

1966

UNION CARBIDE CANADA LIMITED  
**ANNUAL REPORT**

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**Plant and Product Summary** — inside back cover

### COVER

The cover features the Company's Flame-Plating process by which super-hard particles are blasted on metal surfaces. The top photograph shows the gun utilized in the process, while pictured below is the tungsten-blue flame emitted by the gun when in operation. The Company recently opened a new Flame-Plating plant in Toronto where parts are treated for the paper, aircraft and textile industries.

Sur demande, il nous fera plaisir de vous envoyer l'édition française de ce rapport.





# ANNUAL REPORT 1966

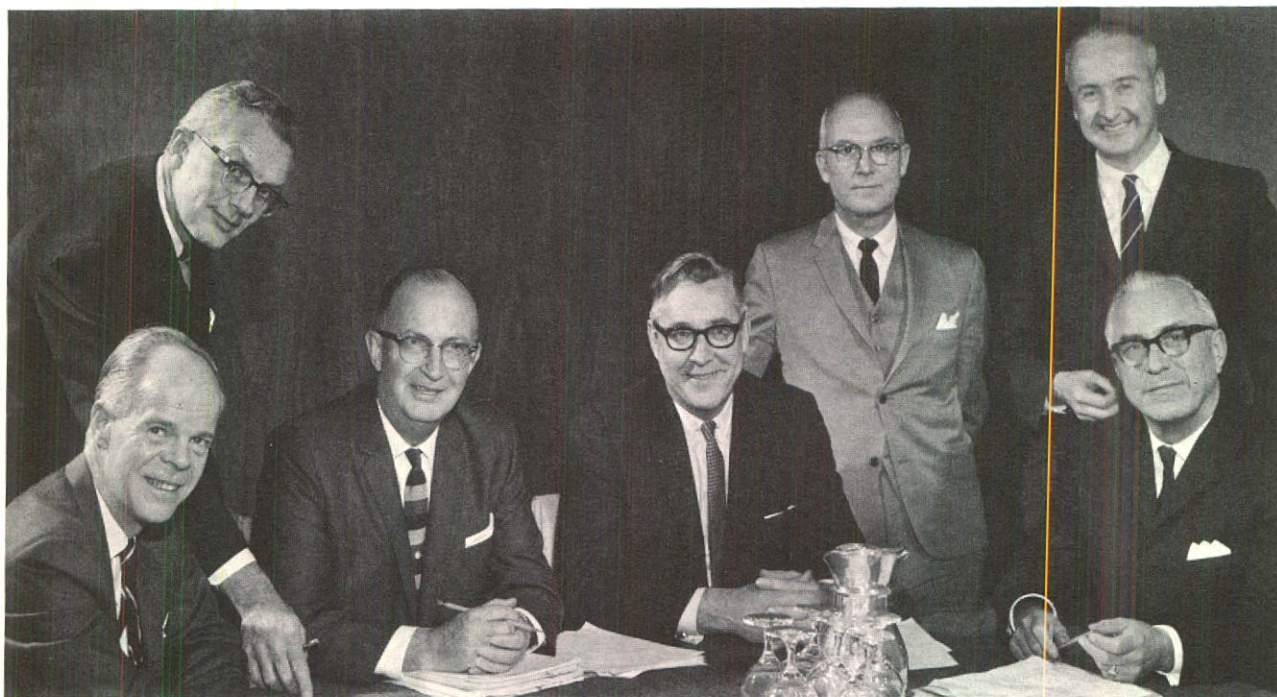
## DIRECTORS AND OFFICERS

### DIRECTORS

Paul L. Alspaugh	Vice-President Union Carbide Corporation, New York
Donald B. Benedict	Vice-President Union Carbide Corporation, New York
Alison A. Cumming	Chairman of the Board Union Carbide Canada Limited, Toronto
John S. Dewar	President Union Carbide Canada Limited, Toronto
Salter A. Hayden, Q.C.	Senior Partner McCarthy and McCarthy, Toronto
Allen T. Lambert	Chairman of the Board and President, The Toronto-Dominion Bank, Toronto
John F. Shanklin	Vice-President and Secretary, Union Carbide Corporation, New York
George C. Wells	Vice-President Union Carbide Corporation, New York

### EXECUTIVE OFFICERS

Alison A. Cumming
Chairman of the Board
John S. Dewar
President
William A. Dimma
Vice-President
Richard S. Hughes
Vice-President
Gerald O. Loach
Vice-President
Whitford S. Wyman
Vice-President
Ross O. Holditch
Secretary and Treasurer



Union Carbide Canada Limited's central management authority, the President's Council, has overall responsibility for Company policy and business planning. Left to right are: R. O. Holditch, Secretary and Treasurer; R. S. Hughes, Vice-President; A. A. Cumming, Chairman of the Board; J. S. Dewar, President; G. O. Loach, Vice-President; W. A. Dimma, Vice-President; and W. S. Wyman, Vice-President.

## FINANCIAL HIGHLIGHTS

	1966	1965
NET SALES	\$154,419,000	\$145,337,000
NET INCOME PER SHARE	13,054,000 \$1.31	13,039,000 \$1.30
SHAREHOLDERS' EQUITY PER SHARE	100,824,000 \$10.08	93,770,000 \$9.38
CONSTRUCTION EXPENDITURES	22,665,000	13,560,000
DEPRECIATION	9,934,000	8,876,000
TOTAL ASSETS	160,901,000	150,379,000



## TO OUR SHAREHOLDERS

It is a pleasure to report to you on the operations of Union Carbide Canada Limited for the year 1966, the Company having achieved record levels in both sales and earnings. Sales increased 6.2% over 1965 to exceed \$150 million for the first time, and earnings at \$1.31 per share improved slightly from the 1965 record of \$1.30.

In line with the expanding Canadian economy, domestic sales were well ahead of the previous year with greatest gains being made in gases, converted film for flexible packaging, batteries and industrial carbon products. Virtually all plants operated at capacity to meet domestic demands, with the result that less product was available for the export market.

Construction expenditures were at a record level of \$22.7 million in 1966, with new capacity being added for polyethylene resin, converted film, industrial gases and carbon products. Nylon was offered for sale by Union Carbide for the first time, with the start-up of its new synthetic fibre plant.

During the year, a majority interest was acquired in two companies, Smelter Power Corporation and Chicoutimi Silicon Ltd., both located at Chicoutimi, Quebec. Hydro electric power generated by Smelter Power will be used by Chicoutimi Silicon to produce ferrosilicon for sale in domestic and overseas markets. Chicoutimi Silicon Ltd. is constructing production facilities which are expected to be completed in mid-1967.

Since the payment on March 1, 1965 of an interim dividend of 20c per share, regular quarterly dividends of 15c per share have been paid on March 1st, June 1st, September 1st, and December 1st of each year. Dividends disbursed in 1966 amounted to \$6 million, or 60c per share.

In recognition of the growing size and diversity of our many businesses, the Company's management structure was modified during the year to allow greater utilization of the experience and skills of our personnel. A President's Council was established as the central point of management authority with responsibility for overall Company policy and business planning.

A number of changes were made during the year in the Board of Directors and senior management of the Company. Paul L. Alspaugh, a Vice-President of Union Carbide Corporation, was appointed a Director in July, succeeding Adger S. Johnson who became an Executive Vice-President of Union Carbide Corporation. In April, William A. Dimma was appointed a Vice-President of the Company. General Managers appointed during the year were Jack F. Boire for Chemicals and Resins, Henry L. Pero for Fibres, and R. Jay Southwell for Plastic Products. Harry Taylor, a Vice-President, retired in November following forty-four years of service with the Company.

The Annual Meeting of Shareholders will be held on Thursday, April 27, 1967, at 11:00 a.m. in the Confederation Room of the Royal York Hotel in Toronto, Ontario. I am looking forward to seeing many of you at that time.

March 31, 1967



PRESIDENT

# 1966 OPERATIONS REVIEW

## SALES AND INCOME

Sales in 1966 were a record \$154,419,000 or 6.2% above 1965 sales of \$145,337,000. Prices for Company products were almost 1% lower than the previous year, continuing a downward trend of several years' duration.

Net income at \$13,054,000 was a slight improvement over 1965 net income of \$13,039,000. Earnings were restricted by strikes affecting major customers in the food, chemical and textile industries; a six-week strike at the Company's Lindsay, Ontario plant; and pre-production and start-up expenses associated with the new synthetic fibre plant at Arnprior, Ontario. In addition, the heavy demand for products caused most plants to operate at abnormally high levels, thus necessitating purchases of finished goods which, while maintaining sales, reduced profit margins. In the last half of the year, as the adverse impact of these factors declined, net income was \$7,388,000, 8.6% above the \$6,803,000 earned in the second half of 1965.

Although domestic sales of chemicals increased marginally, there was a decline in export shipments due largely to the plants producing at capacity for the domestic market. Prices for the Company's chemicals weakened somewhat during the year.

Plastic sales continued their steady growth which has been uninterrupted since 1954. Demand was strong for polyethylene in the form of resins and for film for growing industrial and flexible packaging applications. Phenolics, epoxies and food casings also enjoyed substantial growth. On average, prices for the plastics group of products decreased moderately.

Sales of gas products set a new record for the eighth consecutive year. All categories, including industrial and medical gases, apparatus and supplies, medical equipment, and electric welding products showed improved results in 1966. Prices for most gases were increased at the beginning of the year and have since remained firm.

The steel, automotive, aluminum and aircraft industries, which are all served by the Metals group, experienced an excellent year in 1966. Despite price declines in manganese and chromium alloys, sales of metal products reached the highest level since 1957, a year when special shipments were made to the United States Government's strategic stockpile.

Sales of batteries and industrial carbon also reached record levels in 1966, showing the largest relative increase of any product category. The great expansion in applications for batteries to power a wide range of devices such as transistor radios, small household appliances, and toys has resulted in continued growth of this business. Industrial carbon and graphite sales registered significant improvement because of strong demand from the steel and aluminum industries. In general, prices strengthened for these Company products.

Becker Drilling (Alberta) Ltd., purchased in 1965, has greatly expanded its operations. This wholly-owned subsidiary offers services and equipment on a world-wide basis, with its patented hammer drill being used in Thailand, Pakistan, Australia, the United States and Canada.



## DISTRIBUTION OF THE SALES DOLLAR

Materials, Services and Other Costs of  
Doing Business

56.5 Cents

Wages and Salaries

20 Cents

Federal and Provincial Income Taxes

9 Cents

Depreciation and Depletion

6 Cents

Dividends Paid

4 Cents

Retained to Provide New Facilities and  
Working Capital

4.5 Cents



## SALES BY OPERATING GROUPS

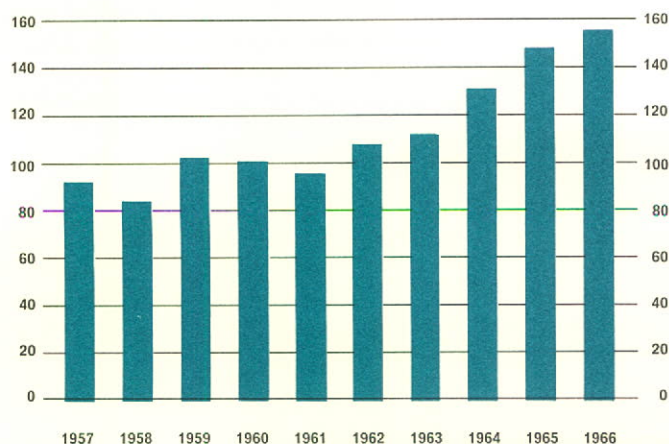
1966

1965

	AMOUNT (in thousands)	PER CENT OF TOTAL	AMOUNT (in thousands)	PER CENT OF TOTAL	PERCENTAGE CHANGE FROM 1965
CHEMICALS	\$ 23,277	15	\$ 24,660	17	- 6
PLASTICS	46,889	30	44,808	31	+ 5
GASES	25,828	17	23,264	16	+ 11
METALS	31,243	20	28,207	19	+ 11
CARBONS	27,182	18	24,398	17	+ 11
TOTALS	\$154,419	100	\$145,337	100	+ 6

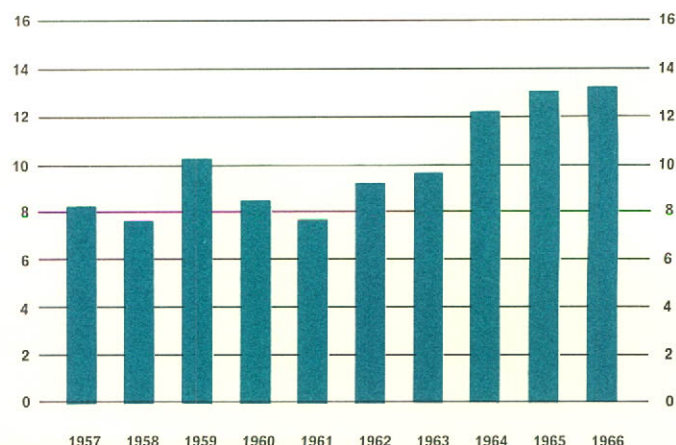
## TOTAL SALES

MILLIONS OF DOLLARS



## TOTAL NET INCOME

MILLIONS OF DOLLARS



## CONSTRUCTION EXPENDITURES BY OPERATING GROUPS

	1966		1965	
	AMOUNT (in thousands)	PER CENT OF TOTAL	AMOUNT (in thousands)	PER CENT OF TOTAL
CHEMICALS AND PLASTICS	\$12,422	55	\$ 8,698	64
GASES	7,463	33	2,965	22
METALS	1,559	7	667	5
CARBONS	1,221	5	1 230	9
TOTALS	\$22,665	100	\$13,560	100

During 1966, Union Carbide commenced the manufacture of several new product lines in Canada. Most important was the start of production of continuous filament nylon at the Company's new plant in Arnprior. Nylon filament is one of the most widely used of all synthetic fibres and initial sales have been made to textile, carpet and tire manufacturers.

A non-woven fibre products business was purchased and production transferred to a new plant in Brampton, Ontario. Made mostly from synthetic fibres, this resilient fabric primarily serves the automotive industry where it is used as padding in door panelling, seat cushioning and other interior trim applications.

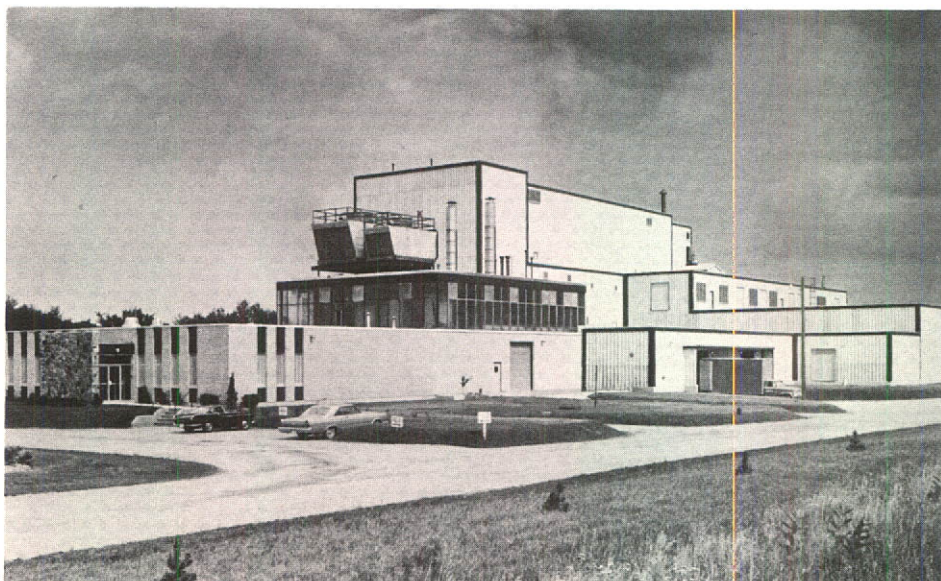
Other products made domestically for the first time include distillation trays for gas and chemical separation; plastic film laminates for the packaging of confectionery and meat products; and seamless polyethylene sheeting in forty-foot widths for the building industry.

## CONSTRUCTION

Continued strong demand for Company products, combined with high utilization of plant capacity, led to a record capital outlay of \$22,665,000 during the year. Major projects completed in 1966, all in the last half of the year, included a 20% expansion of polyethylene capacity at Montreal East to 120 million pounds annually; a fibres plant at Arnprior with an initial capacity of six million pounds of nylon annually; expansion of formaldehyde production at Belleville, Ontario, primarily to supply internal needs; the installation of facilities at the Welland, Ontario plant to manufacture self-baking carbon electrode paste for the ferroalloy and chemical industries; and the erection of a new Flame-Plating plant near Toronto.

In addition, a parcel of land near Toronto was purchased to serve as a base for future expansion of the Company's activities.

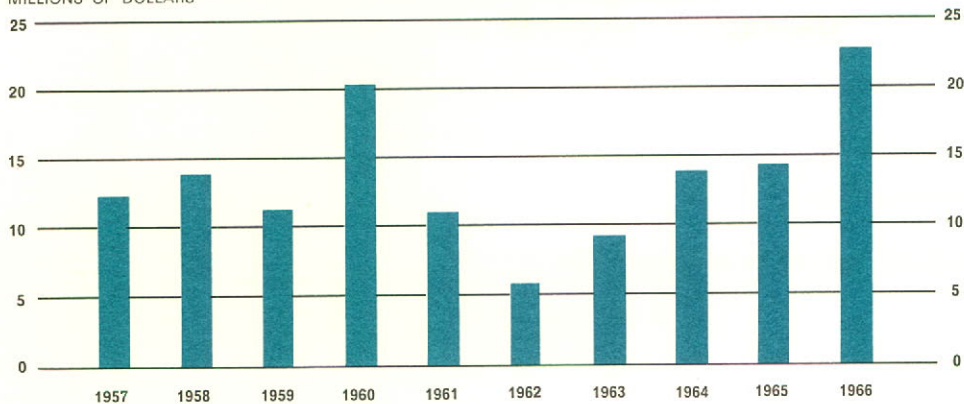
The multi-million dollar synthetic fibres plant at Arnprior, Ontario. With an annual capacity of six million pounds of nylon, the plant commenced production in mid-1966. Expansion is now underway for the additional manufacture of nylon staple fibre.





## TOTAL CONSTRUCTION EXPENDITURES

MILLIONS OF DOLLARS



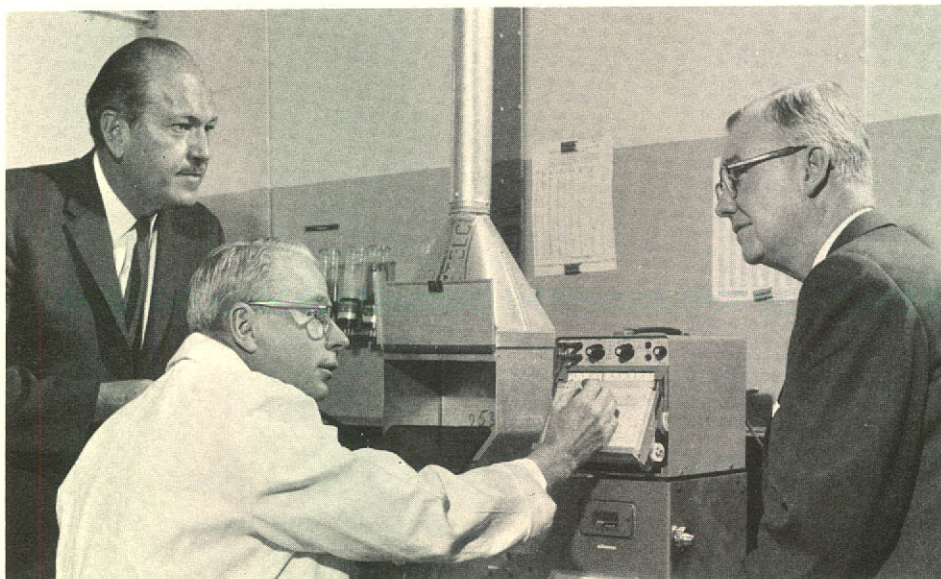
Major construction projects under way in 1966, to be completed in 1967, include: expansion of ethylene capacity at Montreal East; facilities for the manufacture of nylon staple fibre at Arnprior; a plant at Tracy, Quebec, one of Canada's largest for the manufacture of liquid oxygen, nitrogen and argon; at Sarnia, Ontario, a plant to produce gaseous nitrogen for Canada's "Chemical Valley"; the Company's seventh manufacturing-converting facility for polyethylene film in Amherst, Nova Scotia; and expansion of the polyethylene film plant in Orangeville, Ontario.

By restructuring the organizational framework, more authority has been delegated to individuals and groups of management personnel. Many inter-group and inter-departmental business teams have been established and are successfully developing sound, overall approaches to Company opportunities and problems. The work of these teams has helped ensure that day-to-day decisions can be made at all levels in a context of active internal collaboration and concern for the broadest interests of the Company. This is in line with Union Carbide's continuing efforts to make possible the fullest productive development of its human resources. During the year, employees continued to make many significant contributions to the progress of the Company.

Of particular significance in 1966 was the continuing success of the Company's operations improvement program. Through systematic cost reduction efforts, individuals and groups generated proposals that resulted in savings totalling hundreds of thousands of dollars.

Safety is a subject of foremost concern and significant progress continues to be made in this area. Under the Company's award plan, 26 locations gained recognition for having an accident-free year.

## EMPLOYEES



Three of the Company's research and development managers confer on a mutual problem.

A forty-four day strike at the Plastic Products plant in Lindsay, Ontario was the first experienced by the Company since 1946. It was settled with the signing of a new agreement covering the period January 1, 1966 to May 1, 1968. A two-year agreement to June 1, 1968 was also negotiated for the Gas Products plant at Welland, and a two-year agreement to October 7, 1968 signed covering the Metals plant at Beauharnois, Quebec.

Coincident with the introduction of the Canada Pension Plan and the Quebec Pension Plan, the Company introduced major improvements in the retirement program for employees.

## TECHNOLOGY

The future growth and expansion of the Company is dependent, to a major extent, on the development of new products and processes particularly adapted to Canadian conditions.

Through its parent, Union Carbide Corporation, new products and processes developed by several thousand scientists and engineers located throughout the world are made available to the Company. In addition, the Canadian Company carries out its own technological program in eight laboratories, the newest being the research and development facilities at the Arnprior nylon plant.

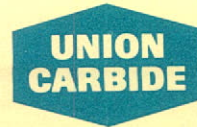
In 1966, Canadian technological efforts resulted in the introduction of improved brake fluids, new polyols for Canada's growing urethane foam market, and a new range of vulcanizable polyethylenes which have a superior balance of properties in comparison with other insulating and jacketing materials.

As in 1965, the heaviest research expenditures were concentrated on the continued development of a new process for the manufacture of high density polyethylene resin at the Montreal East plant.

One of the Company's business teams discusses the production and marketing of PRESTONE anti-freeze. All aspects of manufacture, control, packaging, sales, advertising and sales promotion are considered when planning the ensuing year's campaign.







# **UNION CARBIDE CANADA LIMITED**

**and its consolidated subsidiaries**

## **CONSOLIDATED FINANCIAL STATEMENTS 1966**

# **CONSOLIDATED STATEMENT OF INCOME AND RETAINED EARNINGS**

	Year ended Dec. 31, 1966		Year ended Dec. 31, 1965	
Sales		\$154,419,000		\$145,337,000
Cost of Goods Sold	\$104,477,000		\$98,272,000	
Selling, General and Administrative Expenses	12,912,000	117,389,000	11,263,000	109,535,000
		37,030,000		35,802,000
Depreciation	9,934,000		8,876,000	
Interest on Debentures	1,137,000		1,310,000	
Amortization of Patents, Trade Marks and Goodwill	291,000	11,362,000	200,000	10,386,000
		25,668,000		25,416,000
Investment Income	334,000		566,000	
Gain on Disposal of Capital Assets	213,000	547,000	90,000	656,000
Net Income before Income Taxes		26,215,000		26,072,000
Income Taxes				
Current	8,030,000		9,117,000	
Deferred (Note 2)	5,131,000	13,161,000	3,916,000	13,033,000
Net Income		13,054,000		13,039,000
Net Income per Share	\$1.31		\$1.30	
Retained Earnings at January 1		34,170,000		27,631,000
		47,224,000		40,670,000
Dividends Paid (Note 4)		6,000,000		6,500,000
Retained Earnings at December 31		\$41,224,000		\$ 34,170,000

The notes on page 16 form an integral part of this statement.





# UNION CARBIDE CANADA LIMITED

and its consolidated subsidiaries

	1966	1965	CONSOLIDATED STATEMENT OF SOURCE AND APPLICATION OF FUNDS
<b>CASH AND SECURITIES, JANUARY 1</b>	\$12,537,000	\$15,814,000	
<b>SOURCE OF FUNDS</b>			
Net Income	13,054,000	13,039,000	
Depreciation	9,934,000	8,876,000	
Amortization of Patents, Trade Marks and Goodwill	291,000	200,000	
Transfer to Deferred Income Taxes	5,131,000	3,916,000	
	<u>\$28,410,000</u>	<u>\$26,031,000</u>	
 Net Value of Fixed Assets Sold	 474,000	 426,000	
Decrease in Deferred Charges	228,000	(133,000)	
	<u>\$29,112,000</u>	<u>\$26,324,000</u>	
 <b>APPLICATION OF FUNDS</b>			
Investment in Fixed Assets	22,665,000	13,560,000	
Increase in Current Assets other than Cash and Securities	3,921,000	6,409,000	
Dividends Paid	6,000,000	6,500,000	
Decrease in Long Term Debt	—	4,250,000	
Increase in Patents, Trade Marks and Goodwill	—	1,093,000	
Special Refundable Tax	856,000	—	
Net Increase in Investments	2,341,000	—	
Decrease in Current Liabilities	1,663,000	(2,211,000)	
	<u>\$37,446,000</u>	<u>\$29,601,000</u>	
 Decrease in Cash and Securities	 \$ 8,334,000	 \$ 3,277,000	
<b>CASH AND SECURITIES, DECEMBER 31</b>	<u><u>\$ 4,203,000</u></u>	<u><u>\$12,537,000</u></u>	

The notes on page 16 form an integral part of this statement.

**CONSOLIDATED  
BALANCE  
SHEET**  
as at  
December 31,  
1966

**ASSETS**

	December 31	
	1966	1965
<b>CURRENT ASSETS</b>		
Cash and Time Deposits	\$ 3,974,000	\$ 12,367,000
Canadian Government Short Term Securities — at cost and accrued interest	229,000	170,000
Receivables (after allowance for doubtful accounts)		
Trade Notes and Accounts	21,164,000	21,075,000
Trade Accounts — Affiliated Companies	2,094,000	3,806,000
Other Notes and Accounts	1,993,000	1,857,000
	<u>25,251,000</u>	<u>26,738,000</u>
Inventories (valued at the lower of cost or net realizable value)		
Raw Materials and Supplies	8,040,000	6,361,000
Work in Process	7,668,000	6,660,000
Finished Goods	14,712,000	12,545,000
	<u>30,420,000</u>	<u>25,566,000</u>
Prepaid Expenses	1,315,000	761,000
	<u>61,189,000</u>	<u>65,602,000</u>
<b>TOTAL CURRENT ASSETS</b>		
	61,189,000	65,602,000
<b>SPECIAL REFUNDABLE TAX</b>	856,000	—
<b>FIXED ASSETS</b>		
Land, Buildings, Machinery and Equipment — at cost	181,281,000	160,470,000
Less: Accumulated Depreciation	87,003,000	78,449,000
	<u>94,278,000</u>	<u>82,021,000</u>
<b>INVESTMENTS (Note 1)</b>		
Subsidiaries		
Shares — at cost (no quoted market value)	1,041,000	235,000
Advances	825,000	—
Other	745,000	35,000
	<u>2,611,000</u>	<u>270,000</u>
<b>OTHER ASSETS</b>		
Deferred Charges	265,000	493,000
Patents, Trade Marks and Goodwill — at cost less amortization	1,702,000	1,993,000
	<u>1,967,000</u>	<u>2,486,000</u>
Signed on behalf of the Board:	<u>\$160,901,000</u>	<u>\$150,379,000</u>
A. A. CUMMING, Director		
J. S. DEWAR, Director		





# UNION CARBIDE CANADA LIMITED

and its consolidated subsidiaries

## LIABILITIES

### CURRENT LIABILITIES

	December 31 1966	1965
Accounts Payable	\$ 10,804,000	\$ 11,366,000
Income and Other Taxes	2,604,000	4,633,000
Interest on Debentures	78,000	78,000
Other Accrued Liabilities	3,704,000	2,776,000
<b>TOTAL CURRENT LIABILITIES</b>	<b>17,190,000</b>	<b>18,853,000</b>

### DEFERRED CREDIT (Note 2)

Accumulated Tax Reductions Applicable to Future Years	22,137,000	17,006,000
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### LONG TERM DEBT (Note 3)

	20,750,000	20,750,000
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## SHAREHOLDERS' EQUITY

### CAPITAL STOCK

Common Shares Without Nominal or Par Value		
Authorized — 12,500,000 shares		
Issued and Outstanding — 10,000,000 shares	59,600,000	59,600,000

### RETAINED EARNINGS

	41,224,000	34,170,000
	100,824,000	93,770,000
	<b>\$160,901,000</b>	<b>\$150,379,000</b>

The notes on page 16 form an integral part of this statement.

## TEN YEAR SUMMARY

(dollars in  
thousands — except  
per share figures)

NET SALES	1966	1965	1964
Chemicals	\$ 23,277	\$ 24,660	\$ 26,109
Plastics	46,889	44,808	41,385
Gases	25,828	23,264	20,955
Metals	31,243	28,207	23,491
Carbons	27,182	24,398	21,444
Total	\$154,419	\$145,337	\$133,384
<hr/>			
NET INCOME			
Amount	13,054	13,039	12,130
% of Sales	8.5%	9.0%	9.1%
Per Share (on 10,000,000 shares outstanding)	1.31	1.30	1.21
<hr/>			
TOTAL ASSETS	160,901	150,379	141,962
<hr/>			
CONSTRUCTION EXPENDITURES	22,665	13,560	13,432
<hr/>			
DEPRECIATION AND DEPLETION	9,934	8,876	8,335
<hr/>			
EMPLOYEE DATA			
Wages and Salaries	31,682	26,833	24,886
Average Number of Employees	5,335	4,736	4,573





# UNION CARBIDE CANADA LIMITED

and its consolidated subsidiaries

1963	1962	1961	1960	1959	1958	1957
\$ 22,989	\$ 21,943	\$ 18,436	\$ 17,977	\$ 19,949	\$ 13,840	\$ 12,262
34,592	32,073	28,604	28,234	26,021	21,555	11,340
18,841	17,499	14,569	14,401	13,817	12,286	13,084
19,161	20,164	17,628	21,428	22,311	16,101	33,171
17,839	17,753	18,198	18,337	19,203	18,859	22,468
\$113,422	\$109,432	\$ 97,435	\$100,377	\$101,301	\$ 82,641	\$ 92,325
9,728	9,339	7,533	8,252	10,315	7,556	8,138
8.6%	8.5%	7.7%	8.2%	10.2%	9.1%	8.8%
.97	.93	.75	.83	1.03	.76	.81
139,233	126,923	122,169	114,539	104,442	96,909	91,376
8,993	5,621	10,435	20,213	10,799	13,911	12,271
8,010	8,079	7,266	5,951	5,801	4,791	3,293
21,284	20,057	18,725	18,998	17,811	15,973	16,991
4,092	3,852	3,705	3,853	3,727	3,502	3,835

# NOTES TO THE 1966 CONSOLIDATED FINANCIAL STATEMENTS

## 1. PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of the Company and all significant wholly-owned subsidiaries. The non-consolidated subsidiaries are carried at cost in "Investments" in the Consolidated Balance Sheet.

All assets and liabilities in foreign currencies have been converted to Canadian dollars at the exchange rate prevailing at December 31, 1966.

- b) A final payment, due 1970 for shares purchased by the Company in a wholly-owned subsidiary, and which is subject to a reduction in certain events

750,000  
\$20,750,000

## 2. INCOME TAXES

"Income Taxes-Deferred" of \$5,131,000 in the Consolidated Statement of Income and Retained Earnings results from claiming, for tax purposes, capital cost allowances in excess of the straight-line depreciation recorded in the accounts. This amount is included in "Deferred Credit-Accumulated Tax Reductions Applicable to Future Years" in the Consolidated Balance Sheet, and is applicable to future periods in which amounts claimed for tax purposes may be less than the amounts recorded in the accounts.

## 3. LONG TERM DEBT

"Long Term Debt" consists of:

a) Debentures, secured by a floating charge, and held by affiliated companies as follows:	
5¾% Series, C, D and E due 1970	\$ 2,900,000
5½% Subordinated due 1971	2,100,000
5½% Second Subordinated due 1971	3,200,000
5¾% Second Subordinated due 1971	11,500,000
6% Second Subordinated due 1971	300,000
	<u>\$20,000,000</u>

## 4. DIVIDENDS PAID

Dividends paid during 1966 totalled \$6,000,000 or 60c per share compared to \$6,500,000 or 65c per share in 1965. An interim dividend of 20c per share was paid on March 1, 1965 covering the four-month period October 15, 1964 to February 15, 1965; quarterly dividends of 15c per share were paid on June 1, Sept. 1, and Dec. 1, 1965. In 1966 quarterly dividends of 15c per share were paid on the first days of March, June, September, and December.

## 5. COMMITMENTS

Purchase commitments for capital expenditures outstanding at December 31, 1966 amounted to approximately \$4,784,000. There is also a contractual agreement to advance funds to a non-consolidated subsidiary for capital expenditures and working capital estimated to be \$3,000,000.

## 6. DIRECTORS' REMUNERATION

Remuneration received by directors of the Company, including salaries of officers who are also directors, amounted to \$132,827 in 1966.

## AUDITORS' REPORT

### HIGGINS, HURDMAN AND CRANSTOUN

ACCOUNTANTS AND AUDITORS

36 TORONTO STREET

TORONTO, CANADA

To the Shareholders of  
Union Carbide Canada Limited,  
Toronto, Canada.

We have examined the consolidated balance sheet of Union Carbide Canada Limited and its consolidated subsidiaries as at December 31, 1966 and the statements of consolidated income and retained earnings and source and application of funds for the year ended on that date. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion the accompanying consolidated balance sheet and the statements of consolidated income and retained earnings and source and application of funds present fairly the financial position of the companies as at December 31, 1966 and the results of their operations and the source and application of funds for the year ended on that date in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Toronto, Canada  
January 30, 1967.

HIGGINS, HURDMAN AND CRANSTOUN  
Accountants and Auditors



# INDUSTRY'S BUILDING BLOCKS . . . UNION CARBIDE PRODUCTS

## GASES

The term "Gases" fails to indicate the tremendous variety of markets in which this group operates. It certainly doesn't suggest the large number of products and processes it manufactures, sells or licenses — over 15,000 different items. Oxygen, nitrogen, argon, acetylene and other industrial gases are manufactured and marketed in either liquid or gaseous form. In addition, a complete range of gas and electric welding processes and equipment is provided.

Many of these products are used in two distinct fields in cryogenics, the science of cold, working at temperatures as low as minus 459 degrees Fahrenheit, and in pyrogenics with temperatures ranging as high as 70,000 degrees F, approximately three times as hot as the surface of the sun.

At 4,800 degrees F, LINDE Star Sapphires are grown in hydrogen furnaces. They are optically and chemically the same as the natural gem.

At 6,000 degrees F, acetylene, in combination with oxygen, makes possible many metal fabricating, welding and cutting applications. Another interesting acetylene application is in Flame-Plating where superhard coatings of tungsten carbide or ceramics are detonated, literally blasted, onto surfaces where high abrasion and wear are problems.

At 9,000 degrees F, there are the electric welding processes, and at 20,000 degrees F the plasma arc processes. Almost every metal object with which we come in contact is fused by one or more electric welding process; while plasma arc welding is used for the application of pure metals for coating and build-up of parts.

Union Carbide also works in the fascinating world of the laser at temperatures of 70,000 degrees F. One important application for lasers involves the welding of miniaturized electronic circuits where pinpoint concentration is required. Another interesting application — since the laser beam will pass through transparent material — is that delicate filaments can now be welded inside vacuum tubes. The first such laser welder is now in commercial operation in Toronto.

Cryogenics is the science of ultra-cold, and one of the most important gases used in this field is liquid nitrogen at 320 degrees below zero F, which offers tremendous possibilities to the frozen food industry. Liquid oxygen is stored at hospital sites and, when required, is converted to its gaseous form and piped directly to the patients. UNION CARBIDE cryosurgical equipment is already in use in Canadian hospitals for the treatment of Parkinson's disease by the application of liquid nitrogen to the affected part of the brain through a specially-designed probe. A similar piece of equipment is now in use for certain types of eye surgery, and research into the use of this type of probe for surgical treatment of other vital organs is currently underway.

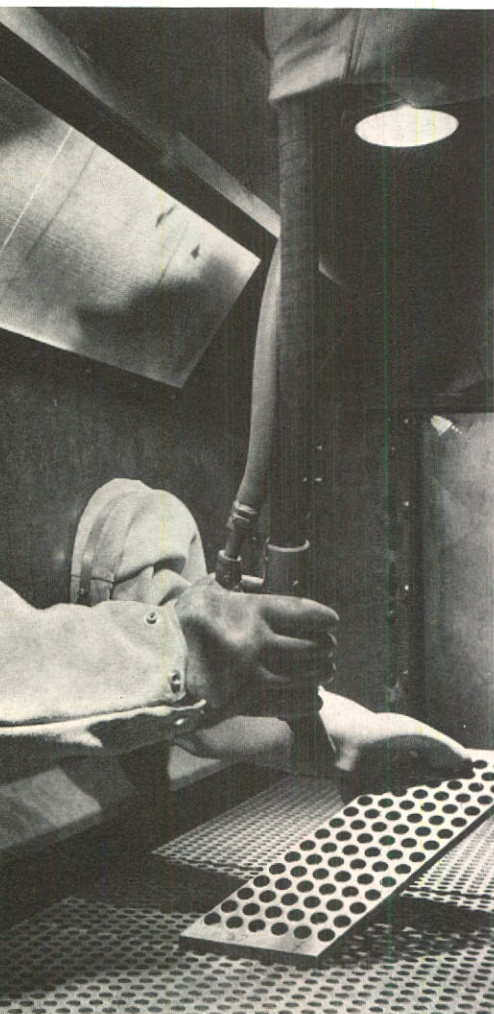
## PLASTICS

During the year, the Company consolidated its position as Canada's major plastics manufacturer. Increased production capacity, expansion of facilities, and construction of new manufacturing plants assure that it will maintain its position and increase service to customers.

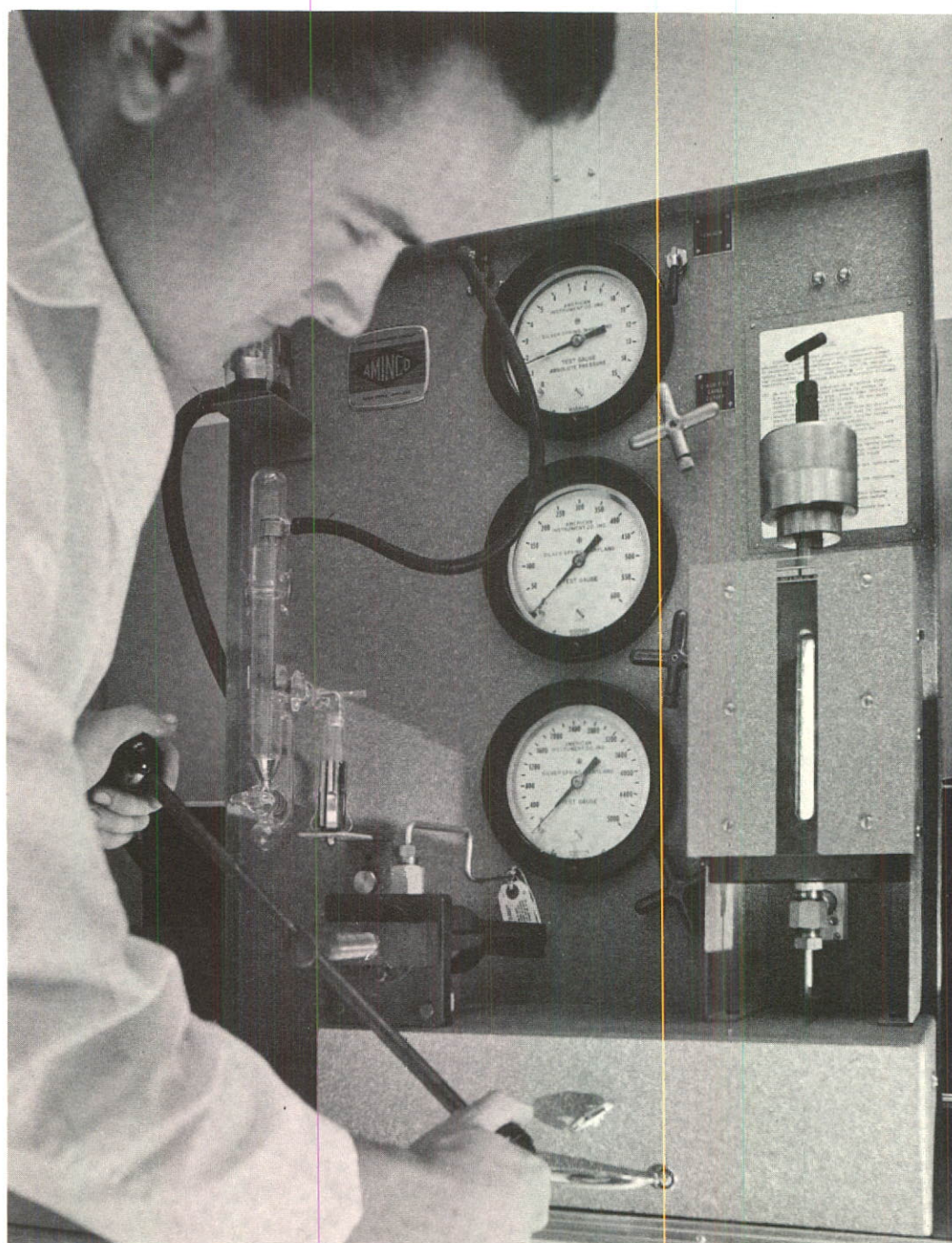


Gas analysis is one of the many features of the Company's total gas and welding technology program. A new development and technical services laboratory has just been opened in Toronto for the convenience of customers.





In the Flame-Plating process, a grit-blast machine is used for roughening metal surfaces in order to obtain a better coating bond.



Technology and customer service ensure that the Company maintains its position as one of Canada's leading manufacturers and marketers.



Three basic types of plastics are manufactured — polyethylenes, phenolics and epoxies. Through research, the properties of these materials are being extended and new product applications developed.

The petrochemical complex at Montreal East remains Canada's largest producer of polyethylene resins and compounds with an increased annual capacity of 120 million pounds. Some of its product is channelled into the Company's seven polyethylene converting and extrusion plants for the manufacture of film, packaging bags, industrial shipping bags, garbage bags and similar flexible products. Two of the more rapidly expanding areas within this group are packaging film and molded products. Food, clothes, toys, or almost any consumer product can be packaged in this versatile film. Milk and vinegar bottles; ice cream, honey, cottage cheese and anti-freeze containers; tote-boxes and carry-alls; and many other molded or thermoformed plastic items are finding their way into both industrial and consumer applications.

The plant at Belleville specializes in the manufacture of phenolics and epoxies. Phenolics, in liquid, molding compound and laminate forms, are used in a wide variety of industrial applications. Epoxies are employed for high strength adhesives, for chemically-resistant coatings, and for electrical component encapsulation.

As recently announced for the Lindsay plant, a major expansion of facilities for the manufacture of cellulose food casings will contribute substantially to a greater distribution of this product to domestic and overseas markets.

## CHEMICALS

Ethylene, acetylene, butadiene and dripolene are produced at the multi-million dollar petrochemical complex in Montreal East. Raw materials for these chemicals are obtained from liquid fuels and gases from neighbouring refineries and are used in the manufacture of many of the Company's products.

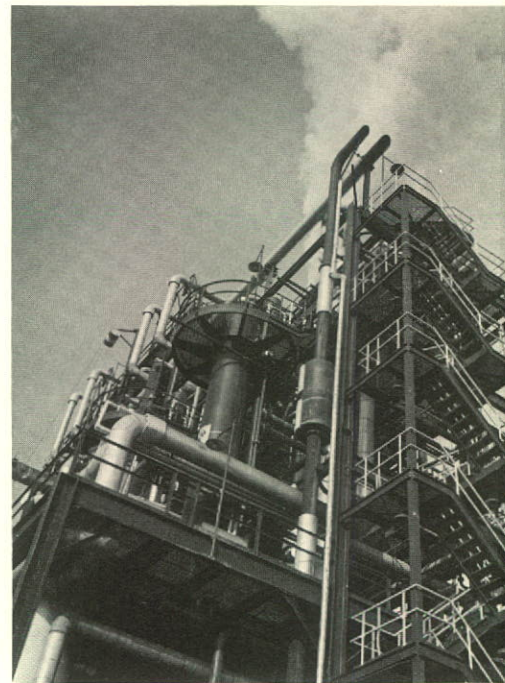
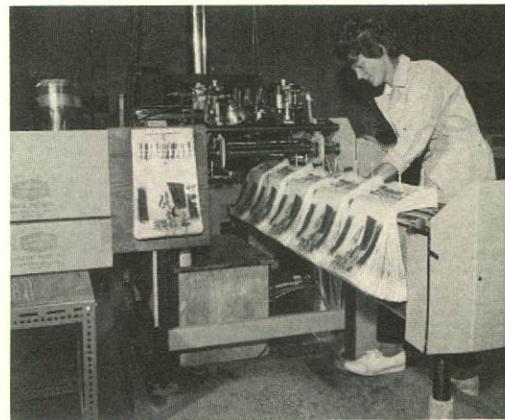
Through the polymerization of ethylene, versatile polyethylene is produced. Converting ethylene to ethylene oxide allows the manufacture of ethylene glycol and forty other organic chemicals. Ethylene glycol is used in anti-freeze, de-icing fluids for aircraft, paints and synthetic textile fibres. Other chemicals manufactured at the plant are utilized in the production of heavy-duty brake fluids, shock absorber fluids, detergents, pharmaceuticals, cosmetics and in the processing of natural gas.

Urethane foam, one of today's most promising cushioning materials, is produced from UNION CARBIDE polyols and is used as an insulating material in buildings, refrigerators and truck bodies.

## FIBRES

The Fibres group was established during 1966, and its products currently are UNEL nylon fibre, FIBERBOND non-woven fabric and DYNEL modacrylic fibre.

A multi-million dollar nylon plant is now in operation at Arnprior. It employs over 200 people and has a production capacity of six million pounds annually. An expansion of the plant is now underway to provide for the manufacture of nylon staple fibre. Staple fibre is utilized in the manufacture of carpets and rugs and as a reinforcing fibre in cotton and wool blends used for making blankets and work clothing.



Top: Manufacturing multi-colored polyethylene bread bags at the Company's converting plant in Vancouver, B.C.

Bottom: Ethylene oxide unit at the Company's petrochemical plant in Montreal East where many of its chemical products are produced.



Nylon represents an important diversification for the Company. Marketing efforts are being concentrated on the three major growth areas for nylon yarns and fibre — carpets, tires and apparel.

## METALS

With plants at Welland, Ontario and Beauharnois, Quebec, Union Carbide produces numerous grades and sizes of ferroalloys and metals.

At the Beauharnois plant, giant electric furnaces manufacture ferrosilicon and silicon metals. Similar furnaces at Welland produce ferromanganese and ferrochrome.

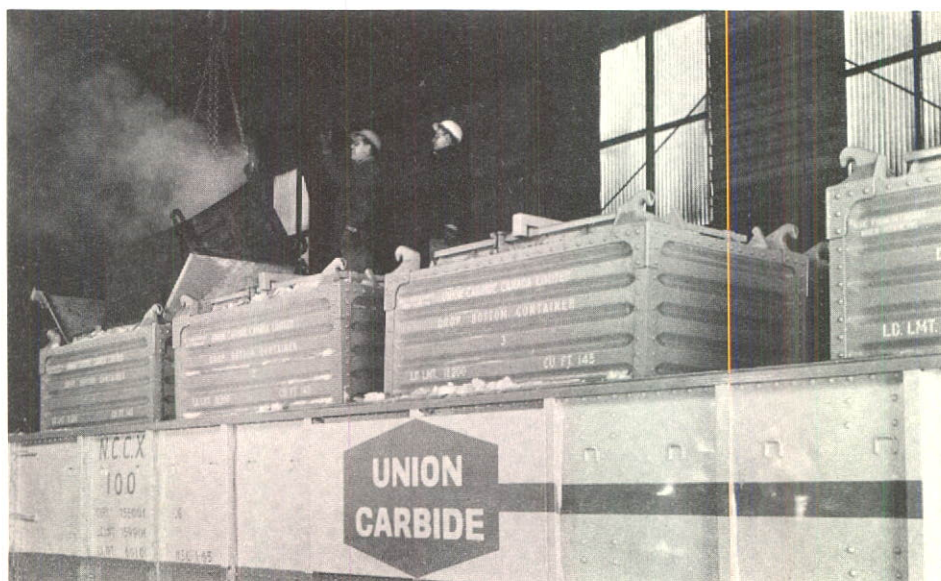
Ferromanganese and ferrosilicon are vital to the iron and steel industry. They are added to molten steel to remove impurities and impart physical properties such as strength, hardness, and special mechanical and electrical properties.

Ferrochrome is the major alloying element in the manufacture of stainless steels, and is directly responsible for the latter's attractiveness and corrosion resistance. Silicon metal is the essential alloying agent which provides strength to aluminum castings, and is also important as an alloying agent in copper.

Quartzite quarries operated at Melocheville, Quebec and Killarney, Ontario are the source of the raw materials required to produce silicon metal and various alloys of silicon.

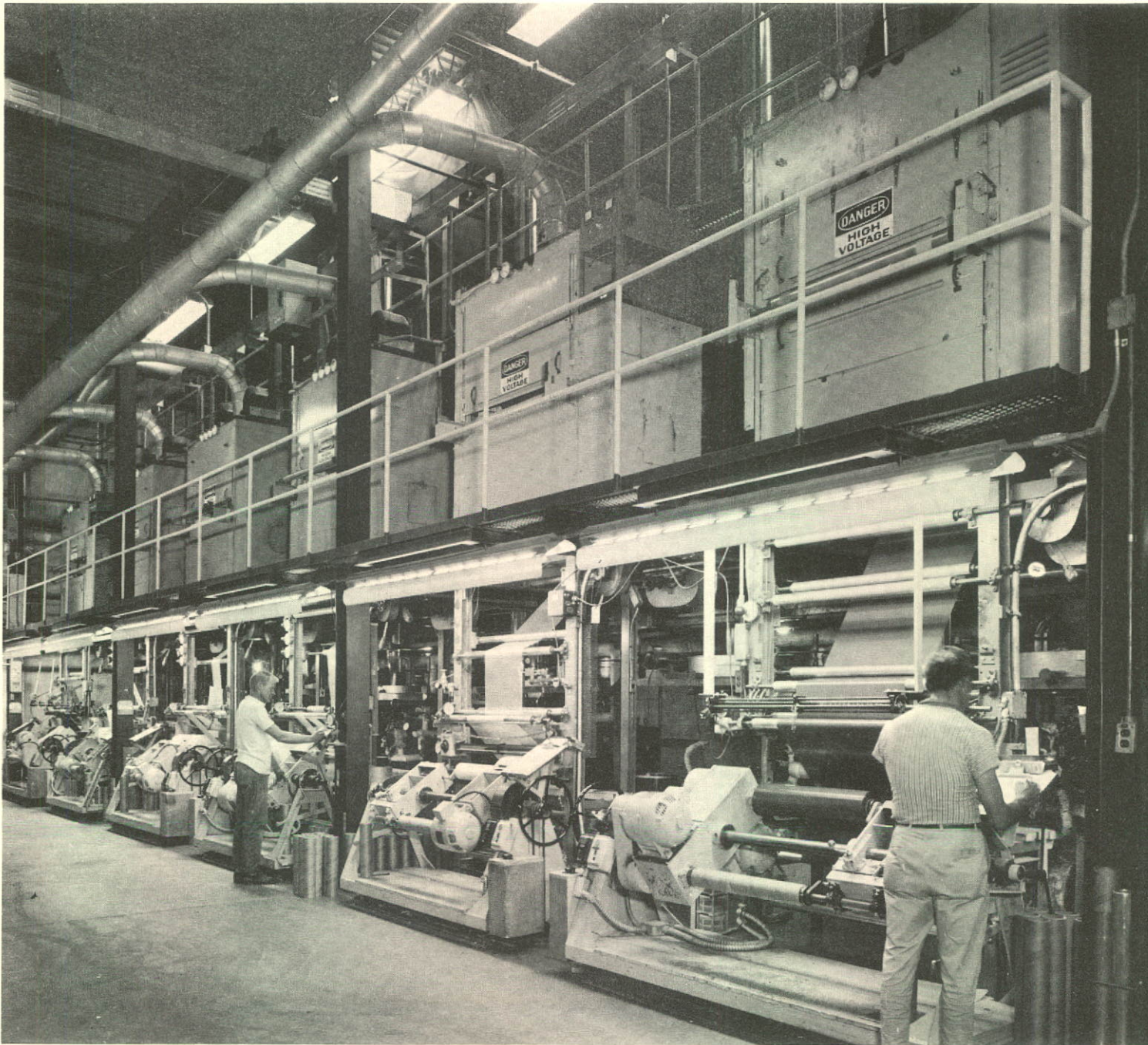
Products sold under the HASTELLOY and HAYNES trade-marks are well-known in the high temperature metals industry, where they are used in aircraft engine parts, in the chemical industry where their corrosion-resistant property is a major factor, and in the rapidly expanding gas turbine field. These highly alloyed metals are among the

Container cars used by Union Carbide for ferroalloy shipments from the Welland plant enable direct material handling from source to destination point.





Polyethylene extruding machines at the Company's extrusion-converting plant in Fort Garry, Manitoba. Five similar plants are located from coast to coast with a seventh currently being constructed in the Maritimes.







An array of consumer products  
marketed by Union Carbide  
in Canada.



fastest growing materials in the metal industry and are used in the form of fabricated sheet, rods, bars and as investment castings.

## CARBONS

The carbon plant at Welland specializes in the manufacture of carbon electrodes for the many smelters in Canada, and graphite electrodes for direct and indirect arc furnaces used in steel, iron, and non-ferrous melting plants.

This plant also produces graphite anodes which are used by the electrochemical industry in the manufacture of chlorine; cathode and sidewall blocks for aluminum smelters; carbon bricks and blocks for lining blast furnaces and smelting units, and other products used in the metallurgical and chemical industries.

Special carbon products are also manufactured by the Company for use in spectroscopy, electric welding and as brushes in electric motors and generators.

## CONSUMER PRODUCTS

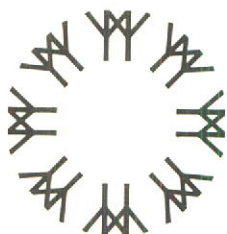
While primarily a supplier of essential materials to industry, Union Carbide is probably best recognized for its activities in the consumer field. Such famous products as EVEREADY batteries, PRESTONE anti-freeze, PRESTONE car care products, and "6-12" insect repellent share high consumer acceptance with polyethylene garbage bags and Kitchen Catchers. Other more specialized consumer products, such as SEVIN insecticide and LINDE Star Sapphires and Rubies are also well-known in their respective markets.

Company plants in Toronto, Walkerton and Montreal East manufacture the anti-freeze, flashlights and batteries, while polyethylene consumer items are fabricated at film converting plants strategically located close to major Canadian markets.

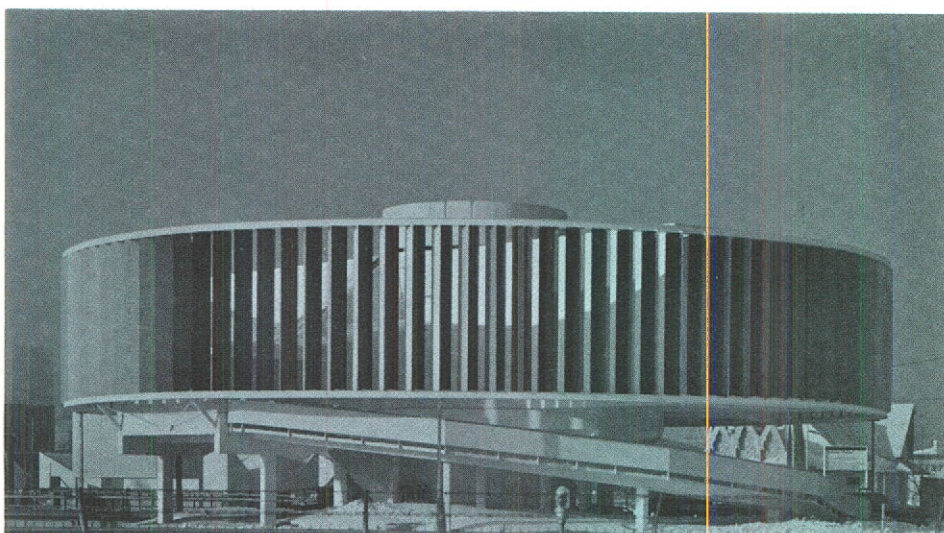
Looking to the future, recent developments in battery technology have resulted in the introduction of new forms of packaged power systems, such as silver oxide, alkaline, mercury and rechargeable nickel-cadmium, all designed to better serve the consumer. As with all Union Carbide groups, Consumer Products relies heavily on technology and customer service to ensure that the Company maintains its position as one of Canada's leading manufacturers and marketers of consumer goods.

Installing a mammoth 50" diameter carbon electrode on one of the furnaces at the Beauharnois plant. Three of these electrodes, which are manufactured at the Company's Welland plant, are used as a power conductor in the production of 75% ferrosilicon.





## KALEIDOSCOPE . . . Man and Color



One of the many spectacular attractions at EXPO 67 will be KALEIDOSCOPE, a pavilion co-sponsored by Union Carbide in collaboration with five of Canada's major chemical companies.

KALEIDOSCOPE can properly be described as a fantastic journey through an ever-changing world of color. The theme is a particularly appropriate one for the sponsoring companies since virtually all the color in our daily lives is produced through chemistry. Without it most of the colorful things around us would be a neutral gray.

This unique and original presentation was created by the Canadian firm of Morley Markson and Associates of Toronto under the direction of the University of Waterloo Institute of Design. It constitutes a fine example of academic co-operation with commerce and industry.

Union Carbide welcomes this opportunity to be represented at EXPO 67, a major event in Canada's centennial year celebrations. We invite you to be our guest for a thrilling twelve-minute adventure inside the fascinating world of color.





# PLANT AND PRODUCT SUMMARY

## GASES

**Plants** Vancouver and Vernon, British Columbia • Calgary and Edmonton, Alberta • Saskatoon, Saskatchewan • Thompson and Transcona, Manitoba • Fort William, Sault Ste. Marie, London, Welland, Oakville, Toronto and Ottawa, Ontario • Noranda, Arvida, Montreal, Montreal East, Shawinigan, Lauzon and Sept-Îles, Quebec • Saint John, New Brunswick • Halifax, Nova Scotia.

**Products** LINDE Oxygen, Nitrogen, Hydrogen, Argon and other Atmospheric Gases • Calcium Carbide and Acetylene • Welding, Cutting, Forming and Heat-Treating Apparatus • Flame-Plating Service • Steel-Conditioning Machines • Rock-Piercing and Shaping Equipment • Medical Gases, Inhalation and Suction Therapy Equipment • Distillation Trays • Cryogenic Equipment • Molecular Sieves • Electric Welding Products.

## PLASTICS

**Plants** Vancouver and North Surrey, British Columbia • Fort Garry, Manitoba • Lindsay, Orangeville, Belleville and Maple, Ontario • Cowansville and Montreal East, Quebec • Amherst, Nova Scotia.

**Products** UNION CARBIDE Phenolic Resins, Compounds and Industrial Laminates • Epoxy Resins • Phenoxo Resins • Vinyl and Styrene Co-Polymer Resins and Compounds • Polyethylene Film • Fabricated Plastic Products • Industrial Shipping Bags • Packaging Bags • VISKING Cellulose and Fibrous Food Casings.

## CHEMICALS

**Plants** Montreal East, Quebec • Belleville, Ontario.

**Products** UNION CARBIDE Organic Chemicals including Ethylene Oxide, Ethanolamines, Glycols and Glycol Ethers • Agricultural Chemicals • Silicone Chemicals, Resins, Oils and Elastomers.

## FIBRES

**Plants** Arnprior and Brampton, Ontario.

**Products** UNEL Nylon • DYNEL Modacrylic Fibre • FIBERBOND Fabric.

## METALS

**Plants** Welland, Ontario • Beauharnois, Quebec.

**Products** Ferroalloys, Alloying Metals, Pure Metals and Metal Compounds produced from the elements Boron, Calcium, Chromium, Columbium, Manganese, Silicon, Tantalum, Titanium, Tungsten, Vanadium and Zirconium • Special Alloys to resist heat, corrosion and wear.

## CARBONS

**Plants** Welland and Toronto, Ontario.

**Products** Electric Arc Furnace Electrodes • Electrolytic Cell Anodes • Furnace Linings • Electric Motor and Generator Brushes • Theatre Projector Carbons • Carbon and Graphite Products for chemical, electrical, mechanical and metallurgical applications.

## CONSUMER PRODUCTS

**Plants** Toronto and Walkerton, Ontario.

**Products** EVEREADY Flashlight, Lighting, Photoflash, Hearing Aid, Transistor and other Electronic Batteries • EVEREADY Flashlight Cases • LINDE Star Sapphires and Rubies • PRESTONE Anti-Freeze • PRESTONE Car Care Products • "6-12" Insect Repellent • Garbage Bags.

### Consolidated Operating Subsidiaries

Becker Drilling (Alberta) Ltd. and its consolidated subsidiaries;  
Dominion Viscose Products Limited;  
Union Carbide Exploration Ltd.



**Head Office**

123 Eglinton Avenue East, Toronto 12, Canada

**Transfer Agent and Registrar**

Canada Permanent Trust Company, Toronto, Halifax, Montreal, Winnipeg and Vancouver

**Stock Exchange Listings**

Montreal, Toronto and Vancouver