

PLAINTIFF'S
EXHIBIT
JUL 15 1971

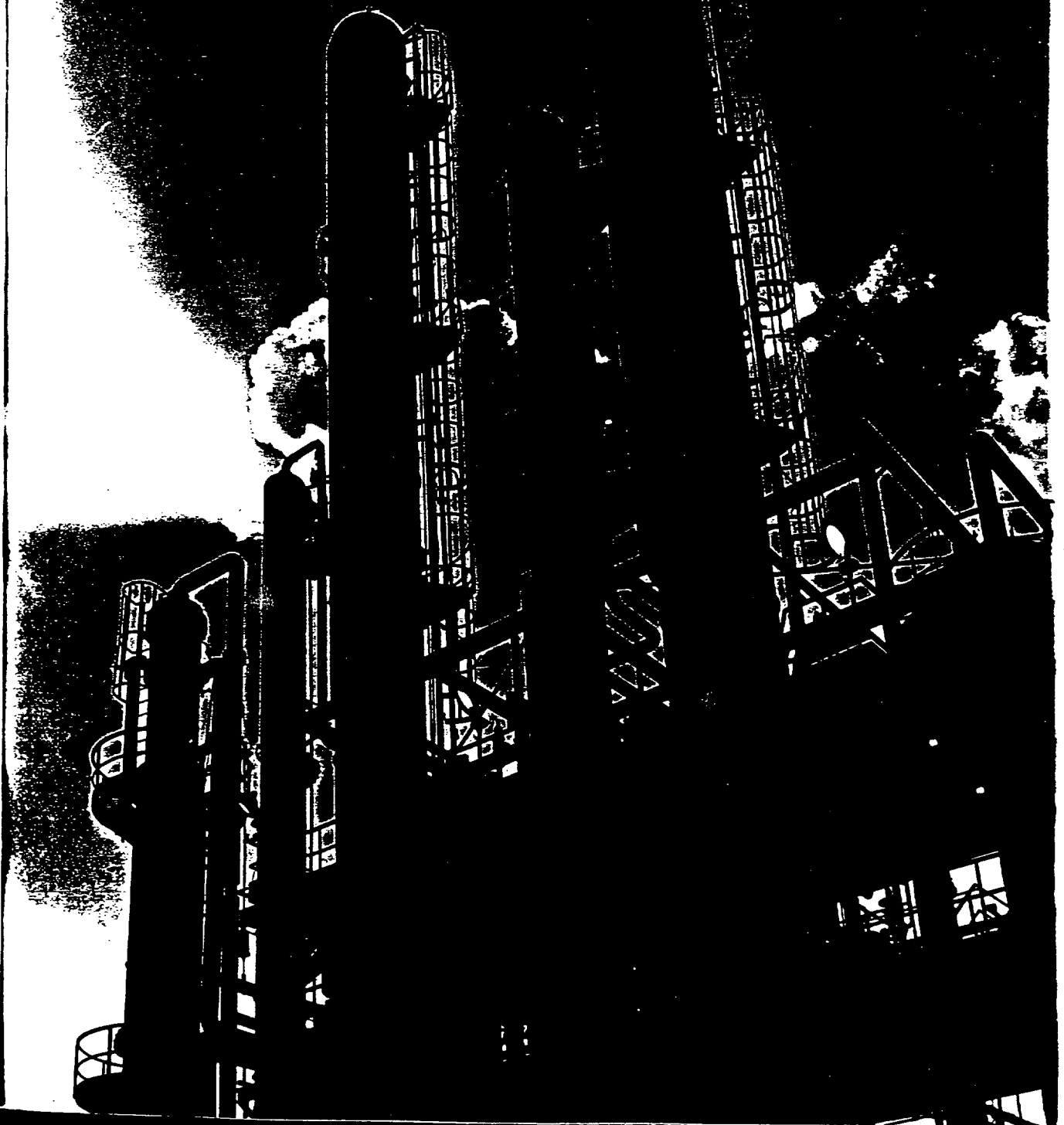
ETHYL CORPORATION
ANNUAL REPORTS TO SHAREHOLDERS
1967 TO 1971

ETC 16986

800 To keep

ETC 16987

Ethyl Corporation 1967 Annual Report



ETC 16988

FINANCIAL HIGHLIGHTS	<i>Years Ended December 31</i>	1967	1966
Net Sales		\$468,937,810	\$465,823,480
Net Income		29,661,837	37,305,645
Net Income per Share of Common Stock ⁽¹⁾		\$2.51	\$3.40
Taxes on Income		21,305,000	24,609,000
Cash Flow		62,875,858	68,106,874
Cash Flow per Share of Common Stock ⁽¹⁾		\$6.45	\$7.15
Cash Dividends		10,509,245	8,280,791
Earnings Retained in Business		19,152,592	29,024,854
Depreciation, Depletion & Amortization		30,749,246	28,410,919
Capital Expenditures		26,943,000	59,116,493
Total Assets		512,734,618	504,888,114
Working Capital		129,757,176	107,244,238
Book Value per Share of Common Stock		\$20.00	\$17.93
<i>Both years include the results of Oxford Paper Company on a pooling-of-interests basis.</i>			
<i>(1) Based on average number of shares outstanding in each year.</i>			



Pictured on the cover of this annual report is the new tri- and perchlorethylene plant which was completed at Baton Rouge, La., in 1967.

This report illustrates two of our products in use. The text of the report is lithographed on Star Sapphire Enamel Dull (basis 100 pounds), produced by Oxford Paper Company. The cover is lithographed on Albemarle cast coat (.008), produced by Albemarle Paper Company.

Ethyl Corporation 1967 Annual Report

Message to Shareholders	2
Financial Review	7
Operations Review	11
Financial Statements	20
Notes to Financial Statements	23
Auditors' Report	25
Ten-Year Summary	26
Officers and Directors	28

Annual Meeting

The annual meeting of
Ethyl Corporation shareholders
will be held at the Company's executive
offices in Richmond, Va.
on Thursday, April 25, 1968

Stock Transfer Agents

First and Merchants National Bank, Richmond, Va.
Chase Manhattan Bank, New York, N.Y.

Registrars of Stock

The Bank of Virginia, Richmond, Va.
Morgan Guaranty Trust Co., New York, N.Y.

General Counsel

Hunton, Williams, Gay, Powell & Gibson
Richmond, Va.

Executive Offices

330 South Fourth Street, Richmond, Va. 23219
100 Park Avenue, New York, N.Y. 10017
Louisiana National Bank Building
Baton Rouge, La. 70821

Message to Shareholders

TO THE SHAREHOLDERS OF ETHYL CORPORATION

The past year was a strenuous and challenging one for several of the industries of which Ethyl Corporation is a part. After a long period of rapid growth and expanding markets, the paper, plastics and chemical industries were faced with new competitive conditions in 1967. The addition of new productive capacity, pressure on selling prices, disappointing demand and higher costs affected these industries in varying degrees, although some of their products continued to enjoy good growth. This was the business climate in which Ethyl operated last year.

Reflecting the merger of Oxford Paper Company last August, Ethyl Corporation achieved sales of nearly \$469 million and earnings of approximately \$29.7 million for 1967. For accounting purposes, the merged Ethyl and Oxford are being treated on a "pooling of interests" basis. This means that results for prior periods are stated as though the two companies had been joined together during these earlier periods. Using this accounting concept, our 1967 sales of \$468,938,000 compare with sales of \$465,823,000 for 1966; our 1967 earnings of \$29,662,000 compare with earnings of \$37,306,000 for 1966; and our per share earnings of \$2.51 for 1967 compare with per share earnings of \$3.40 in 1966.

Prior to the merger, the previous highs for Ethyl alone were reached in 1966, when it attained sales of \$368,473,000 and earnings of \$29,168,000 or \$3 a share.

With the completion of the Oxford merger last year, we now have a broader operating base in the paper industry, embracing both the kraft paper and white paper fields, and we have gained an organization with an excellent reputation.

As of the close of 1967, we had increased our total assets to above the \$500 million mark (as compared with about \$380 million for Ethyl alone at the end of 1966), increased our working capital, and reduced our long-term debt ratio to about 47% of our total capitalization. We are a larger, stronger and better organized company than ever before.

Expenditures for new plants and equipment last year totalled nearly \$27 million. Over the past five years, Ethyl and Oxford together have invested well over \$200 million in expansion, modernization, and diversification of their various operations. We believe your company will see increasing benefits from these substantial investments.

Among the new construction projects completed last year were our new antiknock compounds plant in Greece, an expansion of our polyvinyl chloride resins capacity at Baton Rouge, a new chlorinated solvents plant at Baton Rouge, and increases in other specialized chemical



The board of directors of Ethyl Corporation at a recent meeting. (Top row) Andrew M. McBurney and Floyd D. Gottwald, chairman of the board • William H. Chisholm, W. Thomas Rice, and Joseph A. Costello • (Second row) Bruce C. Gottwald and Dr. George F. Kirby • Robert T. Marsh, Jr. and E. Claiborne Robins • Sidney Buford Scott and Lewis F. Powell, Jr. (Third row) Lawrence E. Blanchard, Jr. and Floyd D. Gottwald, Jr., vice chairman of the board • Erwin H. Will, Malcolm P. Murdock and Dr. Thomas W. McKnew • (Bottom row) Floyd D. Gottwald, Joseph M. Lowry and S. Douglas Fleet.

facilities. More recently, our subsidiary, Vypak Corporation, opened a second plant for the manufacture of PVC plastic bottles; Albemarle Paper Company continued the expansion of its corrugated container plants; and our subsidiary, the William L. Bonnell Company, announced plans for a new aluminum extrusion plant in Tennessee.

Besides our continuing expansion in the United States, we are actively interested in several overseas projects, including a venture with other companies to explore for natural gas in the North Sea.

While the past year brought temporary setbacks to the paper, chemicals and plastics industries, we continue to believe in the excellent growth

potentials of these industries—and have backed our judgment with substantial investments in new facilities. The field of polyvinyl chloride plastics is a good example. The year, 1967, marked our full-fledged entry into the PVC resins and compounds field. We believe PVC is one of the most versatile of all plastics and that its growth rate will continue to be spectacular. Its use in such areas as plastic bottles and plastic pipe is typical, and your company is now firmly established in both of these new areas. Vypak's recent development of a PVC bottle that can be used for food and drug products illustrates the tremendous growth potential in this area.

Likewise we continue to be enthusiastic about the future of our new synthetic alcohols plant. It opens to your company the possibility of a whole new chemical area, with entries into such fields as soaps, plasticizers, synthetic lubricants, and a variety of other interesting new products. Our very substantial research effort is increasing our technical competence in many fields and broadening our horizons.

During 1967, Ethyl continued its extensive research on automobile exhaust and air pollution. It reported its recent findings before technical societies, carried out several research projects for the Department of Health, Education and Welfare, and continued its cooperative efforts with public and private agencies.

Last October, a report by a Commerce Department advisory committee created considerable attention when it recommended, among other things, that the use of lead antiknocks in gasoline should not be increased in the future. The report did not present any new evidence; in fact, its recommendation was contrary to the great weight of scientific evidence that lead antiknock compounds do *not* contribute to photochemical smog (the most widespread air pollution problem), and do not constitute a health hazard. While publication of this report affected the market price of our stock, it did not, in our opinion, in any way affect the fundamental soundness of your company or the basic need for antiknocks.

We are continuing our work on experimental devices, already existing, that reduce exhaust gas emissions from motor vehicles and remove particulate matter from the exhaust gases. This research has resulted in major contributions to the oil and automotive industries in their continuing program to reduce automotive exhaust emissions, and continues to demonstrate that emissions can be effectively controlled by continued refinement of the present automobile engine and exhaust system. To intensify this research, we are now completing a new automotive emissions research laboratory in Detroit.

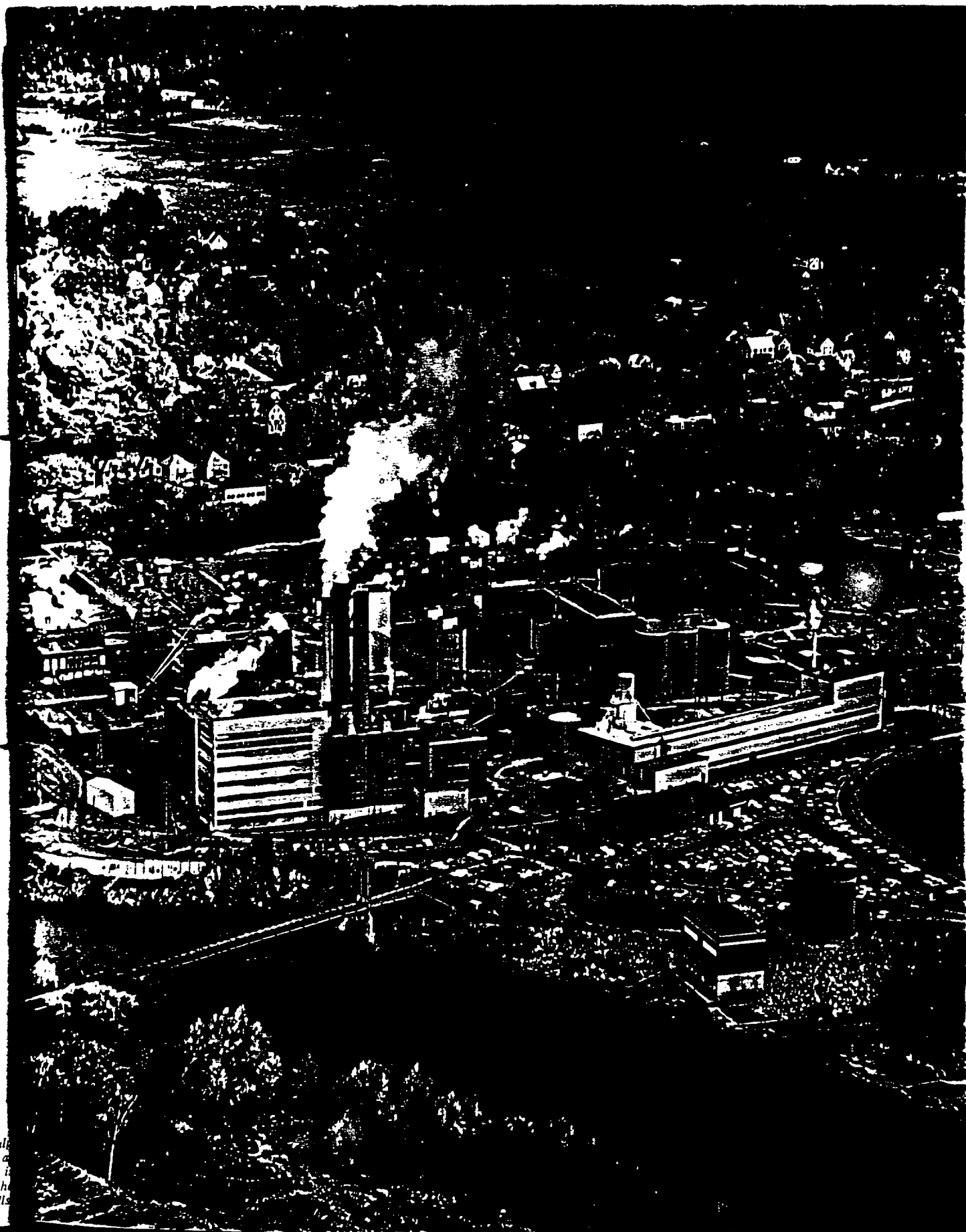
As of December 31, 1967, we had a total of 13,709 employees in the United States and abroad, and we want to acknowledge their contributions to our performance in 1967. We are also deeply appreciative of the loyalty and support of our stockholders and of our customers and suppliers. We look forward to continued progress in 1968.

George F. Kirby

GEORGE F. KIRBY
President

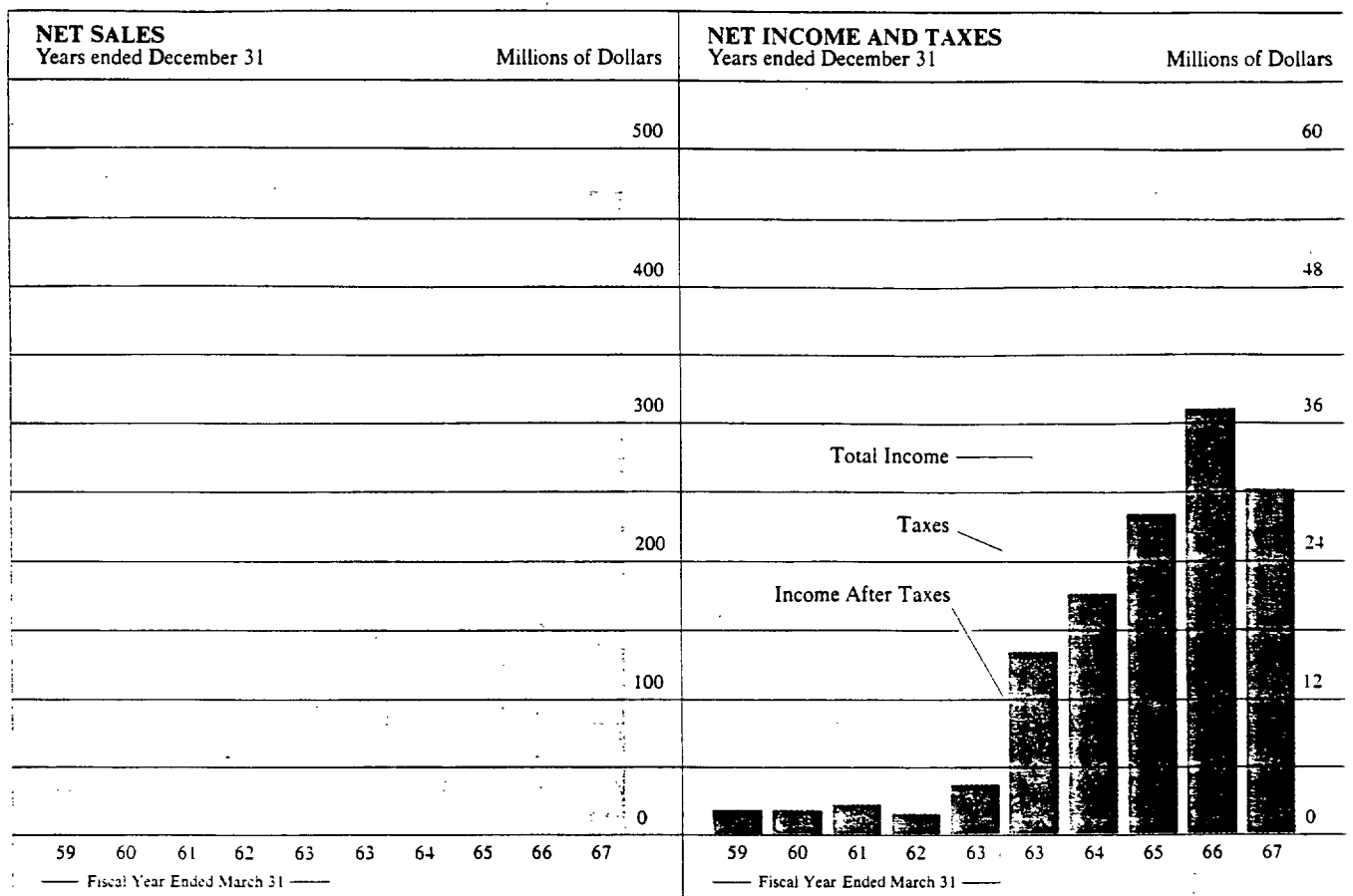
F. D. Gottwald

FLOYD D. GOTTWALD
Chairman of the Board



xford pulp
per mill a
rd, Me., is
gest of the
ford mills

ETC 16994



WORKING CAPITAL Years ended December 31	Millions of Dollars	TOTAL ASSETS Years ended December 31	Millions of Dollars	CAPITALIZATION RATIOS 1963-1967	Percent
	125	500			100
				Common Equity —	
	100	400			80
				Preferred Stock —	
	75	300			60
				Debt —	
	50	200			40
	25	100			20
	0	0			0
59 60 61 62 63 63 64 65 66 67 Fiscal Year Ended March 31		59 60 61 62 63 63 64 65 66 67 Fiscal Year Ended March 31		63 64 65 66 67	

Note: 1959 to 1962, Albemarle Paper Co. only; period ended March 31, 1963, includes Ethyl Corp. (Del.) treated as an acquisition; 1963-1967, Ethyl Corp. (Va.) and Oxford Paper Co. treated on a pooling-of-interests basis.

Financial Review

The merger of Oxford Paper Company into Ethyl Corporation on August 1, 1967 was treated as a pooling of interests for accounting purposes and, accordingly, the accounts of both companies have been combined in reporting the results of operations for 1967 and for prior years except that, in the table below, net sales by product lines for 1965 and 1966 are without pooling of interests in order to show more clearly the progress of our diversification program.

Sales and Net Income Consolidated net sales in 1967 reached a new high of \$468,937,810. The aluminum products sales cover the full year, 1967, but only the last nine months of 1966, inasmuch as the William L. Bonnell Company was acquired on April 1, 1966.

A breakdown of sales by major products lines for the past three years is shown in the following table:

NET SALES BY PRODUCT LINES — 1965-1967 (In Thousands of Dollars)						
	1967		1966		1965	
	Net Sales	Percentage of Total	Net Sales	Percentage of Total	Net Sales	Percentage of Total
Petroleum Chemicals	\$199,310	42%	\$205,998	56%	\$182,755	62%
Industrial Chemicals	45,030	10	39,074	10	29,226	10
Plastics	40,111	9	35,734	10	28,517	10
Paper & Paper Products	151,845	32	62,636	17	51,526	18
Aluminum Products	32,642	7	25,031	7	—	—
	<u>\$468,938</u>	<u>100%</u>	<u>\$368,473</u>	<u>100%</u>	<u>\$292,024</u>	<u>100%</u>
Oxford Paper Co.	(included above)		97,350		83,814	
	<u>\$468,938</u>		<u>\$465,823</u>		<u>\$375,838</u>	

Net income for 1967 amounted to \$29,661,837, as compared with net income of \$37,305,645 for 1966. The 1967 net income was equal to \$2.51 per share, based on the average 9,744,091 shares of common stock outstanding during 1967. It compares with net income of \$3.40 per share for 1966, on the basis of the average 9,522,805 shares of common stock outstanding during that year.

The decline in net income from 1966 to 1967 is attributable primarily to higher costs and to adverse conditions which generally prevailed in the chemical

and paper industries. These factors included overcapacity in some lines, weakness in kraft paper prices and in the demand for quality paper, and weakness in the prices of certain chemicals and plastics. Earnings were also adversely affected by the start-up of Ethyl's new antiknock plant in Greece and by a lower investment credit for the year. The investment credit in 1967 amounted to \$1,636,000 as compared with a credit of \$3,768,000 in 1966.

Interest costs in 1967 amounted to \$12,346,000 as compared with interest costs of \$12,630,000 in 1966.

Capital Stock and Dividends During 1967, 238,325 shares of common stock were issued as the result of the exercise of employee stock options, 151,200 shares as the result of exercise of warrants and 120 shares from the conversion of \$2.40 preferred stock. This brought the total number of common shares outstanding to 9,927,793 on December 31, 1967.

Common stock dividends paid during 1967 were at the quarterly rate of 15 cents a share, or 60 cents for the year.

In August, 1967, in consummation of the merger of Oxford Paper Company into Ethyl, 1,914,201 shares of \$2.40 Cumulative Second Preferred Stock were issued in exchange for the outstanding shares of the common stock of Oxford Paper Company. The new Cumulative Second Preferred Stock is entitled to a fixed \$2.40 annual dividend, has general voting rights equal with the common stock, and is convertible into common stock at the rate of 1.3 shares of common stock for each share of Cumulative Second Preferred.

Source and Disposition of Funds The accompanying table shows the source of funds and the disposition of funds for the year, 1967:

SOURCE OF FUNDS:		DISPOSITION OF FUNDS:	
Net Income	\$29,661,837	Cash Dividends	\$10,509,245
Depreciation, Depletion & Amortization	30,749,246	Capital Expenditures	26,943,000
Deferred Income Tax	2,464,775	Sinking Fund Payments	2,045,438
Proceeds from the Exercise of Warrants and Employees' Stock Options ..	3,625,856	Net Decrease in Long-Term Debt	\$13,045,051
		Less Debt Converted into com- mon stock	8,937,352 4,107,699
		Increase in Working Capital ..	22,512,938
		Net Change in Other Accounts	383,394
	\$66,501,714		\$66,501,714

Cash Flow, which consists of Net Income plus Depreciation, Depletion and Amortization and Deferred Income Taxes, amounted to \$62,875,858 in 1967, as compared with a cash flow of \$68,106,874 in 1966. The 1967 cash flow was sufficient to provide for all fixed charges, for dividends, for capital expenditures, and provided \$19,270,476 of the increase in working capital.

At December 31, 1967, working capital was \$129,757,176, and the ratio of current assets to current liabilities was 3.52 to 1. This compared with working capital of \$107,244,238 and a ratio of 2.83 to 1 at December 31, 1966.

Capital Expenditures During 1967, \$26,943,000 was spent on capital projects for new plants, for expansion and modernization of existing facilities, and for

timberlands. This brought the five-year total of capital expenditures for Ethyl and Oxford to \$213,000,000.

Long Term Debt Debt repayments during 1967 amounted to \$5,989,199. These consisted of payments of \$750,000 on the 5½ % Bank Loan, due 1970; \$685,211 on the 3¾ % Guaranteed Notes, due 1970; \$2,500,000 on the 5¾ % Subordinated Notes, due 1972; \$1,250,000 on the 4¾ % Promissory Notes, due 1983; and \$803,988 on Miscellaneous Debt.

As of December 31, 1967, the long-term portion of Ethyl's debt was equal to 47% of the Company's total capitalization. The long-term debt was \$206,418,949 of which \$27,750,000 was indebtedness of Oxford Paper Company which was assumed in the merger.

SUMMARY OF LONG-TERM DEBT	
5½% Bank Loan—Due 1968-70	\$ 5,500,000
The Chase Manhattan Bank	
5¾% Senior Notes—Due 1971-78	106,000,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
The Northwestern Mutual Life Insurance Company	
New York Life Insurance Company	
3¾% Guaranteed Notes—Due 1968-70	2,059,110
Three Canadian Banks	
(Debt of Canadian Subsidiary Guaranteed by Parent Company)	
5¾% Subordinated Notes—Due 1968-72	12,485,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
New York Life Insurance Company	
5¾% Subordinated Notes—Due 1979-82	50,000,000
Various Institutional Investors	
4¾% Promissory Notes—Due 1968-83	29,000,000
Miscellaneous	9,105,985
Total Debt at December 31, 1967	\$214,150,095
Current Portion of Debt	7,731,146
Long-Term Debt	\$206,418,949

SUMMARY OF DEBT MATURITIES							
	5½% Bank Loan Due 1970	5¾% Senior Notes Due 1978	3¾% Guaranteed Notes Due 1970	5¾% Subordinated Notes Due 1972	4¾% Promissory Notes Due 1983	Miscellaneous Debt Maturities to 1992	Total Annual Amount
1968	\$1,250,000		\$685,211	\$2,500,000	\$1,250,000	\$2,045,935	\$ 7,731,146
1969	1,250,000		685,211	2,500,000	1,250,000	456,650	6,141,861
1970	3,000,000		688,688	2,500,000	1,250,000	366,000	7,804,688
1971		\$12,000,000		2,500,000	1,250,000	366,000	16,116,000
1972		12,000,000		2,485,000	1,250,000	366,000	16,101,000
1973		12,000,000			1,250,000	366,000	13,616,000
1974		12,000,000			1,250,000	366,000	13,616,000
1975		12,000,000			1,250,000	366,000	13,616,000
1976		12,000,000			1,250,000	276,000	13,526,000
1977		12,000,000			1,250,000	276,000	13,526,000
1978		22,000,000			1,250,000	276,000	23,526,000

5¾ % Subordinated Notes Due 1982 are payable in years 1979-1982



ETC 16999

Highlights of Ethyl's 1967 operations in its varied fields of business are outlined on this and the following pages. For convenience, these operations reviews are grouped according to our major product lines, with the activities of each division or subsidiary reported under its corresponding product line. This, it is hoped, will give our shareholders a clear and concise picture.

PETROLEUM CHEMICALS

Petroleum Chemicals Division The Petroleum Chemicals Division, with responsibility for the sale of all Ethyl petroleum additives in the United States, achieved another excellent year in 1967. Increased gasoline consumption, together with a slightly higher demand for premium gasoline, contributed to its results. Also responsible for the Division's good performance was the wide range of antiknocks which Ethyl makes available to the oil industry to produce the most efficient gasoline for the motoring public.

A key factor in the Division's sales effort is its unequalled program of services to refiners. To heighten their usefulness, the Division realigned some of these service functions during 1967.

To assist refiners in their gasoline blending operations, the Division in recent years has devoted much attention to automatic systems for monitoring and controlling the octane quality of gasoline as it is produced. Recent developments in this area are the "Ethyl" Octane Analyzer and, more recently, portable Octane Analyzer units, which have been made available to the oil industry. Further automation of gasoline analysis and control is now offered in the form of a new computer-operated system, which offers refiners substantial cost savings in their operations.

Sales of other special-purpose additives continued to increase in 1967. Among them, "Ethyl" Multi-Purpose Additive for diesel fuel found greater acceptance as the need for improved operating efficiency became evident. "Ethyl" CI-2, a combustion improver for distillate fuels, has been accepted by the gas turbine manufacturers as a means of controlling exhaust smoke, and it is being used in many gas turbine electric power stations. In addition, an increasing number of heavy oil-burning power plants are using CI-2 to increase efficiency, reduce the formation of corrosive sulfur compounds in stack gases, and to control "fireside" deposits.

A section of the synthetic primary alcohols plant at Houston, Tex.

Ethyl International Division The continued growth in the overseas gasoline market resulted in increased sales of antiknock compounds by the Ethyl International Division during 1967. At the same time, the Division strengthened its competitive position in its major marketing areas by completing an Ethyl manufacturing plant in Greece and by the formation of a jointly-owned company to manufacture antiknocks in Japan.

The new Greek plant of Ethyl Hellas Chemical Co. S.A. went on stream early in 1967, and began supplying antiknock compounds to refiners throughout Europe, the Middle East and Africa. While the plant experienced start-up problems in its first year, full operations are anticipated for 1968.

Ethyl S.A., our European-based marketing organization, established new sales records in antiknocks and other additives.

Higher sales were also achieved in the Far East, another major gasoline market. To serve that growing market, Ethyl in 1967 formed a jointly-owned Japanese company, Toyo Ethyl, to build and operate an antiknock plant in Japan. Plans are still being developed for commencement of the plant's construction.

Increased marketing efforts in Latin America resulted in an improved sales position on a broader product basis. An antiknock distribution terminal was completed at Talara, Peru in 1967, the seventh Ethyl terminal in Latin America and the Caribbean.

Ethyl of Canada The influx of tourists to Canada in 1967, to visit Expo 67, spurred the consumption of gasoline in that country, and was partly responsible for Ethyl of Canada's record sales of antiknock compounds in the Dominion. The Canadian subsidiary also maintained its position in other marketing areas.

Ethyl of Canada's manufacturing plant, located in Sarnia, Ontario,



Ethyl's new antiknock plant in Greece, which went on stream in 1967, serves refiners throughout Europe, the Middle East and Africa.

operated at a high level of capacity throughout the year. Facilities for the manufacture of chlorinated hydrocarbons were increased approximately 30% to accommodate growing demands.

As the largest supplier of antiknock compounds in Canada, Ethyl of Canada provides a full program of technical and marketing services to Canadian refiners. Extending that program, Ethyl technical representatives cooperated with a refiner to install Canada's first "Ethyl" Octane Analyzer for monitoring the octane number of gasoline production, thus helping to control refining costs.

INDUSTRIAL CHEMICALS

Sales of the Industrial Chemicals Division reached a new high in 1967, but were adversely affected by conditions in the chemical industry. Overcapacity, increased competition, and a disappointing growth in demand contributed to lower selling prices and reduced profit margins in most lines, although some firming of prices was evident in the second half of the year. On the other hand, certain products continued to enjoy a good rate of growth.

One of the Division's principal products is vinyl chloride monomer, the chemical intermediate for polyvinyl chloride plastics. Because of a virtual lack of growth in PVC consumption in 1967, sales of vinyl chloride monomer were disappointing, with the addition of new industry capacity compounding the problem. A more normal growth is anticipated for 1968.

Chlorinated solvents, which are used in metal degreasing and dry cleaning, are another major product area of the Division. A highly efficient plant for the production of tri- and perchlorethylene was completed at Baton Rouge in 1967. Added to Ethyl's 1,1,1-trichloroethane plant, the new facility gives the company full productive capacity for all three solvents, which it has marketed since 1964. Continued market growth is expected in 1968.

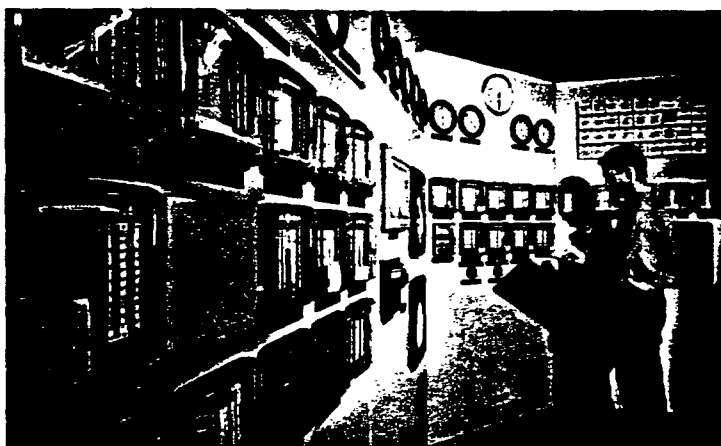
Aluminum alkyl compounds, which are widely used as catalysts for plastics and synthetic rubber, constitute another important area of the Division. Sales of these compounds continued to increase in 1967, although the lengthy strike in the rubber industry curtailed demand for them to some extent. Currently, Ethyl is planning additional aluminum alkyls facilities at its plant in Houston, which will double the company's merchant capacity for these compounds.

Sales increases were also achieved in ortho-alkylated chemicals, which are finding growing uses as antioxidants and chemical intermediates. Market development is also proceeding on orthoalkylated anilines for use as intermediates in agricultural chemicals and dyes.

Improved operations were obtained in the company's synthetic primary alcohols plant at Houston. Besides its basic production of alcohols for use in biodegradable detergents, the plant also produces other synthetic alcohols and olefins, which are used for plasticizers and surfactants. A growing market development effort is planned for 1968 on these co-products.

Abroad, sales of Ethyl's industrial chemicals are handled by Ethyl of Canada and the International Division. The Canadian company is the

*The control room of the
oxychlorination plant at
Baton Rouge.*



Dominion's leading producer of detergents and antioxidants for petroleum products and the sole Canadian manufacturer of aluminum alkyls. Ethyl S.A. has broadened its marketing efforts on industrial chemicals throughout Europe. And the new antiknock plant in Greece is also a new Ethyl source of vinyl chloride monomer in the eastern hemisphere.

PAPER

The highlight of the year was the merger of the Oxford Paper Company into Ethyl. With this addition, the Oxford Albemarle Paper Division now accounts for approximately one-third of Ethyl's sales and is an important factor in both the bleached and unbleached segments of the paper industry.

Oxford Paper Company In August, the market for bleached papers softened materially, with resulting price weakness in certain grades and lower shipments for Oxford in 1967 than in 1966. All manufacturers of printing papers felt the effects of the general slowdown in economic activity, and the operating rate of this segment of the paper industry declined from 96% in 1966 to 92% in 1967.

Sales by end use of Oxford products in 1967 were as follows:

	<i>Tons</i>	<i>% of Total</i>
Magazines and Periodicals	140,498	39.8
Book Publishing	76,874	21.8
Commercial Printing	66,259	18.8
Converting (Business Forms, Envelopes, Etc.)	68,966	19.6

While operations at Oxford's three mills were somewhat reduced during the year, improvements in efficiency were noted by year-end. Several products were improved, and one completely new high gloss printing grade, "Luxcote," was introduced.

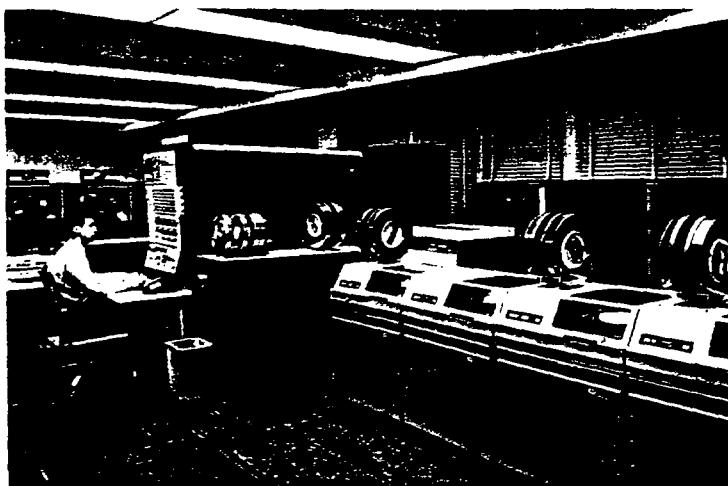
Many replacements and additions were introduced in process and machine areas at all three locations. The major addition was a new, highly efficient wood receiving and preparation facility at Rumford, Me., which permitted two older wood rooms to be shut down. A proposed new mill in the upper peninsula of Michigan continues under active investigation.

Albemarle Paper Company The year, 1967, was a most difficult one for Albemarle. Although production in the unbleached field was maintained at approximately 1966 levels, both sales and earnings were adversely affected by an intensely competitive price situation in kraft paper and linerboard, as a result of new industry capacity that came on stream in 1967.



This new extruder at the VisQueen plant in LaGrange, Ga., produces polyethylene films for building and agricultural uses.

Ethyl's EDP Center, established in Baton Rouge in 1967, ties in with terminal computers in other company locations, and provides a wealth of information for technical and management needs.



Capital work continued at a normal pace, major installations being a new tree length handling and processing system and a new automatic roll handling system, both at Roanoke Rapids.

For the third consecutive year, the Albemarle Container Division substantially increased its output of corrugated containers at its Odenton, Md., and Richmond, Va., plants. New equipment was added to both plants during the year, and an expansion at Odenton was started late in the year. A corrugated container plant was put into operation at Lexington, N. C. in the first quarter, and in November, a major expansion was begun to house an 87" corrugator and additional box making equipment.

The demand for shipping sacks, static for several years, was down somewhat in 1967, affecting the Raymond Bag Division. The Division, however, continued to make progress in the market development of its patented "Multibag," a plastic-paper combination.

The Consumer Bag Division, manufacturers of grocery bags, achieved record sales and production in 1967. A plant addition to house additional bag-making and warehouse capacity, and to effect operating economies, was completed during the year.

Continuing a recent trend, the use of shopping bags as an advertising and promotion medium increased in 1967. Interstate Bag Company added new machines and rebuilt several existing units at its Walden, N.Y. plant to maintain its leadership in the field.

PLASTICS

Sales of the Plastics Division in 1967 increased approximately 10% over 1966, despite depressed market conditions and continued unfavorable prices. The Division maintained its marketing leadership in polyethylene films, and, in the polyvinyl chloride area, made progress in its market development efforts on resins and compounds and on PVC bottles, film and pipe.

Polyethylene film sales were maintained at essentially their 1966 level.

in the face of an over-all industry decline in sales. Prices remained under pressure during most of the year. The VisQueen Division started up a large new production line at its LaGrange, Ga., plant for heavy-duty building and agricultural films.

An expansion of the PVC resins and compounds plant, which doubles the plant's rated capacity for resins, was completed early in 1967. Meanwhile, the Polymer Division substantially increased its sales of PVC resins and compounds over 1966, although in this plant start-up period it still had excess capacity.

Vypak Corporation, Ethyl's PVC bottle-producing subsidiary, made excellent progress in 1967, culminating with the opening of a new plant in Louisville, Ky., at year-end. The new plant will supply markets not feasible for the Vypak plant in Rockaway, N.J. More recently, Vypak completed the development of a clear, impact-resistant bottle for packaging foods and drugs, whose materials meet the requirements of the U.S. Food and Drug Administration. This new bottle opens up a vast new market for PVC containers.

Sales of polyvinyl chloride films for packaging red meat and produce, initiated a few years ago, continued to make progress in this new area of packaging.

The VisQueen Division reached the commercial stage on two new film products. One, PVC shrink film, is directed at the toy, novelty, and record packaging market; the other, a fiber reinforced, laminated polyethylene film, is used in the construction industry.

Sales of PVC pipe, which is used in potable water, irrigation, and sewage systems, were nearly double their previous year's rate in 1967. VisQueen's Bell-Ring PVC pipe continued to be well received in the water and irrigation fields, and the VisQueen Division is planning a new PVC pipe plant to meet the growing demand.

ALUMINUM

Our subsidiary, the William L. Bonnell Company, produces a wide variety of aluminum shapes, molding and trim, which are used primarily in residential and commercial construction.

Bonnell, acquired by Ethyl in April, 1966, had a good year in 1967, although its potential was affected by reduced housing starts in the first half of the year and by similar declines in apartment house construction. These conditions were brought on by the tight money market and high interest rates. On the other hand, Bonnell benefited to some extent by increased remodeling and repair work in the construction trades.

Continuing the expansion and modernization program begun in 1966, the company last year installed a new 50 million pounds-a-year casting unit at its Newnan, Ga., plant. The new unit increases Bonnell's casting capacity by approximately 30%, and will help to make it self-sufficient for nearly all of its billet requirements. Additions and improvements in the anodizing areas of the plant will also increase their capacities by 30% and 65%, and improve efficiency.

Most recently, Bonnell announced plans to build a new aluminum extrusion plant, its second, near Carthage, Tenn. The \$4 million plant is scheduled for completion in 1969.

RESEARCH

Ethyl's Research and Development department engaged in a wide range of research in 1967 to support the Company's present and future business. Expenditures for research and development and technical support of sales and manufacturing were about 4% of annual sales.

Ethyl continued broad research on gasoline engine induction systems and other engine and exhaust system modifications for reducing emissions in automobile exhaust. Major emphasis has been placed on the development of experimental devices to remove particulate matter (including lead) from exhaust gases. In addition, work continued on methods of improving the mixing of fuel and air in the carburetor and intake manifolds to reduce emissions of unburned products from the engine cylinders. The improved mixtures permit operation of the engine at leaner air-fuel ratios.

We began the study of means to conserve the heat in the exhaust of these leaner engines to bring about further reduction in the exhaust manifold of the hydrocarbons leaving the cylinders. Considerable success was achieved in this direction, and the results were discussed with automotive companies here and abroad. This work is regarded as a major contribution to the reduction of exhaust emissions from automobiles. Ethyl also has extensive programs studying other factors that affect emissions.

Chemical research in 1967 included work on aluminum and other light metal technology and fabrication. Also, substantial work was done on the synthesis of edible fats. Significant progress was made on soap and detergent intermediates. In this connection, many of our commercial alcohols are finding new uses.

Ethyl's chemical research laboratories in 1967 carried out research for the Department of Defense, and the R & D department continued to supply chemicals for rocket and other special fuels. Ethyl also conducted research projects for the U.S. Public Health Service.

In the Oxford Paper Company, the research effort was directed to four main areas: basic problems in the pulp, paper and coated paper fields; applied and process engineering assistance to the three Oxford mills; research and development assistance to the Coated Specialties department; and overseas licensing and patent sales.

Albemarle's research program continued to emphasize product and process developments. Research on unique mechanisms to separate fiber from wood has been particularly encouraging, and more complete forest utilization and new fiber source studies exhibit increasing potential. The use of computer process control systems was extended to a second paper machine; this has resulted in substantial improvement in quality and uniformity of products. Product developments include new linerboard specialties and new corrugated container designs extending the use of corrugated board.

During 1967, Ethyl received over 80 U.S. patents and 150 foreign ones. Ethyl now holds about 1,100 unexpired U.S. patents, and maintains about 850 foreign patents.

*Newly extruded
aluminum
comes off on
the production line
at the Bonanza
plant
Newnan,*



extruded
num as it
off one of
tion lines
Bonnell
plant in
nan, Ga.

ETC 17008

Consolidated Balance Sheets

ASSETS

	December 31	1967	1966
Current assets:			
Cash		\$ 17,856,996	\$ 14,195,206
Short-term securities (approximates market)		22,848,855	24,494,229
Accounts receivable		64,994,163	65,920,257
Inventories		73,376,479	70,259,675
Prepaid expenses		2,081,295	1,863,107
Total current assets		181,157,788	165,732,474
Property, plant and equipment		480,497,643	457,783,163
Less. Accumulated depreciation and depletion		179,152,811	151,710,302
Net property, plant and equipment		301,344,832	306,072,861
Investment in 50%-owned company		5,071,505	5,831,460
Deferred charges and other assets		16,849,490	17,578,392
Patents, contracts and other intangibles		8,311,003	9,672,927
		<u>\$512,734,618</u>	<u>\$504,888,114</u>
The accompanying notes are an integral part of these statements.			

LIABILITIES

	<i>December 31</i>	1967	1966
Current liabilities:			
Accounts payable and accrued expenses		\$ 34,423,650	\$ 36,828,607
Dividends payable		2,818,084	2,247,914
Notes payable		3,000,000	2,250,000
Long-term debt, current portion		7,731,146	5,862,646
United States and foreign income taxes		<u>3,427,732</u>	<u>11,299,069</u>
Total current liabilities		51,400,612	58,488,236
Long-term debt		206,418,949	219,464,000
Estimated income taxes payable in future years		19,957,163	19,652,803
Provision for employee benefits		5,729,588	6,246,190
Minority interest in consolidated subsidiary		280,000	350,000

SHAREHOLDERS' EQUITY

Capital stock:			
Cumulative First Preferred Stock, par \$100 per share			
Series A		3,578,200	3,691,200
Series B		8,000,000	10,000,000
Cumulative Second Preferred Stock \$2.40 Convertible			
Series A, par \$10 per share (aggregate liquidation price, \$80,861,340)		19,252,700	16,034,030
Common, par \$1 per share		9,928,300	9,538,655
Capital surplus		44,639,421	36,651,132
Retained earnings		143,991,030	124,838,438
		229,389,651	200,753,455
Less. Treasury stock at cost		441,345	66,570
Total shareholders' equity		228,948,306	200,686,885
		<u>\$512,734,618</u>	<u>\$504,888,114</u>

The accompanying notes are an integral part of these statements.

Consolidated Statements of Income and Surplus

STATEMENTS OF INCOME AND RETAINED EARNINGS		December 31 1967	1966
Income:			
Net sales		\$468,937,810	\$465,823,480
Miscellaneous income, net		4,965,815	3,044,915
		<u>473,903,625</u>	<u>468,868,395</u>
Costs and expenses:			
Cost of goods sold		348,392,738	337,385,715
Selling and general expenses		61,445,084	56,179,702
Interest and financing costs, long-term debt		13,098,966	13,388,333
United States and foreign income taxes		21,305,000	24,609,000
		<u>444,241,788</u>	<u>431,562,750</u>
Net income		29,661,837	37,305,645
Retained earnings at beginning of year		124,838,438	95,813,584
		<u>154,500,275</u>	<u>133,119,229</u>
Deduct. Cash dividends:			
6% First Preferred stock, \$6.00 per share		214,953	224,386
5% First Preferred stock, \$5.00 per share in 1967 and \$3.61 per share in 1966		445,500	361,110
\$2.40 Second Preferred stock, \$1.17 per share		2,245,293	—
Common stock, per share, \$.60 in 1967 and \$.58 in 1966		5,866,611	5,476,933
Oxford Paper Company, prior to merger		1,736,888	2,218,362
		<u>10,509,245</u>	<u>8,280,791</u>
Retained earnings at end of year		<u>\$143,991,030</u>	<u>\$124,838,438</u>
Earnings per share of common stock		<u>\$2.51</u>	<u>\$3.40</u>
Pro forma earnings per share of common stock, assuming conversion of preferred stock and exercise of stock options and warrants. (If the preferred stock were converted, the dividend would become \$.78 a share, at the present common dividend rate, as against the present \$2.40 preferred dividend)		<u>\$2.30</u>	<u>\$2.89</u>
STATEMENTS OF CAPITAL SURPLUS			
Balance at beginning of year		\$ 36,651,132	\$ 35,544,482
Excess of cash received over par value of 151,200 and 12,000 shares of Common Stock issued upon exercise of warrants		541,800	43,000
Excess of cash received over par value of shares of stock issued under stock option plans:			
238,325 and 39,275 shares of Common Stock		2,303,066	349,581
11,069 shares of \$2.40 Second Preferred Stock		237,835	—
3,748 and 43,065 shares of Oxford Paper Company common stock		24,200	200,405
Excess of face amount of Oxford Paper Company debentures over par value of 630,967 and 56,158 shares of common stock issued in exchange therefor, less related costs		5,666,913	514,788
Excess of par value over cost (cost over par value) of 1,130 shares and 1,124 shares of 6% First Preferred Stock cancelled		992	(1,124)
Excess of par value of 93 shares of \$2.40 Second Preferred Stock over 120 shares of Common Stock issued upon conversion, less cost of fractional shares of Common Stock purchased		775	—
Expenses incurred in connection with the merger of Oxford Paper Company into Ethyl Corporation		(584,421)	—
Excess of cost over par value of 13,119 shares of Oxford Paper Company Stock held in that company's treasury and retired in connection with the merger		(202,871)	—
Balance at end of year		<u>\$ 44,639,421</u>	<u>\$ 36,651,132</u>
The accompanying notes are an integral part of these statements.			

Notes to Financial Statements

1. CONSOLIDATION PRINCIPLES: The accompanying financial statements include the accounts and operations of all wholly-owned subsidiaries. Vypak Corporation, a 50%-owned affiliate in 1966, became wholly-owned in January, 1967 and, accordingly, its accounts and operations are included only for 1967.

In August, 1967, Oxford Paper Company was merged into Ethyl Corporation and 1,914,201 shares of the Corporation's \$2.40 Second Preferred Stock were exchanged for all the 3,828,402 shares of common stock of Oxford Paper Company then outstanding. For accounting purposes, this exchange was treated as a "pooling of interests" and, accordingly, the accompanying financial statements include the accounts and operations of Oxford for 1967 and 1966. Retained earnings and capital surplus at January 1, 1966 have been adjusted to include Oxford Paper Company retained earnings of \$33,416,835 and other capital of \$10,469,954 as of that date.

2. INVENTORIES: Inventories include:

	1967	1966
Finished goods . . .	\$29,085,537	\$20,800,339
Raw materials and work in process . .	29,966,720	26,161,483
Stores, supplies, etc.	14,324,222	12,297,853
	<u>\$73,376,479</u>	<u>\$59,259,675</u>

Inventories are stated at the lower of cost or market with cost being determined on the last-in, first-out basis with respect to approximately \$36,914,000 at December 31, 1967 and \$26,908,000 at December 31, 1966, and generally on either an average cost or first-in, first-out basis with respect to the balance.

3. PROPERTY, PLANT AND EQUIPMENT: Property, plant and equipment is stated substantially at cost, as follows:

	1967	1966
Land	\$ 17,663,996	\$ 17,559,316
Timberlands and standing timber	24,329,635	23,364,192
Buildings	72,873,865	67,579,962
Machinery and equipment . .	365,630,147	349,279,693
	<u>\$480,497,643</u>	<u>\$457,783,163</u>

4. INVESTMENT IN 50%-OWNED COMPANY: This investment is stated at cost and represents the Corporation's investment in Ethyl-Dow Chemical Company, a 50%-owned company. The Corporation's investment exceeded its equity in the net assets of this company at December 31, 1967 by approximately \$3,323,000, representing the excess of investment over equity in net assets of Ethyl-Dow at date of acquisition (November 30, 1962), less undistributed earnings of \$129,000 since that date. Dividends received from Ethyl-Dow were \$1,450,000 in 1967 and \$1,825,000 in 1966. Such amounts were not significantly different from the Corporation's equity in Ethyl-Dow earnings.

5. DEFERRED CHARGES AND OTHER ASSETS: Deferred charges at December 31, 1967 consisted principally of unamortized discount on long-term debt and other deferred financing expenses.

The Province of New Brunswick has expropriated certain timberlands held by a subsidiary. The Corporation expects that negotiations regarding compensation, which are still in progress, will result in recovery substantially greater than the amount at which the receivable is stated in the subsidiary's accounts.

6. PATENTS, CONTRACTS AND OTHER INTANGIBLES: Patents and contracts with an unamortized cost basis of \$2,148,818 at December 31, 1967 are being amortized over their respective lives; other intangibles are stated at cost.

7. LONG-TERM DEBT: Reference is made to "Long-Term Debt" on page 9 of this report for information concerning the Corporation's borrowings.

8. CAPITAL STOCK: As of December 31, 1967, there were 25,000,000 shares of Common Stock authorized, of which 9,928,300 shares were issued.

As of December 31, 1967, there were 1,000,000 shares of First Preferred Stock authorized, of which 35,782 shares of 6% Series A and 80,000 shares of 5% Series B were issued. The 6% Series A stock is callable at \$101 and is entitled to annual sinking fund contributions of approximately \$114,000; the 5% Series B stock is entitled to annual sinking fund contributions of \$2,000,000.

As of December 31, 1967, there were 10,000,000 shares of Second Preferred Stock authorized, of which 1,925,270 shares of \$2.40 Convertible

Series A were issued. Each share of Series A is convertible into 1.3 shares of Common Stock.

The voluntary or involuntary liquidation value of the Second Preferred Stock is the greater of (1) \$42 per share, or (2) an amount equivalent to the book value of that number of shares of Common Stock into which such Preferred Stock is convertible (a minimum aggregate excess of liquidation price over par value of approximately \$61,600,000 as of December 31, 1967). These shares are callable after August 1, 1972, at \$75 per share, plus accrued dividends.

Treasury stock at December 31, 1967 included 668 shares of First Preferred Stock Series A, 3,600 shares of First Preferred Stock Series B, 93 shares of Second Preferred Stock and 507 shares of Common Stock. In addition, on February 2, 1968, the Corporation purchased 91,000 shares of Second Preferred Stock at the closing market price on that date.

9. WARRANTS: At December 31, 1967, there were outstanding warrants exercisable on or before November 1, 1982, which entitle the holders thereof to purchase 45,600 shares of unissued Common Stock at \$4.58 per share. During 1967, warrants for 151,200 shares were exercised.

10. STOCK OPTION PLANS: Under the Corporation's restricted stock option plan, 900,000 shares of unissued Common Stock were reserved for issuance to officers and other key employees. At December 31, 1966, there were outstanding options to purchase 497,900 shares at prices ranging from \$9.42 to \$24.00. During 1967, an option to purchase 29,500 shares at \$33.12 per share was granted, options for 238,325 shares were exercised, and options for 3,120 shares were cancelled, leaving outstanding at December 31, 1967 options covering 285,955 shares at prices ranging from \$9.42 to \$33.12, (of which options for 82,605 shares were exercisable at that date). There were 164,437 shares available for grant under the plan at the end of the year.

Under stock option plans for officers, key employees and eligible salaried employees of Oxford Paper Company, there were outstanding at December 31, 1966, options to purchase 121,211 shares of Oxford common stock at prices ranging from \$9.87 to \$20.62. During the seven months ended July 31, 1967, options to purchase 9,600 shares at prices ranging from \$18.75 to \$29.87 were granted, options for 3,748 shares were exercised, and options for 1,883 shares were cancelled, leaving outstanding at July 31, 1967, options cov-

ering 125,180 shares at prices ranging from \$9.87 to \$29.87. In connection with the merger, the Corporation assumed Oxford Paper Company's obligations with respect to the outstanding options and reserved 62,590 shares of \$2.40 Second Preferred Stock for issuance at prices ranging from \$19.74 to \$59.75. During the five months ended December 31, 1967, options for 11,069 shares were exercised and options for 393 shares were cancelled, leaving outstanding at December 31, 1967, options covering 51,128 shares (of which options for 12,664 shares were exercisable at that date). No further shares are available for grant under these plans.

11. RETAINED EARNINGS RESTRICTION: The Corporation's articles of incorporation and note agreements contain restrictions, among others, against the payment of cash dividends. At December 31, 1967, \$33,140,000 of retained earnings is free of such restriction under the agreement presently most restrictive.

12. DEPRECIATION, DEPLETION AND AMORTIZATION: Depreciation and depletion charged to income amounted to \$28,606,655 and \$26,161,184 in 1967 and 1966, respectively. Amortization of intangibles and of deferred discount and financing expenses charged to income amounted to \$2,142,591 and \$2,249,735 in the respective years.

13. RETIREMENT INCOME PLANS: The Corporation and its subsidiaries have a number of retirement income plans covering substantially all of their employees, including certain employees in foreign countries. The total pension expense for the year was approximately \$7,100,000, which includes amortization of prior service costs generally over periods ranging up to 40 years. The policy of the Corporation and its subsidiaries is to fund pension costs accrued. Under one of the plans, the actuarially computed value of vested benefits as of December 31, 1967 exceeded the total of the pension fund by \$9,250,000.

14. INVESTMENT CREDIT: The Corporation's provision for United States and foreign income taxes was reduced (and net income increased) by investment credits of \$1,636,000 and \$3,768,000 in 1967 and 1966, respectively.

15. RECLASSIFICATION: For purposes of comparison, freight and related shipping expenses previously included in cost of goods sold have been reclassified as a reduction of net sales to conform to the treatment accorded such costs by the Corporation in 1967.

**TO THE BOARD OF DIRECTORS AND SHAREHOLDERS
OF ETHYL CORPORATION:**

We have examined the consolidated balance sheet of ETHYL CORPORATION and SUBSIDIARIES as of December 31, 1967, and the related statements of income and retained earnings and of capital surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the Corporation's consolidated financial statements for the year ended December 31, 1966.

In our opinion, the aforementioned statements present fairly the consolidated financial position of Ethyl Corporation and Subsidiaries at December 31, 1967 and 1966, and the results of their operations for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Lybrand Ross Bros. Montgomery

LYBRAND, ROSS BROS. & MONTGOMERY

New York, February 22, 1968.

Three-Year Summary

	Years Ended December 31		
	1967 ⁽¹⁾	1966	1965
SALES AND INCOME			
Net Sales ⁽²⁾	\$468,937,810	\$465,823,480	\$375,837,477
Income before non-cash items and income taxes	81,716,083	90,325,564	72,860,212
Depreciation, depletion and amortization	30,749,246	28,410,919	25,233,463
Income taxes, including deferred	21,305,000	24,609,000	19,638,000
Net income	29,661,837	37,305,645	27,988,749
Cash flow	62,875,858	68,106,874	55,918,345
FINANCIAL CONDITION			
Working Capital	129,757,176	107,244,238	92,840,348
Ratio of current assets to current liabilities	\$3.52 to \$1.00	\$2.83 to \$1.00	\$3.07 to \$1.00
Property, plant and equipment (Net)	301,344,832	306,072,861	280,112,427
Expenditures for property, plant and equipment	26,943,000	59,116,493	57,653,546
Long-term debt	206,418,949	219,464,000	223,639,131
COMMON STOCK			
Number of shares outstanding	9,927,793	9,538,655	9,487,380
Net income per share ⁽³⁾	\$ 2.51	\$ 3.40	\$ 2.56
Pro forma net income per share assuming conversion of the \$2.40 Convertible Series A Preferred Stock and exercise of warrants and stock options. (If the preferred stock were converted, the dividend would become \$.78 a share, at the present common dividend rate, as against the present \$2.40 preferred dividend).	\$ 2.30	\$ 2.89	\$ 2.26
Income taxes per share	\$ 2.19	\$ 2.58	\$ 2.15
Book value per share ⁽³⁾	\$20.00	\$17.93	\$14.85

⁽¹⁾ Includes Oxford operations for entire year. All prior years ended December 31 have been restated to include Oxford operations.

⁽²⁾ Includes 4 months of combined Albemarle paper and Ethyl chemical operations. All prior years ended March 31 represent Albemarle paper operations only.

⁽³⁾ Net sales are stated after deducting freight cost.

ETHYL CORPORATION AND SUBSIDIARIES

Years Ended
March 31

	1964	1963	1963 ⁽²⁾	1962	1961	1960	1959
177	\$335,663,260	\$292,878,235	\$ 94,293,820	\$ 44,284,254	\$ 46,117,036	\$ 40,758,994	\$ 32,982,454
212	62,711,854	52,107,959	15,391,623	5,776,220	7,252,998	6,138,973	6,007,198
163	22,160,614	19,886,083	6,555,892	2,294,903	2,077,980	2,041,843	1,607,425
100	19,492,000	15,795,100	4,455,000	1,719,051	2,740,399	1,958,081	2,266,473
149	21,059,240	16,426,774	4,380,731	1,762,266	2,434,619	2,139,049	2,133,300
145	46,172,275	39,051,615	12,117,007	4,211,875	4,680,496	4,344,420	3,785,924
48	103,193,741	86,267,324	63,000,811	10,313,111	8,586,720	7,950,568	9,143,917
00	\$3.19 to \$1.00	\$3.43 to \$1.00	\$2.75 to \$1.00	\$3.29 to \$1.00	\$2.73 to \$1.00	\$3.22 to \$1.00	\$3.91 to \$1.00
27	240,216,457	227,583,134	150,959,130	29,221,972	28,336,492	27,742,696	24,512,702
46	35,876,018	33,370,393	4,838,805	4,820,189	2,644,359	5,291,737	6,099,122
31	225,992,032	226,427,243	196,375,319	15,522,300	13,092,000	13,178,500	13,793,100
30	8,438,658	2,375,807	1,187,362	1,029,674	976,956	971,803	760,992
56	\$ 2.20	\$ 1.65	\$.63	\$.24	\$.35	\$.31	\$.32
16	\$ 1.78	\$ 1.27	—	—	—	—	—
15	\$ 2.61	\$ 2.22	\$.69	\$.28	\$.45	\$.32	\$.39
35	\$13.40	\$12.45	\$5.31	\$3.35	\$3.19	\$2.92	\$2.71

⁽¹⁾ Based on the average number of shares outstanding in each year, adjusted for stock splits and stock dividends. Years ended December 31 1963-1967 include a pro forma provision for dividends on 1,914,201 shares of the cumulative Second Preferred Stock, \$2.40 Convertible Series A issued in the merger.

⁽²⁾ Adjusted for stock splits and stock dividends.

DIRECTORS	OFFICERS AND STAFF	DIVISIONS	
FLOYD D. GOTTWALD* <i>Chairman</i> FLOYD D. GOTTWALD, JR.* <i>Vice Chairman</i> LAWRENCE E. BLANCHARD, JR.* <i>President</i> WILLIAM H. CHISHOLM* JOSEPH A. COSTELLO <i>Retired Vice President Ethyl Corporation</i> S. DOUGLAS FLEET <i>Retired Vice President Ethyl Corporation</i> BRUCE C. GOTTWALD* GEORGE F. KIRBY* JOSEPH M. LOWRY ROBERT T. MARSH, JR. <i>Retired Chairman of the Board First & Merchants National Bank Richmond, Va.</i> ANDREW M. MCBURNEY THOMAS W. MCKNEW <i>Advisory Chairman of the Board National Geographic Society</i> MALCOLM P. MURDOCK LEWIS F. POWELL, JR. <i>Partner Huntton, Williams, Ggs., Powell & Gieson Richmond, Va.</i> W. THOMAS RICE <i>President Seaboard Coast Line Railroad Co. Richmond, Va.</i> E. CLAIBORNE ROBINS <i>President A. H. Robbins Company Richmond, Va.</i> SIDNEY BUFORD SCOTT <i>Partner Scott & Stringfellow Richmond, Va.</i> ERWIN H. WILL <i>Chairman of the Board Virginia Electric & Power Co. Richmond, Va.</i>	FLOYD D. GOTTWALD <i>Chairman of the Board</i> FLOYD D. GOTTWALD, JR. <i>Vice Chairman of the Board</i> GEORGE F. KIRBY <i>President</i> LAWRENCE E. BLANCHARD, JR. <i>Executive Vice President</i> BRUCE C. GOTTWALD <i>Executive Vice President & Secretary</i> WILLIAM H. CHISHOLM <i>Executive Vice President</i> JOSEPH M. LOWRY <i>Senior Vice President</i> MALCOLM P. MURDOCK <i>Senior Vice President</i> JAMES M. GILL <i>Vice President Chemicals Group</i> WALLACE F. ARMSTRONG <i>Vice President Manufacturing</i> ROBERT HERZOG <i>Vice President Planning</i> LEONARD L. HUXTABLE <i>Vice President Public Relations & Advertising</i> THOMAS M. SMYLLIE <i>Vice President</i> KENNETH SWARTWOOD <i>Vice President Research & Development</i> FRANK J. MCNALLY <i>Treasurer</i> JAMES H. KIRBY <i>Controller</i> FREDERICK P. WARNE <i>General Counsel</i> CHARLES E. COLVIN <i>Director of Purchasing & Traffic</i> JAMES B. LONERGAN <i>Director of Advertising & Sales Promotion</i> G. SAMUEL ROBERTS <i>Chief Engineer</i> STEPHEN B. RÖDI <i>Director of Employee Relations</i> CHARLES H. ZEANAH <i>Director of Public Relations</i>	Oxford Albemarle Paper Division FLOYD D. GOTTWALD, JR. <i>Chairman</i> WILLIAM H. CHISHOLM <i>President</i> Oxford Paper Company ANDREW M. MCBURNEY <i>Executive Vice President</i> GORHAM H. SCOTT <i>Senior Vice President</i> JOSEPH R. CARNEY <i>Senior Vice President</i> E. V. AHARA <i>Vice President</i> FRED R. BATES <i>Vice President—Sales</i> C. RICKERT LEWIS <i>Vice President National Accounts</i> LINTON E. SIMERL <i>Vice President Research & Development</i> B. FREDERICK AYER <i>Treasurer</i> WILLIAM T. WOOD <i>Controller</i> Albemarle Paper Company C. RAYMOND HAILEY <i>Executive Vice President</i> KIRKWOOD F. ADAMS <i>Executive Vice President Pulp & Paper Manufacturing</i> M. LEBBY BOINEST, JR. <i>Vice President</i> JOHN T. WALTON <i>Vice President</i> LAWRENCE K. NORTON <i>Vice President—Sales</i> KENNETH D. RUNNING <i>Vice President—Manufacturing</i> R. C. WILLIAMS <i>Vice President—Planning</i> HUGH H. BAIRD, JR. <i>Treasurer and Controller</i> W. DOUGLAS GOTTWALD <i>Secretary</i> ALBEMARLE CONTAINER DIVISION JOHN A. COMLY <i>President</i> CONSUMER BAG DIVISION R. W. HANNAH <i>President</i> INTERSTATE BAG COMPANY BRENTON S. HALSEY <i>President</i> RAYMOND BAG DIVISION DONALD R. RUSSELL <i>President</i> Petroleum Chemicals ROBERT A. DOUGLASS <i>Divisional Vice President & General Manager</i> JOHN F. KOEHNLE <i>General Sales Manager</i> R. J. OSTRANDER <i>Technical Director</i> Ethyl International ALBERT B. HORN, JR. <i>Divisional Vice President & General Manager</i> CHESTER D. CARTER <i>Divisional Vice President Business Development</i> JULIAN J. FREY <i>Assistant Vice President—Staff</i>	K. F. CAST <i>General Manager—Operations</i> H. ROBERT LINDH <i>Director of Finance</i> JOHN D. SAUNIER <i>Manager—Marketing</i> ETHYL S.A. WILLIAM J. RUSHER <i>Managing Director</i> ETHYL HELLAS CHEMICAL COMPANY S.A. WILLIAM J. RUSHER <i>Chairman</i> ELMO F. DIEDRICH <i>Managing Director</i> Ethyl Corporation of Canada Limited ALAN C. TULLY <i>President</i> KENNETH A. FREBERG <i>Vice President & General Manager</i> JAMES H. MAIN <i>Manager—Petroleum Additives Department</i> ROBERT H. SHANNON <i>Manager—Chemical Products Department</i> Industrial Chemicals MERLE L. GOULD <i>General Manager</i> STANLEY A. HARRIS <i>Sales Manager Chlorinated Solvents</i> HARRY KUHE <i>Sales Manager General Chemicals</i> Plastics CLARENCE M. NEHER <i>Divisional Vice President & General Manager</i> PAUL E. WEIMER <i>Manager of Operations</i> ISQUEEN DIVISION LLOYD B. ANDREW <i>General Manager</i> HARRY C. BYRNE, JR. <i>General Sales Manager</i> JACK C. WRIGHT <i>Operations Manager</i> ROLAND MCKENZIE <i>Assistant Operations Manager</i> POLYMER DIVISION HARRY M. ZIMMERMAN <i>General Manager</i> ARTHUR A. SMITH <i>General Sales Manager</i> LYPAK CORPORATION RICHARD F. SANDS <i>President</i> WILLIAM A. BOLTON <i>Vice President—Sales and Marketing</i> The William L. Bonnell Company, Inc. E. MALCOLM HARVEY <i>President & Treasurer</i> LLOYD L. REYNOLDS <i>Vice President & General Manager</i> WARREN H. BROCKWAY <i>Vice President & General Sales Manager</i> DONALD A. WAGNER <i>Vice President—Manufacturing</i> FRANK A. DANIELS, JR. <i>Controller</i>

*Member of the
Executive Committee

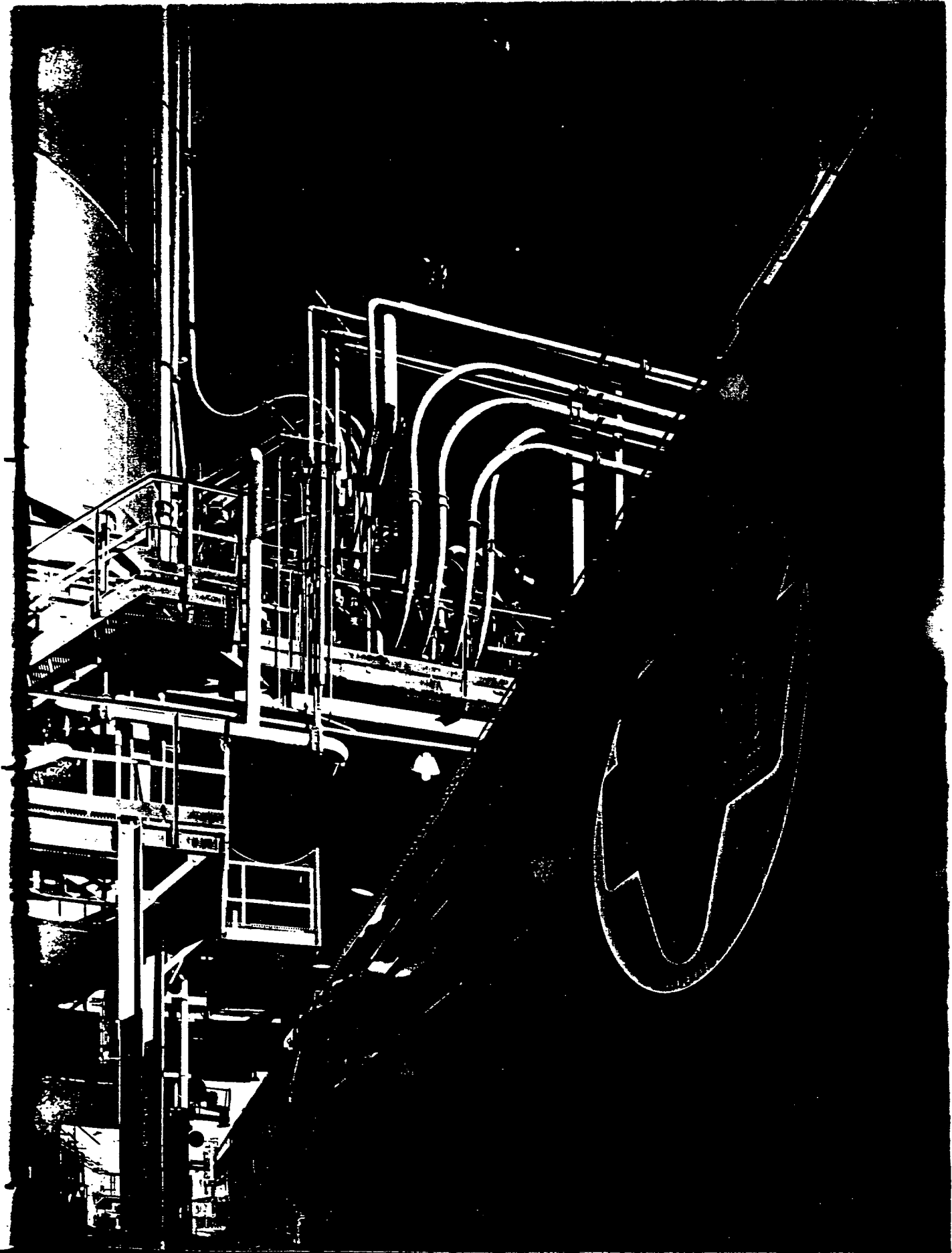
ms

es

s

'8

Ong, Inc.

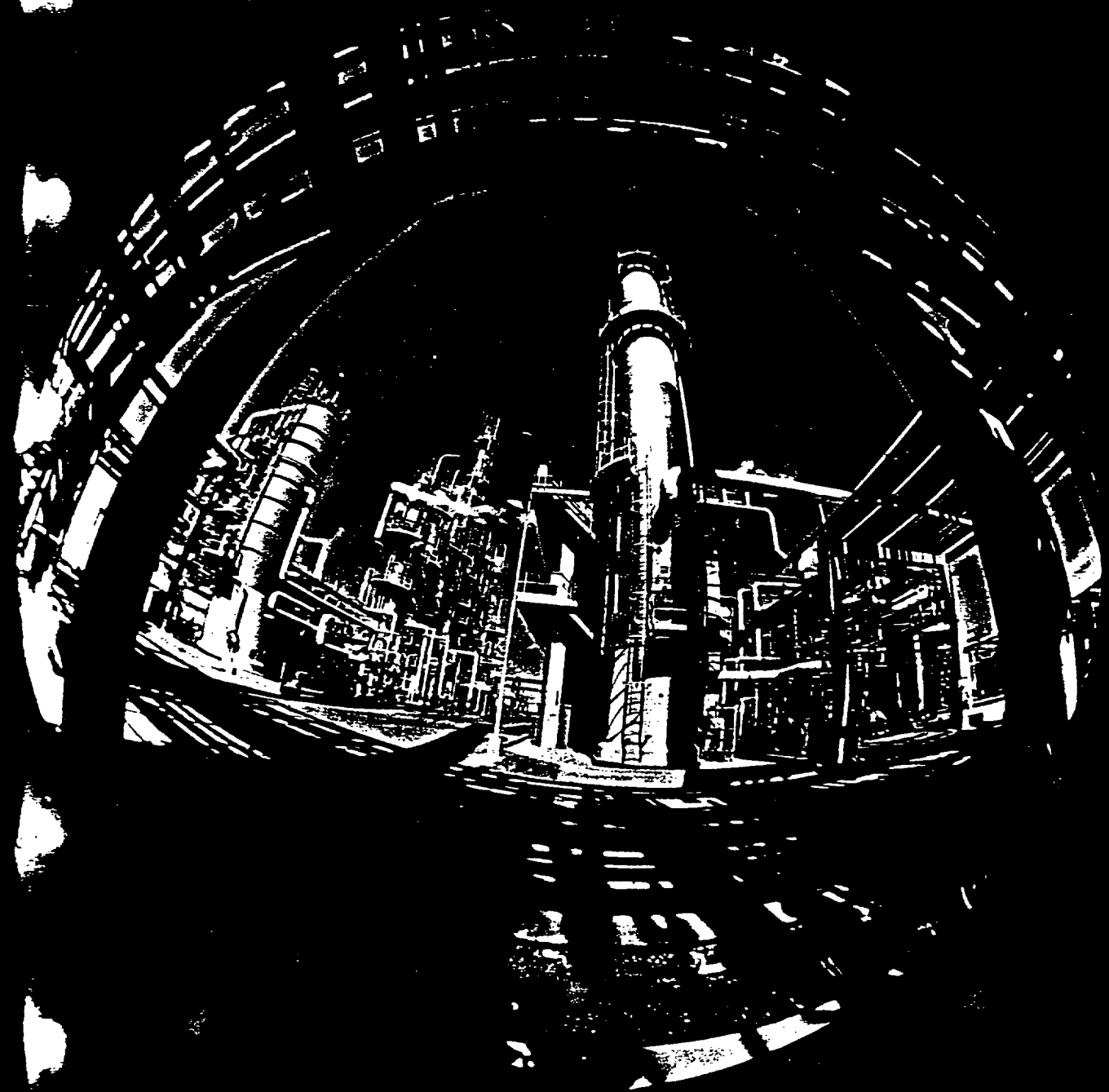


ETC 17018

PETROLEUM CHEMICALS	INDUSTRIAL CHEMICALS	PLASTICS PRODUCTS	PAPER PRODUCTS	ALUMINUM PRODUCTS
Gasoline antiknock compounds Gasoline ignition control compounds Antioxidants Gasoline detergent-deicer-corrosion inhibitors Diesel fuel detergent-dispersant-corrosion inhibitor Diesel fuel ignition improver Fuel oil combustion improver Lubricating oil additives Metal deactivator Oil soluble dyes	Synthetic primary alcohols Aluminum alkyl compounds Chlorinated solvents (perchlorethylene, trichlorethylene, 1,1,1-trichloroethane) Vinyl chloride Ethyl chloride Ethylene dichloride Methyl chloride Caustic soda Sodium Orthoalkylated chemicals Orthoalkylated antioxidants Hydropolymer oil Aluminum sulfate	Polyethylene packaging films Polyethylene building and agricultural films Reinforced polyethylene films Polyethylene tape Polyvinyl chloride packaging films Polyvinyl chloride shrink films "Flocor" waste treatment filter media Polyvinyl chloride resins Polyvinyl chloride compounds Polyvinyl chloride containers	Coated enamel papers for lithographing and letterpress—commercial, premium and luxury Book publishing papers for lithographing and letterpress—uncoated, film coated and coated Coated and uncoated web offset papers Coated rotogravure papers Coated magazine papers Cover papers Dull coated papers Coated one side label paper Envelope paper Bond for business forms Mimeo bond Duplicator bond Paper plate masters for duplicator machines, Encyclopedia paper Custom made specialty papers Kraft linerboard Kraft wrapping paper Colored kraft Bag and sack kraft Specialty kraft papers Blotting paper Gasket paper Filter papers Asphalt, wax, and resin treated papers Unbleached sulfate pulp Cast coated paper and board Multiwall shipping sacks Handle shopping bags Grocery bags Corrugated containers	Aluminum shapes windows and door-curtain walls, boat and trailers, and tub enclosures Aluminum building supply materials Aluminum product for the floor cover industry



apes for
doors.
boats
and
as
uilding
ials
roducts
covering



19th annual report
Ethyl Corporation 68

ETC 17020

Financial Highlights

	Years Ended December 31	1968	1967	Perce Incc
Net Sales		\$509,072,418	\$468,937,810	8.6%
Net Income		31,501,615	29,661,837	6.2%
Earnings per Share of Common Stock (2)		\$ 2.59	\$ 2.39	8.4%
Income Taxes (3)		29,592,000	21,971,000	34.7%
Cash Flow		65,026,730	62,875,858	3.4%
Cash Flow per Share of Common Stock (2)		\$ 6.35	\$ 6.16	3.1%
Cash Dividends		11,257,355	10,509,245	7.1%
Depreciation, Depletion & Amortization		31,075,917	30,749,246	1.1%
Capital Expenditures		64,158,000	26,943,000	138.1%
Total Assets		554,626,867	512,734,618	8.2%
Working Capital		176,302,349	129,757,176	35.9%
Equity per Share of Common Stock (4)		\$14.52	\$12.64	14.9%

(1) After providing in 1968 for the 10% Federal Income Tax Surcharge of approximately \$2,600,000. On a comparable tax basis for both years, the increase in 1968 income and earnings per share would have been 15.0% and 18.8%, respectively.

(2) Based on average number of shares outstanding, treating all warrants and stock options as residual securities. 1967 has been restated on this basis.

(3) 1967 has been restated to include state income taxes, to reflect the treatment accorded such expenses in 1968.

(4) Reflects a deduction for the liquidating value of the \$2.40 convertible Series A preferred stock and is based on the number of shares outstanding at December 31, treating warrants and stock options as residual securities. 1967 has been restated on this basis.



Ethyl Corporation Annual Report 1968

Percent Increase

8.6%
6.2% (1)
8.4% (1)
4.7% (1)
3.4%
3.1%
7.1%
1.1%
8.1%
8.2%
15.9%
4.9%

CONTENTS

- 2 Message to Shareholders
- 4 Financial Review
- 8 Operations Review
- 13 Products and Facilities
- 20 Financial Statements
- 23 Notes to Financial Statements
- 25 Auditors' Report
- 26 Ten-Year Summary
- 28 Officers and Directors

ANNUAL MEETING

The annual meeting of Ethyl Corporation shareholders will be held at the Company's executive offices in Richmond, Va. on Thursday, April 24, 1969.

STOCK TRANSFER AGENTS

First & Merchants National Bank,
Richmond, Va.

Chase Manhattan Bank N.A.,
New York, N.Y.

REGISTRARS OF STOCK

The Bank of Virginia,
Richmond, Va.

Morgan Guaranty Trust Co.,
New York, N.Y.

GENERAL COUNSEL

Hunton, Williams, Gay, Powell & Gibson,
Richmond, Va.

EXECUTIVE OFFICES

330 South Fourth Street,
Richmond, Va. 23219

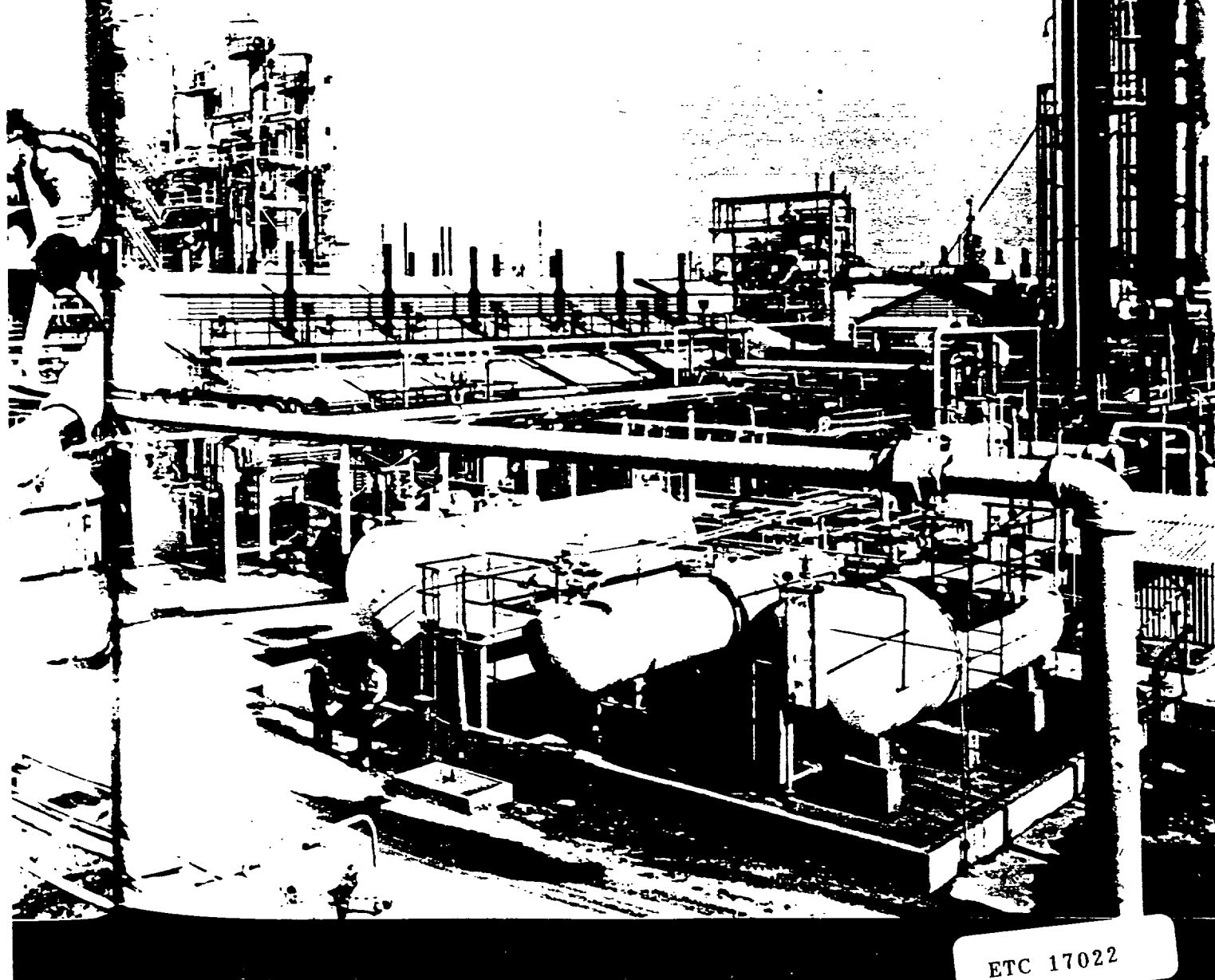
451 Florida Street,
Baton Rouge, La. 70801

100 Park Avenue,
New York, N.Y. 10017

Cover Photo: a section of the synthetic primary alcohols plant at Houston.

Photo Below: a panoramic view of the hydrocarbon area at the Baton Rouge plant.

1968.



ETC 17022



The executive committee of Ethyl Corporation at a recent meeting. They are (left to right) Lawrence E. Blanchard, Jr.; Bruce C. Gottwald; Floya D. Gottwald, Jr.; Floyd D. Gottwald, chairman; George F. Kirby, and William H. Chisholm.

Message to Shareholders

TO THE SHAREHOLDERS OF ETHYL CORPORATION:

The year 1968 was a good one for Ethyl, though it failed in some respects to meet our expectations. This was the first time our sales crossed the half billion dollar mark. Earnings increased to \$31.5 million, second only to the record year of 1966. The earnings were equal to \$2.59 a share on the common stock, after allowing for the exercise of all outstanding options and warrants, as compared with \$2.39 a share in 1967 on the same basis. The increase in net income is particularly notable, we believe, because it was achieved despite the 10% federal income tax surcharge, which amounted to \$2.6 million or 25 cents a share. Without the tax surcharge, our net income would have been 15% higher than in 1967.

The details of our operations for the year are set out in the sections that follow and we will not repeat them here, but we urge you to review these details.

It has been said of Ethyl that it is "changing . . . to serve a changing world." The year 1968 saw a continuation of those changes. You will see from a table in this report how our sales mix continues to change as we continue to diversify your company. That diversification was accelerated in 1968 with the acquisition of Imco Container Company for about \$26 million. As was pointed out in our last annual report,

we continue to believe in the excellent growth potential of plastics, and the acquisition of Imco significantly increases our participation in that area. Imco is one of the leading producers of polyethylene bottles and containers, and the acquisition opens up an important new market for Ethyl, enabling it to serve those packaging fields not accessible to our polyvinyl chloride plastic bottles.

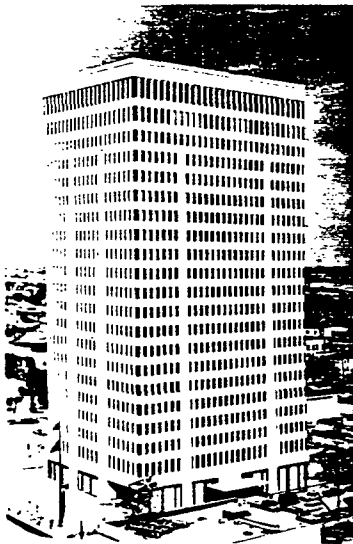
Another significant change in the year 1968 was the sale by your company of Albemarle Paper Company and two other subsidiaries in our kraft paper division for approximately \$56 million in cash. The sale was decided upon in the light of the changing directions of Ethyl's business and the opportunity to use capital in other areas.

Capital expenditures for the year, including the Imco acquisition, amounted to about \$64 million, bringing the total expenditures for the last six years to more than \$275 million, and your company expects to continue a high level of capital investment in 1969. We would like to emphasize that it takes some time for the full potential of such a program to be realized. Some of the newer operating units have only begun to make a contribution to the progress of your company, and we believe they should make an increasing contribution in future years.

As you will see from our financial statements, your company ended the year in an excellent cash position, even after the significant capital programs of the past several years, and we believe the company should be able to take advantage of the opportunities that exist for future diversification.

We continued to follow closely developments related to automotive air pollution, and also carried forward our extensive research program in the field. A new automotive exhaust emissions laboratory was put into operation in our Detroit center during the year, and it will greatly facilitate our research effort. Steady and significant progress, in our opinion, is being made toward controlling and reducing the automobile's role in air pollution.

While the sections that follow detail some of the accomplishments of the past year, they cannot portray the personal contributions of our 13,500 employees. We have a strong and capable organization. As one example, Ethyl puts great stress on the more than 800 employees engaged in its broad research and development programs. Through the efforts of such groups, we are confident that Ethyl will continue "changing . . . to serve a changing world" in the years to come. We look forward to the years ahead with much confidence and optimism.



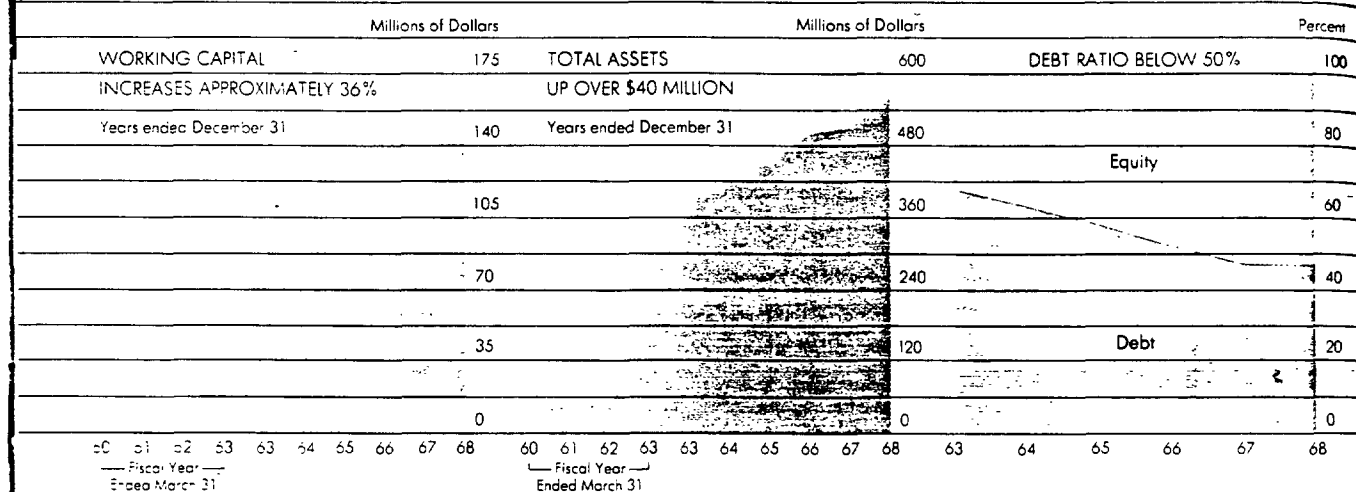
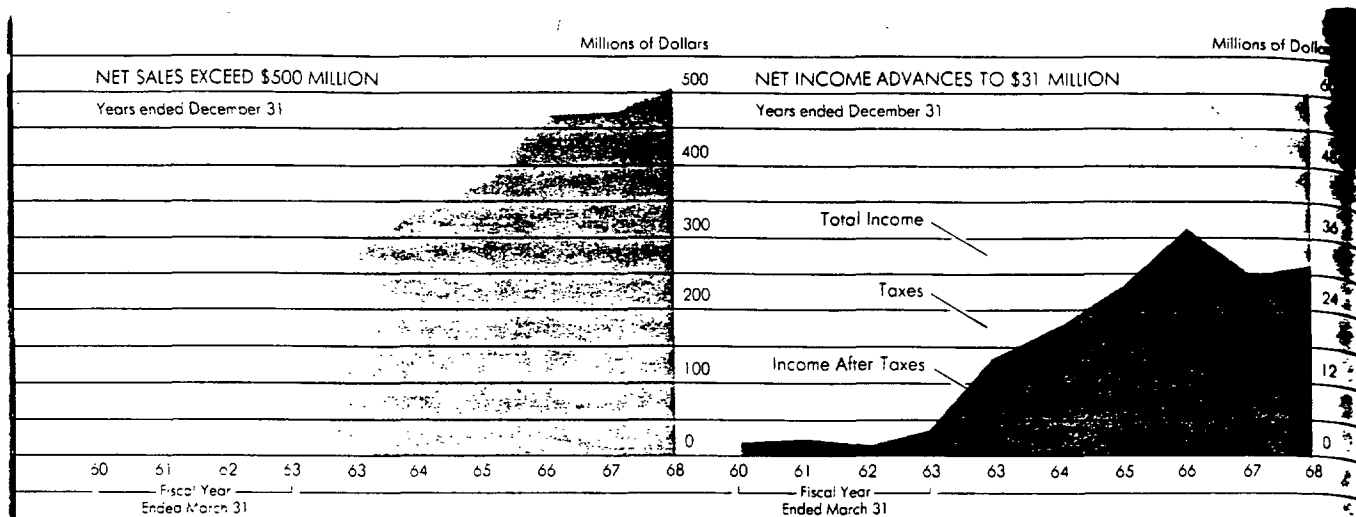
Ethyl's management personnel in Baton Rouge are now headquartered in this new office building.

George F. Kirby

GEORGE F. KIRBY
President

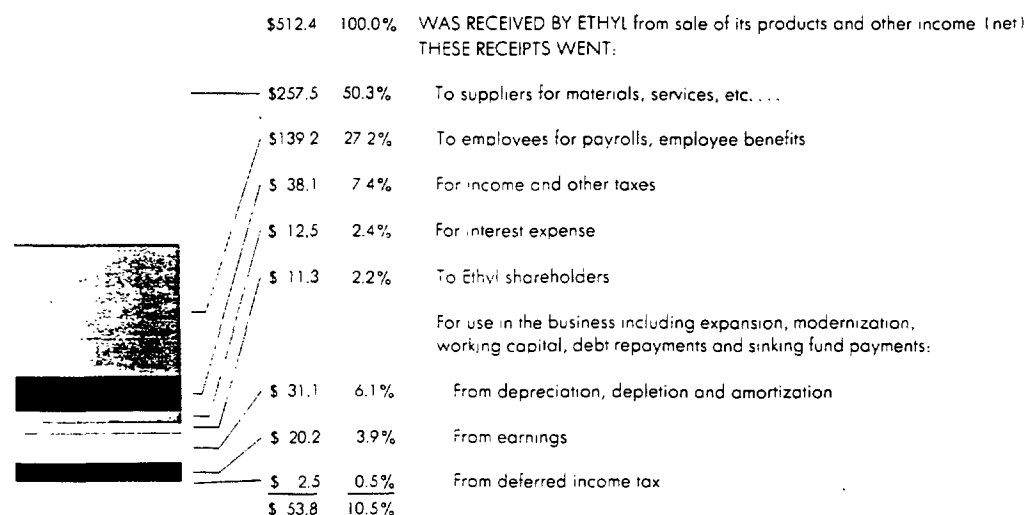
Floyd D. Gottwald Jr.

FLOYD D. GOTTWALD JR.
Chairman of the Board



Note: 1960 to 1962, Albemarle Paper Co. only; period ended March 31, 1963, includes Ethyl Corp. (Del.) treated as an acquisition; 1963-1967, Ethyl Corp. (Va.) and Oxford Paper Co. treated on a pooling-of-interests basis.

HOW ETHYL USED THE REVENUES IT RECEIVED DURING 1968 (Millions of Dollars)



Sales Set a Record High Consolidated net sales in 1968 were over a half billion dollars for the first time. Sales of \$509,072,000 represented an increase of over \$40 million, equal to about a 9% gain.

NET SALES BY
PRODUCT LINES

1966-1968 (In Thousands of Dollars)	1968		1967		1966	
	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total
Chemicals						
Petroleum	\$210,807	42%	\$199,310	42%	\$205,998	44%
Industrial	57,688	11	45,030	10	39,074	9
Plastics	63,034	12	40,111	9	35,734	8
Paper & Paper Products						
Albemarle	48,573	9	58,365	12	62,636	13
Oxford	94,447	19	93,480	20	97,350	21
Aluminum Products	34,523	7	32,642	7	25,031	5
	<u>\$509,072</u>	<u>100%</u>	<u>\$468,938</u>	<u>100%</u>	<u>\$465,823</u>	<u>100%</u>

As seen in the above table, net sales in 1968 increased in all categories except Paper where the decrease reflects the sale on October 31, 1968 of most of the assets of Albemarle Paper Company, all assets of Interstate Bag Company, and the capital stock of Halifax Timber Company. The largest sales increases were scored in Plastics and Industrial Chemicals.

Net Earnings Advance Again Net earnings for 1968 amounted to \$31,501,615, as compared with net earnings of \$29,661,837 for 1967. The increase in 1968 net income over 1967 is particularly noteworthy when it is realized that in order to exceed 1967 results it was necessary in 1968 to overcome the burden of the Federal income tax surcharge, which amounted to approximately \$2,600,000. The increase in income is accounted for mainly by improvements in Industrial Chemicals, Plastics (including the earnings of Imco Container Co. since August 1), and Petroleum Chemicals.

The investment credit in 1968 amounted to \$1,172,000 compared with a credit of \$1,636,000 in 1967.

Earnings per Share Increase The 1968 net income was equal to \$2.59 per share, based on the average 10,258,857 shares of common stock outstanding during 1968, assuming exercise of all warrants and stock options. It compares with net income of \$2.39 per share for 1967, on the basis of the average 10,260,479 shares of common stock outstanding during that year, assuming exercise of all warrants and stock options.

All of our outstanding stock options and warrants are now treated as residual securities in computing earnings per share. Accordingly, the average number of shares outstanding assumes the exercise of these options and warrants in determining earnings per share of common stock. 1967 earnings per share have been restated on this basis.

Capital Stock During 1968, 99,210 shares of common stock and 21,240 shares of \$2.40 second convertible preferred stock were issued as the result of exercise of employee stock options and 2,264 shares of \$2.40 second convertible preferred stock were issued under the Oxford Incentive Compensation Plan. This brought the total number of common shares actually outstanding to 10,027,510 and of the \$2.40 second convertible preferred shares outstanding to 1,857,681 on December 31, 1968.

Dividend Increased At its November meeting, the Board of Directors increased the regular quarterly dividend on the common stock to

18 cents per share from 15 cents per share. On an annual basis, this is equivalent to a dividend of 72 cents per share, compared with the former annual dividend of 60 cents per share.

Cash and Short Term Investments Increase During 1968, there was an increase in cash and short term securities of \$64.4 million, from \$40.7 million at December 31, 1967 to \$105.1 million at December 31, 1968. The following table shows the source and disposition of funds:

Source of Funds		Disposition of Funds	
Net Income	\$ 31,501,615	Dividends Paid	\$ 11,022,685
Depreciation, Depletion and Amortization	31,075,917	Capital Expenditures:	
Proceeds from Sale of Albemarle	56,000,000	Property, Plant and Equipment	\$38,158,000
Deferred Income Tax	2,449,198	Acquisition of Imco Container Co. (including Rexpak)	26,000,000
Proceeds from Exercise of Stock Options	1,663,441		64,158,000
Net Increase in Long-Term Debt	6,704,253	Sinking Fund Payments	2,012,550
Increase in Notes Payable	12,936,261	Treasury Stock	5,059,655
Other Items	4,314,790		82,252,890
	<u>\$146,645,475</u>	Increase in Cash and Short Term Securities	64,392,585
			<u>\$146,645,475</u>

Cash Flow Increases Cash Flow, which consists of net income plus depreciation, depletion and amortization and deferred income taxes, amounted to \$65 million in 1968, as compared with a cash flow of \$62.9 million in 1967. The 1968 cash flow exceeded that in 1967 by \$2.1 million and was sufficient to provide for all fixed charges and dividends and to provide substantial funds for capital expenditures.

Working Capital Higher At December 31, 1968, working capital was \$176.3 million and the ratio of current assets to current liabilities was 3.47 to 1. This compared with working capital of \$129.8 million and a ratio of 3.52 to 1 at December 31, 1967.

Capital Expenditures at High Level During 1968, a record \$64.2 million was spent on capital projects for new plants and for expansion and modernization. Of this total, about \$26 million was spent for the purchase of Imco Container Company, which is a leading producer of polyethylene bottles and containers. Arrangements were completed to build a plant to produce bromine and ethylene dibromide in Columbia County, Arkansas, through a partnership known as Bromet Company in which Ethyl has an 80% general partnership interest and Great Lakes Chemical Corporation a 20% limited partnership interest. Construction of the plant is expected to be completed in mid-1969.

In the last six years, total capital expenditures were over \$277 million.

Long Term Debt Debt repayments during 1968 amounted to \$7.7 million. These consisted of payments of \$1,250,000 on the 5½% Bank Loan, due 1970; \$685,211 on the 3¾% Guaranteed Notes, due 1970; \$2,500,000 on the 5¾% Subordinated Notes, due 1972; \$1,250,000 on the 4¾% Promissory Notes, due 1983; and \$2,021,154 on Miscellaneous Debt.

On December 18, 1968, the Company entered into a long-term note agreement with four insurance companies to borrow \$50 million. The proceeds realized from this borrowing will be used to replace funds used to acquire Imco Container Company, to build an ethylene dibromide plant and for general corporate purposes. On December 31, 1968, \$19 million of this borrowing was drawn down and the remaining balance of \$31 million is expected to be drawn down during 1969 or early 1970.

As of December 31, 1968, the long-term portion of Ethyl's debt was \$215.1 million, equal to 47% of the Company's total capitalization.

The long-term debt at December 31, 1968 represents an increase of \$8.7 million over long-term debt of \$206.4 million at December 31, 1967. This increase is the result of the \$19 million new borrowing plus \$2.1 million of mortgages held by Northwestern Mutual Life Insurance Company on two office buildings purchased at the time of the Albemarle sale plus \$361,000 of miscellaneous debt less \$5.7 million in long-term debt due during the year 1969 and long-term debt of \$7.1 million assumed by Hoerner Waldorf in connection with the Albemarle sale.

The current portion of long-term debt decreased by \$2 million from \$7.7 million at December 31, 1967 to \$5.7 million at December 31, 1968. Accordingly, the net change in total long-term debt for the year 1968 is an increase of \$6.7 million.

SUMMARY OF LONG-TERM DEBT

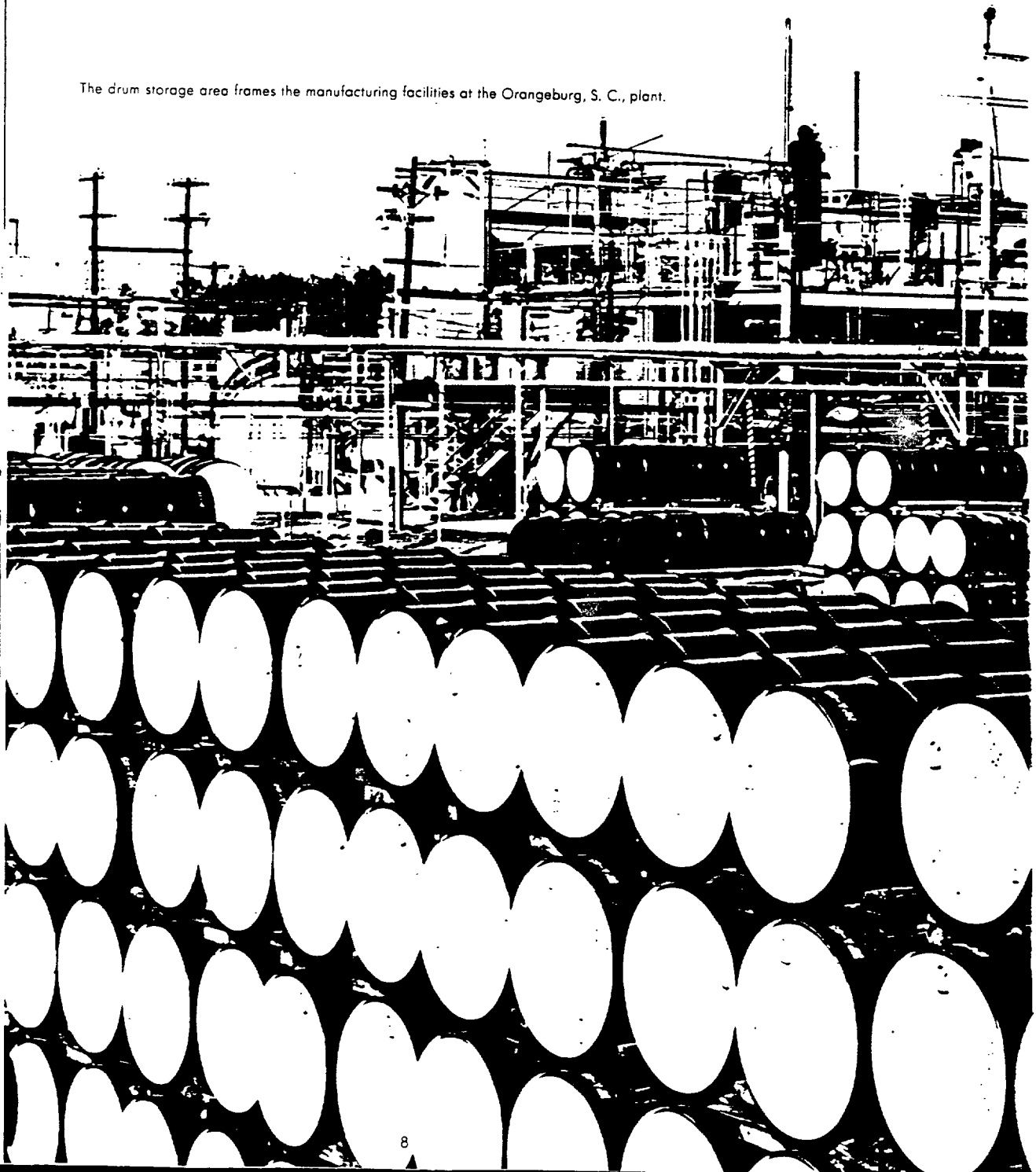
5 1/2% Bank Loan—Due 1969-70	\$ 4,250,000
The Chase Manhattan Bank	
5 3/4% Senior Notes (\$106 million—Due 1971-78) and 7 1/2% Promissory Notes (\$19* million—Due 1973-83)	125,000,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
The Northwestern Mutual Life Insurance Company	
New York Life Insurance Company	
3 3/8% Guaranteed Notes—Due 1969-70	1,373,899
Three Canadian Banks	
(Debt of Canadian Subsidiary Guaranteed by Parent Company)	
5 3/4% Subordinated Notes—Due 1969-72	9,985,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
New York Life Insurance Company	
5 3/4% Subordinated Notes—Due 1979-82	50,000,000
Various Institutional Investors	
4 7/8% Promissory Notes—Due 1969-83	27,750,000
Miscellaneous	2,495,449
Total Debt at December 31, 1968	220,854,348
Current Portion of Debt	5,733,359
Long-Term Debt	\$215,120,989

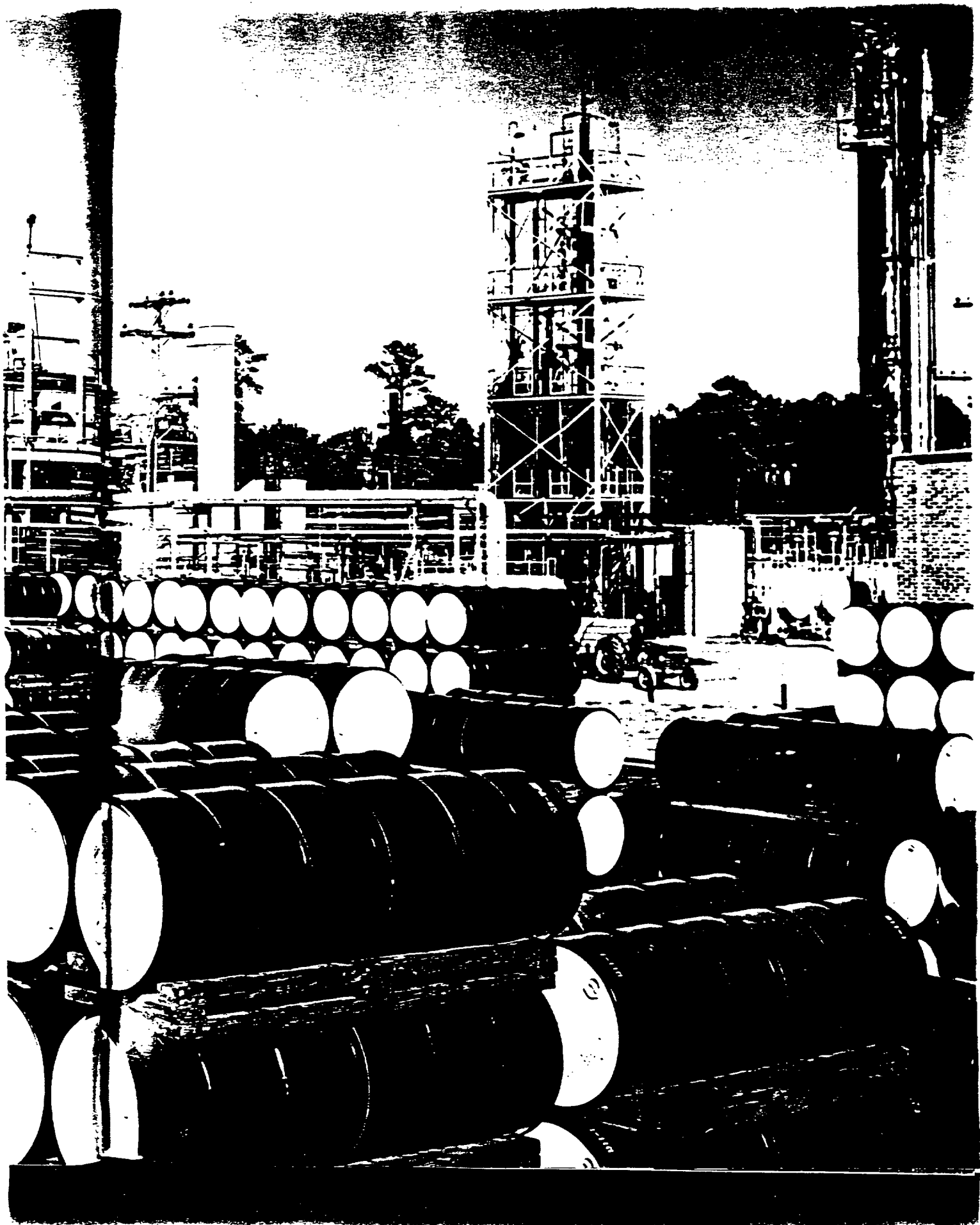
* Represents a portion of a \$50,000,000 commitment.
The additional \$31,000,000 is to be drawn down during 1969 or early 1970.

	5 1/2% Bank Loan Due 1970	5 3/4% Senior Notes Due 1978	7 1/2% Promissory Notes Due 1983	5 3/4% Subordinated Notes Due 1972	4 7/8% Promissory Notes Due 1983	3 3/8% Guaranteed Notes and Misc Debt Maturities to 1992	Total Annual Amount
1969	\$1,250,000			\$2,500,000	\$1,250,000	\$733,359	\$ 5,733,359
1970	3,000,000			2,500,000	1,250,000	754,863	7,504,863
1971		\$12,000,000		2,500,000	1,250,000	69,393	15,819,393
1972		12,000,000		2,485,000	1,250,000	313,871	16,048,871
1973		12,000,000	\$2,500,000		1,250,000	76,454	15,826,454
1974		12,000,000	2,500,000		1,250,000	80,324	15,830,324
1975		12,000,000	2,500,000		1,250,000	84,438	15,834,438
1976		12,000,000	2,500,000		1,250,000	88,814	15,838,814
1977		12,000,000	2,500,000		1,250,000	93,468	15,843,468
1978		22,000,000	2,500,000		1,250,000	83,415	25,833,415

5 3/4% Subordinated Notes Due 1982 are payable in years 1979-82.

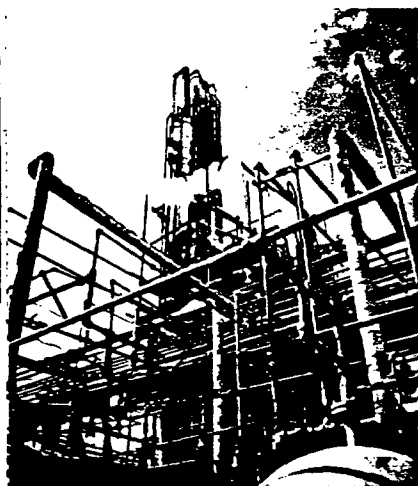
The drum storage area frames the manufacturing facilities at the Orangeburg, S. C., plant.





ETC 17030

PETROLEUM CHEMICALS



Alpha olefins pilot plant at Baton Rouge.

Our sales of petroleum chemicals both domestic and foreign were aided primarily by the continued strong growth in gasoline demand during 1968 and by continuing increases in the automobile population.

U.S. sales of antiknock compounds by our Petroleum Chemicals Division naturally reflected the gains in gasoline consumption and at the same time demonstrated anew the economic importance of antiknocks to the oil industry. The year also saw a continuing gain in the demand for the lighter lead alkyls relative to total antiknock demand. New facilities installed at the Houston plant increase Ethyl's ability to supply these lighter lead alkyls to the oil industry.

The Division also made significant progress in the marketing of other special purpose additives for fuels and lubricants. Sales of antioxidants, cetane improvers and other diesel additives were particularly strong, and continued growth is forecast for 1969.

A new source of supply of ethylene dibromide, used in the manufacture of antiknock compounds, will become available to Ethyl sometime in 1969. Under arrangements made last year with Great Lakes Chemical Corporation, a plant to produce bromine and ethylene dibromide is being built in Columbia County, Arkansas. Great Lakes is building and will operate the plant.

In Canada, our subsidiary, Ethyl of Canada, maintained its position as the leading supplier of antiknock compounds in the Dominion. As was the case in the United States, its sales benefited from the increase in Canadian gasoline consumption during the year, which in turn was aided by sustained tourist travel.

Sales of other petroleum additives and of industrial chemicals increased over 1967. Among the products in good demand were aluminum alkyls and mixed aluminum halides, which are used as catalysts in the production of synthetic rubber and plastics. Ethyl of Canada supplied all Canadian requirements of these chemicals.

The manufacturing facilities at the Sarnia plant were operated at a high level of capacity during the year, to meet the increased demand in most product lines. Also during the year, Ethyl of Canada expanded its technical services which are designed to assist refiners in their manufacturing and marketing operations. These programs, utilizing linear programming, include gasoline blending studies and lead alkyl economic evaluations.

Ethyl of Canada looks for increased sales in all of its product lines during 1969 corresponding to the anticipated growth for the oil and chemical industries at large.

Overseas, Ethyl's International Division benefited from substantially higher sales of antiknock compounds during 1968, with the major increases occurring in Europe and southeast Asia. Significant gains in sales of industrial chemicals were also achieved in Europe and Latin America, and continuing increases are expected. As a result of its higher volume of sales, the International Division was able largely to offset the selling price reduction resulting from devaluation of the British pound late in 1967.

The Ethyl Hellas plant in Greece, which supplies antiknock compounds

to refiners in Europe, the Middle East and Africa, made good progress in overcoming its earlier start-up problems and in improving over-all operations. The plant is in the midst of an expansion program which will increase capacity and improve operating efficiency. The plant will thus be better able to serve refiners in Europe and elsewhere.

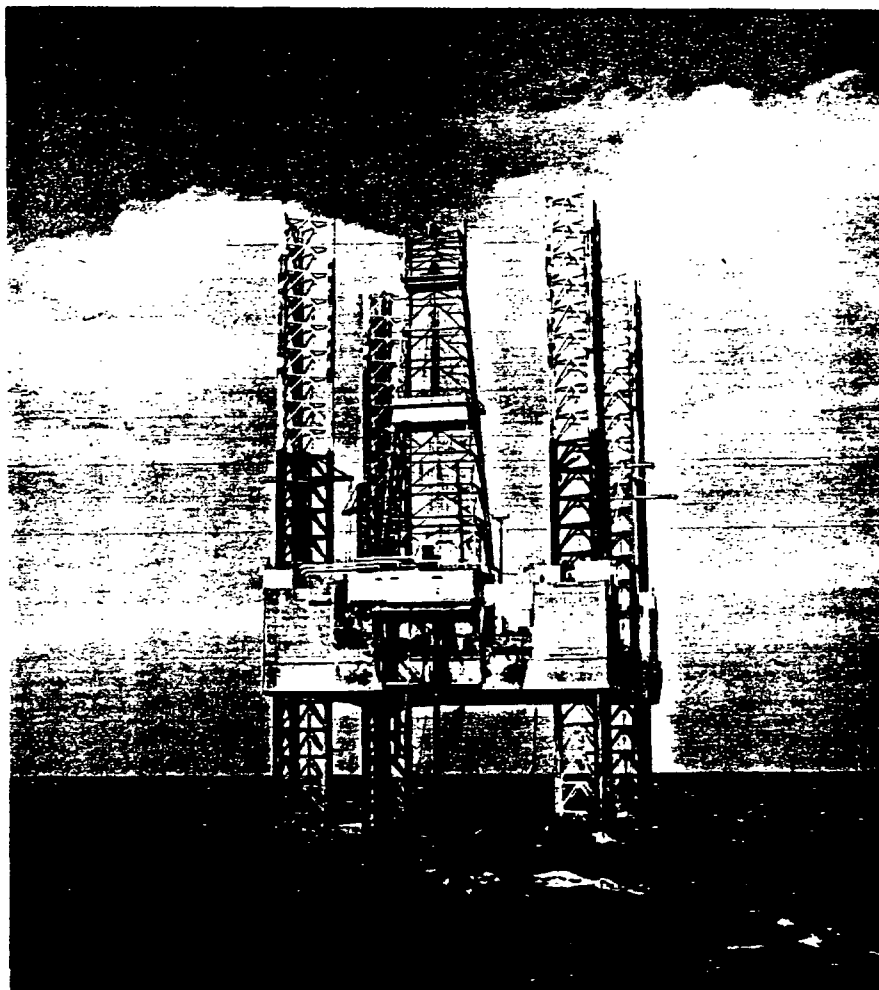
Ethyl, through its subsidiary, Ethyl Netherlands, is a member of a four-company group that is exploring for natural gas on a one-million acre concession in the Dutch sector of the North Sea. Tenneco Oil Co. is the operator for the group, supervising the drilling operation, and Ethyl has a one-sixth interest in the venture. Exploratory operations, which began in 1968, are continuing this year.

INDUSTRIAL CHEMICALS

The Industrial Chemicals Division made excellent progress in 1968 in increasing its sales and improving its operating profit—despite the continuing pressure on prices in several of its major lines. The improved results were due not only to higher sales volume but also to improved operations of the new plants which have come on stream in recent years.

The synthetic primary alcohols plant at Houston became the Division's principal operation and source of revenue. The alcohols plant

Drilling platform in the North Sea exploration project.

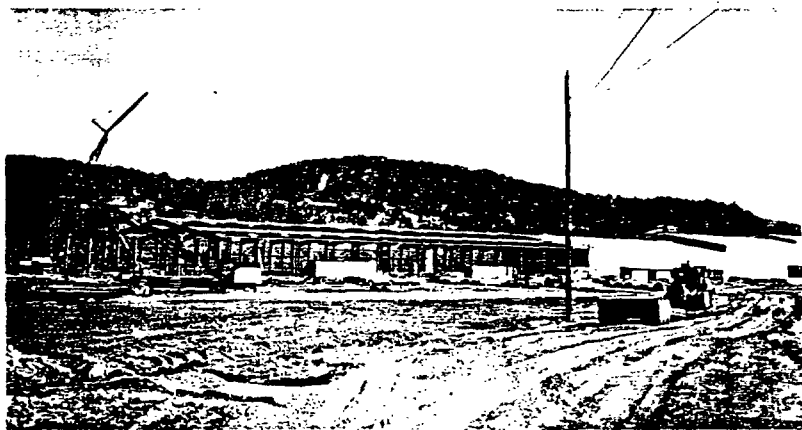
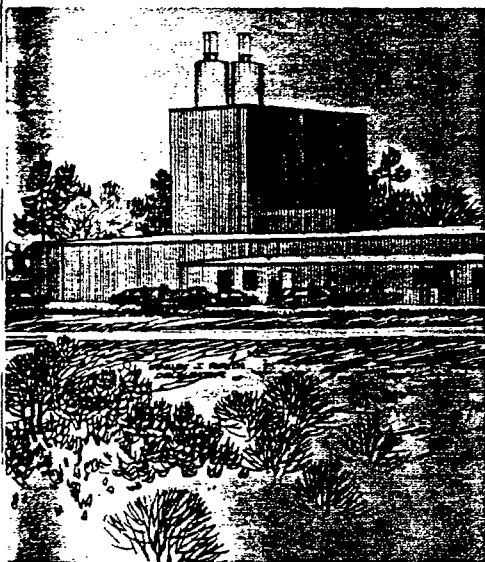


exceeded its design capacity in 1968, and its operating costs were substantially improved, reflecting higher volumes, increased sales of by-products, and better utilization of major raw materials.

The major products of this plant are alcohols which are used in the production of plastics and biodegradable detergents. The by-product alcohols and olefins produced in this plant move into various markets, for example, resin manufacture, oil additives, plasticizer, surfactant, metal working, and elastomers. Other products based on related technology which are in the pilot plant and market development stage include such basic chemical intermediates as fatty acids and alpha olefins.

Sales of vinyl chloride monomer gained over 1967, when consumption of polyvinyl chloride, into which the monomer is converted, was at a virtual standstill. Vinyl chloride prices were under pressure during 1968, due to excess capacity. Even so, Ethyl anticipates an increase in production and sales for 1969 to meet external sales requirements as well as our internal needs for the monomer in our polyvinyl chloride resins and compounds production.

Particular emphasis was placed in 1968 on the marketing of our chlorinated solvents, which are used in metal degreasing, textile treating, and dry cleaning applications, among others. The chlorinated solvents market has been and is projected to be a good growth area, but solvents have been faced with severe price competition over the past two years. Ethyl was able to overcome these problems to some extent through new production records and cost reductions in its solvents operations. The company's plants, all in Baton Rouge, produce tri- and perchlorethylene





New Vypak food grade PVC bottle is readied for shipment at the Rockaway, New Jersey plant.

PLASTICS

and 1, 1, 1-trichloroethane, three of the leading chlorinated solvents in use.

Sales of aluminum alkyl compounds, which are widely used as chemical catalysts for plastics and synthetic rubber, increased at a good rate in 1968. A major factor in their growth was the increased demand for them in ethylene propylene (EPDM) rubber. A major expansion in aluminum alkyl capacity was completed at the Houston plant in early 1969. In addition, a number of new aluminum alkyl compounds were introduced in 1968 as catalysts, and other new uses for them are being explored. These applications include alkylation, reduction, production of other metal alkyls, and metal plating.

Sales of orthoalkylated chemicals also increased during the year, reflecting not only increased demand for existing products but also the introduction of new ones. The major markets for these orthoalkylated aromatics are in agricultural chemicals, dyes, and antioxidants. Among new products, major sales increases were achieved in diethylaniline and ortho isopropylphenol, which are used as intermediates, and in several specialty antioxidants. In addition, Ethyl licensed a Shell Chemical Company development based on an Ethyl-patented raw material, and began manufacturing and marketing the new product, antioxidant 330. To meet the increasing demands for our orthoalkylated chemicals, additional capacity was installed at our Orangeburg, South Carolina plant during 1968, and a further expansion is underway.

The Plastics Division increased its sales in 1968 by more than 50% over the preceding year. About half of the sales increase resulted from the acquisition of Imco Container Co. late in July. The balance reflected growth in sales of polyvinyl chloride (PVC) resins and compounds and of PVC bottles, pipe and film.

The Imco Container acquisition substantially improves our ability to serve the various markets for plastic bottles, and enables us to compete in markets not open to our existing line of PVC bottles. Imco is one of the leading producers of polyethylene bottles which are used primarily for packaging toiletries, cosmetics, detergents and household chemical products. Ethyl's purchase of Imco includes eight polyethylene bottle manufacturing plants, a molding machinery plant, two closure manufacturing plants, and the exclusive right to the "Imco" trademark in the United States and Canada.

Ethyl's PVC bottles, marketed under the "Vypak" trademark, continued their rapid growth in 1968. Two new plants, one each in the San Francisco and Chicago areas, were opened. And in addition to expanding sales in such areas as household chemicals, detergents and shampoos, Ethyl became the first PVC bottle maker in the United States to supply a food grade PVC bottle commercially. The first consumer products to utilize this new Ethyl container were an artificial sweetener, a mouth wash, and a salad dressing. The vast new market which could open up for PVC in food packaging, together with the growth in existing markets, portends an excellent future for our PVC bottles.

Sales of PVC resins and compounds in 1968 were double their 1967 level, as compared with an industry growth rate of only 10%. Moreover,



Among the new facilities either completed or under construction in 1968 were (far left) a new polyvinyl chloride compounding plant at Tiptonville, Tennessee; (top left) a new aluminum extrusion plant at Carthage, Tennessee; (above right) a new bromine chemicals plant near Marietta, Arkansas; and (bottom) a new polyethylene bottle manufacturing facility at Goleta, California.



significant progress was made in improving plant efficiency and reducing production costs, and an expansion of our PVC resins and compounds facilities is underway. Construction of a new PVC compounding plant in Tiptonville, Tenn., was begun late in the year, and it is expected to be completed in the latter part of 1969.

Because of weakness in prices, both of finished product and raw materials, our polyethylene film sales continued at relatively the same level as in 1967. However, operating profits improved as a result of increased efficiency and cost reductions. A new polyethylene film plant, Ethyl's fifth, is under construction in Carbondale, Penna., and upon completion will improve our ability to serve the Northeast market.

Sales of PVC film for packaging red meat and produce, as well as PVC shrink film, continued to grow, and the company continues to be optimistic with respect to the prospects for these highly versatile products.

Reflecting the good reception of Ethyl's Bell Ring PVC pipe in the water and irrigation trades, sales of PVC pipe continued to increase in 1968. Considerable progress was made in improving manufacturing efficiency, and we are expanding our production capacity to enable us to keep pace with the growing market.

PAPER Operations of the Paper Division in 1968 were somewhat disappointing, due largely to market conditions of overcapacity and resulting price weakness. This was true of both the bleached and unbleached areas, and for most of the year price increases to partially offset the continuing cost increases of labor and materials were almost non-existent. Fortunately, toward the end of the year, demand for paper products strengthened.

In October, Ethyl sold to the Hoerner Waldorf Corp., of St. Paul, Minn., for approximately \$56 million, all of its unbleached paper business except for small specialty paper operations in Richmond, Va.,



Ethyl's board of directors toured the Company's new automotive emissions laboratory at Detroit which opened in 1968.

ALUMINUM EXTRUSIONS

which are being handled by the newly formed James River Paper Co.

The Oxford division increased its sales of bleached paper for the year, but earnings were below expectations for the reasons mentioned above. Capital expenditures at Oxford were restricted to normal maintenance and replacement types of work as well as the continuation of the work at the Rumford mill on the new wood room which started up in the early part of the year. Negotiations continued with the province of New Brunswick, Canada, regarding a settlement of the expropriation of the company woodlands in that province.

Sales by end use of Oxford products in 1968 were as follows:

	Tons	% of Total
Magazines and Periodicals	138,414	38.6
Book Publishing	78,710	21.9
Commercial Printing	75,134	20.9
Converting (Business Forms, Envelopes, Etc.)	66,726	18.6
Total	358,984	100.0

As a leading producer of aluminum shapes, molding and trim for homes, plants and office buildings, the business of our subsidiary, the William L. Bonnell Co., is greatly influenced by the general level of construction activity. Bonnell's extruded aluminum operations were basically strong during 1968, aided by the improvement in new housing starts over 1967.

Bonnell's plant in Newnan, Ga. operated at capacity most of the year, and during the peak of the construction season, orders had to be turned down for lack of capacity. Bonnell experienced substantial increases in costs for labor and materials during the year, and was unable to offset these cost increases fully through higher selling prices. Accordingly, efforts to reduce costs in other areas have been reemphasized.

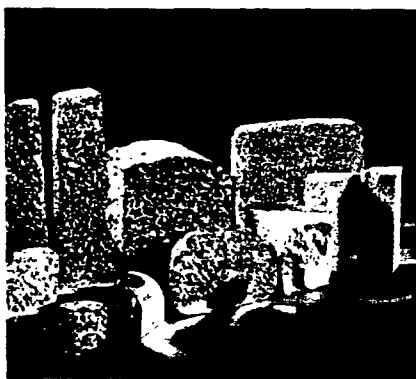
Construction of a second Bonnell plant, located in Carthage, Tenn., was begun in 1968, and it is scheduled to be in full operation during the first half of 1969. The Carthage plant represents a basic expansion of Bonnell's extrusion capacity of about 40%, and also provides additional areas of market penetration not previously possible.

Bonnell anticipates a good market for its products in 1969, and with the startup of its Carthage plant, many of its production limitations will be temporarily relieved. Moreover, plans for expansion at Carthage are being formulated in anticipation of a sustained housing boom in the 1970's.

RESEARCH

Ethyl's Research and Development department conducted a broad range of research programs in 1968 in support of the company's increasingly diversified business. Expenditures by the R and D department were more than \$16 million.

Automotive Emissions Research One of Ethyl's major research activities in recent years has been concerned with automotive exhaust emissions in relation to air pollution. Since Ethyl's antiknock compounds play a key role in the improvement of gasoline quality and utilization of gasoline in internal combustion engines, its research studies in this area have been very broad and have encompassed the whole field of fuels and engines as it relates to air pollution.



(Top) Many novel uses are foreseen for foamed aluminum developed by Ethyl research. (Bottom) Dr. M. F. Gautreaux, Jr., (right) Ethyl's manager of Research and Development, receives award from Calvin S. Cronan, editor, *Chemical Engineering*, for his practical achievements in the chemical engineering field.

These studies involve both chemical and engineering approaches to solving the problem of automotive emissions. A major research program has been to promote more complete combustion inside the engine in order to reduce emissions of unburned hydrocarbons and carbon monoxide.

While possible methods for reducing undesirable emissions have included catalyst systems and manifold air injection systems, engine modification systems now appear to be the most promising approach, and most automobile manufacturers are using this method to meet present standards. Ethyl's major research effort has been in this direction. We have been working closely with the automobile companies, and the results of this work have been made available to them through direct contacts and through the publication of technical papers.

In the course of our research work, advances have been made in development of experimental carburetors, manifolding and other engine components to allow engine operation at very lean fuel mixtures. The use of lean fuel mixtures reduces unburned hydrocarbons in the engine. In addition, a modified exhaust system provides higher temperatures to reduce further the emissions from the vehicle. These improved concepts were applied to our "second generation" low emissions research car, and we are enthusiastic about the results.

Many thousands of miles of operating experience have been obtained on Ethyl research cars incorporating these concepts, and these research cars operate at emission levels well below those required to meet the present and 1970 Federal Emissions Standards. One of these Ethyl cars was driven around the country by our Petroleum Chemicals Division for extensive demonstrations to oil company personnel of the results of this work. Our research cars are also being made available to the automotive companies for their evaluation of our concepts. While we are proud of our technical progress to date, we are working on still newer versions of these research cars with even further basic improvements.

Research also continued toward the development of devices to remove lead and other particulate matter from exhaust gases.

An important step forward in our research effort was taken in 1968, when Ethyl placed in operation a new automotive emissions laboratory in Detroit. This new laboratory, with highly specialized facilities, will facilitate and improve the precision of vehicle emission measurements. Already, the laboratory has proven to be of great assistance in our over-all research program, and particularly so in our effort to develop further experimental control systems for automotive vehicles, in order to meet future emission standards.

Chemical Research Long range exploratory research is attacking a broad range of unique process and product targets. Work on various synthetic edible fats has progressed well. Ethyl continues a significant research effort in the field of light metals. Evolution of foamed aluminum products and their applications continues to show promise. Extension of Ethyl's unique technology for detergent alcohols has led into

development work on straight chain alpha olefins and fatty acids.

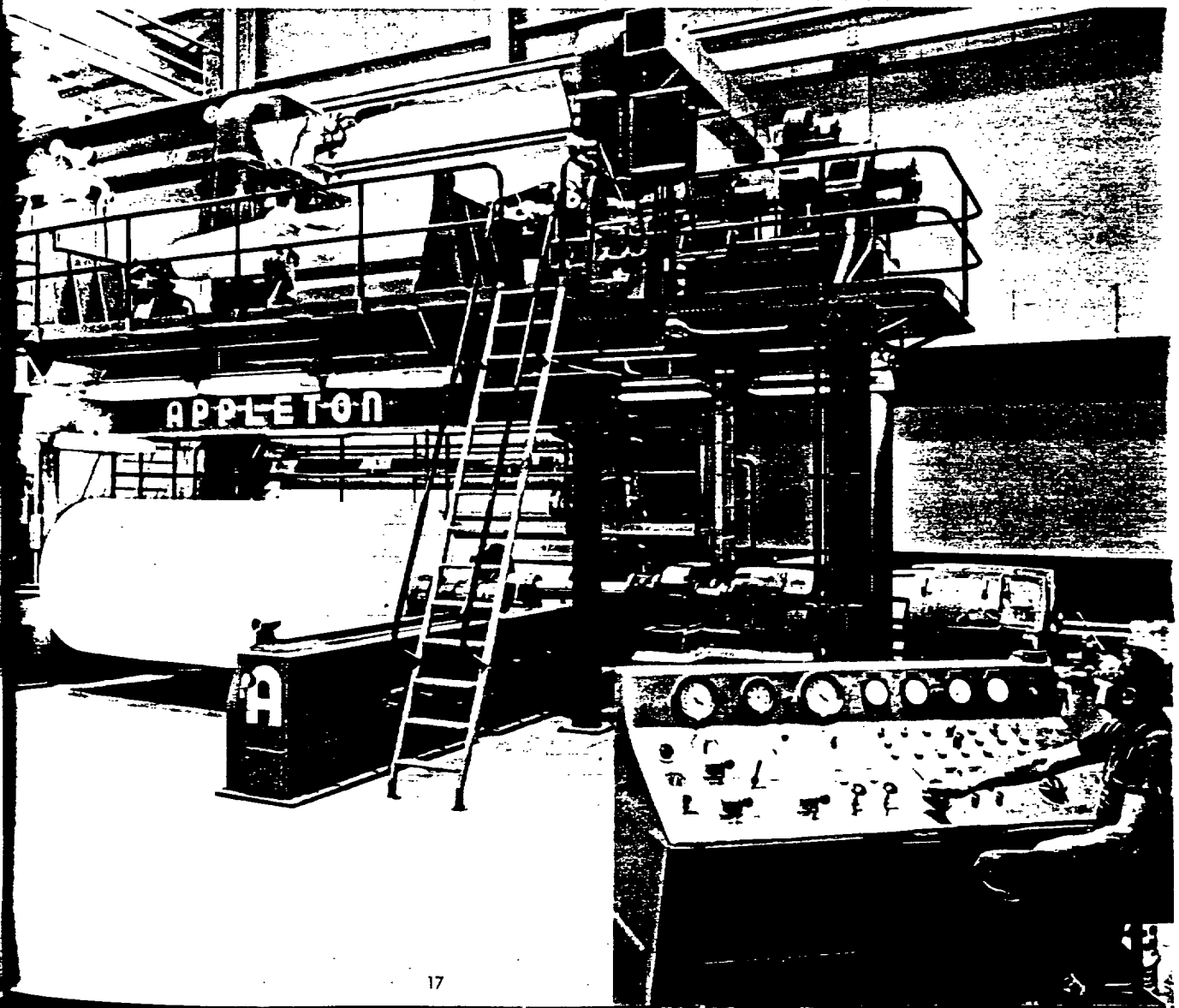
Research went forward on new polymers, and development work continued on polyvinyl chloride compounds for battery separators, filter media, and glass-reinforced resins.

Research support of market development work on Cl-2, Ethyl's smoke-reducing additive for oil-burning power stations, oil-fired turbine generators, and aircraft power plants, continued during the year.

New facilities recently added at the Baton Rouge research laboratories include an expanded pilot plant wing and a technical information center building.

During 1968, Ethyl received about 60 U.S. patents and 150 foreign ones. Ethyl now holds almost 1,150 unexpired U.S. patents, and maintains over 900 foreign patents.

This supercalender is in operation at Oxford Paper Company's paper mill in Rumford, Me.



PETROLEUM CHEMICALS

Gasoline antiknock compounds
Gasoline ignition control compounds
Antioxidants
Gasoline detergent-detercorrosion inhibitors
Diesel fuel detergent-corrosion inhibitor
Diesel fuel ignition improvers
Fuel oil combustion improver
Lubricating oil additives
Metal deactivator
Oil soluble dyes

INDUSTRIAL CHEMICALS

Linear primary alcohols
Aluminum alkyl compounds
Chlorinated solvents (perchloroethylene, trichloroethylene, 1,1,1-trichloroethane)
Vinyl chloride
Ethyl chloride
Methyl chloride
Caustic soda
Sodium
Orthoalkylated phenols and anilines
Orthoalkylated antioxidants
Alum
Special organometallics

PLASTICS PRODUCTS

Polyethylene packaging films
Polyethylene building and agricultural films
Reinforced polyethylene films
Polyethylene tape
Polyvinyl chloride packaging films
Polyvinyl chloride shrink films
"Flocor" waste treatment filter media
Polyvinyl chloride resins
Polyvinyl chloride compounds
Polyvinyl chloride containers
Polyethylene and other plastic containers
Bottle closures
Plastic pipe, conduit and fittings

PAPER PRODUCTS

Oxford Paper Company

Coated Letterpress Papers for commercial printing
Coated Offset Papers for book publishing, commercial printing
Uncoated Letterpress Papers for book publishing, commercial printing
Uncoated Offset Papers for book publishing, commercial printing
Web Offset Papers—Coated and Uncoated for magazines, book publishing, commercial printing
Film Coated Papers for book publishing, commercial printing
Gravure Papers—Coated and Uncoated—(Sheet and Roll)—for magazines, commercial printing, converting
Converting Papers for envelopes, business forms, master

James River Paper Company

Blotting paper
Gasket paper
Filter paper
Absorbent specialties
Creped kraft
Colored kraft
Specialty kraft papers
Kraft wrapping papers
Asphalt wax and resin treated papers
Cast coated cover and folding boxboard

ALUMINUM PRODUCTS

Aluminum shapes for windows
and doors, curtain walls,
boats and trailers,
and tub enclosures

Aluminum building shapes
Aluminum products for the
floor covering industry

▼ PAPER MILLS

▼ PLASTICS PLANTS

▼ ALUMINUM EXTRUSION PLANTS

▼ CHEMICAL PLANTS

Other Plants:

▼ Sarnia, Ontario, Canada

▼ Cooksville, Ontario, Canada

▼ Thessaloniki, Greece

Ethyl Corporation and Subsidiaries

	December 31	1968	1967
ASSETS			
Current assets:			
Cash and short-term securities	\$105,098,436	\$ 40,705,851	
Accounts and notes receivable	72,016,192	64,994,163	
Inventories	69,122,138	73,376,479	
Prepaid expenses	1,536,608	2,081,295	
Total current assets	247,773,374	181,157,788	
Property, plant and equipment:			
Land and land improvements	19,944,646	17,663,996	
Timberlands and standing timber	6,341,363	24,329,635	
Buildings	71,250,343	72,873,865	
Machinery and equipment	341,960,914	365,630,147	
	439,497,266	480,497,643	
Less, Accumulated depreciation and depletion	169,736,638	179,152,811	
Net property, plant and equipment	269,760,628	301,344,832	
Investment in 50%-owned company	5,071,505	5,071,505	
Deferred charges and other assets	16,297,913	16,849,490	
Patents, contracts and other intangibles	15,723,447	8,311,003	
	<u>\$554,626,867</u>	<u>\$512,734,618</u>	

The accompanying notes are an integral part of these statements.

57

15,851
 14,163
 16,479
 11,295
 17,788

3,996
 9,635
 3,865
 0,147
 7,643
 2,811
 4,832

1,505

9,490

1,003
 4,618

December 31

1968

1967

LIABILITIES

Current liabilities:

Accounts payable and accrued expenses	\$ 35,315,171	\$ 33,955,919
Dividends payable	3,052,754	2,818,084
Notes payable	15,936,261	3,000,000
Long-term debt, current portion	5,733,359	7,731,146
Income taxes	11,433,480	3,895,463
Total current liabilities	71,471,025	51,400,612

Long-term debt:

Senior	157,635,989	146,433,949
Subordinated	57,485,000	59,985,000
Estimated income taxes payable in future years	18,631,167	19,957,163
Provision for employee benefits	5,297,722	5,729,588
Minority interest in consolidated subsidiary	210,000	280,000

SHAREHOLDERS'
EQUITY

Capital stock:

Cumulative First Preferred Stock, par \$100 per share:

6% Series A	3,465,300	3,578,200
5% Series B	6,000,000	8,000,000

Cumulative Second Preferred Stock \$2.40 Convertible Series A, par \$10 per share (aggregate liquidation price \$78,022,602 in 1968 on the outstanding shares)

Common, par \$1 per share	10,027,510	9,928,300
Capital surplus	46,071,627	44,639,421
Retained earnings	164,235,290	143,991,030
	249,287,467	229,389,651

Less, Treasury stock at cost	5,391,503	441,345
Total shareholders' equity	243,895,964	228,948,306

\$554,626,867 \$512,734,618

The accompanying notes are an integral part of these statements.

Consolidated Statements of Income and Surplus

	December 31	1968	1967
STATEMENTS OF INCOME AND RETAINED EARNINGS	Income:		
	Net sales	\$509,072,418	\$468,937,810
	Miscellaneous income, net	3,359,787	4,965,815
		<u>512,432,205</u>	<u>473,903,625</u>
	Costs and expenses:		
	Cost of goods sold	374,412,530	348,392,738
	Selling and general expenses	63,651,935	60,779,084
	Interest and financing costs	13,274,125	13,098,966
	Income taxes	29,592,000	21,971,000
		<u>480,930,590</u>	<u>444,241,788</u>
	Net income	31,501,615	29,661,837
	Retained earnings at beginning of year	143,991,030	124,838,438
		<u>175,492,645</u>	<u>154,500,275</u>
	Deduct, Cash dividends:		
	Series A, 6% First Preferred stock, \$6.00 per share	199,894	214,953
	Series B, 5% First Preferred stock, \$5.00 per share	334,250	445,500
	\$2.40 Second Preferred stock, \$2.40 per share in 1968 and \$1.17 per share in 1967	4,432,402	2,245,293
	Common stock, per share, \$.63 in 1968 and \$.60 in 1967	6,290,809	5,866,611
	Oxford Paper Company, prior to merger		1,736,888
		<u>11,257,355</u>	<u>10,509,245</u>
	Retained earnings at end of year	<u>\$164,235,290</u>	<u>\$143,991,030</u>
	Earnings per share of common stock (treating stock options and warrants as residual securities)	\$2.59	\$2.39
	Pro forma earnings per share of common stock assuming conversion of second preferred stock. (If the second preferred stock were con- verted, its dividend would become \$.94 per share at the annualized present common dividend rate, as against the present \$2.40 preferred dividend.)	<u>\$2.44</u>	<u>\$2.28</u>
STATEMENTS OF CAPITAL SURPLUS	Balance at beginning of year	\$ 44,639,421	\$ 36,651,132
	Excess of cash received over par value of 151,200 shares of common stock issued upon exercise of warrants		541,800
	Excess of cash received over par value of shares of stock issued under stock option plans:		
	99,210 and 238,325 shares of common stock	970,747	2,303,066
	21,240 and 11,069 shares of \$2.40 Second Preferred stock	381,084	237,835
	3,748 shares of Oxford Paper Company common stock		24,200
	Excess of face amount of Oxford Paper Company debentures over par value of 630,967 shares of common stock issued in exchange there- for, less related costs		5,666,913
	Excess of par value over cost of 1,129 shares and 1,130 shares of 6% First Preferred stock cancelled	10,350	992
	Excess of par value of 93 shares of \$2.40 Second Preferred stock over 120 shares of common stock issued upon conversion, less cost of fractional shares of common stock purchased		775
	Expenses incurred in connection with the merger of Oxford Paper Company into Ethyl Corporation		(584,421)
	Excess of cost over par value of 13,119 shares of Oxford Paper Com- pany stock held in that company's treasury and retired in connection with the merger		(202,871)
	Excess of award amount over par value of 2,264 shares of \$2.40 Second Preferred stock issued under the Oxford Incentive Compen- sation Plan	70,025	
	Balance at end of year	<u>\$ 44,071,627</u>	<u>\$ 44,639,421</u>

The accompanying notes are an integral part of these statements.

Notes to Financial Statements

1. *Consolidation Principles.* The accompanying financial statements include the accounts and operations of all wholly-owned subsidiaries.

In July, 1968, the Corporation acquired IMCO Container Company and certain other assets in a cash transaction amounting to approximately \$26,000,000. Accordingly, the accompanying financial statements include the assets and liabilities of IMCO Container Company and the results of its operations for the five-month period ended December 31, 1968.

In October, 1968, the Corporation sold substantially all of the net assets of two subsidiaries (Albemarle Paper Company and Interstate Bag Company, Inc.) and the common stock of a third subsidiary (Halifax Timber Company) in a cash transaction of approximately \$56,000,000 (the book value of the assets sold).

2. *Cash and Short-Term Securities:*

Short-term securities, stated at cost plus earned discount which approximates market value, amounted to \$92,145,482 at December 31, 1968 and \$22,848,855 at December 31, 1967.

3. *Inventories:* Inventories include:

	1968	1967
Finished goods	\$29,146,823	\$29,085,537
Raw materials and work in process	26,772,244	29,966,720
Stores, supplies, etc.	13,203,071	14,324,222
	<u>\$69,122,138</u>	<u>\$73,376,479</u>

Inventories are stated at the lower of cost or market with cost being determined on the last-in, first-out basis with respect to approximately \$31,967,000 at December 31, 1968, and \$36,914,000 at December 31, 1967, and generally on either an average cost or first-in, first-out basis with respect to the balance.

4. *Investment in 50%-Owned Company:*

This investment is stated at cost and represents the Corporation's investment in Ethyl-Dow Chemical Company, a 50%-owned company. The Corporation's investment exceeded its equity in the net assets of this company at December 31, 1968 by approximately \$3,315,000, which is not materially different from the excess over equity at the date of acquisition, November 30, 1962. Dividends received from Ethyl-Dow were \$1,160,000 in 1968 and \$1,450,000 in 1967. Such amounts were not significantly different from the Corporation's equity in Ethyl-Dow earnings.

5. *Deferred Charges and Other Assets:*

Deferred charges at December 31, 1968 consisted principally of unamortized discount on long-term debt and other deferred financing expenses.

Other assets include certain timberlands held by a subsidiary which have been expropriated by the Province of New Brunswick. The Corporation expects that negotiations regarding compensation, which are still in progress, will result in recovery substantially

greater than the amount at which the receivable is stated in the subsidiary's accounts.

6. *Patents, Contracts and Other Intangibles.* Patents and contracts with an unamortized cost basis of \$1,755,946 at December 31, 1968 are being amortized over their respective lives; other intangibles, including the excess of cost of investments over equities in assets acquired amounting to \$13,796,656, are stated at cost.

7. *Long-Term Debt:* Reference is made to "Long-Term Debt" on page 7 of this report for information concerning the Corporation's borrowings.

8. *Capital Stock:* As of December 31, 1968, there were 25,000,000 shares of common stock authorized, of which 10,027,510 shares were issued.

As of December 31, 1968, there were 1,000,000 shares of First Preferred stock authorized, of which 34,653 shares of 6% Series A and 60,000 shares of 5% Series B were issued, which includes 2,033 shares of 6% Series A and 2,700 shares of 5% Series B of treasury stock. The 6% Series A stock is callable at \$101 and is entitled to annual sinking fund contributions of approximately \$114,000; the 5% Series B stock is entitled to annual sinking fund contributions of \$2,000,000.

As of December 31, 1968, there were 10,000,000 shares of Second Preferred stock authorized, of which 1,948,774 shares of \$2.40 Convertible Series A were issued, which includes 91,093 shares of treasury stock. Each share of Series A is convertible into 1.3 shares of common stock.

The voluntary or involuntary liquidation value of the Second Preferred stock is the greater of (1) \$42 per share, or (2) an amount equivalent to the book value of that number of shares of common stock into which such preferred stock is convertible. The aggregate excess of liquidation price over par value on 1,857,681 shares of outstanding stock is approximately \$59,400,000 as of December 31, 1968. These shares are callable after August 1, 1972 at \$75 per share, plus accrued dividends.

9. *Warrants:* At December 31, 1968, there were outstanding warrants exercisable on or before November 1, 1982, which entitle the holders thereof to purchase 45,600

shares of unissued common stock at \$4.58 per share. During 1968, there were no warrants exercised.

10. *Stock Option Plans.* Under the Corporation's restricted stock option plan, 900,000 shares of unissued common stock were reserved for issuance to officers and other key employees. At December 31, 1967, there were outstanding options to purchase 285,955 shares at prices ranging from \$9.42 to \$33.12. During 1968 options to purchase 2,000 shares at \$32.35 per share were granted, options for 99,210 shares were exercised, and options for 1,200 shares were cancelled, leaving outstanding at December 31, 1968 options covering 187,545 shares at prices ranging from \$9.42 to \$33.12 (of which options for 59,275 shares were exercisable at that date). No further shares are available for grant under this plan.

In connection with the merger of Oxford Paper Company into Ethyl Corporation in August, 1967, the Corporation assumed Oxford Paper Company's obligations with respect to the outstanding options under stock option plans for officers, key employees and eligible salaried employees, and reserved 62,590 shares of \$2.40 Second Preferred stock. At December 31, 1967, there were outstanding options to purchase 51,128 shares at prices ranging from \$19.74 to \$59.75. During 1968, options for 21,240 shares were exercised and options for 1,703 shares were cancelled, leaving outstanding at December 31, 1968, options covering 28,185 shares at prices ranging from \$23.00 to \$59.75 (of which options for 8,827 shares were exercisable at that date). No further shares are available for grant under these plans.

11. *Retained Earnings Restriction.* The Corporation's articles of incorporation and note agreements contain restrictions, among others, against the payment of cash dividends. At December 31, 1968, \$27,375,000 of retained earnings is free of such restriction under the agreement presently most restrictive.

12. *Retirement Income Plans.* The Corporation and its subsidiaries have a number of retirement income plans covering substantially all of their employees, including certain employees in foreign countries. The total pension expense for the year was approximately \$7,000,000, which includes amortization of prior service costs generally

over periods ranging up to 40 years. The policy of the Corporation and its subsidiaries is to fund pension costs accrued. Under one of the plans, the actuarially computed value of vested benefits as of December 31, 1968 exceeded the total of the pension fund by \$9,375,000.

13. *Depreciation, Depletion and Amortization:* Depreciation and depletion charged to income amounted to \$29,753,322 and \$28,606,655 in 1968 and 1967, respectively. Amortization of intangibles and of deferred discount and financing expenses charged to income amounted to \$1,322,595 and \$2,142,591 in the respective years. Depreciation deductions for income tax purposes are computed on accelerated methods and exceed book provisions which are based principally on the straight-line method. Resultant tax reductions of \$2,449,198 in

1968 and \$2,464,775 in 1967 have been accounted for as estimated income taxes payable in future years. Depletion of timberlands is provided by charges to income at unit amounts estimated as adequate to apportion the cost of each tract, less residual value of land and young growth, to the cost of timber cut from such tract.

14. *Investment Credit:* The Corporation's provision for income taxes was reduced (and net income increased) by investment credits of \$1,172,000 and \$1,636,000 in 1968 and 1967, respectively.

15. *Reclassification:* For purposes of comparison, state income taxes previously included in selling and general expenses and in accrued expenses have been reclassified as an increase to income taxes to reflect the treatment accorded by the Corporation of such expenses in 1968.

AUDITORS'
REPORT

To The Board of Directors and Shareholders of Ethyl Corporation:

We have examined the consolidated balance sheet of ETHYL CORPORATION and SUBSIDIARIES as of December 31, 1968 and the related statements of income and retained earnings and of capital surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the Corporation's consolidated financial statements for the year ended December 31, 1967.

In our opinion, the aforementioned statements present fairly the consolidated financial position of Ethyl Corporation and Subsidiaries at December 31, 1968 and 1967, and the results of their operations for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Lybrand, Ross Bros. & Montgomery

LYBRAND, ROSS BROS. & MONTGOMERY

Richmond, Va., February 17, 1969

Ten-Year Summary Ethyl Corporation and Subsidiaries

		Years Ended December 31		
		1968	1967 ⁽¹⁾	1966
SALES AND INCOME	Net sales (after deducting freight cost)	\$509,072,418	\$468,937,810	\$465,823,480
	Income before non-cash items and income taxes	92,169,532	82,382,083	91,286,564
	Depreciation, depletion and amortization	31,075,917	30,749,246	28,410,919
	Income taxes, including deferred ⁽³⁾	29,592,000	21,971,000	25,570,000
	Net income	31,501,615	29,661,837	37,305,645
	Cash flow	65,026,730	62,875,858	68,106,874
FINANCIAL CONDITION	Working capital	176,302,349	129,757,176	107,244,236
	Ratio of current assets to current liabilities	\$3.47 to \$1.00	\$3.52 to \$1.00	\$2.83 to \$1.00
	Property, plant and equipment (Net)	269,760,628	301,344,832	306,072,861
	Expenditures for property, plant and equipment	64,158,000	26,943,000	59,116,493
	Long-term debt	215,120,989	206,418,949	219,464,000
COMMON STOCK	Number of shares outstanding	10,027,510	9,927,793	9,538,655
	Earnings per share ⁽⁴⁾	\$ 2.59	\$ 2.39	\$ 3.16
	Pro forma earnings per share, assuming conversion of the Second Preferred Stock ⁽⁵⁾	\$ 2.44	\$ 2.28	\$ 2.90
	Income taxes per share ⁽³⁾	\$ 2.90	\$ 2.17	\$ 2.54
	Equity per share ⁽⁵⁾	\$14.52	\$12.64	\$10.82

(1) Includes Oxford operations for entire year. All prior years ended December 31 reflect the merger of Oxford into Ethyl on a pooling of interests basis.

(2) Includes 4 months of combined Albemarle paper and Ethyl chemical operations. All prior years ended March 31 represent Albemarle paper operations only.

(3) Includes state income taxes. All applicable prior years have been restated to reflect the treatment of such expenses in 1968.

► Years Ended March 31

966	1965	1964	1963	1963 (2)	1962	1961	1960
823,480	\$375,837,477	\$335,663,260	\$292,878,235	\$ 94,293,820	\$44,284,254	\$46,117,036	\$40,758,994
286,564	73,539,212	63,164,854	52,411,957	15,519,623	5,914,921	7,252,998	6,138,973
410,919	25,233,463	22,160,614	19,886,083	6,555,892	2,294,903	2,077,980	2,041,843
570,000	20,317,000	19,945,000	16,099,100	4,583,000	1,857,752	2,740,399	1,958,081
305,645	27,988,749	21,059,240	16,426,774	4,380,731	1,762,266	2,434,619	2,139,049
106,874	55,918,345	46,172,275	39,051,615	12,117,007	4,211,875	4,680,496	4,344,420
244,238	92,840,348	103,193,741	86,267,324	63,000,811	10,313,111	8,586,720	7,950,568
to \$1.00	\$3.07 to \$1.00	\$3.19 to \$1.00	\$3.43 to \$1.00	\$2.75 to \$1.00	\$3.29 to \$1.00	\$2.73 to \$1.00	\$3.22 to \$1.00
072,861	280,112,427	240,216,457	227,583,134	150,959,130	29,221,972	28,336,492	27,742,696
116,493	57,653,546	35,876,018	33,370,393	4,838,805	4,820,189	2,644,359	5,291,737
464,000	223,639,131	225,992,032	226,427,243	196,375,319	15,522,300	13,092,000	13,178,500
538,655	9,487,380	8,438,658	2,375,807	1,187,362	1,029,674	976,956	971,803
\$ 3.16	\$2.29	\$1.64	\$1.18	\$.63	\$.24	\$.35	\$.31
\$ 2.90	\$2.20	\$1.68	\$1.32	—	—	—	—
\$ 2.54	\$2.02	\$2.00	\$1.64	\$.71	\$.30	\$.45	\$.32
\$10.82	\$8.19	\$6.34	\$4.84	\$5.31	\$3.35	\$3.19	\$2.92

d into

rch 31

expenses

- 4) Based on the average number of shares outstanding, treating warrants and stock options as residual securities. Earnings per share for the years ended December 31, 1963-67 include a pro forma provision for dividends on the Cumulative Second Preferred Stock, \$2.40 Convertible Series A (the Second Preferred Stock) issued in the Oxford merger.
- 5) If the Second Preferred Stock were converted, its dividend would become \$.94 a share at the annualized present common dividend rate, as against the present \$2.40 preferred dividend.
- 6) Reflects a deduction for the liquidating value of the Second Preferred Stock, and is based on the number of shares outstanding at the end of each year, treating warrants and stock options as residual securities. Prior years ended December 31, 1963-67 have been restated on this basis. Adjusted for stock splits and stock dividends.

Ethyl Corporation

DIRECTORS

FLOYD D. GOTTWALD*
 FLOYD D. GOTTWALD, JR.*
 LAWRENCE E. BLANCHARD, JR.*
 WILLIAM H. CHISHOLM*
 JOSEPH A. COSTELLO
*Retired Vice President
 Ethyl Corporation*
 S. DOUGLAS FLEET
*Retired Vice President
 Ethyl Corporation*
 BRUCE C. GOTTWALD*
 GEORGE F. KIRBY*
 JOSEPH M. LOWRY
 ROBERT T. MARSH, JR.
*Retired Chairman of the Board
 First & Merchants National Bank
 Richmond, Va.*
 ANDREW M. MCBURNEY
 THOMAS W. MCKNEW
*Advisory Chairman of the Board
 National Geographic Society*
 MALCOLM P. MURDOCK
*Retired Senior Vice President
 Ethyl Corporation*
 LEWIS F. POWELL, JR.
*Partner
 Hunton, Williams, Gay,
 Powell & Gibson
 Richmond, Va.*
 W. THOMAS RICE
*President
 Seaboard Coast Line Railroad Co.
 Richmond, Va.*
 E. CLAIBORNE ROBINS
*President
 A. H. Robins Company
 Richmond, Va.*
 SIDNEY BUFORD SCOTT
*Partner
 Scott & Stringfellow
 Richmond, Va.*
 ERWIN H. WILL
*Chairman of the Board
 Virginia Electric & Power Co.
 Richmond, Va.*

*Member of the
 Executive Committee

OFFICERS AND STAFF

FLOYD D. GOTTWALD
Chairman of the Executive Committee
 FLOYD D. GOTTWALD, JR.
Chairman of the Board
 GEORGE F. KIRBY
President
 LAWRENCE E. BLANCHARD, JR.
Executive Vice President
 BRUCE C. GOTTWALD
*Executive Vice President
 & Secretary*
 WILLIAM H. CHISHOLM
Executive Vice President
 JOSEPH M. LOWRY
Senior Vice President
 JAMES M. GILL
*Vice President
 Chemicals Group*
 WALLACE F. ARMSTRONG
*Vice President
 Manufacturing*
 ROBERT HERZOG
*Vice President
 Planning*
 THOMAS M. SMYLLIE
Vice President
 KENNETH SWARTWOOD
*Vice President
 Research & Development*
 FRANK J. McNALLY
Treasurer
 JAMES H. KIRBY
Controller
 FREDERICK P. WARNE
General Counsel
 LLOYD B. ANDREW, JR.
Director-Financial Relations
 CHARLES E. COLVIN
Director-Purchasing & Traffic
 JAMES B. LONERGAN
*Director-Advertising &
 Sales Promotion*
 G. SAMUEL ROBERTS
Chief Engineer
 STEPHEN B. RODI
*Director-Corporate
 Employee Relations*
 CHARLES H. ZEANA
*Director-Corporate
 Public Relations*

DIVISIONS

Paper Division
 FLOYD D. GOTTWALD, JR.
Chairman
 WILLIAM H. CHISHOLM
President

Oxford Paper Company
 ANDREW M. MCBURNEY
Executive Vice President
 GORHAM H. SCOTT
Senior Vice President
 JOSEPH R. CARNEY
Senior Vice President
 FRED R. BATES
Vice President-Sales
 C. RICKERT LEWIS
*Vice President
 National Accounts*
 LINTON E. SIMERL
*Vice President
 Research & Development*
 B. FREDERICK AYER
Treasurer
 WILLIAM T. WOOD
Controller

James River Paper Company
 BRENTON S. HALSEY
President
 ALLEN S. BAKER
*Vice President &
 General Sales Manager*
 ROBERT WILLIAMS
Vice President-Operations

Petroleum Chemicals
 ROBERT A. DOUGLASS
*Divisional Vice President
 & General Manager*
 JOHN F. KOEHNLE
General Sales Manager
 R. J. OSTRANDER
Technical Director

Ethyl International
 ALBERT B. HORN, JR.
*Divisional Vice President
 & General Manager*
 JULIAN J. FREY
Assistant Vice President-Staff
 K. F. CAST
General Manager-Operations
 JOHN D. SAUNIER
Manager-Marketing
 LOWELL SWAIDNER
Controller

ETHYL S.A.
 WILLIAM J. RUSHER
Managing Director
 ETHYL HELLAS CHEMICAL
 COMPANY S.A.
 WILLIAM J. RUSHER
Chairman
 ELMO F. DIEDRICH
Managing Director

*Ethyl Corporation
 of Canada Limited*
 ALAN C. TULLY
President
 KENNETH A. FREBERG
*Vice President
 & General Manager*

JAMES H. MAIN
*Manager-Petroleum Additives
 Department*
 ROBERT H. SHANNON
*Manager-Chemical Products
 Department*

Industrial Chemicals
 MERLE L. GOULD
General Manager
 H. WARREN REES
General Sales Manager
 STANLEY A. HARRIS
Sales Manager

Plastics
 CLARENCE M. NEHER
*Divisional Vice President
 & General Manager*
 PAUL E. WEIMER
Manager-Operations
 RICHARD A. KWAPIL
Manager-Financial Services

Imco Container Company
 RICHARD V. VOSBURGH
President
 RICHARD F. SANDS
*Senior Vice President
 Manufacturing and P. & D.*
 ROBERT F. KUHN
*Vice President
 Sales & Marketing*
 JAMES V. COURT
Vice President-Fin.
 VISQUEEN DIVISION
 HARRY C. BYRNE, JR.
General Manager
 JACK F. BIEHL
General Sales Manager
 JACK C. WRIGHT
Technical Operations Manager
 ROLAND E. MCKENZIE
Manufacturing Manager

POLYMER DIVISION
 HARRY ZIMMERMAN
General Manager
 CHARLES W. MONTGOMERY
Manager-Production & Technical
 ARTHUR A. SMITH
General Sales Manager

PIPE DIVISION
 PALMER A. BROWN
Manager
 A. WILLIAM PERRY
Sales Manager

PVC FILM AND SHEETING
 STEPHEN J. BARCIC
Manager

*The William L. Bonnell
 Company, Inc.*

E. MALCOLM HARVEY
President & Treasurer
 LLOYD L. REYNOLDS
*Vice President
 & General Manager*
 WARREN H. BROCKWAY
*Vice President &
 General Sales Manager*
 DONALD A. WAGNER
Vice President-Manufacturing
 FRANK DANIELS, JR.
Controller

Ethyl
 CORPORATION

Changing... to Serve a Changing World

The text of this report is lithographed on Star Sapphire Enamel Dull (basis 100 pounds), produced by Oxford Paper Company. The cover is lithographed on cast coat stock (.008) supplied by James River Paper Company. The polyethylene mailing envelope for this report is T n T packaging film (2 1/2 mil) manufactured by the VisQueen Division.



Container plan

Ethyl's Plastics in Use

POLYETHYLENE

POLYVINYL CHLORIDE

PVC RESINS & COMPOUNDS



Bakery Goods



Toys and Novelties



Produce Packaging



Packaging Industry



Construction Industry



Record Albums



Agricultural Mulch



Bottles and Containers



Toys and Novelties



Industrial Users



Soil Fumigation



Palletized Shipments



Meat Products



Electrical Conduit



Consumer Products



Bottles and Containers



Greenhouse Covering



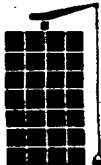
Book Packaging



Record Albums



Shrink Packaging



Construction Enclosures



Moisture Barrier



Textile Packaging



Irrigation Lining



Water System Pipe



Equipment Covers



Pharmaceutical Packaging



Paper Products Packaging



Pharmaceutical Packaging



Book Packaging

IDS

on

on

on

on

g

em

on

g

Ethyl's 1969 report of growth and earnings

ETC 17052

FINANCIAL HIGHLIGHTS

Years Ended December 31	1969	1968	Percent Increase (Decrease)
Net Sales	\$509,302,000	\$509,072,000	— (1)
Income			
Before Extraordinary Item	33,024,000	31,502,000	4.8
Net	29,524,000	31,502,000	(6.3)
Earnings per share of Common Stock			
Income Before Extraordinary Item	\$2.77	\$2.61	6.1
Net Income	\$2.43	\$2.61	(6.9)
Income Taxes	33,020,000	29,592,000	11.6
Cash Flow	67,193,000	65,027,000	3.3
Cash Flow per Share of Common Stock	\$6.61	\$6.39	3.4
Cash Dividends	12,311,000	11,258,000	9.4
Dividends per Share of Common Stock	\$.75 ⁽²⁾	\$.63	19.0
Depreciation, Depletion & Amortization	29,562,000	31,076,000	(4.9)
Capital Expenditures	53,312,000	64,158,000	(16.9)
Total Assets	619,164,000	554,627,000	11.6
Working Capital	176,499,000	176,302,000	0.1
Equity per Share of Common Stock	\$16.01	\$14.56	10.0

(1) The increase in 1969 net sales would have been approximately 11% after excluding from 1968 sales \$48,573,000 representing sales of Albemarle which was sold in 1968.

(2) Current annual dividend rate is \$.84 a share.

CONTENTS

- 1 Message to Shareholders
- 5 Operations Review
- 16 Financial Results of 1969
- 20 Financial Statements
- 23 Notes to Financial Statements
- 25 Auditors' Report
- 26 Ten-Year Summary
- 28 Officers and Directors

ANNUAL MEETING

The annual meeting of Ethyl Corporation shareholders will be held at the Company's corporate headquarters in Richmond, Va., on Thursday, April 23, 1970.

STOCK TRANSFER AGENTS

First & Merchants National Bank, Richmond, Va.
Chase Manhattan Bank N. A., New York, N.Y.

REGISTRARS OF STOCK

The Bank of Virginia, Richmond, Va.
Morgan Guaranty Trust Co., New York, N.Y.

GENERAL COUNSEL

Hunton, Williams, Gay, Powell & Co., Richmond, Va.

CORPORATE HEADQUARTERS

330 South Fourth Street, Richmond, Va. 23219

EXECUTIVE OFFICES

451 Florida Street, Baton Rouge, La. 70801
100 Park Avenue, New York, N.Y. 10017

Cover Photo: The synthetic primary alcohols plant at Ethyl's Houston manufacturing center forms a fitting background for the site of a new and chemically related alpha olefins plant, now under construction there.

SPECIAL NOTICE

To The Shareholders of Ethyl Corporation:

In view of the communications difficulties arising out of the mail strike and the effects on the distribution and receipt of proxies, the annual shareholders' meeting, originally scheduled for Thursday, April 23, 1970, has been postponed one week until Thursday, April 30, 1970 at 11 A.M. The meeting will be held in our corporate headquarters in Richmond, Va.

ETHYL CORPORATION

To the Shareholders of Ethyl Corporation:

Continued growth, expansion, diversification and changing product mix were achieved by Ethyl in 1969. Consolidated net sales exceeded a half billion dollars for the second year in a row, and income from operations increased almost 5%. We ended the year in a strong cash position that enables us to take advantage of profitable opportunities as they arise.

Income from operations was \$33 million, or \$2.77 a share, as compared with \$31.5 million, or \$2.61 a share, for 1968. Such income was before a third quarter extraordinary item of approximately \$3.5 million. This represented a writedown of an investment in a bromine recovery plant at Freeport, Texas, which has been replaced by the new and more efficient facility at Magnolia, Arkansas. Net income for 1969 after this extraordinary item amounted to \$29.5 million or \$2.43 a share.

Details of our operations and our financial results are, of course, contained in this report, and I urge you to review them. At this point, however, I would like to highlight a few of Ethyl's achievements for 1969 and then discuss a subject that I am sure is uppermost in the minds of all shareholders.

The Ethyl concept of "changing . . . to serve a changing world" was never more evident than in 1969 in terms of changing product mix and continuing diversification in the fields beyond antiknock compounds.

The Plastics division, for instance, enlarged its markets for finished products and resins and compounds to the point where the division accounted for close to 20% of total company sales as compared to only 1% seven years ago. Two developments strengthened our diversification program in the field of aluminum products. These were the start of operations at a new plant by our William L. Bonnell subsidiary and the purchase in late December of the controlling stock interest in Capitol Products Corporation, of Mechanicsburg, Pennsylvania.

In another area, the synthetic primary alcohols plant at Houston, Texas exceeded its design capacity. This plant, the largest of its kind in the world, will be complemented by a new unit now under construction for the production of alpha olefins which are also used in detergents and plasticizers.

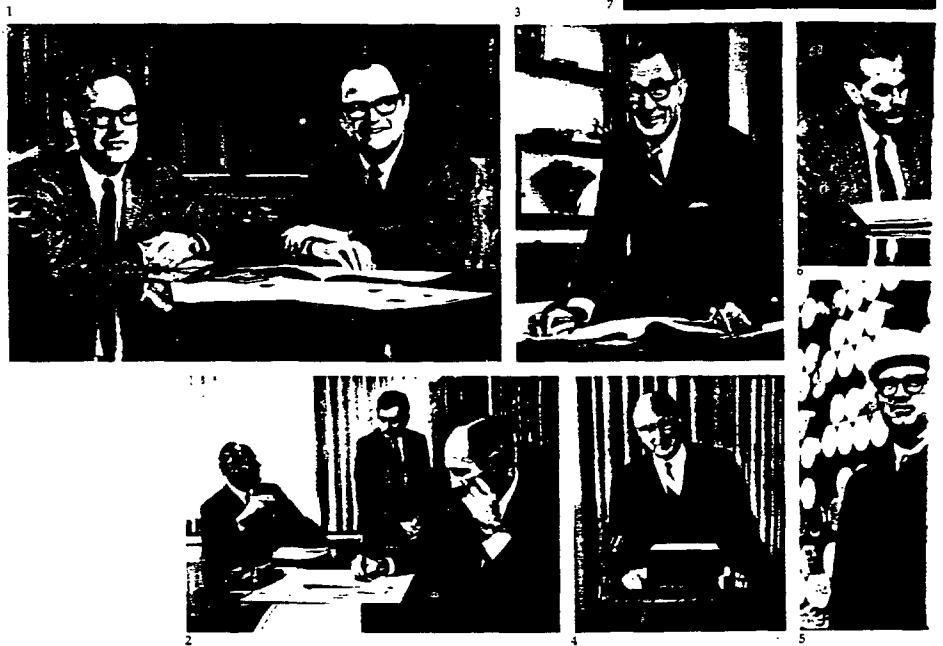
In all, Ethyl's 1969 capital expenditures totaled more than \$50 million, and we confidently expect they will accelerate our expansion and diversification, and contribute to further earnings growth in 1970.

As you know from the press, the use of lead antiknocks in gasoline has been under heavy attack. The most immediate result has been a precipitous drop in the market price of Ethyl shares, as markets inevitably respond to spectacular news—especially when the implications are shrouded in both politics and uncertainty. Ethyl's management has been deeply concerned by this assault on a product which, for nearly a half century, has served the motoring public so well.

The possible relationship of leaded gasoline to the air pollution problem—even to health—has frequently been discussed in the media and elsewhere in recent years. It is generally acknowledged that emissions from the internal combustion engine do contribute to the air pollution problem. But lead itself is a negligible part of such emissions and is not a contributing cause to the photochemical smog which so concerns the public. Nor is there proof that lead in gasoline constitutes a health hazard.

But recognizing the potential seriousness of the emissions problem, the automobile manufacturers have been working for several years on engine improvements which will reduce emissions to acceptable levels. As you know from the press, emission standards have been announced by California and the federal government, and there is constant pressure for standards which will reduce further the level of emissions. Ethyl's Detroit laboratories have engaged in extensive research to assist the automotive industry in accomplishing this objective. We have had for some time a conventional automobile (Pontiac) with engine modifications designed by Ethyl, which already meets all emission standards presently prescribed for 1974—using leaded gasoline. (This research program is discussed more fully in the special insert of this report.)

This, in general, was the situation prior to the speech in January by the President of General Motors and subsequently amplified (though scarcely clarified) by later statements from other Detroit automobile manufacturers. The essence of the new position of these manufacturers seems to be that lead in gasoline makes it too difficult to build automobiles which will meet the low emission standards forecast for the future. Thus, beginning with the 1971 models, they propose to design automobile engines which will operate without leaded gasoline. This sudden shift in the public posture of the automobile manufacturers came



as a surprise to Ethyl management. Since Ethyl has already developed modifications that met 1974 standards at least four years before their effective date—using leaded gasoline—it never occurred to us that the Detroit automobile manufacturers could not do at least as well.

This action by the automobile manufacturers has been interpreted by some as a strategic move to shift the burden of the pollution problem—and much of its expense—from themselves to the oil industry which provides the gasoline. In any event, the several manufacturers of lead antiknocks—including Ethyl—are in the middle of what seems to us to be a precipitous attempt to solve a vastly complex problem without due regard to the economic consequences and the interest of the public.

Ethyl's basic position on these issues is as follows:

1. The argument for removing lead from gasoline is not health. We know of no proof that the use of lead antiknocks in gasoline is or will be detrimental to public health.

2. If the oil industry is required to replace present high performance gasoline with unleaded fuels of equivalent quality, the economic consequences will be severe—to the oil industry, the manufacturers of lead antiknocks, and the public. It is estimated that the cost of such conversions to the petroleum industry alone could be in the range of six billion dollars—which is believed to be more than that industry has spent on new construction in the last decade.

3. The production of high performance unleaded gasoline would require different fuel compositions to offset the removal of lead, including an increase in the use of aromatics. The Bureau of Mines Petroleum Research Center has recently reported that "fuel alterations from leaded to unleaded (gasoline) changed emission characteristics so that the pollution effect was increased by as much as 25%." Other studies indicate that a significant increase in the use of aromatics in gasoline would dramatically increase eye irritations and possibly could introduce new and serious health problems.

4. If lower compression engines are designed, using gasoline of inferior quality, the economic effects



(1) B. C. Gottwald and F. D. Gottwald, Jr. (2) J. F. Koehnle, M. L. Gould and J. M. Gill. (3) S. B. Rodi. (4) R. K. Scales. (5) E. M. Harvey. (6) L. B. Andrew. (7) M. F. Gautreaux (standing), J. Johnston, F. D. Gottwald and W. Foster. (8) W. F. Armstrong. (9) C. R. Hailey, A. M. McBurney and W. H. Chisholm. (10) C. H. Zeanah. (11) F. J. McNally and J. H. Kirby. (12) J. B. Lonergan. (13) R. A. Douglass. (14) T. M. Smylie. (15) C. A. Kyle and F. P. Warne. (16) L. E. Blanchard, Jr., R. Herzog and J. M. Lowry. (17) A. B. Horn, K. F. Cast and L. N. Applegate. (18) C. M. Neher.

74 stand-
; that the
e to shift
ry which
yl—are in
hout due

could be quite significant both for the oil industry and the public. The motorist will bear such manufacturing costs as may be necessary to redesign engines, and will pay more per gallon for a fuel that certainly gives less power and less mileage, with reduced performance from his vehicle. Meanwhile, the oil industry will be subject to great expense to restructure its supply and distribution system to handle this gasoline. As the head of a major oil company declared recently, this cost alone would be in excess of four billion dollars.

he use of

d fuels of
turers of
industry
has spent

sitions to
Petroleum
) changed
udies indi-
irritations

nic effects

Since the new position of the automobile companies was announced, and our special report was sent to shareholders in February, there have been a number of other developments. These include the President's environmental message to Congress and the introduction of legislation which would amend the Clean Air Act of 1967 to vest broad discretionary power in the Secretary of HEW to regulate, by prescribing standards and otherwise, the composition of automotive fuels and fuel additives. Although every effort will be made to prevent punitive legislation or regulations at either the state or federal levels, the present climate of opinion is centered around the popular and emotional issue of air pollution.

No one knows at this time, or can predict accurately, what in fact will be done by the automotive industry, the oil industry or the federal and state governments. If assumptions are made as to what might be done, there is still the unknown—yet vital—element of timing. In view of the pressures already so evident, we must face the possibility that changes in engine design and perhaps in fuel composition may reduce the use of lead in gasoline and in time may even eliminate it.

We do know, for the reasons stated above, that the process must be gradual. Moreover, in addition to the economic costs and dislocations, there are millions of high compression automobiles presently in use—with an estimated service life of up to 10 years or more. Most of these will continue to require leaded gasoline to operate properly. There are also substantial foreign markets for leaded gasoline which are unlikely to disappear in the now foreseeable future. At present, nearly one-third of Ethyl's antiknock sales are in

foreign markets. You may be assured, therefore, that we see no likelihood of lead antiknocks ceasing to be important products of the company for years to come.

As a shareholder you naturally want to know the effect of all this on future earnings. And yet, for reasons which are apparent upon reflection, we cannot predict the consequences of events not yet known either as to substance or timing. Although lead antiknocks account for about 40% of our total sales, they are still the most important product line of the company, and contribute a higher percentage of our profits. The Petroleum Chemicals, Industrial Chemicals and Plastics divisions of the company utilize many joint facilities for manufacture, research and development, and are interrelated in terms of raw materials, intermediates and byproducts. Consequently, overhead and other costs cannot be allocated among the divisions or product lines in such a way as to permit accurate determination of relative contributions to that income.

Despite the problems discussed in the foregoing, we face the future with confidence. Ethyl is a large, strong and diversified business. We have pursued vigorously our program of expansion and diversification since the lead antiknock business was acquired in 1962. In the first full year after such acquisition, lead antiknock sales were close to 70% of total sales. This situation was dramatically changed by 1969, when the sales of other product lines totaled about 60%. Although the profit percentages have not followed in the same ratio, we now have substantial profits which are wholly unrelated to petroleum chemicals. And, as indicated elsewhere in this report, we are pressing forward with major programs for the further expansion and diversification of our Plastics, Industrial Chemicals and Aluminum divisions.

We also expect our business in lead antiknocks to continue to contribute to profits for years to come. Even if the use of leaded gasoline should be phased out in the United States within the next five years (which we consider unlikely), it is our present opinion that Ethyl's cash flow during this period can reasonably be expected to be somewhere between \$60 and \$75 million a year.

After making all debt payments as they mature, and after paying reasonable dividends, this cash flow, along with Ethyl's present excess cash, should permit the investment of amounts in the range of \$30 to \$50 million a year in Ethyl's continuing diversification program started seven years ago. Such amounts would be exclusive of any funds realized from the issuance of equity or debt securities. With funds of this magnitude added to the large investments that the company already has made in its diversification program, we have every reason to believe that the years ahead will see a continuation of Ethyl's progress to date.

You will, of course, appreciate that statements of this type are of necessity based on estimates, and corporate managements are generally reluctant to engage in long-range estimating. However, because the recent unprecedented attack on lead in gasoline has tended to affect the confidence of many investors in the long range future of Ethyl, we feel obligated to share with you our present best judgment as to such future.

In summary, we strongly disagree with the present proposals for restricting the use of lead in gasoline. We believe quite sincerely—for the reasons indicated—that restricting or eliminating the use of lead in gasoline would have seriously adverse economic effects on the industries most concerned, would further degrade our atmosphere, would increase demands on the petroleum reserves of our country (as the use of lead conserves gasoline), would result in less efficient automobile performance, and would certainly result in increased costs for motorists. In short, we think the proposals are contrary to the public interest.

But even if the most pessimistic assumptions are made, we still have full confidence that Ethyl Corporation—with strong financial resources, its excellent position in a number of other major product lines, its ongoing expansion and diversification program, and its exceptionally talented research organization—will continue as a major corporation serving the public and its shareholders.

We close with an even more than usual note of thanks for the remarkable loyalty, support and understanding of our employees, shareholders, customers and suppliers.

Floyd D. Gottwald, Jr.

Floyd D. Gottwald, Jr.
Chairman of the Board and
Chief Executive Officer

March 16, 1970.

Petroleum chemicals fill many needs

Ethyl produces a long list of chemical additives for petroleum products. The leading additives are antiknock compounds, which are added to gasoline to increase its octane number (or ability to produce power) to the required level for optimum performance.

Ethyl also produces a large number of other special purpose additives for automotive and industrial uses. They include a broad range of highly effective anti-oxidants and others which act as detergents and anti-corrosion agents. Among other Ethyl additives are several which improve the combustion efficiency of diesel fuels and cleanliness of fuel oils.

Sales of petroleum chemicals worldwide in 1969 were about on a par with those of the year before. Gains were achieved in the United States and Canada, but overseas results were affected by adverse market conditions in several areas.

In the United States, sales of antiknock compounds increased slightly for the year.

Sales of other Ethyl additives were about equal to those of 1968. An outstanding exception was "Ethyl" Combustion Improver 2, whose sales continued to show substantial gains. This additive is finding increasing use in distillate and residual fuels because of its ability to improve their combustion characteristics and to reduce fireside deposits, carbon and soot.

As part of its continuing service to the petroleum industry, Ethyl's Petroleum Chemicals Division offered the VOLRAC™ (Vapor Over Liquid Ratio Controller) to refiners. This is the first commercial, on-line analyzer system for continuous monitoring or control of the vapor to liquid (V/L) ratio in gasoline blending operations. The system gives refiners year-round flexibility, economy and efficiency in blending butane and other light gasoline stocks, and enables them to control the so-called front-end volatility of their gasolines.

During the year, new facilities for the production of ethylene dibromide, a key ingredient in antiknock compounds, went into operation. Utilizing bromine recovered from brine wells, a new plant in Magnolia, Arkansas will supply all of Ethyl's requirements for ethylene dibromide. Ethyl has an 80% partnership interest in the bromine venture, and Great Lakes Chemical Corporation the remaining 20%. The new plant, which will substantially lower our bromine costs, replaces the former Ethyl-Dow Chemical Co. bromine operation at Freeport, Texas, which is discontinued.

Our Canadian subsidiary, Ethyl Corporation of Canada Limited, had an excellent year. Sales set new records, and Ethyl of Canada

maintained its position as the leading supplier of antiknocks in Canada and as its only supplier of aluminum alkyls and aluminum halides, which are used as catalysts.

The Canadian company's continuing objective is to maintain its leadership in existing product lines while diversifying and expanding with the Canadian economy.

Antiknock sales of Ethyl's International Division were off somewhat during 1969, due to unusual conditions. However, sales in several areas, including Japan, exceeded those of previous years. In addition, industrial chemical sales again showed significant increases in Europe, and continuing strength is expected.

The International Division's results were lower than anticipated, as the result of the lower sales volume and increased material and labor costs. However, anticipated increased sales are expected to improve future profits. Among other developments, continued improvement has been made in the operating efficiency of the Ethyl Hellas manufacturing plant in Greece, thereby aiding the Division's over-all performance.

Construction began in late 1969 on a new antiknock manufacturing plant in Japan. The plant is being built by Toyo Ethyl, and Ethyl Corporation has a 47.5% interest in this joint venture with several Japanese companies. The new plant is expected to supply the Far East market by 1971.

Ethyl, through its subsidiary, Ethyl Development Corporation, has entered into an exploration agreement with Triad Oil Company Limited and B. P. Exploration Canada Limited. The three companies plan to invest up to \$6 million in a three-year period on joint exploration projects in western Canada. Ethyl Development will contribute 50% of the costs.

This is the second venture for oil and gas that Ethyl is participating in. Ethyl is also a member of a four-company group exploring for oil and gas in the Dutch sector of the North Sea. Additional exploratory wells are planned for 1970.



DESIGN

ETC 17060

Industrial chemicals entering new fields

The industrial chemicals produced by Ethyl range from basic chemicals with many everyday uses to highly complex compounds which are a result of Ethyl's specialized technology. Basic chemicals include chlorine, ethyl chloride, methyl chloride, ethylene dichloride, sodium, alum, and caustic soda. Derivatives of these basics include vinyl chloride monomer and chlorinated solvents. A rapidly growing chemical area for Ethyl is represented by the aluminum alkyls which are used as catalysts in the manufacture of synthetic rubber and plastics and as chemical intermediates. In another highly technical field, Ethyl produces a series of synthetic primary alcohols. Their principal uses are as intermediates for biodegradable detergents and plasticizers.

This new bromine recovery plant at Magnolia, Arkansas, meets Ethyl's needs for ethylene dibromide.

The Industrial Chemicals Division set a new sales record in 1969. In addition, several major expansion programs were begun, which will increase the Division's participation in established markets and also bring it into newer fields.

The synthetic primary alcohols plant at Houston, whose products are used in the manufacture of detergents and plastics, continued to operate at a high level during the year. Some bottlenecks were eliminated, and an expansion program was begun which will result in increased capacity in 1970. Moreover, additional markets were developed for co-product alcohols and olefins which emanate from the plant. New products from this plant will be available in 1970.

Vinyl chloride monomer, used for the production of polyvinyl chloride resins and hence plastics, was produced at a very high rate throughout the year. Vinyl demand is expected to continue strong throughout 1970.

The chlorinated solvents operation substantially improved its performance in 1969, as a result of higher sales, a tendency of the solvents market to stabilize, and reduced production costs. Work is underway to achieve further increases in capacity to supply anticipated increases in sales in 1970.

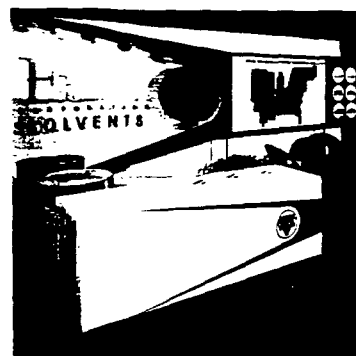
A major expansion in aluminum alkyl capacity was brought on stream early in 1969. This expansion puts Ethyl in a good position to meet the needs of the rapidly expanding stereo polymer market. This market includes polypropylene, polybutadiene, polyisoprene, and ethylene propylene rubber. New aluminum alkyl catalysts were introduced during the year, and others are ready for commercialization as the stereo polymer and related markets lead to a higher degree of specialization in catalyst requirements.

As the use for aluminum alkyls becomes more widespread, penetration into completely new markets is expected. Plans are under-

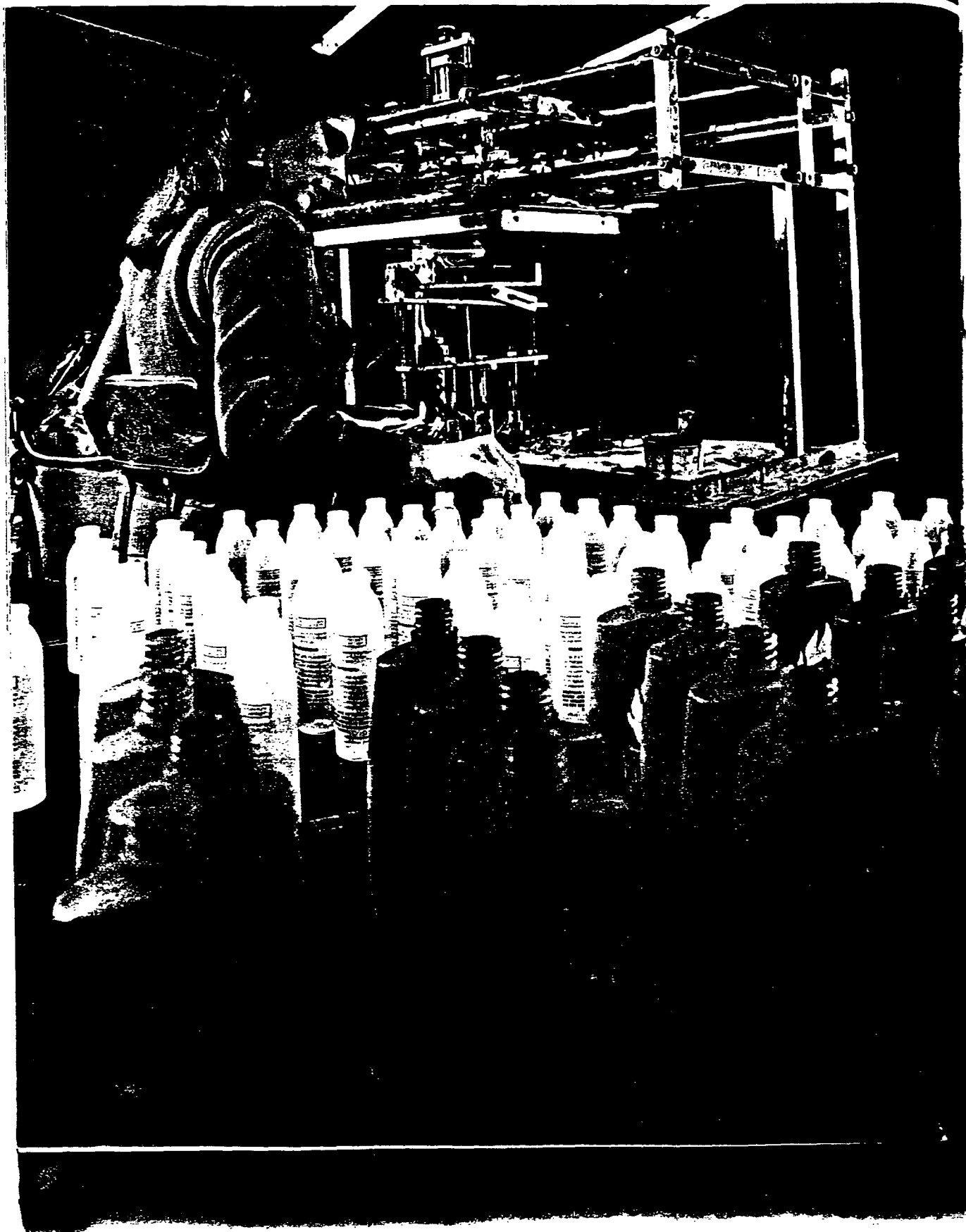
way to assist potential consumers in developing applications and techniques for using aluminum alkyls and aluminum alkyl hydrides in specialty reactions. Ethyl technical personnel have been active in tying the capabilities of aluminum alkyl technology with phosphorus technology to make new chemicals for the agricultural chemicals industry.

Plant expansions were completed at Orangeburg, South Carolina for the production of orthoalkylated chemicals, including orthoalkylated anilines and orthoalkylated phenols. Major markets for these chemicals are antioxidants, intermediates for antioxidants, and agricultural chemicals.

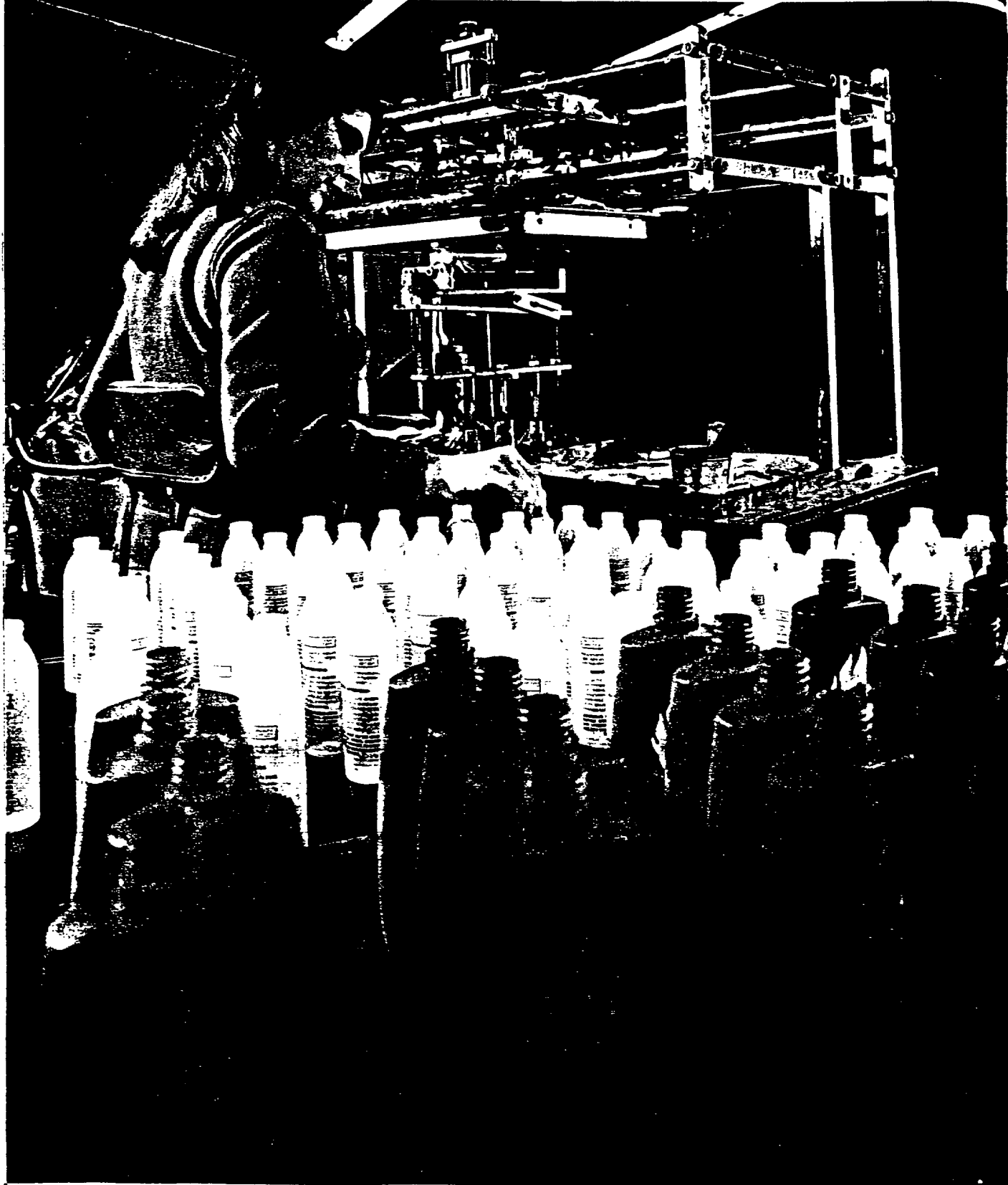
A new alpha olefins chemical plant, located in our Houston manufacturing center, is under construction and is scheduled to be completed early in 1971. The plant, which will cost over \$10 million, will enable the Industrial Chemicals Division to become a major supplier of alpha olefins to the detergent intermediate, plasticizer, and fatty chemical intermediate markets. The major markets to be served are household detergents and plasticizers. Other markets will involve the sale of alpha olefins and of other intermediates produced from alpha olefins.



Chlorinated solvents comprise an important group of Ethyl's industrial chemicals.



ETC 17062



ETC 17063

Plastics operations continue to grow

Ethyl's plastics operations are centered around two leading plastics—polyethylene and polyvinyl chloride.

Through its Imco Container Company, Ethyl is a leading producer of both polyethylene and polyvinyl chloride bottles and containers. In addition,

Ethyl is the world's largest producer of polyethylene packaging films. In polyvinyl

chloride, Ethyl's operations begin at the vinyl chloride monomer stage, and extend all

the way through the production of polyvinyl chloride resins and compounds and of finished PVC products. They

include polyvinyl chloride packaging films, particularly films for wrapping fresh meat and produce, and polyvinyl chloride shrink films as well.

Still another growing PVC area consists of PVC pipe which is finding increasing use in domestic water, irrigation, and sewage systems.

Ethyl also has a unique PVC system, Flocor, for cleaning up liquid waste, and sells a complete service for both municipal and industrial wastes.

Aided by a full year of operation of Imco Container Company, acquired in mid-1968, Ethyl's Plastics Division increased its 1969 sales over the year before by a wide margin. In addition, the company made excellent progress in polyethylene film, in polyvinyl chloride resins and compounds, and in other product lines.

Polyethylene film sales rose more than 15% as Ethyl remained at the forefront of a tough competitive industry. Moreover, market development of specialty films, together with increased manufacturing efficiencies, contributed to the better showing. A new polyethylene film plant in Carbondale, Pennsylvania, completed in mid-1969, strengthened the Division's capability to serve the eastern markets.

Imco's polyethylene containers maintained their consistent sales growth in packaging for toiletries, cosmetics, detergents and household chemicals. Meanwhile, its polyvinyl chloride bottles and containers expanded movement in the food product packaging area and in other consumer products such as shampoos and household chemicals. Manufacturing innovations and increased efficiency contributed to Imco's improved results. At year's end, Imco put into operation a new polyethylene bottle manufacturing plant, its seventeenth facility, in Vandalia, Ill.

Also during the year, Imco Container (Canada) Ltd. acquired Polobak Plastics, Ltd., an injection molder of various plastic parts. The addition has enabled Imco of Canada to offer a broader product line and, with caps and closures plus the basic bottle, a complete package.

Sales of polyvinyl chloride resins and compounds increased more than a third over 1968 levels, continuing to outstrip the industry growth rates. Resin production exceeded the expected capacity, and manufacturing costs were substantially improved. A new PVC compounding plant was brought on

stream at Tiptonville, Tennessee, in the third quarter of 1969, and construction began on a dual expansion of the PVC resins plant at Baton Rouge. This capacity will enable us to meet present requirements and to maintain our position in the rapidly growing PVC market.

PVC pipe sales increased approximately 15%, despite intense competition and price declines. Increased productivity was achieved in pipe manufacturing operations, and Ethyl's "Bell:Ring" Pipe continued to be well received in the water and sanitation markets.

Sales of PVC packaging films, principally for red meat and produce wrap, were about 15% higher than in 1968, although the market was affected by price cutting. Construction began on a new PVC film manufacturing plant in Richmond, Virginia, which will improve Ethyl's ability to serve its customers.

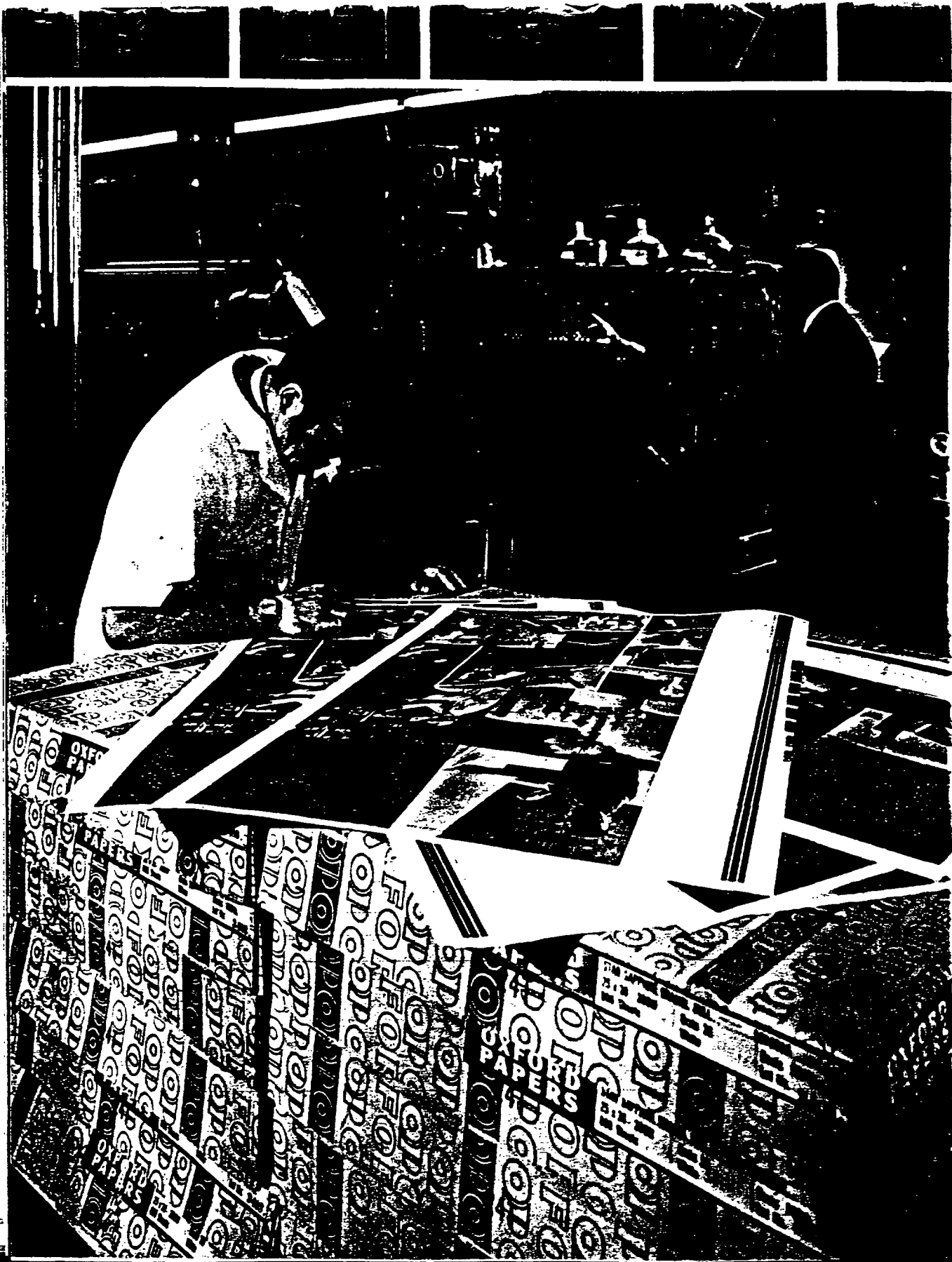
A new Converted Products Division was organized during the year and gave Ethyl entry into the consumer products area with a new plant to make polyethylene refuse bags. A facility in Richmond started up at midyear.

Furthermore, the New Market Development group was established to explore new opportunities in plastics and facilitate our optimal entry into yet new product areas.



Ethyl's new PVC compounding plant at Tiptonville, Tennessee, was brought on stream in 1969.

The final steps in production of plastic bottles and containers at Imco Container plant.



DESIG

ETC 17065

Our Oxford Paper Company division is one of the major producers of printing and fine papers in the United States.

These papers are all in the bleached or white category. The largest single outlet for

Oxford papers consists of magazine publishers, including a number of leading national publications. Our Paper division is also the largest supplier in the country of book publishing papers. Oxford's products fall under two other major categories: commercial printing and converting papers. Commercial printing includes all kinds of brochures, direct mail pieces, proxy statements, annual reports, and so on, while converting papers involve those used in business forms, envelopes and other office applications.

Demand for the products produced by our Oxford Paper Division improved during the year, and as a result that division attained its second highest sales on record. Despite the stronger market, it was not possible to increase prices sufficiently to offset the continually rising costs of labor and raw materials. This fact, plus some operating problems at the Rumford, Maine, mill, and development costs of a new process at the West Carrollton, Ohio, mill, kept the Paper division's results considerably below anticipated levels.

Further price increases have been instituted effective the first quarter of 1970, and progress has been made both on the problems at

Rumford and the development at West Carrollton.

The Paper division has under study at this time an important expansion and improvement program which should materially add to the earning power of that operation. Recommendations based on this study will be forthcoming in the near future.

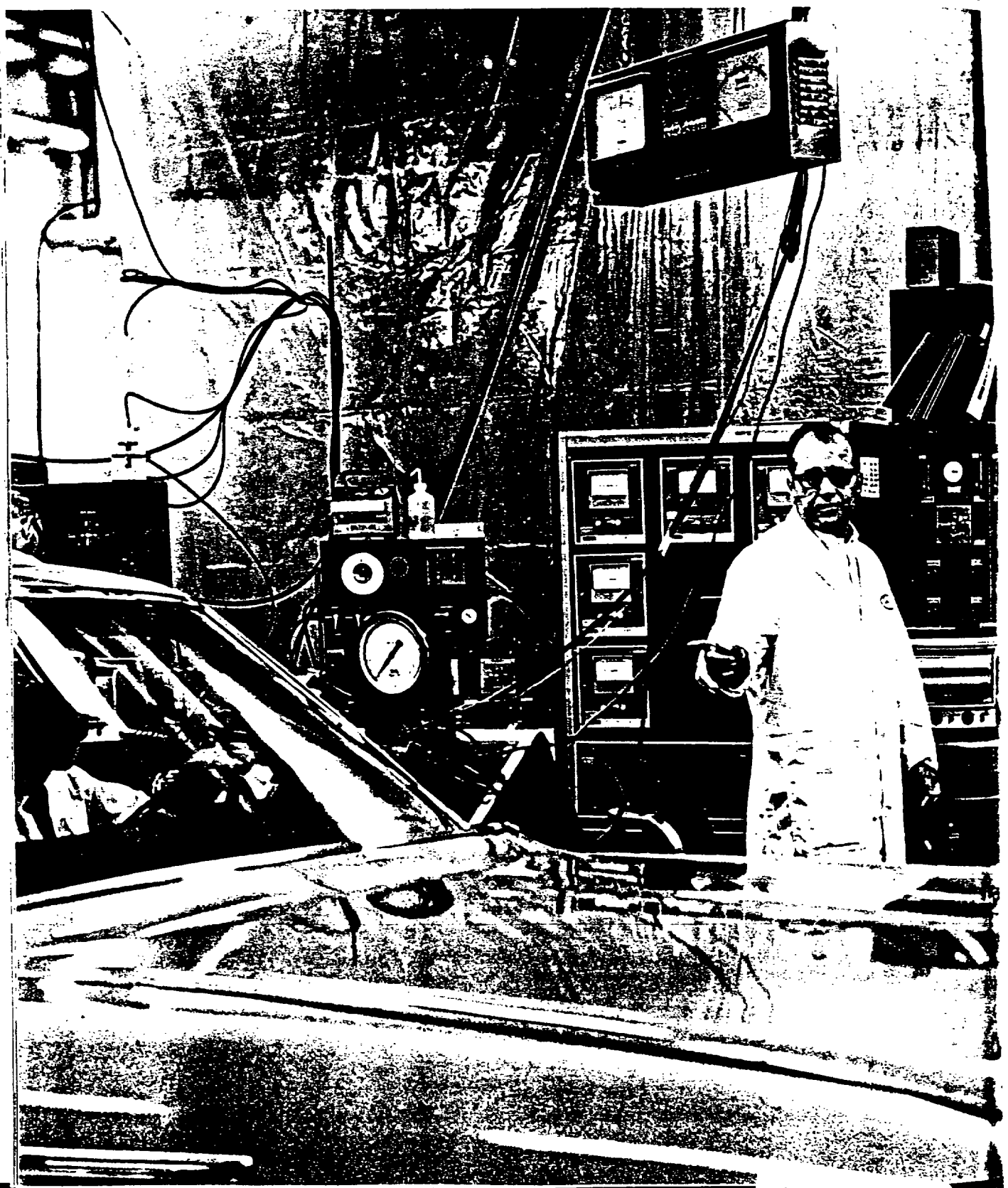
Sales by end use of Oxford products in 1969 were as follows:

Magazines and	<u>Tons</u>	<u>% of Total</u>
Periodicals	125,283	34.8
Book Publishing	81,779	22.7
Commercial Printing	82,560	23.0
Converting (Business forms, envelopes, etc.)	69,972	19.5
Total	359,594	100.0



Rolls of newly produced paper are moved along at an Oxford mill in one of the mill's many operations.

Oxford papers go into fine quality printing and numerous other applications.



ETC 17067



**THE AUTOMOTIVE EMISSION
PROBLEM...**

**ETHYL'S APPROACH TO A
SOLUTION...**

ETC 17068

GLOSSARY

AUTOMOTIVE EMISSIONS—All gaseous and particulate material discharged from the automotive exhaust pipe into the air.

SMOG—The products of the photochemical reaction of reactive hydrocarbons and nitrogen oxides in the presence of sunlight.

HYDROCARBONS—The family of chemicals resulting from the combination of hydrogen and carbon. (Gasoline is made up of hydrocarbons.)

NITROGEN OXIDE—Nitrogen and oxygen in the air combine during the combustion process and form nitrogen oxides.

CARBON MONOXIDE—A colorless, odorless, toxic gas formed as a result of incomplete combustion.

INTRODUCTION

EMISSIONS—All gaseous and particulate discharged from the automotive engine into the air.

Products of the photochemical reaction of hydrocarbons and nitrogen oxides in the presence of sunlight.

—The family of chemicals resulting from the oxidation of hydrogen and carbon, including hydrocarbons.)

—Nitrogen and oxygen in the air enter the combustion process and form

CO—A colorless, odorless, toxic gas resulting from incomplete combustion.

This report is an attempt to bring some order out of the present confusion on the subject of leaded gasolines and automotive emissions. We hope that this information will give you a better understanding of emission control and the value of leaded gasoline. Let us now look at the subject in more detail . . .

Certain automobile companies announced that they intend to make automobiles in the future with special emission devices which will require unleaded gasoline. They contended that leaded gasoline interferes with some of their experimental emission devices and they will be unable to meet emission standards forecast for the future. In a matter of several weeks they announced a change in plans . . . as they revealed their intentions to modify 1971 models so that they would operate on unleaded gasoline—but such announcements also indicated that these cars would be capable of operating on leaded gasoline. The recent statements by the automotive industry have caused great confusion in the petroleum and related industries that manufacture and market today's highly efficient gasoline.

Actually, the goal of a pollution-free car on today's gasoline is within our grasp. Many approaches are currently being explored and announced by government and industry.

Ethyl Corporation, for instance, has already developed an experimental car whose emission levels are below the existing 1974 California requirements and at the same time are close to the standards for unburned hydrocarbons, carbon monoxide, and nitrogen oxides recently proposed by the Department of Health, Education and Welfare for 1975 model year cars.

LEADED GASOLINE

Lead antiknocks for gasoline resulted from many years of intensive research to overcome the tendency of a fuel to knock in an engine. Through the years, the demand for better fuel economy and more power resulted in increased compression ratios and the requirement for higher quality fuels. About one teaspoon of the clear liquid lead antiknock compound added to each gallon of gasoline raises the quality of that gasoline sufficiently to eliminate power-robbing knock.

Oil refiners can also raise the quality of gasoline by various refining processes. Each operation, however, results in a loss in yield of gasoline from each barrel of crude refined. Therefore, lead antiknocks are used as economical tools to increase fuel quality in combination with processing methods. Gasoline is refined to an economical quality level by processing, and the lead antiknocks are added to bring the finished product to its desired higher quality level.

Antiknock compounds, with tetraethyl lead as the active antiknock agent, were introduced commercially in 1923. In the intervening near-50 years, their contributions to national defense, conservation of our natural resources, automotive/fuel progress, and the general advancement of the automotive and petroleum industries have been many and diverse.

Not the least of the credits attributable to lead antiknocks is that they conserve something on the order of 250 million barrels of crude oil each year. This is a major consideration at a time, such as the present, when the nation's petroleum reserves are on the decline. Because of the more extensive refining operations that would have to be carried out to raise the octane number of unleaded gasoline, fully 6% more crude oil would be required to do the job that lead antiknocks now perform. Restrictions on lead antiknocks would increase the cost of gasoline.

The relationship of gasoline to smog and air pollution has long been studied. A published investigation carried out by Midwest Research Institute showed that adding lead antiknocks to gasoline had no influence on the amount of smog formed from vehicle exhaust emissions or the amount of eye irritation produced. The investigators summarized their work as follows:

"Neither tetraethyllead nor halogen-containing scavengers of lead have any detectable effect on the smog-forming potential of automobile exhaust."

UNLEADED GASOLINE

knocks for gasoline resulted from many intensive research to overcome the tendency of fuel to knock in an engine. Through the demand for better fuel economy and more resulted in increased compression ratios requirement for higher quality fuels. About 1000 of the clear liquid lead antiknock is added to each gallon of gasoline raises 7 of that gasoline sufficiently to eliminate knocking.

It can also raise the quality of gasoline by refining processes. Each operation, however, results in a loss in yield of gasoline from each barrel of crude refined. Therefore, lead antiknocks are economical tools to increase fuel quality in combination with processing methods. Gasoline refined to an economical quality level by distillation, and the lead antiknocks are added to the finished product to its desired higher octane level.

Compounds, with tetraethyl lead as the antiknock agent, were introduced commercially in 1923. In the intervening near-50 years, their uses range from national defense, conservation of natural resources, automotive/fuel progress, general advancement of the automotive and chemical industries have been many and diverse.

Most of the credits attributable to lead antiknock is that they conserve something on the order of 50 million barrels of crude oil each year. A major consideration at a time, such as the present, when the nation's petroleum reserves are declining. Because of the more extensive refinements that would have to be carried out to raise the octane number of unleaded gasoline, more crude oil would be required to do the same work that lead antiknocks now perform. Restrictions on lead antiknocks would increase the cost of gasoline.

The relationship of gasoline to smog and air pollution has been studied. A published investigation carried out by Midwest Research Institute showed that adding lead antiknocks to gasoline had no effect on the amount of smog formed from engine exhaust emissions or the amount of eye irritation produced. The investigators summarized their findings as follows:

"Tetraethyllead nor halogen-containing compounds of lead have any detectable effect on the smog-forming potential of automobile exhaust."

If lead is taken out of gasoline, the nation's motorists will be penalized in many ways. They will witness higher fuel costs, lower quality gasolines, an unnecessary waste of our petroleum resources, and new and potentially serious air pollution problems stemming from automobile exhaust.

To begin with, unleaded regular grade gasoline will in all likelihood cost more per gallon, and it is expected to be of lower quality. Thus, motorists will have to pay more for gasoline that gives them losses of as much as 10% in mileage and power.

The unleaded fuels now being discussed for 1971 use could mean a return to the gasoline quality levels of the 1950's. Later, if the oil industry attempts to raise the octane level of unleaded gasoline, substantially higher costs will be seen. Replacing leaded gasoline completely with unleaded gasoline of equivalent quality would cost the oil industry an additional four cents a gallon to make, on the average, and up to twice that amount for the smaller refiners. All told, the oil industry would have to spend more than \$6 billion for additional refining facilities, and would have increased gasoline production costs of \$3.5 billion annually.

Meanwhile, the greater use of unleaded gasoline would aggravate the problem of air pollution. In and of itself, the use of unleaded gasoline of lower quality than present leaded fuels will result in a greater volume of exhaust emissions. This is because more gasoline will be required to provide the same amount of transportation. Subsequently, as the hydrocarbon composition of gasoline is changed to provide the higher fuel quality now supplied by lead, greater emissions of harmful pollutants can be expected.

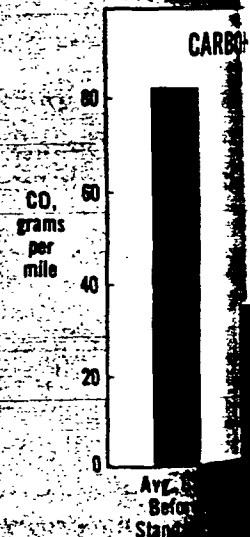
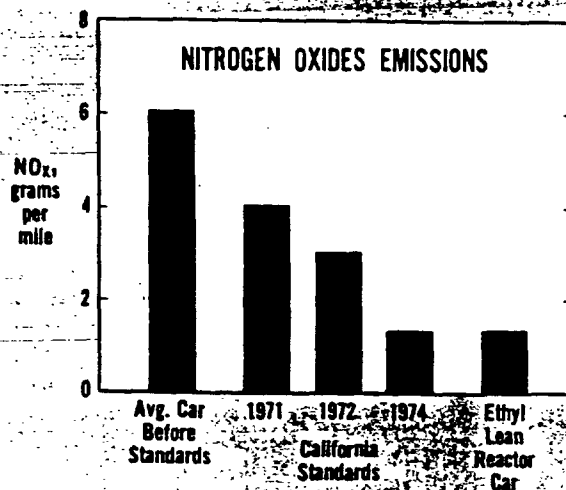
Recently, an investigation of the smog-forming potential of leaded fuels and unleaded fuels embodying such changes in hydrocarbon composition was conducted by the U.S. Bureau of Mines Petroleum Research Center at Bartlesville, Oklahoma. The publication based on this work includes the following statement:

"Leaded and the comparable quality prototype unleaded fuels yielded about equal amounts of emissions. This was true for both evaporative and exhaust losses. If the photochemical effect is considered, the fuel factor is shown to exert significant influence. The fuel alterations from leaded to unleaded changed emission characteristics so that the pollution effect was increased by as much as 25%."

DRAMATIC PROGRESS

In the understandable haste to speed the day of the pollution-free automobile, there is often a tendency to overlook the dramatic progress in exhaust emission reduction that has been achieved in just recent years. General Motors recently said, "On the standard California smog test, the average uncontrolled 1960 model emits 567 grams per day, and the average 1970 model emits 104 grams—less than one fifth."

Researchers have examined two basic areas in attacking the problems of automobile exhaust emissions—the engine and the exhaust system. Various methods for reducing emissions still further are under investigation. These include engine modifications, exhaust gas recycle, exhaust manifold reactors and catalytic systems. The catalyst systems proposed to reduce exhaust emission is receiving considerable attention today and is said by some to be incompatible with leaded gasoline.

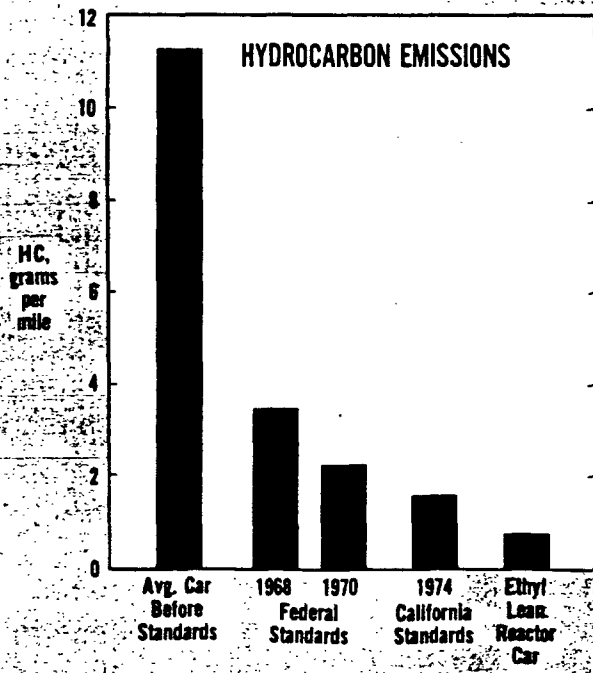
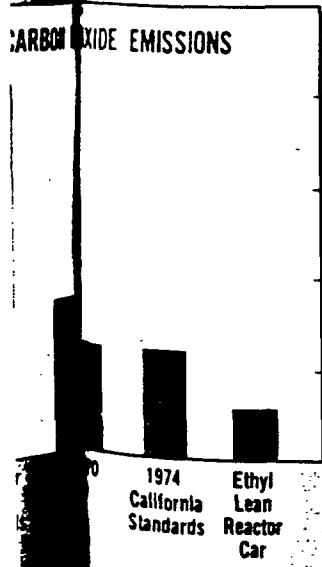


the
icy
is-
ent
nd-
ed
er-
ne

at-
is-
us
are
ca-
re-
ns
ng
ne

Ethyl has conducted extensive research on catalytic mufflers and in the early 1960's developed a catalyst system that met the performance requirements then specified by California. Catalyst systems have not been adopted for vehicles using leaded or unleaded gasolines because of several drawbacks—mainly high cost, low service life and destruction due to over-heating. Continued research may change the outlook, but Ethyl believes that when effective catalysts are developed, they will work with leaded gasolines.

The most promising route to lowering emissions in the future now appears to be through engine modifications, exhaust gas recycle, exhaust manifold reactors. Ethyl has followed this route in developing its Lean Reactor Car.



The Ethyl Lean Reactor Car compares favorably to any control devices.

ETHYL HAS A LOW EMISSION CAR NOW

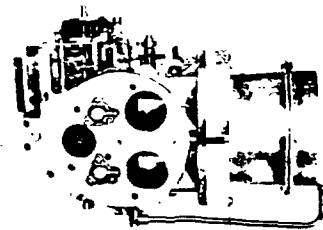
Ethyl's many research advances in engine improvements are embodied in the Ethyl Lean Reactor car. This research vehicle incorporates four significant engine modifications: (1) an Ethyl-designed high velocity carburetor for better fuel distribution of very lean mixtures, (2) a two-step control of vacuum ignition advance for best ignition timing under various speed and load conditions, (3) an exhaust recycle system to supply the proper amount of exhaust gas and mix it with the incoming fuel-air mixture, and (4) exhaust reactors to conserve heat and provide time for further burning of combustible emissions. Hydrocarbon and carbon monoxide emissions are reduced by the use of lean mixtures, optimum ignition timing, and heat conservation.

The combination of exhaust gas recirculation and very lean fuel-air mixtures results in low emissions of nitrogen oxides.

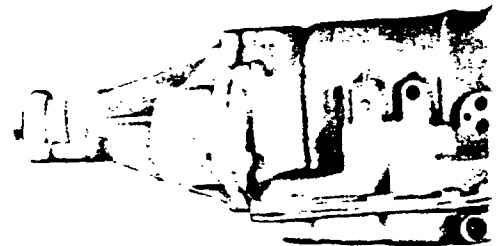
Operating on today's high-performance leaded gasoline, the Ethyl Car can reduce emission levels below the existing 1974 California requirements and close to those recently proposed by the Department of Health, Education and Welfare for 1975 model cars, as follows:



Cross section of stainless steel exhaust port liner and reactor. These modifications, promote more complete burning of combustible material.



The Ethyl high-velocity carburetor supplies well mixed, evenly distributed, very lean fuel-air mixtures to the engine's cylinders.

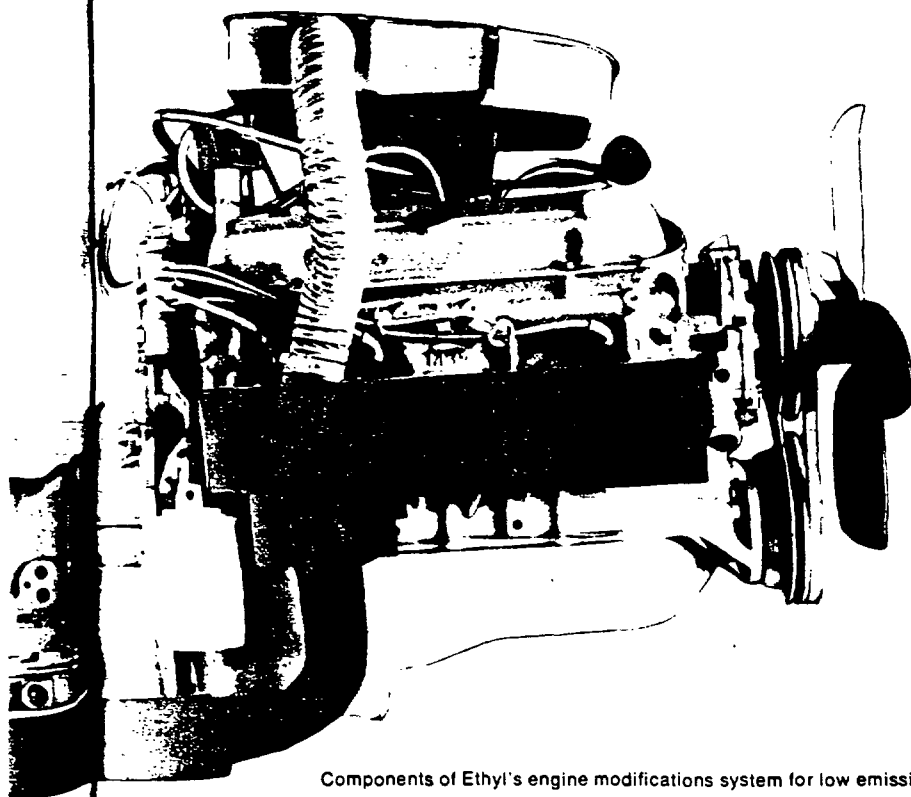


	1974 California Requirements Grams/mile	Proposed 1975 HEW Requirements Grams/mile	ETHYL LEAN REACTOR CAR Grams/mile
--	--	--	---

Unburned Hydrocarbons	1.5	0.5	0.55
Carbon Monoxide	23.0	11.0	10.4
Nitrogen Oxides	1.3	0.9	1.3
Particulates	—	0.1	*

Although the HEW proposed standards for 1975 include a requirement for particulates of 0.1 g/mi, no methods have been established for measuring particulates.

The Ethyl Lean Reactor Car achieves these typical low emission levels without sacrificing any of the advantages of the modern high compression gasoline engine. The system provides smooth power for the acceleration and performance that the motoring public has become accustomed to, including the extra luxury accessories.



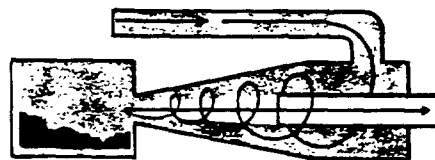
Components of Ethyl's engine modifications system for low emissions.

TRAPPING PARTICULATES

In addition to gaseous pollutants, the atmosphere contains small particles of matter, called particulates, which are generated largely by industrial and residential sources.

Here again, Ethyl research is diligently seeking methods to reduce automotive emissions by trapping this particulate matter before it can escape into the atmosphere from the automobile. According to U.S. Public Health *estimates* nationwide, only 5% of the total particulates in the air come from motor vehicles. And in our research work at Ethyl we have found of that small portion, only a small amount is attributable to lead.

Ethyl now has working prototypes of particulate traps that will remove 65% of exhausted lead compounds, and are testing more advanced devices trying to remove up to 100%. We are confident that continued research by Ethyl and others will result in economically practical devices, should particulate traps be needed to satisfy future proposed standards.



A cyclone-type trap, high-speed swirling motion of exhaust gas drives particles to the wall where they are swept into collection can.

CONCLUSION

This brief report has been offered by Ethyl Corporation to inform all concerned of the great value of leaded gasoline and of some of the problems that would result if a hasty decision were made causing lead usage to be curtailed.

We are proud that the experimental Ethyl Lean Reactor Car is five years ahead of schedule, approaching the low emission level standards proposed by the Federal Government for 1975 model cars using today's high quality leaded gasoline. It is reasonable to assume that by working together, the Federal agencies involved, the automotive and petroleum industries, Ethyl Corporation and the other suppliers of lead antiknock compounds can promptly evolve a pollution-free automobile without depriving motorists and the nation of the efficiency and economy that leaded gasoline provides.

In keep
operat
Resea
ment
resear
Exper
excee

the
... las
entor
trol
sion
carr
stur
the
nifi
nev
...
...
tor

ur
er
o
p
a
n

ETHYL CORPORATION

*Petroleum Chemicals • Industrial
Chemicals • Plastics • Paper
Aluminum Products*

ETC 17079

Ethyl research covers a wide spectrum

In keeping with the diversified operations of the company, Ethyl's Research and Development department conducted a large number of research programs during 1969. Expenditures by the department exceeded \$16 million for the year.

Automotive Emissions Research

A large portion of Ethyl's research effort was concerned with the control of automobile exhaust emissions. Our research laboratories carried forward comprehensive studies of fuels and engines and their combustion products, and significant progress was made. Our new automotive emissions laboratory, put into operation in 1968, has proved to be a valuable research tool in this broad effort.

Ethyl's program has had two underlying objectives: to reduce emissions within the framework of presentday automobiles and presentday leaded gasoline, and to accomplish that goal substantially ahead of the time when the proposed state as well as federal standards on emissions would apply.

Our major research thrust has been in the direction of engine design modifications. Through modifications in the induction, ignition and exhaust systems of a conventional automobile engine, extremely low levels of emissions have been achieved—using *leaded gasoline*. As an example, an advanced experimental car developed along these lines records typical emissions of 0.55 grams per mile (or 40 parts per million) of unburned hydrocarbons, 10.4 grams per mile (or 0.4 percent) of carbon monoxide, and 1.3 grams per mile (300 parts per million) of nitrogen oxides.

These low emission levels, achieved in 1969 and 1970, compare favorably with the standards pre-

scribed for 1974 and 1975. Moreover, these low emissions have been accomplished without sacrificing the basic advantages of the gasoline engine or the superior performance of leaded gasoline. In fact, the fuel economy and performance of the experimental modified car are equivalent to those of a corresponding conventional car in everyday use.

At the invitation of President Nixon's Environmental Quality Council, the latest model of our experimental car, along with developments of other companies, was put on display last summer. We are continuing our work on newer versions of this research car, and others, to make further improvements. (For a discussion of recent developments relating to automobile emissions, see the Message to Shareholders on Page 1.)

Chemical Research

The year 1969 further expanded Ethyl's horizons in three areas of aluminum alkyl technology—alpha olefins, fatty acids, and edible fats. Development of the process for production of selected alpha olefins provided the technical basis for a new plant now being built in Houston. Research and development progress in synthetic fatty acids offers promise of early commercialization. Fatty acids from natural sources are not adequate to serve certain anticipated growing needs in the market place. Ethyl's new process which permits controlled production of the desired fatty acids can bridge this market gap. Exploratory work on synthetic edible fats continues with planned progress.

Ethyl's patented process for orthoalkylation is now playing a major new role in agriculture. Diethylaniline now produced and sold by Ethyl is an intermediate for an extraordinarily effective new commercial weed killer—which leaves no permanent residue to contribute to later crop damage or to pollution. Another herbicide based on an Ethyl alkylated phos-

phorus compound is also finding excellent commercial acceptance.

A new orthoalkylation product may become a major antioxidant for synthetic rubber. In rubber company tests to date, this is the first chemical to offer competitive antioxidant effectiveness and nonstaining characteristics at the same time.

Ethyl's manganese-based antiknock compound has been developed for use in large, supercharged industrial gas engines. This patented antiknock increases the knock rating, or power potential, of propane to that of natural gas. Under advanced development are extended-range gasoline additives; these do the same thing for certain other engine parts that Ethyl's existing additives do for carburetors—keeping them clean and functioning properly for lowest possible exhaust emissions. A compound which is effective in reducing smoke from diesel engines is in the advanced development stage.

Research effort in the plastics field has resulted in the introduction of improved injection molding and bottle compounds. Ethyl's fiberglass-reinforced polyvinyl chloride compound—first in the industry—was commercialized, and research on improved versions is continuing.

Large-particle PVC is being developed for the filtration of swimming pool water and industrial wastes.

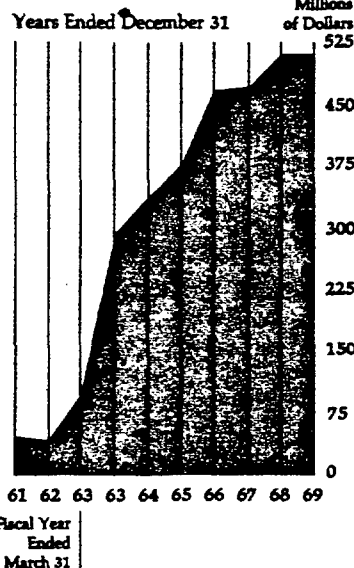
Ethyl has continued to conduct significant research in the field of aluminum and other metals, seeking to develop useful new technologies. Ethyl's special process for foamed aluminum adds light weight, strength, and stiffness to a uniform, fine-pore, closed-cell structure of the metal.

During 1969, Ethyl received approximately 100 U.S. patents and 100 foreign ones. Ethyl now holds just over 1,200 unexpired U.S. patents, and maintains about 900 foreign patents.

Highly specialized testing equipment is required for research studies of fuels and engines.

Financial Results of 1969

Net Sales Again Exceed \$500 Million



Sales Set a New Record Consolidated net sales in 1969 were \$509,302,000, representing an increase of approximately \$49 million, equal to about a 11% gain over 1968 sales of \$460,499,000 after excluding from the 1968 sales \$48,573,000, representing sales of Albemarle which was sold on October 31, 1968.

Net Sales by Product Lines (In Thousands of Dollars)

	1969		1968		1967	
	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total
Chemicals						
Petroleum . . .	\$213,840	42%	\$210,807	42%	\$199,310	42%
Industrial . . .	65,157	13	57,688	11	45,030	10
Plastics	95,461	19	63,034	12	40,111	9
Paper and						
Paper Products . .	97,783	19	94,447	19	93,480	20
Aluminum Products	37,061	7	34,523	7	32,642	7
	<u>509,302</u>	<u>100</u>	<u>460,499</u>	<u>91</u>	<u>410,573</u>	<u>88</u>
Albemarle	—	—	48,573	9	58,365	12
	<u>\$509,302</u>	<u>100%</u>	<u>\$509,072</u>	<u>100%</u>	<u>\$468,938</u>	<u>100%</u>

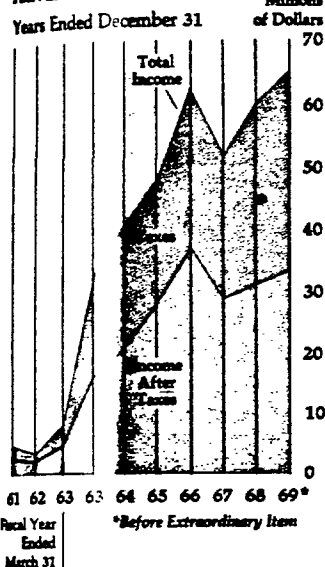
As seen in the above table, net sales in 1969 increased in all categories after 1968 paper sales are adjusted to exclude sales of Albemarle Paper Company. The largest sales increases were scored in Plastics and Industrial Chemicals.

Income from Operations Advances Again Income from operations for 1969 amounted to \$33,024,000 compared with income from operations of \$31,502,000 for 1968. The increase in income is accounted for mainly by improvements in Industrial Chemicals and Plastics (including a full year of operation for our Imco Container Division which was acquired in 1968).

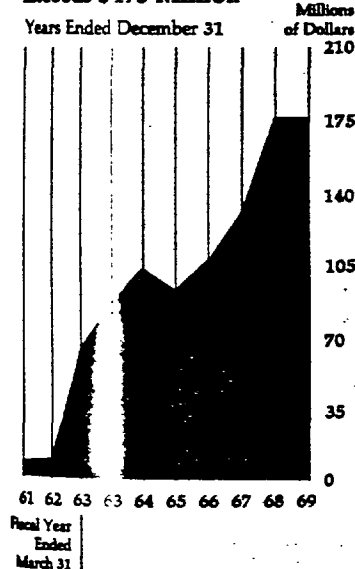
Earnings per Share Increase The 1969 income from operations was equal to \$2.77 per share, based on the average 10,170,000 shares of common stock outstanding during 1969, treating common stock options and warrants as common stock equivalents. It compares with income from operations of \$2.61 per share for 1968, on the basis of the average 10,172,000 shares of common stock outstanding during the year, treating common stock options and warrants as common stock equivalents.

Net Income after Extraordinary Item The 1969 income from operations is before an extraordinary item of \$3.5 million, representing a writedown of Ethyl's investment in a bromine recovery plant in Freeport, Texas. Net income for 1969 after the extraordinary item amounted to \$29,524,000 or \$2.43 a share.

Income from Operations Advances to \$33 Million



Working Capital Exceeds \$175 Million



Capital Stock The total number of common shares and of the \$2.40 convertible second preferred shares outstanding on December 31, 1969 were 10,059,444 and 1,760,982, respectively.

Dividend Increased At its November meeting, the Board of Directors increased the regular quarterly dividend on the common stock to 21 cents per share or an annual rate of 84 cents a share effective with the January 1, 1970 payment. This compares with the former annual dividend of 72 cents a share. This was the second dividend increase within a year.

Cash and Short-Term Investments Increase During 1969, there was an increase in cash and short-term securities of \$18.2 million, from \$105.1 million at December 31, 1968 to \$123.3 million at December 31, 1969. The following table shows the source and disposition of funds:

Source of Funds

Income before Extraordinary Item . . .	\$33,024,000
Depreciation, Depletion and Amortization . . .	29,562,000
Deferred Income Tax . . .	4,607,000
Proceeds from Exercise of Stock Options . . .	689,000
Increase in Notes Payable	11,959,000
Net Increase in Long-Term Debt . . .	14,600,000

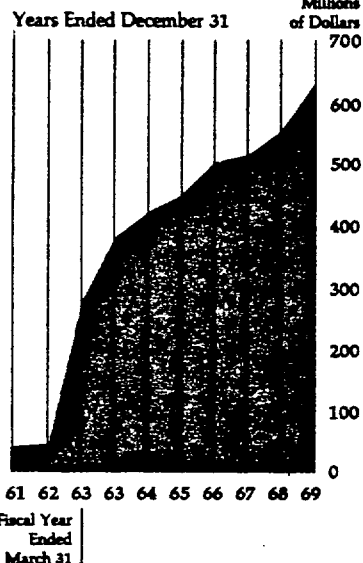
Disposition of Funds

Dividends Paid	\$12,084,000
Capital Expenditures:	
Property, Plant and Equipment . . .	\$48,423,000
Acquisition of Stock of Capital Products Corporation . . .	4,889,000
Treasury Stock Purchases and Sinking Fund Payments	6,934,000
Other Items	3,907,000
	<u>76,237,000</u>
Increase in Cash and Short-Term Securities	<u>18,204,000</u>
	<u>\$94,441,000</u>

Cash Flow Increases Cash Flow, which consists of income before extraordinary item plus depreciation, depletion and amortization and deferred income taxes, amounted to \$67.2 million in 1969, as compared with a cash flow of \$65 million in 1968. The 1969 cash flow exceeded that in 1968 by \$2.2 million, and was sufficient to provide for all fixed charges and dividends and to provide substantial funds for capital expenditures.

Working Capital At December 31, 1969, working capital was \$176.5 million and the ratio of current assets to current liabilities was 2.71 to 1. This compared with working capital of \$176.3 million and a ratio of 3.47 to 1 at December 31, 1968.

Total Assets Up Over \$60 Million



Capital Expenditures at a High Level During 1969, \$53.3 million was spent on capital projects for new plants and for expansion and modernization. Of this total, \$4.9 million was a partial payment for the purchase of approximately 56% of the stock of Capitol Products Corporation of Mechanicsburg, Pennsylvania, fabricators of aluminum windows and doors and other aluminum products. Ethyl also has under construction in its Houston manufacturing center a \$10 million plant for the production of alpha olefins, which chemical products are used in detergents and plasticizers.

In the last seven years, total capital expenditures were over \$330 million.

Long-Term Debt Debt repayments during 1969 amounted to \$6.0 million. These consisted of payments of \$1,250,000 on the 5 $\frac{1}{8}$ % Bank Loan, due 1970; \$685,000 on the 3 $\frac{3}{8}$ % Guaranteed Notes, due 1970; \$2,500,000 on the 5 $\frac{1}{4}$ % Subordinated Notes, due 1972; \$1,250,000 on the 4 $\frac{7}{8}$ % Promissory Notes, due 1983; and \$289,000 on Miscellaneous Debt.

On December 31, 1969, the company drew down \$15.5 million of an original \$50 million commitment received from four insurance companies in 1968. The remaining balance of \$15.5 million is scheduled to be drawn down in early 1970.

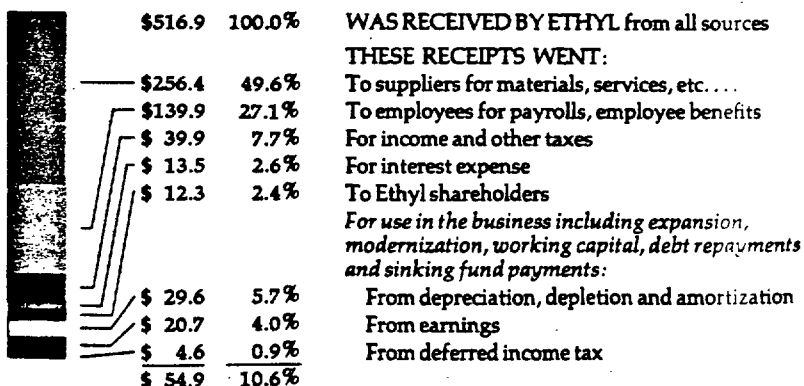
As of December 31, 1969, the long-term portion of Ethyl's debt was \$230.1 million, equal to 48% of the company's total capitalization.

The long-term debt at December 31, 1969 represents an increase of \$15 million over long-term debt of \$215.1 million at December 31, 1968. This increase is the result of the \$15.5 million new borrowing plus additional foreign debt of \$4.8 million plus \$2.5 million in long-term debt of Capitol Products Corporation less \$7.8 million in long-term debt due during the year 1970.

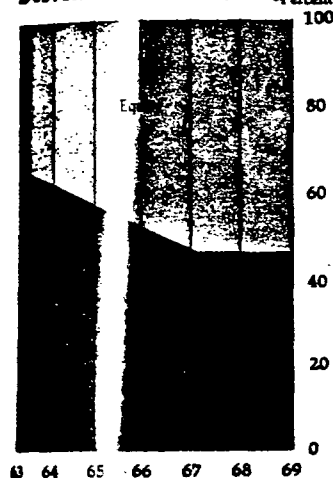
The current portion of long-term debt increased by \$2.1 million from \$5.7 million at December 31, 1968 to \$7.8 million at December 31, 1969.

Accordingly, the net change in total long-term debt for the year 1969 is an increase of \$17.1 million.

How Ethyl Used the Revenues It Received During 1969 (Millions of Dollars)



Debt Ratio Below 50%



SUMMARY OF LONG-TERM DEBT

5 1/4% Bank Loan—Due 1970	\$ 3,000,000
The Chase Manhattan Bank	
5 3/4% Senior Notes (\$106 million—Due 1971-78) and 7 1/4% Promissory Notes (\$34.5 million*—Due 1973-83)	140,500,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
The Northwestern Mutual Life Insurance Company	
New York Life Insurance Company	
3 3/4% Guaranteed Notes—Due 1970	689,000
Three Canadian Banks (Debt of Canadian Subsidiary Guaranteed by Parent Company)	
5 3/4% Subordinated Notes—Due 1970-72	7,485,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
New York Life Insurance Company	
5 3/4% Subordinated Notes—Due 1979-82	50,000,000
Various Institutional Investors	
4 7/8% Promissory Notes—Due 1970-83	26,500,000
Miscellaneous	9,849,000
Total Debt at December 31, 1969	238,023,000
Current Portion of Debt	7,871,000
Long-Term Debt	<u>\$230,152,000</u>

*Represents a portion of a \$50,000,000 commitment.

The additional \$15,500,000 is scheduled to be drawn down in early 1970.

SUMMARY OF DEBT MATURITIES TO 1979

	5 1/4% Subordinated Notes Due 1979-82	5 3/4% Senior Notes Due 1978	7 1/4% Promissory Notes Due 1983	5 1/4% Subordinated Notes Due 1972	4 7/8% Promissory Notes Due 1983	5 1/4% Bank Loan, 3 3/4% Guaranteed Notes and Misc. Debt Maturities to 1992	Total Annual Amount
1970				\$2,500,000	\$1,250,000	\$4,121,000	\$ 7,871,000
1971		\$12,000,000		2,500,000	1,250,000	457,000	16,207,000
1972		12,000,000		2,485,000	1,250,000	413,000	16,148,000
1973		12,000,000	\$2,500,000		1,250,000	5,339,000	21,089,000
1974		12,000,000	2,500,000		1,250,000	322,000	16,072,000
1975		12,000,000	2,500,000		1,250,000	332,000	16,082,000
1976		12,000,000	2,500,000		1,250,000	341,000	16,091,000
1977		12,000,000	2,500,000		1,250,000	323,000	16,073,000
1978		22,000,000	2,500,000		1,250,000	263,000	26,013,000
1979	\$8,000,000		7,000,000		1,250,000	224,000	16,474,000

Consolidated Balance Sheets

ETHYL CORPORATION AND SUBSIDIARIES

ASSETS

	December 31	1969	1968
Current assets:			
Cash and short-term securities	\$123,302,000	\$105,098,000	
Accounts and notes receivable	74,620,000	72,016,000	
Inventories	79,116,000	69,122,000	
Prepaid expenses	2,587,000	1,537,000	
Total current assets	279,625,000	247,773,000	
Property, plant and equipment, at cost:			
Land and land improvements	23,773,000	19,945,000	
Development costs, producing properties	4,020,000	2,770,000	
Timberlands and standing timber	7,483,000	6,341,000	
Buildings	77,183,000	71,250,000	
Machinery and equipment	373,208,000	339,191,000	
	485,667,000	439,497,000	
Less, Accumulated depreciation, depletion and amortization	192,467,000	169,736,000	
Net property, plant and equipment	293,200,000	269,761,000	
Investment in 50%-owned company	1,552,000	5,072,000	
Deferred charges and other assets	16,479,000	16,298,000	
Excess of cost of investments over equities in businesses acquired and other intangibles	28,308,000	15,723,000	
	<u>\$619,164,000</u>	<u>\$554,627,000</u>	

The accompanying notes are an integral part of these statements.

LIABILITIES

December 31

1969

1968

Current liabilities:

Accounts payable and accrued expenses . . .	\$ 54,759,000	\$ 35,315,000
Dividends payable	3,280,000	3,053,000
Notes payable	28,070,000	15,936,000
Long-term debt, current portion	7,871,000	5,733,000
Income taxes	9,146,000	11,434,000
Total current liabilities	103,126,000	71,471,000

Long-term debt:

Senior	175,167,000	157,636,000
Subordinated	54,985,000	57,485,000
Deferred income taxes	23,258,000	18,631,000
Provision for employee benefits	4,961,000	5,298,000
Minority interests	4,782,000	210,000

SHAREHOLDERS' EQUITY

Capital stock:

Cumulative First Preferred Stock,
par \$100 per share:

6% Series A	3,352,000	3,465,000
5% Series B	4,000,000	6,000,000

Cumulative Second Preferred Stock,
\$2.40 Convertible Series A, par \$10
per share (aggregate liquidation price
\$73,961,000 on 1,760,982 outstanding
shares, after treasury stock)

	19,580,000	19,488,000
Common, par \$1 per share	10,059,000	10,027,000
Capital surplus	43,243,000	46,072,000
Retained earnings	182,875,000	164,235,000
	263,109,000	249,287,000
Less, Treasury stock at cost	10,224,000	5,391,000
Total shareholders' equity	252,885,000	243,896,000
	\$619,164,000	\$554,627,000

The accompanying notes are an integral part of these statements.

Consolidated Statements of Income & Retained Earnings

	Years Ended December 31	1969	1968
Income:			
Net sales	\$509,302,000	\$509,072,000	
Miscellaneous income, net	7,621,000	3,360,000	
	<u>516,923,000</u>	<u>512,432,000</u>	
Cost and expenses:			
Cost of goods sold	376,439,000	374,412,000	
Selling and general expenses	60,218,000	63,652,000	
Interest and financing costs	14,222,000	13,274,000	
Income taxes	33,020,000	29,592,000	
	<u>483,899,000</u>	<u>480,930,000</u>	
Income before extraordinary item	33,024,000	31,502,000	
Extraordinary item	(3,500,000)		
Net income	29,524,000	31,502,000	
Retained earnings at beginning of year	164,235,000	143,991,000	
Reversal of accumulated depreciation on appraisal increase of property, plant and equipment restored to cost	1,427,000		
Deduct, Cash dividends:			
Series A, 6% First Preferred stock, \$6.00 per share	193,000	200,000	
Series B, 5% First Preferred stock, \$5.00 per share	239,000	334,000	
\$2.40 Second Preferred stock, \$2.40 per share	4,345,000	4,433,000	
Common stock, per share, \$.75 in 1969 and \$.63 in 1968	7,534,000	6,291,000	
	<u>12,311,000</u>	<u>11,258,000</u>	
Retained earnings at end of year	<u>\$182,875,000</u>	<u>\$164,235,000</u>	
Earnings per share of common stock and common stock equivalents:			
Income before extraordinary item	\$2.77	\$2.61	
Extraordinary item	(.34)		
Net income	<u>\$2.43</u>	<u>\$2.61</u>	
Pro forma earnings per share of common stock and common stock equivalents assuming conversion of \$2.40 second preferred stock. (If the second preferred stock were converted, its dividend would become \$1.09 per share at the annualized present common dividend rate, as against the present \$2.40 preferred dividend).			
Income before extraordinary item	\$2.61	\$2.46	
Extraordinary item	(.28)		
Net income	<u>\$2.33</u>	<u>\$2.46</u>	

The accompanying notes are an integral part of these statements.

Consolidated Statements of Capital Surplus

	Years Ended December 31	1969	1968
Balance at beginning of year		\$ 46,072,000	\$ 44,640,000
Reduction of certain property, plant and equipment from appraised value to cost in accordance with Federal Power Commission requirements		(3,476,000)	
Excess of cash received over par value of shares of stock issued under stock option plans:			
28,936 and 99,210 shares of common stock		308,000	971,000
9,857 and 21,240 shares of \$2.40 Second Preferred stock		253,000	381,000
Excess of par value over cost of 1,130 and 1,129 shares of 6% Series A First Preferred stock cancelled		12,000	10,000
Excess of par value of 2,316 shares of \$2.40 Second Preferred stock over par value of 3,010 shares of common stock issued upon conversion, less cost of fractional shares of common stock purchased		20,000	
Excess of award amount over par value of 1,760 and 2,264 shares of \$2.40 Second Preferred stock issued under the Oxford Incentive Compensation Plan		54,000	70,000
Balance at end of year		<u>\$ 43,243,000</u>	<u>\$ 46,072,000</u>

The accompanying notes are an integral part of these statements.

Notes to Financial Statements

1. Consolidation Principles:

The accompanying financial statements include the accounts and operations of all wholly-owned subsidiaries, the assets and liabilities of Capitol Products Corporation (Capitol), a 56% owned subsidiary acquired for cash December 24, 1969, and the accounts and operations of newly formed Bromet Company, in which Ethyl Corporation has an 80% partnership interest.

A special meeting of shareholders of Capitol has been called for March 19, 1970 for the purpose of considering and voting upon a Plan of Merger which, if approved by a majority of the outstanding

shares of Capitol's capital stock, will, among other things, entitle the remaining shareholders of Capitol to receive \$17 per share in cash (subject to appraisal in the event of dissent). As a result of the merger, the Corporation will own all of the outstanding shares of Capitol.

Excess of cost of investments over equities in businesses acquired includes the amount applicable to the Corporation's 56% interest in Capitol which has not been allocated pending approval of the merger and an appraisal of assets. The excess of cost of investment over underlying equities in other businesses acquired is not being amortized.

2. Cash and Short-Term Securities: Short-term securities, stated at cost plus earned discount which ap-

proximates market value, amounted to \$104,132,000 at December 31, 1969 and \$92,145,000 at December 31, 1968.

3. Inventories:

Inventories include:

	1969	1968
Finished goods	\$31,399,000	\$28,425,000
Raw materials and work in process	32,892,000	27,573,000
Stores, supplies, etc.	14,825,000	13,124,000
	<u>\$79,116,000</u>	<u>\$69,122,000</u>

Inventories are stated at the lower of cost or market with cost being determined on the last-in, first-out basis with respect to approximately

Notes to Financial Statements *continued*

\$36,743,000 at December 31, 1969, and \$31,967,000 at December 31, 1968, and generally on either an average cost or first-in, first-out basis with respect to the balance.

4. Investment in 50%-owned Company:

The Corporation's investment in Ethyl-Dow Chemical Company, in process of liquidation, approximates its 50% equity in the net assets of that company and is stated after a writedown of \$3,500,000 (a capital loss without current tax benefit) from cost included as an extraordinary item in the accompanying consolidated statement of income. Dividends received from Ethyl-Dow were \$900,000 in 1969 and \$1,160,000 in 1968 which amounts were not significantly different from the Corporation's equity in Ethyl-Dow earnings.

5. Deferred Charges and Other Assets:

Deferred charges at December 31, 1969 consisted principally of unamortized discount on long-term debt and other deferred financing expenses. Other assets include a receivable applicable to certain timberlands of a subsidiary which have been expropriated by the Province of New Brunswick. The Corporation expects that litigation regarding compensation, which is now in progress, will result in recovery substantially greater than the amount at which the receivable is stated in the subsidiary's accounts.

6. Notes Payable:

The Corporation borrowed \$25,000,000 in 1969 on short-term notes under a revolving credit agreement with five banks and has the right to convert these notes not later than May 15, 1970, into term promissory notes payable in ten equal, semi-annual installments commencing six months from the date of conversion.

7. Long-Term Debt:

Reference is made to "Long-Term Debt" on page 19 of this report for

information concerning the Corporation's long-term borrowings.

8. Capital Stock:

As of December 31, 1969, there were 25,000,000 shares of common stock authorized, of which 10,059,456 shares were issued which includes 12 shares of treasury stock.

As of December 31, 1969, there were 1,000,000 shares of First Preferred Stock authorized, of which 33,523 shares of 6% Series A and 40,000 shares of 5% Series B were issued, which includes 2,114 shares of 6% Series A and 1,800 shares of 5% Series B of treasury stock. The 6% Series A stock is redeemable at \$101 and annual sinking fund payments of approximately \$114,000 are required. The 5% Series B stock is redeemable at \$100 from a sinking fund having required annual payments of \$2,000,000 and is otherwise redeemable at \$102 to June 30, 1970 and \$101 thereafter. The First Preferred Stock is preferentially entitled to par value in involuntary liquidation and to its current redemption price in voluntary liquidation.

As of December 31, 1969, there were 10,000,000 shares of Second Preferred Stock authorized, of which 1,957,982 shares of \$2.40 Convertible Series A were issued, which includes 197,000 shares of treasury stock. Each share of \$2.40 Convertible Series A is convertible into 1.3 shares of common stock. The voluntary or involuntary liquidation value of the Second Preferred Stock is the greater of (1) \$42 per share, or (2) an amount equivalent to the book value of that number of shares of common stock into which such preferred stock is convertible. The aggregate excess of liquidation price over par value on 1,760,982 shares of outstanding stock is approximately \$56,350,000 as of December 31, 1969. These shares are callable after August 1, 1972 at \$75 per share, plus accrued dividends.

9. Warrants:

At December 31, 1969, there were outstanding warrants exercisable on or before November 1, 1982,

which entitle the holders thereof to purchase 45,600 shares of unissued common stock at \$4.58 per share. During 1969 there were no warrants exercised.

10. Stock Option Plans:

Under the Corporation's restricted stock option plan, 148,339 shares of unissued common stock are reserved for issuance to officers and other key employees. At December 31, 1968, there were outstanding options to purchase 187,545 shares at prices ranging from \$9.42 to \$33.12. During 1969, there were no options granted, options for 28,936 shares were exercised, and options for 10,270 shares were cancelled, leaving outstanding at December 31, 1969 options covering 148,339 shares at prices ranging from \$9.42 to \$33.12 (of which options for 67,689 shares were exercisable at that date). No further shares are available for grant under this plan.

Under a qualified stock option plan approved by the shareholders on April 24, 1969, 300,000 shares of unissued common stock are reserved for issuance to officers and other key employees. No options to purchase shares under this plan were granted during 1969.

In connection with the merger of Oxford Paper Company into Ethyl Corporation in August, 1967, the Corporation assumed Oxford Paper Company's obligations with respect to the outstanding options under stock option plans for officers, key employees and eligible salaried employees, and reserved shares of \$2.40 Second Preferred Stock therefore. At December 31, 1968, there were outstanding options to purchase 28,185 shares at prices ranging from \$23.00 to \$59.75. During 1969, options for 9,857 shares were exercised and options for 4,584 shares were cancelled, leaving outstanding at December 31, 1969, options covering 13,744 shares at prices ranging from \$24.84 to \$59.75 (of which options for 6,655 shares were exercisable at that date). No further shares are available for grant under these plans.

11. Retained Earnings Restriction:

The Corporation's articles of incorporation and note agreements contain restrictions, among others, against the payment of cash dividends. At December 31, 1969, \$17,674,000 of retained earnings may be made available for such payments under the agreement presently most restrictive.

12. Retirement Income Plans:

The Corporation and its subsidiaries provide retirement benefits for substantially all of their employees, including certain employees in foreign countries, under several different plans funded with insurance companies or corporate trustees. Plan contributions, based upon actuarial calculations, are irrevocably devoted to the payment of retirement and other benefits for employees. Total costs of retirement income plans for 1969 were approximately \$6,500,000 which includes amortization of prior service costs generally over periods ranging up to 40 years. The policy of the Corporation and subsidiaries is to fund pension costs accrued.

Under one of the plans, the actuarially computed value of vested benefits for active employees not yet retired exceeded the total pension fund allocable to the active group by \$9,250,000 with full funding anticipated in the valuation method by the time each employee becomes eligible to retire.

13. Depreciation, Depletion and Amortization:

Depreciation and depletion charged to income amounted to \$28,132,000 and \$29,753,000 in 1969 and 1968, respectively. Amortization of intangibles and of deferred discount and financing expenses charged to income amounted to \$1,430,000 and \$1,323,000 in the respective years. Depletion of timberlands is provided by charges to income at unit amounts estimated as adequate to apportion the cost of each tract, less residual value of land and

young growth, to the cost of timber cut from such tract.

14. Deferred Income Taxes:

Depreciation computed on accelerated methods for income tax purposes exceeds book provisions based principally on the straight-line method which excess, together with timing differences in intangible drilling and development costs and other expenses, resulted in reductions of current income tax payable of \$4,607,000 in 1969 and \$2,449,000 in 1968.

15. Investment Credit:

The Corporation's provision for income taxes was reduced (and net

income increased) by investment credits of \$1,988,000 and \$1,172,000 in 1969 and 1968, respectively.

16. Earnings per Share:

Earnings, and pro forma earnings, per common share are computed using the weighted average number of shares of common stock and common stock equivalents (common stock options and warrants) outstanding during the year. Proceeds from common stock equivalents are assumed to be used to purchase outstanding shares of the Corporation's common stock. Per share amounts for 1968 have been restated accordingly.

AUDITORS' REPORT

To The Board of Directors and Shareholders of Ethyl Corporation:

We have examined the consolidated balance sheet of Ethyl Corporation and Subsidiaries as of December 31, 1969 and the related consolidated statements of income and retained earnings and of capital surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the Corporation's consolidated financial statements for the year ended December 31, 1968.

In our opinion, the aforementioned statements present fairly the consolidated financial position of Ethyl Corporation and Subsidiaries at December 31, 1969 and 1968, and the consolidated results of their operations for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Lybrand, Ross Bros. & Montgomery

LYBRAND, ROSS BROS. & MONTGOMERY

Richmond, Virginia
February 16, 1970

Ten Year Summary

ETHYL CORPORATION AND SUBSIDIARIES

	Years Ended December 31		
	1969	1968	1967
SALES AND INCOME			
Net sales (after deducting freight cost)	\$509,302,000	\$509,072,000	\$468,938,000
Income before non-cash items and income taxes	95,606,000	92,170,000	82,382,000
Depreciation, depletion and amortization	29,562,000	31,076,000	30,749,000
Income taxes, including deferred	33,020,000	29,592,000	21,971,000
Income before extraordinary item	33,024,000	31,502,000	29,662,000
Net income	29,524,000	31,502,000	29,662,000
Cash flow	67,193,000	65,027,000	62,876,000
FINANCIAL CONDITION			
Working capital	176,499,000	176,302,000	129,757,000
Ratio of current assets to current liabilities	\$2.71 to \$1.00	\$3.47 to \$1.00	\$3.52 to \$1.00
Property, plant and equipment (Net)	293,200,000	269,761,000	301,345,000
Capital expenditures	53,312,000	64,158,000	26,943,000
Long-term debt	230,152,000	215,121,000	206,419,000
COMMON STOCK			
Number of shares outstanding	10,059,444	10,027,510	9,927,750
Earnings per share (3)	\$ 2.77*	\$ 2.61	\$ 2.41
Pro forma earnings per share, assuming conversion of the Second Preferred Stock (4)	\$ 2.61*	\$ 2.46	\$ 2.29
Income taxes per share	\$ 3.25	\$ 2.91	\$ 2.16
Equity per share (5)	\$16.01	\$14.56	\$12.70

- * Before extraordinary item. After extraordinary item, would be \$2.43 and \$2.33 respectively.
- (1) Includes Oxford operations for entire year. All prior years ended December 31 reflect the merger of Oxford into Ethyl on a pooling of interests basis.
- (2) Includes 4 months of combined Albemarle paper and Ethyl chemical operations. All prior years ended March 31 represent Albemarle paper operations only.
- (3) Computed in accordance with Accounting Principles Board Opinion Number 15. Earnings per share for the years ended December 31, 1963-68 have been restated on this basis.

Years ended March 31

1966	1965	1964	1963	1963(2)	1962	1961
\$465,823,000	\$375,837,000	\$335,663,000	\$292,878,000	\$ 94,294,000	\$ 44,284,000	\$ 46,117,000
91,287,000	73,539,000	63,165,000	52,412,000	15,520,000	5,915,000	7,253,000
28,411,000	25,233,000	22,161,000	19,886,000	6,556,000	2,295,000	2,078,000
25,570,000	20,317,000	19,945,000	16,099,000	4,583,000	1,858,000	2,740,000
37,306,000	27,989,000	21,059,000	16,427,000	4,381,000	1,762,000	2,435,000
37,306,000	27,989,000	21,059,000	16,427,000	4,381,000	1,762,000	2,435,000
68,107,000	55,918,000	46,172,000	39,052,000	12,117,000	4,212,000	4,680,000
107,244,000	92,840,000	103,194,000	86,267,000	63,001,000	10,313,000	8,587,000
\$2.83 to \$1.00	\$3.07 to \$1.00	\$3.19 to \$1.00	\$3.43 to \$1.00	\$2.75 to \$1.00	\$3.29 to \$1.00	\$2.73 to \$1.00
306,073,000	280,112,000	240,216,000	227,583,000	150,959,000	29,222,000	28,336,000
59,116,000	57,654,000	35,876,000	33,370,000	4,839,000	4,820,000	2,644,000
219,464,000	223,639,000	225,992,000	226,427,000	196,375,000	15,522,000	13,092,000
9,538,655	9,487,380	8,438,658	2,375,807	1,187,362	1,029,674	976,956
\$ 3.21	\$2.32	\$1.68	\$1.30	\$.63	\$.24	\$.35
\$ 2.94	\$2.22	\$1.68	\$1.30	—	—	—
\$ 2.54	\$2.01	\$2.02	\$1.75	\$.71	\$.30	\$.45
\$10.98	\$8.26	\$6.55	\$5.33	\$5.31	\$3.35	\$3.19

(4) If the Second Preferred Stock were converted, its dividend would become \$1.09 a share at the annualized present common dividend rate, as against the present \$2.40 preferred dividend.

(5) Reflects a deduction for the liquidating value of the Second Preferred Stock, and is based on the number of shares outstanding at the end of each year, treating warrants and common stock options as common stock equivalents. Prior years ended December 31, 1963-68 have been restated on this basis. Adjusted for stock splits and stock dividends.

ETC 17092

Ethyl Corporation

DIRECTORS, OFFICERS AND STAFF

WALLACE F. ARMSTRONG
Vice President—Manufacturing

*LAWRENCE E. BLANCHARD, JR.
Executive Vice President, Director

*WILLIAM H. CHISHOLM
Executive Vice President, Director.
Chairman, Oxford Paper Company

JOSEPH A. COSTELLO
Director, Retired Vice President,
Ethyl Corporation

S. DOUGLAS FLEET
Director, Retired Vice President,
Ethyl Corporation

M. F. GAUTREAUX
Vice President—
Research & Development

JAMES M. GILL
Senior Vice President—
Chemicals Group;
Director

*BRUCE C. GOTTFELD
President, Director

*FLOYD D. GOTTFELD, JR.
Chairman of the Board
and Chief Executive Officer

*FLOYD D. GOTTFELD
Chairman of the Executive Committee,
Director

C. RAYMOND HAILEY
Vice President

ARTHUR W. HELWIG
Director—Planning
& Profit Improvement

*ROBERT HERZOG
Executive Vice President, Director

A. B. HORN, JR.
Vice President—
International Division

GEORGE F. KIRBY
Director, Executive Vice President,
Texas Eastern Transmission
Corporation

JAMES H. KIRBY
Controller

JOSEPH M. LOWRY
Senior Vice President, Director

ANDREW M. MCBURNEY
Director, Executive Vice President,
Oxford Paper Company

THOMAS W. MCKNEW
Director, Advisory Chairman of the
Board, National Geographic Society

FRANK J. McNALLY
Treasurer

ROBERT T. MARSH, JR.
Director.
Retired Chairman of the Board,
First & Merchants National Bank
Richmond, Va.

* Member of the Executive Committee

This report is lithographed on
Luxcote High Gloss Enamel (basis
100 pounds for the text and 80
pounds for the covers), produced
by Oxford Paper Company.

DESIGN: ROBERTS, REINHARDT & ONG, INC.

COLOR PHOTOGRAPHS:
COVER AND PAGES 6-12: O. WINSTON LINK
PAGES 2 AND 14: ERIC OWEN

MALCOLM P. MURDOCK
Director.
Retired Senior Vice President,
Ethyl Corporation

CLARENCE M. NEHER
Senior Vice President—
Plastics Division;
Director Nominee

LEWIS F. POWELL, JR.
Director.
Partner, Hunton, Williams,
Gay, Powell & Gibson
Richmond, Va.

W. THOMAS RICE
Director.
President, Seaboard Coast
Line Railroad Co.
Richmond, Va.

E. CLAIBORNE ROBINS
Director.
President, A. H. Robins Co.
Richmond, Va.

RICHARD K. SCALES
Vice President

SIDNEY BUFORD SCOTT
Director, Partner, Scott &
Stringfellow, Richmond, Va.

THOMAS M. SMYLIE
Vice President;
Chairman of the Board,
Capitol Products Corporation

KENNETH SWARTWOOD
Vice President

FREDERICK P. WARNE
General Counsel and Secretary

ERWIN H. WILL
Director, Chairman of the Board,
Virginia Electric & Power Co.,
Richmond, Va.

LLOYD B. ANDREW, JR.
Director—Financial Relations

CHARLES E. COLVIN
Director—Purchasing & Traffic

JAMES B. LONERGAN
Director—Advertising &
Sales Promotion

G. SAMUEL ROBERTS
Chief Engineer

STEPHEN B. RODI
Director—Corporate
Employee Relations

CHARLES H. ZEANAH
Director—Corporate
Public Relations

DIVISIONS

Oxford Paper Company

C. RAYMOND HAILEY
President

ANDREW M. MCBURNEY
Executive Vice President

GORHAM H. SCOTT
Senior Vice President

RUSSELL H. CHAMBLISS, JR.
Vice President—Sales

C. RICKERT LEWIS
Vice President—
National Accounts

LINTON E. SIMERL
Vice President—
Research & Development

B. FREDERICK AYER
Treasurer

WILLIAM T. WOOD
Controller

Petroleum Chemicals

ROBERT A. DOUGLASS
Divisional Vice President &
General Manager

JOHN F. KOEHNLE
General Sales Manager

R. J. OSTRANDER
Technical Director

Ethyl International

JULIAN J. FREY
Assistant Vice President

L. N. APPLEGATE
Director of Exploration

K. F. CAST
General Manager—Operations

D. L. JENNINGS
Vice President of Toyo Ethyl K.K.

Ethyl S.A.

WILLIAM J. RUSHER
Managing Director

Ethyl Hellas Chemical
Company S.A.

WILLIAM J. RUSHER
Chairman

ELMO F. DIEDRICH
Managing Director

Ethyl Corporation
of Canada Limited

KENNETH A. FREBERG
President

JAMES H. MAIN
Manager—Petroleum Additives

ROBERT H. SHANNON
Manager—Chemical Products

Industrial Chemicals

MERLE L. GOULD
General Manager

ROGER A. MOSER
Director—Product Management

H. WARREN REES
General Sales Manager

STANLEY A. HARRIS
Sales Manager

Plastics

PAUL E. WEIMER
Manager—Operations

JOHN E. WILLIS
Director—Financial Services

HARRY M. ZIMMERMAN
Manager—New Market
Development

Imco Container Co. Div.

RICHARD V. VOSBURGH
President

RICHARD F. SANDS
Executive Vice President

ROBERT F. KUHN
Vice President—
Sales & Marketing

JAMES W. COURT
Vice President—Finance

VisQueen Division

HARRY C. BYRNE, JR.
General Manager

JACK F. BIEHL
General Sales Manager

JACK C. WRIGHT
Technical Operations Manager

ROLAND E. MCKENZIE
Manufacturing Manager

Polymer Division

CHARLES W. MONTGOMERY
General Manager

ARTHUR A. SMITH
General Sales Manager

Pipe Division

PALMER A. BROWN
Manager

L. RAY McCULLEY
Sales Manager

PVC Film and Sheet

STEPHEN J. BARCIK
Manager

Converted Film Products

HOWARD L. LEVENTHAL
Manager

MARTIN L. WEINER
Marketing Director

The William L. Fonnell
Company, Inc.

E. MALCOLM HARVEY
President & Treasurer

LLOYD L. REYNOLDS
Vice President &
General Manager

WARREN H. BROCKWAY
Vice President &
General Sales Manager

DONALD A. WAGNER
Vice President—Manufacturing

FRANK DANIELS, JR.
Assistant Treasurer

Capitol Products Corporation

JOSEPH T. COLLIFLOWER
President

GEORGE S. THUMBERT
Vice President & Treasurer

WALLACE FREMONT
Vice President

DONALD G. HORNUNG
Vice President

Ethyl's Products and Facilities are Nationwide

PETROLEUM CHEMICALS

Gasoline antiknock compounds
Gasoline ignition control compounds
Antioxidants
Gasoline detergent-deicer-corrosion inhibitors
Diesel fuel detergent-corrosion inhibitor
Diesel fuel ignition improvers
Fuel oil combustion improver
Distillate fuel anti-static additive
Lubricating oil additives
Metal deactivator
Oil soluble dyes

INDUSTRIAL CHEMICALS

Linear primary alcohols
Aluminum alkyl compounds
Chlorinated solvents (perchloroethylene, trichloroethylene, 1,1,1-trichloroethane)
Special organometallics
Orthoalkylated phenols and anilines
Orthoalkylated antioxidants
Vinyl chloride
Ethyl chloride
Methyl chloride
Caustic soda
Sodium Alum

PLASTICS PRODUCTS

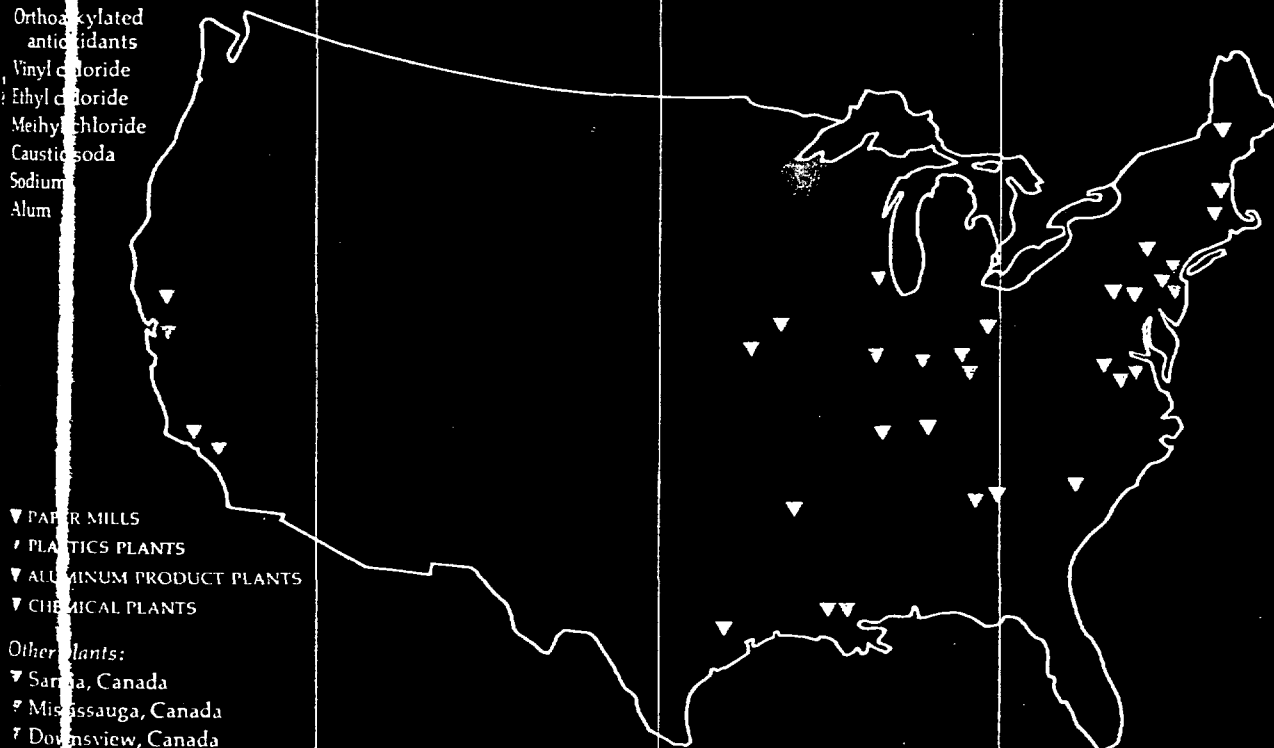
Polyethylene packaging films
Polyethylene building and agricultural films
Reinforced polyethylene films
Polyethylene shrink films
Refuse bags
Polyvinyl chloride packaging films
Polyvinyl chloride shrink films
"Flocor" waste treatment filter media
Polyvinyl chloride resins
Polyvinyl chloride compounds
Polyvinyl chloride containers
Polyethylene containers
Bottle closures and other injection molded specialty products
Plastic pipe and fittings

PAPER PRODUCTS

Coated Letterpress Papers for commercial printing
Coated Offset Papers for book publishing, commercial printing
Uncoated Letterpress Papers for book publishing, commercial printing
Uncoated Offset Papers for book publishing, commercial printing
Web Offset Papers—Coated and Uncoated for magazines, book publishing, commercial printing
Film Coated Papers for book publishing, commercial printing
Gravure Papers—Coated and Uncoated—(Sheet and Roll) for magazines, commercial printing, converting
Converting Papers for envelopes, business forms, paper masters

ALUMINUM PRODUCTS

Aluminum shapes for windows and doors, curtain walls, boats and trailers, and tub enclosures
Aluminum building shapes
Aluminum products for the floor covering industry
Aluminum windows and doors
Aluminum billets



- ▼ PAPER MILLS
- ▲ PLASTICS PLANTS
- ▼ ALUMINUM PRODUCT PLANTS
- ▼ CHEMICAL PLANTS

Other Plants:

- ▼ Sarnia, Canada
- ▼ Mississauga, Canada
- ▼ Downsview, Canada
- ▼ Thessaloniki, Greece

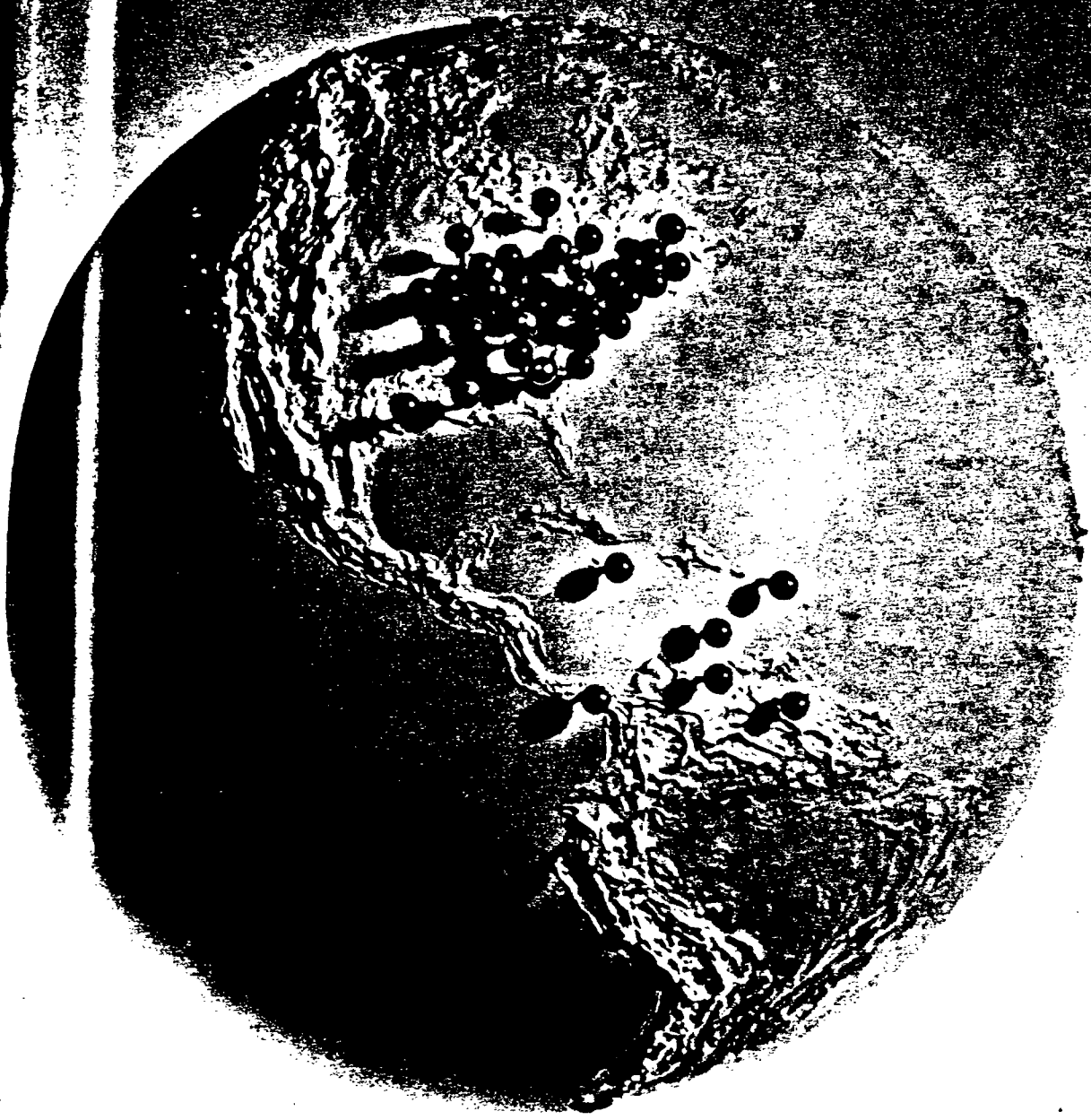
ETHYL CORPORATION
330 South Fourth Street
Richmond, Va. 23219

XXXXXXXXXX BULK RATE
XXXXXXXXXX U.S. POSTAGE
XXXXXXXXXX PAID
XXXXXXXXXX RICHMOND, VA
XXXXXXXXXX PERMIT NO. 122

Changing... to Serve a Changing World.

ETC 17095

A



- Chemical Plants/Distribution Facilities
- Plastics Plants
- Paper Mills
- Aluminum Facilities

ETC 17096

ANNUAL MEETING

The annual meeting of Ethyl Corporation's shareholders will be held at the Company's corporate headquarters in Richmond, Va., on Thursday, April 22, 1971.

STOCK TRANSFER AGENTS

First & Merchants National Bank
Richmond, Va.

Chase Manhattan Bank N.A.
New York, N.Y.

REGISTRARS OF STOCK

The Bank of Virginia
Richmond, Va.

Morgan Guaranty Trust Co.
New York, N.Y.

GENERAL COUNSEL

Hunton, Williams, Gay,
Powell & Gibson
Richmond, Va.

CORPORATE HEADQUARTERS

330 South Fourth Street
Richmond, Va. 23219

EXECUTIVE OFFICES

451 Florida Street
Baton Rouge, La. 70801
100 Park Avenue
New York, N.Y. 10017

1970 Ethyl Annual Report**CONTENTS**

1	Message to Shareholders
4	Financial Results of 1970
9	Operations Review
20	Financial Statements
24	Notes to Financial Statements
25	Auditors' Report
26	Ten-Year Summary
28	Directors, Officers and Staff

FINANCIAL HIGHLIGHTS

	Years Ended December 31	1970	1969	Per- cent Incr.
Net Sales		\$556,856,000	\$509,302,000	9.3
Income				
Before Extraordinary Items		35,582,000	33,024,000	7.7
Net		37,199,000	29,524,000	26.0
Earnings per Share of Common Stock				
Income before Extraordinary Items		\$3.06	\$2.77	10.5
Net Income		\$3.22	\$2.43	32.5
Income Taxes		34,649,000	33,020,000	4.9
Cash Flow		73,917,000	67,193,000	10.0
Cash Flow per Share of Common Stock		\$7.29	\$6.61	10.3
Dividends per Share of Common Stock		\$.84	\$.75	12.0
Depreciation, Depletion & Amortization		31,949,000	29,562,000	8.1
Capital Expenditures		64,190,000	53,312,000	20.4
Working Capital		209,724,000	176,499,000	18.8
Equity per Share of Common Stock		\$18.45	\$16.01	15.2

To the Shareholders of Ethyl Corporation:

Ethyl's program of "changing ... to serve a changing world" through diversification, expansion and continued growth was important to our 1970 performance. Despite generally depressed economic conditions and an unprecedented attack on lead in gasoline, we ended the year with a 9.3% increase in net sales and a 7.7% rise in income from operations. Per share income from operations rose 10.5% over 1969. Our cash position continues to be very strong and enables us to maintain our search for other profitable investments.

Net sales for 1970 were a record \$556.9 million, compared with \$509.3 million for 1969. Income from operations was \$35.6 million, or \$3.06 a share for the year. This compares with \$33 million, or \$2.77 a share, for 1969. In addition, we had a net extraordinary credit in 1970 of \$1.6 million. After the extraordinary credit, Ethyl's net income for 1970 totaled \$37.2 million, or \$3.22 a share, compared with \$29.5 million, or \$2.43 a share, after allowing for an extraordinary charge in 1969.

Information on the Company's operations and financial results is contained in this report, and we encourage you to read it. In this letter, we want to review a few of the more significant developments at Ethyl during 1970 and then deal with the continuing controversy over the use of lead antiknocks in gasoline.

The Industrial Chemicals Division continued to penetrate new market areas in 1970 as part of an expansion of Ethyl's participation in this segment of the chemical industry. Additional sales of co-product alcohols and olefins produced at the Houston, Texas plant were made in the plasticizer, detergent and lube additive markets. (See page 9.)

A four-company group in which Ethyl has a one-sixth interest has made two wildcat oil discoveries in the Dutch sector of the North Sea. They were the first oil finds in this sector. The 1971 exploration program calls for more wildcat wells. (See page 11.)

Among other 1970 developments:

- Completed acquisition of Capitol Products Corporation.
- Entry into manufacture of instruments and systems for measuring auto emissions through the acquisition of Air Monitoring, Inc.
- Production of developmental quantities of foamed aluminum.
- Transfer of Oxford Paper's headquarters and several departments to Richmond, Va.
- Construction begun on a \$2.7 million plastics film plant.
- Construction completed on new alpha olefins plant at Houston, Texas.
- Synthetic alcohols plant capacity expanded.
- PVC film plant production started at Richmond, Va.
- Announcement of plans to build a \$2 million vinyl bromide plant.
- Extended range gasoline additives developed by Ethyl researchers.

You may recall that in our letter last year, we reported the unexpected acceleration of the attack on the use of lead antiknocks in gasoline. As you know from the press, the controversy in 1970 over leaded versus unleaded gasoline became a national issue with focus on the catchy phrase, "Get the Lead Out."

Early in 1970, major automobile makers announced plans for the future manufacture of vehicles requiring lead-free gasoline because they claimed lead might interfere with catalytic devices that might be needed to meet stringent exhaust emissions standards that go into effect in 1975. They also have marketed 1971 models with low compression engines designed for gasoline of lower octane quality with little or no lead, even though catalytic devices are not expected to be installed before 1974 at the earliest. A number of oil companies have marketed unleaded and low lead gasolines of varying octane quality, or have said they will make available unleaded gasoline as soon as automobile engines requiring such fuel are made in substantial numbers.

Interspersed with these developments were a number of governmental plans and legislative proposals at the federal, state and municipal levels to reduce or eliminate the use of lead antiknocks. Among the legislative proposals were bills to restrict or phase out leaded gasoline, to empower regulatory authorities to control fuel composition and fuel additives (including lead antiknocks), and to levy confiscatory taxes on lead antiknocks.

Although most of these legislative proposals failed to pass, Congress did adopt major

Clean Air amendments. While these amendments empower the Administrator of the new Environmental Protection Agency (EPA) to control fuel composition and fuel additives, he is required to consider certain evidence and various alternatives before taking action.

In January 1971, the EPA gave notice that it intends to propose rules at the earliest possible date to control or prohibit the use of lead antiknocks in gasoline. The EPA said regulations are anticipated which will provide for (1) general availability by July 1, 1974 of lead-free gasoline suitable for 1975 and subsequent model cars, (2) reduction as soon as "technologically feasible" of the lead antiknock content of gasolines from the present average level of 2.5 grams per gallon to 0.5 gram per gallon on a schedule not yet determined and (3) the continued sale of gasolines of octane quality suitable for cars currently on the road for as long as the demand exists, as long as that is consistent with the goal of a maximum lead content of 0.5 gram per gallon.

If such federal regulations of lead antiknocks are either adopted or found to be unnecessary by the EPA, this action will prevent states and localities from enforcing any control or prohibition concerning those fuel additives, except for California which is granted a special exemption from this preemption provision. California has recently adopted an extremely stringent air quality standard for lead.

In February 1971, President Nixon again recommended a tax on lead in gasoline similar to the one he recommended in 1970, which failed to pass.

The lead issue has been discussed in a politically and emotionally charged atmosphere that makes rational decisions and long-range planning by government officials extremely difficult. Ethyl sought throughout 1970 to present the *other* side of this complex issue so that decisions concerning the use of lead antiknocks in gasoline could be made in the light of an objective examination of all the facts. Ethyl representatives appeared before numerous legislative commissions and committees, including both Houses of the U.S. Congress and several state legislatures, to defend the role of lead antiknocks in gasoline. We held press briefings, published brochures and pamphlets, conducted a nationwide advertising campaign in leading trade publications and major newspapers and accepted many speaking engagements. Most importantly, we continued and intensified our extensive research on automotive emissions.

Ethyl's position on the issue of lead antiknocks in gasoline remained unchanged throughout 1970, despite numerous charges and counter-charges. Our position is:

- 1) The great weight of medical and scientific evidence shows the public is not now, or in the foreseeable future, facing a health hazard from lead in the ambient air.

- 2) The removal of lead from gasoline will not decrease smog. If lead antiknocks are removed and aromatic compounds increased in order to maintain present octane levels, photochemical smog will be increased, according to the U.S. Bureau of Mines. And, there will be an increase in the emissions of certain compounds which are clearly detrimental to health. Thus, the substitution of high octane unleaded fuels for today's gasolines may very well introduce new and unassessed health hazards.

- 3) Oil refiners must make multi-billion dollar capital investments, in an already strained economy, to install refinery facilities needed to handle new blending with aromatics and other compounds. It is estimated that these new facilities will cost well in excess of \$6 billion.

- 4) The removal of lead antiknocks means that 6 to 8% more crude oil will be consumed if we are to produce the same amount of gasoline with the octane quality provided by lead. And, crude oil reserves in the U.S. continue to decline.

- 5) The motorist will pay more for unleaded gasoline and experience reduced efficiency and economy of operation.

- 6) The catalytic converter, advanced by some, has never been installed on any production vehicle and is not the only approach to reducing automobile emissions. Ethyl's Lean Reactor Car, developed in our Detroit laboratories to operate on leaded gasoline at low emissions levels, is believed to be a feasible alternative approach to this problem. At the same time, Ethyl is encouraged by its developments with catalytic converters which operate effectively with leaded gasoline.

7) Lead traps will be developed which will significantly reduce or eliminate particulate emissions. Ethyl already has under long-mileage tests inexpensive, practical lead traps.

We believe that we are presenting to decision makers in government and industry and to the public persuasive evidence that eliminating lead from gasoline will not solve the complex problem of automobile air pollution, and may even make it worse.

At the same time, there is little doubt that the attack on lead will continue at a strong pace in 1971. Therefore, we are prepared to continue and intensify our campaign to present the many advantages of lead antiknock compounds.

We simply do not know at this time, and cannot predict, what the final outcome of the lead controversy will be. If decisions are made to eliminate the use of leaded gasoline in this country, we believe that this can only be accomplished gradually over a period of years because of the burdensome, economic penalties required for conversion to unleaded gasolines on a crash basis. The great majority of automobiles now in operation were built to require relatively high octane gasoline to operate efficiently. There are also substantial foreign markets for leaded gasoline which are unlikely to disappear in the foreseeable future.

Therefore, we fully expect to be in the lead antiknock business for a long time to come—both in domestic and in international markets. The removal of lead from gasoline is not as simple as some say it is, and there are still many issues which must be resolved by the automobile industry, the oil industry and various levels of government.

The immediate and ultimate impact on Ethyl's earnings from a substantial reduction in the use of lead antiknocks depends on the resolution of many varied and unpredictable factors. Lead antiknock compounds are still our principal product and contribute substantially more to operating profits than their contribution of about 37% to net sales. A substantial decline in our lead antiknock business would have an adverse effect on our other present chemicals business since lead antiknocks and certain other chemical products are interrelated in terms of raw materials, intermediates and by-products. (See the Financial Results section, beginning on page 4, for more information on the profitability of lines of business.) However, with continued emphasis on our diversification program, we are confident that Ethyl will remain a strong, diversified company, with cash flow sufficient to make its debt payments, pay reasonable dividends and be able to take advantage of promising investment opportunities.

In recent years Ethyl has made major investments in plastics, industrial chemicals and aluminum products—and each area has experienced substantial growth. We expect sales of industrial chemicals, plastics, aluminum products and paper to increase substantially in the years ahead as a result of aggressive marketing and the increasing utilization of new and expanded facilities, some of which are just beginning to generate new earnings.

Ethyl will continue to pursue successfully its goal of "changing . . . to serve a changing world." Our good positions in a number of product lines, our strong financial resources, our extensive research organization—all will be major factors in our continued strength.

We extend to our employees, shareholders, customers and suppliers our sincere thanks for their continued support and understanding in 1970.

Floyd D. Gottwald, Jr.

Floyd D. Gottwald, Jr.
Chairman of the Board and
Chief Executive Officer

Bruce C. Gottwald

Bruce C. Gottwald
President

March 22, 1971

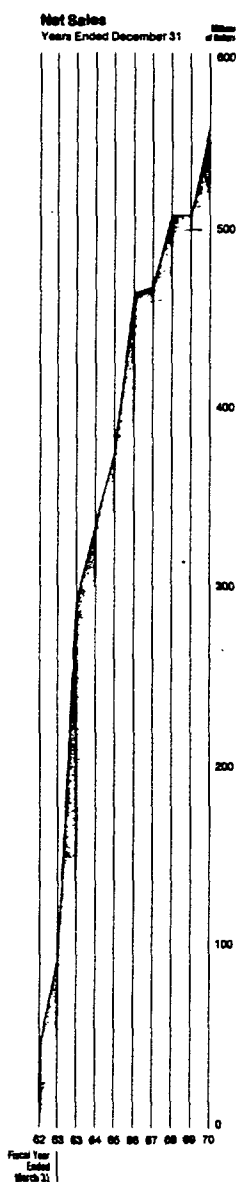


BRUCE C. GOTTWALD



FLOYD D. GOTTWALD, JR.

Financial Results of 1970



Net Sales The following table sets forth Ethyl's net sales represented by each of its lines of business for the period 1967-1970:

Net Sales by Lines of Business (In Thousands of Dollars)

	1970		1969		1968		1967	
	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total
Chemicals:								
Domestic	\$226,843	41%	\$214,151	42%	\$203,199	40%	\$185,691	40%
Foreign	71,944	13	64,846	13	65,296	13	58,649	12
Plastics	102,748	18	95,461	19	63,034	12	40,111	9
Paper	92,283	17	97,783	19	143,020	28	151,845	32
Aluminum	63,038	11	37,061	7	34,523	7	32,642	7
Total	\$556,856	100%	\$509,302	100%	\$509,072	100%	\$468,938	100%

In determining its lines of business for reporting purposes, management has taken into account rates of profitability of operations, degrees of risk and opportunity for growth. For these reasons, and because of the diversity of operating characteristics, including markets and competitive conditions, the chemicals line of business is separately classified into domestic and foreign. The extent of foreign business in the plastics, paper and aluminum lines is relatively immaterial and does not justify separate treatment.

Profit Contribution The following table shows, with respect to the Company's lines of business, the respective operating profits before taxes, extraordinary items and certain corporate overhead expenses that are not practical to identify with a particular line of business:

Operating Profit (Loss) by Lines of Business After Identifiable Corporate Expense (In Thousands of Dollars)

	1970		1969		1968		1967	
	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit
Chemicals:								
Domestic	\$66,936	68%	\$63,007	69%	\$63,459	68%	\$51,618	66%
Foreign	15,345	16	11,664	13	12,943	14	12,076	15
Plastics	7,406	8	7,963	9	909	1	(5,077)	(8)
Paper	3,413	3	5,228	6	12,823	14	16,215	21
Aluminum	4,471	5	3,048	3	3,288	3	3,515	4
Total	\$97,571	100%	\$90,910	100%	\$93,422	100%	\$78,347	100%

The operating profits used for purposes of the above table include charges for general and administrative and research and development expenses at the Corporate level which are

identifiable with each line of business but do not include the charges that are not practical to identify with lines of business. The latter include financing costs, net of interest earned, research and development expense in new product areas and other general and administrative net expenses as shown in the following table:

	(In Thousands of Dollars)			
	1970	1969	1968	1967
Net Financing Costs	\$10,208	\$ 7,696	\$10,819	\$11,365
Corporate Overhead	17,132	17,170	21,509	15,349
Total	<u>\$27,340</u>	<u>\$24,866</u>	<u>\$32,328</u>	<u>\$26,714</u>

Within the chemicals line of business, petroleum and industrial chemicals often utilize joint facilities for manufacture, research and development and in many instances are interrelated in terms of raw materials, intermediates and by-products. Consequently, while sales of chemical products can be determined accurately without allocations, it is not practicable in management's judgment to make further allocations within the chemicals line of business which would be meaningful in determining with any degree of accuracy the relative contribution to the Company's operating profits by classes of chemical products. Because lead antiknocks (the principal contributor to chemical sales and profits) are interrelated with certain other chemical products in terms of raw materials, intermediates and by-products, any substantial reduction or elimination of the use of lead antiknocks in gasoline would adversely affect the costs and profitability of certain of our other present chemicals as well.

Net Sales by Classes of Similar Products (In Thousands of Dollars)

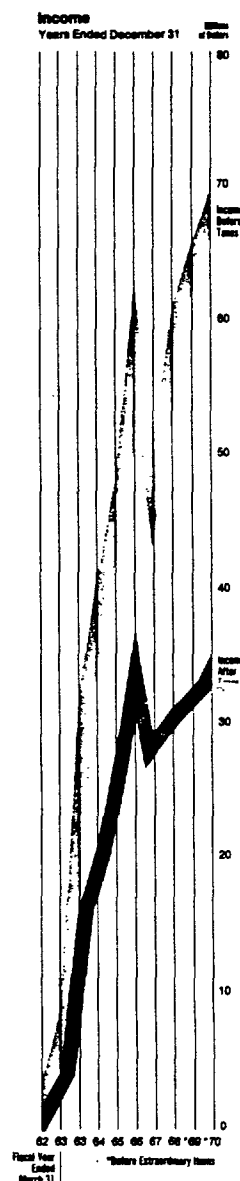
For a number of years, the Company has reported a breakdown of its net sales by classes of similar products, determined by the use to which a class of product is put. The following table sets forth the amounts and percentages of net sales of each of its classes of similar products for the 1967-70 period:

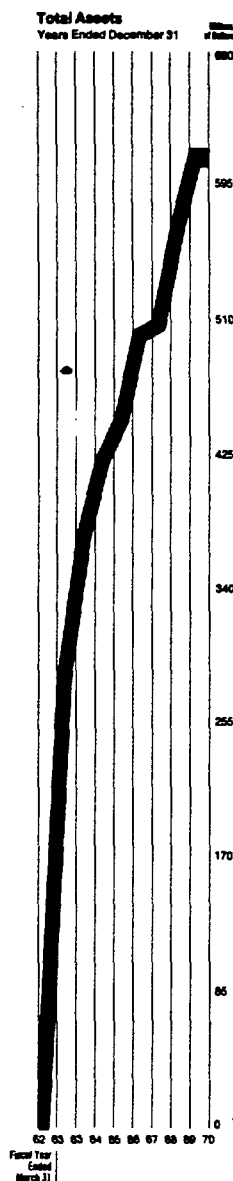
Classes of Similar Products	1970		1969		1968		1967	
	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total
Chemicals:								
Petroleum	\$229,119	41%	\$213,840	42%	\$210,807	42%	\$199,310	42%
Industrial	69,668	13	65,157	13	57,888	11	45,030	10
Plastics	102,748	18	95,461	19	63,034	12	40,111	9
Paper	92,283	17	97,783	19	143,020	28	151,845	32
Aluminum	63,038	11	37,061	7	34,523	7	32,642	7
Total	<u>\$556,856</u>	<u>100%</u>	<u>\$509,302</u>	<u>100%</u>	<u>\$509,072</u>	<u>100%</u>	<u>\$468,938</u>	<u>100%</u>

Net sales in 1970 increased in all categories except for paper. The largest sales increase occurred in aluminum, reflecting the acquisition of Capitol Products Corporation, completed in March, 1970. Lead antiknock compounds (which contributed about 90% of all petroleum chemicals sales in 1970) remain the Company's principal product and contribute to operating profits a substantially higher percentage than their approximate 37% contribution to net sales.

Income from Operations Advances Again Income from operations for 1970 amounted to \$35,582,000 compared with income from operations of \$33,024,000 for 1969.

Earnings per Share Increase The 1970 income from operations was equal to \$3.06 per share, based on the average 10,138,000 shares of common stock outstanding during 1970, treating common stock options and warrants as common stock equivalents. It compares with income from operations of \$2.77 per share for 1969, on the basis of the average 10,170,000 shares of common stock outstanding during the year, treating common stock options and warrants as common stock equivalents.





Net Income after Extraordinary Items The 1970 income from operations is before a net extraordinary credit of \$1.6 million. Net income for 1970 after the extraordinary credit amounted to \$37,199,000 or \$3.22 a share. This compares with the 1969 net income of \$29,524,000 or \$2.43 a share which reflects an extraordinary charge of \$3.5 million.

Dividends Common stock dividends for 1970 were paid at the quarterly rate of 21 cents a share or 84 cents for the year. This compares with 75 cents paid for the year 1969.

Cash Flow Sets a Record Cash Flow, which consists of net income plus depreciation, depletion and amortization, deferred income taxes and a provision for write-down of our Pittsburg, California plant, amounted to a record \$73.9 million in 1970, as compared with a cash flow of \$67.2 million in 1969. The 1970 cash flow exceeded that in 1969 by \$6.7 million, and was sufficient to provide for all fixed charges and dividends and to provide substantial funds for capital expenditures.

Working Capital At December 31, 1970, working capital was \$209.7 million and the ratio of current assets to current liabilities was 4.54 to 1. This compared with working capital of \$176.5 million and a ratio of 2.71 to 1 at December 31, 1969.

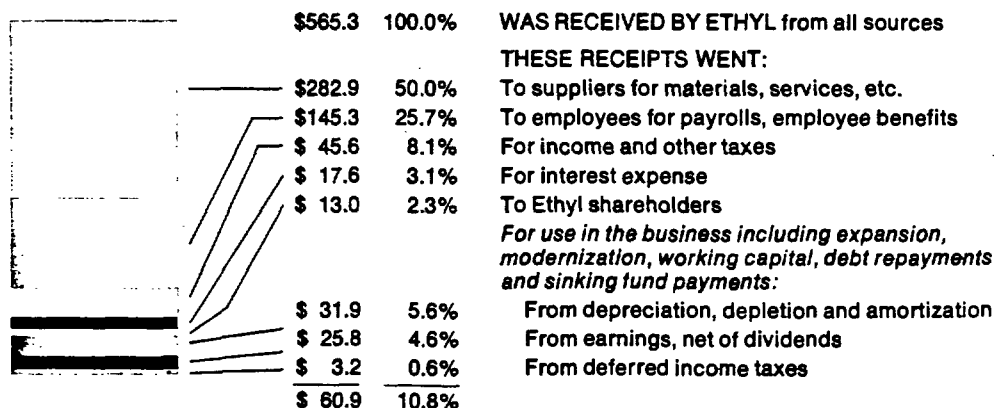
Capital Expenditures Continue at a High Level During 1970, \$64.2 million was spent on capital projects for new plants, expansions and modernizations and for acquisitions. Of this total, \$25 million represents payment in 1970 of the balance of the purchase price for the stock of Capitol Products Corporation of Mechanicsburg, Pennsylvania.

Long-Term Debt On March 31, 1970, the Company drew down the remaining \$15.5 million of an original \$50 million commitment received from four insurance companies in 1968. On May 15, 1970, the Company converted its \$25 million short-term notes under a revolving credit agreement with five banks into term promissory notes repayable in ten semi-annual installments of \$2.5 million which commenced on November 15, 1970. As of November 1, 1970, the Company agreed to refinance its \$106 million senior notes with four insurance companies which resulted in the 1971, 1972 and 1973 installments (\$12 million each) being rescheduled to mature at the rate of \$3 million annually from 1979 to 1982 and \$6 million annually from 1983 to 1986 and the interest rate on this issue was increased to 7.6%.

Debt repayments during 1970 amounted to \$15.3 million. These consisted of payments of \$3,000,000 on the 5½% Bank Loan; \$2,500,000 on the 5¾% Subordinated Notes, due 1972; \$1,250,000 on the 4¾% Promissory Notes, due 1983; \$2,500,000 on the Term Promissory Notes, due 1975; \$689,000 on 3¾% Guaranteed Notes; \$4,761,000 on Eurodollar Bank Loan; and \$602,000 on Miscellaneous Debt.

As of December 31, 1970, the long-term portion of Ethyl's debt was \$254.1 million, equal to 48% of the company's total capitalization.

How Ethyl Used the Revenues It Received During 1970 (Millions of Dollars)



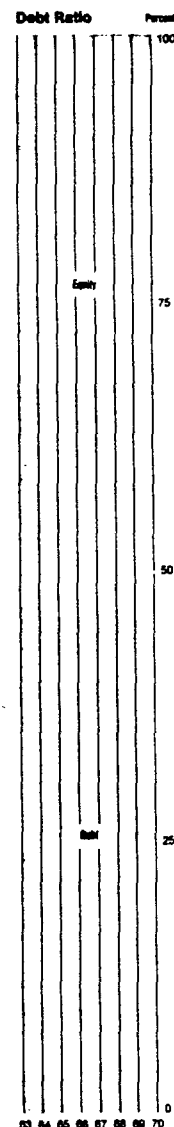
Summary of Long-Term Debt

7.6% Senior Notes (\$106 million—due 1974-86) and 7½ % Promissory Notes (\$50 million—due 1973-83)	\$156,000,000
The Prudential Insurance Company of America The Equitable Life Assurance Society of the United States The Northwestern Mutual Life Insurance Company New York Life Insurance Company	
Term Promissory Notes*—due 1971-75	22,500,000
Five Banks	
5½ % Subordinated Notes—due 1971-72	4,985,000
The Prudential Insurance Company of America The Equitable Life Assurance Society of the United States New York Life Insurance Company	
5½ % Subordinated Notes—due 1979-82	50,000,000
Various Institutional Investors	
4½ % Promissory Notes—due 1971-83	25,250,000
Miscellaneous	4,889,000
Total Debt at December 31, 1970	263,424,000
Current Portion of Debt	9,264,000
Long-Term Debt	<u>\$254,160,000</u>

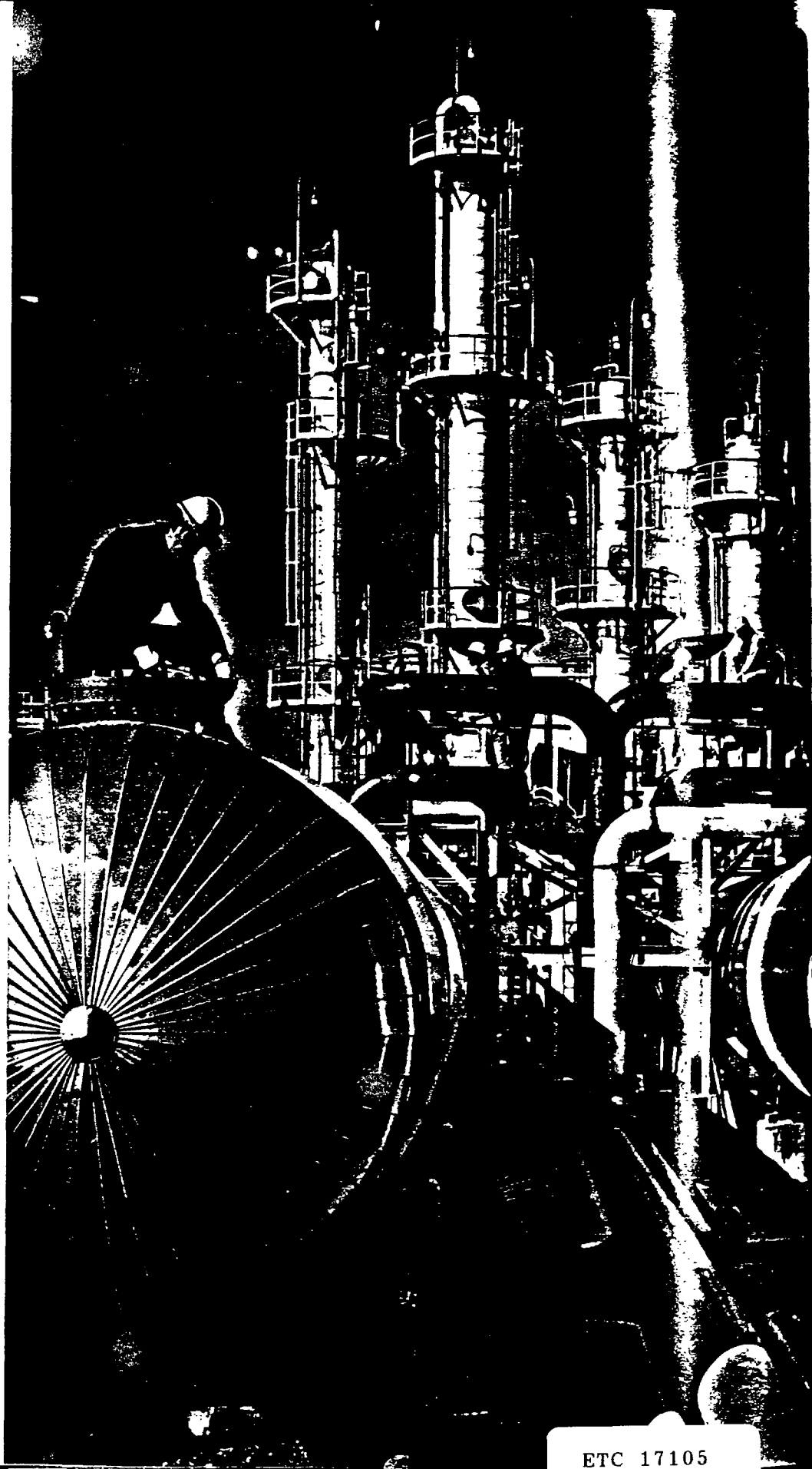
*Converted from short-term notes on May 15, 1970; bear interest at the rate of ½ of 1% in excess of the prime commercial rate.

Summary of Debt Maturities to 1980

	5½ % Subordinated Notes Due 1972 and 1979-82	7.6% Senior Notes Due 1986	7½ % Promissory Notes Due 1983	Term Promissory Notes Due 1975	4½ % Promissory Notes Due 1983	Misc. Debt. Maturities to 1982	Total Annual Amount
1971	\$2,500,000			\$5,000,000	\$1,250,000	\$514,000	\$ 9,264,000
1972	2,485,000			5,000,000	1,250,000	489,000	9,204,000
1973			\$2,500,000	5,000,000	1,250,000	596,000	9,346,000
1974		\$12,000,000	2,500,000	5,000,000	1,250,000	298,000	21,048,000
1975		12,000,000	2,500,000	2,500,000	1,250,000	307,000	18,557,000
1976		12,000,000	2,500,000		1,250,000	317,000	16,067,000
1977		12,000,000	2,500,000		1,250,000	298,000	16,048,000
1978		22,000,000	2,500,000		1,250,000	263,000	26,013,000
1979	8,000,000	3,000,000	7,000,000		1,250,000	224,000	19,474,000
1980	8,000,000	3,000,000	7,000,000		1,250,000	94,000	19,344,000



**Operations
Review**



ETC 17105

Aluminum

Plastics

Chemicals Domestic

Ethyl is a major producer of industrial chemicals and chemical additives for petroleum products. The leading petroleum chemical additives are antiknock compounds which are added to gasoline to increase its octane rating. Ethyl also produces a variety of other special purpose additives for automotive and industrial uses. Ethyl's industrial chemicals range from basic chemicals to highly complex compounds. Among them are synthetic primary alcohols and alpha olefins—both of which have applications as intermediates for biodegradable detergents and plasticizers. Aluminum alkyls continue to be an important and growing area for Ethyl. These are used as catalysts in plastics and synthetic rubber and as intermediates in agricultural chemicals.

Domestic chemical sales in 1970 totaled \$226.8 million, up about 5.9% above 1969.

The sales of antiknock compounds in the U. S. through the Petroleum Chemicals Division were about equal to 1969 volume despite an unprecedented attack on lead antiknocks in relation to air pollution which resulted in the marketing by various refiners of several grades of gasoline containing "no lead" or "low lead." Continuation of these adverse factors is expected to restrict antiknock sales again in 1971.

Sales of other petroleum additives in the U. S. continued to grow in 1970 and reached record levels. Ethyl's combustion improver and antioxidants were the major contributors to growth, with future gains expected in these product lines.

New market development products, introduced in 1970, gained acceptance and should be factors in 1971 sales performance. Among these are a multi-purpose carburetor detergent and anticicer and an additive to prevent static build-up in pumping and loading distillates. Both of these new products are in commercial distribution.

The Industrial Chemicals Division continued to increase its sales in 1970.

The synthetic alcohols plant at Houston, Texas was expanded in 1970 to meet increasing demands for detergent alcohols marketed through this division.

Construction of the alpha olefins plant at Houston was completed ahead of schedule. Production began early in the first quarter of 1971. The chain-growth capacity of this new plant, combined with that of the alcohols plant, will give Ethyl a total chain-growth capacity of approximately 500 million pounds annually. From this combined operation will come olefins for plasticizer, detergent and lube additive markets plus alcohols

for the plasticizer, detergent and specialty markets.

An expansion at Houston, to be completed in 1971, will increase capacity for aluminum alkyls. They are used not only as catalysts in the production of synthetic rubber and polypropylene, but also in the manufacture of Ethyl's synthetic alcohols and alpha olefins.

The rapid growth of aluminum alkyl catalyst sales was slowed appreciably during the second half of 1970. This was attributed to the reduction in polypropylene and synthetic rubber production.

The sales of antioxidants, antioxidant intermediates, and agricultural intermediates increased substantially in 1970, particularly for specific pesticides for which Ethyl supplies intermediates. Expansions are underway at our chemical facilities in Orangeburg, S.C. for the production of these products.

The sales of chlorinated solvents increased in 1970. However, price weakness during the major part of the year led to a narrowing of profit margins.

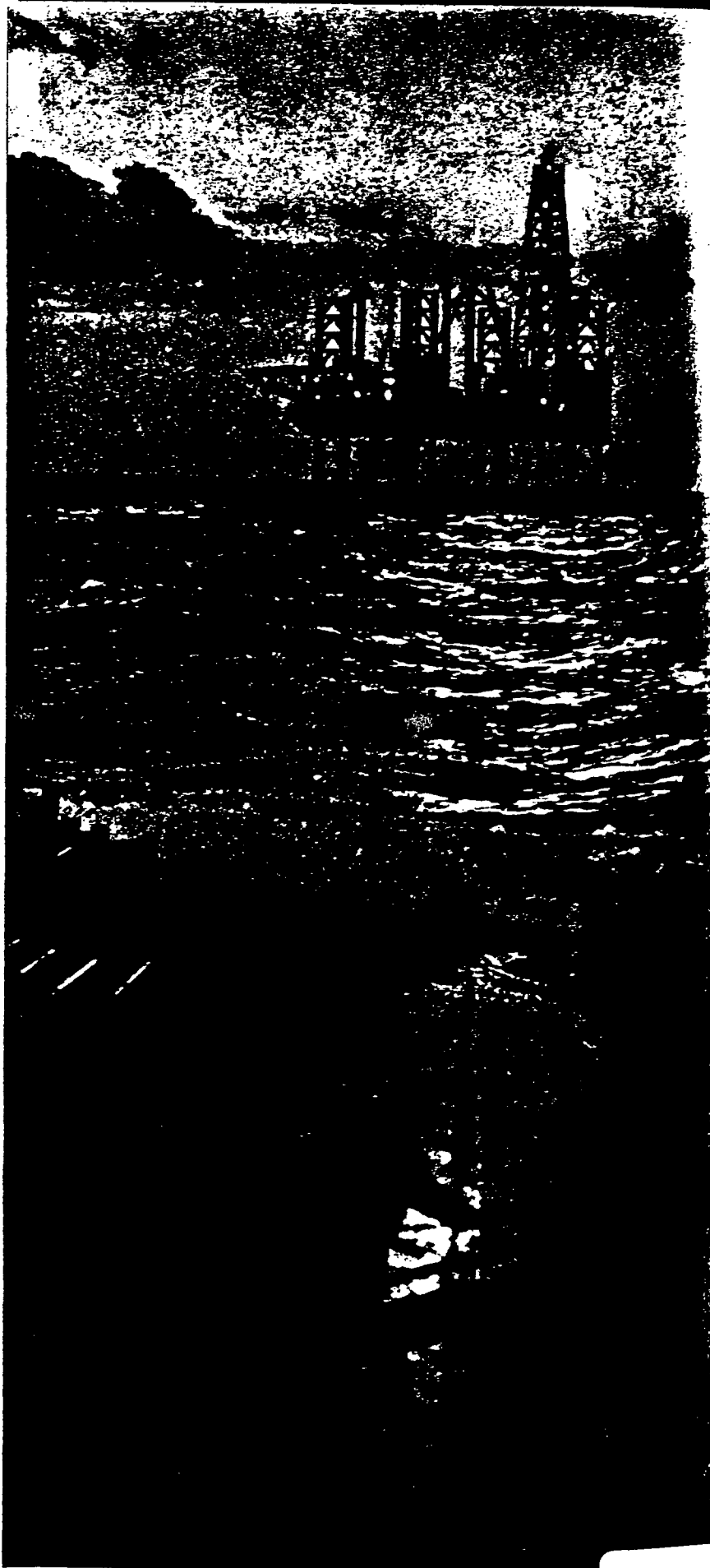
In June 1970, Ethyl acquired Air Monitoring, Inc. of Ferndale, Mich. Operating as a wholly-owned subsidiary, AMI develops and builds sampling and analytical systems for measuring automobile exhaust emissions. Combined with substantial Ethyl technology in this field, AMI is growing rapidly.

Expanding its interest in detergent intermediates, Ethyl announced in October plans for a new plant in the Houston complex to produce nitrilotriacetic acid (NTA), a substitute for phosphates in household detergents and cleaners. Under pressure from the Federal Government, not previously evidenced, detergent manufacturers announced in December that the use of NTA would be discontinued. Ethyl accordingly stopped engineering, design and equipment procurement for its NTA plant at the request of its largest contract customer. Under the arrangement with Ethyl's customer, it is not anticipated that Ethyl will sustain any significant loss on the termination of this project.

An in-depth investigation of the bromine chemicals market is being completed by Ethyl. To date, results of the study indicate many future marketing opportunities. The first planned entry into bromine chemicals, other than ethylene dibromide, is vinyl bromide. It will be produced at a plant under construction at Magnolia, Ark. Construction is scheduled for completion in the third quarter of 1971. Vinyl bromide's major use is as a flame retardant in fibers.

Construction workers put finishing touches on the new alpha olefins plant at Houston, Texas.

**Operations
Review**



ETC 17107

Ethyl International distributes the company's petroleum and industrial chemicals in 36 countries around the world. Antiknock compounds are manufactured at our Ethyl Hellas Chemical Company plant at Thessaloniki, Greece. Ethyl Corporation of Canada Limited produces and distributes petroleum chemical additives and industrial chemicals in Canada. In addition, Ethyl participates in oil explorations in the North Sea and in Canada.

The International Division set sales records in 1970 while the sales of Ethyl Corporation of Canada nearly equalled the record levels reached in 1969.

An approximate 100% rise in specialty chemicals sales and increased antiknock compound sales led to the new highs for Ethyl International. Sales of antiknock compounds to Eastern Europe and South America more than offset a fall-off in the Far East.

Gasoline sales by the Canadian petroleum industry were slightly lower than expected in 1970, with a consequent effect on our antiknock sales in that country. However, Ethyl of Canada continued as the leading supplier of antiknock compounds in Canada.

Sales of other products in Canada were satisfactory, and Ethyl remained the only supplier in the country of aluminum alkyls and aluminum halides used as catalysts.

The U.S. controversy over leaded versus unleaded gasoline reached into Canada in 1970. Three companies introduced low-lead or no-lead gasolines in the fall, while other companies vigorously and publicly defended lead antiknocks.

Operating efficiency of the Ethyl Hellas antiknock manufacturing plant in Greece was improved significantly in 1970, and production volume exceeds design capacity.

In view of present projections for the Japanese market, the completion and start-up of the proposed Toyo Ethyl KK lead antiknock plant has been deferred indefinitely. Ethyl has a 47.5% interest in the equity of the venture, but did not participate in other financing. Ethyl will continue to supply Japan and the Far East with antiknock compounds produced in its U.S. facilities.

Ethyl has a one-sixth interest in a four-company group conducting oil explorations in the Dutch and German sectors of the North Sea. Tenneco Oil Company is the operator for the group. Twelve blocks totaling 1.2 million acres are held by the group. Two wildcat wells in one block have shown significant amounts of oil. The 1971 program calls for four or more wildcat wells with confirmation wells as indicated. It is too early to assess the significance of the indications of oil discovered in exploratory work.

Oil exploration in Canada is being undertaken by our subsidiary, Ethyl Development Corporation, in conjunction with the operator, British Petroleum Oil and Gas Limited. Five wildcat wells were drilled and acreage for future expansion was acquired in 1970 in the provinces of Alberta and British Columbia. Several exploratory wells are planned for 1971 along with development wells, which are contingent on success of exploration.

The offshore drilling rig, Orion, which drilled the discovery wells in the North Sea. Ethyl has a one-sixth interest in the North Sea exploration venture.

**Operations
Review**



ETC 17109

Ethyl is involved in two leading plastics product lines, polyethylene and polyvinyl chloride (PVC). The company is a major producer of polyethylene and PVC bottles through its Imco Container Company Division. Through its VisQueen Division, Ethyl is the world's largest producer of polyethylene films. Products include polyethylene packaging films, building and agricultural films, shrink films and specialty films. Other Plastics Division products include PVC resins and compounds, refuse bags, PVC packaging film, "Flocor" waste treatment filter media, bottle closures and other injection molded specialty products and PVC plastic pipe and fittings.

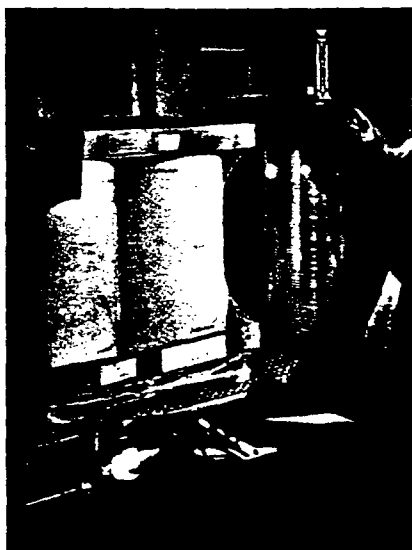
The Plastics Division's 1970 sales totaled \$102.7 million, an increase of about 7.6% over 1969 results. The division's growth was attributed primarily to concentration on major markets and improvements in manufacturing efficiency.

Gains were generally uniform across all major product lines with continued penetration of the markets for polyethylene and PVC packaging films and containers and PVC resins and compounds. Ethyl also continued promotion of "Flocor" waste treatment filter media. The company currently is providing "Flocor" systems for several major sewage disposal projects in different sections of the United States. As a result of the successful use of our system in these installations, the Plastics Division has started a new Environmental Control Division.

Capital expenditures for plastics in 1970 were largely for modernization and increased efficiency of existing facilities. Construction of a \$2.7 million specialty film plant was begun in the fall in Manchester, Iowa. It is expected to be ready for production in early 1972. The Manchester plant will be the Plastics Division's 27th plant in the U.S. and Canada and its seventh plastics film plant.

The VisQueen Division registered about a 6% increase in sales, despite a weak economy, to reinforce Ethyl's number one position in the polyethylene film industry. Technical and marketing efforts in VisQueen were successful in expanding Ethyl's participation in specialty film areas.

The Imco Container Company division showed an approximate 11% increase in sales over 1969. This growth is especially noteworthy since increases in the plastics container industry over the past year were at a virtual standstill. In polyethylene and PVC containers, Ethyl con-



VisQueen plastic film is checked and prepared for shipment from Ethyl's plant at Terre Haute, Ind. The shipping container is wrapped in VisQueen shrink film.

tinued as the top U.S. supplier of highly customized containers.

The Polymer Division's sales of PVC resins and compounds gained over 1969 despite the General Motors strike and a sharp increase in competition. The expansion of our Baton Rouge PVC resins plant was completed at mid-year and it will strengthen our competitive position for 1971.

PVC pipe sales improved substantially in 1970. Record gains were made in plant productivity. However, these gains were partially offset by a general price weakness in the industry.

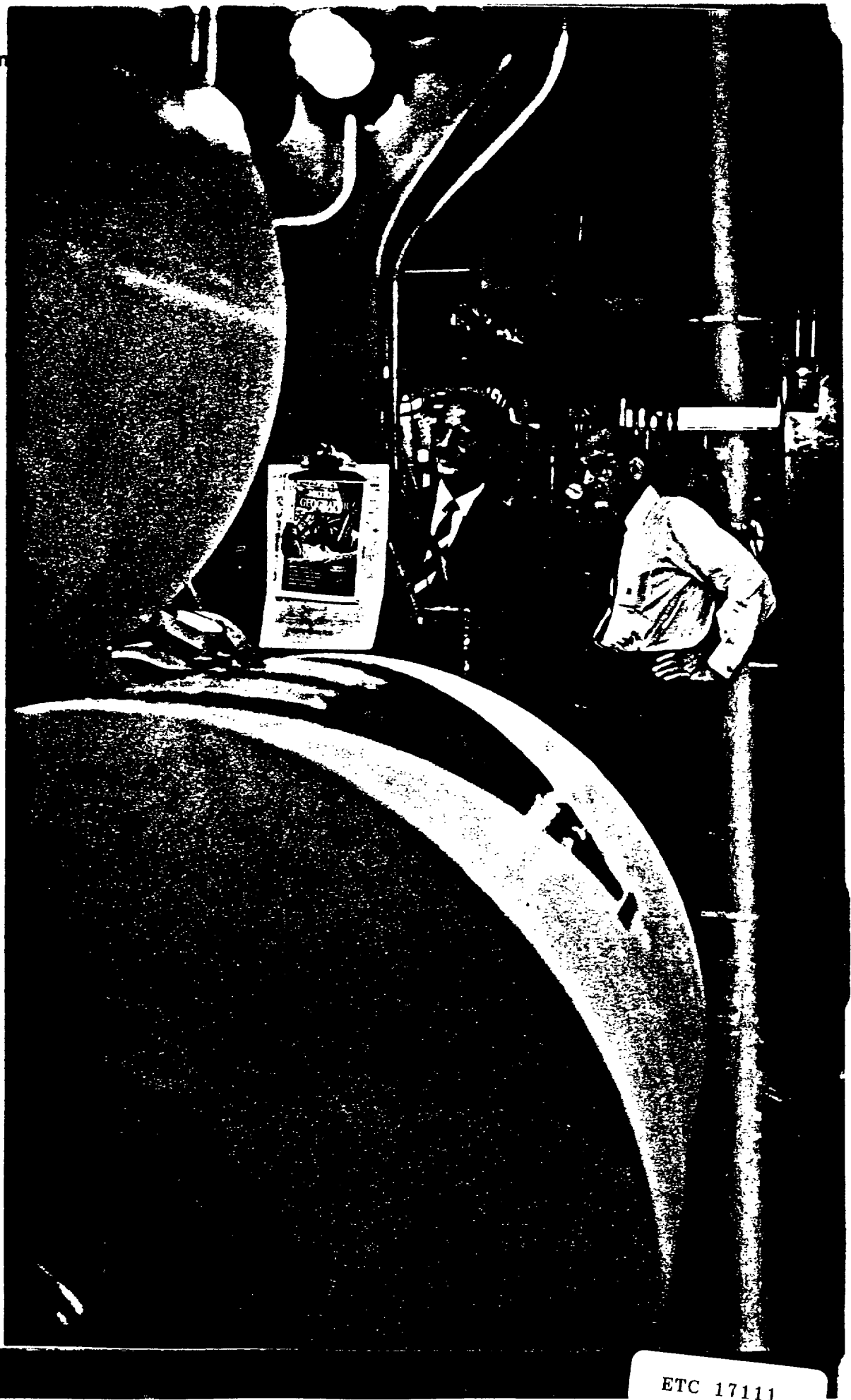
Sales of PVC film were up more than 5% in 1970. Production was begun at our new film plant in Richmond, Va., in early summer as part of a program of consolidation and expansion.

The Converted Film Products Division, formed in mid-1969 to market polyethylene refuse bags, registered sales gains in 1970.

The New Market Development Group, established in 1969, examined a number of new product areas and opportunities for future development.

The Company has agreed with The Standard Oil Company (Ohio) to produce a new polymer for Sohio in a portion of Ethyl's PVC plant at Baton Rouge, La. This polymer has exciting possibilities for use by Ethyl in clear containers for carbonated beverages and other "hard-to-contain" products.

Operation
Review



ETC 17111

Ethyl's Oxford Paper Company Division is one of the major U.S. producers of quality printing papers. These papers have four major end uses: in magazine and periodical publishing, book publishing, commercial printing and converting. Magazine and periodical publishers are the largest single outlet for Oxford papers with a number of leading publications being printed on our paper stock. Oxford, moreover, is the largest supplier in the U.S. of book publishing papers. Papers for commercial printing are used for such materials as brochures, proxy statements, corporate annual reports and direct mailers. Converting papers involve those used in business forms, envelopes and other office applications.

The pulp and paper industry as a whole experienced a difficult year in 1970, with industry sales registering a slowdown in the second half. The Oxford Paper Division was no exception. In our segment of the industry, order backlogs declined, the demand for book publishing paper fell while commercial printing and converting volumes held their own.

During the year, Oxford constantly sought to minimize the impact of higher labor and fringe benefit costs, increased costs of raw materials, transportation and fuel as well as higher taxes.

Oxford's program to achieve increased efficiencies included capital expenditures for new equipment, more efficient operation of existing equipment, engineered standards of performance and

higher unit sales prices where possible.

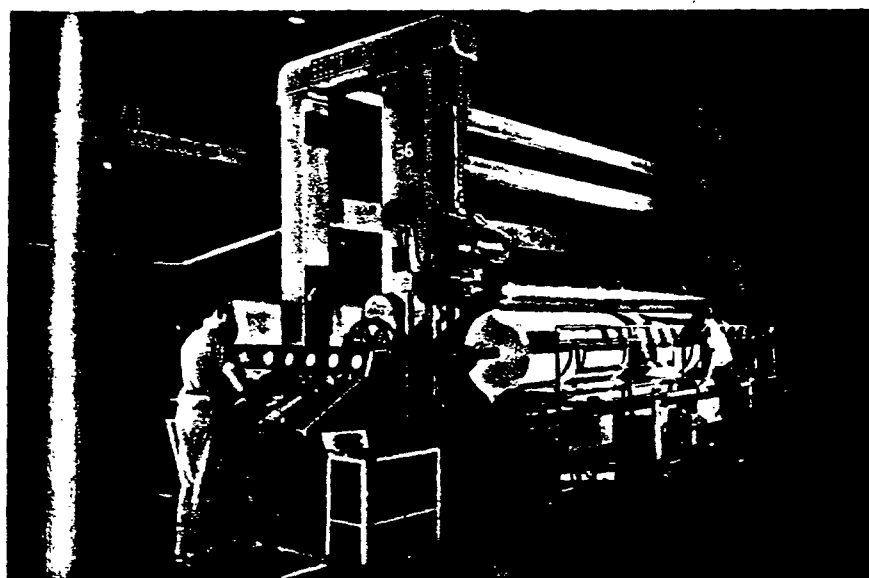
This past year was one of change for the Oxford Paper Division. A major portion of Oxford's headquarters was moved from New York City to Richmond, Va. July 1. The lease on Oxford's New York offices was sold at a profit. In addition, major changes were made in the organizational structure of the paper division to conform to new emphasis on management accountability.

Oxford's sales organization was restructured to strengthen its competitive position. The new organization includes four major components which specialize in end markets served—magazine and periodical publishing, commercial printing, book publishing and converting.

Research and development efforts at Rumford, Maine, were re-oriented in 1970 to correlate more closely with operational problems. Certain long-range research activities were phased out.

Planning of pollution abatement facilities will continue in 1971 at all three mill locations. A major step this past year in pollution control was a decision at year-end to build a bark disposal facility at the mill in Rumford. The new unit will have the capacity to handle all bark residue from present and future pulping operations.

With a major portion of the reorganization and cost reduction programs completed in 1970 and an anticipated upswing in the pulp and paper industry in the second half of 1971, Oxford expects to be in a stronger position.



Above: Winding customer rolls from a master roll is a key step in paper manufacture at Oxford's Rumford, Maine mill. Left: Dr. Melville Bell Grosvenor, Chairman of the Board of the National Geographic Society, and Dr. Thomas W. McKnew, National Geographic's Advisory Chairman of the Board and an Ethyl director, inspect a "flying paster" of Oxford paper as a press run of National Geographic gets underway.

Opera
Review

ETC 17113

Aluminum products from Ethyl are designed primarily for the building and construction industry. Ethyl aluminum extrusions are used in industrial plants, stores, offices, homes, boats and trailers. Finished aluminum products include windows, doors and residential lawn buildings. The company also produces aluminum billets which are used by other fabricators to make extrusions. Ethyl's participation in the aluminum products field is through two wholly-owned subsidiaries—the William L. Bonnell Company and Capitol Products Corporation. The main product of both subsidiaries is soft alloy extrusions.

Construction activity was depressed by tight money and high interest rates during 1970. As a result, the overall soft alloy extrusion market was off approximately 6.5% from 1969. This market usually has enjoyed in the past an annual increase of 6 to 8%. The reduced rate in 1970 had an impact on our sales and operating results.

The transportation industry, another market for our aluminum extrusions, also experienced a decline in 1970. Trailer production, for example, was off by 21%.

In 1970, Ethyl acquired the remaining stock of Capitol Products. With the completion of this acquisition and the sales of Bonnell, total aluminum products sales were approximately \$63 million.

The installation of a new 10-inch ex-

trusion press at Bonnell's Carthage, Tennessee plant was completed in 1969 and has given Ethyl an entry into the large market for structural and truck trailer shapes. In 1970, hard-coat anodizing facilities were installed at Carthage and facilities for polishing and rippling extrusions were completed at that site.

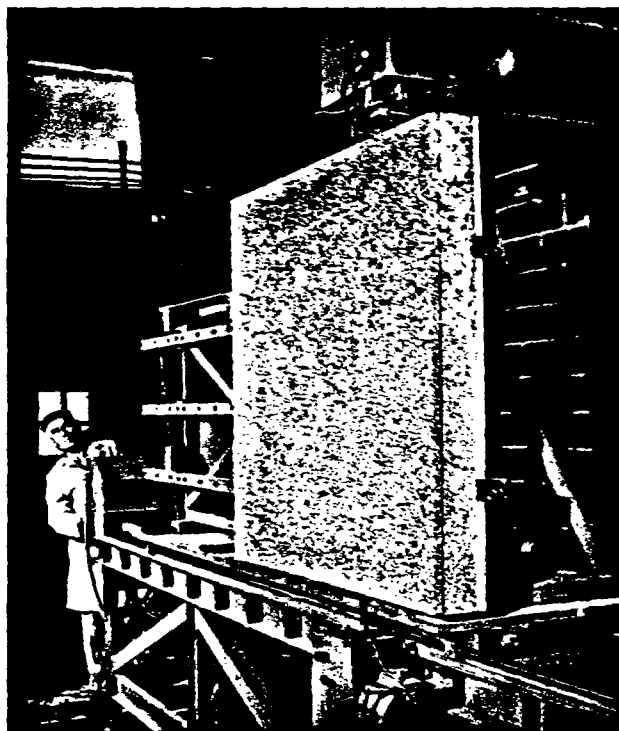
A new electrostatic paint line was completed in 1970 at the Bonnell plant in Newnan, Georgia. The new paint line provides Bonnell with an expansion in its painting capabilities of about seven times previous levels. This new paint line permits quick and automatic change to different colors as needed for different jobs. It also provides a superior finish on the painted extrusions.

Despite a slowdown in housing starts, Capitol Products' window and door sales were up more than 15% over 1969 figures with a significant number going into the replacement market.

In April, Capitol Products began marketing of a new window which was developed to meet the demand for a design incorporating the best features of residential and apartment windows. The new window unit has been successful with initial annual sales of approximately \$1 million.

A turn-around in the aluminum market is expected in 1971. As a result, both Bonnell and Capitol Products are studying expansion plans and new site locations.

Right: In 1970, Ethyl built a semi-commercial unit to produce 4 by 8-foot by 8-inch blocks of foamed aluminum. These are under tests by commercial users.



Left: Bonnell's new electrostatic paint line at Newnan, Ga., permits quick and automatic change to different colors and provides a superior finish on painted aluminum extrusions.



ETC 17115

Ethyl's expenditures for research and development in 1970 were about \$18 million. More than half of Ethyl's R & D effort in 1970 was devoted to new products, and approximately 100 U.S. patents and 75 foreign ones were received. Ethyl currently holds more than 1,200 unexpired U.S. patents, and maintains about 875 foreign patents. About half of the more than 400 professionally-trained members of the department have advanced degrees. Ethyl's major research centers are in Baton Rouge, La., and Detroit, Mich. At Baton Rouge, work is concentrated on industrial chemicals, plastics products, plastics intermediates and in areas unrelated to present product lines. At Detroit, the emphasis is on continued research on automotive emissions as well as new and improved petroleum and industrial chemicals. Plastic film research is conducted in Terre Haute, Ind. while plastic bottle research is centered in Kansas City, Mo. Paper research is done at Richmond, Va. and Rumford, Maine.

Automotive Emissions Research

A significant part of Ethyl's research effort in 1970 continued in the area of reduction of automotive exhaust emissions. The company's research findings and test vehicles were used extensively in defense of lead antiknocks. An important development in emissions research in 1970 was the signing of an agreement with Chrysler Corporation to work jointly on vehicles to retain the good performance of compression ratios of pre-1971 models operating on gasolines containing lead.

Ethyl's research indicates that lead removal causes excessive wear of exhaust valve seats in engines in high-speed service and greatly increases emissions. Further, Ethyl researchers reported in October results of a five-year test program on octane requirements. The report noted that automobiles using lead-free gasoline require very significantly higher octane fuel as the age of

the vehicle increases than do cars using leaded gasoline.

In 1970, work continued on the program to reduce exhaust emissions with practical approaches that do not sacrifice the advantages of high octane leaded fuels. Modifications in the induction, ignition and exhaust systems of an automobile engine (Ethyl's Lean Reactor Car) have achieved extremely low emissions of hydrocarbons, carbon monoxide and oxides of nitrogen. Work to improve the Lean Reactor Car continues with promise of reaching the even lower emissions levels required in the future. In November, Ethyl loaned one of its Lean Reactor Cars to the California Air Resources Board for an evaluation program expected to last for two years.

It was demonstrated in 1970 that the lead in exhaust is neither responsible for a major part of the particulates in exhaust nor for a major part of any visibility reduction which may result from exhaust particulates. Practical devices designed to reduce particulate emissions, including lead compounds, are being tested by Ethyl. These devices or traps are inexpensive and could replace standard mufflers and reduce exhausted lead particulates by 60-70%. A more advanced trap being tested recovers over 90% of the exhausted lead particulates.

New Products Research

Ethyl developed new performance information to demonstrate the effectiveness of its extended range gasoline additives. These additives, which keep engine intake system parts clean and working properly for lowest possible exhaust emissions, were introduced on a market development basis in 1970. Catalysts for the reduction of emissions from automobiles using leaded gasoline were tested in the laboratory and on the road; these investigations are continuing in 1971.

A strong R & D program has been established to broaden the business of Ethyl's subsidiary, Air Monitoring, Inc. (See page 9.)

Development of Ethyl's new foamed aluminum continued in 1970. During the year, a semi-commercial unit was constructed

and is supplying market development samples. Foamed aluminum is useful in applications demanding dimensional stability, light weight rigidity, metallic durability, fire resistance and high-impact energy absorption. (See page 17.)

An attractive separation process for ilmenite and rutile was established in 1970. These minerals are used in the manufacture of titanium dioxide pigment. Product samples were distributed for market development use. Research also is progressing well on new aluminum and nickel production processes.

Plant design has been essentially completed on a new synthetic fatty acid process and market development planning is far advanced. These fatty acids will displace those currently produced from natural products and have potential use in bar soap and in jet engine lubricants.

R & D work on bromine chemicals in 1970 was fruitful. A process was developed for a large volume specialty bromine chemical—vinyl bromide. (See page 9.)

Several new orthoalkylated phenols and anilines have been developed and are being tested as chemical building blocks for new biodegradable herbicides.

Research in the plastics area in 1970 emphasized technology to extend polyvinyl chloride (PVC) into new use areas. Rigid injection molding compounds with exceptional flow characteristics have been developed which are expected to find major uses in appliances and in communications. Ethyl also has pioneered a method to reduce the density of PVC so that it can compete with other plastics on a volume basis in new areas. Ethyl has extended its leadership in emulsion resins by introducing a new battery separator resin with which it plans to penetrate the large paper separator market. A new resin for plastisol foam for participation in a new growth area of vinyls for carpet backing also has been introduced. Progress continues on a program for higher-barrier resins for packaging.

Detergent research is a part of Ethyl's R&D program of research and development in areas both related and unrelated to present product lines.

Consolidated Balance Sheets
ETHYL CORPORATION AND SUBSIDIARIES

	December 31	1970	1969
ASSETS			
Current assets:			
Cash and short-term securities		\$105,307,000	\$123,302,000
Accounts and notes receivable		73,990,000	74,620,000
Inventories		85,851,000	79,116,000
Prepaid expenses		3,789,000	2,587,000
Total current assets		<u>268,937,000</u>	<u>279,625,000</u>
Property, plant and equipment, at cost:			
Land and land improvements		23,755,000	23,773,000
Development costs, producing properties		5,147,000	4,020,000
Timberlands and standing timber		10,301,000	7,483,000
Buildings		79,764,000	77,183,000
Machinery and equipment		393,068,000	373,208,000
		<u>512,035,000</u>	<u>485,667,000</u>
Less, Accumulated depreciation, depletion and amortization		<u>213,264,000</u>	<u>192,467,000</u>
Net property, plant and equipment		<u>298,771,000</u>	<u>293,200,000</u>
Investment in 50%-owned company			1,552,000
Deferred charges and other assets		17,569,000	16,479,000
Excess of cost of investments over equities in businesses acquired and other intangibles		35,743,000	28,308,000
		<u>\$621,020,000</u>	<u>\$619,164,000</u>

The accompanying notes are an integral part of these statements.

	December 31	1970	1969
LIABILITIES			
Current liabilities:			
Accounts payable and accrued expenses	\$ 39,095,000	\$ 54,759,000	
Dividends payable	3,244,000	3,280,000	
Notes payable	2,931,000	28,070,000	
Long-term debt, current portion	9,264,000	7,871,000	
Income taxes	4,679,000	9,146,000	
Total current liabilities	59,213,000	103,126,000	
Long-term debt:			
Senior	201,675,000	175,167,000	
Subordinated	52,485,000	54,985,000	
Deferred income taxes	27,544,000	23,258,000	
Provision for employee benefits	4,535,000	4,961,000	
Minority interests	1,409,000	4,782,000	
SHAREHOLDERS' EQUITY			
Capital stock:			
Cumulative First Preferred Stock, par \$100 per share:			
6% Series A	3,239,000	3,352,000	
5% Series B	2,000,000	4,000,000	
Cumulative Second Preferred Stock, \$2.40 Convertible Series A, par \$10 per share (aggregate liquidation price \$72,576,000 on 1,728,011 outstanding shares, after treasury stock)	19,600,000	19,580,000	
Common, par \$1 per share	10,088,000	10,059,000	
Capital surplus	43,562,000	43,243,000	
Retained earnings	207,097,000	182,875,000	
	285,586,000	263,109,000	
Less, Treasury stock at cost	11,427,000	10,224,000	
Total shareholders' equity	274,159,000	252,885,000	
	<u>\$621,020,000</u>	<u>\$619,164,000</u>	

The accompanying notes are an integral part of these statements.

Consolidated Statements of Income & Retained Earnings

	Years Ended December 31	1970	1969
Income:			
Net sales		\$556,856,000	\$509,302,000
Miscellaneous income, net		8,437,000	7,621,000
		<u>565,293,000</u>	<u>516,923,000</u>
Cost and expenses:			
Cost of goods sold		410,973,000	376,439,000
Selling and general expenses		65,804,000	60,218,000
Interest and financing costs		18,285,000	14,222,000
Income taxes		34,649,000	33,020,000
		<u>529,711,000</u>	<u>483,899,000</u>
Income before extraordinary items		35,582,000	33,024,000
Extraordinary items		1,617,000	(3,500,000)
Net income		37,199,000	29,524,000
Retained earnings at beginning of year		182,875,000	164,235,000
Reversal of accumulated depreciation on appraisal increase of property, plant and equipment restored to cost			1,427,000
Deduct, Cash dividends:			
Series A, 6% First Preferred Stock, \$6.00 per share		187,000	193,000
Series B, 5% First Preferred Stock, \$5.00 per share		140,000	239,000
\$2.40 Second Preferred Stock, \$2.40 per share ..		4,189,000	4,345,000
Common Stock, per share, \$.84 in 1970 and \$.75 in 1969		8,461,000	7,534,000
		<u>12,977,000</u>	<u>12,311,000</u>
Retained earnings at end of year		<u>\$207,097,000</u>	<u>\$182,875,000</u>
Earnings per share of Common Stock and common stock equivalents:			
Income before extraordinary items		\$3.06	\$2.77
Extraordinary items		.16	(.34)
Net income		<u>\$3.22</u>	<u>\$2.43</u>
Pro forma earnings per share of Common Stock and common stock equivalents assuming conversion of \$2.40 Second Preferred Stock. (If the Second Preferred Stock were converted, its dividend would become \$1.09 per share at the annualized present common dividend rate, as against the present \$2.40 preferred dividend).			
Income before extraordinary items		\$2.85	\$2.61
Extraordinary items		.13	(.28)
Net income		<u>\$2.98</u>	<u>\$2.33</u>

The accompanying notes are an integral part of these statements.

Consolidated Statements of Capital Surplus

Years Ended December 31	1970	1969
Balance at beginning of year	\$43,243,000	\$46,072,000
Reduction of certain property, plant and equipment from appraised value to cost in accordance with Federal Power Commission requirements		(3,476,000)
Excess of cash received over par value of shares of stock issued under stock option plans:		
27,890 and 28,936 shares of Common Stock ..	248,000	308,000
750 and 9,857 shares of \$2.40 Second Preferred Stock	12,000	253,000
Excess of par value over cost of 1,130 shares of 6% Series A First Preferred Stock cancelled ..	20,000	12,000
Excess of par value of 2,316 shares of \$2.40 Second Preferred Stock over par value of 3,010 shares of Common Stock issued upon conversion, less cost of fractional shares of Common Stock purchased		20,000
Excess of award amount over par value of 1,279 and 1,760 shares of \$2.40 Second Preferred Stock issued under the Oxford Incentive Compensation Plan	39,000	54,000
Balance at end of year	<u>\$43,562,000</u>	<u>\$43,243,000</u>

Consolidated Statements of Source & Application of Funds

Source of Funds:	Years Ended December 31	1970	1969
Operations:			
Net income	\$ 37,199,000	\$29,524,000	
Depreciation, depletion and amortization	31,949,000	29,562,000	
Deferred income taxes	3,173,000	4,607,000	
Provisions for extraordinary write-downs	1,596,000	3,500,000	
Provided from operations	73,917,000	67,193,000	
Working capital of consolidated subsidiaries at dates of acquisition		3,965,000	
Issuance of long-term debt	40,703,000	20,333,000	
Other items—net	3,774,000	2,943,000	
Total	<u>\$118,394,000</u>	<u>\$94,434,000</u>	
Application of Funds:			
Additions to property, plant and equipment	\$ 39,136,000	\$50,484,000	
Reduction of long-term debt	16,694,000	7,514,000	
Cash dividends	12,977,000	12,311,000	
Acquisitions of consolidated subsidiaries	13,173,000	16,994,000	
Capital stock reacquired or redeemed	3,189,000	6,934,000	
Increase in working capital	33,225,000	197,000	
Total	<u>\$118,394,000</u>	<u>\$94,434,000</u>	

The accompanying notes are an integral part of these statements.

Notes to Financial Statements

1. Consolidation Principles:

The accompanying financial statements include the accounts and operations of all wholly-owned subsidiaries, and the accounts and operations of Bromet Company, in which Ethyl Corporation has an 80% partnership interest.

On December 24, 1969 the Corporation acquired 56% of the outstanding capital stock of Capitol Products Corporation ("Capitol"). On March 19, 1970 a majority of the shareholders of Capitol approved a Plan of Merger with the result that the Corporation acquired the remaining 44% of Capitol's outstanding capital stock for cash. The accompanying financial statements include the assets and liabilities of Capitol at December 31, 1970 and 1969 and the results of its operations for 1970.

The excess of cost of investments over equities in businesses acquired is not being amortized.

2. Cash and Short-Term Securities:

Short-term securities, stated at cost plus earned discount which approximates market value, amounted to \$90,696,000 at December 31, 1970 and \$104,132,000 at December 31, 1969.

3. Inventories:

	1970	1969
Inventories include:		
Finished goods	\$34,912,000	\$31,399,000
Raw materials and work in process ..	36,323,000	32,892,000
Stores, supplies, etc.	14,616,000	14,825,000
	<u>\$85,851,000</u>	<u>\$79,116,000</u>

Inventories are stated at the lower of cost or market with cost being determined on the last-in, first-out basis with respect to approximately \$43,158,000 at December 31, 1970, and \$36,743,000 at December 31, 1969, and generally on either an average cost or first-in, first-out basis with respect to the balance.

4. Deferred Charges and Other Assets:

Deferred charges at December 31, 1970 consisted principally of unamortized discount on long-term debt and other deferred financing expenses. Other assets include a receivable applicable to certain timberlands of a subsidiary which have been expropriated by the Province of New Brunswick. The Corporation expects that litigation regarding compensation, which is now in progress, will result in recovery substantially greater than the amount at which the receivable is stated in the subsidiary's accounts.

5. Long-Term Debt:

Reference is made to "Summary of Long-Term Debt" on page 7 of this report for information concerning the Corporation's long-term borrowings.

6. Capital Stock:

Transactions in capital stock during 1970 were as follows:

	Issued		Treasury	
	Shares	Amounts	Shares	Amounts
Cumulative First Preferred (authorized, 1,000,000 shares):				
Series A:				
January 1, 1970	33,523	\$ 3,352,300	2,114	\$ 177,764
Purchases			674	48,640
Cancelled	(1,130)	(113,000)	(1,130)	(93,390)
December 31, 1970 ..	<u>32,393</u>	<u>\$ 3,239,300</u>	<u>1,658</u>	<u>\$ 133,020</u>
Series B:				
January 1, 1970	40,000	\$ 4,000,000	1,800	\$ 180,000
Purchases			20,550	2,055,000
Cancelled	(20,000)	(2,000,000)	(20,000)	(2,000,000)
December 31, 1970 ..	<u>20,000</u>	<u>\$ 2,000,000</u>	<u>2,350</u>	<u>\$ 235,000</u>
Cumulative Second Preferred (authorized, 10,000,000 shares):				
January 1, 1970	1,957,982	\$19,579,820	197,000	\$ 9,865,750
Issued under stock option plan	750	7,500		
Issued under incentive compensation plan	1,279	12,790		
Purchases			35,000	1,085,000
December 31, 1970 ..	<u>1,960,011</u>	<u>\$19,600,110</u>	<u>232,000</u>	<u>\$10,950,750</u>
Common (authorized, 25,000,000 shares):				
January 1, 1970	10,059,456	\$10,059,456	12	\$ 400
Issued under stock option plan	27,890	27,890		
Forfeitures under employee bonus plan			1,186	43,542
Transfer of shares previously held for employee bonus plan			2,082	64,290
December 31, 1970 ..	<u>10,087,346</u>	<u>\$10,087,346</u>	<u>3,280</u>	<u>\$ 108,332</u>

The 6% Series A stock is redeemable at \$101 and annual sinking fund payments of approximately \$114,000 are required. The 5% Series B stock is redeemable at \$100 from a sinking fund having required annual payments of \$2,000,000 and is otherwise redeemable at \$101. The First Preferred Stock is preferentially entitled to par value in involuntary liquidation and to its current redemption price in voluntary liquidation.

Each share of \$2.40 Convertible Series A is convertible into 1.3 shares of common stock. The voluntary or involuntary liquidation value of the Second Preferred Stock is the greater of (1) \$42 per share, or (2) an amount equivalent to the book value of that number of shares of common stock into which such preferred stock is convertible. The aggregate excess of liquidation price over par value on 1,728,011 shares of outstanding stock is approximately \$55,296,000 as of December 31, 1970. These shares are callable after August 1, 1972 at \$75 per share, plus accrued dividends.

7. Warrants:

At December 31, 1970, there were outstanding warrants exercisable on or before November 1, 1982, which entitle the holders thereof to purchase 45,600 shares of unissued common stock at \$4.58 per share. During 1970 there were no warrants exercised.

8. Stock Option Plans:

At December 31, 1969, under the Corporation's restricted stock option plan, there were outstanding options to officers and other key employees for the purchase of 148,339 shares of common stock at prices ranging from \$9.42 to \$33.12. During 1970, there were no options granted, options for 27,890 shares were exercised, and options for 11,500 shares were cancelled, leaving outstanding at December 31, 1970 options covering 108,949 shares at prices ranging from \$9.42 to \$33.12 (of which options for 71,611 shares

were exercisable at that date). No further shares are available for grant under this plan.

Under the Corporation's qualified stock option plan, 300,000 shares of unissued common stock are reserved for issuance to officers and other key employees. No options to purchase shares under this plan have been granted.

In connection with the merger of Oxford Paper Company into Ethyl Corporation in August, 1967, the Corporation assumed Oxford Paper Company's obligations with respect to the outstanding options under stock option plans for officers, key employees and eligible salaried employees, and reserved shares of \$2.40 Second Preferred Stock therefor. At December 31, 1969, there were outstanding options to purchase 13,744 shares at prices ranging from \$24.84 to \$59.75. During 1970, options for 750 shares were exercised and options for 6,280 shares were cancelled, leaving outstanding at December 31, 1970, options covering 6,714 shares at prices ranging from \$34.25 to \$59.75 (of which options for 5,512 shares were exercisable at that date). No further shares are available for grant under these plans.

9. Retained Earnings Restriction:

The Corporation's articles of incorporation and note agreements contain restrictions, among others, against the payment of cash dividends. At December 31, 1970, \$16,194,000 of retained earnings is free of such restriction under the agreement presently most restrictive.

10. Retirement Income Plans:

The Corporation and its subsidiaries provide retirement benefits for substantially all of their employees, including certain employees in foreign countries, under several different plans funded with insurance companies or corporate trustees. Plan contributions, based upon actuarial calculations, are irrevocably devoted to the payment of retirement and other benefits for employees. Total costs of retirement income plans for 1970 were approximately \$7,000,000 which includes amortization of prior service costs generally over periods ranging up to 40 years. The policy of the Corporation and its subsidiaries is to fund pension costs accrued.

Under one of the plans, the actuarially computed value of vested benefits as of the end of the plan year, for active employees not yet retired, exceeded the total pension fund allocable to the active group. The excess amounted to \$12,200,000 (an increase of \$2,950,000 from 1969 resulting primarily from an increase in pension benefits and a decrease in the market value of pension fund assets), with full funding anticipated in the valuation method by the time each employee becomes eligible to retire.

11. Depreciation, Depletion and Amortization:

Depreciation and depletion charged to income amounted to \$30,796,000 and \$28,132,000 in 1970 and 1969, respectively. Amortization of intangibles and of deferred discount and financing expenses charged to income amounted to \$1,153,000 and \$1,430,000 in the respective years. Depreciation of timberlands is provided by charges to income at unit amounts estimated as adequate to apportion the cost of each tract, less residual value of land and young growth, to the cost of timber cut from such tract.

12. Deferred Income Taxes:

Depreciation computed on accelerated methods for income tax purposes exceeds book provisions based principally on the straight-line method which excess, together with timing differences in intangible drilling and development costs and other expenses, resulted in reductions of

current income tax payable of \$3,173,000 in 1970 and \$4,607,000 in 1969 for which the Corporation has provided deferred income taxes.

13. Investment Credit:

The Corporation's provision for income taxes was reduced (and net income increased) by investment credits of \$432,000 and \$1,988,000 in 1970 and 1969, respectively.

14. Extraordinary Items:

	1970	1969
Extraordinary items include:		
Provision for write-down of investment in Ethyl-Dow Chemical Company in 1969 and adjustment thereof upon liquidation in 1970 (tax benefit in 1970 of \$819,000)	\$1,519,000	\$(3,500,000)
Net credit from reorganization of administrative and selling operations including capital gain on sale of office lease (net of capital gains tax of \$604,000 less ordinary income tax reduction of \$572,000 applicable to expenses)	909,000	
Provision for further write-down to realizable value of Pittsburg, California plant (net of income taxes, \$785,000)	(811,000)	
	<u>\$1,617,000</u>	<u>\$(3,500,000)</u>

15. Earnings per Share:

Earnings, and pro forma earnings, per common share are computed using the weighted average number of shares of common stock and common stock equivalents (common stock options and warrants) outstanding during the year. Proceeds from common stock equivalents are assumed to be used to purchase outstanding shares of the Corporation's common stock.

Auditors' Report

To the Board of Directors and Shareholders of Ethyl Corporation:

We have examined the consolidated balance sheet of Ethyl Corporation and Subsidiaries as of December 31, 1970 and the related consolidated statements of income and retained earnings and capital surplus and the consolidated statement of source and application of funds for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the Corporation's consolidated financial statements for the year ended December 31, 1969.

In our opinion, the aforementioned statements present fairly the consolidated financial position of Ethyl Corporation and Subsidiaries at December 31, 1970 and 1969, and the consolidated results of their operations and consolidated source and application of funds for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Lybrand, Ross Bros. & Montgomery

LYBRAND, ROSS BROS. & MONTGOMERY

Suite 1000
Seventh and Franklin Bldg.
Richmond, Virginia 23210
February 24, 1971

Ten Year Summary
ETHYL CORPORATION AND SUBSIDIARIES

		Years Ended December 31			
		1970	1969	1968	
SALES AND INCOME	Net sales (after deducting freight cost)	\$556,856,000	\$509,302,000	\$509,072,000	15
	Income before taxes and extraordinary items	70,231,000	66,044,000	61,094,000	51
	Depreciation, depletion and amortization	31,949,000	29,562,000	31,076,000	31
	Income taxes, including deferred	34,649,000	33,020,000	29,592,000	2
	Income before extraordinary items	35,582,000	33,024,000	31,502,000	2
	Net income	37,199,000	29,524,000	31,502,000	2
	Cash flow	73,917,000	67,193,000	65,027,000	6
FINANCIAL CONDITION	Working capital	209,724,000	176,499,000	176,302,000	12
	Ratio of current assets to current liabilities	\$4.54 to \$1.00	\$2.71 to \$1.00	\$3.47 to \$1.00	13
	Property, plant and equipment (Net)	298,771,000	293,200,000	269,761,000	3
	Capital expenditures	64,190,000	53,312,000	64,158,000	
	Long-term debt	254,160,000	230,152,000	215,121,000	2
COMMON STOCK	Number of shares outstanding	10,084,066	10,059,444	10,027,510	
	Earnings per share	\$ 3.06*	\$ 2.77*	\$ 2.61	
	Pro forma earnings per share, assuming conversion of the Second Preferred Stock (3)	\$ 2.85*	\$ 2.61*	\$ 2.46	
	Income taxes per share	\$ 3.42	\$ 3.25	\$ 2.91	
	Equity per share (4)	\$18.45	\$16.01	\$14.56	

* Before extraordinary items. After extraordinary items, would be \$3.22 and \$2.98 in 1970 and \$2.43 and \$2.33 in 1969, respectively.

(1) Includes Oxford operations for entire year. All prior years ended December 31 reflect the merger of Oxford into Ethyl on a pooling of interests basis.

(2) Includes 4 months of combined Albemarle paper and Ethyl chemical operations. Year ended March 31, 1962 represents Albemarle paper operations only.

(3) If the Second Preferred Stock were converted, its dividend would become \$1.09 a share at the annualized present common dividend rate, as against the present \$2.40 preferred dividend.

(4) Reflects a deduction for the liquidating value of the Second Preferred Stock, and is based on the number of shares outstanding at the end of each year, treating warrants and common stock options as common stock equivalents. Adjusted for stock splits and stock dividends.

1967(1)	Years Ended March 31					
	1966	1965	1964	1963	1963(2)	1962
\$3,338,000	\$465,823,000	\$375,837,000	\$335,663,000	\$292,878,000	\$ 94,294,000	\$ 44,284,000
\$1,633,000	62,876,000	48,306,000	41,004,000	32,526,000	8,964,000	3,620,000
\$1,749,000	28,411,000	25,233,000	22,161,000	19,886,000	6,556,000	2,295,000
\$1,971,000	25,570,000	20,317,000	19,945,000	16,099,000	4,583,000	1,858,000
\$1,662,000	37,306,000	27,989,000	21,059,000	16,427,000	4,381,000	1,762,000
\$1,662,000	37,306,000	27,989,000	21,059,000	16,427,000	4,381,000	1,762,000
\$2,876,000	68,107,000	55,918,000	46,172,000	39,052,000	12,117,000	4,212,000
\$2,757,000	107,244,000	92,840,000	103,194,000	86,267,000	63,001,000	10,313,000
\$52 to \$1.00	\$2.83 to \$1.00	\$3.07 to \$1.00	\$3.19 to \$1.00	\$3.43 to \$1.00	\$2.75 to \$1.00	\$3.29 to \$1.00
\$1,345,000	306,073,000	280,112,000	240,216,000	227,583,000	150,959,000	29,222,000
\$6,943,000	59,116,000	57,654,000	35,876,000	33,370,000	4,839,000	4,820,000
\$6,419,000	219,464,000	223,639,000	225,992,000	226,427,000	196,375,000	15,522,000
9,927,793	9,538,655	9,487,380	8,438,658	2,375,807	1,187,362	1,029,674
\$ 2.41	\$ 3.21	\$2.32	\$1.68	\$1.30	\$.63	\$.24
\$ 2.29	\$ 2.94	\$2.22	\$1.68	\$1.30	—	—
\$ 2.16	\$ 2.54	\$2.01	\$2.02	\$1.75	\$.71	\$.30
\$12.70	\$10.98	\$8.26	\$6.55	\$5.33	\$5.31	\$3.35

Ethyl Corporation

DIRECTORS, OFFICERS AND STAFF

WALLACE F. ARMSTRONG
Vice President—Manufacturing

*LAWRENCE E. BLANCHARD, JR.
Director, Executive Vice President

*WILLIAM H. CHISHOLM
Director, Executive Vice President;
Chairman, Oxford Paper Company
Division

S. DOUGLAS FLEET
Director, Retired Vice President,
Ethyl Corporation

M. F. GAUTREUX
Vice President—
Research & Development

JAMES M. GILL
Director, Senior Vice President,
Chemicals Group

*BRUCE C. GOTTFELD
Director, President

*FLOYD D. GOTTFELD, JR.
Chairman of the Board
and Chief Executive Officer

*FLOYD D. GOTTFELD
Director,
Chairman of the Executive Committee

C. RAYMOND HAILEY
Vice President; President,
Oxford Paper Company Division

ARTHUR W. HELWIG
Secretary, Executive Committee;
Director—Planning & Profit
Improvement

*ROBERT HERZOG
Director, Executive Vice President

A. B. HORN, JR.
Vice President—
International Division

GEORGE F. KIRBY
Director; Executive Vice President,
Texas Eastern Transmission Corp.

JAMES H. KIRBY
Controller

JOSEPH M. LOWRY
Director, Senior Vice President

ANDREW M. MCBURNEY
Director; Executive Vice President,
Oxford Paper Company Division

THOMAS W. MCKNEW
Director; Advisory Chairman of the
Board, National Geographic Society

FRANK J. McNALLY
Treasurer

ROBERT T. MARSH, JR.
Director;
Retired Chairman of the Board,
First & Merchants National Bank,
Richmond, Va.

MALCOLM P. MURDOCK
Director,
Retired Senior Vice President,
Ethyl Corporation

CLARENCE M. NEHER
Director, Senior Vice President,
Plastics Division

LEWIS F. POWELL, JR.
Director; Partner,
Hunton, Williams, Gey,
Powell & Gibson,
Richmond, Va.

W. THOMAS RICE
Director; Chairman and
Chief Executive Officer,
Seaboard Coast Line Railroad Co.,
Richmond, Va.

E. CLAIBORNE ROBINS
Director; Chairman of the Board,
A. H. Robins Co.,
Richmond, Va.

RICHARD K. SCALES
Vice President

SIDNEY BUFORD SCOTT
Director; Partner,
Scott & Stringfellow,
Richmond, Va.

THOMAS M. SMYLYE
Vice President;
Chairman of the Board,
Capitol Products Corporation

FREDERICK P. WARNE
General Counsel and Secretary

ERWIN H. WILL
Director; Chairman of the Board,
Virginia Electric & Power Co.,
Richmond, Va.

LLOYD B. ANDREW, JR.
Director—Financial Relations

CHARLES E. COLVIN
Director—Purchasing & Traffic

JAMES B. LONERGAN
Director—
Advertising & Sales Promotion

G. SAMUEL ROBERTS
Chief Engineer

STEPHEN B. RODI
Director—
Corporate Employee Relations

CHARLES H. ZEANA
Director—
Corporate Public Relations

*Member of the Executive Committee

DIVISIONS

Oxford Paper Company

GORHAM H. SCOTT
Senior Vice President

HUGH H. BAIRD, JR.
Vice President & Controller

RUSSELL H. CHAMBLISS, JR.
Vice President—Sales

S. D. DILLON
Vice President—
National Accounts, West

C. RICKERT LEWIS
Vice President—
National Accounts, East

B. FREDERICK AYER
Treasurer

Petroleum Chemicals

ROBERT A. DOUGLASS
Divisional Vice President
& General Manager

JOHN F. KOEHNLE
General Sales Manager

R. J. OSTRANDER
Technical Director

Air Monitoring, Inc.

R. J. OSTRANDER
President

Ethyl International

K. F. CAST
General Manager—Operations

W. J. RUSHER
General Manager—Sales

L. N. APPELEGATE
Director—Exploration

Ethyl S. A.

WILLIAM J. RUSHER
President & Managing Director

Ethyl Hellas Chemical Company S. A.

ELMO F. DIEDRICH
Managing Director

Ethyl Corporation of Canada Limited

KENNETH A. FREBERG
President

JAMES H. MAIN
Manager—Petroleum Additives

ROBERT H. SHANNON
Manager—Chemical Products

Industrial Chemicals

MERLE L. GOULD
General Manager

ROGER A. MOSER
Director—Product Management

H. WARREN REES
General Sales Manager

STANLEY A. HARRIS
Sales Manager

Plastics

PAUL E. WEIMER
Manager—Operations

JOHN E. WILLIS
Director—Financial Services

HARRY M. ZIMMERMAN
Manager—New Market Development

Imco Container Company

RICHARD V. VOSSBURGH
President

RICHARD F. SANDS
Executive Vice President

MARION HIERMAN
Vice President—Sales & Marketing

JAMES W. COURT
Vice President—Finance

VisQueen Division

HARRY C. BYRNE, JR.
General Manager

JOHN K. SHIFFLER
General Sales Manager

RICHARD W. GOODRUM
Technical Director

ROLAND E. MCKENZIE
Manufacturing Manager

Polymer Division

CHARLES W. MONTGOMERY
General Manager

ARTHUR A. SMITH
General Sales Manager

Pipe Division

PALMER A. BROWN
Manager

L. RAY McCULLEY
Sales Manager

PVC Film and Sheet Division

STEPHEN J. BARCIK
Manufacturing Manager

FRANK J. KELLY
Sales Manager—Vinyl Packaging Film

Environmental Control Division

I. RICHARD SCHNEIDER
General Manager

JOSEPH H. BENTON
Sales Manager

Converted Film Products Division

HOWARD L. LEVENTHAL
Manager

MARTIN L. WEINER
Marketing Director

Aluminum

E. MALCOLM HARVEY
President & Treasurer
The William L. Bonnell Co.

WILLIAM H. MORGAN
General Manager—Marketing
& Product Development

The William L. Bonnell Company

LLOYD L. REYNOLDS
Vice President & General Manager

WARREN H. BROCKWAY
Vice President & General Sales
Manager

DONALD A. WAGNER
Vice President—Manufacturing

FRANK DANIELS, JR.
Assistant Treasurer

Capitol Products Corporation

JOSEPH T. COLLIFLOWER
President

GEORGE S. THUMBERT
Vice President & Treasurer

WALLACE FREMONT
Vice President

DONALD G. HORNUNG
Vice President

Products of Ethyl Corporation and Its Subsidiaries

CHEMICALS

Alkyl aluminum halides
Alpha olefins
Alum
Aluminum alkyl compounds
Antioxidants
Bromine chemicals
Caustic soda
Chlorinated solvents—
(perchlorethylene,
trichlorethylene,
1,1,1-trichloroethane)
Diesel fuel detergent-
corrosion inhibitor
Diesel fuel ignition improvers
Distillate fuel anti-static
additive
Ethyl chloride
Fuel oil combustion improver
Gasoline antiknock
compounds
Gasoline detergent-deicer-
corrosion inhibitors
Gasoline ignition control
compounds
Linear primary alcohols
Lubricating oil additives
Metal deactivator
Methyl chloride
Oil soluble dyes
Organic phosphorus chemicals
Orthoalkylated antioxidants
Orthoalkylated phenols and
anilines
Special organometallics
Sodium
Vinyl chloride

PLASTICS

Polyethylene films for
*packaging and industrial,
building and agricultural,
pallet, shrink, and bundling,
disposables*
Household bags
Polyvinyl chloride packaging
films
Polyvinyl chloride rigid film
and sheet
Polyvinyl chloride shrink films
Environmental Control Systems
"Flocor" waste oxidation media
"Flocor" waste clarifier media
Polyvinyl chloride resins
Polyvinyl chloride compounds
Polyvinyl chloride containers
Polyethylene containers
Bottle closures and other
injection molded specialty
products
Plastic pipe and fittings

PAPER

Coated Letterpress Papers
for commercial printing
Coated Offset Papers
*for book publishing,
commercial printing*
Uncoated Letterpress Papers
*for book publishing,
commercial printing*
Uncoated Offset Papers
*for book publishing,
commercial printing*
Web Offset Papers—
Coated and Uncoated
*for magazines, book
publishing, commercial
printing*
Film Coated Papers
*for book publishing,
commercial printing*
Gravure Papers—
Coated and Uncoated—
(Sheet and Roll)
*for magazines, commercial
printing, converting*
Converting Papers
*for envelopes, business
forms, paper masters*

ALUMINUM

Aluminum shapes for
*windows and doors, curtain
walls, boats and trailers,
and tub enclosures*
Aluminum building shapes
Aluminum products for the
floor covering industry
Aluminum windows and
doors
Residential Lawn Buildings
Aluminum billets

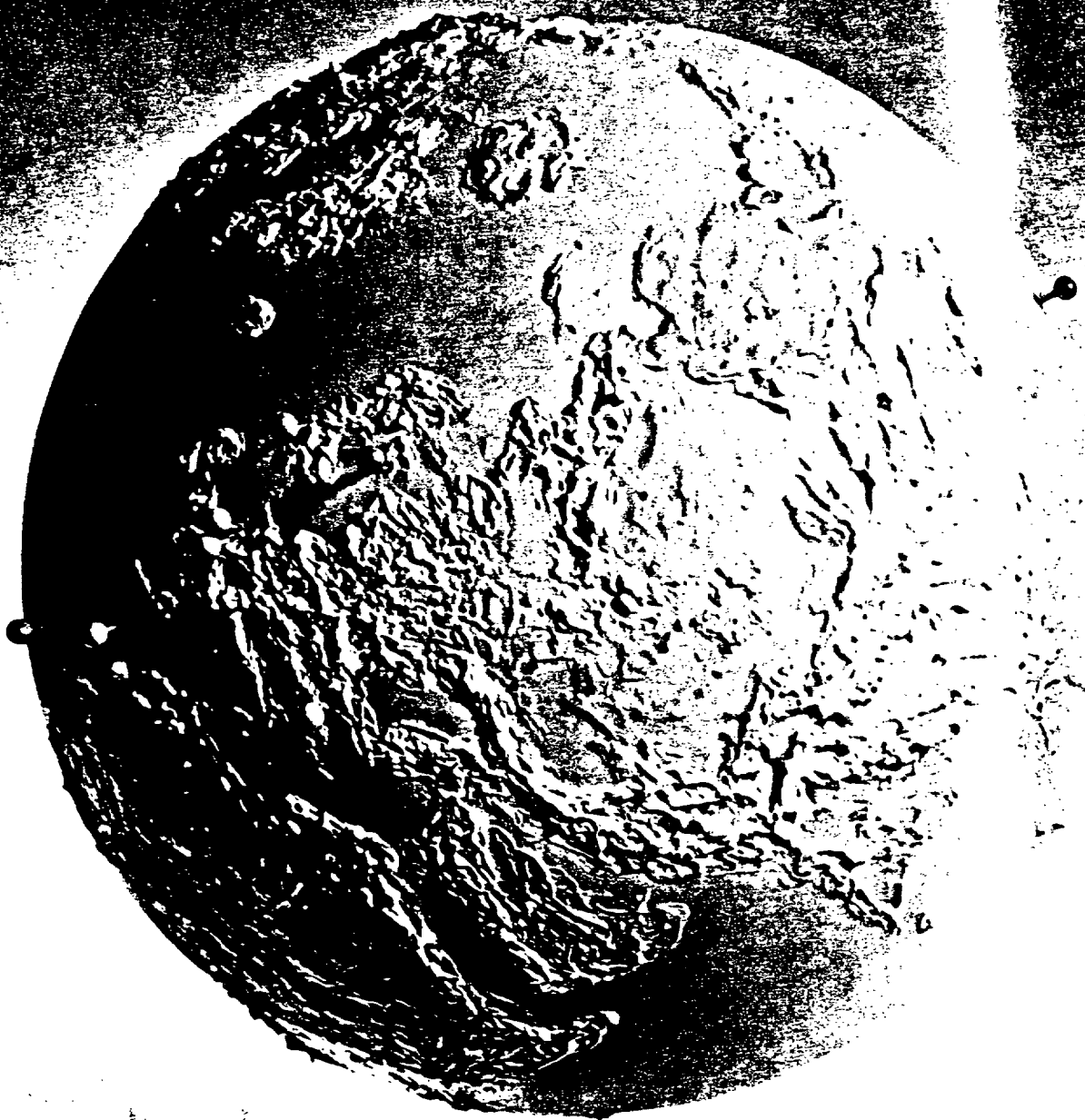
Ethyl Corporation is a major chemical company which in recent years has diversified into several new product areas—plastics, aluminum products and paper. Ethyl's business is worldwide in scope and, as depicted on the covers of this report, it now maintains offices and manufacturing or product distributing facilities on five continents and employs more than 13,000 people.

*This report is lithographed on
Luxcol High Gloss Enamel (basis
100 pounds for the text and 80
pounds for the covers), produced
by Oxford Paper Company.*

COLOR PHOTOGRAPHS:
PAGES 8, 12, 13, 16, 17, 18: O. WINSTON LINK
PAGE 10: INTERNATIONAL DRILLING COMPANY LTD.
PAGE 14: © NATIONAL GEOGRAPHIC SOCIETY
PAGE 15: C. W. HOWE

DESIGN: ROBERTS, REINHARDT & ONG, INC.

ETC 17126



Changing ... to Serve a Changing World.

ETC 17127

A high-contrast, black and white photograph of an industrial facility, likely a refinery or chemical plant. The image is characterized by strong vertical lines and a complex network of pipes and structural elements. In the lower center, a worker is silhouetted against a bright light source, possibly the sun, while standing on a platform or walkway. The overall aesthetic is gritty and industrial, with a focus on geometric forms and dramatic lighting.

Ethyl 1971 Annual Report

ANNUAL MEETING

The annual meeting of Ethyl Corporation's shareholders will be held at the Company's corporate headquarters in Richmond, Va. at 11 a.m. on Thursday, April 27, 1972. Formal notices of the annual meeting, proxies and proxy statements will be mailed on or about March 30, 1972.

STOCK TRANSFER AGENTS

First & Merchants National Bank
Richmond, Va.
Chase Manhattan Bank N.A.
New York, N.Y.

REGISTRARS OF STOCK

Bank of Virginia—Central
Richmond, Va.
Morgan Guaranty Trust Co.
New York, N.Y.

GENERAL COUNSEL

Hunton, Williams, Gay & Gibson
Richmond, Va.

CORPORATE HEADQUARTERS

330 South Fourth Street
Richmond, Va. 23219
(703) 644-6081

EXECUTIVE OFFICES

451 Florida Street
Baton Rouge, La. 70801
(504) 348-0131
100 Park Avenue
New York, N.Y. 10017
(212) 679-2000

STOCK LISTINGS

New York Stock Exchange
Pacific Coast Stock Exchange

TICKER SYMBOL: EY

NUMBER OF EMPLOYEES

Approximately 13,000

TRADEMARKS

The first time trademarks of Ethyl Corporation and subsidiaries appear they are in quotations and capitalized. Subsequent uses are capitalized only.

CONTENTS

1	Message to Shareholders
4	Financial Results of 1971
9	Operations Review
20	Financial Statements
24	Notes to Financial Statements
26	Auditors' Report
27	Directors, Officers and Staff
28	Ten-Year Summary

Ethyl 1971 Annual Report

	Years Ended December 31	1971	1970	Percent Increase (Decrease)
FINANCIAL HIGHLIGHTS				
Net Sales		\$577,058,000	\$556,856,000	3.6
Income				
Before Extraordinary Items		38,240,000	35,582,000	7.5
Net		34,914,000	37,199,000	(6.1)
Earnings per Share of Common Stock				
Income before Extraordinary Items ..		\$3.36	\$3.06	9.8
Net Income		\$3.03	\$3.22	(5.9)
Income Taxes before Extraordinary Items		35,576,000	34,649,000	2.7
Cash Flow		72,278,000	73,917,000	(2.2)
Cash Flow per Share of Common Stock .		\$7.13	\$7.29	(2.2)
Dividends per Share of Common Stock .		\$.84	\$.84	
Depreciation, Depletion & Amortization .		32,845,000	31,949,000	2.8
Capital Expenditures		24,383,000	64,190,000	(62.0)
Working Capital		229,996,000	209,724,000	9.7
Equity per Share of Common Stock		\$20.47	\$18.45	10.9

TO ETHYL SHAREHOLDERS:

In 1971, Ethyl had the highest sales and earnings from operations in the Company's history. Primary contributions to the year's performance were effective cost control programs and the results of nine years of expansion and diversification. The year ended with a 3.6% increase in net sales and a 7.5% rise in income from operations. Per-share income from operations was up 9.8% from 1970 levels. Net sales for 1971 were \$577 million, compared with \$556.9 million for the previous year. Income from operations for 1971 was \$38.2 million, or \$3.36 a share. This compared with \$35.6 million, or \$3.06 a share, in 1970. In the second quarter of 1971, Ethyl had an extraordinary charge of \$3,326,000 for the shut-down of Oxford Paper's mill at Lawrence, Mass. As a result of this special charge, the Company's net income for 1971 was \$34.9 million, or \$3.03 a share, compared with \$37.2 million, or \$3.22 a share, for 1970. Detailed information is provided in the Financial Results section beginning on page 4. Your attention is directed to the tables in this financial section.

This is the third consecutive year in which we have reported on the status of the lead-in-gasoline controversy. This controversy began in early 1970 when major automobile producers announced plans for the future manufacture of vehicles requiring lead-free gasoline. They claimed lead might interfere with catalytic devices that might be needed to meet stringent exhaust emissions standards in 1975. Two years later, none of the automobile producers yet claims the perfection of such a catalytic device, and they are now in the process of asking for extensions of time to attempt to perfect them.

We have reported to you throughout 1970 and 1971 on our efforts to present Ethyl's side of this complex issue to the various decision makers. In addition, we have tried to keep you advised on the status of the controversy. In 1971, the controversy continued and Ethyl intensified its efforts to get regulatory bodies to understand Ethyl's position. The Company has been faced with laws or ordinances in Maryland, Orange County, Calif., New York City and Buffalo, N.Y., imposing restrictions on lead antiknocks in gasoline. However, if any federal regulations of lead antiknocks are either adopted or found unnecessary by the Environmental Protection Agency (EPA), this action will prevent states and localities from enforcing any control or prohibition concerning these fuel additives, except for the State of California which is granted a special exemption from this preemption provision.

On February 22, 1972, just a few days prior to the printing of this report, EPA proposed regulations that would reduce the amount of lead used in gasoline by approximately 60% by 1977 through a series of controls of various grades of gasoline. EPA has set a 90-day period for public comments on these regulations and will hold a series of hearings around the country. Ethyl intends to continue to oppose any such restrictions on the use of lead antiknock compounds for the reasons which we have consistently stated. We still believe that any reduction or removal of lead from gasoline would have serious adverse repercussions on this nation's economy, ecology and consuming public.

Accordingly, we remain in the position of not being able to predict what will be the final outcome of the lead controversy. Even if the proposed regulations were adopted, they would support the view which we have expressed to you over the past two years, that any reduction of lead in gasoline can only be accomplished gradually over a period of years. EPA has recognized that unless lead is removed gradually there will be a substantial increase in the aromatic content of gasoline. And, as Ethyl has pointed out consistently, increases in aromatics will increase photochemical smog and the emissions of certain compounds which are clearly detrimental to health. In addition, there are burdensome economic penalties required for any conversion to unleaded gasolines, but particularly on a crash basis, and the great majority of automobiles now in operation were

built to require relatively high-octane gasoline to operate efficiently. Then, too, there are substantial foreign markets for leaded gasoline which are unlikely to disappear in the foreseeable future, and may continue to grow. And, as reported in the Research & Development section on page 19, Ethyl is still making significant progress in various approaches that substantially reduce automobile emissions without sacrificing the economies of leaded gasoline. Ethyl has also developed practical inexpensive traps for automobiles which significantly reduce or eliminate particulate emissions, including the small amount attributable to lead.

Nine years ago Albemarle Paper Manufacturing Company, which merged with Ethyl on November 30, 1962, and changed its name, reported earnings for its then fiscal year ending March 31, 1963, of \$4.4 million. In subsequent years, we have reported to you in our annual reports on efforts to diversify beyond being primarily a one-product company. During this period it has been advisable for us to retain earnings and put them into new enterprises, to absorb losses in early years, to endure inevitable delays and start-up costs as well as many other frustrations involved in building new businesses. We have, however, been fortunate in having available substantial cash flows and a large reservoir of talent inherited from the former Ethyl organization. And, we have had loyal stockholders who could see the advantages of reinvesting earnings in building new businesses.

In 1971, for the first time in many years, the sales of the Company's primary product declined. However, progress in the Company's long diversification efforts resulted in all-time record earnings from operations, despite this antiknock sales decline.

So, 1971 was an eventful year for Ethyl. It was highlighted by these developments:

... Continued defense of lead antiknocks by the Company in the face of continued attacks on this product.

... Significant improvements in the earnings of various other products, notably plastics, specialty chemicals and aluminum.

... Renewed efforts by the Company to offset cost increases in paper production with economies in operation to put Ethyl in a sound position when the depressed paper market returns to more normal consumption levels.

... A continuing build-up of cash reserves (to a level of cash and short-term securities at year-end of more than \$140 million) putting Ethyl in a position to capitalize on future investment possibilities.

... Constant review by the Company's management of many opportunities for further diversification and expansion, with emphasis on areas that fit well with Ethyl and afford excellent future growth.

... Continued effective cost controls in all areas—from telephones to computers.

... A continuation of our substantial investment in research because we believe the laboratory offers the most significant opportunities for the future.

We are proud of the record accomplishments of the past year, but we are far from satisfied. Even though our principal product has been under severe attack, we are determined to continue to build the kind of forward-looking company that we think our stockholders, employees and the public expect from an organization with as great a heritage as Ethyl. Your continued loyalty and support is sincerely appreciated.



Floyd D. Gottwald, Jr.
Chairman of the Board and
Chief Executive Officer



Bruce C. Gottwald
President

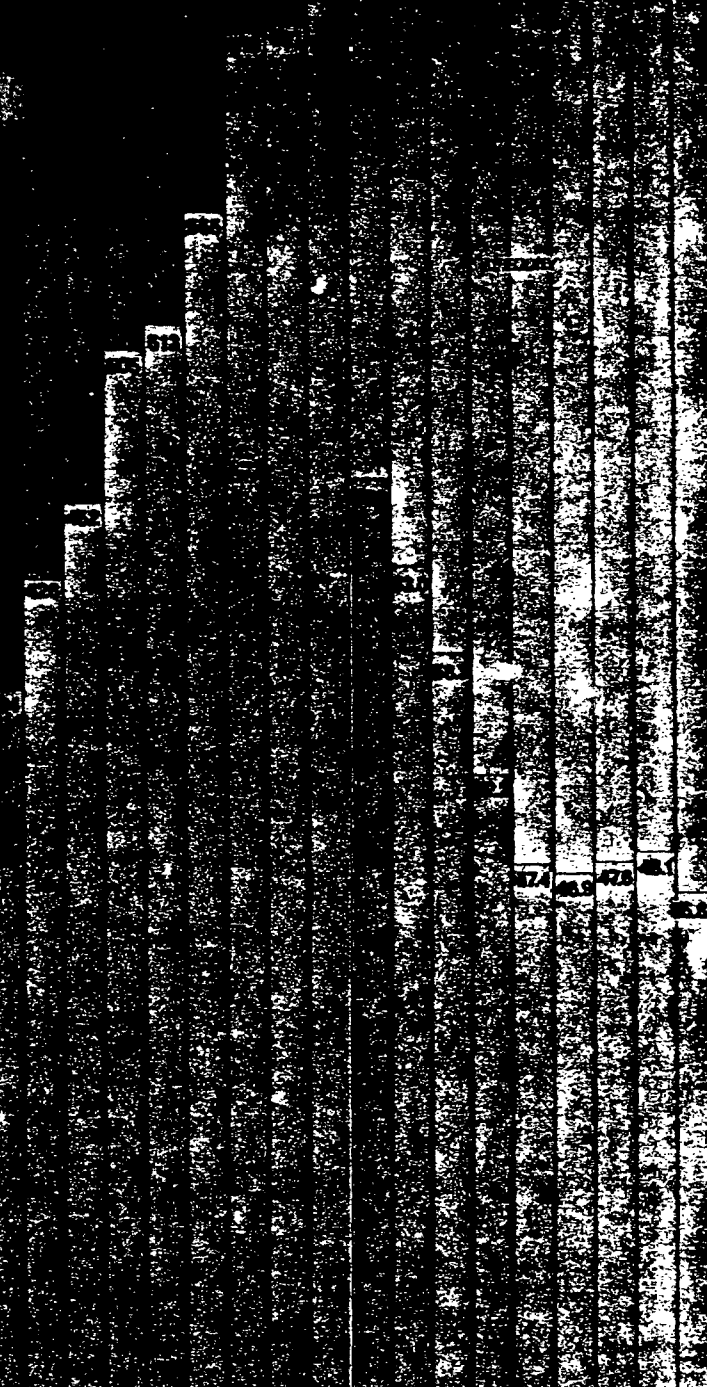
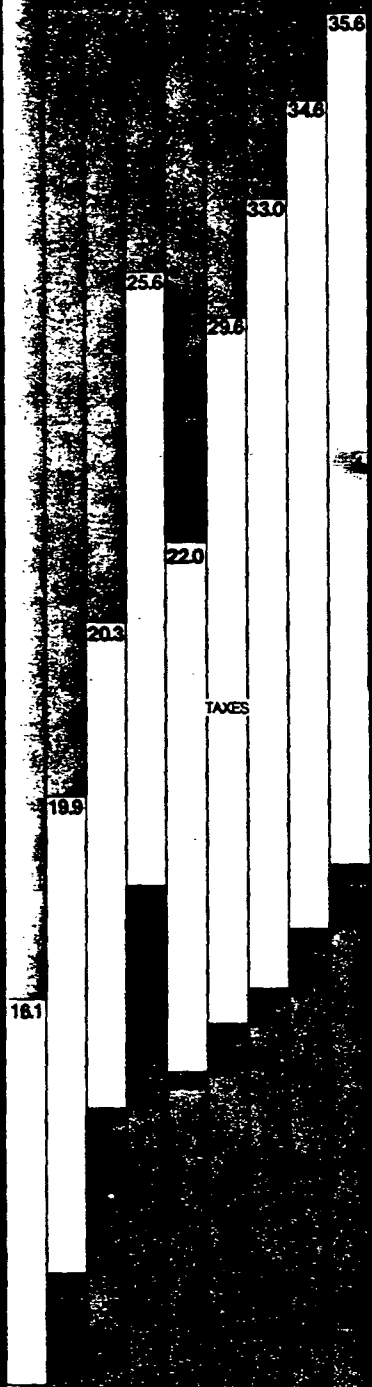
February 25, 1972

Net Sales

Income

Profit

in Millions of Dollars



Financial Results of 1971

Net Sales The following table sets forth Ethyl's net sales represented by each of its lines of business for the period 1967-1971:

Net Sales by Lines of Business (In Thousands of Dollars)

	1971		1970		1969		1968		1967	
	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total
Chemicals:										
Domestic ..	\$229,605	40%	\$226,843	41%	\$214,151	42%	\$203,199	40%	\$185,691	40%
Foreign ...	75,117	13	71,944	13	64,846	13	65,296	13	58,649	12
Plastics	111,038	19	102,748	18	95,461	19	63,034	12	40,111	9
Paper	85,666	15	92,283	17	97,783	19	143,020	28	151,845	32
Aluminum ...	75,632	13	63,038	11	37,061	7	34,523	7	32,642	7
Total ...	<u>\$577,058</u>	<u>100%</u>	<u>\$556,856</u>	<u>100%</u>	<u>\$509,302</u>	<u>100%</u>	<u>\$509,072</u>	<u>100%</u>	<u>\$468,938</u>	<u>100%</u>

Profit Contribution The following table shows, with respect to the Company's lines of business, the respective operating profits before taxes, extraordinary items and certain corporate expenses that are not practical to identify with a particular line of business:

Operating Profit (Loss) by Lines of Business After Identifiable Corporate Expenses (In Thousands of Dollars)

	1971		1970		1969		1968		1967	
	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit	Operating Profit	Percent of Operating Profit
Chemicals:										
Domestic ...	\$ 71,966	66%	\$66,936	68%	\$63,007	69%	\$63,459	68%	\$51,618	66%
Foreign ...	17,649	16	15,345	16	11,664	13	12,943	14	12,076	15
Plastics	11,349	10	7,406	8	7,963	9	909	1	(5,077)	(6)
Paper	970	1	3,413	3	5,228	6	12,823	14	16,215	21
Aluminum ...	8,021	7	4,471	5	3,048	3	3,288	3	3,515	4
Total ...	<u>\$109,955</u>	<u>100%</u>	<u>\$97,571</u>	<u>100%</u>	<u>\$90,910</u>	<u>100%</u>	<u>\$93,422</u>	<u>100%</u>	<u>\$73,347</u>	<u>100%</u>

The operating profits used for purposes of the above table include charges for general and administrative and research and development expenses at the Corporate level which are identifiable with each line of business but do not include charges that are not practical to identify with lines of business. The latter include financing costs, net of interest earned, research and development expense in new product areas, oil and gas exploration costs and other unallocated charges—net, as shown in the following table:

	(In Thousands of Dollars)				
	1971	1970	1969	1968	1967
Net Financing Costs	\$12,563	\$10,208	\$ 7,696	\$10,819	\$11,365
Other Unallocated Charges—Net	23,576	17,132	17,170	21,509	15,349
Total	<u>\$36,139</u>	<u>\$27,340</u>	<u>\$24,866</u>	<u>\$32,328</u>	<u>\$26,714</u>

Within the chemicals line of business, petroleum and industrial chemicals often utilize joint facilities for manufacture, research and development and in many instances are interrelated in terms of raw materials, intermediates and by-products. Consequently, while sales of chemical products can be determined accurately without allocations, it is not practicable in management's judgment to make further allocations within the chemicals line of business which would be meaningful in determining with any degree of accuracy the relative contribution to the Company's operating profits by classes of chemical products. Because lead antiknocks (the principal contributor to chemical sales and profits) are interrelated with certain other

chemical products in terms of raw materials, intermediates and by-products, any substantial reduction or elimination of the use of lead antiknocks in gasoline would adversely affect the costs and profitability of the Company's other present chemicals business as well.

Net Sales by Classes of Similar Products (In Thousands of Dollars)

For a number of years, the Company has reported a breakdown of its net sales by classes of similar products, determined by the use to which a class of product is put. The following table sets forth the amounts and percentages of net sales of each of its classes of similar products for the 1967-71 period:

Classes of Similar Products	1971		1970		1969		1968		1967	
	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total	Net Sales	Percent of Total
Chemicals:										
Petroleum ..	\$222,166	39%	\$229,119	41%	\$213,840	42%	\$210,807	42%	\$199,310	42%
Industrial ..	82,556	14	69,668	13	65,157	13	57,688	11	45,030	10
Plastics	111,038	19	102,748	18	95,461	19	63,034	12	40,111	9
Paper	85,666	15	92,283	17	97,783	19	143,020	28	151,845	32
Aluminum	75,632	13	63,038	11	37,061	7	34,523	7	32,642	7
Total ...	<u>\$577,058</u>	<u>100%</u>	<u>\$556,856</u>	<u>100%</u>	<u>\$509,302</u>	<u>100%</u>	<u>\$509,072</u>	<u>100%</u>	<u>\$468,938</u>	<u>100%</u>

Lead antiknock compounds (which comprise substantially all of the Petroleum Chemicals sales shown above) remain the Company's principal product and contribute to operating profits a substantially higher percentage than their 36% contribution to net sales.

Income and Earnings Per Share from Operations Reach Record Highs Income from operations for 1971 amounted to a record \$38,240,000 compared with income from operations of \$35,582,000 for 1970. The 1971 income from operations was equal to a record \$3.36 per share, based on the average of 10,141,000 shares of common stock outstanding during 1971, treating common stock options and warrants as common stock equivalents. It compares with income from operations of \$3.06 per share for 1970, on the basis of the average of 10,138,000 shares of common stock outstanding during the year, on the same basis.

Net Income After Extraordinary Items The 1971 income from operations is before an extraordinary charge of \$3.3 million for the shutdown of Oxford Paper's mill at Lawrence, Massachusetts. Net income for 1971 after the extraordinary charge amounted to \$34,914,000 or \$3.03 a share. This compares with the 1970 net income of \$37,199,000 or \$3.22 a share which reflects a net extraordinary credit of \$1.6 million.

Dividends Common stock dividends for 1971 were paid at the quarterly rate of 21 cents a share or 84 cents for the year.

Cash Flow Cash Flow, which consists of net income plus depreciation, depletion and amortization and other non-cash charges, amounted to \$72.3 million in 1971, compared with a cash flow of \$73.9 million in 1970. The 1971 cash flow was sufficient to provide for all fixed charges and dividends and to provide substantial funds for capital expenditures and working capital.

Working Capital At December 31, 1971, working capital was \$230 million and the ratio of current assets to current liabilities was 4.22 to 1. This compared with working capital of \$209.7 million and a ratio of 4.54 to 1 at December 31, 1970. Working capital at December 31, 1971 included cash and short-term securities of \$143.7 million of which approximately \$20 million is required for the normal needs of the business leaving more than \$120 million available for internal and external investments.

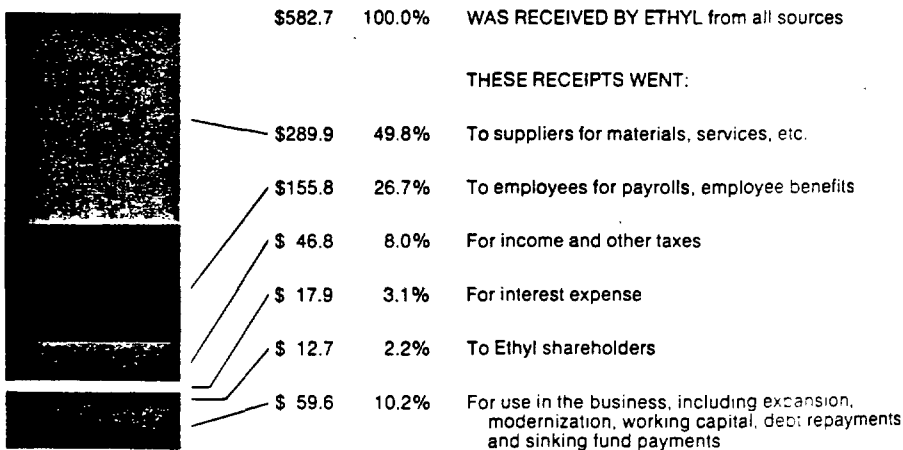
Capital Expenditures During 1971, \$24.4 million was spent on capital projects for new plants, expansions and modernizations compared with \$64.2 million in 1970. A major factor in the decrease was cancellation of the NTA project as a result of government actions in considering substitutes for phosphates in detergents.

Internal Revenue Service Examination Nine years after the merger in 1962 of the former Ethyl Corporation into the Company, the Internal Revenue Service completed its examination of the Company's first three taxable periods. It has proposed a tax increase with interest for the three periods ended December 31, 1964 amounting to \$13 million, resulting primarily from differences in the valuation of assets acquired in the merger and the allocation of values between tangible and intangible assets. If the IRS position were to be sustained, it would result in an estimated additional \$22 million in taxes and interest for the seven taxable years after 1964.

The Company based its asset valuation on an appraisal by independent appraisers made at the time of the merger. The IRS valuation of assets was made by a government engineer during the course of its examination. It is the opinion of the Company's counsel that the tax increase proposed by the IRS is far in excess of any tax which ultimately will be payable by the Company on the basis of a reasonable asset valuation. The Company does not accept the IRS proposal and will contest it as necessary.

Compensation for Expropriated Property The Company is engaged in litigation with respect to compensation for certain timberlands of a subsidiary which were expropriated by the Canadian Province of New Brunswick. At the conclusion of the Land Compensation Board proceedings, an award in excess of \$10 million, including interest, was handed down in favor of the Company. The Company believes that the amount of \$10 million is not adequate compensation and is currently appealing the decision.

How Ethyl Used the Revenues It Received During 1971 (Millions of Dollars)



Long-Term Debt As of December 31, 1971, the long-term portion of Ethyl's debt was \$244.7 million, equal to 46% of the Company's total capitalization.

Debt repayments during 1971 amounted to \$9.6 million. These consisted of payments of \$2,500,000 on the 5¾% Subordinated Notes, due 1972; \$1,250,000 on the 4¾% Promissory Notes, due 1983; \$5,000,000 on the Term Promissory Notes, due 1975; and \$820,000 on Miscellaneous Debt.

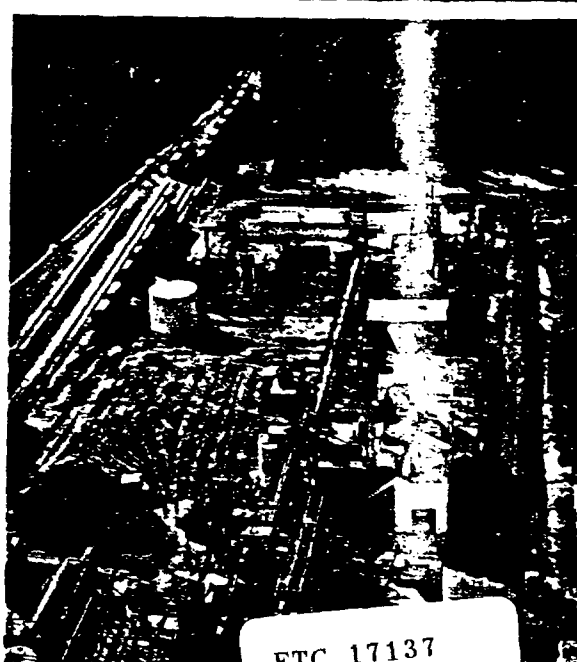
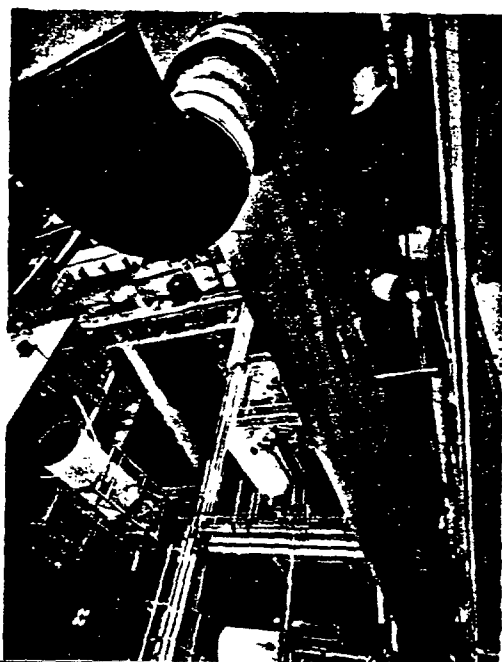
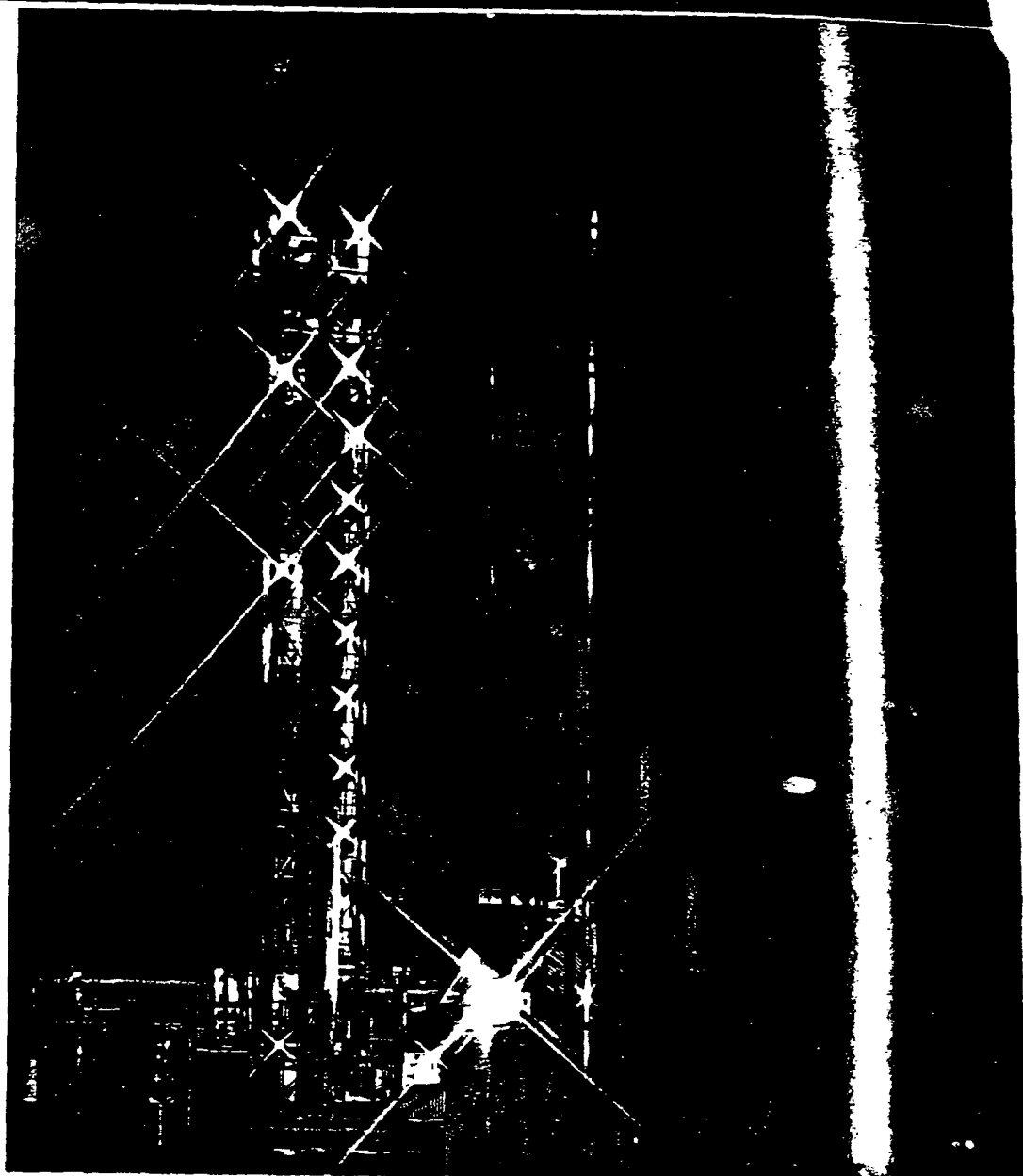
Summary of Long-Term Debt

7.6% Senior Notes (\$106 million—due 1974-86) and 7½% Promissory Notes (\$50 million—due 1973-83)	\$156,000,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
The Northwestern Mutual Life Insurance Company	
New York Life Insurance Company	
Term Promissory Notes*—due 1972-75	17,500,000
Five Banks	
5¾% Subordinated Notes—due 1972	2,485,000
The Prudential Insurance Company of America	
The Equitable Life Assurance Society of the United States	
New York Life Insurance Company	
5¾% Subordinated Notes—due 1979-82	50,000,000
Various Institutional Investors	
4¾% Promissory Notes—due 1972-83	24,000,000
Miscellaneous	3,869,000
Total Debt at December 31, 1971	253,854,000
Current Portion of Debt	9,202,000
Long-Term Debt	<u>\$244,652,000</u>

*Bear interest at the rate of ½ of 1% in excess of the prime commercial rate.

Summary of Debt Maturities to 1981

	5¾% Subordinated Notes Due 1972 and 1979-82	7.6% Senior Notes Due 1986	7½% Promissory Notes Due 1983	Term Promissory Notes Due 1975	4¾% Promissory Notes Due 1983	Misc. Debt Maturities to 1992	Total Annual Amount
1972	\$2,485,000			\$5,000,000	\$1,250,000	\$467,000	\$ 9,202,000
1973			\$2,500,000	5,000,000	1,250,000	505,000	9,255,000
1974		\$12,000,000	2,500,000	5,000,000	1,250,000	245,000	20,995,000
1975		12,000,000	2,500,000	2,500,000	1,250,000	249,000	18,499,000
1976		12,000,000	2,500,000		1,250,000	254,000	16,004,000
1977		12,000,000	2,500,000		1,250,000	258,000	16,008,000
1978		22,000,000	2,500,000		1,250,000	263,000	26,013,000
1979	8,000,000	3,000,000	7,000,000		1,250,000	224,000	19,474,000
1980	8,000,000	3,000,000	7,000,000		1,250,000	94,000	19,344,000
1981	8,000,000	3,000,000	7,000,000		1,250,000	100,000	19,350,000



ETC 17137

Chemicals Domestic

Ethyl's domestic chemicals sales continued upward in 1971 even though there were downward pressures on the sales of lead antiknock compounds. Sales totaled \$229.6 million, an increase of 1.2% over 1970. They represented 40% of Ethyl's total sales.

Sales of antiknock compounds in the U.S. through the Petroleum Chemicals Division continued at a satisfactory level, although down somewhat. Antioxidant sales for various petroleum products remained strong and greater interest in diesel emissions sparked the sale of multi-purpose additives for diesel fuels.

The Industrial Chemicals Division had record sales in 1971, underscoring Ethyl's growth in this part of the chemical industry. Capacity of the synthetic alcohols plant at Houston, Texas, was increased by about 15% early in 1971 to meet added market demands for detergent intermediates. New markets were developed for alcohols in industrial detergents and several other end uses.

Ethyl's alpha olefins plant, following a successful start-up, operated well throughout the year. Its products are for the plasticizer, detergent and lube additive markets. Expansion is underway at this plant to produce and refine C₁₂-C₁₈ olefins for the domestic and foreign detergent intermediates market.

Sales, product lines and plant capacity were expanded in the pesticide intermediates market. These intermediates are based on orthoalkylation of phenols and anilines and various combinations of phosphorous and aluminum alkyls chemistry where Ethyl has special know-how and patents.

Antioxidant sales for plastics and rubber improved in 1971 and an expansion of production capacity was completed at Orangeburg, S.C. Several new applications in plastics were developed during the year.

Ethyl maintained its position in 1971 in the sales of chlorinated hydrocarbons. Chlorinated solvents pricing was weak, primarily because of a lack of growth in the market and an oversupply of the key raw material—chlorine. Manufacturing costs of solvents were reduced during the year.

Sales of aluminum alkyl catalysts were slow early in 1971, but by year-end had increased over 1970, especially for use in synthetic rubber and plastics. Newly developed aluminum alkyl uses show good growth potential.

Investigation of the use of bromine in new products was intensified in 1971. Primary emphasis was placed on flame-proofing and agricultural chemicals. A \$2 million vinyl bromide plant went into production in Magnolia, Ark., during the fourth quarter to produce this chemical in multi-million pound quantities. Vinyl bromide's major use is as a flame retardant in fibers.

Air Monitoring, Inc. (AMI) established a good market position for exhaust emission analytical instruments and systems. AMI is a prime contractor to the major automotive manufacturers in the U.S. and Canada.

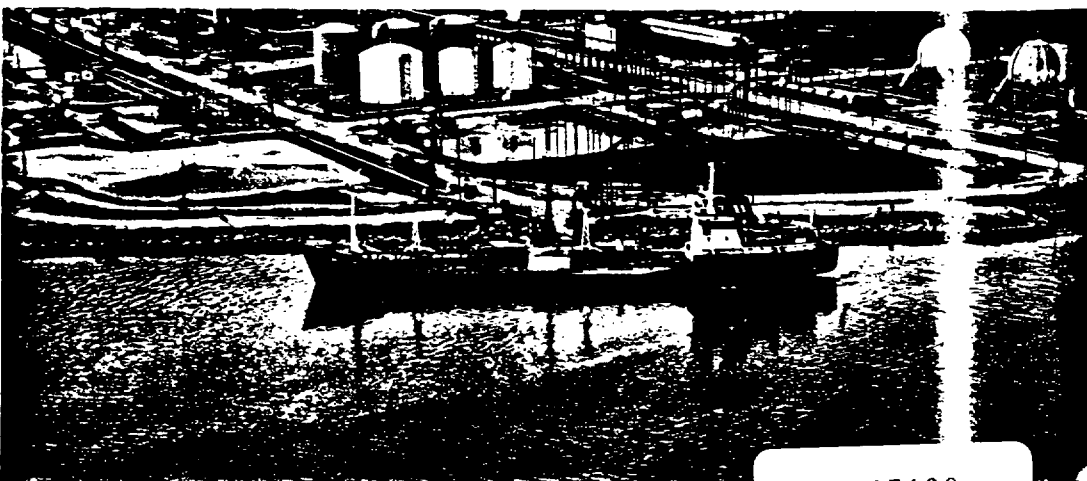
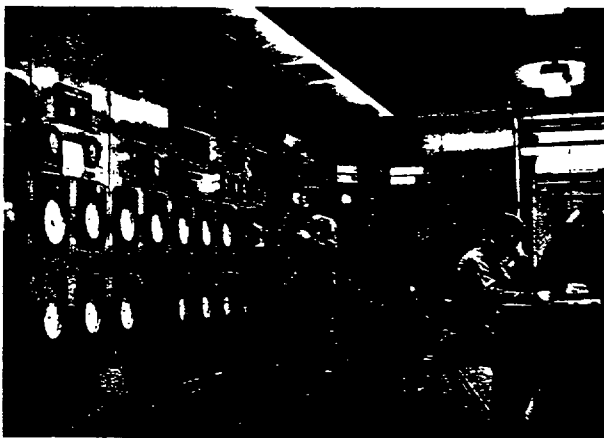
PRODUCTS: ALKYL ALUMINUM HALIDES / ALPHA OLEFINS / ALUM / ALUMINUM ALKYL COMPOUNDS / ANTIOXIDANTS / BROMINE CHEMICALS / CAUSTIC SODA / CHLORINATED SOLVENTS / DIESEL FUEL DETERGENT-CORROSION INHIBITOR / DIESEL FUEL IGNITION IMPROVERS / DISTILLATE FUEL ANTI-STATIC ADDITIVE / ETHYL CHLORIDE / FUEL OIL COMBUSTION IMPROVER / GASOLINE ANTIKNOCK COMPOUNDS / GASOLINE DETERGENT-DEICER CORROSION INHIBITORS / LINEAR PRIMARY ALCOHOLS / LUBRICATING OIL ADDITIVES / METAL DEACTIVATOR / METHYL CHLORIDE / OIL SOLUBLE DYES / ORGANIC PHOSPHOROUS CHEMICALS / ORTHOALKYLATED ANTIOXIDANTS / ORTHOALKYLATED PHENOLS AND ANILINES / SPECIAL ORGANOMETALLICS / SODIUM / VINYL BROMIDE / VINYL CHLORIDE

PLANTS: BATON ROUGE, LA / FERNDALE, MICH / HOUSTON, TEXAS / MAGNOLIA, ARK / ORANGEBURG, S.C

Top: Production capacity for pesticide intermediates was completed at Orangeburg, S.C., in 1971.

Bottom Left: The Orangeburg alkylation production facilities as seen from the distillation columns.

Bottom Right: A \$2 million vinyl bromide plant went into production in Magnolia, Ark., in the fourth quarter of 1971.



ETC 17139

Sales outside the United States in 1971 rose to an all-time high of \$75.1 million, up 4.4% over 1970 and equal to 13% of

Chemicals International

Ethyl's total sales. The International Division sells and distributes the Company's products throughout the world, except the U.S. and Canada. Sales in Canada are made by Ethyl Corporation of Canada Limited.

Ethyl of Canada's sales of antiknock compounds declined in 1971. However, Canadian public acceptance of no-lead or low-lead gasolines continued to be minimal. No petroleum company introduced a no-lead or low-lead product during the year that was not on the market in 1970.

Sales of other products to the petroleum and chemical industries in Canada were about equal to 1970. Ethyl of Canada supplied 100% of the Canadian requirements of aluminum alkyls and halides for synthetic rubber and plastics.

Ethyl of Canada began in 1971 the marketing of Ethyl's primary alcohols for plasticizers. Substantial growth is expected in this product line in the future.

In 1971, the International Division surpassed its 1970 sales and earnings records. Operations benefited from improvements in product distribution and marketing networks, continued strong demand and further improved manufacturing costs at the Ethyl Hellas plant in Greece.

Increased demand for antiknock compounds was prevalent in the European, Mid-Eastern, African, Latin American and Far-Eastern markets. An additional antiknock terminal in South America is planned for late 1972.

Marketing efforts to increase Ethyl's overseas sales of specialty chemicals were successful in 1971. Ethyl International substantially increased aluminum alkyl sales and gained a strong foothold in the marketing of special alcohols and heavy olefins. In December, Ethyl announced plans to build a multi-product aluminum alkyl plant in Europe. The location and size are under study. The plant will be sized and located to fit customer requirements and Ethyl's European aluminum alkyl distribution system, established in 1971.

Ethyl Development Corporation, a wholly owned subsidiary, continues the International Division's participation in oil and gas exploration by the Laura-Tenneco group in the Dutch North Sea. Ethyl has a one-sixth interest in the group, which holds 12 blocks totaling 1.2 million acres. Drilling in 1971 emphasized wildcat exploration at three locations, but no commercial oil or gas discoveries were made. In 1972, drilling will resume near the two wells which tested significant amounts of oil in 1970.

Oil and gas exploration in Canada is being conducted jointly by Ethyl Development Corporation and British Petroleum Oil and Gas Limited. Drilling in 1971 resulted in one gas discovery well capable of producing gas from two zones. Additional drilling is required to evaluate fully the ultimate potential of these gas reserves. The joint venture continues to acquire petroleum and natural gas leases. It currently has interests in 700,000 acres in Western Canada.

PRODUCTS: FULL RANGE OF ETHYL'S CHEMICALS

PLANTS: THESSALONIKI, GREECE (ETHYL INTERNATIONAL) / SARNIA, ONTARIO, CANADA (ETHYL CORPORATION OF CANADA)

ETHYL TERMINALS: CADIZ, SPAIN / DORDRECHT, HOLLAND / GUANTA, VENEZUELA / TALARA, PERU

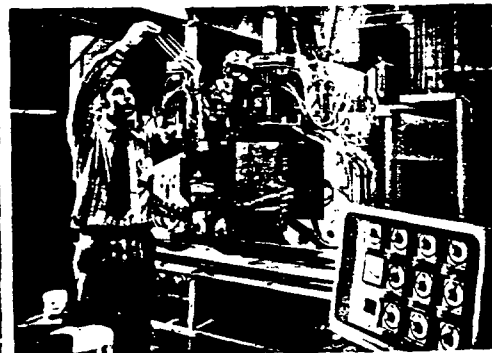
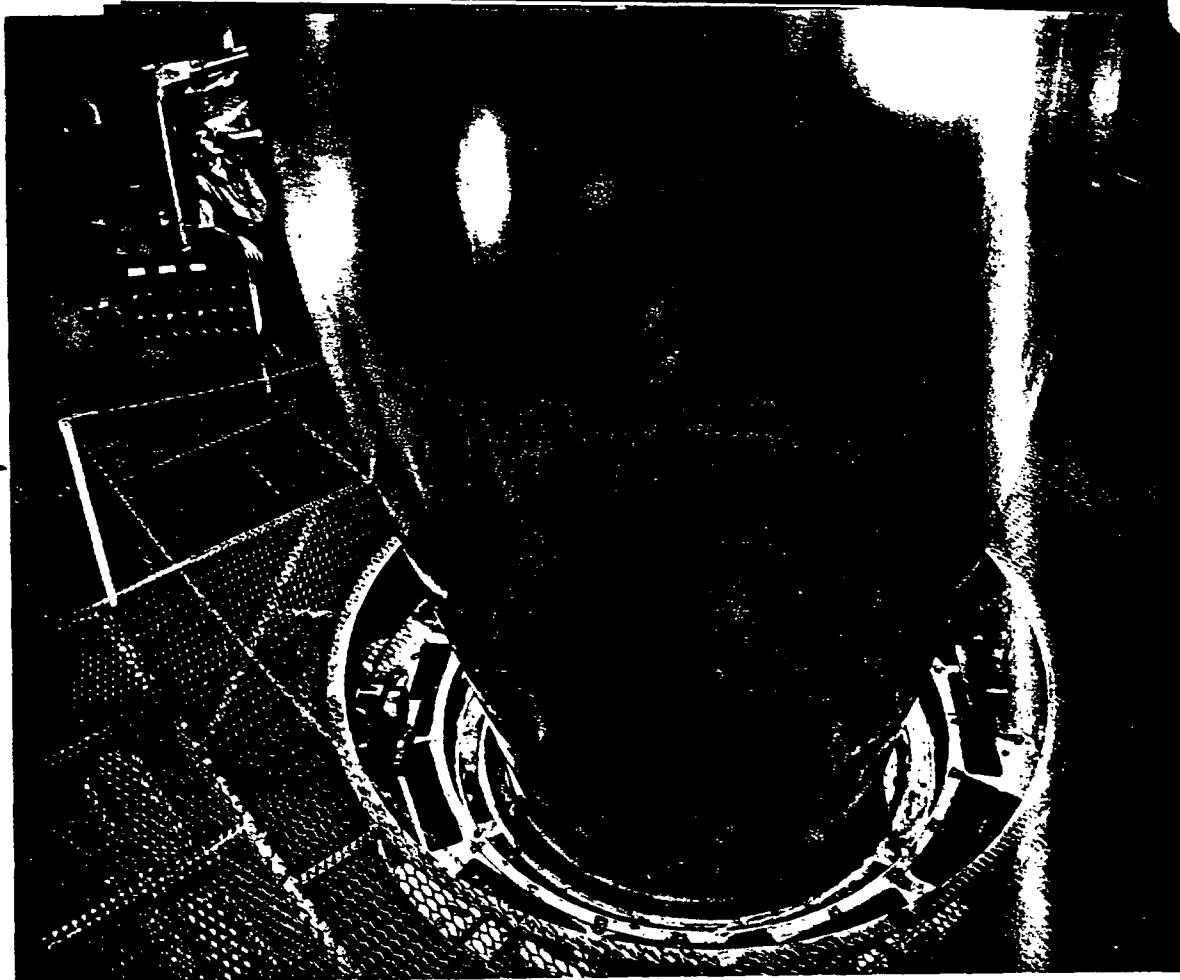
Top: Manufacturing costs at the Ethyl Hellas antiknock plant at Thessaloniki, Greece, were further improved in 1971.

Center Left: Modern control panels are used at the Greek plant, built in 1966.

Center right: A specially designed antiknock tank truck, which is moved on a rail car to certain points in Europe, is unloaded at a railroad terminal.

Bottom: The Silver EID, one of three specially built tankers used by Ethyl, takes on a shipment of antiknock compounds for Ethyl International customers.

OPERATIONS REVIEW



ETC 17141

Sales of Ethyl's plastics products rose to a record high of \$111 million, up 8.1% over 1970. Plastics accounted for 19% of the Company's total sales. The Plastics Division's operating profit contribution in 1971 was at record levels. (See page 4.) Increased sales, combined with improved product mix and stronger cost reduction programs, brought about improved earnings.

The "VISQUEEN" Division, which makes Ethyl the world's largest polyethylene film producer, had an increase in sales, despite slowness of the economy and added competition in packaging markets. Specialty films for food, non-food, disposables, packaging and pallet shrink systems, were primary growth areas. Construction of a specialty film plant to serve the Midwestern markets of VISQUEEN was completed in the fourth quarter in Manchester, Iowa.

Plastics

The "IMCO" Container Company Division posted sales gains and improved its profitability in 1971. Manufacturing cost controls and technical developments were important factors in increases. IMCO remained the top U.S. supplier of polyethylene and PVC specialty bottles and containers in 1971.

Sales of resins and compounds through the Polymer Division rose in 1971. In the first quarter, an agreement was signed with The Standard Oil Company (Ohio) to produce a new polymer for Sohio in a portion of Ethyl's PVC plant at Baton Rouge, La. This high-barrier resin is primarily for plastic bottles for carbonated beverages. Bottles made from this resin can be burned without adverse ecological effects. In addition to making this resin for Sohio, the Company will manufacture and use it for Ethyl's own film, bottles and injection molded products. This resin has excellent growth potential.

PVC plastic pipe and fittings had a good year in 1971 in terms of sales, earnings and production. Sales kept pace with the growth of the PVC pipe industry as a whole. In late December, plans were approved to build Ethyl's second PVC pipe products plant. The new facility in Columbia, Miss., is scheduled for completion in the third quarter of 1972.

Sales of PVC film increased in 1971 although there were some production problems. Price weakness in the meat and produce markets was experienced. Concentration on specialty vinyl film markets was stepped up. The Converted Film Products Division increased its penetration of the private label polyethylene refuse bag market.

In 1971, "FLOCOR," Ethyl's plastic waste treatment media, was marketed by the Environmental Control Division. Ethyl's sales of FLOCOR continued to experience rapid growth in an industry where sales were well above 1970 levels.

PRODUCTS: POLYETHYLENE FILMS FOR PACKAGING AND INDUSTRIAL, BUILDING AND AGRICULTURAL, PALLET AND BUNDLING, DISPOSABLES / POLYETHYLENE SHRINK SYSTEMS / HOUSEHOLD BAGS / POLYVINYL CHLORIDE PACKAGING FILMS / POLYVINYL CHLORIDE RIGID FILM AND SHEET / POLYVINYL CHLORIDE SHRINK FILMS / FLOCOR WASTE OXIDATION MEDIA / FLOCOR WASTE CLARIFIER MEDIA / POLYVINYL CHLORIDE RESINS AND COMPOUNDS / POLYVINYL CHLORIDE CONTAINERS / POLYETHYLENE CONTAINERS / BOTTLE CLOSURES AND OTHER INJECTION MOLDED SPECIALTY PRODUCTS / PLASTIC PIPE AND FITTINGS.

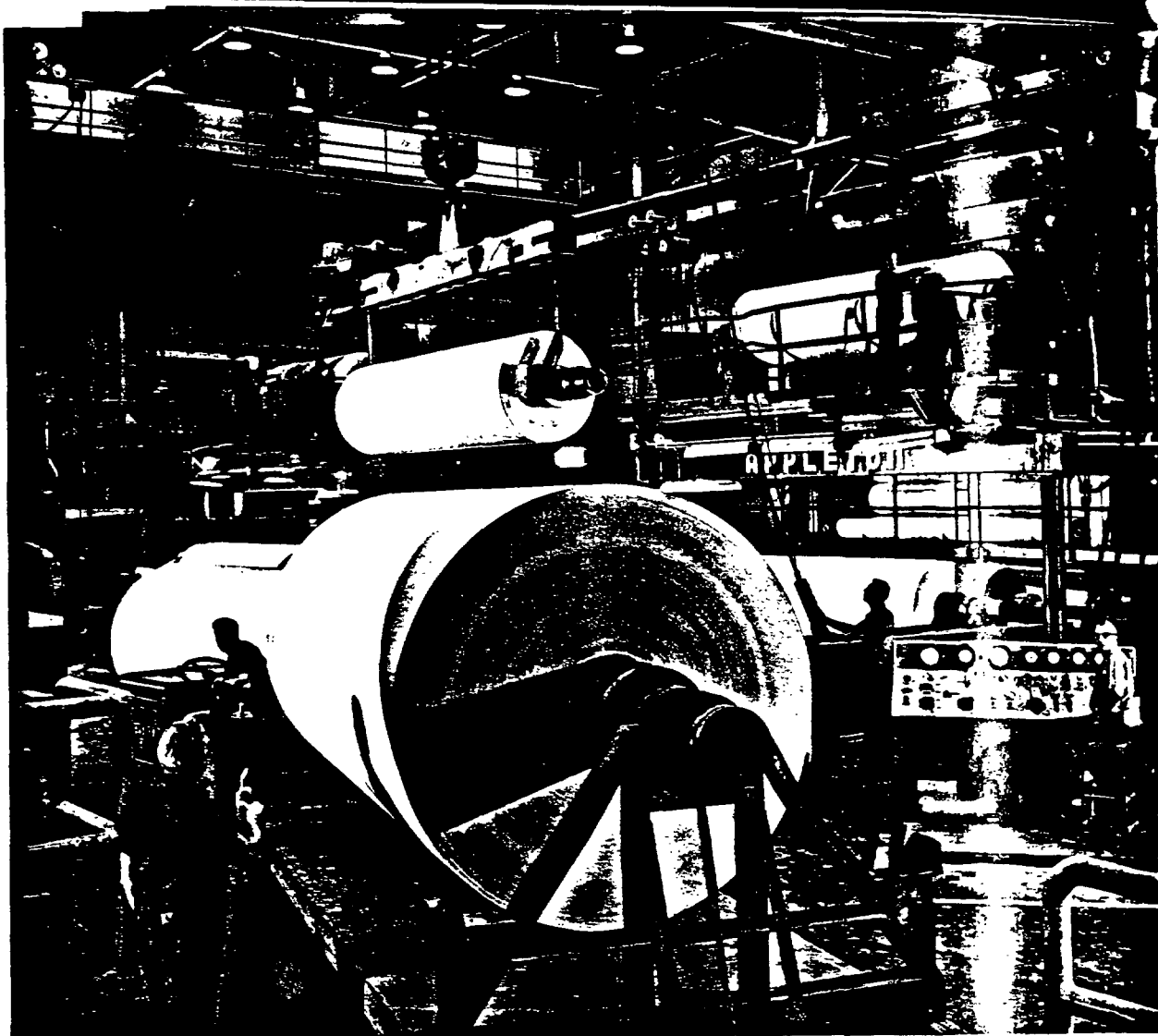
PLANTS: BATON ROUGE, LA. (2) / BELVIDERE, N.J. / BYESVILLE, OHIO / CANANDAIGUA, N.Y. / CARBONDALE, PA. / COLUMBIA, MISS. / DOWNSVIEW, ONTARIO, CANADA / EXCELSIOR SPRINGS, MO. / FLEMINGTON, N.J. / FREMONT, CALIF. / GOLETA, CALIF. / HARRISONBURG, VA. / ITASCA, ILL. / JEFFERSONVILLE, IND. / KANSAS CITY, MO. (2) / LAGRANGE, GA. / LAMARCA, CALIF. / LOUISVILLE, KY. / MANCHESTER, IOWA / MISSISSAUGA, ONTARIO, CANADA / PLAINFIELD, N.J. / REMINGTON, VA. / ROCKAWAY, N.J. / SANDSTON, VA. / SOUTH GRAFTON, MASS. / TERRE HAUTE, IND. / TIPTONVILLE, TENN. / UNION CITY, CALIF. / VANDALIA, ILL.

Top: A large "bubble" of polyethylene film is checked as it is extruded at the LaGrange, Ga., VISQUEEN plant. This film is sold for building and agricultural uses.

Bottom Left: Colored polyethylene film is examined on a cast line during an experimental run.

Top Right: IMCO blow-molded bottles are checked for clarity, a key feature, and shape.

Bottom Right: Polyvinyl chloride plastic siding is cooled as it comes out of an extruder. Runs conducted in 1971 resulted in improved siding compounds.



ETC 17143

The paper industry in 1971 experienced a slowdown in sales which began the previous year. Ethyl's Oxford Paper Company Division was affected by this general industry trend—resulting in the closing of its Lawrence, Mass., mill. Oxford's sales during the year totaled \$85.7 million, or 15% of Ethyl's total sales.

Paper

Oxford developed a new, streamlined paper grade structure during the first half of the year. It was introduced in August. The new structure, which included some 30 basic grades, covers papers used in all four end-use markets served by Oxford—commercial printing, book publishing, periodicals and converting. This new grade structure, backed by intensified advertising, promotion and marketing, is expected to improve Oxford's competitive position in 1972.

The Lawrence mill was closed in May. The weak paper market and studies which indicated that the Lawrence operations would not be profitable, even with major capital expenditures and improved work practices, were the reasons for the shutdown. Oxford's complete product line is now produced at the Rumford, Maine, mill and the smaller plant in West Carrollton, Ohio.

The West Carrollton mill made news in 1971 with development of a 100% recycled paper grade called "EARTHTONE." It is an integral part of the new grade structure. EARTHTONE places Oxford among the leaders in conservation through recycling. Although the recycling concept is new to many, the West Carrollton mill has been producing papers containing from 25 to 60% recycled fiber for 43 years.

Vigorous cost reduction programs have been carried out within the Oxford Paper Division. Improvements in operations at both mills continue. A major improvement at the Rumford mill in 1971 was the November consolidation of the wood rooms and wood yards into a single efficient operation.

Installation of a new high-speed finishing machine is among major improvements scheduled for completion at Rumford in 1972. Plans are also underway for projects to improve pulp quality levels and to expand finishing, storage and distribution facilities.

Construction is well underway on a \$2.4-million bark burner, which will solve a solid waste disposal problem by disposing of all bark residue from the Rumford mill pulping operation. The new facility will also produce additional heating and process steam for the mill's operation. Oxford is continuing its program of modernization and improvement of existing paper machines through several additional projects to be completed in 1972.

PRODUCTS: COATED LETTERPRESS PAPERS FOR COMMERCIAL PRINTING / COATED OFFSET PAPERS FOR BOOK PUBLISHING, COMMERCIAL PRINTING / UNCOATED LETTERPRESS PAPERS FOR BOOK PUBLISHING, COMMERCIAL PRINTING / UNCOATED OFFSET PAPERS FOR BOOK PUBLISHING, COMMERCIAL PRINTING / COATED AND UNCOATED WEB OFFSET PAPERS FOR MAGAZINES, BOOK PUBLISHING, COMMERCIAL PRINTING / FILM COATED PAPERS FOR BOOK PUBLISHING, COMMERCIAL PRINTING / UNCOATED AND COATED PAPERS (SHEET AND ROLL) FOR MAGAZINES, COMMERCIAL PRINTING, CONVERTING / CONVERTING PAPERS AND ENVELOPES, BUSINESS FORMS, PAPER MASTERS

PLANTS: RUMFORD, MAINE / WEST CARROLLTON, OHIO.

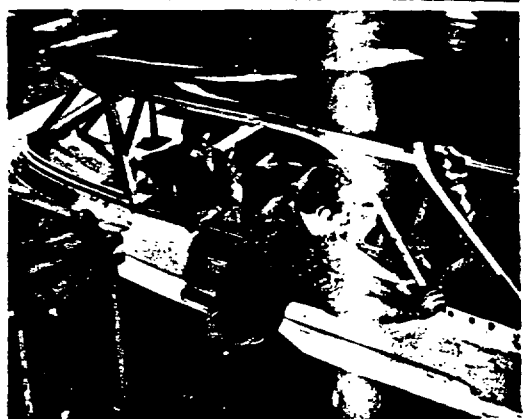
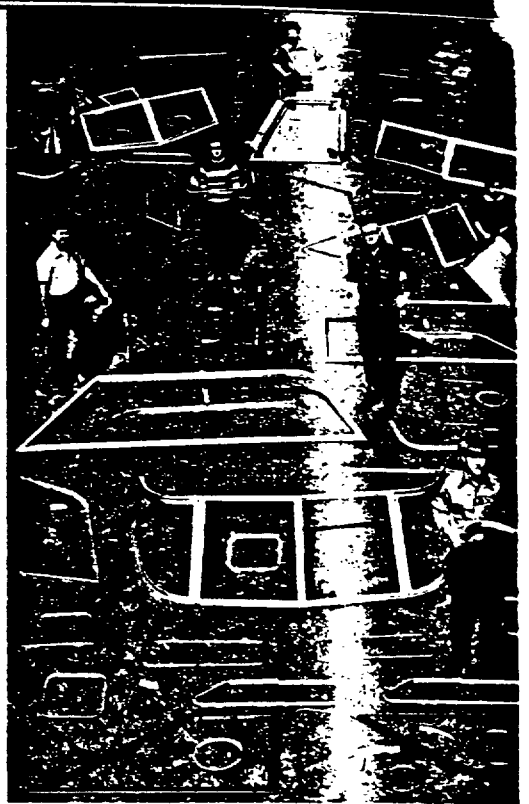
Top: A spool of paper is moved to the supercalender room at Oxford's Rumford, Maine, mill where it will undergo polishing and smoothing associated with the fine quality of Oxford's printing papers.

Lower Left: A Rumford mill operator checks on paper quality via a computer read-out. Modern computer equipment is utilized during many phases of Oxford's paper production.

Lower Right: Employees at Rumford confer on details of filling a customer order.

This report is lithographed on "LUXCOTE" High Gloss Enamel (basis weight 100 pound text and 80 pound cover), produced by Oxford Paper Company.

OPERATIONS REVIEW



ETC 17145

Sales in 1971 of Ethyl's aluminum subsidiaries—The William L. Bonnell Company, Inc., and Capitol Products Corporation—totaled \$75.6 million, up 20% over 1970. The increase in home building during the second half of 1971 was a factor since the construction industry is a major market for Ethyl's aluminum products. Aluminum sales accounted for 13% of Ethyl's total sales in 1971. Aluminum operating earnings reached record levels. (See page 4.)

The William L. Bonnell Company, Inc. Housing construction rose to an annual rate of over two million starts during the last half of 1971, contributing to record sales of soft alloy extrusions for Bonnell.

An electrostatic paint line installed in late 1970 at the Newnan, Ga., plant exceeded expectations in sales and productivity. Bonnell's extruded aluminum shapes and fabricated windows and windshields for the marine market showed a rise in sales volume in the second half. The addition of new sales outlets contributed to the rise in sales of Bonnell's products to the mobile home industry in 1971, and an increase of sales to this market is expected in 1972.

A major market for aluminum extrusions for Bonnell is the transportation industry. This industry continued to be depressed in 1971, but it is expected to re-gain former levels during 1972.

Indications are that the construction industry will be strong in 1972. Therefore, Bonnell's total sales are expected to continue to grow, and plans for further capacity increases are under study.

Capitol Products Corporation As one of the leading U.S. suppliers of finished aluminum windows and sliding doors to producers of manufactured homes and to builders of apartment complexes and multiple housing projects, Capitol Products also felt the favorable impact of the upturn in construction. With no increase in facilities, Capitol's 1971 sales of windows and doors climbed to record highs.

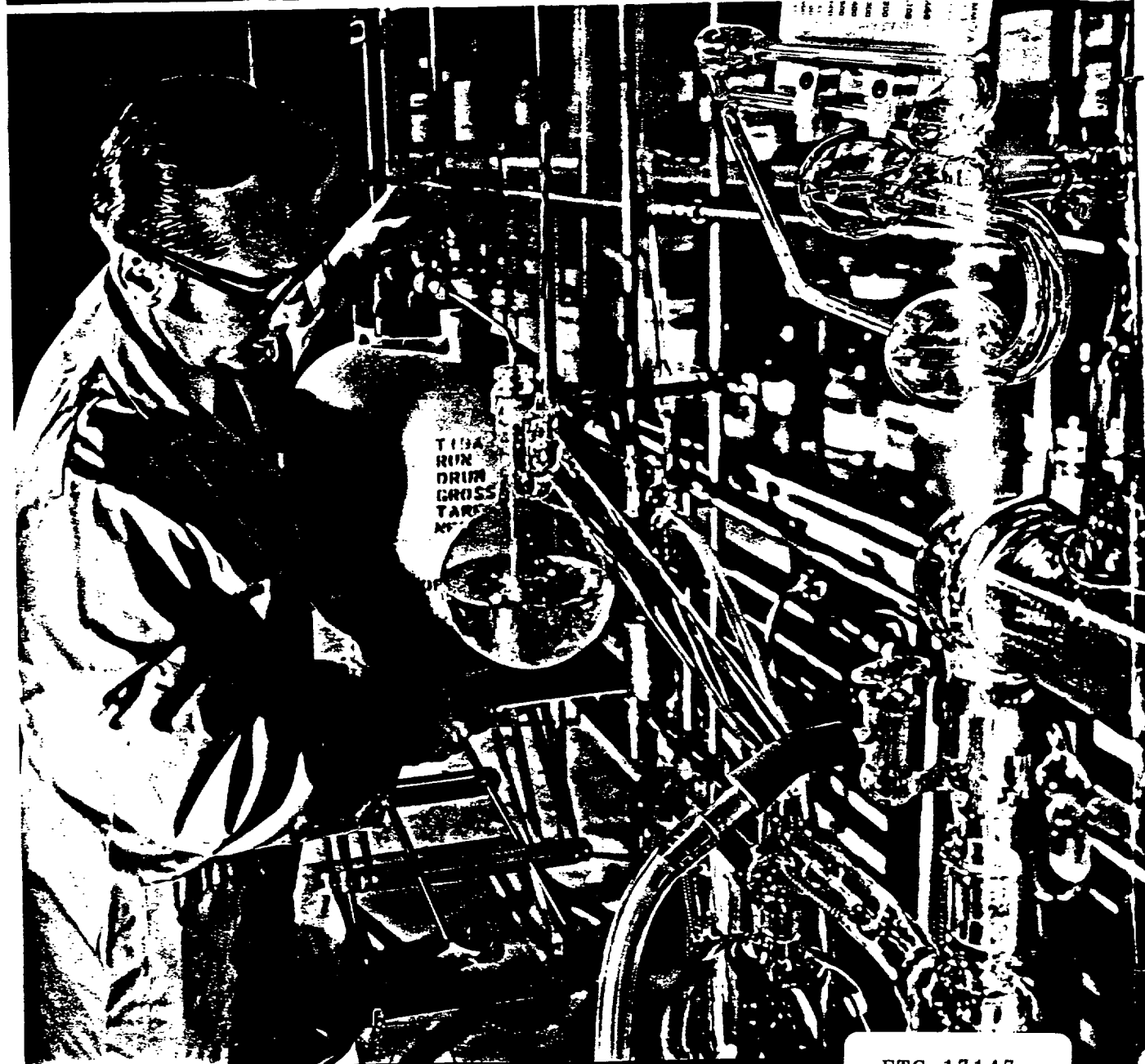
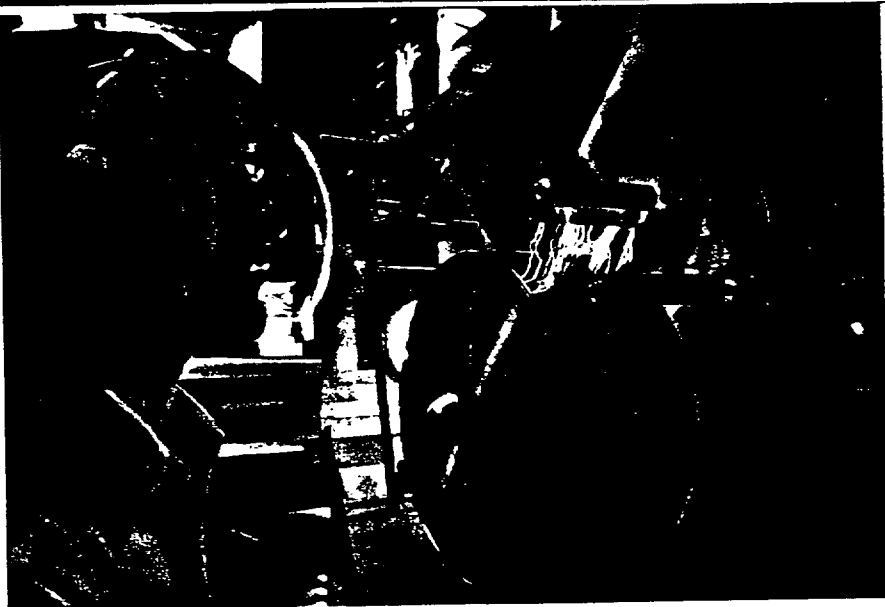
An important factor in Capitol's sales gain was its rolling window series, introduced in mid-1970. These windows incorporate optimum features for both residential and apartment use. In other product lines, Capitol's extrusion business rose moderately and the sales of residential lawn buildings continued to increase.

At year-end, plans were approved for a multi-million dollar extrusion-fabrication plant at Kentland, Ind. This facility will allow Capitol to improve its service to the growing Midwestern market for extrusions, windows and doors.

PRODUCTS: EXTRUDED ALUMINUM SHAPES FOR WINDOWS AND DOORS, STORE FRONTS AND CURTAIN WALLS, BOATS, TRUCKS AND TRAILERS, TUB ENCLOSURES / DECORATIVE ALUMINUM PRODUCTS FOR THE FLOOR COVERING AND HOME BUILDING INDUSTRIES / ALUMINUM WINDOWS AND DOORS / RESIDENTIAL LAWN BUILDINGS / ALUMINUM BILLETS.

PLANTS: CARTHAGE, TENN. / NEWNAN, GA. (BONNELL) / HARRISBURG, PA. / KENTLAND, IND. / NEW OXFORD, PA. / MECHANICSBURG, PA. (CAPITOL PRODUCTS)

Far Left: Aluminum extrusions rest on a cooling table as they are cut to proper length at Bonnell's Carthage, Tenn., plant.
Top Right: Bonnell operators at the Newnan, Ga., plant show samples of the windows they make for different boat builders.
Middle Right: A Bonnell work crew checks out the fit of an aluminum window and windshield on a boat deck template.
Bottom Right: Capitol Products' employees assemble painted aluminum windows at the Mechanicsburg, Pa., plant.



Expenditures for research and development at Ethyl in 1971 neared \$20 million, with more than half in new products. Ethyl gained more than 90 U.S. patents and approximately 100 foreign patents—bringing the total to more than 1,300 U.S. patents and about 800 foreign patents. Ethyl's research and development center at Baton Rouge, La., focuses on industrial chemicals and areas not related to existing products. Automotive emissions and new petroleum chemicals research is emphasized at Detroit. In 1971, Ethyl consolidated most plastics research in new facilities at Baton Rouge to strengthen product applications work. In addition, plastic film research is conducted at Terre Haute, Ind., and plastic bottle research is based in Kansas City, Mo. Paper research is done at Richmond, Va., and Rumford, Maine. Market development and pilot production of new specialty chemicals is coordinated at Orangeburg, S.C.

New Products Research In line with Ethyl's diversification program, work was intensified in 1971 in new product areas such as minerals and metals, instrument analyzers, agricultural and pharmaceutical intermediates, reducing agents and many other chemicals.

Ethyl has leased a titanium mineral deposit which was defined by exploration and drilling in 1971. Mineral separations were developed to pilot plant scale in 1971 to produce large test samples for potential customers in the titanium pigment industry. Recovery methods for other heavy minerals in the deposit are being developed.

Ethyl's new aluminum and nickel processes were improved further in 1971. They will be important R&D areas in 1972. Application of these processes to specific ore raw materials is progressing. The Company's extensive chemical processing background triggered investigation of new copper production techniques.

New products for gasoline and lubricants continued to be an important research activity for Ethyl in 1971. Several of these products are in various stages of testing and market development. Road performance data on Ethyl's engine cleanliness additives demonstrated emissions reduction and other benefits. Synthetic lubricant and viscosity control additives are under development.

Diversification of Ethyl's detergent interests continued in 1971. New uses for alpha olefins have advanced to the market development stage. New detergent intermediates and processing to produce increased quantities of detergent olefins were also areas of effort.

Market development progressed on new phosphorus chemicals in 1971. Strong customer interest has been shown for agricultural chemicals and flame retardants.

A 1971 addition to Ethyl's line of aluminum alkyls was the new reducing agent OMH-1. It has had excellent market acceptance in pharmaceutical, flavor, fragrance and fine chemical applications.

Orthoalkylated phenol and aniline intermediates for new degradable herbicides was another area of R&D

Research & Development

emphasis in 1971. A newly discovered alkylation technique should broaden Ethyl's unique capability to produce specified alkylated products.

The program on flame retardants for the plastics, fibers and textiles industries was expanded in 1971. The potential for success in flame retardants is based upon Ethyl's manufacturing know-how and technical experience with bromine and organic phosphorous compounds.

Research in polyvinyl chloride in 1971 emphasized expansion of Ethyl's line for growth and new profit opportunities. Advanced profile and siding compounds and improvements in injection molding and bottle compounds strengthened Ethyl's leadership.

Automotive Emissions Research Reducing automotive exhaust emissions remained a key phase of Ethyl's research in 1971. The Company's findings were described world-wide to governmental agencies dealing with environmental quality. The cooperative engine modification program with Chrysler Corporation contributed significantly to Ethyl's work to demonstrate that air quality standards can be met in the future without sacrificing high-performance engines or leaded gasoline.

Ethyl's experimental Lean Reactor Cars do not yet fully meet the 1975-76 standards. However, they are reducing emissions of hydrocarbons and carbon monoxide by about 95% from uncontrolled car levels. Nitrogen oxides have been reduced by more than 80%. The goals are approached by refinements in induction, ignition, exhaust reactor and exhaust gas recirculation systems while maintaining good fuel economy and drivability. A Lean Reactor Car, under test by the California Air Resources Board since November, 1970, continues to perform well and shows the practicality of reaching very low emissions using leaded fuels.

The study relating fuel composition and additive concentration to the content and amount of emitted exhaust gases continued in 1971. Ethyl research showed that substituting aromatics for lead antiknocks to maintain octane quality increases emissions of undesirable air contaminants—some of which enter into atmospheric reactions to form eye and respiratory irritants and photochemical smog.

Ethyl's work on particulate traps continued to yield significant results in 1971. These simple inexpensive devices could replace existing mufflers on new and used cars and keep about 70% of the lead in gasoline from escaping into the atmosphere. More advanced devices offer promise of retaining almost 100% of the lead in gasoline. Experimental "final filters" can eliminate nearly all particulates, including lead, from automobile exhaust.

Work with lead-resistant exhaust catalysts continued in 1971. Container designs for these catalysts have problems which are common to all catalysts whether compatible with lead or not. Solution of these problems could make these materials practical for use.

Top Left: An Ethyl researcher experiments with an electrostatic separator used for separating ore components.

Top Right: A crucible of molten metal is removed from an experimental metal furnace prior to casting.

Bottom: Aluminum alkyl research continued to be an important area for Ethyl R&D in 1971.

Consolidated Balance Sheets

ASSETS	<i>December 31</i>	1971	1970
Current assets:			
Cash and short-term securities	\$143,733,000	\$105,307,000	
Accounts and notes receivable	72,432,000	73,990,000	
Inventories	81,376,000	85,851,000	
Prepaid expenses	3,939,000	3,789,000	
Total current assets	301,480,000	268,937,000	
Property, plant and equipment, at cost:			
Land and land improvements	23,618,000	23,755,000	
Development costs, producing properties	5,288,000	5,147,000	
Timberlands and standing timber	10,681,000	10,301,000	
Buildings	77,837,000	79,764,000	
Machinery and equipment	387,977,000	393,068,000	
	505,401,000	512,035,000	
Less, Accumulated depreciation, depletion and amortization	221,723,000	213,264,000	
Net property, plant and equipment	283,678,000	298,771,000	
Deferred charges and other assets	19,283,000	17,569,000	
Excess of cost of investments over equities in businesses acquired and other intangibles	35,395,000	35,743,000	
	\$639,836,000	\$621,020,000	

The accompanying notes are an integral part of these statements.

LIABILITIES	<i>December 31</i>	1971	1970
Current liabilities:			
Accounts payable and accrued expenses	\$ 45,062,000	\$ 39,095,000	
Dividends payable	3,158,000	3,244,000	
Notes payable	3,000,000	2,931,000	
Long-term debt, current portion	9,202,000	9,264,000	
Income taxes	11,062,000	4,679,000	
Total current liabilities	71,484,000	59,213,000	
Long-term debt:			
Senior	194,652,000	201,675,000	
Subordinated	50,000,000	52,485,000	
Deferred income taxes	26,939,000	27,544,000	
Provision for employee benefits	6,136,000	4,535,000	
Minority interests	1,166,000	1,409,000	
SHAREHOLDERS' EQUITY			
Capital stock:			
Cumulative First Preferred Stock, par \$100 per share:			
6% Series A	3,126,000	3,239,000	
5% Series B		2,000,000	
Cumulative Second Preferred Stock, \$2.40 Convertible Series A, par \$10 per share (aggregate liquidation price \$68,501,000 on 1,630,974 outstanding shares, after treasury stock)	19,621,000	19,600,000	
Common, par \$1 per share	10,136,000	10,088,000	
Capital surplus	44,041,000	43,562,000	
Retained earnings	229,359,000	207,097,000	
	306,283,000	285,586,000	
Less, Treasury stock at cost	16,824,000	11,427,000	
Total shareholders' equity	289,459,000	274,159,000	
	\$639,636,000	\$621,020,000	

The accompanying notes are an integral part of these statements.

Income & Retained Earnings

	Years Ended December 31	1971	1970
Income:			
Net sales	\$577,058,000	\$556,856,000	
Miscellaneous income, net	5,642,000	8,437,000	
	<u>582,700,000</u>	<u>565,293,000</u>	
Cost and expenses:			
Cost of goods sold	419,722,000	410,973,000	
Selling and general expenses	70,476,000	65,804,000	
Interest and financing costs	18,686,000	18,285,000	
Income taxes	35,576,000	34,649,000	
	<u>544,460,000</u>	<u>529,711,000</u>	
Income before extraordinary items	38,240,000	35,582,000	
Extraordinary items	(3,326,000)	1,617,000	
Net income	34,914,000	37,199,000	
Retained earnings at beginning of year	207,097,000	182,875,000	
Deduct, Cash dividends:			
Series A, 6% First Preferred Stock, \$6.00 per share	175,000	187,000	
Series B, 5% First Preferred Stock, per share, \$2.50 in 1971 and \$5.00 in 1970	44,000	140,000	
\$2.40 Second Preferred Stock, \$2.40 per share ..	3,974,000	4,189,000	
Common Stock, \$.84 per share	8,459,000	8,461,000	
	<u>12,652,000</u>	<u>12,977,000</u>	
Retained earnings at end of year	<u>\$229,359,000</u>	<u>\$207,097,000</u>	
Earnings per share of Common Stock and common stock equivalents:			
Income before extraordinary items	\$3.36	\$3.06	
Extraordinary items	(.33)	.16	
Net income	<u>\$3.03</u>	<u>\$3.22</u>	
Pro forma earnings per share of Common Stock and common stock equivalents assuming conversion of \$2.40 Second Preferred Stock. (If the Second Preferred Stock were converted, its dividend would become \$1.09 per share at the present common dividend rate, as against the present \$2.40 preferred dividend).			
Income before extraordinary items	\$3.09	\$2.85	
Extraordinary items	(.27)	.13	
Net income	<u>\$2.82</u>	<u>\$2.98</u>	

The accompanying notes are an integral part of these statements.

Changes in Financial Position

	Years Ended December 31	1971	1970
Source of Funds:			
Operations:			
Income before extraordinary items		\$38,240,000	\$ 35,582,000
Expenses not requiring outlay of working capital:			
Depreciation, depletion and amortization ...		32,845,000	31,949,000
Deferred income taxes		1,257,000	3,173,000
Working capital provided from operations .		72,342,000	70,704,000
Extraordinary items		(3,326,000)	1,617,000
Add provisions which did not require working capital (net of deferred income taxes in 1971 of \$1,980,000)		3,262,000	1,596,000
Working capital (used) provided from extraordinary items		(64,000)	3,213,000
Issuance of long-term debt			40,703,000
Other items—net		2,017,000	3,774,000
Total		<u>\$74,295,000</u>	<u>\$118,394,000</u>
Application of Funds:			
Additions to property, plant and equipment		\$24,383,000	\$ 39,136,000
Reduction of long-term debt		9,508,000	16,694,000
Cash dividends		12,652,000	12,977,000
Acquisitions of consolidated subsidiaries			13,173,000
Capital stock reacquired or redeemed		7,480,000	3,189,000
Increase in working capital		20,272,000	33,225,000
Total		<u>\$74,295,000</u>	<u>\$118,394,000</u>
Increase in Working Capital:			
Increase (decrease) in current assets:			
Cash and short-term securities		\$38,426,000	\$ (17,995,000)
Accounts and notes receivable		(1,558,000)	(630,000)
Inventories		(4,475,000)	6,735,000
Prepaid expenses		150,000	1,202,000
		<u>32,543,000</u>	<u>(10,688,000)</u>
Increase (decrease) in current liabilities:			
Accounts payable and accrued expenses		5,967,000	(15,664,000)
Dividends payable		(86,000)	(36,000)
Notes payable		69,000	(25,139,000)
Long-term debt, current portion		(62,000)	1,393,000
Income taxes		6,383,000	(4,467,000)
		<u>12,271,000</u>	<u>(43,913,000)</u>
Increase in Working Capital		<u>\$20,272,000</u>	<u>\$ 33,225,000</u>

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF

Capital Surplus

Years Ended December 31	1971	1970
Balance at beginning of year	\$43,562,000	\$43,243,000
Excess of proceeds over par value of 9,600 shares of Common Stock issued upon exercise of warrants	34,000	
Excess of cash received over par value of shares of stock issued under stock option plans:		
39,077 and 27,890 shares of Common Stock ...	358,000	248,000
1,163 and 750 shares of \$2.40 Second Preferred Stock	30,000	12,000
Excess of par value over cost of 1,130 shares of 6% Series A First Preferred Stock cancelled	26,000	20,000
Excess of par value of 86 shares of \$2.40 Second Preferred Stock over par value of 111 shares of Common Stock issued upon conversion, less cost of fractional shares of Common Stock purchased	1,000	
Excess of award amount over par value of 971 and 1,279 shares of \$2.40 Second Preferred Stock issued under the Oxford Incentive Compensation Plan	30,000	39,000
Balance at end of year	<u>\$44,041,000</u>	<u>\$43,562,000</u>

Notes to Financial Statements

1. Consolidation Principles:

The accompanying financial statements include the accounts and operations of all wholly-owned subsidiaries, and the accounts and operations of Bromet Company, in which Ethyl Corporation has an 80% partnership interest.

The excess of cost of investments over equities in businesses acquired is not being amortized.

2. Short-Term Securities:

Short-term securities, stated at cost plus earned discount which approximates market value, amounted to \$133,983,000 at December 31, 1971 and \$90,696,000 at December 31, 1970.

3. Inventories:

	1971	1970
Inventories include:		
Finished goods	\$33,525,000	\$34,912,000
Raw materials and work in process	33,005,000	36,323,000
Stores, supplies, etc.	14,846,000	14,616,000
	<u>\$81,376,000</u>	<u>\$85,851,000</u>

Inventories are stated at the lower of cost or market with cost being determined on the last-in, first-out basis with respect to approximately \$37,186,000 at December 31, 1971, and \$43,158,000 at December 31, 1970, and generally on either an average cost or first-in, first-out basis with respect to the balance.

4. Deferred Charges and Other Assets:

Deferred charges consist principally of unamortized discount on long-term debt and other deferred financing expenses. Other assets include a receivable applicable to certain timberlands of a subsidiary which have been expropriated by the Canadian Province of New Brunswick. The Corporation is engaged in litigation with respect to compensation for the expropriated timberlands. At the conclusion of the Land Compensation Board proceedings, an award in excess of \$10 million, including interest, was handed down in favor of the Corporation. The Corporation believes that the amount of \$10 million is not adequate compensation and is currently appealing the decision.

5. Internal Revenue Service Examination:

The Corporation has received the report of the Internal Revenue Service proposing additional income taxes for the three taxable periods ended December 31, 1964. See caption "Internal Revenue Service Examination" in the Financial Results Section (page 6) of this report for further information.

6. Long-Term Debt:

Reference is made to captions "Summary of Long-Term Debt" and "Summary of Debt Maturities to 1981" in the Financial Results Section (page 7) of this report for information concerning the Corporation's long-term borrowings.

7. Capital Stock:

Transactions in capital stock during 1971 were as follows:

	Issued		Treasury	
	Shares	Amounts	Shares	Amounts
Cumulative First Preferred (authorized, 1,000,000 shares):				
Series A:				
January 1, 1971	32,393	\$ 3,239,300	1,658	\$ 133,028
Purchases			2,140	159,627
Cancelled	(1,130)	(113,000)	(1,130)	(87,464)
December 31, 1971	<u>31,263</u>	<u>\$ 3,126,300</u>	<u>2,668</u>	<u>\$ 205,191</u>
Series B:				
January 1, 1971	20,000	\$ 2,000,000	2,350	\$ 235,000
Purchases			17,650	1,765,000
Cancelled	(20,000)	(2,000,000)	(20,000)	(2,000,000)
December 31, 1971	<u></u>	<u>\$</u>	<u></u>	<u>\$</u>
Cumulative Second Preferred (authorized, 10,000,000 shares):				
January 1, 1971	1,960,011	\$19,600,110	232,000	\$10,950,750
Issued under stock option plan ..	1,163	11,630		
Issued under incentive compensation plan ..	971	9,710		
Purchases			99,085	3,963,400
Cancelled	(86)	(860)		
December 31, 1971	<u>1,962,059</u>	<u>\$19,620,590</u>	<u>331,085</u>	<u>\$14,914,150</u>
Common (authorized 25,000,000 shares):				
January 1, 1971	10,087,346	\$10,087,346	3,280	\$ 108,337
Purchases			75,200	1,592,200
Forfeited under employee bonus plan ..			133	4,362
Issued under stock option plan	39,077	39,077		
Issued upon exercise of warrants	9,600	9,600		
Issued upon conversion of cumulative second preferred ..	111	111		
December 31, 1971	<u>10,136,134</u>	<u>\$10,136,134</u>	<u>78,613</u>	<u>\$ 1,704,899</u>

The Cumulative First Preferred, Series A, is redeemable at \$101 at the option of the Corporation and is preferentially entitled to par value in involuntary liquidation and the redemption price in voluntary liquidation. Annual sinking fund payments of approximately \$114,000 are required for mandatory redemption.

Each share of Cumulative Second Preferred is convertible into 1.3 shares of common stock. The voluntary or involuntary liquidation value of the Cumulative Second Preferred Stock is the greater of (1) \$42 per share, or (2) an amount equivalent to the book value of that number of shares of common stock into which such preferred stock is convertible. The aggregate excess of liquidation price over par value on shares of outstanding stock is approximately \$52,191,000 as of December 31, 1971. These shares are callable after August 1, 1972 at \$75 per share, plus accrued dividends.

8. Warrants:

At December 31, 1971, there were outstanding warrants exercisable on or before November 1, 1982, which entitle the holders thereof to purchase 36,000 shares of unissued common stock at \$4.58 per share. During 1971, warrants for 9,600 shares were exercised.

9. Stock Option Plans:

At December 31, 1970, under the Corporation's restricted stock option plan, there were outstanding options to officers and other key employees for the purchase of 108,949 shares of common stock at prices ranging from \$9.42 to \$33.12. During 1971, there were no options granted, options for 39,077 shares were exercised, and options for 2,473 shares were cancelled, leaving outstanding at December 31, 1971 options covering 67,399 shares at prices ranging from \$9.42 to \$33.12 (of which options for 59,459 shares were exercisable at that date). No further shares are available for grant under this plan.

Under the Corporation's qualified stock option plan, 300,000 shares of unissued common stock are reserved for issuance to officers and other key employees at 100 per cent of fair market value on the date granted. No options to purchase shares under this plan have been granted.

At December 31, 1970, under the stock option plans assumed by the Corporation in the merger with Oxford Paper Company, there were outstanding options to purchase 6,714 shares of \$2.40 Second Preferred Stock at prices ranging from \$34.25 to \$59.75. During 1971, options for 1,163 shares were exercised and options for 2,551 shares were cancelled, leaving outstanding at December 31, 1971, options covering 3,000 shares at prices ranging from \$34.25 to \$59.75 (all of which were exercisable at that date). No further shares are available for grant under these plans.

10. Retained Earnings Restriction:

The Corporation's articles of incorporation and note agreements contain restrictions, among others, against the payment of cash dividends. At December 31, 1971, \$18,699,000 of retained earnings is free of such restriction under the agreement presently most restrictive.

11. Retirement Income Plans:

The Corporation and its subsidiaries provide retirement benefits for substantially all of their employees, including certain employees in foreign countries, under several different plans funded with insurance companies or corporate trustees. Plan contributions, based upon actuarial calculations, are irrevocably devoted to the payment of retirement and other benefits for employees. Total costs of retirement income plans for 1971 were approximately \$8,200,000 which includes amortization of prior service costs generally over periods ranging up to 40 years. The policy of the Corporation and its subsidiaries is to fund pension costs accrued.

Under one of the plans, the actuarially computed value of vested benefits as of the end of the plan year, for active employees not yet retired, exceeded the total pension fund allocable to the active group. The excess amounted to \$9,300,000 with full funding anticipated in the valuation method by the time each employee becomes eligible to retire.

12. Depreciation, Depletion and Amortization:

Depreciation and depletion charged to income amounted to \$31,700,000 and \$30,796,000 in 1971 and 1970, respectively. Amortization of intangibles and of deferred discount and financing expenses charged to income amounted to \$1,145,000 and \$1,153,000 in the respective years. Deple-

NOTES TO FINANCIAL STATEMENTS

tion of timberlands is provided by charges to income at unit amounts estimated as adequate to apportion the cost of each tract, less residual value of land and young growth, to the cost of timber cut from such tract.

13. Deferred Income Taxes:

Depreciation computed on accelerated methods for income tax purposes exceeds book provisions based principally on the straight-line method. This excess, together with timing differences in intangible drilling and development costs and other expenses, resulted in reductions of current income tax payable of \$1,257,000 in 1971 and \$3,173,000 in 1970 for which the Corporation has provided deferred income taxes.

In addition, certain of the charges relating to the termination of the Lawrence paper mill operations in 1971 have previously been deducted or are not currently deductible resulting in an increase in current income taxes payable of \$1,980,000 which reduced non-current deferred income taxes.

14. Investment Credit:

The Corporation's provision for income taxes was reduced (and net income increased) by investment credits of \$696,000 and \$432,000 in 1971 and 1970, respectively, accounted for by the "flow-through" method.

15. Extraordinary Items:

	1971	1970
Extraordinary items include:		
Adjustment of provision for write-down of investment in Ethyl-Dow Chemical Company (net of income taxes of \$819,000)		\$ 1,519,000
Net credit from reorganization of administrative and selling operations including capital gain on sale of office lease (net of capital gains tax of \$604,000 less ordinary income tax reduction of \$572,000 applicable to expenses)		909,000
Provision for further write-down to realizable value of Pittsburg, California plant (net of income taxes, \$785,000)		(811,000)
Provision for costs of terminating the Lawrence, Massachusetts, paper mill operations, including pension and other benefits for qualified former employees and write-down of plant investment to realizable value (net of income taxes of \$3,070,000)	<u>\$ (3,326,000)</u>	<u>\$ 1,617,000</u>
	<u>\$ (3,326,000)</u>	<u>\$ 1,617,000</u>

16. Earnings per Share:

Earnings, and pro forma earnings, per common share are computed using the weighted average number of shares of common stock and common stock equivalents (common stock options and warrants) outstanding during the year. Proceeds from common stock equivalents are assumed to be used to purchase outstanding shares of the Corporation's common stock.

Auditors' Report

To the Board of Directors and Shareholders of Ethyl Corporation:

We have examined the consolidated balance sheet of Ethyl Corporation and Subsidiaries as of December 31, 1971 and the related consolidated statements of income and retained earnings, capital surplus and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances. We previously examined and reported upon the Corporation's consolidated financial statements for the year ended December 31, 1970.

In our opinion, the aforementioned statements present fairly the consolidated financial position of Ethyl Corporation and Subsidiaries at December 31, 1971 and 1970, and the consolidated results of their operations and the consolidated changes in financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Suite 1000
Seventh and Franklin Bldg.
Richmond, Virginia 23210
February 14, 1972

Lybrand Ross Bros & Montgomery

LYBRAND, ROSS BROS. & MONTGOMERY

Directors, Officers and Staff

Divisions

WALLACE F. ARMSTRONG
Vice President—Manufacturing
*LAWRENCE E. BLANCHARD, JR.
DIRECTOR;

Executive Vice President

S. DOUGLAS FLEET
DIRECTOR;

Retired Vice President

M. F. GAUTREAUX
DIRECTOR;

Vice President—
Research & Development

JAMES M. GILL
DIRECTOR;

Senior Vice President—
Chemicals Group

*BRUCE C. GOTTFWALD
DIRECTOR;

President

*FLOYD D. GOTTFWALD
DIRECTOR;

Chairman—Executive Committee

*FLOYD D. GOTTFWALD, JR.
DIRECTOR;

Chairman of the Board,
Chief Executive Officer

C. RAYMOND HAILEY
Vice President;

President—
Oxford Paper Company Division

HOWARD E. HESSELBERG
Vice President—Air Conservation

*ROBERT HERZOG
DIRECTOR;

Executive Vice President

A. B. HORN, JR.
DIRECTOR;

Vice President—
International Division

GEORGE F. KIRBY
DIRECTOR;

President,
Texas Eastern Transmission Corp.,
Houston, Texas

JOSEPH M. LOWRY
DIRECTOR;

Senior Vice President

ANDREW M. MCBURNEY
DIRECTOR;

Executive Vice President—
Oxford Paper Company Division

*THOMAS W. MCKNEW
DIRECTOR;

Advisory Chairman of the Board,
National Geographic Society,
Washington, D.C.

FRANK J. McNALLY
Treasurer

ROBERT T. MARSH, JR.
DIRECTOR;

Retired Chairman of the Board,
First & Merchants National Bank,
Richmond, Va.

MALCOLM P. MURDOCK
DIRECTOR;

Retired Senior Vice President

CLARENCE M. NEHER
DIRECTOR;

Senior Vice President—
Plastics Division

MELVIN M. PAYNE
DIRECTOR;

President,
National Geographic Society,
Washington, D.C.

*LEWIS F. POWELL, JR.
DIRECTOR;

Partner,
Hunton, Williams, Gay,
Powell & Gibson,
Richmond, Va.

W. THOMAS RICE
DIRECTOR;

Chairman & Chief Executive Officer,
Seaboard Coast Line Railroad Co.,
Richmond, Va.

E. CLAIBORNE ROBINS
DIRECTOR;

Chairman of the Board,
A. H. Robins Co.,
Richmond, Va.

SIDNEY BUFORD SCOTT
DIRECTOR;

Partner,
Scott & Stringfellow,
Richmond, Va.

THOMAS M. SMYLLIE
Vice President—Aluminum

FREDERICK P. WARNE
General Counsel and Secretary

ERWIN H. WILL
DIRECTOR;

Honorary Chairman of the Board,
Virginia Electric & Power Co.,
Richmond, Va.

LLOYD B. ANDREW, JR.
Director—Financial Relations

CHARLES E. COLVIN
Director—Purchasing & Traffic

ARTHUR W. HELWIG
Secretary—Executive Committee;

Director—Planning & Profit
Improvement

JAMES H. KIRBY
Controller

JAMES G. LONERGAN
Director—Advertising
& Sales Promotion

G. SAMUEL ROBERTS
Chief Engineer

STEPHEN B. RODI
Director—Corporate Employee Relations

CHARLES H. ZEANAH
Director—Corporate-Public Relations

Oxford Paper Company

GORHAM H. SCOTT
Senior Vice President

HUGH H. BAIRD, JR.
Vice President & Controller

RUSSELL H. CHAMBLISS, JR.
Vice President—Sales

S. D. DILLON
Vice President—

National Accounts, West

C. RICKERT LEWIS
Vice President—

National Accounts, East

Petroleum Chemicals

ROBERT A. DOUGLASS
Divisional Vice President
& General Manager

JOHN F. KOEHNLE
General Sales Manager

R. J. OSTRANDER
Technical Director

Air Monitoring, Inc.

R. J. OSTRANDER
President

Industrial Chemicals

MERLE L. GOULD
General Manager

ROGER A. MOSER
Director—Marketing Management

H. WARREN REES
General Sales Manager

STANLEY A. HARRIS
Sales Manager

Ethyl International

M. WHITLOCK
Manager—Operations

W. J. RUSHER
General Manager—Sales

L. N. APPLEGATE
Director—Exploration

Ethyl S.A.

W. J. RUSHER
President & Managing Director

Ethyl Hellas Chemical Company S.A.

R. R. DOWNEY
Managing Director

Ethyl Corporation of Canada Limited

KENNETH A. FREBERG
President

JAMES H. MAIN
Manager—Petroleum Additives

ROBERT H. SHANNON
Manager—Chemical Products

Plastics

PAUL E. WEIMER
Director—Financial Controls

Imco Container Company

RICHARD F. SANDS
President

ROBERT D. BISHOP
Vice President—

Sales & Marketing

Marion Hierman

President—Imco of Canada

ROBERT X. HAFELE
Technical Director

HANCEL B. BONDS
Vice President—Operations

JAMES W. COURT
Vice President—Finance

Films Group

HARRY C. BYRNE, JR.
General Manager

VisQueen

JOHN K. SHIFFLER
General Sales Manager

RICHARD W. GOODRUM
Technical Director

ROLAND E. MCKENZIE
Manufacturing Manager

PVC Film and Sheet

FRANK J. KELLY
Sales Manager

Converted Film Products

MARTIN L. WEINER
Manager

Polymer Division

CHARLES W. MONTGOMERY
General Manager

RAY WILKINS, JR.
General Sales Manager

Pipe Products Division

ARTHUR A. SMITH
General Manager

L. RAY McCULLEY
Sales Manager

Environmental Control Division

I. RICHARD SCHNEIDER
General Manager

JOSEPH H. BENTON
Sales Manager

Aluminum

E. MALCOLM HARVEY
President & Treasurer

The William L. Bonnell Co.

WILLIAM H. MORGAN
General Manager—Marketing
& Product Development

The William L. Bonnell Company

LLOYD L. REYNOLDS
Vice President & General Manager

WARREN H. BROCKWAY
Vice President & General Sales
Manager

DONALD A. WAGNER
Vice President—Manufacturing

FRANK DANIELS, JR.
Assistant Treasurer

Capitol Products Corporation

JOSEPH T. COLLIFLOWER
President

GEORGE S. THUMLERT
Vice President & Treasurer

WALLACE FREMONT
Vice President

DONALD G. HORNING
Vice President

* Member of the Executive Committee
§ Retired as a Director January 27, 1972

* Resigned December 31, 1971,
to become Associate Justice,
United States Supreme Court.

Ten Year Summary

		Years Ended December 31		
		1971	1970	1969
SALES AND INCOME	Net sales (after deducting freight cost)	\$577,058,000	\$556,856,000	\$509,302,000
	Income before taxes and extraordinary items	73,816,000	70,231,000	66,044,000
	Depreciation, depletion and amortization	32,845,000	31,949,000	29,562,000
	Income taxes before extraordinary items	35,576,000	34,649,000	33,020,000
	Income before extraordinary items	38,240,000	35,582,000	33,024,000
	Net income	34,914,000	37,199,000	29,524,000
	Cash flow	72,278,000	73,917,000	67,193,000
FINANCIAL CONDITION	Working capital	229,996,000	209,724,000	176,499,000
	Ratio of current assets to current liabilities	\$4.22 to \$1.00	\$4.54 to \$1.00	\$2.71 to \$1.00
	Property, plant and equipment (Net) ...	283,678,000	298,771,000	293,200,000
	Capital expenditures	24,383,000	64,190,000	53,312,000
	Long-term debt	244,652,000	254,160,000	230,152,000
COMMON STOCK	Number of shares outstanding	10,057,521	10,084,066	10,059,444
	Earnings per share	\$ 3.36*	\$ 3.06*	\$ 2.77*
	Pro forma earnings per share, assuming conversion of the Second Preferred Stock (3)	\$ 3.09*	\$ 2.85*	\$ 2.61*
	Income taxes per share	\$ 3.51	\$ 3.42	\$ 3.25
	Equity per share (4)	\$20.47	\$18.45	\$16.01

* Before extraordinary items. After extraordinary items, would be \$3.03 and \$2.82 in 1971, \$3.22 and \$2.98 in 1970 and \$2.43 and \$2.33 in 1969, respectively.

(1) Includes Oxford operations for entire year. All prior years ended December 31 reflect the merger of Oxford into Ethyl on a pooling of interests basis.

(2) Includes 4 months of combined Albemarle paper and Ethyl chemical operations.

(3) If the Second Preferred Stock were converted, its dividend would become \$1.09 a share at the present common dividend rate, as against the present \$2.40 preferred dividend.

(4) Reflects a deduction for the liquidating value of the Second Preferred Stock, and is based on the number of shares outstanding at the end of each year, treating warrants and common stock options as common stock equivalents. Adjusted for stock splits.

ETHYL CORPORATION AND SUBSIDIARIES

	1968	1967(1)	1966	1965	1964	1963	Year Ended March 31 1963(2)
000	\$509,072,000	\$468,938,000	\$465,823,000	\$375,837,000	\$335,663,000	\$292,878,000	\$ 94,294,000
000	61,094,000	51,633,000	62,876,000	48,306,000	41,004,000	32,526,000	8,964,000
000	31,076,000	30,749,000	28,411,000	25,233,000	22,161,000	19,886,000	6,556,000
000	29,592,000	21,971,000	25,570,000	20,317,000	19,945,000	16,099,000	4,583,000
000	31,502,000	29,662,000	37,306,000	27,989,000	21,059,000	16,427,000	4,381,000
000	31,502,000	29,662,000	37,306,000	27,989,000	21,059,000	16,427,000	4,381,000
000	65,027,000	62,876,000	68,107,000	55,918,000	46,172,000	39,052,000	12,117,000
000	176,302,000	129,757,000	107,244,000	92,840,000	103,194,000	86,267,000	63,001,000
00	\$3.47 to \$1.00	\$3.52 to \$1.00	\$2.83 to \$1.00	\$3.07 to \$1.00	\$3.19 to \$1.00	\$3.43 to \$1.00	\$2.75 to \$1.00
000	269,761,000	301,345,000	306,073,000	280,112,000	240,216,000	227,583,000	150,959,000
000	64,158,000	26,943,000	59,116,000	57,654,000	35,876,000	33,370,000	4,839,000
000	215,121,000	206,419,000	219,464,000	223,639,000	225,992,000	226,427,000	196,375,000
44	10,027,510	9,927,793	9,538,655	9,487,380	8,438,658	2,375,807	1,187,362
	\$ 2.61	\$ 2.41	\$ 3.21	\$2.32	\$1.68	\$1.30	\$.63
	\$ 2.46	\$ 2.29	\$ 2.94	\$2.22	\$1.68	\$1.30	—
	\$ 2.91	\$ 2.16	\$ 2.54	\$2.01	\$2.02	\$1.75	\$.71
	\$14.56	\$12.70	\$10.98	\$8.26	\$6.55	\$5.33	\$5.31

ETHYL CORPORATION
330 South Fourth Street
Richmond, Va. 23219

Ethyl

Corporation

Changing . . . to Serve a Changing World

Ethyl Corporation is a major chemical company which in recent years has diversified into several new product areas. These include plastics, aluminum products and paper. Ethyl's business is worldwide in scope and it maintains offices, manufacturing and product distributing facilities on five continents, employing approximately 13,000 people. In North America, there are offices, plants and laboratories in 21 U.S. states and four provinces of Canada.

ETC 17159