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**Annual Information Form**

For the period ending

October 31, 2004

# MDS INC.

## ANNUAL INFORMATION FORM

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# **MDS INC.**

## **ANNUAL INFORMATION FORM**

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In this Annual Information Form (“AIF”), “we”, “us”, “our”, “MDS”, and “the Company” are used to refer to MDS Inc., its subsidiaries and joint ventures. In this AIF, all references to specific years are references to the fiscal year ended October 31. All references to “\$” or “dollars” are references to Canadian dollars, unless otherwise specified.

#### **ITEMS AFFECTING THE COMPARABILITY OF FINANCIAL INFORMATION OF PRIOR YEARS**

During fiscal 2004, MDS disposed of its interests in certain US-based diagnostic laboratory businesses. As a result of these disposals, the Company has exited from the US laboratories market and therefore has elected to treat this business as a discontinued operation. The net results from the business for the current year have been disclosed on the income statement as a loss from discontinued operations, along with the loss from a generic radiopharmaceutical manufacturing business that was discontinued last year. The results for all previous years, included segmented disclosures, have been restated to adopt this presentation.

Under accounting standards in effect before May 1, 2003, other businesses sold in the years covered by these financial statements did not qualify as discontinued operations and have not been presented as such herein.

Certain figures for the previous year have been reclassified to conform with the current year’s financial statement presentation.

#### **DOCUMENTS INCORPORATED BY REFERENCE**

The MDS 2004 Annual Report Financial Review (the "Financial Review") is incorporated by reference into this AIF including:

1. The audited consolidated financial statements of MDS Inc. for the years ended October 31, 2004, October 31, 2003 and October 31, 2002, reported on by Ernst & Young, Chartered Accountants (the "Financial Statements") on pages 37 to 61, and
2. Management’s Discussion and Analysis of financial condition and results of operations contained on pages 18 to 36.

#### **FORWARD-LOOKING INFORMATION**

This AIF contains forward-looking information about MDS’s objectives, strategies, expectations of future operating results and other things that may be material to the financial condition and financial results of the Company. Provision of the information is encouraged by securities regulators to enable investors to understand better the Company’s future prospects. Statements made that contain forward-looking information are based on our current expectations about the markets in which we operate, general economic conditions, and our business strategies and tactics. In addition, such statements may reflect assumptions and estimates that will prove to be materially different than actual future events and transactions. We believe that such forward-looking statements are accurate on the date on which they are made and as of the date of this AIF. Our actual results will differ from these expectations and the differences may be material. We assume no obligation to update any forward-looking information when new information becomes available.

The AIF contains discussion of the risk factors affecting our businesses and these risk factors could cause our results to be different and possibly materially different from our current expectations. Investors are encouraged to understand the nature of these risks.

## **1 – CORPORATE STRUCTURE**

### **1.1 – Jurisdiction of Incorporation and Articles – Historical Perspective**

The Company was incorporated on April 17, 1969 under the laws of the Province of Ontario under the name Medical Data Sciences Limited. The Company changed its name to MDS Health Group Limited in April of 1973 and to MDS Inc. in November of 1996. The Company was continued under the Canada Business Corporations Act in October of 1978 and remains subject to that statute.

The head office of MDS, and its principal place of business, is 100 International Boulevard, Toronto, Ontario, Canada, M9W 6J6.

### **1.2 – Current Organization**

Significant operating subsidiaries are defined as those companies that contribute 10% or more of the consolidated revenues or operating income of the company or account for 10% or more of the consolidated total assets of MDS. In addition, we consider a subsidiary significant if it represents MDS in a geographic market that we believe represents a growth opportunity for MDS. The significant operating subsidiaries of the Company are as follows (all are 100%-owned subsidiaries of MDS and are incorporated in Canada unless noted otherwise):

- MDS (Canada) Inc.;
- MDS Pharma Services (US) Inc., a Nebraska Corporation;
- MDS Nordion Europe SA (“NESA”), a Belgian corporation;
- MDS Pharma Services Holdings SAS, a French corporation;
- MDS Pharma Services Espana, S.A., a Spanish corporation;
- MDS Pharma Services Central Lab GmbH, a German corporation;
- MDS Pharma Services G.B. Limited, a UK corporation; and,
- MDS Pharma Services Switzerland AG, a Swiss corporation.

In addition to the subsidiaries listed above, the Company owns a 50% interest in Source Medical Corporation (“Source” - a Canadian company); and, an indirect 26.4% interest in Calgary Laboratory Services (“CLS”), an Alberta partnership.

Along with these incorporated subsidiaries, the Company also conducts business through the following significant partnerships:

- Metro-McNair Clinical Laboratories LP (“Metro”), a limited partnership established under the laws of British Columbia in which MDS holds a 75% interest;

- PerkinElmer/ Sciex Instruments (“PerkinElmer/MDS Sciex”), a partnership established under the laws of Ontario in which MDS holds a 50% interest;
- Applied Biosystems/MDS Sciex Instruments (“ABI/MDS Sciex”), a partnership established under the laws of Ontario in which MDS holds a 50% interest;
- Laboratory Services Limited Partnership, a partnership established under the laws of Ontario in which MDS holds an indirect 99.65% interest

In addition to these controlled subsidiaries, MDS owns a 99.56% non-controlling equity interest in LPBP Inc., an Ontario Corporation.

The entities outlined above are consolidated in the financial statements of MDS and are referred to hereafter as subsidiaries, with the exception of PerkinElmer/ Sciex and of ABI/MDS Sciex, CLS and Source, all of which are accounted for on a proportionately consolidated basis.

In addition to its subsidiaries, the Company has significant influence over and equity accounts for a number of laboratory businesses. On July 29, 2004, a financial reorganization of MDS Proteomics, subsequently renamed Protana Inc. (“Protana”), was completed. Through this reorganization, the Company reduced its ownership in Protana from 89% to 48.4%, and thus began to equity account for Protana. The Company’s 45% interest in MDS Capital Corp., 44% interest in MDS Health Ventures Inc. (which are described in more detail later in this document) and 17% interest in Iconix Pharmaceuticals, Inc. are also accounted for on an equity basis.

## **2 – GENERAL DEVELOPMENT OF THE BUSINESS**

### **2.1 – Overview**

MDS is a global health and life sciences company, and the largest such company in Canada, with 2004 revenues of \$1.8 billion. The Company provides enabling technologies, products, and services to improve the delivery of healthcare worldwide. Its primary areas of focus are drug development and disease diagnosis. MDS’s primary customers are pharmaceutical and biotechnology companies and health care providers such as doctors and hospitals.

#### Health Segment

Since its inception, clinical laboratory services have been a major business focus of the Company. As a result of a series of acquisitions and investments, MDS operates clinical laboratories and manages hospital laboratory systems in Canada. The Company’s largest lab operations are in Ontario, British Columbia and Alberta, Canada. Other, smaller lab and lab support operations exist in Quebec and Manitoba. Prior to May, 2004, MDS provided support services under contract for the hospital laboratory networks in the province of Saskatchewan. Effective May 7, 2004, MDS ceased to be the contract holder for this business

Prior to fiscal 2004, MDS was pursuing a strategy to build a US laboratory business based on managing laboratory networks for affiliated hospital groups. As a result of continued poor operating results and an unsatisfactory business development climate, in 2004 MDS exited this business and had only one remaining location in the US as at October 31, 2004.

In 1986, MDS acquired a 49% interest in Ingram & Bell Inc. (“I&B”), a Canadian medical supply manufacturing and distribution company, broadening the products and services offered to health care providers. This interest was increased to 100% in 1993. In 1997, I&B and Allegiance Healthcare Canada Inc., the Canadian subsidiary of US-based Allegiance Healthcare Corporation (a subsidiary of Cardinal Health, Inc.), merged their respective Canadian health care product distribution businesses to form Source Medical Corporation, following which, the remaining medical product manufacturing businesses of I&B were sold or closed down.

### Life Sciences Segment

With the acquisition of Sciex in 1981, MDS broadened its operations into analytical instruments.

In 1992, MDS acquired an initial 83% interest in Nordion International Inc. from the Canadian Development Investment Corporation pursuant to a privatization initiative by Atomic Energy of Canada Limited, thereby expanding its operations into medical isotope manufacturing and distribution. In 1995, the Company increased its ownership interest in Nordion, buying out the remaining minority interest. In 1998, MDS expanded into isotope-based radiation therapy with the acquisition of 100% of Theratronics.

In 1995, MDS began acquiring contract pharmaceutical research organizations and expanded the services offered to the pharmaceutical development industry. Several smaller acquisitions led to the fiscal 2000 acquisition of Phoenix International Life Sciences Inc., a public company based in Montreal, Canada with operations in the United States and Europe. These contract research businesses have been integrated and now operate globally under the trade name MDS Pharma Services.

### Proteomics Segment

Prior to July 2004, MDS operated a research-based business in the Proteomics market. During 2004, this 89% owned investee was reorganized, and MDS’s interest dropped to 48%. As a result of this change of ownership, MDS no longer considers Proteomics to be an operating segment; however, the segment information for prior periods has been retained as this is not considered to be a discontinued operation due to our continued interest.

### Customers

The Company’s Life Sciences segment customers include a broad range of manufacturers of medical products including pharmaceutical manufacturers, biotechnology companies, and manufacturers of medical supplies and devices. These customers are located in essentially all major international markets.

In the Health segment in Canada, the Company provides products and services directly to health care providers, including physicians and hospitals.

No single customer accounts for more than 10% of revenues. The Ontario Ministry of Health, in its capacity as the funding body for the Ontario public health insurance program, funds approximately 10% of total revenues.

Exports from Canada represented approximately 44% of revenues and for 2004 amounted to \$773 million. Revenues earned outside of Canada, reflecting export sales, along with revenues earned by operating units based outside of Canada, made up 56% of net revenues for the year.

### Employees

At the end of 2004, MDS had over 9,000 employees in 25 countries.

## **2.2 – Recent Industry Developments**

MDS has benefited from the significant and rapid changes that are affecting the health care and life sciences industries globally. These changes include:

- i) rising health care costs;
- ii) intensifying cost containment pressures within health care;
- iii) rapid growth in demand for services due to ageing population bases;
- iv) rapid innovation in technology, increasing the availability of sophisticated treatment options;
- v) growing consumer awareness of health care choices;
- vi) changing funding responsibilities as governments drive more of the costs of health care to consumers and their health insurance companies; and
- vii) growing awareness within emerging and developing countries of the benefits of adequate health care systems and the improving ability to pay for improved health care solutions.

As a result of these changes, the balance of power within the health care and life sciences industries has shifted. In Canada, the reduced level of federal government funding has left increased responsibility for policy development in the hands of provincial governments. Health care funding provided by provincial governments has generally not kept pace with the rising cost structure and growing demand for services. This has led to increased emphasis on the cost effectiveness of services and caused service providers to pursue more cost efficiency in their operations. In addition, the delisting of some health care services under provincial health care plans has shifted increased responsibility in certain areas back to consumers and direct providers.

In the United States, the role of government has been increasing and governments now account for one-half of the nation's health care expenditures. Focus on government spending in the US is having much the same effect as it did in Canada and health care providers continue to be more focused on cost efficiency and cost effectiveness. Health management organizations ("HMOs") are playing an important role in treatment decisions. The cost and effectiveness of treatment methods are key considerations in determining a treatment strategy. The industry has seen continued consolidation of payers and providers, including hospital groups and others, and economic power within the health care market is becoming further concentrated.

The increased importance of productivity improvements and efficiencies has created new opportunities for value creation and has opened new business opportunities for those suppliers who are able to adapt quickly to the changing needs of their customers.

The explosion of new technologies has profoundly affected the life sciences and health markets. The pharmaceutical industry has continued to see corporate mergers of significant size, and consolidation of this industry is expected to continue. These mergers are expected to affect product development budgets and may lead to more focused research spending by the merged entities, including more concentration of spending budgets within therapeutics areas.

These mergers are, at least in part, a response to the loss of patent protection on a significant number of large market drugs expected over the next few years. Off-patent drugs often lose more than half of their market share to generic alternatives in less than one year. To replace these lost revenues and sustain the levels of growth enjoyed in the past, pharmaceutical companies must either increase research and development spending or improve the effectiveness of existing spending. Major pharmaceutical companies are also acting aggressively to protect existing patent positions and to extend patent coverage to different formulations.

A string of recent adverse events affecting a number of large market pharmaceutical products has placed added scrutiny on the drug approval process in the US. There are increasing calls for more regulation of the approval process as a result. The impact of this on the rate and cost of drug innovation is uncertain.

There is growing activity between pharmaceutical companies having large research budgets and smaller biotechnology companies that have smaller budgets but rich pipelines of possible new discoveries. Advances in biotechnology, genomics, and proteomics have created a better understanding of how diseases function both at a molecular level and as part of a biological system that biotechnology companies are seeking to exploit. Large pharmaceutical companies are increasingly providing funding to these smaller companies in return for rights to further develop and market products resulting from these discoveries. More recently, large pharmaceutical companies have begun buying-out their smaller rivals and those having attractive technology platforms.

The surge in development activity, coupled with a drive to reduce costs and accelerate development time, has driven growth in outsourcing of research activities by pharmaceutical manufacturers. High throughput screening and the technologies that make this possible increase the number of new drug leads that can be investigated, enabling drug companies to identify promising candidates earlier. More importantly, researchers can eliminate an unpromising candidate before a large investment is made in further development.

The evolving sciences of genomics and proteomics are expected to eventually lead to significant advances in diagnosis and treatment of disease. The completion of the first stage of the Human Genome Project in 2000 laid the groundwork for much of these advances. Research into proteomics is expected to further improve the information and products used in the treatment of disease. Thus far there has been disappointing conversion of these technologies to new drug discoveries; however, interest in this area remains strong. Much of this interest is now focusing on biomarkers as a near-term application of the evolving science.

Better drugs, delivered more quickly and at a lower cost, will be one outcome of these advances. In addition, these technologies are expected to lead to better diagnosis at an earlier disease stage, which will in turn lead to treatment that is more effective. A number of new developments also promise better disease prevention alternatives. Improved patient outcome at lower overall cost continues to be the goal.

### **2.3 – Business Strategy of MDS**

MDS's business strategy is to be positioned to take advantage of emerging opportunities in markets where the Company has either an established base of involvement or strong scientific and technical capabilities that are consistent with the needs of our customers.

The goal of the Company is to be a leading provider of enabling products, information, and services in selected markets, including:

- drug development with products and services such as analytical instruments and contract research focused on pre-clinical and early clinical drug development;
- diagnostic services including automation and management of clinical laboratories and development of emerging diagnostic methods and tools; and,
- isotope products and services including sterilization, radioisotope production and distribution, radiopharmaceutical services, and radioisotope-based cancer therapies.

Increasingly, technological leadership will be the main method of differentiation among participants in these markets. MDS invests significantly in research and development and in capital equipment to maintain its competitive edge. The Company invested \$100 million in research, product development, and innovative business initiatives in 2004. The Company invested a further \$112 million in new capital assets in 2004 . Over the last five years, MDS invested over \$635 million in new capital assets, including \$330 million in a state-of-the-art isotope production reactor and processing facility ("MAPLE") in Chalk River, Ontario, Canada.

MDS also believes that business alliances, such as joint ventures and similar entities, are an effective and integral component of our business model. Alliances that bring together the complementary capabilities of two or more companies may provide the best solutions to customers in the future. If so, the ability of market participants to develop such alliances and to manage them successfully will be a key success factor for future growth. MDS is building on the success of its well-established partnerships such as Metro-McNair and joint ventures such as those with Applied Biosystems and PerkinElmer, and establishing new partnerships in areas of its business not traditionally managed in this way.

## 2.4 – Financial and Other Developments

Factors affecting the comparability of financial data for the years 2002 through 2004 include the following:

### Capital Structure

- In December 2002, the Company completed a private placement of US\$311 million of Senior Unsecured Notes payable ("the Notes"). The Notes bear fixed interest at rates between 5.15% and 6.19% and have various terms between five and twelve years. Proceeds of the Notes were used to repay and cancel the majority of the syndicated debt facility.
- In May 2003, the Company established a \$225 million term credit facility with a syndicate of six banks. The facility is a 364-day revolving credit that can be converted to a one-year term loan.

### Acquisitions

- During 2002, MDS invested \$20 million in Common shares of MDS Proteomics Inc. in conjunction with a tax reorganization of that company.
- During 2003, MDS invested \$8 million to acquire an early-stage clinical trials facility located in Louisiana, US.
- During 2004, MDS acquired a 50 percent interest in intellectual property assets related to current Applied Biosystems Inc. MALDI Time-of-Flight ("TOF") mass spectrometry systems and next-generation products under development, together with a 100 percent interest in certain MALDI TOF product-related manufacturing and research and development assets for US \$40 million.

### Divestitures and Discontinuances

- During 2002, the Company completed the disposition of two non-strategic operating units in transactions that produced \$23 million of proceeds. A loss of \$7 million was realized as a result of these disposals.
- During 2003, the Company completed the disposition of one non-strategic operating unit for \$35 million of proceeds. A gain of \$10 million was realized as a result of disposal.
- Also during 2003, MDS decided to discontinue operations and conduct an orderly exit from a generic radiopharmaceutical business in Belgium. This portion of the business in Belgium was subject to increased regulatory standards compliance that would have required significant investment in plant and equipment that could not be justified by the returns generated by the business.
- During 2004, the Company reduced its investment in Protana Inc. (formerly MDS Proteomics) from 89% to 48.4% as part of a financial restructuring of that company.
- During 2004, MDS sold laboratory operations in Tennessee, New York, and Georgia in asset purchase transactions, realizing total proceeds of \$35 million.

- Effective May 1, 2004, MDS participated in a financial reorganization of Hemosol Inc., an Ontario research and development company in which MDS held an 11% interest. Under the terms of the reorganization, MDS transferred ownership of its Ontario laboratory business to Hemosol (since re-named LPBP Inc.) in exchange for a 99.56% equity interest (47.5% voting interest) in that company. As a result of this transaction, the Company will be able to benefit from significant tax losses carried forward, research and development expense pools, and investment tax credits, having an estimated combined value of \$120 million. These tax assets were accumulated by LPBP from a blood products business operated by that company prior to the reorganization. The cost to MDS to gain access to these tax assets totalled \$19 million, represented by a \$16 million cash transfer to Hemosol Corporation, a successor corporation to Hemosol Inc. in the blood products business, along with \$3 million of transaction costs

### Other Matters

During the third quarter of 1996, the Government of Canada, Atomic Energy of Canada Limited and the Company, reached an agreement to build two specialized reactors to ensure a stable long-term supply of medical isotopes. Construction of these new reactors commenced during the second quarter of 1997. The Government of Canada provided MDS with a \$100 million non-interest-bearing loan to fund a portion of the construction costs. Repayment of the loan over a fifteen-year period commenced in October 2000. To satisfy its future repayment obligation, the Company has pledged a financial instrument having a value at October 31, 2004 of \$45 million as security for the loan.

## **3 – NARRATIVE DESCRIPTION OF THE BUSINESSES OF MDS**

### **3.1 – Reportable Industry Segments**

Until 2004, MDS operated in three business segments: Life Sciences, which includes the development, manufacture, and provision of products and services to manufacturers of medical products with a particular focus on drug development; Health, which focuses on the provision of services and products to health care providers; and Proteomics, a research business focused on the applications of proteomics to transform the productivity of the pharmaceutical industry in discovering and developing new medicines for the treatment of disease. During 2004, the company reorganized its interest in the Proteomics segment and effective July 19, 2004 ceased to conduct business in that segment. Each of these business segments contain separate operating business units that are grouped according to business:

#### **Life Sciences Segment:**

##### **Isotopes**

Operating under the trade name MDS Nordion, these business units are leaders in the production of isotopes used in the diagnosis and treatment of disease and isotopes used to sterilize medical and other products, including food. In addition, the isotopes business includes the manufacture and

sale of isotope-based cancer therapy equipment.

Analytical instruments Operating as MDS Sciex, this business unit focuses on the design, development, and manufacture of analytical instruments based on principals of mass spectrometry and related operating systems and software and other products. These products are sold through the ABI/MDS Sciex and PerkinElmer/ Sciex partnerships to pharmaceutical and biotechnology customers as well as academia and environmental end-use markets.

Pharmaceutical Research Services Operating as MDS Pharma Services, these business units provide research services with an emphasis on early-stage contract research from pre-clinical development to Phase II (a) clinical trials for innovative and generic pharmaceutical companies and for biotechnology companies as well as consumer product and drug delivery companies.

**Health Segment:**

Diagnostics Through various operating business units, the Company is the leading provider of diagnostic laboratory services in Canada. The Company also has developed proprietary laboratory automation systems and processes and has developed expertise in hospital network integration services.

Medical Products Distribution The Company is a partner in the largest provider of distribution services for medical products in Canada, supplying hospitals and alternative care sites.

**Proteomics Segment** MDS Proteomics (now Protana Inc.) was a pioneer in the field of proteomics-enabled drug discovery with a goal of transforming the productivity of the pharmaceutical industry in discovering and developing new medicines for the treatment of disease. The company has developed capabilities in proteomics systems, technology, supercomputing, drug design, screening and biology and is uniquely positioned to build an effective bridge between gene discovery and therapeutic development.

The following table provides information about the relative size and importance of the Company's business segments:

	Assets			Revenues		
	2004	2003	2002	2004	2003	2002
Life Sciences	77%	76%	75%	66%	65%	64%
Comprising:						
<i>Pharmaceutical Research</i>				30%	30%	31%
<i>Analytical Instruments</i>				16%	16%	13%
<i>Isotopes</i>				20%	19%	20%
Health	23%	17%	18%	34%	35%	36%
Comprising:						
<i>Diagnostics</i>				23%	24%	24%
<i>Medical Products Distribution</i>				11%	11%	12%
Proteomics	-	7%	7%	-	-	-
Total	100%	100%	100%	100%	100%	100%

### 3.2 – Life Sciences Segment

Life Sciences businesses are those whose primary business is the direct manufacture of medical products or which supply technology, products or services to other companies for use in the manufacture of medical products. Customers of MDS's Life Sciences businesses include companies involved in the development of pharmaceuticals and biotechnological products, as well as manufacturers of medical products and devices. In all cases, the products or services include a high level of technological sophistication or require significant technical or scientific expertise.

#### 3.2.1 – Isotopes

MDS is a leading manufacturer, marketer and distributor of radioisotope products and equipment, supplying a major segment of world demand for its main product categories. The primary uses for radioisotopes processed by MDS are in nuclear medicine (including the production of radiopharmaceuticals and cancer treatment) and in industrial irradiation for microbial control. Exports of these materials to over 70 countries account for more than 98% of total sales by this business.

## Industry Background

Radioisotopes are forms of chemical elements that are radioactive and are not naturally occurring. These elements are produced as byproducts within specially equipped nuclear reactors and within specially designed equipment known as cyclotrons.

In nuclear medicine, these products are used because of their ability to show up in x-ray or similar diagnostic procedures. When formulated with chemical compounds that are attracted to or accumulate in particular types of tissue, these isotopes can aid physicians in the identification and treatment of diseases, principally cancers. Certain other radioisotopes can be used to deliver direct radiation therapy to cancerous cells using the same principles.

The principal radioisotopes in use worldwide are:

Cobalt-60	Used for industrial sterilization of medical products, certain foods, and other materials that require high levels of sterility.  Cobalt-60 is also used as a radiation source for certain forms of cancer treatment.
Molybdenum-99	Used to produce technetium-99m, this isotope forms the raw material for the majority of radiopharmaceutical products used for diagnostic procedures involving many major organs and bones.
Iodine	Several isotopes of iodine are in common use including I <sup>131</sup> - used for diagnosis and treatment of thyroid conditions, and I <sup>125</sup> - used for radioimmunoassays and certain cancers.

Molybdenum-99 and iodine-131/125 are produced in reactors. The following isotopes are produced in cyclotrons:

Iodine-123	This product is used for thyroid, heart and lung studies. Iodine-123 is the most significant cyclotron-produced radioisotope product of the Company.
Thallium-201	This isotope is used extensively for cardiac studies.
Yttrium-90	This product is used principally for radiotherapy and the treatment of tumours and in the manufacture of radiolabeled therapeutic agents.

Significant barriers to entry exist in both the medical isotopes and sterilization businesses. The manufacture of raw isotopes is dependent upon the availability of capacity in acceptable types of nuclear reactors and cyclotron beam time. Processing facilities such as those operated by MDS are centralized, capital intensive, and expensive to operate. In addition, due to the nature of the materials handled by the facilities, government and environmental regulation is a significant factor in the business.

Processing raw isotopes into a form suitable for the intended use is highly complex. Many isotopes used for nuclear medicine have a limited half-life. This imposes constraints on the manufacturing process and on the logistical procedures needed to deliver refined product to an end user. Efficient and safe transportation and logistical systems are vital components of the business. Security of supply is a key customer concern, due to the short lifespan of the products. Nuclear decay renders some of the products processed by MDS useless in a matter of days and isotopes are processed, delivered to manufacturers and then on to hospitals or treatment centres in only a few days.

Nuclear medicine is a growing market. Ageing populations worldwide are expected to increase demand for the procedures which nuclear medicine makes possible. In addition, considerable research is underway to identify new uses for existing radioisotopes. These forces are expected to propel the growth of this industry in the future.

Industrial sterilization is a more mature industry. Alternative uses for this technology are under investigation. To date, irradiation of food products has largely been limited to certain dry goods such as spices, certain fruits and vegetables, and to poultry. During 1998, the US Food and Drug Administration (“FDA”) approved the use of irradiation for microbial control of pathogens (principally e. coli) in red meat and since then the US Department of Agriculture announced regulations pertaining to these procedures. At present, there is limited application of these procedures to red meat; however, significant effort is being devoted to promoting this alternative.

### Business Overview

MDS processes and repackages radioisotopes and uses the refined materials to produce products that include:

- radioactive sources for use in sterilization;
- radioisotopes that are used alone or coupled to targeting molecules for use in clinical research, diagnosis and treatment of diseases such as cancer;
- radioisotopes for use in nuclear medicine; and,
- radioactive sources for the treatment of cancer.

In addition, the Company manufactures and sells equipment that is used for the application of its radioactive products, including:

- cancer therapy treatment equipment;
- sterilization systems to ensure that disposable medical products are contaminant-free;
- sterilization systems for use on a wide variety of food products; and
- small-scale irradiators used for research purposes and to treat blood for immuno-compromised patients.

In its Ion Technologies operations, MDS is the world's principal supplier of cobalt-60. The majority of raw cobalt-60 material is produced under long-term supply contracts in nuclear reactors operated by Ontario Power Generation Inc. (“OPG” - formerly Ontario Hydro), Bruce Power Limited Partnership (“Bruce”) and by Hydro Quebec. MDS further processes the raw cobalt-60 (also referred to as a gamma source) for commercial use at its Kanata, Ontario

facilities. The resulting processed material is delivered to customers using approved transport containers and procedures. Customers of the Ion Technologies business unit include major sterilization contractors, as well as large medical product manufacturers who maintain their own sterilization capability. Other users include hospitals and alternative sites that use cobalt-60 in cancer treatment applications.

MDS also markets related processing equipment and technology, including industrial scale irradiators and smaller research irradiators. Delivery or construction of this equipment is usually accompanied by an initial shipment ("loading") of gamma source. Resupply or replenishment of the gamma source is required from time to time as the radioactivity level of the initial loading declines over its half-life of 5.27 years.

Isotopes used for nuclear medicine are handled and processed in much smaller quantities than those used for industrial irradiation. MDS purchases reactor-produced isotopes such as molybdenum-99, iodine-131, iodine-125 and xenon-133 in an unfinished, non-purified form from Atomic Energy of Canada Limited ("AECL"), and transports them to its own facilities in Kanata for further processing. MDS manufactures cyclotron-produced isotopes such as iodine-123, thallium-201, palladium-103 and yttrium-90 at its facilities in Vancouver, Canada and Fleurus, Belgium, and refines these materials in its adjacent processing facilities.

The purified forms of these radioisotopes are incorporated by pharmaceutical companies into radiopharmaceuticals used to diagnose and treat numerous serious disease states, such as coronary artery disease and cancer. Molybdenum-99 decays into technetium-99m, which is the most widely used diagnostic radioisotope in the world. Approximately 50,000 procedures daily – more than 18 million scans each year – use a technetium-99m-radiopharmaceutical. This number is expected to grow as the population in developed countries ages and as the use of nuclear medicine in the management of coronary artery disease expands. MDS is the world's leading producer of molybdenum-99.

To secure the future supply of molybdenum-99 and the other reactor-produced radioisotopes commonly used in nuclear medicine, MDS is building the world's first reactors dedicated exclusively to their production. The new facilities are under construction by AECL. MDS owns the reactors and, once completed, AECL will operate them on a contract for service basis. MDS does not own the existing NRU reactor that is currently its principal source of molybdenum-99.

The MAPLE facility has been under construction since 1997. Construction is subject to high levels of regulator oversight and intense scrutiny, including public hearings. As a result of construction deficiencies, completion of the facility has been delayed by approximately four years. While progress has continued, it has been slow. Cost overruns on the project are to be shared between MDS and AECL as contractor. The application of this cost sharing arrangement has been the subject of a dispute between MDS and AECL. The companies have agreed upon a mediation process to resolve this dispute and a mediator was appointed in February, 2005.

Final completion and commissioning of the reactors will entail an extended regulatory and quality control review process for our customers, including steps to determine that the products produced in the new facility meet the same quality standards as those produced in NRU.

The new reactors and an integrated, state-of-the-art isotope processing facility will enable MDS to provide its customers with a stable and secure supply of key medical isotopes. They

strengthen MDS's competitive position in medical isotope supply, as they are the only reactors designed to optimize medical isotope production. All other reactors engaged in medical isotope production are multipurpose reactors and may be approaching the end of their useful lives.

The current operating license issued by the Canadian Nuclear Safety Commission (CNSC) for the NRU reactor expires on December 31, 2005. The Company has been advised by AECL, the owner and operator of the reactor, that they will apply for an extension to the operating license and expect it will be obtained.

Facilities that are able to handle and process isotopes in the manufacture of radiopharmaceuticals are complex and strictly regulated. MDS has added an 80,000 sq. ft. manufacturing facility that is utilized on a partnership basis in the development, and later, the direct manufacture of radiotherapeutics. Currently two products are being produced in this facility on behalf of others: Zevalin, the world's first radiotherapeutic antigen; and, BEXXAR. Both products are based on monoclonal antibodies and treat non-Hodgkin's Lymphoma. Zevalin uses Yttrium-90 as the active agent while BEXXAR uses Iodine-131.

Growth of development and manufacturing opportunities is expected, since drug manufacturers may not wish to incur the capital cost or regulatory delays associated with building their own facilities.

During 1998, MDS made a strategic decision to enter the cancer therapy and treatment market with the acquisition of Theratronics. Theratronics manufactures and distributes radiation therapy equipment and related treatment planning software. Cobalt-60 is the radiation source for this equipment. In 1999, the Company expanded its capabilities in this market by acquiring product and software technologies. In 2002 and 2003, MDS sold the software and treatment products businesses in separate transactions to focus on the treatment equipment and cobalt supply segments of this business.

The Isotope business employs over 900 people at its Kanata, Ontario head office and facilities in British Columbia, Quebec and Belgium. Some technical and production employees of MDS belong to the Public Service Alliance of Canada, a collective bargaining agent representing, among others, certain employees of the Government of Canada. Labour relations are judged to be good.

### Strategy, Markets, and Competition

MDS has a leading position as an international supplier of key isotopes. Revenue growth for isotopes generally is in line with the overall increase in health care spending and population growth, both of which have an impact of the growth in the utilization of diagnostics tests and the use of disposable medical products. Sales of medical isotopes does not follow any notable seasonal or other cycles and demand is relatively constant. The short half-life of the isotopes used for medical purposes limits the ability of any market participant to build significant inventories.

Irradiation isotopes tend to be somewhat more cyclical, due primarily to the length of time required to convert cobalt 59 into cobalt 60 and the limited number of facilities in which this can be done economically. Fiscal 2003 and 2004 marked the turn-around of a supply shortage that had effected the market for several years.

Security of supply is a significant objective for the majority of the Company's customers. The Company has developed a strong supply and logistics network to meet these demands. Current activity and investment, including the construction of the MAPLE facility, is intended to solidify the Company's position as a reliable source of supply. In addition, the Company is developing new and complementary lines of business based on its expertise with isotopes. For example, the cancer treatment market is expected to develop rapidly over the next several years, particularly in emerging economies. Many of these countries are now able to afford modern cancer therapies and are expected to make significant investments in this technology as their health care systems develop.

Partnerships for the development and manufacture of radiotherapeutics also represent a significant opportunity. MDS is capable of handling the complex manufacturing processes that are often required.

Significant barriers to entry limit the competition faced by the Company in the medical isotopes market. Since molybdenum-99 is the most significant isotope on world markets, the majority of competition faced by the Company is in this product. Major competitors are Institut National des Radioelements (IRE) of Belgium and the Atomic Energy Corporation of South Africa.

Competition in the cobalt-60 market is different from the medical radioisotopes market due to the substantially different half-life of the products. Cobalt-60 is often bought and sold in large quantities and can be produced by any of several nuclear reactors around the world. While delivery and logistics expertise remains a MDS advantage, the most significant competition in industrial irradiation and cobalt-60 supply comes from Reviss (a joint venture between Mayak, Russia and Nycomed Amersham) who acquire cobalt from Russian sources. Competition for sterilization spending also comes from alternative technologies, the most significant of which are Ethylene Oxide (EtO) and electron-beam. The Company believes that radiation-based sterilization technologies continue to enjoy advantages over these competitive technologies in some applications. In addition, there is a significant installed base of industrial irradiators that will ensure that gamma irradiation remains a key technology in this market.

### Risk Factors

Medical isotopes manufactured by MDS Nordion are sold worldwide and are generally priced in US dollars or in local currency. Because the majority of the Company's costs are paid in Canadian dollars, changes in the relative value the Canadian dollar compared to the US dollar or other foreign currencies, can have a significant impact on the net margin generated from product sales. The Company has employed foreign exchange hedging strategies to lessen the impact of the exposure to the US dollar.

MDS is dependent upon its suppliers (principally OPG, Bruce, Hydro Quebec, and AECL) for its source of supply. Each of these entities, with the exception of Bruce, is a Crown Corporation and all are unionized. Because MDS is able to maintain an inventory of cobalt-60, a labour disruption would not significantly impact the Company's ability to meet normal customer requirements in the short-term. MDS has taken steps to lessen the risk that a labour disruption will cause an interruption in its source of supply of medical isotopes by establishing co-beneficial back-up arrangements with certain competitors. In addition, AECL employees who operate the current Chalk River NRU reactor and those who will operate the MAPLE reactors have been deemed "essential service" and are consequently prohibited from striking.

MDS purchases cobalt-59 as a commodity. The processed cobalt-59 is inserted into nuclear reactors for periods of 18 to 24 months to convert it to cobalt-60. Access to these nuclear reactors to either install or remove cobalt is determined based on the routine maintenance schedule for the reactor facility. A significant change in a maintenance schedule could have a material impact on the availability of cobalt-60 in any given year. Although the operators of the facilities establish these schedules, we work closely with these suppliers to optimize the timing and availability of cobalt to meet our needs.

Certain medical isotopes that are purchased in reactors are by-products of the decay of the uranium fuel in the reactor. MDS obtains the majority of its uranium from the United States. The US Department of Energy (DOE) strictly controls exports of high-energy uranium (HEU). Delays in obtaining HEU could cause supply disruption for certain isotopes. We work closely with regulators to ensure the risk of such disruption is minimized. Currently the DOE must approve each shipment of HEU. There is a significant likelihood that the DOE will require that we replace HEU with low energy uranium (LEU) in our facilities. To change to LEU-based reactors would require additional capital investment and could impact the profitability of these facilities. MDS is actively engaged with industry groups investigating the feasibility of HEU and LEU conversions on a global basis.

Because our isotopes businesses handle materials that are toxic, we have in place facilities and procedures designed to reduce and eliminate the risk of environmental contamination stemming from the processing of these materials. All Company facilities are government regulated and inspected. The Company also has in place a rigorous maintenance program to ensure continued compliance with all applicable regulations. Shipment containers and procedures are subject to international regulations and MDS has in place policies and procedures designed to ensure regulatory requirements are met.

None of the facilities for which we are the licensed operator contain fissionable materials. We are the owner of cyclotrons in Belgium and in Vancouver, Canada and of the MAPLE reactor in Chalk River. The operator of NRU is AECL and AECL will also be the operator of MAPLE. The Tri-University Meson Facility is the operator of our Vancouver cyclotron and IRE operates our cyclotron in Belgium.

Under the nuclear regulatory framework in Canada, operators of nuclear facilities, including reactors and cyclotrons, are solely responsible for any liabilities that arise related to the facilities. For this reason, MDS is not liable for any claims related to the operation of NRU, MAPLE, or our cyclotrons.

### **3.2.2 – Analytical Instruments**

#### **Industry Background**

Operating as MDS Sciex, the Company competes in the high-end analytical instruments business, manufacturing these instruments from a technology platform based on the principles of mass spectrometry. MDS first entered this industry in the analytical instrumentation business in 1981 with the acquisition of Sciex and in 1988 introduced the first liquid chromatography mass spectrometer for use on organic compounds. In 1995, MDS created a pharmaceutical research services division to take advantage of the significant

opportunities that exist in drug discovery and contract research outsourcing for drug development companies.

Mass spectrometry has proven very effective when used as part of the drug development process, and the most significant growth for MDS Sciex and others in the industry has come from Life Sciences applications.

### Overview of Business

MDS supplies the pharmaceutical industry with an advanced line of high-sensitivity analytical instruments under the Sciex trade name. MDS manufactures ultra-trace chemical detection equipment and is Canada's leading manufacturer of analytical instrumentation. Marketed through joint ventures with Applied Biosystems (a division of Applied Biosystems Corporation) and PerkinElmer Canada, Inc. to a global customer base, export sales account for more than 95% of revenues from these products.

MDS has been a major innovator of technologically sophisticated mass spectrometry instrumentation. In each of its product lines, MDS has been a pioneer. Accomplishments include the introduction of the first triple-quad mass spectrometers, inductively coupled plasma mass spectrometers, and techniques for detecting ultra-trace amounts of small or large molecules by atmospheric pressure ionization (electrospray). Most of these products have evolved through multiple generations and continue to hold significant shares of their market segments.

The pharmaceutical and biotechnology markets are the major users of technology based on the principles of liquid chromatography coupled with mass spectrometry (LC/MS) for detecting organic compounds. Early models of this equipment revolutionized many of the processes that were fundamental limitations in the search for new drugs or biotechnology products. Productivity and sensitivity improvement remains the primary basis for product differentiation for MDS equipment.

Newer products that combine mass spectrometry with time-of-flight and ion trap technologies are finding markets among researchers investigating larger molecules such as proteins. In particular, the emerging proteomics market has become a key customer for this equipment.

MDS Sciex and its partner Applied Biosystems are the market leader in high-sensitivity LC/MS equipment and have consistently delivered technological innovation within this industry. This innovation is a result of a high level of research and development spending each year.

In 2004, MDS and AB expanded their partnership to include AB's MALDI-TOF technology and further develop the partnership as the world leader in high-end analytical equipment for the drug development industry.

A smaller portion of the Company's market is outside of the pharmaceutical industry and relies on similar equipment for the detection of inorganic compounds. For this group of customers, the Company produces the ELAN Inductively Coupled Plasma Mass Spectrometer (ICP/MS) that provides high sensitivity with extremely high specificity for a wide range of elements in the analysis of a single sample. The range of market areas that are addressed with the ELAN is very broad and includes environmental monitoring (drinking and wastewater analysis), toxicology (role of trace metals in human disorders), semiconductors (trace impurities), and the nuclear

industry (impurities in uranium). These machines are marketed on a worldwide basis through a joint venture with PerkinElmer Canada, Inc.

For both joint ventures, MDS Sciex is responsible for manufacturing and has primary responsibility for research and development. The Company's partners are responsible for marketing, sales, and service. The partnerships are structured so that each partner shares equally in the full profit margin generated once a piece of equipment is sold to an end-user.

Over 560 work in MDS Sciex, with the majority of these employees based in the division's Concord, Ontario head office.

### Strategy, Markets, and Competition

The Company's strategy is to be the leading global provider of top-of-line analytical instruments, with a particular focus on the application of this technology within the drug development process.

MDS Sciex instruments are designed to out-perform competitive products as measured based on sensitivity, speed, or both. The Company's most important platform is based on LC/MS technology and sells under the model name API. The top end of this product range is the API 5000, launched in January 2005. More recently, the Company has added to the LC/MS platform and introduced new instruments based on MALDI, TOF, and combination technologies (Q-TOF, MALDI-TOF).

The key differentiator for MDS Sciex products has always been performance, justifying the higher prices generally applied to this line of equipment.

MDS Sciex products are sold through our joint ventures into global markets. The key markets are the US, western Europe and Japan, reflecting the sophistication of the drug development industry in each of those areas.

The Company's principal competitors in the analytical instrumentation market include Waters Corporation, Thermo Electron Corporation, Bruker Daltronics, Inc., and Agilent Technologies, Inc., all of which operate in the global market. Competition takes the form of other manufacturers selling similar technology and also companies that sell competing but different technologies for certain applications.

Since technological superiority is a key product differentiator, MDS Sciex, along with our partners, takes all necessary actions to defend our intellectual property. In 2003 we successfully pursued Waters Corporation in a patent infringement suit related to a key LC/MS technology. Over two year, the Company received patent infringement settlements amounting to \$53 million, pre-tax, plus a royalty on any on-going sales of the technology. Following settlement of this patent infringement suit, AB/MDS Sciex launched a suit against Thermo Electron Corporation over a similar violation.

### Risk Factors

Development of leading-edge technologies and protection of key intellectual property are important differentiators within the analytical instruments business. MDS aggressively defends its patent rights in this industry. In 2002, MDS and our partners, Applied

Biosystems, successfully prosecuted a patent infringement suit against Waters-Micromass in the US. The court awarded damages of US\$52 million that was paid in 2003 and enjoined Waters-Micromass from selling certain of its product in the US (MDS portion of this settlement was \$39 million). In 2004 the partnership settled similar infringement claims in other jurisdictions, totaling \$14 million paid to MDS.

Technological advances by others could render our products obsolete or could provide others with a competitive advantage that would make it more difficult for us to sustain profitability in this market. We invest significantly in research and development to lessen this risk. In addition, MDS Sciex engages closely with its customers to ensure that customer needs are fully understood and given adequate consideration in research and development projects.

Products manufactured by MDS Sciex are sold worldwide and are generally priced in US dollars or in local currency. Because the majority of the Company's costs are paid in Canadian dollars, changes in the relative value the Canadian dollar compared to the US dollar or other foreign currencies, can have a significant impact on the net margin generated from product sales. The Company has employed foreign exchange hedging strategies to lessen the impact of the exposure to the US dollar.

Essentially all sales by MDS Sciex are made through partnerships with Applied Biosystems and Perkin Elmer. The relationship between MDS and each of these partners has generally been good. The relationships are governed by partnership agreements that define the rights and responsibilities of each party. While each partnership is for a fixed term, both agreements extend automatically in the absence of any notice to terminate the agreements.

### **3.2.3 – Pharmaceutical Research Services**

MDS operates as a global contract research organization (CRO) under the trade name MDS Pharma Services (MDSPS). MDSPS is one of the top five global CROs and has been highly rated for customer service and quality by CenterWatch, a leading industry publication. The main focus for MDSPS is in early-stage pharmaceutical research services (from discovery to Phase IIa) and the Company has a growing presence in later-stage research as well. The Company operates as a CRO in 23 countries.

#### Industry Background

During the 1970's, integrated pharmaceutical companies conducted the majority of research leading up to development of pharmaceutical products in-house. At that time, the only significant function that was contracted out was pre-clinical toxicology screening.

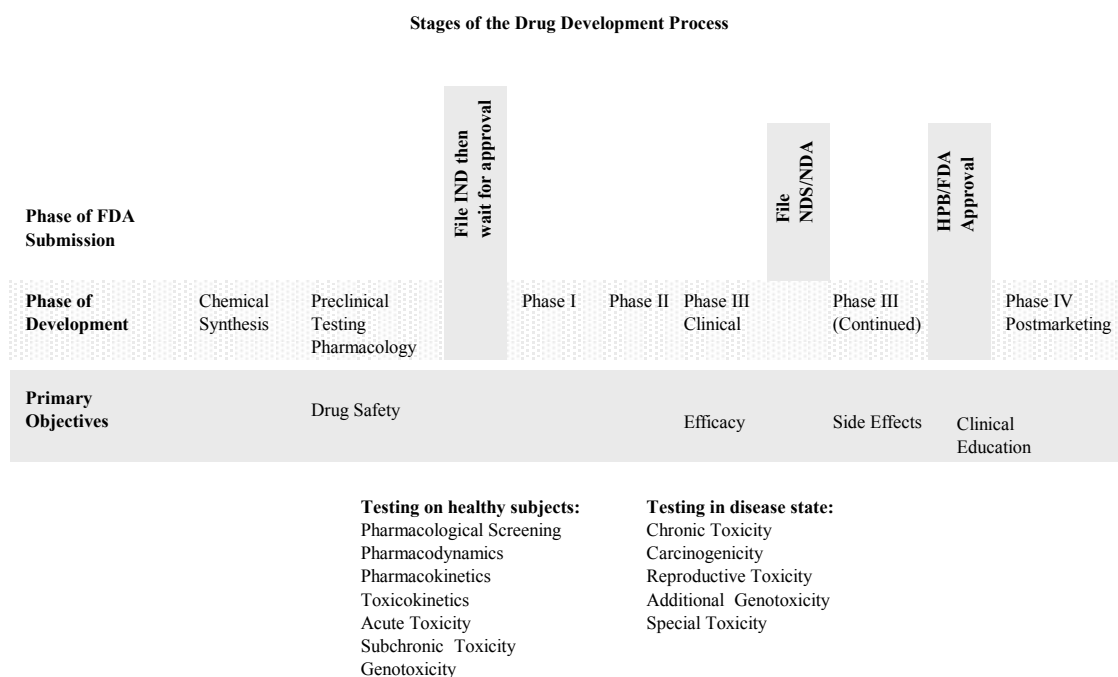
The drug development process is extremely expensive due to the cost of the infrastructure required to support the full range of processes necessary for drug development and the long period of time required to achieve full regulatory approval of a new compound. On average, it takes 10 to 12 years and over US\$800 million to bring a new pharmaceutical from discovery through Phases I to III of clinical trials and make it available to consumers. Since patent protection for new products extends for only 17 to 20 years, the profitability of a new compound can be greatly enhanced by reducing the total cost of development and by shortening the elapsed period over which development occurs.

In an effort to reduce both time and costs, major drug companies began outsourcing portions of the development work to companies that provide research services. These companies have become known as Contract Research Organizations or CROs. Individual CROs tend to specialize in particular stages of the drug development process and, therefore, develop expertise in those areas. Reliance on CRO expertise can enable the pharmaceutical companies to achieve cost efficiencies and to shorten the research time for that stage.

The decision by MDS to enter the CRO business in 1995 was influenced by a number of key trends that were beginning to affect the industry. The Company believes that these trends remain in place. In particular, corporate mergers and cost containment pressures at pharmaceutical companies will continue to lead to downsizing of in-house research and development capabilities and that pharmaceutical companies will focus increasingly on marketing and product distribution. Outside suppliers will increasingly be relied upon to provide services previously secured from in-house departments. Aside from reducing infrastructure costs for the pharmaceutical companies, this initiative is expected to lead to reduced cycle time for development. Outsourcing this activity may also lead to development of drug candidates which have a small market and might have been ignored by larger pharmaceutical companies which require large-market drugs to cover the costs of their marketing and distribution channels.

Globalization of pharmaceutical markets driven by on-going mergers of major international pharmaceutical companies has influenced the selection of a CRO. Those with an international presence and the ability to conduct trials in multiple jurisdictions have become preferred suppliers. The growth of the biotechnology industry is also influencing the growth of CROs, as many smaller biotechnology companies do not have the infrastructure to conduct trials for their products in-house.

A general overview of the drug development process is provided below:



## Overview of Business

Headquartered in Philadelphia, MDSPS provides contract research services to pharmaceutical manufacturers and biotechnology companies, focusing particularly on pre-clinical and early clinical drug development (up to Phase IIa clinical trials). MDS has provided services to pharmaceutical manufacturers since 1992, beginning as a centralized support laboratory providing testing services in connection with Phase III clinical trials. MDS is now the largest CRO in the pre-clinical and early clinical segment of the market and a developing competitor in late-stage clinical trials.

The pharmaceutical research process can be broken down into three primary components: laboratory-based research, clinic-based testing, and out-patient based testing. MDS includes most laboratory-based research and clinic-based research in early-stage and the Company has been the leading competitor in this phase of research based on the installed base of mass spectrometers and on the number of available clinic beds. The Company's significant capacity in each of these areas enables it to take on client work on very short notice and to develop the necessary expertise in these fields to participate in the most complex studies.

Key lines of business for this division include:

- Pharmacology in which the Company's vast library of assays is applied to study the effects of compounds on living organisms
- Drug Safety in which advanced understanding of drug safety and toxicology is obtained
- Bioanalysis in which advanced analytical instrumentation is applied to gain an understanding of the drug absorption, metabolite profiling and pharmacokinetics of compounds
- Early-stage clinical or first-in-man testing, in which new investigational drugs are tested for the first time in healthy volunteers to determine how the drugs are processed by the body.
- Late-stage clinical or traditional clinical trials, in which investigational drugs are tested in volunteers exhibiting the condition the drug is intended to affect to determine the relative efficacy of the drug under study.
- Central laboratory, a support service for late-stage trials, through which samples taken from study participants are run against standard assays to determine the effectiveness of the drug.

Significant pre-clinical and early clinical operations are in Montreal Quebec, Lincoln Nebraska, Phoenix Arizona, Bothell Washington, Tampa Florida, Belfast N. Ireland, Lyon France, and Hamburg and Munich Germany. These facilities include clinic locations and laboratories, as well as other development facilities.

Management of late-stage clinical trials on behalf of clients is conducted globally. Significant clinical offices include Philadelphia Pennsylvania, Irvine California, Paris France, Warrington UK, and Madrid Spain, along with smaller offices in a number of other countries. In addition, the Company has central laboratory locations in Toronto Ontario, Paris France, Beijing China, and Hamburg Germany.

Globally, more than 4,400 employees work in MDS Pharma Services.

### Strategy

MDS Pharma Services is currently one of the top six CROs in the world. The Company offers a broad range of services spanning drug discovery through Phase II-IV clinical research, with particular strength in bioanalytical and Phase I clinical research. Management expects to continue to expand its global capabilities through organic growth and (where strategically relevant and fiscally prudent) through acquisition. The acquisition strategy of the Company is to focus on targets that extend leadership in key fields and leverage existing assets.

### Competitors

The growth of the contract research industry has been dependent on the increase in outsourcing by pharmaceutical and biotechnology companies. The market has experienced high growth rates and has become highly competitive. Competition for individual research contracts often includes in-house research departments of pharmaceutical and biotechnology companies, as well as universities, teaching hospitals, and other CROs. Industry consolidation has affected pharmaceutical companies as well as competing CROs and a trend toward the use of fewer, larger CROs has been observed. The Company believes that outsourcing will continue and grow as an economically attractive alternative to in-house research. Several of the Company's CRO competitors are significantly larger than MDS and may have greater financial and technical resources. Competition generally focuses on technical capability, service quality and pricing. The ability to offer an integrated program of services has also become important, especially for clients in the biotechnology sector. The majority of competitors have been focused primarily on later stages of the drug development process (Phase II-IV clinical research). Competitors include several multinational companies such as Quintiles Pharmaceutical Services, Covance, Inc., Parexel International, Corp., PPD, Inc., and SFBC International, Inc.

### Risk Factors

A portion of the revenue earned by the Drug and Development businesses is under contracts which typically run several months for drug discovery through Phase I clinical trials and as much as several years for Phase III/IV clinical trials. Terms of most contracts entered into by the Company entitle clients to cancellation rights. Such rights are common to these contracts and may be exercised by the client in the event of regulatory delays or if unexpected results are encountered at any stage of the development program. The Company's focus on early stage contract research reduces its exposure to the loss of a large single contract. MDS is therefore able to mitigate its exposure to revenue loss from contract cancellation by maintaining an order backlog consisting of numerous contracts having smaller individual values. Although it is not possible for the Company to predict the occurrence of delays or cancellations, the Company's strategy is to mitigate the impact of any such delays by maintaining this broad portfolio of ongoing contracts.

During clinical trials testing, the Company will typically administer products owned and developed by others into individuals acting as test subjects. Under the terms of the contracts

entered into by the Company, the pharmaceutical customer retains risk related to product failure, including risks related to adverse reactions by test subjects. The terms of these contracts vary and these terms do not prevent individuals from filing claims against MDS. Furthermore, the financial obligations established under these contracts are not secured and it is possible that the indemnifying party may not have the financial ability to meet its obligations to MDS in the case of an adverse event.

In conducting the tests and other procedures that form a part of the clinical trials process, the Company may be subject to claims related to negligence or misconduct pertaining to the services it performs. These risks may also include the medical malpractice of medical personnel operating Phase I clinical facilities. In addition, the Company could potentially be subject to claims for negligence or misconduct on the part of third-party investigators engaged by the Company on behalf of clients. The Company maintains professional liability insurance coverage against these risks; however, there is no assurance that such coverage will be adequate in the event a claim is successful.

Although MDS facilities devoted to pharmaceutical development are not directly subject to significant unusual government regulation, customers of the Company are subject to periodic review by drug approval authorities, principally the Food and Drug Administration in the US. Under the terms of typical CRO contracts, the Company's customers can request that Company facilities be subjected to the same levels of review by the authorities. The Company meets Good Laboratory Practices ("GLP") standards for its laboratories and Good Clinical Practices ("GCP") standards for its clinic facilities.

During 2004, MDSPS received written communication from the Food and Drug Administration (FDA) related to a 2001 generic bioequivalence study conducted at the Company's Montreal facility. The letter outlined concerns about unexpected results from a limited number of study samples and the procedures in place at the time to follow up on those unexpected study results. MDS PS has and is continuing to work with the FDA regarding corrective actions. FDA inspectors have conducted a thorough audit and MDS PS has implemented a comprehensive plan to address the FDA concerns.

The FDA review is ongoing as at the date of this report. MDS PS is continuing to review study data for the period in question and is making every effort to comply with all FDA requirements. Full disclosure has been made to our customers and shareholders. At the date of this report, the Company has agreed to a work plan with the FDA that is expected to address all remaining concerns.

Our contract research services depend on the availability of technicians and professionals with knowledge in their fields. Our ability to retain and motivate these staff has a direct bearing on our success in these businesses. The investment required to retain key staff, including ensuring that compensation packages are competitive, could have an impact on the profitability of this business.

In addition, research and development we conduct in Canada, both on our own account and for defined groups of arm's length customers, is eligible for tax credits. Elimination of the tax credits would have a material impact on the cost of our research.

Future regulatory changes could impair our ability to offer the research services we now provide. Such regulatory changes could make the provision of these services too expensive to

be attractive to clients or could cause clients to reduce the amount of outsourcing they are prepared to do. We monitor carefully the regulatory environments in all markets in which we operate to ensure that we are prepared for and respond to proposed changes and to influence where possible the setting of new regulations.

### **3.3 – Health Segment**

Health businesses are those that supply products or services to individuals or institutions that, in turn, provide health care services directly to patients and consumers. Generally, the customers of the Company's health businesses consist of physicians, hospitals, and similar service providers. Services provided include routine clinical diagnostics, laboratory management, laboratory automation technology, medical product distribution, and inventory management services.

#### **3.3.1 – Diagnostics**

MDS is the largest operator of private sector clinical laboratories in Canada. Services provided by the Company include clinical laboratory testing for physicians and non-hospital health care institutions, management of hospital laboratories under contract and other support services for clinical diagnostics.

#### Industry Overview

In Canada, clinical laboratory testing is split roughly 75%/25% between hospital-based laboratories and private sector operated community laboratories. Hospital laboratories conduct the majority of inpatient and outpatient testing. In certain provinces hospital laboratories also handle community testing; however, in Ontario, private sector laboratories handle essentially all community testing. In Alberta, community and hospital testing is managed by regional health authorities and provided by both hospital and community laboratories.

All clinical testing is conducted on samples drawn from patients and based on requests received from physicians. Test results are reported back to physicians and are not made available directly to patients. Fees for most testing services (other than those performed in Quebec) are billed to a government health care agency according to a fixed fee schedule, subject in most cases to an overall fee cap. Most jurisdictions have eliminated coverage for certain diagnostic procedures ("delisted") and fees for these services are billed directly to patients.

Although the customers of the laboratory services business are generally physicians and patients, the majority of funding for such services is provided under the terms of provincial health care programs. Company operations in each province are organized to conform to government payment programs existing in the relevant province.

In most provinces, operators of clinical laboratories are required to carry licenses which determine the nature of tests which can be carried out at each facility and govern the ability of the operator to draw samples for testing purposes. Such licenses are for a limited term (generally renewing annually) and their renewal is subject to government approval. In Alberta

and Saskatchewan, licenses have been replaced by service contracts with regional health authorities.

### Business Overview

The Company is active in all provinces west of the Maritimes, except Saskatchewan, either directly or through joint ventures. Approximately 45% of laboratory revenues originate in Ontario. A further 23% originates in British Columbia, 13% in Alberta, and 2% in other provinces. The laboratory business of MDS is carried out through the following types of licensed locations:

*Patient Service Centre (PSC)* – a location which is licensed to draw samples from a patient, but which is not authorized to perform any testing procedures on the samples.

*Local laboratory* – a location that serves as both a PSC and as a testing facility. Such laboratories do not generally carry full testing approvals and therefore conduct only limited types of tests.

*Central laboratory* – a location to which all samples collected at PSCs are sent for testing, along with samples that cannot be tested at local laboratories.

Laboratory fees are generally set provincially, following discussions between the operators of private laboratories and provincial ministry of health officials. In Ontario, the Ontario Association of Medical Laboratories represents private laboratories. Ontario fees have been established under an agreement that runs until March 31, 2005. In British Columbia, the British Columbia Medical Association (“BCMA”) negotiates fees on behalf of the laboratories. The British Columbia fee agreement also runs until March 31, 2005 and as of July 1, 2004 a 20% across the board fee reduction was implemented.

In Alberta, the fee-for-service system was replaced by bulk service contracts in each of the 17 regions established by the provincial ministry of health. MDS has operations in two of these regions. The Company has a 26.5% interest in, and is managing partner of, a partnership operating as Calgary Laboratory Services (“CLS”). This partnership includes the hospital laboratories that form part of the Calgary Regional Health Authority’s (“CRHA”) hospital laboratory operations. Under an agreement with the CRHA, CLS provides all laboratory services in the Calgary region, including laboratory services provided within hospitals. In Edmonton, the MDS Stirrat Laboratory organization, along with two competing laboratory firms, merged to form the Dynacare Kasper Medical Laboratories partnership, which has contracted with the Capital Regional Health Authority to provide both hospital and outpatient diagnostic services in the region. MDS owns 14.5% of this limited partnership.

MDS provides laboratory services in Quebec on a limited basis. Laboratory services in this province are generally provided by hospitals on an outpatient basis. Laboratory services provided by MDS in Quebec are billed directly to patients or physicians and constitute only a small portion of the testing conducted in the province.

In addition to the direct provision of testing services, the Company also provides laboratory management services and manufactures laboratory automation equipment and software. Often these related businesses operate hand in hand. In Canada, the Company has entered into agreements to provide laboratory management services to a number of hospitals and to groups

of hospitals, primarily in the Ontario marketplace. These agreements generally provide for a fee-for-service related to the management of a laboratory located within a hospital. The Company has also entered into direct partnerships with hospitals that combine management of in-house laboratories with construction of a centralized high volume laboratory serving a group of hospitals.

The Diagnostic Business has approximately 4,200 employees in Canada. The majority of these employees are not covered by collective agreements. Employees in British Columbia and Alberta, along with employees of certain of the Company's hospital joint ventures, are subject to such agreements. MDS has not experienced a significant work stoppage due to labour activities and the Company believes that labour relations are good.

### Strategy, Markets, and Competition

Continued constraints on health care funding are a major factor affecting the business in both Canada. In Canada, the existence of fee caps or block funding prevents the Company from increasing its revenues in line with increases in test volumes. Improved efficiency is a key operating goal for the Company. Discussions with governments are focused on balancing service levels and testing volumes with fee caps.

These same forces create market opportunities that the Company seeks to take advantage of as hospitals work to provide laboratory services more efficiently. Major hospitals are working to consolidate laboratory operations to bring increased efficiency to their laboratories. Hospital managers are also looking to bring community diagnostic work into hospitals (and away from community laboratory operators), to increase the profitability of their in-house laboratories.

The principal competitors in the private clinical laboratory services business in Canada are Gamma Dynacare Inc. and Canadian Medical Laboratories Inc. in Ontario, and BC Bio Laboratories Inc. in British Columbia.

Prior to 2004, approximately 30% of Diagnostics revenues were generated in the US. As at October 31, 2004, MDS has substantially exited the US market, through the sale of its operations in the US.

In addition to basic clinical laboratory testing, recent advances in technology have broadened the available diagnostic tools. MDS is actively pursuing new diagnostic methodologies, including the applications of mass spectrometry for diagnostic screening and proteomics (the study of protein interactions at a cellular level). It is expected that these new methodologies, and others, will enable diagnostics companies to develop new assays that can be used for routine screenings. They may also allow the creation of assays that permit the diagnosis and identification of disease state or genetic predisposition earlier than existing testing methodologies. MDS expects to invest in this expanded diagnostics field in future years.

### Risk Factors

The operation of clinical laboratories is subject to significant government regulation. In Canada, all laboratories are subject to periodic government inspection and proficiency testing by government agencies. The Company has been subject to such government inspection in all provinces in which it operates. MDS has never been subject to disciplinary or other actions as a result of a failure to meet standards in any area prescribed by regulation.

Licenses under which laboratories operate are for a limited term (generally renewing annually) and their renewal is subject to government approval. In addition, government agencies are empowered to revoke licenses in the event of a failure by an operator to meet regulatory or other professional standards. Traditionally, renewals are automatic in the absence of significant regulatory or disciplinary action. The Company has never lost a license due to non-renewal or direct revocation procedures by regulatory agencies.

To conduct diagnostic tests, patient samples must be drawn and later analyzed by employees of the Company. The Company may be subject to errors and omissions related to the services it performs, and the risk of medical malpractice by laboratory personnel and pathologists. The Company maintains professional liability insurance against these risks but there is no assurance that the level of insurance will be adequate to fully protect the Company.

MDS expects that cost containment initiatives will remain a risk factor for health care businesses for the foreseeable future. For those provinces that continue to utilize a fee-for-service reimbursement model, migration towards lump-sum funding or capitation systems may serve to limit growth or even reduce revenue levels. However, such initiatives could also be expected to protect the market share of existing service providers.

To address these risks, MDS is continuing to invest in research and development focused on new, cost-saving technologies, including automation of routine, mechanical functions. More efficient methods of service delivery including improved laboratory management techniques, centralization of high volume testing currently performed in smaller on-site laboratories, and various supply chain management techniques are all dedicated to the reduction of cost and the elimination of waste within the systems.

MDS remains active with industry groups and as a member of advisory panels to governments and other agencies. Through negotiation with health care authorities, MDS and industry organizations have been able to reach settlements and retroactive reimbursements for testing volumes that exceeded stated funding levels. While there can be no guarantee that such settlements will be achieved in the future, management believes that negotiations with funding providers can lead to resolution of these issues. In addition, MDS is committed to ongoing involvement and believes that this participation in the policy-setting process enables the Company to be aware of proposed policy changes and to respond properly based on the direction in which such changes may proceed.

### **3.3.2 – Medical Products Distribution**

MDS conducts its distribution services business through a 50% interest in Source Medical Corporation (‘Source’). Source is engaged in general medical/surgical product distribution in Canada.

#### Industry Overview

The medical products industry is dominated by a limited number of product manufacturers. Distribution of medical/surgical products in Canada is fragmented and represented by a number of different distribution channels. Many multi-national companies have Canadian subsidiaries that both manufacture and distribute their products on a direct basis. Most Canadian health care manufacturers are small in size and distribute their products through independent distribution

channels. Overall, the medical/surgical devices industry (excluding pharmaceuticals) in Canada is estimated to be \$3 billion.

Source is the largest and only national full service, independent distribution company in Canada specializing in medical/surgical products. There are a number of regional and local distributors in Canada competing in this marketplace. In addition, large manufacturers engage in direct selling and distribution of competing products. Many distributors specialize in particular product lines or types of products. Some carry a broad product range but focus on particular regions or categories of customers. A number of distributors provide only logistics services for manufacturers that do their own sales and marketing.

In recent years, growth in the overall medical/surgical products industry has been affected by hospital cost cutting. This has resulted in pressure on margins, in particular, on some of the service aspects of the business, including distribution. Companies providing these services have responded by consolidating their operations, adopting new business processes, and moving into just-in-time delivery and supply chain management services in an attempt to bring more value to their offerings.

### Business Overview

Through Source, the Company provides marketing, sales, distribution and after-sale service for products ranging from technologically sophisticated medical equipment to volume products such as syringes and patient care products. Source has established relationships with major medical product manufacturers to market and sell their products in Canada. Source also provides logistics management services and stockless inventory services to hospitals and other health care providers. Source operates ten distribution and dedicated warehouse facilities covering all regions of the country.

The Medical Products Distribution business employs over 500 people and has no unions.

### Strategy, Markets, and Competition

Distribution is not considered to be an area of strategic focus for the Company. Although Source generates operating margins and returns on capital that are in line with those of other mature companies in its industry, they are lower than those generated in most of our businesses. We are actively seeking to maximize our return from this investment and may consider selling our interest in Source.

The distribution industry in Canada is expected to continue to be constrained by the funding pressures affecting health care generally. In response, new methods and services will develop. Operating efficiencies will be a key priority and Source is investing heavily in services and technologies to meet these demands. Health care customers are expected to seek to reduce their investment in supplies inventories, leading to further demands for stockless inventory and just-in-time delivery.

Major competitors in the distribution area include Livingston International Inc. and a number of regional and local distributors. As noted, a number of large, US-based product manufacturers also self-distribute their products and can therefore be considered competitors.

## Risk Factors

The majority of the distribution agreements entered into by Source are for a fixed term and subject to commercially reasonable cancellation provisions. It has been our experience that renewal of such agreements ordinarily occurs as a routine matter.

### **3.4 – Proteomics Segment**

MDS Proteomics Inc. was established to be a drug discovery company focused on therapeutic product development based on its proprietary methods and know-how for the functional analysis of proteins. MDSP has developed an automated, large-scale proteomics technology that seamlessly fuses pathway biology, computational design and ultra-sensitive mass spectrometry (“MS”) systems and high-performance supercomputing. During 2003 MDSP was repositioned to focus the application of its technologies on discovery of clinically relevant biomarkers in partnership with MDS Pharma Services in protein identification, and research collaborations with Cephalon Inc. and Abgenix Inc. MDSP is evaluating strategic options for the discovery business.

A financial reorganization of MDS Proteomics was completed in 2004 and the company was renamed Protana Inc. (Protana). Through this reorganization, the Company reduced its ownership in Protana from 89% to 48.4%. As a result of this reorganization and the reduction in MDS's ownership, MDS accounts for the results of Protana on an equity basis. Therefore, as a result of the reorganization, effective July 29, 2004, the Proteomics Segment no longer existed.

### **3.5 – Significant Investees**

#### **3.5.1 – MDS Capital Corp.**

MDS Capital Corp., in which MDS has a 47% interest, is the largest venture capital and fund management company in Canada focused on the health care and life sciences industry. It is also one of the largest such firms in the world. The company manages approximately \$1 billion through ten funds; including three funds open to public investors. MDS Capital Corp. earns management fees from these funds, including incentive fees based on the overall success of the funds.

Among the funds managed by MDS Capital Corp., is MDS Health Ventures Inc. in which MDS has a 44% direct interest, and which was the first venture capital fund organized by the Company.

#### **3.5.2 – Iconix, Inc.**

The Company has a 17% equity interest in privately held Iconix, Inc., a pioneer in the new field of chemogenomics, the integration of chemistry and genomics to profile drug candidates. Iconix’s chemogenomic capabilities enable pharmaceutical companies to increase the odds of advancing the right compounds to the clinic, reducing attrition rates and the costs of drug discovery.

### 3.6 – Principal Facilities

A complete list of MDS locations is provided on the fold-out front cover of the 2004 Annual Report Financial Review. Following are the principal operating facilities of the Company as at October 31, 2004:

<b>Location of Facility</b>	<b>Type of Facility</b>	<b>Owned/ Leased</b>	<b>Segment</b>	<b>Approximate Square Footage</b>
Toronto, Canada	Corporate Head Office	Owned	Corporate	97,900
Toronto, Canada	Central Reference Laboratory	Owned	Health	30,300
Burnaby, Canada	Central Reference Laboratory	Owned	Health	49,000
Kanata, Canada	Manufacturing Plant	Owned	Life Sciences	483,300
Fleurus, Belgium	Manufacturing Plant	Owned	Life Sciences	18,700
Belfast, N. Ireland	Clinical Trials Facility	Owned	Life Sciences	20,000
Concord, Canada	Manufacturing Plant	Owned	Life Sciences	145,000
Hamburg, Germany	Clinical Trials Facility	Leased	Life Sciences	1,900
Irvine, USA	Corporate Office	Leased	Life Sciences	92,600
King of Prussia, USA	Corporate Office	Leased	Life Sciences	19,400
Lincoln, USA	Clinical Trials Facility	Owned	Life Sciences	124,000
Lyon, France	Research Facility	Owned	Life Sciences	140,300
Montreal, Canada	Research Laboratory and Clinical Trials Facility	Owned	Life Sciences	334,300
Madrid, Spain	Clinical Trials Facility	Owned	Life Sciences	24,800
Paris, France	Clinical Trials Facility	Leased	Life Sciences	3,500
Seattle, USA	Research Laboratory	Leased	Life Sciences	14,400
Tampa, USA	Manufacturing Plant	Owned	Life Sciences	25,000
Taipei, Taiwan	Research Laboratory	Owned	Life Sciences	41,000

Winnersh, UK	Clinical Trials Facility	Leased	Life Sciences	12,500
Mississauga, Canada	Distribution Centre	Leased	Health	62,500

### **3.7 – Research and Development**

Research and Development costs are described in Note 12 to the Financial Statements set forth on page 49 of the Annual Report Financial Review, which is incorporated by reference into this AIF.

### **3.8 – Environmental Compliance**

The Company has established a series of policies to facilitate compliance with all applicable environmental laws and regulations. The policies require that business units conduct regular environmental assessments of company activities, establish remedial and contingency plans to deal with any incidents, and establish regular processes to report to senior corporate management and to the Board through the Environment, Health & Safety Committee of the Board on the environmental status of the Company and its subsidiaries. MDS uses an independent third party environmental auditing firm to conduct regulatory audits of MDS operations. MDS believes its approach to environmental compliance meets the regulated requirements and it is not expected that this policy will have a significant impact on capital expenditures.

### **3.9 – Other Business Matters**

#### **3.9.1 – Other Risk Factors – Insurance**

The Company maintains a global liability insurance policy covering all of its operating units. The program provides coverage for normal operating risks and includes liability coverage to \$85 million for isotope liabilities and \$88 million for liabilities in other businesses. There is no certainty that the amount of coverage is adequate to protect the Company in all circumstances or that the Company will be able to acquire such insurance on an ongoing basis at rates and on terms that are acceptable to the Company.

The Company maintains a global policy covering property and business interruption risks with a total insured value of \$1.2 billion and directors' and officers' insurance having a limit of US\$120 million.

#### **3.9.2 – Legal Proceedings**

From time to time during the normal course of business, the Company becomes party to legal proceedings. At the present time, the Company is not a party to proceedings that alone or in aggregate represent claims that could, in the judgment of management, exceed 10% of the assets of the Company.

### 3.9.3 – Interest of Management and Others in Material Transactions

No members of the Board of Directors or Senior Management had an interest in any material transaction entered into by the Company in 2004 or the two preceding years.

### 3.9.4 – Transfer Agent and Registrar

The transfer agent of the Company is CIBC Mellon Trust Company, Toronto, Canada.

### 3.9.5 – Material Contracts

There are no material contracts other than those entered into in the normal course of business of the Company, with the exception of an agreement to guarantee the bank indebtedness of Hemosol Corporation. Details of this guarantee are provided in Note 24 to the 2004 Consolidated Financial Statements, which are incorporated by reference.

## 4 – SELECTED CONSOLIDATED FINANCIAL INFORMATION

### 4.1 – Summary Annual Information (Year to October 31)

(amounts in millions except per share amounts)	2004	2003	2002
<b>Consolidated Statements of Income</b>			
Revenues	\$1,764	\$1,665	\$1,636
Operating income	150	191	214
Income from continued operations	68	83	107
Net income	51	48	105
Earnings per share - basic	\$0.36	\$0.34	\$0.75
Earnings per share – diluted	\$0.36	\$0.34	\$0.74
<b>Consolidated Statements of Financial Position</b>			
Capital employed	\$1,717	\$1,771	\$1,841
Total assets	2,657	2,565	2,542
Long-term debt	494	542	615
Total shareholders' equity	1,497	1,426	1,354
Weighted average shares outstanding	142	141	140
Long-term debt/shareholders' equity	33%	38%	45%
Current ratio	1.9	1.9	1.7
<b>Consolidated Statements of Cash Flows</b>			
Cash from operating activities	\$179	\$240	\$186
Capital assets purchased	(112)	(121)	(152)
(Acquisitions) divestitures	25	23	7
Net issue (repayment) of long-term debt	(4)	22	58

## 4.2 – Summary Quarterly Information (\$ millions except per share amounts)

The prior year's figures have been restated to reflect discontinued operations for comparative purposes.

	Fiscal 2004				Fiscal 2003			
	Jan. 31	Apr. 30	July 31	Oct. 31	Jan. 31	Apr. 30	July 31	Oct. 31
Revenues	\$ 431	\$ 441	\$ 447	\$ 445	\$ 400	\$ 420	\$ 426	\$ 419
Cost of revenues	(269)	(277)	(283)	(281)	(239)	(250)	(255)	(252)
Selling, general and administration	(75)	(79)	(74)	(82)	(77)	(73)	(79)	(77)
Research and development	(10)	(12)	(7)	(8)	(14)	(12)	(11)	(10)
Depreciation and amortization	(17)	(16)	(20)	(18)	(19)	(18)	(19)	(18)
Restructuring charge	-	(6)	-	(7)	-	-	-	(28)
Other income (expense)		(46)	7	(35)		(26)	2	(2)
Equity earnings			1		2		1	
Operating income	60	5	71	14	53	41	65	32
Interest expense	(6)	(7)	(7)	(4)	(9)	(6)	(5)	(8)
Dividend and interest income	2	2	3	1	3	2	1	3
Income from continuing operations before income taxes and minority interest	56	0	67	11	47	37	61	27
Income taxes	(23)	(27)	(10)	(2)	(18)	(37)	(23)	(4)
Minority interest	(1)	5	(6)	(2)	(1)	(2)	(3)	(1)
Income from continuing operations	32	(22)	51	7	28	(2)	35	22
Income (loss) from discontinued operations – net of tax	(5)	(13)	(1)	2	(4)	(3)	(2)	(26)
Net income (loss)	\$ 27	\$ (35)	\$ 50	\$ 9	\$ 24	\$ (5)	\$ 33	\$ (4)
Basic EPS – continuing operations	\$ 0.22	\$ (0.15)	\$ 0.36	\$ 0.05	\$ 0.19	\$ (0.01)	\$ 0.25	\$ 0.15
Basic EPS – discontinued operations	\$ (0.02)	\$ (0.10)	\$ (0.01)	\$ 0.01	\$ (0.02)	\$ (0.02)	\$ (0.02)	\$ (0.18)
Basic & Diluted Earnings (loss) per share	\$ 0.20	\$ (0.25)	\$ 0.35	\$ 0.06	\$ 0.17	\$ (0.03)	\$ 0.23	\$ (0.03)

### 4.3 – Dividends

Dividends are discretionary and there are no restrictions preventing the payment of dividends.

Historically, dividends have been declared payable in April and October. Dividends for the past three years were:

<u>Fiscal Year</u>	<u>Dividends per Common Share</u>
2002	\$0.0932
2003	\$0.1000
2004	\$0.0825

Effective for the October 2004 dividend, the Company adopted a quarterly dividend. In the future, dividends are expected to be paid at the beginning of the months of January, April, July, and October.

### 4.4 – Capital Structure

MDS uses a mix of equity and long-term debt to finance its business. Presently, the Company has one class of Common Shares authorized and outstanding. As at October 31, 2004, there were 141,812,134 Common Shares outstanding.

The Company's share capital has been restructured or converted several times from Common shares in 1973 to Class A Common and Class B Non-Voting in 1980 and back to Common in March of 2000. Under the terms of the 2000 conversion, each Class A share was converted into 1.05 Common shares and each Class B non-voting share was converted into 1 Common share.

The Company shares have been split on a two-for-one basis four times, on the following dates: September 26, 1980, July 13, 1983; March 15, 1990; and, November 15, 1996. In addition, on September 14, 2000, the Directors of the Company declared a one-for-one share dividend paid on October 10, 2000 to shareholders of record on September 26, 2000. This share dividend had the same effect as a two-for-one stock split.

MDS has an active normal course issuer bid in place. During 2004, the Company repurchased and cancelled 857,000 common shares at an average price of \$19.84 under the terms of this bid.

In addition to share capital, the Company has issued Senior Unsecured Notes Payable totaling US\$311 million, has secured financing for the MAPLE construction project in the form of a non-interest bearing government loan, and has various other forms of long-term credit, mostly associated with the purchase of specific assets. At October 31, 2004, the Canadian dollar value of all outstanding debt was \$494 million. In addition, the Company has available \$225 million of undrawn term credit facilities.

The Senior Unsecured Notes Payable of the Company have been rated BBB (stable) by the Dominion Bond Rating Service (report date – January 5, 2004).

## 5 – MANAGEMENT’S DISCUSSION AND ANALYSIS

Please refer to the disclosure contained on pages 18 through 36 of the Annual Report Financial Review under the heading "Management Discussion and Analysis" which is incorporated by reference into this AIF.

## 6 – MARKET FOR SECURITIES

The outstanding Common shares of the Company are listed for trading on the Toronto Stock Exchange (symbol - MDS) and the New York Stock Exchange (symbol – MDZ). The 2004 trading history of the Company’s shares on the Toronto Stock Exchange was:

Month	Volume (Total Month)	High Price	Low Price
November 2003	5,215,600	\$19.90	\$18.17
December 2003	6,828,700	\$19.98	\$18.20
January 2004	7,337,300	\$20.99	\$19.60
February 2004	5,718,100	\$21.10	\$19.76
March 2004	10,159,200	\$23.20	\$21.25
April 2004	8,199,000	\$22.30	\$21.23
May 2004	5,131,200	\$22.85	\$21.25
June 2004	7,445,700	\$21.51	\$19.88
July 2004	6,424,300	\$20.69	\$19.63
August 2004	4,900,700	\$20.25	\$18.54
September 2004	8,185,100	\$19.85	\$18.60
October 2004	5,537,600	\$20.00	\$19.22

## 7 – DIRECTORS AND OFFICERS

Each director is elected to serve until the next annual meeting of the Company or until his or her successor is elected or appointed. The Notice of 2005 Annual Meeting of Shareholders and Management Proxy Circular contains information about each Director of the Corporation and is incorporated herein by reference.

Following are the Executive Officers of the Company:

**Other Corporate  
Officers  
Name & Address**

**Principal Occupation**

Robert W. Breckon Oakville, Ontario	Executive Vice-President, Strategy & Corporate Development
Peter E. Brent Toronto, Ontario	Senior Vice-President and General Counsel and Corporate Secretary
James A. H. Garner Toronto, Ontario	Executive Vice-President, and Chief Financial Officer
John A. Morrison Toronto, Ontario	Group President & CEO, Healthcare Provider Markets
David F. Poirier Mississauga, Ontario	President, Enterprise Services and Chief Information Officer
James M. Reid Oakville, Ontario	Executive Vice-President, Organization Dynamics
John A. Rogers Toronto, Ontario	President & Chief Executive Officer
Edward K. Rygiel Toronto, Ontario	Executive Vice-President, and Executive Chairman of MDS Capital Corp.

All of the officers have been engaged for more than five years in their present principal occupations or in other capacities with the companies or organizations with which they currently hold positions, with the exception of:

- a) James Garner was previously Chief Financial Officer of Draxis Health Inc.
- b) David Poirier was previously Executive Vice President and Chief Information Officer for Hudson's Bay Company for five years and prior to that held various senior management positions at Loblaw Companies Limited.

As at October 31, 2004 the percentage of Common shares beneficially owned, directly or indirectly, by all directors and executive officers of the Company as a group, was approximately 0.8%.

**8 – ADDITIONAL INFORMATION**

Additional information, including directors' and officers' remuneration and indebtedness, principal holders of the issuer's securities, options to purchase securities and a description of the

Company's share capital, is contained in the Information Circular dated December 31, 2004. A copy of the Information Circular may be obtained upon request from the Company.

Additional financial information is also provided in the Financial Statements set forth in the Company's 2004 Annual Report that is incorporated by reference to this AIF. A copy of the Annual Report may be obtained upon request from the Company.

When the securities of the Company are in the course of a distribution pursuant to a short form prospectus or a preliminary short form prospectus, the following documents may be obtained upon request from the Corporate Secretary of the Company:

- a) the Company's AIF, together with any documents incorporated by reference in the AIF,
- b) the comparative financial statements for its most recently completed financial year together with the accompanying report of the auditor and any interim financial statements of the Company,
- c) the Company's information circular for its meeting of shareholders in respect of its most recent annual meeting.

## DEFINITIONS

CDO	A Clinical Development Organization is one that designs and manages patient studies at any investigator site. Sometimes considered to be a traditional Phase III CRO.
CPU	A Clinical Pharmacology Unit is a site or location at which studies are conducted on subjects who agree to be confined for purposes of the studies. This is typically utilized for purposes of traditional Phase I studies.
CRC	A Clinical Research Centre is a unit that manages patient studies from partnered sites within a defined investigator or patient-provider location. For example, a hospital having access to a group of patients having particular conditions on which trials are being conducted may serve as a CRC.
CRO	A Contract Research Organization is a company that conducts research on behalf of a pharmaceutical or biotechnology company.
CRU	A Clinical Research Unit is a smaller, more focused CRC, which assists in the development, design, and conduct of proof of concept type studies.
FDA	Food and Drug Administration – The US regulatory agency charged with maintaining the safety of food, drugs, and cosmetics.
GCP and GLP	Good Clinical Practices and Good Laboratory Practices are standards for the conduct of clinical trials (including laboratory studies) the data from which are expected to be submitted to a regulatory agency such as the HPB or FDA. In the case of GLP these practices are defined by regulation. GCP have arisen from general accepted clinical practices within the industry.
HPFB	Health Products and Food Branch – The Canadian Agency charged with approving for use prescription and non-prescription drugs and other materials intended for human consumption.
IND	Investigational New Drug – An application that a drug sponsor such as a pharmaceutical company must submit to the FDA before beginning tests of a new drug on human subjects. The IND contains a study plan and a complete technical description of the drug and its intended uses and effects.
LC/MS	A form of analytical instrument that combines liquid chromatography with mass spectrometry

MALDI	A form of mass spectrometer that uses matrix-assisted laser desorption/ionization technology to give a more detailed measure of the molecular mass of a sample.
NCE	A New Chemical Entity is a chemical compound being studied for possible use as a drug. Compounds are generally referred to as NCEs until a NDA is filed.
NDA	A New Drug Application is submitted to the FDA reporting the results of clinical trials and must be approved by the FDA before marketing can begin.
NDS	A New Drug Submission is the Canadian equivalent of the NDA.
SMO	A Site Management Organization conducts outpatient studies in or from partnered sites.
TOF	A form of mass spectrometry that uses differences in the transit times of molecules through a known distance to determine their molecular weight.
USDA	United States Department of Agriculture – The agency charged with regulating the production, processing, and distribution of food products.

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Assay	Analysis of biological fluids or structure to determine how much or how little drug has been absorbed into the fluid or structure.
Bioanalytical	Methods for determining the concentration of drugs in biological samples such as blood.
Bioavailability	Studies designed to determine the absorption of a drug into the blood stream and its passage through the body.
Bioequivalence	The study of different formulations of the same drug to determine if the metabolic effects are equivalent.
Biomarker	A distinctive biochemical or physiological indicator of a biological process or event.
Biopharmaceuticals	Pharmaceutical products (drugs) developed using biotechnology instead of chemical synthesis.
Biotechnology	The scientific manipulation of living organisms, especially at the molecular genetic level, to produce useful products.
Brachytherapy	A radiation therapy in which radioactive materials are placed in direct contact with the tissue being treated.

Clinical Trials	Broadly, the regulated process by which new drugs proceed after discovery through to acceptance for marketing to patients. The term most correctly refers to the period during which new compounds are tested in human subjects and encompasses the following broad phases:
Phase I	Segment of clinical trials research allocated to assessing the safety, tolerance, and pharmacokinetics of a NCE generally using otherwise healthy study subjects.
Phase II	Segment of clinical trials research allocated to assessing the safety and efficacy of a NCE in selected disease states using patients having the condition.
Phase III	Segment of clinical trials research allocated to assessing the safety and efficacy of a NCE often in comparison with standard therapies, conducted in an expanded, multi-centre manner using patients having the condition.
Phase IV	Follow-on clinical studies completed after the FDA has approved the NCE for marketing.
Cobalt 60	A radioactive isotope of cobalt containing one additional neutron (electrically neutral particle) compared to cobalt in its natural state.
Curie	A measure of the intensity of a radioactive substance. A mega-curie is equal to 1 million curies.
Cyclotron	A form of particle accelerator that can be used to produce radioisotopes.
Decay	A spontaneous radioactive process by which the number of radioactive atoms in a material decreases over time resulting in the release of a defined amount of radiant energy.
Diagnostic Imaging	The use of x-rays, ultrasound, radiopharmaceuticals, and similar techniques to create an image or a body for diagnostic review.
E. coli	A member of the family of microorganisms called coliforms. Many strains of E. coli live peacefully in the gut; however, one strain (E. coli 0157:H7) has been identified as the cause of a specific form of gastroenteritis characterized by abdominal cramps and bloody diarrhea, leading to kidney failure and sometimes death.
Efficacy	Capacity for producing a desired result or effect.
Electron (or E) Beam	A type of particle accelerator that creates a stream of high-energy electrons.

Gamma Camera	A machine capable of recording a photographic or digital image of a radioactive source. These machines are used to photograph patients who have been injected with or ingested a minute dose of a radiopharmaceutical.
Gamma Radiation	Very high-energy electromagnetic radiation that is released from the decay of radioactive sources.
Genome	The entire genetic information present in a particular organism.
Genomics	The study of the organization, structure and function of the genome
Half-life	The time required for radioisotopes to decay to one-half the level of radioactivity originally present.
Ion	An electrically charged atom or group of atoms having a positive or negative charge.
Ionization	The process by which neutral atoms become electrically charged by the loss of one or more electrons (electrically negative particles).
Investigator	The individual from a clinic site who is ultimately in charge of a study, typically a physician.
Irradiation	The process of exposing product to gamma radiation, or X-rays, or electrons under controlled conditions.
Isotope	A form of an element having the same number of protons (electrically positive particles) but a different number of neutrons from its ordinary state. Most elements exist in more than one isotopic form and most isotopes are stable (unchanging). Isotopes are typically identified by an element name followed by a number. (e.g., Molybdenum 99)
Liquid Chromatography	A separation technique in which the sample is injected into a liquid stream pumped at high pressure through a column packed with materials which absorb the components of the sample to varying extents, such that over the length of the column the components of the sample become separated and are detected sequentially by the mass spectrometer.
Mass Spectrometry	The science that measures the masses and relative concentrations of atoms and molecules to determine the make-up of the substance.
Molybdenum 99	The most common isotope used for medical purposes. It is processed into technetium-99m for these purposes.
Particle Accelerator	A machine that increases the kinetic energy of electrons or protons by accelerating them through electric fields.

Pharmacodynamics	The study of what a drug does to a subject, including their biochemical and physiologic effects on the body and their mechanisms of action.
Pharmacokinetics	The study of what the body does with a drug, including its absorption into the bloodstream, its distribution through the body, its metabolic impact, and its excretion (often referred to as ADME).
Pharmacology	The study of drugs and their origins, nature, properties, and effects on living organisms.
Preclinical Studies	Designates those studies generally completed prior to human clinical trials.
Proteomics	The study of protein location, interaction, structure and function that aims to identify and characterize the proteins present in normal versus diseased states in biological samples.
Protocol	The detailed plan of study that forms the basis for clinical trials. Application of the protocol is a key component that will be reviewed by the drug approval regulators in determining whether a NCE has undergone sufficient rigorous study to be approved for use.
Radioisotopes	An isotope that is unstable and returns to a stable state through the release of energy in a process called decay. MDS processes and distributes radioisotopes for use in medical applications and for sterilization processing.
Radiopharmaceuticals	A specially designed pharmaceutical having as part of its ingredients a minute amount of a radioisotope. After injection or ingestion, the radiopharmaceutical is designed to collect in specific organs or types of cells such as tumour cells.
Reagent	A substance involved in a chemical reaction. Most often used in a laboratory context to describe a substance used to detect the presence of another substance.
Salmonella	A rod-shaped bacterium that causes various diseases in humans and domestic animals, including typhoid fever and food poisoning. Sources include water, soil, insects, animal feces, raw meats, and raw poultry.
Synthesis	The process of creating a molecule through chemical reaction.
Target	The cells, tissues or structures that a drug is intended to interact with as part of its pharmacological effect.
Toxicology (also called Safety Pharmacology)	The study of a chemical compound to determine the levels at which death occurs.