hypothetical underlying shares or the earnings performance of such shares and may be paid in cash or in shares. As of December 31, 1998, performance shares and stock options were the only type of Awards granted. As of December 31, 1998, 361,550 phantom performance

shares had been granted and will be earned by participants based on Company performance for the years 1998 through 2001. Information regarding stock options under the Company Incentive Plan is as follows for the year ended December 31, 1998 and 1997:

	1998		1998 1997		
	Common Shares	Weighte Avera Price	ed ge Common	Weight Averag	ed e
Options outstanding at January 1	926	\$ 25	.23	\$	
Coal stock options			- 675	23.	69
Granted	360	22	.88 300	27.	88
Exercised	(48)	14	.50 (49	21.	25
Canceled	(110)	25	.88		
Options outstanding at December 31	1,128	24	.86 926	25.	23
	=====		=====		
Options exercisable at December 31	600	\$ 25	.04 626	\$ 23.	88
Options available for grant at December 31	4,413		4,684		

The Company applies APB 25, Accounting for Stock Issued to Employees, and related Interpretations in accounting for the Company Incentive Plan. Accordingly, no compensation expense has been recognized for the fixed stock option portion of the Company Incentive Plan. Had compensation expense for the fixed stock option portion of the Company Incentive Plan been determined based on the fair value at the grant dates for awards under this plan consistent with the method of FAS 123, Accounting for Stock-Based Compensation, the Company's net income and earnings per common share would have been reduced to the pro forma amounts in the table below. The fair value of options granted in 1998 and 1997 was determined to be \$2.3 million and \$2.5 million, respectively, using the Black-Scholes option pricing model and the weighted average assumptions noted below. For purposes of these pro forma disclosures, the estimated fair value of the options is recognized as compensation expense over the options' vesting period. The stock options granted in 1998 and 1997 vest ratably over three years.

	-	1998	-	
Pro Forma  Net income (in millions)  Basic and diluted earnings per share				
Weighted average fair value per share of options granted $\dots$	\$	7.22	\$	8.36
Assumptions (weighted average) Risk-free interest rate Expected dividend yield Expected volatility Expected life (in years)		6.0% 2.0% 31.8% 5.0		6.3% 2.0% 29.0% 5.0

The pro forma effect on net income for 1998 and 1997 is not representative of the pro forma effect on net income in future years because it does not take into consideration pro forma compensation expense related to grants issued prior to 1996.

Exercise prices for options outstanding as of December 31, 1998, range from \$17.25 to \$34.375, and the weighted average remaining contractual life at that date was 7.2 years. The table below shows pertinent information on options outstanding at December 31, 1998, priced below \$25 per share and priced at \$25 per share or more:

	Option Exercise Price		
	Below \$25	\$25 or More	
Options outstanding (in thousands)	607	521	
Weighted-average exercise price	\$ 22.20	\$ 27.96	
Weighted-average remaining contractual life (in years)	7.4	6.9	
Options currently exercisable (in thousands)	264	336	
Weighted-average exercise price of options currently exercisable	\$ 21.33	\$ 28.01	

#### 13. MERGER RELATED EXPENSES AND CHANGES IN ESTIMATES

During 1997, in connection with the Ashland Coal merger, the Company recorded a one-time charge of \$39.1 million (before tax) or \$23.8 million (after tax) comprised of termination benefits and relocation costs of \$8.1 million and costs of \$31.0 million associated with the idling of duplicate facilities. The \$8.1 million costs arising from the termination benefits and relocation costs have been paid. The \$31.0 million costs associated with the idling of duplicate facilities reduced the book value of the duplicate facilities. A portion of this charge related to Big Sandy Terminal. As a result of a change in management strategy related to the Big Sandy Terminal, the assets were sold in 1998 for a pre-tax gain of \$7.5 million.

During 1996, the Company reduced the estimated useful lives of certain long-lived assets (primarily related to life-of-mine assets including preparation plants and beltlines) for depreciation and amortization purposes. These changes in estimates were primarily due to increased productivities and reductions in recoverable reserves. As a result, an additional \$11.3 million (after-tax impact of \$6.9 million or \$.33 per share) of depreciation and amortization expense was recorded in cost of coal sales. The assets included a preparation plant that had an original life of 16 years that was adjusted to 7.5 years, a preparation plant and beltline related to a surface mine that carried an original life of 20 years that was adjusted to 17 years and deferred mine development for a surface mine with an original life of 5 years adjusted to 4 years.

# 14. CONCENTRATION OF CREDIT RISK AND MAJOR CUSTOMERS

The Company places its cash equivalents in investment-grade short-term investments and limits the amount of credit exposure to any one commercial issuer.

The Company markets its coal principally to electric utilities in the United States. As of December 31, 1998 and 1997, accounts receivable from electric utilities located in the United States totaled \$152.1 million and \$102.8 million, respectively. Generally, credit is extended based on an evaluation of the customer's financial condition, and collateral is not generally required. Credit losses are provided for in the financial statements and historically have been minimal.

The Company is committed under long-term contracts to supply coal that meets certain quality requirements at specified prices. These prices are generally adjusted based on indices. Quantities sold under some of these contracts may vary from year to year within certain limits at the option of the customer. Sales (including spot sales) to major customers were as follows:

	1998	1997	1996
AEPSouthern Company	\$195,682	\$129,981	\$ 86,756
	170,452	187,800	147,567

#### 15. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per common share:

		1997	
Numerator: Income before extraordinary item	\$ 31,501		\$33,020
Net income	\$ 30,013	\$30,281	\$33,020
Denominator:  Weighted average shares-denominator for basic  Dilutive effect of employee stock options	25	30,374 34	,
Adjusted weighted average shares-denominator for diluted	39,651	30,408	20,948
Basic and diluted earnings per common share before extraordinary item	\$ .79		
Basic and diluted earnings per common share	\$ .76	\$ 1.00	\$ 1.58

## 16. SALE AND LEASEBACK

On January 29, 1998, the Company sold mining equipment for approximately \$74.2 million and leased back the equipment under an operating lease with a term of three years. This included the sale and leaseback of equipment purchased under an existing operating lease that expired on the same day. The proceeds of the sale were used to purchase the equipment under the expired lease for \$28.3 million and to pay down debt. At the end of the lease term, the Company has the option to renew the lease for two additional one-year periods or purchase the equipment for approximately \$51.1 million. Alternatively, the equipment may be sold to a third party. In the event of such a sale, the Company will be required to make a payment to the lessor in the event, and to the extent, that the proceeds are below \$40.0 million. The gain on the sale and leaseback of \$10.7 million was deferred and is being amortized over the base term of the lease as a reduction of rental expense.

## 17. RELATED PARTY TRANSACTIONS

In the ordinary course of business, the Company receives certain services and purchases fuel, oil and other products on a competitive basis from subsidiaries of Ashland Inc., which totaled \$7.2 million in 1998, \$4.7 million in 1997 and \$3.8 million in 1996. At December 31, 1998, Ashland Inc. owns approximately 55% of the Company's outstanding shares of common stock. Management believes that charges between the Company and Ashland Inc. for services and purchases were concluded on terms equivalent to those prevailing among unaffiliated parties.

As described in Note 1, the Company has a 65% ownership interest in Canyon Fuel which is accounted for on the equity method. The Company receives administration and production fees from Canyon Fuel for managing the Canyon Fuel operations. The fees recognized as other income for the Company and as expense by Canyon Fuel for the year ended December 31, 1998 were \$4.1 million.

#### 18. COMMITMENTS AND CONTINGENCIES

The Company leases equipment, land and various other properties under noncancelable long-term leases, expiring at various dates. Rental expense related to these operating leases amounted to \$31.4 million in 1998, \$14.9 million in 1997 and \$8.5 million in 1996. The Company has also entered into various noncancelable royalty lease agreements and federal lease bonus payments under which future minimum payments are due. On October 1, 1998, the Company was the successful bidder in a federal auction of certain mining rights in the 3,546-acre Thundercloud tract in the Powder River Basin of Wyoming. The Company's lease bonus bid amounted to \$158 million for the tract, of which \$31.6 million was paid on October 1, 1998 (the remaining lease bonus payments are reflected below under the caption "Royalties"). The tract contains approximately 412 million tons of demonstrated coal reserves and is contiguous with the Company's Black Thunder mine. Geological surveys performed by outside consultants indicate that there are sufficient reserves relative to these properties to permit recovery of the Company's investment.

Minimum payments due in future years under these agreements in effect at December 31, 1998 are as follows:

	Leases	Royalties
1999	\$ 31,975	\$ 62,375
2000	28,092	62,151
2001	22,311	61,809
2002	16,726	61,589
2003	8,284	30,282
Thereafter	10,564	225,824
	\$117 <b>,</b> 952	\$504,030
	=========	=========

The Company is a party to numerous claims and lawsuits with respect to various matters. The Company provides for costs related to contingencies when a loss is probable and the amount is reasonably determinable. As of December 31, 1998, the Company estimates that its probable aggregate loss as a result of such claims is \$3.8 million (included in other noncurrent liabilities) and believes that probable insurance recoveries of \$.9 million (included in other assets) related to these claims will be realized. The Company estimates that its reasonably possible aggregate losses from all currently pending litigation could be as much as \$.4 million (before tax) in excess of the probable loss previously recognized. However, the Company believes it is probable that substantially all of such losses, if any occur, will be insured. After conferring with counsel, it is the opinion of management that the ultimate resolution of these claims, to the extent not previously provided for, will not have a material adverse effect on the consolidated financial condition, results of operations or liquidity of the Company.

A customer of the Company has informed the Company that one of the customer's power plants will no longer provide baseload capacity to a public utility and instead will be used to provide peak demand only. As a result, the plant will require substantially less coal under the customer's existing above-market contract with the Company. The Company has filed a civil action in Federal District Court in the Southern District of West Virginia alleging breach of contract and other causes of action against the customer in respect of the customer's failure to comply with the terms of this contract. On July 17, 1998 the court granted the customer's motion to stay the lawsuit pending arbitration. As of December 31, 1998, the carrying amount of acquisition costs allocated to this coal supply contract amounts to approximately \$13.7 million. The Company currently expects that it will recover the carrying amount of this asset, however, the ultimate outcome of this matter is uncertain.

The Company holds a 17.5% general partnership interest in Dominion Terminal Associates ("DTA"), which operates a ground storage-to-vessel coal transloading facility in Newport News, Virginia. DTA leases the facility from Peninsula Ports Authority of Virginia ("PPAV") for amounts sufficient to meet debt-service requirements. Financing is provided through \$132.8 million of tax-exempt bonds issued by PPAV which mature July 1, 2016. Under the terms of a throughput and handling agreement with DTA, each partner is charged its share of cash operating and debt-service costs in exchange for the right to use its share of the facility's loading capacity and is required to make periodic cash advances to DTA to fund such costs. On a cumulative basis, costs exceeded cash advances by \$9.2 million at December 31, 1998 (included in other noncurrent liabilities). Future payments for fixed operating costs and debt service are estimated to approximate \$3.3 million annually through 2015 and \$26.0 million in 2016.

#### 19. CASH FLOW

The changes in operating assets and liabilities as shown in the consolidated statements of cash flows are comprised of the following:

	1998	1997	1996
Decrease (increase) in operating assets:			
Receivables	\$(35,464)	\$(12,179)	\$10,857
Inventories	6,723	16,323	4,024
Increase (decrease) in operating liabilities:			
Accounts payable and accrued expenses	30,229	5,403	(7,464)
Income taxes	(35,057)	(27,448)	(1,145)
Accrued postretirement benefits other than pension	6,813	7,437	4,566
Accrued reclamation and mine closure	1,936	(9,370)	(10,492)
Accrued workers' compensation	149	(9,008)	(897)
Changes in operating assets and liabilities	\$(24,671)	\$(28,842)	

#### 20. ACCOUNTING DEVELOPMENT

In June 1998, the Financial Accounting Standards Board issued FAS 133, Accounting for Derivative Instruments and Hedging Activities, which is required to be adopted in years beginning after June 15, 1999. FAS 133 permits early adoption as of the beginning of any fiscal quarter after its issuance. FAS 133 will require the Company to recognize all derivatives on the balance sheet at fair value. Derivatives that are not hedges must be adjusted to fair value through income. If the derivative is a hedge, depending on the nature of the hedge, changes in the fair value of the derivative will either be offset against the change in fair value of the hedged assets, liabilities, or firm commitments through earnings or recognized in other comprehensive income until the hedged item is recognized in earnings. The ineffective portion of a derivative's change in fair value will be immediately recognized in earnings. The Company has not yet determined what effect FAS 133 will have on the earnings and financial position of the Company.

#### 21. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

Quarterly financial data for 1998 and 1997 is summarized below:

	March 31	June 30	Sept. 30	Dec. 31
1998:				
Coal sales, equity income and other revenues	\$312,564(1)	\$353,238	\$ 424,123(2)	\$415,710
Income from operations	22,359	27,450	23,909	14,129(3)
Income before extraordinary item	15,821	14,999	544	137
Net income	15,821	13,511	544	137
Basic and diluted earnings per				
common share before extraordinary item(5)	0.40	0.38	0.01	0.00
Basic and diluted earnings per common share(5)	0.40	0.34	0.01	0.00
1997:				
Coal sales and other revenues	\$198,461	\$196,425	\$ 329,475	\$342,514
Income (loss) from operations	16,314	16,296	(20,468)(4)	29,740
Net income(loss)	10,420	11,732	(13,001)	21,130
Basic and diluted earnings (loss) per common share(5)	0.50	0.56	(0.33)	0.53

- (1) During the first quarter of 1998, the Company recorded gains on the sale of surplus land totaling \$7.9 million.
- (2) During the third quarter of 1998, the Company sold idle assets and reserves in Eastern Kentucky for a gain of \$18.5 million.
- (3) During the fourth quarter of 1998, the Company sold its idle Big Sandy Terminal for a gain of \$7.5 million. This was partially offset by a net unfavorable adjustment of \$4.9 million associated with the Company's routine, periodic review of reclamation accruals.
- (4) During the third quarter of 1997, the Company recorded a \$39.1 million charge in connection with the Ashland Coal merger comprised of termination benefits, relocation costs and costs associated with the idling of duplicate facilities.
- (5) The sum of the quarterly earnings per common share amounts may not equal earnings per common share for the full year because per share amounts are computed independently for each quarter and for the year based on the weighted average number of common shares outstanding during each period.

# ARCH COAL, INC. AND SUBSIDIARIES SCHEDULE II -- VALUATION AND QUALIFYING ACCOUNTS (IN THOUSANDS)

DESCRIPTION	BALANCE AT BEGINNING OF YEAR	ADDITIONS CHARGED TO COSTS AND EXPENSES	DEDUCTIONS(1)	OTHER(2)	BALANCE AT END OF YEAR
Year Ended December 31, 1998 Reserves Deducted from Asset Accounts					
Property, Plant, and					
Equipment Other Assets Other Notes and Accounts	\$	\$	\$	\$	\$
Receivable Current Assets Supplies	471	306	195		582
Inventory Year Ended December 31, 1997 Reserves Deducted from Asset Accounts	17,681	2,292	5 <b>,</b> 999	9,927	23,901
Property, Plant, and Equipment Other Assets Other Notes and Accounts	\$ 100	\$	\$ 100	\$ <b>-</b> -	\$
Receivable  Current Assets Supplies	410	61			471
Inventory Year Ended December 31, 1996 Reserves Deducted from Asset Accounts	11,313	1,218	282	5,432	17,681
Property, Plant, and Equipment Other Assets Other Notes and Accounts	\$ 1,111	\$	\$1,011	\$	\$ 100
Receivable  Current Assets Supplies	408	150	148		410
Inventory	11,976	500	1,163		11,313

<sup>- - ------</sup>

<sup>(1)</sup> Reserves utilized, unless otherwise indicated.

<sup>(2)</sup> Balances acquired in the Arch Western transaction and Ashland Coal merger.

# EXHIBIT INDEX

Exhibit No.	Description
10.2	Ashland Inc. Deferred Compensation and Stock
10.4	Incentive Plan for Non-Employee Directors. Ninth Amended and Restated Ashland Inc. Supplemental Early Retirement Plan for Certain Key Executive Employees.
10.11	Ashland Inc. Nonqualified Excess Benefit Pension Plan.
10.18	Ashland Inc. 1997 Stock Incentive Plan.
13	Portions of Ashland's Annual Report to Shareholders, incorporated by reference herein, for the fiscal year ended September 30, 1998.
21	List of subsidiaries.
23.1	Consent of Ernst & Young LLP.
23.2	Consent of PricewaterhouseCoopers LLP.
23.3	Consent of Ernst & Young LLP.
24	Power of Attorney, including resolutions of the Board of Directors.
27.1	Financial Data Schedule for the fiscal year ended September 30, 1998.
27.2	Restated Financial Data Schedule for the fiscal year ended September 30, 1997.
27.3	Restated Financial Data Schedule for the fiscal year ended September 30, 1996.

#### CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statement (Form S-8 No. 33-52125) pertaining to the Ashland Inc. Deferred Compensation and Stock Incentive Plan for Non-Employee Directors, in the Registration Statement (Form S-8 No. 2-95022) pertaining to the Ashland Inc. Amended Stock Incentive Plan for Key Employees, in the Registration Statement (Form S-8 No. 33-7501) pertaining to the Ashland Inc. Employee Savings Plan, in the Registration Statement (Form S-8 No. 33-26101) pertaining to the Ashland Inc. Long-Term Incentive Plan, in the Registration Statement (Form S-8 No. 33-55922) pertaining to the Ashland Inc. 1993 Stock Incentive Plan, in the Registration Statement (Form S-8 No. 33-49907) pertaining to the Ashland Inc. Leveraged Employee Stock Ownership Plan, in the Registration Statement (Form S-8 No. 33-62901) pertaining to the Ashland Inc. Deferred Compensation Plan, in the Registration Statement (Form S-8 No. 333-33617) pertaining to the Ashland Inc. 1997 Stock Incentive Plan, in the Registration Statement (Form S-3 No. 333-70651) as amended by Amendment No. 3, pertaining to the U.S. \$220,000,000 Ashland Inc. Medium-Term Notes, Series H, and the related Prospectus, of our report dated February 9, 1999, except as to Note R, which is as of March 1, 1999, relating to the financial statements of Marathon Ashland Petroleum LLC included in this Annual Report (on Form 10-K/A Amendment No. 1) for the year ended September 30, 1998.

PricewaterhouseCoopers LLP

March 16, 1999

#### CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 33-52125) pertaining to the Ashland Inc. Deferred Compensation and Stock Incentive Plan for Non-Employee Directors, in the Registration Statement (Form S-8 No. 2-95022) pertaining to the Ashland Inc. Amended Stock Incentive Plan for Key Employees, in the Registration Statement (Form S-8 No. 33-7501) pertaining to the Ashland Inc. Employee Savings Plan, in the Registration Statement (Form S-8 No. 33-26101) pertaining to the Ashland Inc. Long-Term Incentive Plan, in the Registration Statement (Form S-8 No. 33-55922) pertaining to the Ashland Inc. 1993 Stock Incentive Plan, in the Registration Statement (Form S-8 No. 33-49907) pertaining to the Ashland Inc. Leveraged Employee Stock Ownership Plan, in the Registration Statement (Form S-8 No. 33-62901) pertaining to the Ashland Inc. Deferred Compensation Plan, in the Registration Statement (Form S-8 No. 333-33617) pertaining to the Ashland Inc. 1997 Stock Incentive Plan, in the Registration Statement (Form S-3 No. 333-70651) as amended by Amendment No. 3, pertaining to the U.S. \$220,000,000 Ashland Inc. Medium-Term Notes, Series H of our report dated January 22, 1999, with respect to the consolidated financial statements of Arch Coal, Inc. as of and for the years ended December 31, 1998 and 1997 included in this Annual Report (on Form 10-K/A Amendment No. 1) of Ashland Inc. for the year ended September 30, 1998.

Our audits of the consolidated financial statements of Arch Coal, Inc. as of December 31, 1998 and 1997 and for the years then ended also included the Arch Coal, Inc. financial statement schedule included in this Annual Report (on Form 10-K/A Amendment No. 1) of Ashland Inc. for the year ended September 30, 1998. This schedule is the responsibility of Arch Coal, Inc.'s management. Our responsibility is to express an opinion based on our audits. In our opinion, the financial statement schedule for 1998 and 1997, when considered in relation to the Arch Coal, Inc. basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

Ernst & Young LLP

March 16, 1999