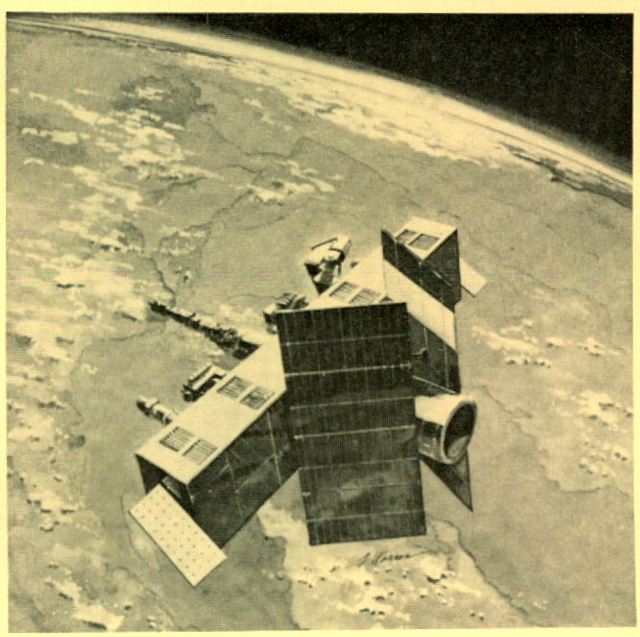
BARRINGER RESEARCH

1979 ANNUAL REPORT



BARRINGER RESEARCH INC.

ANNUAL REPORT 1979

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BARRINGER RESEARCH INC.

OFFICERS:

Dr. Anthony R. Barringer, President
Dr. D. Richard Clews, Executive Vice President
John H. Davies, Vice President
Dr. W. Timothy Meyer, Vice President
Kenneth H. Dalton, Controller
Robert J. Armstrong, Secretary

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Dr. Anthony R. Barringer
Daniel R. Bereskin
Dr. D. Richard Clews
Brandon W. Sweitzer
Roger C. Wilson

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TRADEMARKS

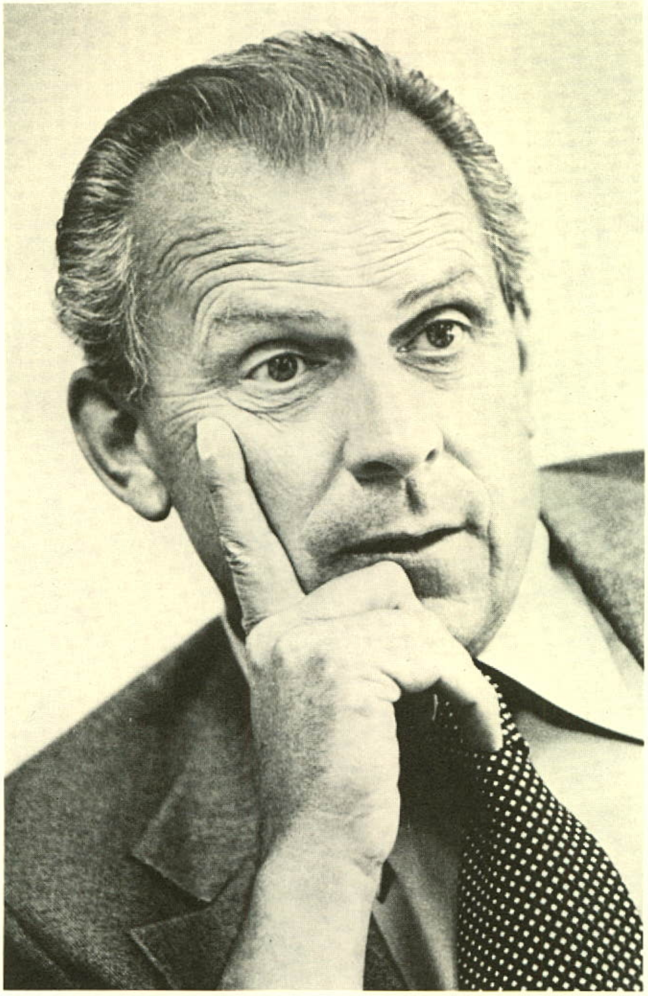
INPUT, COTRAN, COSPEC, GASPEC, RADIOPHASE, E-PHASE, AIRTRACE, SURTRACE, LASERTRACE, VAPOURTRACE are trademarks of Barringer Research

FINANCIAL HIGHLIGHTS

For the years ended December 31, 1979 and 1978

	1979	1978	Change
Total revenue	$4,956,784	$3,880,108	+ 28%
Operating income	$ 413,534	$ 177,397	+133%
Net earnings	$ 459,778	$ 161,850	+184%
Working capital	$ 909,943	$ 722,328	+ 26%
Shareholders' equity	$2,145,395	$1,669,030	+ 28%
Net earnings, as percentage of total revenues	9.3%	4.2%	+122%
Net earnings per share	25¢	9¢	+181%
Book value, per share	$2.17	$1.70	+ 28%

Barringer is again including its S.E.C. Form 10-K. This report, made annually to the Securities & Exchange Commission, provides more information than is customarily shown in formal Annual Reports. The intention is to give shareholders a more comprehensive picture of the Company's operation. To avoid repetition, the formal financial statements and auditors' opinion, which are reproduced in their traditional position following the Chairman's letter, have not been repeated in the 10-K section.



A. R. Barringer

Chairman's Letter

Dear Shareholder:

The past year has been exciting for Barringer Research and even more activity is expected in the current year. After several years of preparation, we have made our entrance into the hydrocarbon field and intend to aggressively pursue participation in oil and gas production utilizing our proprietary exploration technology. This technology, which covers both airborne and ground methods, gives us the capability of carrying out both fast reconnaissance over very large areas and detailed follow-up with a whole range of complementary methods. Much of our approach is unique and uses instrumentation and methods developed in our own laboratories that are the subject of worldwide patents, issued and pending.

Your Company also intends to acquire acreage with oil and gas potential and to develop its own hydrocarbon reserves. In order to achieve the above objectives, additional financing will be required and the Company is actively investigating various avenues including private placement and public offering of shares. Shareholders will be informed promptly of any such decisions and actions.

It was previously reported to you that Barringer Oil & Gas Ltd. had been incorporated and financed for Canadian operations. Barringer Oil and Gas Inc. has been incorporated in the U.S.A. and will operate in partnership with financial investors. Barringer Oil Limited is being incorporated in the United Kingdom and has applied for an exploration license in preparation for exploration and future financing in the British Isles.

After its traditional first quarter losses, Barringer Research finished the year strongly with record revenues ($4.96 million) and record net profits ($459,778). Working capital exceeds $900,000 and retained earnings are reported as a surplus of $208,690 compared to the deficits of previous years.

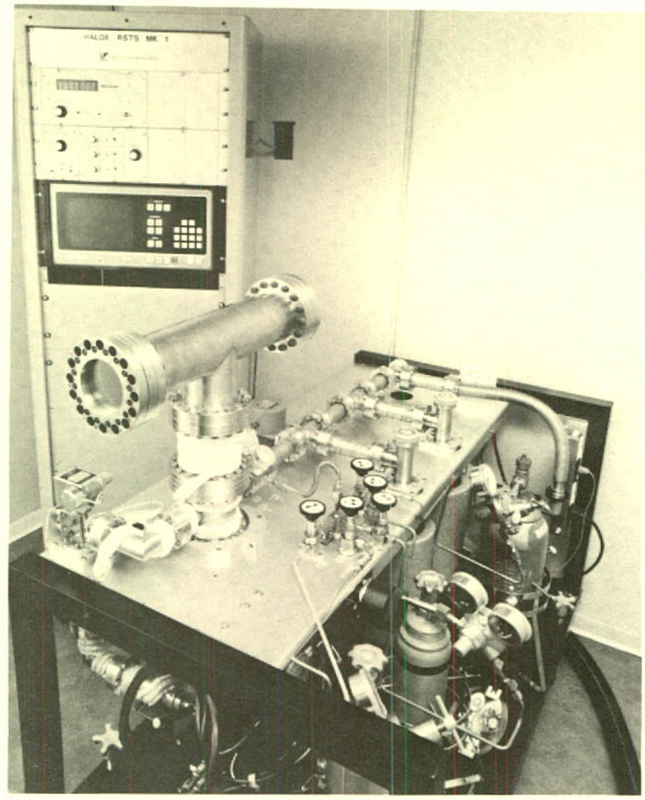
Your Board of Directors authorized a 100% stock dividend in February of this year which is expected to increase the float held by public stockholders. The enclosed proxy requests shareholders to approve an increase in authorized shares from 2 million to 10 million which will give Management more flexibility in corporate transactions.

Other highlights of the past year are the acquisition of new and larger offices and laboratories in Denver to accommodate the increase in business. Toronto has also reached its limits in the present building, calling for expansion this year.

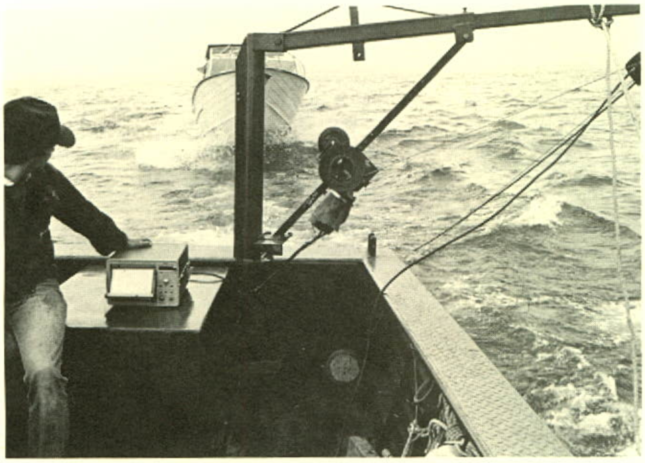
In parallel with this space expansion, manufacturing continues its vigorous growth with a 63% increase for the year 1979 and further increases are projected for the year 1980. Two successful airborne SURTRACE geochemical surveys were completed: one for the Ontario Geological Survey over the forests of Northern Ontario and the other for the Anglo-American Group over semi-arid terrain in Southern Africa. The United States Geological Survey successfully test-flew the Barringer airborne AIRTRACE geochemical system over known oil fields in the U.S.A., and additional familiarization flights are currently underway prior to the commencement of production operations. The Canadian government is funding test flights of the Barringer airborne COTRAN electromagnetic system over uranium deposits in Saskatchewan in 1980 and thereafter tests over base metal deposits will be conducted in the U.S.A.

A.R. Barringer

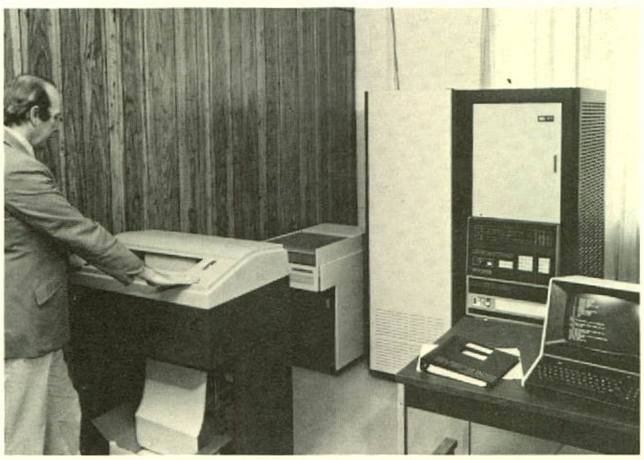
A.R. Barringer



Ground test support equipment built for NASA/TRW Halogen Occulation Experiment scheduled to fly in the earth radiation budget satellite.

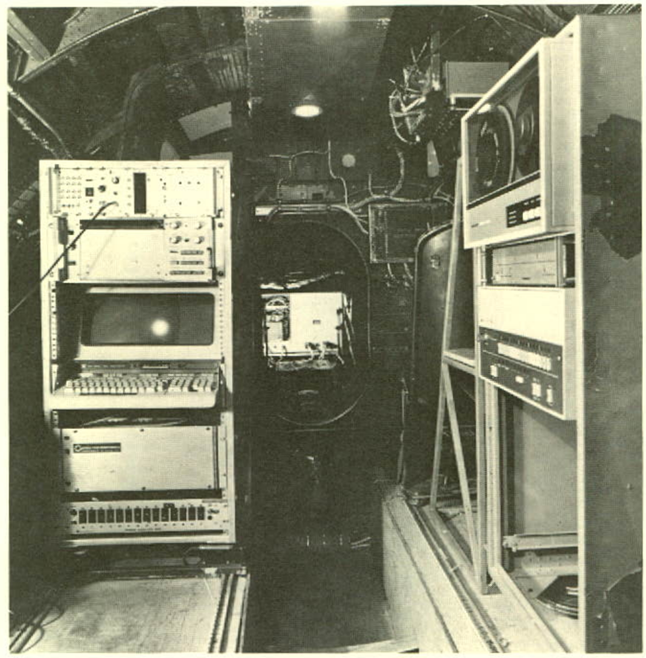


Shallow marine magnetometer on survey in Lake Ontario.



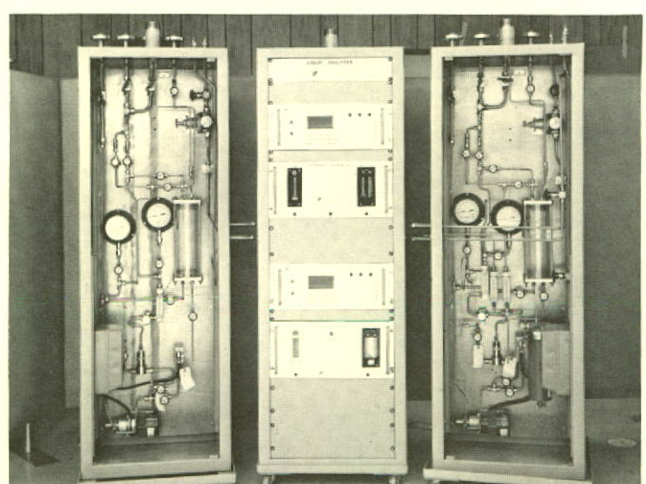
In-house data processing featuring a 32 bit SEL mini-computer.

Sampling for oil in Colorado.



COTRAN installation in PBY aircraft.

Micro-layer sampling in Utah.



Heavy water liquid analyser designed for nuclear power plants.

Barringer Research Inc.

CONSOLIDATED BALANCE SHEETS

As at December 31, 1979 and 1978

ASSETS

	1979	1978
Current Assets		
Cash	$ 19,486	$ 6,575
Accounts receivable (note 6) –		
Trade, less allowance for doubtful accounts, 1979 – $15,632, 1978 – $22,752 (schedule XII)	1,033,375	710,173
Affiliated companies (note 16)	112,536	–
Inventories (note 4)	729,558	514,496
Deposits, advances and prepaid expenses	33,482	35,304
	1,928,437	1,266,548
Investments	32,742	45,647
Fixed assets – at cost (note 5 & schedule V)	2,519,024	2,061,502
Less: Accumulated depreciation and amortization (schedule VI)	1,558,647	1,376,529
	960,377	684,973
Assets under capital leases (note 8)	201,774	–
Less: Accumulated amortization	7,631	–
	194,143	–
Patents and trademarks – at cost (note 1(d) & schedule VII)	250,055	233,878
Less: Accumulated amortization (schedule VIII)	70,329	60,176
	179,726	173,702
Other assets		
Cash surrender value of life insurance policies	50,580	42,380
	$3,346,005	$2,213,250

LIABILITIES

	1979	1978
Current liabilities		
Bank indebtedness (note 6)	$ 422,407	$ 212,099
Current portion of long-term loan	41,667	–
Current portion of obligations under capital leases	55,993	–
Accounts payable	349,936	187,223
Accrued liabilities	93,582	95,647
Excess of billings over selling price of contracts in progress	54,909	49,251
	1,018,494	544,220
Long-term liabilities		
Long-term loan, less current portion (note 7)	69,444	–
Obligations under capital leases less current portion (note 8)	112,672	–
	1,200,610	544,220

SHAREHOLDERS' EQUITY

Common stock (notes 9 and 10)		
Authorized –		
2,000,000 shares of common stock of 1¢ par value each		
Issued and fully paid –		
988,400 shares (1978 – 984,400 shares) (note 17)	9,884	9,844
Paid-in surplus (note 9)	2,034,934	2,029,974
Retained earnings (Deficit)	208,690	(251,088)
	2,253,508	1,788,730
Less: Common stock in treasury – at cost, 98,600 shares	20,421	20,421
Due from shareholder (note 15)	79,000	79,000
Deferred compensation (note 15)	8,692	20,279
	108,113	119,700
	2,145,395	1,669,030
	$3,346,005	$2,213,250

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

Barringer Research Inc.

CONSOLIDATED STATEMENTS OF EARNINGS AND RETAINED EARNINGS (DEFICIT)

For the years ended December 31, 1979 and 1978

	1979	1978
Revenue (note 16)	$4,956,784	$3,880,108
Cost and expenses		
Cost of goods sold (including royalties of $49,214; 1978 – $38,820)	3,232,135	2,449,771
General and administrative	946,029	857,160
Research and development	365,086	395,780
	4,543,250	3,702,711
Operating income	413,534	177,397
Other expenses (income)		
Gain on disposal of subsidiary company	–	(16,865)
Interest –		
Long-term loan	5,734	5,406
Other – net	47,842	511
Other	(99,820)	26,495
	(46,244)	15,547
Earnings before income taxes and extraordinary item	459,778	161,850
Income tax provision	308,000	125,000
Earnings before extraordinary item	151,778	36,850
Extraordinary item		
Benefit of tax losses and timing differences brought forward (note 11)	308,000	125,000
Net earnings for the year	459,778	161,850
Deficit – beginning of year	(251,088)	(412,938)
Retained earnings (deficit) – end of year	$ 208,690	$ (251,088)

Weighted average number of shares outstanding (notes 14 & 17)	1,812,034	1,792,868
Earnings per share (notes 14 & 17)		
Earnings before extraordinary item	$0.08	$0.02
Extraordinary item	$0.17	$0.07
Net earnings for the year	$0.25	$0.09

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

Barringer Research Inc.

CONSOLIDATED STATEMENTS OF CHANGES IN FINANCIAL POSITION

For the years ended December 31, 1979 and 1978

	1979	1978
Funds provided		
From operations –		
Earnings before extraordinary item	$ 151,778	$ 36,850
Items not involving funds –		
Benefit of tax losses and timing differences brought forward	308,000	125,000
Depreciation and amortization	214,617	156,880
Amortization of deferred compensation (note 15)	11,587	11,587
Gain on sale of fixed assets	(8,236)	–
Gain on sale of investments	(9,994)	–
	667,752	330,317
Issue of shares of common stock	5,000	5,000
Net financing on capital leases	112,672	–
Net proceeds on disposals of fixed assets	14,668	–
Net proceeds on sale of investments	22,899	–
Net proceeds from long-term loan issue	125,000	–
	947,991	335,317
Funds applied		
Investments	–	301
Acquisition of leased property under capital leases	201,774	–
Reduction in long-term loan	55,556	–
Additions to patents and trademarks	16,177	19,117
Purchases of fixed assets	478,669	430,684
Increase in cash surrender value of life insurance	8,200	5,583
	760,376	455,685
Increase (Decrease) in funds	$ 187,615	$ (120,368)
Changes in components of working capital		
Working capital – beginning of year	$ 722,328	$ 842,696
Increase (decrease) in cash	12,911	(28,810)
Increase in inventories	215,062	140,890
Increase (decrease) in receivables	435,738	(37,077)
(Decrease) in other current assets	(1,822)	(19,253)
(Increase) in bank indebtedness	(210,308)	(212,099)
(Increase) decrease in other current liabilities	(166,306)	35,981
(Increase) in current portion of long-term debt	(97,660)	–
Increase (Decrease) in working capital	187,615	(120,368)
Working capital – end of year	$ 909,943	$ 722,328
Funds represented by:		
Current assets	$1,928,437	$1,266,548
Current liabilities	1,018,494	544,220
	$ 909,943	$ 722,328

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 1979 and 1978

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Principles of consolidation

The accompanying consolidated financial statements comprise the accounts of the company and its active subsidiary companies. All intercompany transactions have been eliminated.

(b) Principles of translation

The accounts of the foreign subsidiaries have been translated into United States dollars on the following bases:

(i) Income and expenses (other than depreciation and amortization) – at the average rate for the year.

(ii) Depreciation and amortization – at historic rates applicable to the related asset accounts.

(iii) Current assets and liabilities – at year-end rates.

(iv) Other assets – at historic rates.

(v) Other liabilities – at year-end rates.

A gain on translation of $79,865 (1978 (loss) – $26,495) has been reflected in earnings.

(c) Inventory policies and depreciation

See notes 4 and 5 respectively.

(d) Amortization of intangibles

Patents and trademarks are amortized over seventeen years which approximates their useful lives. Amortization amounted to $10,153 in 1979 (1978 – $9,474).

(e) Maintenance and repairs

Maintenance and repairs of $54,628 (1978 – $78,082) were charged to expense as incurred; renewals and betterments are capitalized, with adjustment made for the cost of property retired and replaced less accumulated depreciation and salvage recovered.

2. FOREIGN OPERATIONS

Amounts relating to foreign operations included in the consolidated financial statements are as follows:

	1979	1978
Working capital	$ 787,834	$ 651,407
Investments	22,742	35,647
Fixed assets	617,314	560,765
Assets under capital leases	151,222	–
Other assets	230,306	216,082
Net foreign assets	$1,809,418	$1,463,901
Net earnings from foreign operations	$ 653,289	$ 309,357

The company's net foreign assets are primarily located in Canada.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

3. INFORMATION CONCERNING THE COMPANY'S PRINCIPAL ACTIVITIES

The company engages in two principal activities as disclosed in item 1(c) of Form 10-K which accompanies these financial statements.

A summary of the company's operations by principal activity for the year ended December 31, 1979 follows:

Principal activity	Revenues	Operating income	Identifiable assets	Depreciation and amortization expense	Capital expenditures
Reasearch, development and instrument manufacture	$1,641,054	$ 130,403	$1,022,399	$ 28,691	$ 96,506
Exploration ventures, analytical services and licensing	3,315,730	283,131	2,187,316	175,773	382,163
General corporate	—	—	136,290	10,153	—
Consolidated totals	$4,956,784	$ 413,534	$3,346,005	$ 214,617	$ 478,669

A summary of the company's operations by principal activity for the year ended December 31, 1978 follows:

Principal activity	Revenues	Operating income (loss)	Identifiable assets	Depreciation and amortization expense	Capital expenditures
Research, development and instrument manufacture	$1,511,027	$ 197,751	$ 829,783	$ 23,470	$ 261,014
Exploration ventures, analytical services and licensing	2,369,081	(20,354)	1,253,561	123,936	169,670
General corporate	—	—	129,906	9,474	—
Consolidated totals	$3,880,108	$ 177,397	$2,213,250	$ 156,880	$ 430,684

A summary of the company's operations by principal activity for the year ended December 31, 1977 follows:

Principal activity	Revenues	Operating income	Identifiable assets	Depreciation and amortization expense	Capital expenditures
Research, development and instrument manufacture	$1,236,988	$ 36,778	$ 611,039	$ 29,848	$ 22,312
Exploration ventures, analytical services and licensing	2,169,751	77,479	1,075,571	117,528	148,793
General corporate	—	—	172,085	9,606	—
Consolidated totals	$3,406,739	$ 114,257	$1,858,695	$ 156,982	$ 171,105

Identifiable assets are those assets used in the operations of each activity. General corporate assets are cash, prepaid expenses, investments and other assets.

3. INFORMATION CONCERNING THE COMPANY'S PRINCIPAL ACTIVITIES (continued)

A summary of the company's operations by geographic areas for the year ended December 31, 1979 follows:

Geographic area	Revenues	Transfers between areas	Total revenues	Operating income	Identifiable assets
United States	$1,334,126	$ (27,059)	$1,307,067	$ 10,372	$ 908,128
Canada	3,622,658	(546,216)	3,076,442	359,063	2,437,877
Europe	–	219,180	219,180	18,651	–
Other	–	354,095	354,095	25,448	–
Consolidated totals	$4,956,784	$ –	$4,956,784	$ 413,534	$3,346,005

A summary of the company's operations by geographic areas for the year ended December 31, 1978 follows:

Geographic area	Revenues	Transfers between areas	Total revenues	Operating income (loss)	Identifiable assets
United States	$ 660,129	$ 430,545	$1,090,674	$ (74,746)	$ 253,003
Canada	3,219,979	(814,103)	2,405,876	222,453	1,960,247
Europe	–	205,315	205,315	18,064	–
Other	–	178,243	178,243	11,626	–
Consolidated totals	$3,880,108	$ –	$3,880,108	$ 177,397	$2,213,250

A summary of the company's operations by geographic areas for the year ended December 31, 1977 follows:

Geographic Area	Revenues	Transfers between areas	Total revenues	Operating income (loss)	Identifiable assets
United States	$ 345,351	$ 310,887	$ 656,238	$ (80,085)	$ 159,770
Canada	3,061,388	(693,473)	2,367,915	170,665	1,662,128
Europe	–	240,132	240,132	17,273	–
Other	–	142,454	142,454	6,404	–
Consolidated Totals	$3,406,739	$ –	$3,406,739	$ 114,257	$1,821,898

4. INVENTORIES

The major categories of inventories are as follows:

	1979	1978
Finished goods	$ 76,064	$ 94,981
Work in progress	126,372	76,086
Materials and supplies	35,857	42,737
Selling price of contracts in progress, less billings	491,265	300,692
	$ 729,558	$ 514,496

Finished goods and work in progress inventories are stated at the lower of average cost and net realizable value. Materials and supplies are stated at their actual cost. The percentage-of-completion method of accruing profit on fixed price contracts in progress is used, with anticipated losses being provided for in full.

5. FIXED ASSETS

The major categories of fixed assets are as follows:

	1979	1978
Office furniture and equipment	$ 189,679	$ 156,838
Plant, machinery and exploration equipment	1,374,505	1,181,961
Equipment for lease	647,273	559,800
Leasehold improvements	307,567	162,903
	2,519,024	2,061,502
Accumulated depreciation and amortization	1,558,647	1,376,529
Net book value	$ 960,377	$ 684,973

Depreciation is provided on the straight-line basis over the estimated useful lives of the assets, principally four to ten years. Leasehold improvements are being amortized over the terms of the company's leases principally five to twenty years. Depreciation and amortization for the year amounted to $196,833 (1978 – $147,406).

6. BANK INDEBTEDNESS

The bank indebtedness is collateralized by a general assignment of accounts receivable and a floating charge debenture on all the assets of the company.

The weighted average interest rate during the year was 13.8% (1978 – 8.6%) calculated by dividing the interest paid by the average borrowings. At year-end, the average interest rate was 16.9% (1978 – 10.6%). The maximum and average short-term borrowings outstanding during the year were $782,763 (1978 – $239,441) and $386,996 (1978 – $49,353) respectively.

7. LONG-TERM LOAN

Unsecured loan bearing interest at a rate of 2% above the Central Bank of Denver base rate floating, maturing on August 10, 1982:

Amount owing – December 31, 1979	$ 111,111
Current portion	(41,667)
	$ 69,444

8. LEASED PROPERTY UNDER CAPITAL LEASES

The categories of leased property under capital leases are as follows:

	1979	1978
At cost –		
Office equipment	$ 35,033	Nil
Plant and machinery	166,741	
	201,774	
Accumulated amortization	7,631	
	$ 194,143	Nil

Amortization is provided on the straight-line basis over the assets' estimated useful lives, five to ten years. Amortization for the year amounted to $7,631.

Future minimum lease payments under capital leases are as follows:

Year ending December 31,	1980	$ 76,139
	1981	37,890
	1982	37,890
	1983	36,631
	1984	31,308
Minimum lease payments		219,858
Less: Amount representing interest		51,193
Present value of minimum lease payments – December 31, 1979		$ 168,665

9. COMMON STOCK AND PAID-IN SURPLUS

	Common stock		Paid-in surplus	
	1979	1978	1979	1978
Balance – beginning of year	$9,844	$9,794	$2,029,974	$2,025,024
8,000 shares (1978 – 10,000 shares) issued to an employee of the company on exercise of an option for a consideration of $5,000 (1978 – $5,000)	40	50	4,960	4,950
Balance – end of year	$9,884	$9,844	$2,034,934	$2,029,974

Shares of common stock reserved for issuance are as follows:

	1979	1978
For stock options –		
Options outstanding and exercisable	124,400	115,800
Available for granting future options	138,800	155,400
	263,200	271,200

(refer to note 17)

10. STOCK OPTIONS

(a) 1968 and 1970 qualified stock option plan

In 1968 and 1970 the company adopted qualified stock option plans each covering 60,000 shares of common stock of the company. Options may be granted to directors, officers and other key employees of the company or its subsidiaries at a price not less than the market value of the common stock at the time of the grant of the option. Each option is exercisable two years from the date of the grant, provided the optionee continues as a director or remains in the employ of the company or a subsidiary, and expires five years from the date of the grant. No optionee may exercise an option while there is any other outstanding stock option previously granted to the optionee. No options were outstanding at December 31, 1979 and 1978.

(b) 1972 unqualified stock option plan

In 1972 the company adopted an unqualified stock option plan covering 190,000 shares of common stock of the company. Options may be granted to directors, officers and other key employees of the company or its subsidiaries at a price not less than the market value of the common stock at the time of grant of the option. These options are exercisable at varying times from date of grant, provided the optionee continues as a director or remains in the employ of the company or subsidiary, and expire five years from the date of the grant. The company has first right of refusal to reacquire shares purchased under this option plan at a formula price equivalent to 75% of quoted value of the shares. Information with respect to this stock option plan is summarized as follows:

	Shares	Amount
Options granted subsequent to 1972 and outstanding and exercisable at December 31, 1977 ($0.50 per share)	76,000	$ 38,000
Changes during 1978 –		
Options granted at market value ($0.625 to $0.75 per share)	65,600	48,950
Options exercised ($0.50 per share; market value $0.875)	(10,000)	(5,000)
Options cancelled and expired	(39,800)	(20,400)
Options outstanding (of which 79,800 were exercisable) at December 31, 1978 ($0.50 to $0.75 per share)	91,800	61,550
Changes during 1979 –		
Options granted at market value ($1.00 to $1.125 per share)	16,000	17,500
Options exercised ($0.50 to $0.75 per share; market value $1.18)	(8,000)	(5,000)
Options cancelled and expired	(19,400)	(14,450)
Options outstanding (of which 55,400 were exercisable) at December 31, 1979 ($0.50 to $1.125 per share)	80,400	$ 59,600

(c) Other stock options

The company also grants stock options to consultants as authorized by the Board of Directors from shares available under existing plans. These options were exercisable at varying times from date of grant and expire five years from date of grant.

	Shares	Amount
Options outstanding and exercisable at December 31, 1977 ($1.25 per share)	20,000	$ 25,000
Changes during 1978 –		
Options granted at market value ($0.685 per share)	4,000	2,750
Options outstanding and exercisable at December 31, 1978 ($0.685 to $1.25 per share)	24,000	27,750
Changes during 1979 –		
Options granted at market value ($1.125 per share)	20,000	22,500
Options outstanding and exercisable at December 31, 1979 ($0.685 to $1.25 per share)	44,000	$ 50,250

The number of shares and market values shown in the above note reflect the stock-split referred to in note 17.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (continued)

11. INCOME TAXES

(a) Canadian income taxes

As at December 31, 1979, the Canadian subsidiaries have recorded in the accounts depreciation and amortization and other miscellaneous write-offs totalling $620,000 (1978 – $160,000) in excess of that claimed for tax purposes.

A subsidiary has certain timing differences arising from exploration expenditures that are available to reduce taxable income in future years. The amount of these expenses is approximately $477,000 (1978 – $1,022,000).

(b) U.S. income taxes

There are no U.S. income taxes payable as at December 31, 1979 or 1978. The company has losses for income tax purposes of approximately $425,000 (1978 – $312,000) that can be used to reduce taxable U.S. income in future years. These losses will expire from 1983 to 1986.

(c) Tax rate on earnings

The 1979 and 1978 provisions calculated to rates of 67% and 77% respectively on earnings before income taxes. The rate of provision is significantly greater than the normal U.S. federal tax rate of 46% (1978 – 48%) because the company's foreign operations earned profits on which Canadian taxes would have otherwise been payable had there been no benefit from the use of certain timing differences to reduce taxable income to nil (refer to note 11(a)).

12. COMMITMENTS AND CONTINGENT LIABILITIES

(a) Contingent liabilities

(i) A subsidiary has an obligation to repay the Canadian government $113,460 for funding the development of certain instruments based on a fixed rate per unit sold. A total of $15,263 (1978 – $14,268) has been repaid to date.

(ii) An action has commenced against a subsidiary for damages for wrongful dismissal, or for damages for breach of contract of employment. It is not possible to give an estimate of the amount for which this action may be settled. The subsidiary made a payment at the time of question which it feels covers very reasonably any damages suffered by the other party. The company intends to defend this action vigorously.

(iii) A subsidiary and a third party have entered into an agreement relating to the development of one of its new exploration systems. In return for current funding, the company has undertaken to further develop this system and lease it to an airborne survey company when operational. The third party shall receive a share of the company's license fees from the system.

To date the company has received $196,406 of which $66,406 was taken into income in 1979 and $130,000 in 1978 to partially meet the funding to date of the development work on the system.

The terms of the agreement provide that under certain circumstances the company has the option of treating as a loan (to be repaid at the rate of $85,000 per annum) any such funds received up to a maximum of $420,000 in consideration for the cancellation of the licensing agreement and the return of any payments made thereunder.

(iv) In December 1979 a Canadian subsidiary acquired 50% of a Calgary based Alberta corporation, Barringer Oil and Gas Ltd.

For its services to this company, Barringer is to be paid its normal commercial rates for all work done. In addition, a fee in the amount of $675,000 is to be paid directly to the Company by the other investors in installments over a two year period.

Barringer Oil and Gas Ltd. is entitled to a 25% free carried interest in each prospect up to the casing stage. In addition, Barringer Research may acquire interests in prospects with third parties.

Similarly, a partnership has been formed and financed in the United States between financial investors and Barringer Oil and Gas Inc., a wholly owned subsidiary.

(b) Rental expense and lease commitments

(i) Rental and lease expenses for the year amounted to $91,483 (1978 – $93,110).

(ii) The aggregate minimum lease commitments for all operating leases on rented premises over the next five years is $545,270 and is payable as follows:
1980 – $126,540; 1981 – $122,415; 1982 – $118,290; 1983 – $112,315; 1984 – $65,710. Thereafter the aggregate lease commitment for the remaining three years of the leases to 1987 is $13,710.

(iii) The aggregate lease commitment on equipment and automobile rentals over the next 3 years is $149,760.

13. PENSION PLANS

In 1972, a subsidiary converted its insured pension plan for senior employees to a plan that provides retirement benefits for any employee, equal to 2% of annual salary for each year of employment under the plan. The aggregate cost of the plan was $20,141 in 1979 (1978 – $27,868). Pension costs are funded, and there was no unfunded liability as at December 31, 1979.

14. EARNINGS PER SHARE

Earnings per share are based on the weighted average number of shares outstanding, with shares issuable upon exercise of options, where applicable, during a year being included using the treasury stock method (refer to note 17).

15. DUE FROM OFFICER/SHAREHOLDER

The deferred compensation of $8,692 represents the unamortized portion of compensation computed as the difference between the quoted market price of unregistered shares issued to an officer/shareholder and the fair market value determined by the Board of Directors including discounting of the related promissory note at an imputed interest rate of 8½% rather than the 4% indicated rate.

The total amount of deferred compensation of $60,830 so determined is being amortized over the term of the shareholder's employment agreement. The amortization in each of 1979 and 1978 was $11,587.

16. RELATED PARTY TRANSACTIONS

The company included in earnings, revenue of $112,536 (1978 – nil) from Barringer Oil and Gas Ltd. which is owned 50% by Barringer Magenta Limited and from the U.S. partnership which is owned 50% by Barringer Oil and Gas Inc.

17. SUBSEQUENT EVENT

Subsequent to December 31, 1979 the corporation declared a stock-split effected in the form of a dividend upon the common stock of the corporation to stockholders of record at the close of business on February 25, 1980 at the rate of one share for each share so held of record.

The number of shares pertaining to common stock, stock option plans, and the calculation of earnings per share have been restated to give effect to the above mentioned stock split.

The company also intends to increase the authorized common shares from two million to ten million in 1980. Management considers that such increase will provide more flexibility in future corporate transactions.

18. COMPARATIVE FIGURES

The figures for 1978 have been reclassified from those previously reported on to conform to the 1979 presentation.

OPINION OF THE INDEPENDENT PUBLIC ACCOUNTANTS

COOPERS & LYBRAND

CHARTERED ACCOUNTANTS

OFFICES THROUGHOUT CANADA
AND IN PRINCIPAL AREAS
OF THE WORLD

TELEPHONE (416) 869-1130
CABLES COLYBRAND
TELEX 06-23590
145 KING STREET WEST
TORONTO, ONTARIO, CANADA M5H 1V8

To the Shareholders,
Barringer Research Inc.

We have examined the consolidated balance sheets of Barringer Research Inc. as at December 31, 1979 and 1978 and the related consolidated statements of earnings and retained earnings (deficit) and changes in financial position for the years then ended and the supporting schedules. Our examinations were 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.

In our opinion, the consolidated financial statements referred to above present fairly the financial position of Barringer Research Inc. as at December 31, 1979 and 1978 and the results of its operations and the changes in its financial position for the years then ended and the supporting schedules present fairly the information required to be set forth therein, all in conformity with generally accepted accounting principles applied on a consistent basis.

Coopers & Lybrand

CHARTERED ACCOUNTANTS

Toronto, Ontario, Canada,
February 29, 1980.

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

Form 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15 (d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 1979 **Commission File No. 0-3207**

Barringer Research Inc.

(Exact name of registrant as specified in its charter)

Delaware	**84–072–0473**
(State or other jurisdiction of incorporation of organization)	*(IRS Employer Identification Number)*

Barringer Research Limited

(Exact name of registrant as specified in its charter)

Ontario, Canada	–
(State or other jurisdiction of incorporation or organization)	*(IRS Employer Identification Number)*
304 Carlingview Drive, Metropolitan Toronto, Rexdale, Ontario, Canada	**M9W 5G2**
(Address of principal executive offices)	*(Postal Code)*

Registrant's telephone number, including area code: (416) 675-3870

Securities registered pursuant to Section 12 (b) of the Act:

NONE

Securities registered pursuant to Section 12 (g) of the Act:

Common Stock, $ .01 par value, Barringer Research Inc.

(Title of Class)

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

Number of shares outstanding as of December 31, 1979 – 988,400 of Common Stock $.01 par value.

This Form 10-K Report has not been approved or disapproved by the Securities and Exchange Commission nor has the Commission passed on the accuracy or adequacy of the data included herein.

BARRINGER RESEARCH INC.
FORM 10-K

PART I

ITEM 1. DESCRIPTION OF BUSINESS

(a) DEVELOPMENT OF BUSINESS SINCE JANUARY 1, 1979

In December 1979, Barringer formed a Calgary based Alberta Corporation, Barringer Oil and Gas Ltd. which is owned 50 percent by Barringer Magenta Limited, a wholly-owned subsidiary, and 50 percent by Cavendish Investing Ltd. and Kenaco Commercial Services Ltd.

Barringer Oil and Gas Inc. has been incorporated in Colorado and will operate in partnership with the same investors.

(b) (d) Reference is made to note 3 of the accompanying financial statements.

(c) NARRATIVE DESCRIPTION OF BUSINESS

Barringer Research Inc., a Delaware Corporation (the "Registrant"), through its Denver operation and its wholly-owned subsidiaries Barringer Research Limited and Barringer Magenta Limited, Ontario Corporations, engages in two principal activities:

(1) Research, Development, and Instrument Manufacture: (2) Exploration Ventures, Analytical Services, and Licensing of Patented Proprietary Products.

(1) RESEARCH, DEVELOPMENT AND INSTRUMENT MANUFACTURE

Barringer's Research and Development (R & D) operation comprises a staff of professional scientists and engineers plus technologists and technicians that undertakes R & D work for industrial and government agency clients in the following disciplines: (i) electro-optics; (ii) electromagnetics; (iii) magnetics; and (iv) atmospheric physics. Barringer's R & D policy is to undertake projects and programs that can lead to patented or proprietary commercial products and services. Generally such projects include design engineering and construction of prototype instruments and systems. Under the protection of Barringer patents and know-how a portion of the Company's 1979 R & D work was carried out with funding from major mining and oil companies.

In manufacturing Barringer has the ability to produce large and small runs of instruments as well as one-off speciality items. The manufacturing facilities include a drawing office, model shop and quality control department. The steady growth and profitability of the companies' commercial instrument sales reflects a sound policy for innovative engineering and high quality workmanship in the manufacturing facilities of the company. Barringer sells these instruments directly from its Toronto and Denver facilities and also has agency agreements with various representatives to sell the instruments in Japan, Asia, United Kingdom, and various European countries.

From its R & D projects Barringer has developed instruments, instrument systems and techniques in the fields of: (a) airborne exploration, (b) ground exploration (c) environmental monitoring and process control, and (d) metal detection devices.

(a) Airborne Exploration Systems

(i) **INPUT:** In 1961 Barringer began as a company with the scientific and commercial success of an R & D effort, the airborne electromagnetic INduced PUlse Transient technique (INPUT).

During 1979 refinements continued to be made to improve the operational status of the INPUT system.

(ii) **COTRAN:** During 1979, development of COTRAN, an advanced airborne electromagnetic system based on COrrelation TRANsients waveform matching continued. This system is a proprietary patented system. Advanced flight testing continued over various targets. Flight tests for the Canadian Geological Survey are planned for early 1980 and preparation for this survey started in December. This program will take place over the Athabasca deep-seated Uranium deposits in Canada.

(iii) **AIRTRACE:** In 1972 Barringer began active field testing of a new patented and proprietary geochemical exploration system – AIRTRACE. During 1973 and 1974 Barringer entered into agreements establishing three airborne exploration survey companies licensed to operate the AIRTRACE system. These companies and their locations are: Barringer Surveys Limited (BSL), Johannesburg; Minsearch Surveys Limited (Minsearch), Toronto; and Barringer Hydrocarbons Limited (BHL); Toronto, Canada.

BSL incorporated in April 1973 in partnership with Gold Fields of South Africa. Barringer holds a 22 percent interest in BSL, which was granted an exclusive license to use Barringer's AIRTRACE airborne geochemical prospecting system in Southern Africa for mineral and hydrocarbon exploration.

Minsearch Surveys Limited was incorporated in February 1974 in partnership with members of the Anglo American Group of Companies. Minsearch was granted a worldwide exclusive license for the commercial exploitation of AIRTRACE, except for Southern Africa.

Barringer also formed a joint company – Barringer Hydrocarbons Limited – with the same Anglo American companies. BHL was granted a license to use the AIRTRACE system for hydrocarbon and geothermal resource exploration.

In December 1978 Minsearch and BHL were merged into a single corporate entity (Minsearch) in which Barringer owns 25,960 Class B shares.

In an agreement made in 1979 the merged corporation, Minsearch, granted to Barringer for a term of five years (expiry date June 30, 1984) an exclusive, royalty-free, world-wide, non-transferable licence to use the AIRTRACE System for mineral and hydrocarbon exploration. The exclusive licence is subject only to the Anglo American Group of Companies rights to use the AIRTRACE System for their own exploration purposes. Barringer granted the Anglo Group a non-exclusive licence to use the SURTRACE System (see 1(a) (iv) below) for their own exploration purposes only. Provision was also made for the Anglo Group to participate (up to a maximum of 30 percent) in the commercial exploitation of the LASERTRACE analytical system if LASERTRACE instruments and/or services are sold.

In late 1979 engineering work began to prepare a hydrocarbon AIRTRACE system for flight tests in early 1980 by the United States Geological Survey, Flagstaff, Arizona.

(iv) **SURTRACE:** This is a surficial geochemical sampling technique that can be deployed from low-flying helicopters as well as on the ground with a back-pack model. In 1979 Barringer continued development of this technique for operations in forested and semi-arid terrains. In the Summer two test areas were surveyed in forested areas of Northern Ontario for the Ontario Geological Survey. In the Fall of 1979 a substantial field program was undertaken in arid areas of Southern Africa.

(b) Ground Exploration

(i) SURTRACE surface microlayer back-pack surveys were undertaken during 1979 for mining and oil companies. The technique provides ground truth quite similar to that obtained indirectly by AIRTRACE and closely replicates the airborne SURTRACE results. Several programs were undertaken in Western Canada and the United States. Lightweight trail bikes were successfully used to achieve rapid ground coverage over difficult terrain.

(ii) Geophysical instruments: The M-123 magnetometer was first marketed in 1975 for airborne, oceanographic and ground applications and sales continued during 1979. Sales of the GM122 ground portable magnetometer were also made during the year.

(c) Environmental Monitoring/Process Control

(i) Electro-optical techniques for air pollution monitoring include the SO_2/NO_2 COrrelation SPECtrometers designated COSPEC II and III and a higher sensitivity unit, the single gas COSPEC IV. Barringer originally developed correlation spectrometric techniques in the ultra-violet for application in remote sensing of gases in earth resource exploration. In 1967 the company recognized the air pollution monitoring applications of this technique and began producing an instrument line – the COSPEC series – designed to measure SO_2 and/or NO_2 continuously in the atmosphere. The COSPEC has received growing acceptance throughout the world with 80 units in use in 25 countries. Improvements to the COSPEC IV continued during 1979.

The COSPEC is showing continuing growth in application to various dynamic gaseous measurement situations. There are now growing applications to volcanological studies of SO_2 emissions. The COSPEC remains the only truly commercially available SO_2/NO_2 remote sensor.

(ii) The Barringer GAs filter cell correlation SPECtrometer, GASPEC, is capable of remote detection of trace gases in the atmosphere. Barringer has specialized in the infrared spectral region for the GASPEC, and development work continued during 1979 for TRW Systems.

(iii) The Barringer-patented correlation interferometer for the remote sensing of trace gases was completed during 1978 under subcontract to General Electric Space Science Laboratories for NASA Langley Research Center. This work involves the development of a space unit with multi-gas detection capabilities and required continued consultative engineering support during 1979.

(iv) During the year Barringer continued a program to develop an airborne laser fluorosensor unit for oil spill detection and classification. This instrument was developed under contract to the Canada Center for Remote Sensing. The sensor continued test flights during 1979 and further instrument improvements were initiated in 1979 to enhance its capabilities, with follow-on upgrading work planned for early 1980.

(v) Nuclear Process Control: Since 1971 Barringer has produced and sold three different kinds of heavy water (D_2O) process control instruments. These have been designed for Canadian CANDU-type reactors in nuclear power plants and the heavy water industry to monitor ratios of heavy and light water and detect trace concentrations of heavy water. Development work continued during 1979 in co-operation with Atomic Energy of Canada, Limited.

Because of the large commitment to nuclear energy within Canada, the liquid analyzer instrumentation needs have grown and the Company has significantly expanded production of these units to meet CANDU instrument requirements. This product line has greatly enhanced our capabilities for on-stream liquid analysis and new applications to other liquids are under consideration.

(d) Metal Detection Devices

(i) Proximity Detector: During 1979 Barringer had two licensees under its patents for detecting metallic objects, viz. Intex Inc. for airport and other security devices (the SENTRIE system) and Envirotech Corporation for tramp metal detection on conveyor belts in mines.

(ii) COTRAN: The development program to investigate COTRAN applications to military range clearance was completed in late 1978. This program indicated the applicability of COTRAN to ground geophysical measurements and basic conceptual studies were initiated in 1979. The application of COTRAN to detection of tramp metal on conveyor belts for Rexnord of Milwaukee continued through 1979 with the completion of a prototype minicomputer controlled COTRAN system.

Major clients for projects underway in 1979 included private and government organizations, among them:

General Electric Space Science Laboratories (USA)
TRW Systems (USA)
National Research Council (Canada)
Rexnord, Milwaukee (USA)
Canada Center for Remote Sensing
United States Air Force
Department of Supply & Services (Canada)
Elf Aquitaine (France)
Potash Corporation of Saskatchewan (Canada)
Anglo-American Corporation (South Africa)
Atomic Energy of Canada, Limited
NASA Research Center (USA)
Ontario Hydro (Canada)
Ontario Geological Survey (Canada)
ARCO Oil and Gas Company (U.S.A.)

(2) EXPLORATION VENTURES, ANALYTICAL SERVICES AND LICENSING

Barringer's policy in exploration and analytical services continues to be one of undertaking contract programs for mineral exploration (including uranium) as well as assuming an economic participation in oil and gas exploration. These programs incorporate generally available exploration techniques as well as the company's most advanced airborne and ground systems, techniques and expertise, as appropriate. Barringer uses its combined professional experience in geology, geochemistry, geophysics and data processing, combined with laboratory competence in analytical chemistry, to undertake large and small exploration programs. During 1979, Barringer's staff of professionals provided exploration management, consulting, field and airborne services, and also undertook surveys under contract. The exploration staff has also supported specialized research and development in new instruments and remote sensing technology and research for hydrocarbons, uranium and base metal exploration.

A major expansion of the Denver exploration facilities took place in 1979 with the establishment of a new petroleum research and analytical laboratory and field office, complete with computerized map production facilities. The minerals services laboratory also moved to a new location with increased space and more efficient laboratory operations. Plans are underway to install data handling computers in both the Denver and Calgary laboratories in 1980 and this will improve analytical services offered to the mineral industry.

Installation of new computer facilities in the Toronto laboratory has had a significant impact on the productivity of multi-element analysis by the radio frequency induction coupled plasma systems. This technique is being used increasingly on a routine basis by many customers for analysis of geochemical and environmental samples and also for materials testing. Barringer also continues to use its unique instrumentation for analysis of solid samples (LASERTRACE). This instrumentation was developed as an integral part of the airborne geochemical surveys. Liquid ion chromatography analyses in the environmental and geochemical fields also increased in 1979.

Airborne SURTRACE surveys for mineral exploration were carried out in Southern Africa and Ontario in 1979. The operational success of this sampling, coupled with the rapid acquisition of multi-element data using the LASERTRACE analytical system should lead to more extensive use of this system by the minerals industry in the 1980's.

In 1979, Barringer significantly expanded its services in hydrocarbon exploration. Efforts in this field have principally revolved around two areas: (1) field and laboratory services and (2) research and development into more cost effective geochemical and geophysical methods of exploration. In the first area, Barringer has undertaken extensive contract geochemical surveys in both the United States and Canada primarily using its own developed methods of sample collection with analysis for hydrocarbons and related elements. In one program alone, over six thousand line-miles of ground geochemical sampling was undertaken.

In the area of research and development, Barringer has been investigating both new geophysical and geochemical techniques. Research work commenced in the early '70s to characterize the "geochemical fingerprint" in surface soils over hydrocarbon deposits and this has continued. While some of the techniques developed are offered on a routine contract basis, research is continuing into the investigation of more advanced methods. In the field of hydrocarbons, Barringer has the right to participate in exploration on a joint venture basis. In parallel with these programs, the U.S. Geological Survey has been carrying out a test evaluation of the Barringer AIRTRACE system and its potential application to hydrocarbon exploration. They have flown our equipment mounted in their own aircraft over a number of oil fields and have obtained some excellent results which they presented in a paper given before the Symposium on Unconventional Methods of Oil and Gas Exploration held in Dallas in September 1979. Further test flying will be carried out in cooperation with the USGS in 1980.

The Barringer INPUT airborne electromagnetic system is a commercially licensed system which provides Barringer with an annual royalty and rental income from its survey applications that are flown under license to Geoterrex Limited (Ottawa) and Questor Surveys Limited (Toronto). In 1979, six systems were licensed to the two companies. According to the latest data compiled by the Society of Exploration Geophysicists, INPUT surveys represent approximately 70 percent of the total world-wide commercial survey mileage flown using electromagnetic techniques.

During 1979 the Barringer group of specialists in exploration technology provided exploration management, consulting, technical services and analytical services to a large number of organizations including:—

MRI Petroleum Ltd. (Canada)	Anglo American Corporation (South Africa)
Alpar Resources (U.S.A.)	Houston Oil and Minerals (U.S.A.)
United States Geological Survey	Chevron Standard (Canada, U.S.A.)
Kelvin Energy (Canada)	Gulf Minerals (Canada, U.S.A.)
Geological Survey of Canada	Asamera Oil (Canada)
Uranerz Mining (Canada, U.S.A.)	United States Bureau of Land Management
Border Exploration (U.S.A.)	United States Department of Energy
Billiton Metals and Ores (U.S.A.)	Exxon Corporation (Canada, U.S.A.)

Barringer Fiji Limited: Barringer is involved in a mineral exploration program in the Fiji Islands through Barringer Fiji Limited (BFL) in a joint venture with Australian Anglo American Company Limited and AMAX. Barringer incorporated BFL in connection with an agreement with the Government of Fiji for exclusive prospecting rights on the two main Fiji islands, covering all ground except that subject to lease of claims as at July 31st, 1969. BFL was incorporated to assume the rights and responsibilities under such agreement and to carry out the exploration program. Barringer initially acted as technical manager of the program, which was funded by Contifinance S.A. (an affiliate of Roan Selection Trust) in return for an 80 percent interest in BFL to Contifinance.

Under terms of an agreement with Australian Anglo American et al., concluded in 1974, Barringer relinquished one half of its 20 percent interest in BFL areas. Exploration on BFL ground began in late 1974 and continued through 1979. Results of the exploration to date are not considered encouraging but work is continuing. Barringer has no financial obligations for the BFL program.

Royex Sturgex Mining Limited: Barringer holds 228,095 shares (12.5 percent) of Royex Sturgex (Royex). In March 1977, Royex sold to Barringer one fifth of its total 18 percent (i.e. 3.6 percent) interest in a gold property for $9,000. The purchase price is payable in 20 equal quarterly installments starting April 1977. Barringer has the right to return to Royex the said 3.6 percent interest at any time, in which case Barringer's obligation to pay the unpaid portion of the purchase price shall cease and Royex shall be entitled to keep the portion of the purchase price paid up to that time.

The principal asset of Royex is the remaining 14.4 percent interest in the B Zone gold property of O'Brien Energy and Resources Limited and Consolidated Durham Mines. This interest is free carried until work is commenced to bring the claims into production. Barringer and Royex will then be required to make contributions to retain their positions, but, in any event, will retain free carried and non-assessable interests of 8 percent and 2 percent respectively. O'Brien and Consolidated Durham have announced that they intend to bring the property into production by 1981 and have stated that $3,000,000 Cdn. will be spent in 1980 for underground development with an additional capital outlay of $13,000,000 Cdn. in 1981. Yearly operating expenditures are estimated at $4,360,000 Cdn. The cumulative cash flow over the 8.6 years estimated life of the mine, before taxes, with a gold price of $600 U.S. per ounce is $97,370,000 Cdn.

Pacific Energy & Minerals Ltd.: In August 1978 Barringer concluded a joint venture agreement with Pacific Energy & Minerals Ltd., to explore the Denver basin for hydrocarbons. Exploration over a reduced area continued in 1979.

Barringer Oil and Gas: In December, 1979, Barringer announced the formation of Barringer Oil and Gas, Ltd. ("B.O.G., Ltd."), a Calgary based Alberta corporation. B.O.G. Ltd. is owned 50 percent by Barringer Magenta Limited, a wholly owned subsidiary of Barringer Research Limited, and 50 percent by Cavendish Investing Ltd. and Kenaco Commercial Services Ltd.

According to an agreement among the B.O.G. Ltd. shareholders, Barringer has agreed to provide B.O.G. Ltd. with its technical support and field services utilizing Barringer know-how in the field of oil and gas exploration, including proprietary Barringer soil geochemistry and other techniques. Such technical support is to be provided on an exclusive basis for non-airborne surveys throughout Canada until December 15, 1982, except for two areas in southwest Ontario previously explored by Barringer. Barringer proprietary airborne techniques such as AIRTRACE and SURTRACE are to be provided on a non-exclusive basis. Also Barringer is permitted to continue to support existing clients until December, 1980.

Under the terms of the agreement, Barringer is entitled to charge B.O.G. Ltd. its normal commercial rates for all work done for B.O.G. Ltd., and in addition, Barringer is entitled to a fee of $675,000 for such work, to be paid in installments over a period of two years. The exclusivity commitment of Barringer is conditional on the payment of these funds. B.O.G. Ltd. is entitled to an interest of 25 percent of the interest of all parties other than Barringer in each prospect, which is free carried up to the casing stage. In addition, Barringer is entitled to acquire a direct working interest of up to 25 percent of each prospect, and has the right to bring in industry partners to finance a portion of each prospect which is equal to 50 percent less the amount of direct interest elected by Barringer.

All exploration expenses prior to land acquisition are to be advanced by Cavendish and Kenaco and/or additional investors nominated by them, against preference shares in B.O.G. Ltd. which are redeemable out of surplus working capital of B.O.G. Ltd.

Similarly, a partnership has been formed and financed in the United States between the same investors and Barringer Oil and Gas Inc., a wholly owned subsidiary of Barringer Research Inc.

COMPETITION

There are no companies that compete directly with Barringer with instrumentation similar to the patented INPUT, COTRAN, SURTRACE and AIRTRACE systems. However many companies have other electromagnetic techniques and methods that do compete in the airborne exploration market. Likewise, there are numerous companies engaged in the manufacture of geophysical instruments that compete with various products of Barringer and that provide exploration and analytical chemical services similar to those Barringer offers.

Similarly there are numerous pollution monitoring devices available on the market. These do not provide instantaneous specific and continuous readings available by use of Barringer's patented electro-optical methods. These devices do, however, compete in the same area of use as Barringer's instruments and Barringer is not a major manufacturer in the production of pollution monitoring devices.

DEPENDENCY ON LIMITED NUMBER OF CUSTOMERS

No single customer accounted for more than 10 percent of total revenue in 1979 or 1978.

BACKLOG

The following table sets forth the backlog of work on hand as at December 31, 1979 and December 31, 1978.

	As at Dec. 31/79	As at Dec. 31/78
(1) Research, Development and Instrument Manufacture	$1,084,000	$ 234,000
(2) Exploration Ventures, Analytical Services and Licensing	720,000	612,000
TOTAL	$1,804,000	$ 846,000

It is estimated that all of the backlog of work on hand will be filled during the forthcoming year.

SOURCES AND AVAILABILITY OF RAW MATERIALS

Barringer's manufactured products are basically comprised of assembled components. The items purchased by Barringer are of a standardized nature and are available from numerous sources. Barringer has no long-term agreement or requirement contract for any of the items purchased by it and, apart from delays in the delivery of some components caused by often extremely tight supply conditions prevailing in the market, does not anticipate any problem in obtaining the necessary materials or parts for manufacture of the equipment it produces.

PATENTS AND LICENSING

Barringer has 37 United States patents issued and 3 pending relating to its equipment and systems. An aggregate of 283 patents and patent applications have been issued or are pending in countries other than the United States. Although Barringer regards its patents and patent applications to be of value, it does not deem its business as a whole to be materially dependent on any one or more patents or patent applications.

EMPLOYEES

As of December 31, 1979, there are 130 persons (1978 – 113 persons), including officers, in the regular employ of the Registrant and its wholly owned subsidiaries.

SEASONAL BUSINESS

None of a material nature to the Company's operations, but the winter months from December through March are historically a low income period.

INFORMATION AS TO LINES OF BUSINESS AND CLASSES OF SIMILAR PRODUCTS AND SERVICES

Total sales and revenues for the years 1975 through 1979 for the major lines of business and classes of products and services, expressed in percent of total revenue as shown in the consolidated statement of operations herein were as follows:

	1979	1978	1977	1976	1975
Research, Development and Instrument Manufacture	33%	36%	35%	43%	51%
Exploration Ventures, Analytical Services and Licensing	67	64	65	57	49
	100%	100%	100%	100%	100%

The major lines of business contributed to income from operations as follows.

	1979	1978	1977	1976	1975
Research, Development and Instrument Manufacture	32%	40%	32%	29%	33%
Exploration Ventures, Analytical Services and Licensing	68	60	68	71	67
	100%	100%	100%	100%	100%

Contributions to the results of operations by line of business, as presented above, are based on income before application of the common or corporate costs of general and administrative activities, research and development expenditures, and before income taxes and extraordinary items as shown in the consolidated statement of earnings.

Barringer Research Inc.

CONSOLIDATED STATEMENT OF EARNINGS

For the five years ended December 31, 1979

ITEM 2. SUMMARY OF OPERATIONS

	1979	1978	1977	1976	1975
Revenue	$4,956,784	$3,880,108	$3,406,739	$4,797,843	$4,252,621
Cost and expenses					
Cost of goods sold	3,232,135	2,449,771	2,182,084	2,840,106	2,866,170
General and administrative	946,029	857,160	815,843	799,425	887,537
Research and development	365,086	395,780	294,555	81,458	124,895
	4,543,250	3,702,711	3,292,482	3,720,989	3,878,602
Operating income	413,534	177,397	114,257	1,076,854	374,019
Other expenses (income)					
Write-down of investments	—	—	—	22,125	77,672
Write-down of advances	—	—	—	702,159	125,000
Gain on sale of subsidiary company	—	(16,865)	—	(112,897)	—
Interest —					
Long-term loan	5,734	5,406	9,353	11,598	20,251
Other — net	47,842	511	13,349	44,830	67,801
Other	(99,820)	26,495	57,133	30,403	10,268
	(46,244)	15,547	79,835	698,218	300,992
Earnings before income taxes and extraordinary item	459,778	161,850	34,422	378,636	73,027
Income tax provision	308,000	125,000	112,560	212,220	88,645
Earnings (loss) before extraordinary item and minority interest	151,778	36,850	(78,138)	166,416	(15,618)
Minority interest in loss	—	—	—	—	221
	151,778	36,850	(78,138)	166,416	(15,397)
Extraordinary item					
Benefit of tax losses and timing differences brought forward	308,000	125,000	112,560	212,192	105,300
Net earnings for the year	$ 459,778	$ 161,850	$ 34,422	$ 378,608	$ 89,903

	1979	1978	1977	1976	1975
Weighted average number of shares outstanding	1,812,034	1,792,326	1,786,560	1,798,326	1,694,214
Earnings (loss) per share					
Earnings (loss) before extraordinary item	$0.08	$0.02	($0.04)	$0.09	($0.01)
Extraordinary item	$0.17	$0.07	$0.06	$0.12	$0.06
Net earnings for the year	$0.25	$0.09	$0.02	$0.21	$0.05

MANAGEMENT DISCUSSION AND ANALYSIS OF THE CONSOLIDATED STATEMENT OF EARNINGS

The following information is provided to further explain certain financial information as shown in the Consolidated Statement of Earnings. (See note 1 of the Notes to Consolidated Financial Statements for a summary of the accounting policies that are significant in evaluating the results of Barringer's operations.)

REVENUES

In 1976, $609,794 that had been classified as deferred income arising from previous transactions was brought into current income. In 1977 total corporate revenues were down from the corresponding period due to the conclusion of several major contracts in late 1976; among them being manufacturing and installation of equipment in a Trislander aircraft, geochemical ground survey in Brazil, development of an electrochemical reactor and production of a laser fluorosensor. The increase in 1978 was basically attributable to increased geochemical analyses performed in the companies' three laboratories. Revenues increased during 1979 as a result of increased oil and gas exploration programs and from increased sales of manufactured products.

COSTS AND EXPENSES

The cost of goods sold has been relatively constant as a percentage of total revenues during the last 5 years (i.e. approximately 64 percent). In 1976 the cost of goods sold dropped to 59 percent due to the inclusion in revenues of the income previously deferred.

Selling, general and administrative expenses decreased in 1976 due to a reorganization of senior management as well as increasing management attention to this cost area. Despite inflationary trends, this expense increased only marginally in 1977 and 1978. In addition to inflation, the increase in 1979 was due to legal services rendered in connection with various agreements.

Research and Development expenditures: Barringer supports inhouse funding of important proprietary and patent oriented R & D work that enables the company to secure licensing and royalty fees for certain of its exploration systems. In 1975, R & D funding by Barringer Hydrocarbons Limited was directed towards aspects of the Airtrace hydrocarbon program. The large increases from 1977 to 1979 were primarily due to inhouse funding directed towards the continued development of geochemical and geophysical exploration techniques for oils and minerals.

OTHER INCOME AND EXPENSES

The write-down of advances in 1975 represents a disposition of the advances to a mineral exploration venture (Magenta Exploration Limited) that Barringer had entered into the years 1969 to 1972. Barringer management believed it desirable to write down the balance of the advances because exploration programs were no longer being undertaken.

The write-down in 1976 represents advances made to Minsearch in prior periods. As payment is dependent upon Minsearch achieving profitable operations and repaying other long-term debts, management deemed it prudent to provide in full for such advances.

The write-down of investments in 1975 related primarily to the net book value of the Namosi project. In view of the uncertain future of the project, Barringer deemed it prudent to write-down this investment. In 1976, Barringer wrote-down its investment in Royex Sturgex Mining as the claims were being held on a care and maintenance basis due to the then depressed market for gold.

Gain on sale of subsidiary company pertained to the profit arising on the sale of Barringer Geosurveys Pty. Limited to Minsearch Surveys Limited. Half of the gain was brought into income at the time of the sale, the other half was deferred until 1976.

In 1978, Barringer recognized a gain of $16,865 on disposal of shares in respect to losses attributable to the minority shareholders of Barringer Hydrocarbons Limited which had previously been provided for by the Company.

Interest expenses declined from 1975 due to the strong profitability of the company and consequently a reduction in bank loans. The increase in 1979 resulted from borrowing funds to support corporate expansion and increased manufacturing operations. In 1979 a gain on translation of $79,865 (1978 (loss) – $26,495) was reflected in earnings.

EXTRAORDINARY ITEMS

Benefit of tax losses and timing differences brought forward from previous periods have been utilized to offset income taxes otherwise payable.

MARKET AND DIVIDEND INFORMATION

The principal market for the corporation's securities is the over-the-counter market. Prices for these securities are quoted in NASDAQ (National Association of Securities Dealers, Inc.).

SUMMARY OF MARKET PRICES

	1979		1978	
	High	Low	High	Low
First Quarter	$2.88	$1.50	$2.38	$1.50
Second Quarter	3.50	1.75	2.38	1.25
Third Quarter	3.25	1.75	3.38	1.25
Fourth Quarter	4.00	2.50	3.25	1.25

These prices do not give effect to the stock split referred to in note 17 of the Consolidated Statements. There were no dividends paid during 1979 or 1978.

ITEM 3. PROPERTIES

Location	Square Footage	Annual Lease	Lease Expiry	Type
304 Carlingview Drive, Rexdale, Ontario	15,000	$16,500	Jan. '86	office, laboratory and manufacturing
44 Fasken Drive, Rexdale, Ontario	3,400	7,100	May '84	warehouse
3750 19th St. N.E., Calgary, Alberta	2,900	12,000	May '83	laboratory
6869 S. Emporia, Englewood, Colorado	1,500	8,250	July '81	laboratory
5161 Ward Road, Wheatridge, Colorado	3,000	13,000	July '84	laboratory
1626 Cole Blvd., Golden, Colorado	7,400	74,400	Aug. '84	office, laboratory

With the exception of the Englewood facility which is currently idle, all locations are operating at full capacity. Expansion of the Ontario locations is planned for 1980.

The research development and manufacturing activity encompasses approximately one half of the Ontario locations. All remaining locations support the exploration, analytical services and licensing activity.

ITEM 4. PARENT AND SUBSIDIARIES

Name	State, Province of Country of Incorporation	Percentage Voting Securities Owned or Controlled
Dr. Anthony R. Barringer	—	16%
A. R. Barringer Investments Limited (1)		28%
Dr. D. Richard Clews	—	2%
D. R. Clews Limited (2)		11%
Barringer Research Inc.	Delaware — U.S.A.	
Subsidiaries of Barringer Research Inc.		
Barringer Oil and Gas Inc.	Colorado — U.S.A.	100%
Barringer Research Limited (BRL)	Ontario — Canada	100%
Subsidiaries of "BRL"		
Barringer Magenta Limited	Ontario — Canada	100%
Barringer Research South Africa (Pty) Limited	South Africa	100%

(1) Dr. Barringer is the holder of all of the voting preference stock of A. R. Barringer Investments Limited, representing approximately 60% of the voting power of that Corporation. All of the common stock of A. R. Barringer Investments Limited is owned by a trust of which the members of Dr. Barringer's family are beneficiaries. Dr. Barringer disclaims any beneficial interest in such trust or said 500,000 shares of Common Stock.

(2) Dr. Clews is the holder of all of the voting preference stock of D. R. Clews Limited, representing 60% of the voting power of that Corporation. All of the common stock of D. R. Clews Limited is owned by a trust of which the members of D. R. Clews' family are beneficiaries. Dr. Clews disclaims any beneficial interest in such trust or said 193,980 shares of Common Stock.

ITEM 5. PENDING LEGAL PROCEDURES

None of a material nature.

ITEM 6. INCREASES AND DECREASES IN OUTSTANDING EQUITY SECURITIES

(a) (1) (i) Number of shares of Common Stock outstanding at December 31, 1979 was 988,400
(ii) Number of shares of Common Stock outstanding at December 31, 1978 was 984,400

(See notes 9 & 17 to the Consolidated Statements.)

ITEM 7. CHANGES IN SECURITIES AND CHANGES IN SECURITY FOR REGISTERED SECURITIES

Not Applicable

ITEM 8. DEFAULTS UPON SENIOR SECURITIES

Not Applicable

ITEM 9. APPROXIMATE NUMBER OF EQUITY SECURITY HOLDERS

BARRINGER RESEARCH INC.

(A) Title of Class	(B) Approximate Number of Record Holders December 31, 1979
Common Stock (par value $.01 per share)	700

ITEM 10. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

Not Applicable

ITEM 11. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the General Corporation Law of Delaware provides for indemnification of directors, officers, employees and agents against expenses, judgements, fines and settlements where such persons act in a manner not opposed to the best interest of the Corporation and without reason to believe his conduct was unlawful. In actions by or in the right of the Corporation, such indemnification is limited to expenses. Determination that the applicable standard of conduct has been met is made by disinterested directors, independent legal counsel, or the stockholders. The Corporation is empowered to insure such persons against such liability, but no such insurance has been obtained.

The Certificate of Incorporation of the Registrant provides that directors and officers shall be indemnified to the full extent permitted under the General Corporation Law of the State of Delaware.

ITEM 12. FINANCIAL STATEMENTS, EXHIBITS AND REPORTS ON FORM 8-K.

(a) FINANCIAL STATEMENTS

Consolidated:

Balance Sheets as at December 31, 1979 and 1978

Statements of Earnings and Retained Earnings (Deficit) for the two years ended December 31, 1979

Statement of Changes in Financial Position for the two years ended December 31, 1979.

NOTES TO FINANCIAL STATEMENTS

SCHEDULES:*

For the two years ended December 31, 1979:

V Fixed assets

VI Accumulated Depreciation and Amortization of Fixed Assets

VII Intangible Assets

VIII Accumulated Amortization of Intangible Assets

XII Reserves

OPINION OF THE INDEPENDENT PUBLIC ACCOUNTANTS

(b) EXHIBITS

(i) Statements of Calculation of Earnings per Share
(ii) Barringer Oil and Gas Ltd. shareholders' agreement dated December 17th, 1979.

(c) FORM 8-K

No reports on Form 8-K were filed for the three months ended December 31, 1979.

**All other schedules are omitted because of the absence of the conditions under which they are required, or because the information called for is included in the financial statements or notes thereto.*

PART II

ITEMS 13 and 15 – REFER TO PROXY MATERIAL

ITEM 14. EXECUTIVE OFFICERS OF THE REGISTRANT

The names, ages and positions of all the executive officers of the Company as of December 31, 1979 are listed below, along with their business experience during the past five years. Officers are appointed annually by the Board of Directors at the annual meeting of directors immediately following the annual meeting of shareholders. There are no family relationships among these officers, nor any arrangement or understanding between any officer and any other person pursuant to which the officer was selected.

Name, Age and Position	Business Experience During Past Five Years
Dr. Anthony R. Barringer, 54 *President*	President of Barringer Research Inc. and of Barringer Research Limited; Chairman of the Board of Barringer Magenta Limited since July, 1978.
Dr. D. Richard Clews, 58 *Executive Vice President*	Executive Vice President of Barringer Research Inc. and of Barringer Research Limited; President of Barringer Magenta Limited since July, 1978.
John H. Davies, 43 *Vice President*	Manager, Research and Development Division, Barringer Research Limited, to September 1975, Vice President of Barringer Research Inc. and of Barringer Research Limited since September, 1975.
Dr. W. Timothy Meyer, 39 *Vice President*	Chief Exploration Geochemist, Cities Service Company to December 1977; Senior Geochemist Barringer Research Inc. to December 1978, Vice President of Barringer Research Inc., since January 1979.
Kenneth H. Dalton, 36 *Controller*	Controller of Barringer Research Inc. and of Barringer Research Limited; Secretary-Treasurer of Barringer Magenta Limited since July 1978.
Robert J. Armstrong, 49 *Secretary*	Barrister and Solicitor, Partner of Messrs. Blackwell, Law, Spratt, Armstrong & Grass; Secretary of Barringer Research Inc. and Barringer Research Limited.

SIGNATURES

Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the Registrants have duly caused this report to be signed on their behalf by the undersigned, thereunto duly authorized.

BARRINGER RESEARCH INC.
(Registrant)

by D. Richard Clews
Executive Vice President

BARRINGER RESEARCH LIMITED
(Registrant)

by D. Richard Clews
Executive Vice President

DATED: March 24, 1980.

SCHEDULE V

Barringer Research Inc.

FIXED ASSETS

For the two years ended December 31, 1979 and 1978:

Classification	Balance at beginning of year	Additions at cost	Retirements or sales	Balance at close of year
Year ended December 31, 1979:				
Office furniture and equipment	$ 155,891	$ 33,788	$ –	$ 189,679
Plant, machinery and exploration equipment	1,181,961	204,589	12,045	1,374,505
Equipment for lease	560,747	86,526	–	647,273
Leasehold improvements	162,903	153,766	9,102	307,567
Total	$2,061,502	$ 478,669	$ 21,147	$2,519,024
Year ended December 31, 1978:				
Office furniture and equipment	$ 139,917	$ 15,974	$ –	$ 155,891
Plant, machinery and exploration equipment	1,000,086	181,875	–	1,181,961
Equipment for lease	361,662	199,466	381	560,747
Leasehold improvements	129,153	33,750	–	162,903
Total	$1,630,818	$ 431,065	$ 381	$2,061,502

SCHEDULE VI

Barringer Research Inc.

ACCUMULATED DEPRECIATION AND AMORTIZATION OF FIXED ASSETS

For the two years ended December 31, 1979 and 1978

Classification	Balance at beginning of year	Charged to costs and expenses	Retirements renewals, and replacements	Balance at close of year
Year ended December 31, 1979:				
Office furniture and equipment	$ 109,075	$ 11,426	$ –	$ 120,501
Plant, machinery and exploration equipment	863,970	144,058	13,589	994,439
Equipment for lease	341,564	7,779	–	349,343
Leasehold improvements	61,920	33,570	1,126	94,364
Total	$1,376,529	$ 196,833	$ 14,715	$1,558,647
Year ended December 31, 1978:				
Office furniture and equipment	$ 99,567	$ 9,508	$ –	$ 109,075
Plant, machinery and exploration equipment	784,547	79,423	–	863,970
Equipment for lease	295,098	46,542	76	341,564
Leasehold improvements	49,911	12,009	–	61,920
Total	$1,229,123	$ 147,482	$ 76	$1,376,529

SCHEDULE VII

Barringer Research Inc.

INTANGIBLE ASSETS

For the two years ended December 31, 1979 and 1978

Description	Balance at beginning of year	Additions at cost	Disposals	Balance at close of year
Year ended December 31, 1979:				
Patents and trademarks	$ 233,878	$ 16,177	$ –	$ 250,055
Year ended December 31, 1978:				
Patents and trademarks	$ 214,761	$ 19,117	$ –	$ 233,878

SCHEDULE VIII

Barringer Research Inc.

ACCUMULATED AMORTIZATION OF INTANGIBLE ASSETS

For the two years ended December 31, 1979 and 1978

Description	Balance at beginning of year	Charged to costs and expenses	Deductions	Balance at close of year
Year ended December 31, 1979:				
Patents and trademarks	$ 60,176	$ 10,153	$ –	$ 70,329
Year ended December 31, 1978:				
Patents and trademarks	$ 50,702	$ 9,474	$ –	$ 60,176

SCHEDULE XII

Barringer Research Inc.

RESERVES

For the two years ended December 31, 1979 and 1978

Description	Balance at beginning of year	Additions (1)	Deductions (2)	Balance at close of year (3)
Year ended December 31, 1979:				
Allowance for doubtful accounts	$ 22,752	$ 545	$ 7,665	$ 15,632
Year ended December 31, 1978:				
Allowance for doubtful accounts	$ 29,230	$ 347	$ 6,825	$ 22,752

(1) Charged to costs and expenses
(2) Uncollectible accounts written-off
(3) Deducted from accounts receivable

Barringer Research Inc.

WORKING PAPER OF EARNINGS PER SHARE

For the five years ended December 31, 1979

	1979	1978	1977	1976	1975
Average market value per share of common stock	$1.28	$0.98	$0.75	$0.90	$0.70
Weighted average number of shares outstanding, excluding common stock equivalents	1,970,634	1,960,466	1,957,800	1,955,800	1,844,800
Common stock equivalents:					
Options:					
Employment Agreements	– (b)	– (b)	– (b)	– (a)	– (a)
1968 Stock Option Plan	– (b)	– (b)	966	1,834	214
1970 Stock Option Plan	– (b)	– (b)	– (b)	– (b)	– (b)
1972 Stock Option Plan	33,858	28,462	24,994	34,558	26,000
Other Stock Option Plans	4,742	1,140	– (a)	3,334	– (a)
Treasury stock acquired	(197,200)	(197,200)	(197,200)	(197,200)	(176,800)
Weighted average number of shares outstanding	1,812,034	1,792,868	1,786,560	1,798,326	1,694,214
Earnings (loss) before extraordinary item	$151,778	$36,850	$(78,138)	$166,416	$(15,397)
Extraordinary item	308,000	125,000	112,560	212,192	105,300
Net earnings for year	$459,778	$161,850	$34,422	$378,608	$89,903
Earnings per share					
Earnings (loss) before extraordinary item	$ 0.08	$ 0.02	$(0.04)	$ 0.09	$(0.01)
Extraordinary item	0.17	0.07	0.06	0.12	0.06
Net earnings for year	$ 0.25	$ 0.09	$ 0.02	$ 0.21	$ 0.05

(a) The option price is higher than the average marked value per share of common stock.
(b) No options outstanding at year end.
(c) Reference is made to note 17 of the Consolidated Statements.

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