MICROFLUIDICS INTERNATIONAL CORP
Form 10-K
April 13, 2001

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K

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

For the fiscal year ended December 31, 2000

Commission File Number: 0-11625

MFIC CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	04-2793022
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
30 Ossipee Road, P.O. Box 9101 Newton, Massachusetts	02464-9101
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (617) 969-5452
Securities registered pursuant to Section 12(b) of the Act: None
Securities registered pursuant to Section 12(g) of the Act:
Common Stock, $.01 par value

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

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

The aggregate market value of Common Stock held by non-affiliates of the registrant (without admitting that any person whose shares are not included in determining such value is an affiliate), based upon the closing sale price of the Common Stock on March 16, 2001 as reported on the Over-the-Counter Bulletin Board was $2,966,905.

The number of shares outstanding of the registrant's Common Stock as of March 16, 2001 was 7,366,667 shares.

DOCUMENTS INCORPORATED BY REFERENCE

The registrant intends to file a definitive proxy statement pursuant to Regulation 14A within 120 days of the end of the fiscal year ended December 31, 2000. Portions of such proxy statement are incorporated by reference into Part III of this report.

Item 1. BUSINESS:

Company Overview:

MFIC Corporation ("MFIC" or the "Company"), through its wholly-owned subsidiaries, Microfluidics Corporation ("Microfluidics") and MediControl Corporation ("MediControl"), its Microfluidics Division, as well as its other operating divisions, Epworth Mill and Morehouse-COWLES specializes in producing and marketing a broad line of fluid materials processing systems used for a variety of grinding, dispersing, milling, and blending applications across a variety of industries and for use in numerous applications within those industries. Microfluidizer(R) high shear materials processor systems are produced at the Microfluidics Division, while dispersers, dissolvers, colloid mills, horizontal media mills, and vertical media mills are produced at the Morehouse-COWLES Division. The Epworth Mill Division sells and distributes grinding media.

Microfluidizer(R) materials processing equipment, produced by the Company's Microfluidics Division, is used to formulate high shear fluid emulsions, dispersions, and liposomes, and is used in deagglomeration and cell disruption for the biotech industry. Emulsions are found in a broad variety of common products, including processed foods, pharmaceuticals, and specialty coatings such as photographic films. Dispersions are often employed in products such as pharmaceuticals, inks, pigments and coatings. The Company believes that the processing technique of the Microfluidizer(R) equipment enhances the stability and consistency of emulsions and dispersions due to the equipment's unique ability to consistently produce uniform micron and sub micron scale particles in many applications. Liposomes, which are biodegradable cell-like structures, are used to encapsulate medications or nutrients, and are typically used in cosmetic or pharmaceutical products. In addition, Microfluidizer(R) equipment is used in biotechnology applications to harvest, through cell disruption, the cultivated product contents of plant and animal cells.

The Company's product lines are used to blend, emulsify, disperse, deagglomerate and grind fluid formulations. These fluid formulations may be liquid/liquid or liquid/solid formulations and are generally prepared in quantities ranging from one gallon to hundreds of gallons in an industrial environment. In connection with the processing of emulsions and dispersions, the various pieces of equipment in the product lines may be used in preparatory steps prior to introduction of the product into the Microfluidizer(R) system for further processing.

The Company's product lines are diversified and certain equipment is used independent of the Microfluidizer(R) equipment in the preparation of many industrial fluid formulations where the desired product characteristics do not

require high energy Microfluidizer(R) processing.

While the Microfluidizer(R) equipment is generally used in the processing of high value-added end-products that require extremely small particle sizes, the Company's other product lines are used in broader, high volume, lower value-added applications requiring less stringent particle size reduction.

The combination of product lines result in one of the broadest offerings of fluid processing equipment in the materials processing market. The Company, in late 1998 and early 1999, integrated its then existing three divisions such that its corporate marketing and sales group was responsible for the marketing and sales of the products for all divisions. The acquisition of the Epworth Mill and Morehouse-COWLES divisions in 1998 and the consolidation of marketing and sales personnel into one group enables the Company to sell stand-alone pieces of equipment to smaller companies that require only limited processing capability, as well as integrated systems or multiple pieces of equipment from more than one division to larger customers that have a variety of fluid processing requirements.

The Company was incorporated in Delaware in 1983. The Company, formerly named Biotechnology Development Corporation, changed its name effective June 8, 1993 to Microfluidics International Corporation, and again changed its name effective July 12, 1999 to MFIC Corporation. Its principal executive offices are located at 30 Ossipee Road, in Newton, Massachusetts, 02464-9101 and its telephone number is (617) 969-5452.

Microfluidizer(R) and Zinger(R) are trademarks of the Company, which have been registered with the United States Patent and Trademark Office. Morehouse-COWLES(TM), Epworth Mill(TM) and Microfluidics(TM) are trademarks of the Company for which registration applications have been filed with the United States Patent and Trademark Office. All other trademarks or trade names referred to herein are the property of their respective owners.

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The Technology:

The Company's Microfluidizer(R) materials processor device is based on patents and related technology that were licensed by the Company from Arthur D. Little & Co. in 1983 and subsequently purchased by the Company in 1985. The Company holds two United States patents related to the apparatus and process used to intimately mix liquids and disperse particulate solids in microemulsions.

The Company's Microfluidizer(R) processor technology is used in processing industries to mix materials that are normally very difficult to mix. The Microfluidizer(R) processor technology allows manufacturers in the chemical, pharmaceutical, biotechnology, cosmetic, and food processing industries to produce higher quality products with better characteristics on a more consistent basis than with other blending, mixing, or homogenizing techniques. Additionally, the equipment is used for cell disruption to harvest the cultivated contents of animal and/or plant cells and for liposomal encapsulation of materials.

Prior to October 1, 2000, the Company's Epworth Mill products consisted of ball mills and horizontal media mills. The division is also engaged in the sale and distribution of grinding media. The division's ball mills are used in coarse grinding application of liquid slurries such as ore from mines or

coarse slurries of material that will later be processed into finer slurries. The ball mills use large media in a horizontal rotating cylindrical vessel to crush and grind the product being processed. The Epworth Mill Division's patented Zinger(R) horizontal media mill utilizes a unique design for grinding and dispersing solid materials in a liquid carrying medium. The design is based upon established rotating, horizontal shaft technology but adds the unique capability of enhanced mechanical activity between the grinding media and the product formulation. The enhanced mechanical activity is achieved through a unique combination of specially designed rotors and containment vessels. In comparison to traditional horizontal media mills, the Zinger media mill technology has demonstrated significantly improved productivity in terms of greater volumes of product processed at acceptable quality than the comparably sized and priced horizontal media mills. On July 24, 2000, the Company announced that it would transfer the manufacturing and sale of its Zinger(R) horizontal media mills from its Michigan-based Epworth Mill Division to the Morehouse-COWLES plant in Fullerton, California. The transfer began on October 1, 2000, and was completed in the fourth quarter of fiscal 2000.

On September 30, 2000, the Company ceased operations of the Ball Mill repair business and decided to sell its Ball Mill operation conducted at the Epworth Mill Division through a broker. On March 19, 2001 the Company reached an agreement to sell the operation for $200,000 in cash and notes, which will result in a loss on the sale of the ball mill assets of approximately $13,000.

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The Company's Morehouse-COWLES Division manufactures grinding and dispersing equipment used mainly in the coatings and ink industries. The products include high-speed dissolvers, dispersers, stone mills, and vertical and horizontal media mills. As one of the early inventors of dispersers, dissolvers, colloid mills, and media mills, the one hundred-year-old COWLES name is an industry-accepted symbol of quality, reliable products.

Commercial Applications:

The Microfluidizer(R) equipment can be used to mix and formulate emulsions, dispersions and liposomes, and for cell disruption.

Emulsions are homogenous mixtures of oil and water components (or other normally immiscible components), which, if mixed properly, do not readily separate. Emulsions comprise many products, such as processed foods, medicines, photographic films, hydraulic fluids and polymers. The Company believes that, generally, an emulsion processed with Microfluidizer(R) equipment will exhibit improved stability and require reduced concentrations of costly emulsifying agents that are otherwise needed to enhance product stability.

Dispersions are mixtures of fine solids suspended in liquid so that the two do not separate readily after processing. Similar to emulsions, dispersions are used in a variety of consumer and industrial products, including pigments for paints and inks, iron oxide for magnetic tapes and mascara, phosphorescent coatings for TV screens and fluorescent lamps, barium titanate for capacitors, toners and inks.

Liposomes are biodegradable cell-like structures, formed from materials such as cholesterol and lecithin, which can be used to encapsulate medications or nutrients. Pharmaceutical and cosmetic manufacturers use liposomes as a delivery system to target active ingredients for specific anatomical sites and to prolong their efficacy. To date, liposomes have been used commercially in two

applications, of medical diagnostic agents and cosmetics. Applications include the encapsulation of dye to be used as a marker in medical diagnostic tests and the encapsulation of ingredients for deeper skin penetration, or time release control, as well as pharmaceutical, food and specialized agricultural applications.

In the biotechnology industry, Microfluidizer(R) equipment is currently used to harvest, by cell rupture, the contents of plant or animal cells. The precision with which the Microfluidizer(R) equipment can be used to break up materials allows the encapsulating cell wall to be ruptured without damage to or contamination of the cell contents. As a result, the Microfluidizer(R) equipment minimizes the amount and presence of cell wall debris, thus resulting in maximum yields.

The Microfluidizer(R) equipment is generally used in commercial applications where a scientist, formulator or chemist is trying to develop or improve a product formulation for an expensive, high value-added end product. Microfluidizer(R) equipment is initially employed in a research laboratory,

with the equipment subsequently being used in scaleup to pilot scale production of new or improved products, and ultimately, for full production scale volumes as the improved product comes to market. From laboratory to production, the volume of product processed range from 1/2 liter to 200 liters per minute.

The Company also manufactures products that are generally used for blending, mixing, deagglomeration and dispersion of paints and coatings, inks, adhesives, sealants, and pigment dispersions. These applications tend to be less technically demanding, the formulations are less expensive to produce and the volumes of product produced are large.

The Products:

The Company currently manufactures and markets the following lines of equipment:

The HC Series: The HC Series, also known as "Homogenizers," is a laboratory-scale series of equipment that is intended to impart moderate levels of energy into a customer's product with greater flow rates than the more energy intensive Microfluidizer(R) devices. Operating pressures of products in the Company's HC Series can range from under 500 psi to as high as 8,000 psi, and will process as much as two liters of fluid per minute.

The M-110 Series: The M-110 Series, a laboratory product line, is designed primarily for research and development applications. Standard models can operate at pressures as high as 25,000 psi and have a flow rate that exceeds one-half of a liter of product per minute. The most recent introduction in this line is the M-110EHI model designed for "non-sanitary" industrial applications such as paint, coatings, pigments and other chemical/industrial applications. This model is constructed from epoxy painted carbon steel rather than from standard stainless steel that the Company used in other models. The M-110EHI includes an on-board hydraulic pump system for high performance "lab scale" micro-mixing at processing pressures up to 25,000 psi and flow rates up to 450 ml/min and has numerous standard features and options such as an explosive-proof model.

The M-140 Series: The M-140K, introduced in June of 1994, is a laboratory-scale unit developed forcustomers in the chemical, biotechnology, pharmaceutical, cosmetic and food processing industries that require elevated operating pressures and higher shear forces to achieve better performance. The M-140K can achieve operating pressures up to 40,000 psi. The M-140K has a

built-in hydraulic system and utilizes a bi-directional intensifier pump that provides a highly uniform pressure profile. It has been designed with many accessories and options including an explosion proof motor, control package, and solvent seal quench.

The M-210 Series: The M-210 Series is a pilot unit and is primarily marketed to pharmaceutical, cosmetic and food product manufacturers who have created a successful new or improved formulation on the M-110 Series unit and would like to increase their productive capacity. The M-210 Series unit is typically used for testing formulations at greater volume levels before

initiating full-scale production. For some customers (such as pharmaceutical product manufacturers), the M-210 Series may have the capacity to function as a production unit.

The M-610 Series: The M-610 Series consists of custom-built models used for large-scale production. These units have flow rates of up to 50 gallons per minute and generate operating pressures up to 40,000 psi.

The M-700 Series: The M-700 Series was introduced at the end of fiscal 1998 and is designed engineered, and constructed for use in "rugged" industrial environments such as coatings, paints, and pigments research and manufacturing. The M-700 Series products are constructed from painted carbon steel instead of the stainless steel of previous models and will use components especially designed to withstand such hazards as dust, grease, and water spray. Because the equipment is not used in sanitary environments, it can be constructed using materials and methods that otherwise could not be used in pharmaceutical, biotechnology, and other "clean" application industries and is also more cost-effective, resulting in list price reductions of 30% and more.

The M-700 Series equipment is available in a variety of configurations and flow rates depending upon motor size and the number of intensifier pumps. The M-7250-20 is a 50 H.P. machine with 2 intensifier pumps with a maximum operating pressure of 30,000 psi. It achieves flow rates and productive capacity exceeding that of the M-210 series and is, therefore, considered by the Company to be a large-scale production unit. In fiscal 2000, the Company manufactured and shipped the first sterile M-700 machine designed for use in the pharmaceutical industry.

Stone Mills: Stone Mills are utilized for processing chemicals, food products and minerals where the user desires to reduce particles to 15-25 microns in size and where the capital equipment costs must be minimized.

Vertical Media Mills: Vertical Media Mills are used in connection with batches or continuous milling of products in a wide variety of industries including chemical, agricultural, cosmetics and food. Batch sizes typically range from 2 to 60 gallons with throughput capacities of 2 to 900 gallons per hour.

Single Shaft Dissolvers and Dispersers: Single Shaft Dissolvers and Dispersers are available in a variety of sizes to meet demand from laboratory to full production volume. Generally, these dissolvers and dispersers are used in lower cost products, at viscosities up to 50,000 centipoise that require blending, mixing, deagglomeration and dispersion.

Multi-shaft Dissolvers and Dispersers: Multi-shaft Dissolvers and Dispersers are available in a variety of sizes to meet demand from laboratory to full production volume. Generally these dissolvers and dispersers are used for

high viscosity products up to 2 million centipoise.

Customized Units: To meet larger production volume requirements or specialized applications, the division provides customized single and multi-shaft dissolvers and dispersers on a specialized quotation basis.

Zinger(R) Horizontal Media Mills: This media milling equipment is available in the following sizes that process products in volumes ranging from 1/4 liter to 60 liter batches or on a continuous basis.

- The XL Series: The XL Series equipment is used in laboratory environments and has processing vessel sizes from .25 liters to .33 liters.
- The SV Series: The SV Series equipment is used in pilot scale environments and has processing vessel sizes from 3.0 to 5.1 liters.
- The LV Series: The LV Series equipment is used in production environments and has processing vessel sizes from 27 to 60 liters.

Distribution of Grinding Media - The Company is one of the largest distributors of grinding media in the United States. Sale and distribution of grinding media includes a wide variety of grinding media from media producers around the world. The media are used as consumables in mixers produced by the Company as well as by competitors. Media types include all currently used materials in the industry including glass, ferrous, stone, steel shot, and ceramic.

Marketing and Sales:

The Company's marketing and sales activities are conducted through a corporate marketing and sales group that is responsible for the worldwide marketing and sales of all products.

Marketing programs include advertising, direct mail, seminars, trade shows and telemarketing. In addition, the Company has an active program of field demonstrations, as well as demonstrations to potential users in the Company's applications laboratories located in Newton, Massachusetts, Fullerton, California, and Lampertheim, Germany. International distributors and sales agents are supported with trade advertising, collateral literature and trade show materials. The distributors also advertise directly on their own behalf and attend regional and international trade shows. As an aid to the marketing and sales activity for the equipment, the Company provides prospective customers with access to its testing laboratories. These laboratories provide free processing and particle size and distribution analysis of a prospective customer's sample formulation. Additionally, a prospective customer may pay for subsequent laboratory time and services on a fee for services basis, which includes equipment rentals.

The Company sells its divisions' equipment in the United States through a network of independent manufacturer's representative firms who are managed by the Company's regional sales managers. In Canada, the Company has an exclusive distributor for the Microfluidics product line. In Europe, the Company sells its equipment through a network of independent regional sales agents and distributors who are managed by the Company's European Sales Manager. In Asia and the Pacific Rim, the Company sells through a network of distributors. Customers in other geographical regions are assisted directly by Company sales staff.

Customers:

The users of the Company's systems are in various industries, including the chemical, pharmaceuticals, food, cosmetic and biotechnology industries. No customer accounted for more than 10% of the Company's revenues in 2000, 1999, or 1998.

Competition:

The Microfluidizer(R) equipment product line of high shear processors has direct competition in its major markets, including pharmaceutical and coatings/chemical applications, but management believes that the Company's products have larger installed bases and competitive performance over products of our competitors. The Company believes that the Microfluidizer(R) equipment product line offers the highest shear forces available in the process equipment market today. In many critical formulations Microfluidizer(R) processors produces better quality products for our customers.

The M-700 Series of fluid processors, together with the M-210 and M-610 product lines, provide high shear fluid processing capabilities for both sanitary and industrial applications. The Company believes that the Microfluidizer(R) product line provides a distinct advantage over the product lines of our competitors with respect to the processing of abrasive slurries or solids dispersed in liquids in large part because of the Company's unique, wear-resistant, diamond interaction chamber and the special design of the intensifier pumping system.

Media sales are in direct competition with a large number of suppliers, including the major source of the company's media materials.

The product lines of the Morehouse-COWLES Division have direct competition in its major market segments. The Morehouse-COWLES product line has strong brand name recognition, a large installed base and a reputation for high quality, reliable, processing systems. The systems of this division have a very broad market use in a wide variety of mixing, blending, grinding, and dispersing applications and therefore have potential for high volume unit shipments.

The patented Zinger horizontal media mill competes against a well-established group of competitive mills. The unique design of the Zinger media mill, however, results in an economic advantage for customers who employ the Zinger media mill because they are able to process larger volumes of product at lower energy cost while attaining at least the same quality as produced by competitive mill, and can do so occupying less floor space. As customers replace older mills or expand their facilities, they will gain an economic advantage by lowering the processing costs of their products by using a mill, such as the Zinger media mill, which more efficiently processes larger quantities of product than competitive mills.

The Company faces, and will continue to face, intense competition from other companies who manufacture and sell fluid processing systems used in grinding, mixing, milling and dispersing applications. The Company is subject to

significant competition from organizations that are pursuing technologies and products that are similar to the Company's technology and products. Some of the organizations competing with the Company have greater capital resources, research and development staffs and facilities and marketing capabilities than the Company. The Company's future success will depend in large part on its maintaining a competitive position in the fluid processing systems field. Rapid technological development by the Company or others may result in products or technologies becoming obsolete before the Company recovers the expenses it incurs in connection with their development. Products offered by the Company could be made obsolete by less expensive or more effective technologies. There can be no assurance that the Company will be able to make the enhancements to its technology necessary to compete successfully with newly emerging technologies. The Company expects competition to intensify in the fluid processing systems field as technical advances are made and become more widely known.

Research and Development:

The Company's research and development efforts are focused on developing new mixing techniques for the process industries and further enhancing the functionality, reliability and performance of existing products. Research and development costs were $835,136, $927,582, and $935,880 in 2000, 1999, and 1998 respectively. The Company continues to pursue development of the multi-stream mixer reactor (See Patents and Proprietary Rights Protection) by working with customers who assist in the development of the system with both application knowledge and financial support. Patent coverage for this new product is in various stages of prosecution in the major industrial countries.

Cooperative Research Arrangements:

The Company subsidizes research and development activities centered around Microfluidizer(R) processing technology at a number of research centers and universities. The Company's subsidy of these activities takes the form of substantial reduction or elimination of the customary rental charges for the Microfluidizer(R) equipment provided for use. The Company has, in recent years, subsidized research and development in the following fields at the following universities: The University of Massachusetts, Lowell - biotechnology; Lehigh University - polymer chemistry; Universite Laval (Quebec) - food science; Worcester Polytechnic Institute ("WPI") - catalytic chemistry; and Purdue University - pharmaceuticals. In addition to their research activities, these universities provide the Company with contacts at industrial companies that may utilize the Microfluidizer(R) processing technology. Additionally, on occasion research reports, technical papers, and doctoral theses may be published, which document the use of Microfluidizer(R) technology. Finally, the Company engages in many informal co-operative development efforts with its' customers, particularly in the Microfluidics Division.

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In addition to providing subsidies, the Company has, in the past, entered into a research arrangement with Worcester Polytechnic Institute (WPI). The Company has supported research and development at WPI since 1988. In 1992, the Company entered into a cooperative venture with WPI to develop, patent and license for WPI, for its commercial applications, the Microfluidizer(R) process technology in the following fields: (i) the production of catalysts used in chemical and petroleum processing; (ii) the manufacture of advanced ceramic materials; and (iii) the destruction of volatile organic compounds and other organic contaminants in process waste water. The Company and WPI applied for

United States and foreign patents in 1992 and 1993, respectively, which cite the Microfluidizer(R) processing technology as enabling the above process technologies. The two applied-for United States patents were both granted and issued to WPI in the United States in 1995. In 1996 one applied for patent was granted to WPI in France for European entry in the Patent Cooperation Treat ("PCT") countries. Patent issuance for these process technologies in several other foreign jurisdictions is either pending or is in the latter stages of prosecution. The program is inactive at this time.

Patents and Proprietary Rights Protection:

To protect its proprietary rights, the Company relies on a combination of U.S. patent and trademark laws, trade secrets, confidentiality agreements, contractual provisions and technical means. In the event of patent infringement or breach of confidentiality, there can be no assurance that these measures will be adequate or that the Company will have sufficient resources to prosecute or prevail in an action against a third party. In addition, the Company has not sought patent or trademark protection for its Microfluidizer(R) equipment's interaction chamber in any country other than the United States and, as such, its proprietary rights are not subject to the protection of patent or trademark laws of foreign countries where the Company's equipment is sold. The Company's Microfluidizer(R) equipment process patent expires on March 13, 2007 and its device patent expires on August 6, 2002. In 1997 the Company completed development of a novel adaptation of its Microfluidizer(R) equipment - a "Multi-Stream High Pressure Mixer Reactor". In August 1997, the Company filed a patent application for the device and its processes with the United States Patent and Trademark Office, (USPTO), and filed a Patent Cooperation Country (PCT) application on May 5, 1998. In July and November 2000, the USPTO issued to the Company notices of allowances of utility patent claims regarding the Multiple Stream High Pressure Mixer/Reactor and the use thereof. The Company's Zinger horizontal media mill is protected by a United States patent granted June 5, 1997.

Manufacturing:

At present, the Company subcontracts the manufacture of many of the components of its' equipment to third parties, with the Company undertaking the remaining fabrication, assembly and performance testing. The division has selected certain primary suppliers based upon pricing

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terms and the quality of their products. The Company believes that there are adequate available alternate manufacturing sources and suppliers for the division's components and raw materials.

The Morehouse-COWLES division performs a significant portion of machining and assembly operations at its' respective manufacturing location. Certain specialty components of the systems are provided by outside contractors. The Company believes that there are adequate available alternate contractors to provide the division with specialty components.

The loss of any primary supplier could have a material, adverse effect on the Company's business, financial condition, or results of operations.

Government Regulation:

Certain of the Company's customers utilize the Company's equipment in processes and production that are subject to governmental regulation. For

example, the manufacturing and marketing of pharmaceutical products requires the approval of the Food and Drug Administration ("FDA") within the United States and of comparable agencies in foreign countries. The FDA has established mandatory procedures, safety standards and protocols that apply to the manufacture, clinical testing and marketing of new pharmaceutical products in the United States. The process of seeking and obtaining FDA approval of a new product often takes a number of years and often involves the expenditure of substantial resources. The FDA approval process contributes to the extremely long lead times that are attendant to manufacturing equipment orders for these applications.

Further, in addition to product approvals, the FDA imposes requirements as to manufacturing practices, record keeping and reporting ("Good Manufacturing Practices" or "GMP"). GMP-regulated companies are subject to inspections by the FDA (inclusive of Microfluidizer(R) equipment) and product approvals may be withdrawn if GMP are not met.

At present, the Company's customers include companies who are making FDA approved drugs and preparations for external use and companies who utilize Microfluidizer(R) equipment for the formulation or production of FDA approved parenteral (injectable) drugs or compounds.

Various laws, regulations and recommendations relating to safe working conditions, laboratory practices and the purchase, storage, movement, import and export, use and disposal of harmful or potentially harmful substances that may be used in connection with the Company's research work are, or may, be applicable to its activities. These laws include, among others, the United States Atomic Energy Act, the Clean Air Act, the Clean Water Act, the Occupational Safety and Health Act, the National Environmental Policy Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, national restrictions on technology transfer, import, export and customs regulations and other present and possible future local, state or Federal regulation. The extent of adverse governmental regulation which might result from future legislation or

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administrative action cannot be accurately predicted. Certain agreements that may be entered into by the Company involving exclusive license rights may also be subject to national or supranational antitrust regulatory control, the effect of which cannot be predicted.

Backlog:

The Company's sales order backlog of accepted and unfilled orders at March 16, 2001, and March 16, 2000 was approximately $3,281,000 and $3,371,000, respectively. Backlog as of any particular date should not be relied upon as indicative of the Company's net revenues for any future period.

Employees:

The Company has approximately 73 full-time employees as of March 16, 2001. None of the Company's employees are covered by a collective bargaining agreement, and the Company considers its relations with its employees to be satisfactory. The Company believes that its future success will depend in large part on its ability to attract and retain highly skilled employees.

Item 2. PROPERTIES

The Company's corporate headquarters are in Newton, Massachusetts. The

Company also maintains other locations in South Haven, Michigan, Fullerton, California and a sales office in Lampertheim, Germany. The Company rents approximately 127,000 square feet of offices, production and research and development facilities at these locations for administrative, development and production activities. A small portion of space is sublet to another entity for a total of $6,000 per annum. The lease terms expire at various times through August 2006. The Company has the option to extend the leases for up to ten additional years. The Company believes these facilities will be adequate for operations for the next several years.

Item 3. LEGAL PROCEEDINGS

The Company is not a party to any material legal proceedings.

Item 4. SUBMISSION OF MATTERS TO VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of the Company's security holders during the quarter ended December 31, 2000.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The Company's Common Stock is traded on the Over the Counter Bulletin Board under the symbol "MFIC". The following table sets forth the range of quarterly high and low bid quotations for the last two fiscal years, as furnished by the National Association of Securities Dealers Automated Quotation System. The quotations represent interdealer quotations without adjustment for retail markups, markdowns, or commissions, and may not necessarily represent actual transactions.

Quarters Ended	12/31 2000	9/30 2000	6/30 2000	3/31 2000	12/31 1999	9/30 1999	6/30 1999
Low	9/16	15/16	1/2	3/8	1/4	3/8	1/4
High	1 1/8	1 5/16	1 1/16	1 7/16	7/16	13/16	3/4

As of March 16, 2001, there were approximately 387 holders of record of the Company's Common Stock.

The Company has never paid any cash dividends on its Common Stock and presently anticipates that no dividends on its Common Stock will be declared in the foreseeable future. The Company's current policy is to retain all of its earnings to finance future growth. In addition, pursuant to loan covenants contained in the Company's loan agreement with its commercial leader, the

Company may not pay dividends without the commercial lender's prior approval.

Item 6. SELECTED FINANCIAL DATA

The selected financial information presented below is derived from the audited consolidated financial statements of the Company for each of the five years in the period ended December 31, 2000. The information set forth below should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Consolidated Financial Statements and related Notes included elsewhere in this Form 10-K.

As discussed in Note F to the accompanying financial statements, in August 1998, the Company acquired the assets and assumed certain liabilities of two businesses, Morehouse-COWLES, Inc. and Epworth Manufacturing Company. These acquisitions were accounted for as a purchase. Accordingly, in the accompanying financial statements, the results of operations and cash flows include Morehouse-COWLES and Epworth Mill subsequent to August 15, 1998.

Selected Statement of Operations Data

	Year Ended December 31, 2000	Year Ended December 31, 1999	Year Ended December 31, 1998
Total revenues	$15,725,695	$14,083,216	$8,869,679
Total costs and expenses	15,793,065	14,417,304	9,968,142
Income (loss) from operations	(67,370)	(334,088)	(1,098,463)
Interest expense	(350,486)	(542,045)	(149,043)
Other (expense) income	(250,000)	-	-
Interest income	248	9,835	119,492
Gain on sale of investments	-	11,864	36,203
Net (loss) income before taxes and extraordinary items	(667,608)	(854,434)	(1,091,811)
Income tax (provision) benefit	-	-	(413,630)
Net (loss) income before extraordinary items	(667,608)	(854,434)	(1,505,441)
Gain on subordinated debt restructuring	194,500	-	-
Net(loss) income	$(473,108)	$(854,434)	$(1,505,441)
Weighted-average shares			

outstanding:			
Basic	7,086,058	5,818,588	5,296,923
Diluted	7,086,058	5,818,588	5,296,923

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Basic amounts per common share:			
Net (loss) income per share before extraordinary gain	$(.09)	$(.15)	$(.28)
Extraordinary gain per share:	.03	-	-
Basic net (loss) income per share	$(.06)	$(.15)	$(.28)

Diluted amounts per share:			
Net (loss) income per share before extraordinary gain	$(.09)	$(.15)	$(.28)
Extraordinary gain per share	.03	-	-
Diluted net (loss) income per share	$(.06)	$(.15)	$(.28)

Selected Balance Sheet Data

Working capital	$1,900,740	$1,404,820	$1,575,113
Total assets	13,664,235	13,227,316	14,700,022
Long term debt	896,243	775,000	675,000
Stockholders' equity	7,093,781	7,161,111	8,029,786

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

CERTAIN FACTORS AND CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

Management believes that this report contains forward-looking statements that are subject to certain risks and uncertainties including statements relating to the Company's plan to achieve full sales/marketing and operational integration of its divisions, to achieve revenue growth, to maintain and/or increase operating profitability, and to attain net income profitability. Such statements are based on management's current expectations and are subject to a number of factors and uncertainties that could cause actual results achieved by

the Company to differ materially from those described in the forward-looking statements. The Company cautions investors that there can be no assurance that the actual results or business conditions will not differ materially from those projected or suggested in such forward-looking statements as a result of various factors, including but not limited to, the following risks and uncertainties: (i) the ability to manage the integration of the Company's divisions into a cohesive operation and the attainment of successful operating results of such integrated operations, (ii) whether the performance advantages of the Company's Microfluidizer(R) or Zinger(R) materials processing equipment will be realized commercially or that a commercial market for the equipment will continue to develop, and (iii) whether the Company will have access to sufficient working capital through continued and improving cash flow from

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sales and ongoing borrowing availability, the latter being subject to the Company's ability to comply with the covenants and terms of the Company's loan agreement with its senior lender.

Results of Operations

Fiscal 2000 Compared to Fiscal 1999

Total revenues for the year ended December 31, 2000 were $15,725,695 as compared to revenues of $14,083,216 for the year ended December 31, 1999, representing an increase of $1,642,479 or 12%.

North American sales for the year ended December 31, 2000 increased to approximately $11,386,000, a 12% increase as compared to North American sales of approximately $10,126,000 for the year ended December 31, 1999. This increase in North American sales was principally due to an increase in the sale of machines. Foreign sales were approximately $4,340,000 for the year ended December 31, 2000 compared to $3,898,000 for the year ended December 31, 1999, an increase of approximately $442,000 or 11%. This increase in foreign sales was principally due to an increase in the sale of machines compared to 1999.

Total cost of goods sold for 2000 was $8,688,465 or 55% of revenue, as compared to $7,990,398 or 57% of revenue for 1999. The increase in cost of goods sold in absolute dollars reflects the increase in sales principally generated by the Microfluidics division of the Company, offset by a decrease in cost of goods sold by the Epworth Mill Division. The decrease in cost of goods sold was due to reduced sales at the Epworth Mill Division due to the Company ceasing operations of the Ball Mill repair business on September 30, 2000. The Company's three major product lines have different profit margins, as well as multiple profit margins within each product line. In the course of the periods compared, there may be significant changes in the cost of revenues as a percentage of revenue depending on the mix of product sold. Also, the cost of sales as a percent of revenue will differ between laboratory and pilot plan units sold, due to the difference in costs between air driven and electric-hydraulic units.

Total operating expenses for 2000 were $7,104,600, or 45% of revenue, as compared to $6,426,906, or 46% of revenue, for 1999, which is an increase of $677,694, or 11%.

Research and development expenses for 2000 were $835,136 compared to $927,582 for 1999, a decrease of $92,446, or 10%. The decrease in research and development expenses is primarily due to a decrease in payroll costs of approximately $40,000, and a decrease in general research and development expenses of approximately $52,000.

Sales and marketing expenses for 2000 increased approximately $548,198 or

19% from $2,934,668 to $3,482,866. The increases were due principally to increases in outside commissions of approximately $295,000, payroll and related expenses of approximately $205,000, an increase in advertisement expenses of approximately $88,000, partially offset by a decrease in printing costs

of approximately $21,000, and other general cost reductions of $19,000.

For the year ended December 31, 2000, general and administrative expenses increased by approximately $222,000, from $2,564,656 for the year ended December 31, 1999, to $2,786,598, or 9%. The increase in general and administrative expenses was principally due to an increase in corporate overhead of approximately $93,000, amortization of goodwill costs of approximately $36,000, professional fees of approximately $34,000, and other cost increases of $59,000.

Interest expense for 2000 decreased to $350,486 from $542,045 for 1999, a decrease of $191,559, or 35%. The decrease was due to a decrease in borrowings, the impact of the debt restructuring, and a decrease in the interest rates charged the Company.

Interest income for 2000 decreased to $248 from $9,835 for 1999, a decrease of $9,587 or 97%. The decrease for 2000 was due to the amount of cash available to invest as a result of the line of credit lockbox arrangement with National Bank of Canada described in note G.

As a result of a debt restructuring and refinancing, the Company recorded an extraordinary gain of approximately $195,000 in the first quarter of fiscal 2000.

On July 24, 2000, the Company announced that it would transfer the sales and manufacturing of its line of Zinger (R) horizontal media mills from its Michigan-based Epworth Mill Division to the Morehouse-COWLES plant in Fullerton, California. The transfer began on October 1, 2000 and did not have a material impact on the profitability of the Company. Simultaneously, the Company ceased operations of the Ball Mill repair business and decided to sell its Ball Mill product line. On March 19, 2001, the Company reached an agreement to sell the Ball Mill operation for $200,000 in cash and notes. The assets held for sale are separately classified in the balance sheet at December 31, 2000.

In a letter dated June 16, 2000, J.M. Huber Corporation ("Huber") informed MFIC Corporation that it purportedly was revoking its acceptance of seven model LV-40 Zinger(R) horizontal media mills that Huber had purchased from MFIC's Epworth Mill Division in 1998. The notice of revocation was accompanied by a claim for the repayment of the full purchase price of $384,948 and for incidental and consequential damages as a result of alleged breaches of express and implied warranties in the amount of $2,790,350. The Company denied any liability. At the request of Huber and as an accommodation, the Company, in both 2000 and 1999 performed certain services which, the Company believed, were accepted by Huber as a cure for problems encountered by Huber with the performance of this equipment. On October 20, 2000, the Company entered into a settlement agreement with Huber pursuant to which, the Company paid $100,000 to Huber upon execution of the agreement, and executed a promissory note for $350,000 payable two years from the execution date, with interest payable quarterly in arrears at 10% per annum. The Company may prepay the note through April 2001, with the note being discharged for $300,000 plus accrued and unpaid interest. Huber has transferred all interest in the seven Media Mills to the Company, and shipped the equipment to the Company for reconditioning and resale. The Company recorded a loss on this transaction of $250,000. The loss is included in

other expense in the consolidated statement of operations.

The Company had a sales backlog of $3,281,000 and $3,371,000 at March 16, 2001 and March 16, 2000, respectively.

At December 31, 2000 the Company had a near-record backlog, with orders and order inquiry levels, especially for Microfluidizer production equipment, at a very strong level. This activity combined with ongoing business activity trends and reduced financing costs make improvement in operations likely for the foreseeable quarters in 2001. Management believes that in 2001 the Company should experience growth in revenues, realization of improved operating performance, and attainment of net profitabilility.

Fiscal 1999 Compared to Fiscal 1998

As discussed in Note F to the accompanying financial statements, in August 1998, the Company acquired the assets and assumed certain liabilities of two businesses, Morehouse-COWLES, Inc. and Epworth Manufacturing Company. These acquisitions were accounted for as a purchase. Accordingly, in the accompanying financial statements, the results of operations and cash flows include Morehouse-COWLES and Epworth Mill subsequent to August 15, 1998.

Total revenues for the year ended December 31, 1999 were $14,083,216 as compared to revenues of $8,869,679 for the year ended December 31, 1998, representing an increase of $5,213,537, or 59%. This increase in revenues was the result of $4,849,708 in additional revenue generated by the Company's Epworth Mill and Morehouse-COWLES divisions, and an increase in sales by the Microfluidics Division of the Company in the amount of $363,829.

For the Microfluidics Division, North American sales for the year ended December 31, 1999 increased to $4,518,962, or 5% as compared to North American sales of $4,299,285 for the year ended December 31, 1998. This increase in North American sales was principally due to an increase in the sale of spare parts. Foreign sales were $1,899,989 for the year ended December 31, 1999 compared to $1,755,836 for the year ended December 31, 1998, an increase of $144,153 or 8%. This increase in foreign sales was principally due to an increase in the sale of machines compared to 1998.

Within the Microfluidics Division, sales of the M-110 Laboratory Series decreased by approximately $240,000, from $2,555,842, or 42% of sales, in 1998 to $2,315,636, in 1999, or 36% of sales, while spare part sales increased by approximately $484,000 to 37% of sales, to $2,404,936 in 1999, from $1,920,491 in 1998. Sales of a new line, the M-700 Series, accounted for approximately $572,000, or 9% of sales in 1999. Sales of the M-210 Series decreased by approximately $295,000 to 3% of division sales to $204,853 in 1999 from $499,372, or 8% of sales, in 1998. In addition, the Company's sale of M-610 large volume production units in fiscal 1999 was one unit, down from three units from fiscal 1998, representing a decrease of approximately $598,000.

Total cost of goods sold for 1999 was $7,990,398 or 57% of revenue, as compared to $4,954,826

or 56% of revenue for 1998. The increase in cost of goods sold in absolute dollars reflects the increase in sales generated by the Epworth Mill and Morehouse-COWLES operating divisions of the Company, offset by a decrease in cost of goods sold by the Microfluidics Division of approximately $408,000. For the Microfluidics Division of the Company, cost of goods sold was $2,403,245, or

37% of sales, compared to $2,810,954, or 46% of sales, for 1998. The decrease in cost of goods sold was due to reduced sales of large volume machines, which have a lower gross profit margin. The Company's three major product lines have different profit margins, as well as multiple profit margins within each product line. In the course of the periods compared, there may be significant changes in the cost of revenues as a percentage of revenue depending on the mix of product sold. Also, the cost of sales as a percent of revenue will differ between laboratory and pilot plan units sold, due to the difference in costs between air driven and electric-hydraulic units.

Total operating expenses for 1999 were $6,426,906 or 46% of revenue, as compared to $5,013,316, or 57% of revenue, for 1998, which is an increase of $1,413,590, or 28%.

Research and development expenses for 1999 were $927,582 compared to $935,880 for 1998, a decrease of $8,298, or 1%. Excluding research and development expenses attributable to the Epworth Mill and Morehouse-COWLES operating divisions of the Company of $359,463, which represented an increase of approximately $102,000, the decrease in research and development expenses of the Microfluidics Division of approximately $110,000 is primarily due to a decrease in payroll and related costs of approximately $121,000, offset by a decrease in grant reimbursement funds of approximately $27,000.

Sales and Marketing expenses for 1999 increased approximately $571,000, from $2,363,844 in 1998 to $2,934,668, or 24%. Excluding selling expenses of approximately $938,000 attributable to the Epworth Mill and Morehouse-COWLES divisions of the Company, selling expenses increased by approximately $145,000, from $1,851,584 to $1,996,277 due to an increase in advertising expense of approximately $92,000, travel and entertainment expenses of approximately $40,000, and printing expenses of approximately $33,000.

For the year ended December 31, 1999, general and administrative expenses increased by approximately $851,000, from $1,713,592 for the year ended December 31, 1998, to $2,564,656. Excluding expenses attributable to the Epworth Mill and Morehouse-COWLES operating divisions of the Company of approximately $877,000 in 1999 and $396,000 in 1998, general and administrative expenses increased approximately $370,000, principally due to an increase in amortization of goodwill in connection with the purchases of the assets and selected liabilities of the Epworth Mill and Morehouse-COWLES divisions of approximately $246,000, and an increase in professional fees of approximately $170,000, offset by a decrease in corporate overhead of approximately $23,000.

Interest income for 1999 decreased to $9,835 from $119,492 for 1998, a decrease of $109,657 or 92%. The decrease for 1999 was due to the amount of cash available to invest.

The Company realized a gain on the sale of a portion of the Company's holdings in PolyMedica Industries, Inc. in the amount of $36,203 for the year ended 1998, and a gain on the sale of

Cardiotech International, Inc., in the amount of $11,864 for 1999.

The Company realized a gain on the sale of fixed assets in 1999 of $58,847.

In the fourth quarter of 1998, the Company adjusted the valuation allowance against its deferred tax assets, resulting in a charge of $413,630, due to the uncertainty of earning sufficient taxable income to realize the benefit of the deferred tax assets.

QUARTERLY RESULTS OF OPERATIONS

The following table sets forth, for the periods presented, certain data from our consolidated statements of operations. In the opinion of our management, the unaudited quarterly consolidated statement of operations data have been prepared on substantially the same basis as our audited consolidated financial statements and include all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the financial information for the periods presented. This information should be read in conjunction with the consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. The operating results in any quarter are not necessarily indicative of the results that may be expected for any future period.

Summarized unaudited quarterly financial data are as follows:

	Fiscal 2000 Quarters		
	First	Second	Third
Net sales	$3,732,919	$3,951,979	$3,949,071
Gross profit	1,751,869	1,746,354	1,872,287
Net income (loss) before extraordinary gain	51,406	28,654	(316,348)
Extraordinary gain	194,500	-	-
Net income (loss)	$245,906	$28,654	$(316,348)
Net income (loss) per share:			
Basic income (loss) per share before extraordinary gain	$.01	$.00	$(.04)
Extraordinary gain per share	.03	-	-
Net income (loss) per share	$.04	$.00	$(.04)
Diluted income (loss) per share before extraordinary gain	$.01	$.00	$(.04)
Extraordinary gain per share	.03	-	-
Diluted income (loss) per share	$.04	$.00	$(.04)

	Fiscal 1999 Quarters		
	First	Second	Third

Net sales	$2,597,122	$3,342,517	$3,692,425
Gross profit	931,590	1,526,182	1,692,991

Net (loss) income	$(629,226)	$(49,864)	$(78,903)
Net (loss) income per share:			
Basic	$(.11)	$(.01)	$(.01)
Diluted	$(.11)	$(.01)	$(.01)

As a result of a debt restructuring and refinancing, the Company recorded an extraordinary gain of approximately $195,000 in the first quarter of fiscal 2000.

As a result of a settlement reached with J.M. Huber Corporation in the third quarter of fiscal 2000, the Company incurred a loss of approximately $250,000.

LIQUIDITY AND CAPITAL RESOURCES

The Company generated cash of $80,718 in 2000, $970,442 in 1999, and used cash of $1,259,391 from operations in 1998, respectively. In 2000, the Company's principal operating cash requirements were to fund its net loss from operations, increases in inventories, trade and other receivables, and prepaid expenses, offset by a decrease in current liabilities. In 1999, the Company's principal operating cash requirements were to fund its net loss from operations, an increase in accounts receivables, offset by decreases in inventory and an increase in current liabilities. In 1998, the amount of the cash decrease was principally the result of funding the net loss from operations, a decrease in inventories and accounts receivables, offset by a decrease in current liabilities.

Net cash used by investing activities of $27,673 in 2000 consisted of the proceeds from the sale of assets of $152,989, offset by the purchase of capital equipment of $180,662. The Company's sale of assets principally related to used equipment. As of December 31, 2000, the Company had no material commitments for capital expenditures. The Company used cash of $23,855 for investing activities in 1999. Net cash used in investing activities included the proceeds from the sale of assets, net of the purchase of capital equipment. The Company utilized $6,638,534 for investing activities in 1998. Net cash used for investing activities included the acquisition of the Epworth Mill and Morehouse-COWLES businesses, net of cash acquired, as well as the purchase of capital equipment.

For financing activities, the Company generated cash of $37,138 in 2000, used cash of $1,301,128 in 1999, and generated cash of $4,365,424 in 1998, respectively. In 2000, cash was generated from the proceeds of stock issued, from the proceeds of both a line of credit and a term note from a refinancing, and was used to pay down a previous line of credit, and pay fees in connection with obtaining the line of credit. In 1999 cash was used to pay down the line of credit, and purchase treasury stock, and was offset in part by the issuance of stock under the employee stock option plan. In 1998, cash was generated from the proceeds of borrowings to finance the acquisition of the Epworth Mill and

Morehouse-COWLES businesses.

The cash and cash equivalents balance at December 31, 2000 was $286,355, an increase of $90,183 from the December 31, 1999 balance of $196,172. At December 31, 2000, the Company maintained a line of credit and a term loan (collectively the "Credit Facility") with National Bank of Canada (the "Lender"). The line of credit facility provides for

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maximum borrowing of $4,000,000. As of December 31, 2000 and March 16, 2001, the Company had borrowings of $2,724,015 and $2,617,069, respectively.

Under the terms of the line of credit with National Bank of Canada, the Company is subject to a number of restrictions that impact the Company's use of funds. The Company is limited to acquisition of property of less than $200,000 per year, cannot pay dividends, and must maintain certain financial covenants. In addition, the Company is required to maintain a lockbox arrangement with the National Bank of Canada and all cash receipts are included in the lockbox and are applied against the outstanding line of credit.

As discussed in Note G to the consolidated financial statements, the Company was in violation of the tangible net worth, liabilities to worth ratio, and net income covenants of the credit facility as of December 31, 2000. The Company received a waiver from the National Bank of Canada, as of December 31, 2000, but is required to meet such covenants thereafter. The Company's ability to continue planned operations is dependent upon access to financing under its Credit Facility, which is potentially impacted by the Company's ability to achieve future compliance with the financial covenants. Given the terms of the financial covenants and historical results, it is at least reasonably possible that the Company will be in violation of the financial covenants in the future. As indicated in Note N, the Company determined that violations of the tangible net worth and liabilities to worth ratio covenant occurred for the quarter ended March 31, 2001. The Company obtained a waiver for these violations from the National Bank of Canada. Borrowings outstanding under the Credit Facility are secured by a collateral pledge to the lender of substantially all of the assets of the Company. Management of the Company is executing plans for a return to profitability, including the recent reorganization of its' Epworth Mill Division and the concentration of manufacturing operations in an effort to improve costs and marketing leverage; however, there can be no assurance that the Company will be successful in implementing these plans.

Assuming that there is no significant change in the Company's business, the Company believes that cash flows from operations, together with existing cash balances, will be sufficient to meet its working capital and debt service requirements for at least the next twelve months.

NASDAQ DELISTING

The Company's Common Stock was listed on the NASDAQ National Market (the "National Market") under the symbol "MFIC". The Company was notified by the National Market that, as of October 9, 1998, the Company was not in compliance with the National Market requirements for the continued listing of its Common Stock because the public float of the Common Stock was less than $5,000,000 for more than thirty consecutive days. NASDAQ calculates the market value of a Company's common stock by multiplying the closing bid price of the stock by the number of shares held by non-affiliates. The Company estimated that 4,494,502 shares were currently held by non-affiliates. The notice from the National Market further stated that the Company's Common Stock would be delisted as of January 18, 1999 if the public float was not $5,000,000 or more for a period of ten consecutive trading days during the ninety-day period from October 19, 1998

to January 17, 1999. Further, as of September 30, 1998, the Company fell below another of the National Market's continued listing requirements - its net tangible assets (total assets minus goodwill) had fallen below $4,000,000 to $3,251,953. Finally on March 11, 1999, the National Market notified the Company that the Company was not in compliance with the minimum bid price requirement. As of March 24, 1999, the Company had still not satisfied any one of the three foregoing requirements. The Company requested a hearing before the National Market to request a "phase-down" to the NASDAQ SmallCap Market. This meeting took place on March 19, 1999. The Company's request was not granted and on April 23, 1999 the Company's stock was delisted from the National Market. The Company is currently listed on the Over the Counter Bulletin Board. The liquidity of such securities may be impaired not only in the number of shares that could be bought and sold, but also through delays in the timing of transactions, reductions in securities analysts' and media coverage of the Company, and lower prices than might otherwise be attained.

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NEW ACCOUNTING PRONOUNCEMENTS

In June 1998, The Financial Accounting Standards Board ("FASB") issued Statement of Financial Accounting Standards ("SFAS") No. 133, "Accounting for Derivative Instruments and Hedging Activities," which was amended to be effective for fiscal years beginning after June 15, 2000 by SFAS No. 137, "Accounting for Derivative Instruments and Hedging Activities -Deferral of the Effective Date of FASB Statement No. 133". SFAS No. 133 requires that all companies record derivatives on the balance sheet as assets or liabilities, measured at fair value. Gains or losses resulting from changes in the values of those derivatives would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting. The standard is effective for the Company on January 1, 2001. In June 2000, the FASB issued SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities, an amendment of FASB Statement No. 133". The standard clarifies certain elements of SFAS No. 133. Management has determined that the implementation of SFAS No. 133 will not have a material impact on the Company's financial statements.

In December 1999 the Securities and Exchange Commission ("SEC") released Staff Accounting Bulletin ("SAB") No. 101, "Revenue Recognition in Financial Statements." This SAB clarifies certain elements of revenue recognition. Since December, the SEC has issued several amendments that postponed the implementation date until the fourth quarter of fiscal 2000. The implementation of the SAB did not have a material impact on the Company's Financial Statements.

ITEM 7A QUANTITATIVE AND QUALITIVE DISCLOSURES ABOUT MARKET RISK

The Company's financial instruments are generally not subjected to changes in market value as a result of changes in interest rates due to the short maturities of the instruments. The Company's fixed rate debt is not exposed to cash flow or interest rate changes but is exposed to fair market value changes in the event of refinancing this fixed rate debt. The Company does not have significant exposure to fluctuations in foreign exchange rates.

The Company had approximately $3,128,000 of variable rate borrowings outstanding under its revolving credit agreement. A hypothetical 10% adverse change in interest rates for this variable rate debt would have had an approximate $35,000 negative effect on the Company's earnings and cash flows, on an annual basis.

For additional information about the Company's financial instruments, see Note G and Note M.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following Consolidated Financial Statements of the Company and its Subsidiaries appear on the following pages of this Form 10-K.

	Page
Report of Independent Auditors	F-1
Consolidated Balance Sheets as of December 31, 2000 and 1999	F-2 & F-3
Consolidated Statements of Operations for the years ended December 31, 2000, 1999, and 1998.	F-4
Consolidated Statements of Cash Flows for the years ended December 31, 2000, 1999 and 1998	F-5
Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2000, 1999 and 1998	F-6
Notes to Consolidated Financial Statements	F-7

REPORT OF INDEPENDENT AUDITORS

To the Board of Directors and Stockholders of MFIC Corporation:

We have audited the accompanying consolidated balance sheets of MFIC Corporation and Subsidiaries as of December 31, 2000 and 1999, and the related consolidated statements of operations, comprehensive loss, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2000. Our audits also included the financial statement schedule listed in the index at Item 14 (a)(2). These consolidated financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of MFIC Corporation and Subsidiaries as of December 31, 2000 and 1999, and the results

of their operations and their cash flows for each of the three years in the period ended December 31, 2000 in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, such financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ DELOITTE & TOUCHE LLP

Boston, Massachusetts
March 29, 2001, except for Note N, as to which the date is April 13, 2001

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MFIC CORPORATION
CONSOLIDATED BALANCE SHEETS

ASSETS	December 31, 2000
Current Assets:	
Cash and cash equivalents	$286,355
Accounts receivable, less allowance of $55,570 and $65,321 in 2000 and 1999, respectively	2,862,489
Other receivables	3,490
Accounts receivable- related party	18,525
Inventories	4,023,240
Prepaid expenses	223,100
Other current assets	137,752
TOTAL CURRENT ASSETS	7,554,951
Property	
Furniture, fixtures and office equipment	438,507
Machinery and equipment	579,617
Leasehold improvements	211,660
	1,229,784
Less: Accumulated depreciation and amortization	(654,828)

Net property	574,956
Assets held for sale	213,142
Goodwill (net of accumulated amortization of $981,050 in 2000 and $554,329 in 1999)	5,183,409
Patents, licenses and other assets (net of accumulated amortization of $567,321 in 2000 and $464,389 in 1999)	117,777
TOTAL ASSETS	$13,644,235

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See notes to consolidated financial statements

MFIC CORPORATION
CONSOLIDATED BALANCE SHEETS (Continued)

Liabilities and Stockholders' Equity	December 31, 2000
Current Liabilities:	
Accounts payable	$1,816,086
Accrued expenses	105,366
Accrued interest- related party	70,085
Accrued compensation and vacation pay	157,971
Customer advances	623,184
Line of credit	2,724,015
Current portion of term note payable	95,004
Current portion of long-term debt- related party	62,500
TOTAL CURRENT LIABILITIES	5,654,211
Commitments and contingencies	-
Long-term debt, net of current portion- related party	237,500

Term note	308,743
Note payable - other	350,000
Stockholders' Equity:	
Common Stock, par value $.01 per share, 20,000,000 shares authorized; 7,588,948 and 6,061,307 shares issued at December 31, 2000 and 1999, respectively	75,889
Additional paid-in capital	12,891,904
Accumulated deficit	(5,193,342)
Less: Treasury Stock, at cost, 250,219 and 242,719 shares at December 31, 2000 and 1999, respectively	(680,670)
TOTAL STOCKHOLDERS' EQUITY	7,093,781
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$13,644,235

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See notes to consolidated financial statements

MFIC CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year ended Dec. 31, 2000	Year Dec. 31
Revenues	$15,725,695	$14,08
Cost of goods sold	8,688,465	7,99
Research and development	835,136	92
Selling	3,482,866	2,93
General and administrative	2,786,598	2,56
Total cost and expenses	15,793,065	14,41

Loss from operations	(67,370)	(33
Interest expense	(350,486)	(54
Interest income	248	
Other (expense) income	(250,000)	
Gain on sale of investments	-	11
Net loss before income taxes and extraordinary item	(667,608)	(85
Income tax provision	-	
Net loss before extraordinary item	$(667,608)	$(85
Gain on subordinated debt restructuring	194,500	
Net loss	$(473,108)	$(85
Weighted average number of common and common equivalent shares outstanding:		
Basic	7,086,058	5,81
Diluted	7,086,058	5,81
Basic amounts per common share:		
Net loss per share before extraordinary gain	$(.09)	
Extraordinary gain per share	.03	
Basic net loss per share	$(.06)	
Diluted amounts per common share:		
Net loss per share before extraordinary gain	$(.09)	
Extraordinary gain per share	.03	
Diluted net loss per share	$(.06)	

Consolidated Statements of Comprehensive Loss		
Net Loss	$(473,108)	$(85
Unrealized depreciation on marketable securities	--	
Comprehensive Loss	$(473,108)	$(85

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See notes to consolidated financial statements

MFIC CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended Dec. 31, 2000	Y Dec
Cash flows from operations:		
Net Loss	$(473,108)	
Reconciliation of net loss to cash flows from operations:		
Depreciation and amortization	804,823	
Bad debt provision (recovery)	(9,751)	
Non cash provision for loss on legal settlement	150,000	
Extraordinary gain on debt restructuring	(194,500)	
Gain on sale of investments	-	
Gain on sale of assets	(81,752)	
Deferred income tax provision	-	
Increase (decrease) in cash due to change in:		
Receivables and other receivables	(89,210)	

Inventories	(461,121)	
Prepaid expenses	(42,913)	
Other current assets	(68,552)	
Current liabilities	546,802	
Net cash from (used by) operations	80,718	
Cash flows from (used by) investing activities:		
Proceeds from sale of investments	-	
Proceeds from sale of assets	152,989	
Acquisition, net of cash acquired	-	
Purchase of property	(180,662)	
Net cash used by investing activities	(27,673)	
Cash flows from (used by) financing activities:		
(Payments) proceeds from Comerica Bank line of credit	(3,075,815)	(
Net proceeds from National Bank of Canada line of credit	2,724,015	
Proceeds from term note	475,000	
Payments on term note	(71,253)	
Principal payments on long term debt	-	
Financing costs and termination payments for debt refinancing	(265,587)	
Issuance of restricted common stock	250,000	
Issuance of common stock under employee stock purchase plan	7,341	
Issuance of common stock under employee stock option plan	-	
Treasury stock purchased	(6,563)	
Net cash from (used by) financing activities	37,138	(
Net increase (decrease) in cash and cash equivalents	90,183	
Cash and cash equivalents at beginning of year	196,172	
Cash and cash equivalents at end of year	286,355	

Supplemental disclosure of cash flow information:	
Assets acquired in exchange for notes or common stock	200,000
Cash paid for interest	367,111

See notes to consolidated financial statements

MFIC CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

	Numbers of Shares of Common Stock	Common Stock at par value	Additional paid-in capital	Accumulated deficit	Accumulated Other Comprehensive Income	Number Shares Treasu Stoc
Balance at Dec. 31, 1997	5,136,804	$51,368	$10,442,840	$(2,360,359)	$55,638	220,
Change in unrealized depreciation on marketable securities					(45,558)	
Stock options exercised	16,250	163	24,898			
Proceeds from employee stock purchase plan	3,929	39	7,685			
Issuance of stock in conjunction with purchase of Epworth and Morehouse divisions	900,000	9,000	2,016,000			
Purchase of treasury stock						14,
Net loss				(1,505,441)		
Balance at Dec. 31, 1998	6,056,983	60,570	12,491,423	(3,865,800)	10,080	235,
Reclassification adjustment for gain included in net income					(10,080)	

Proceeds from employee stock purchase plan	4,324	43	3,416			
Purchase of treasury stock						7,
Net loss				(854,434)		
Balance at Dec. 31, 1999	6,061,307	60,613	12,494,839	(4,720,234)	0	242,
Issuance of restricted common stock	1,500,000	15,000	390,000			
Issuance of common stock under employee stock purchase plan	27,641	276	7,065			
Purchase of treasury stock						7,
Net loss				(473,108)		
Balance at December 31, 2000	7,588,948	$75,889	$12,891,904	$(5,193,342)	$0	250,

See notes to consolidated financial statements

MFIC CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

A. NATURE OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

1. Description of Business

MFIC Corporation ("MFIC" or the "Company"), through its wholly-owned subsidiaries, Microfluidics Corporation ("Microfluidics") and MediControl Corporation ("MediControl"), its Microfluidics Division, as well as its operating divisions, Epworth Mill and Morehouse-COWLES specializes in producing and marketing a broad line of proprietary fluid materials processing systems used for a variety of grinding, mixing, milling, and blending applications across a variety of industries and for use in numerous applications within those industries. Microfluidizer(R) materials processor systems are produced at the Microfluidics Division, while dispersers, dissolvers, colloid mills, horizontal media and vertical media mills are produced at the Morehouse-COWLES Division. The Epworth Mill Division sells and distributes grinding media.

2. Consolidation

The consolidated financial statements of the Company include the accounts of the Company and its wholly owned subsidiaries, ("MFIC") and MediControl.

All significant intercompany transactions have been eliminated.

3. Cash Equivalents

The Company considers securities with maturities of three months or less, when purchased, to be cash equivalents.

4. Inventories

Inventories are stated at the lower of cost or market. Cost is determined on a first-in, first-out basis.

5. Assets Held for Sale

Assets held for sale consist of inventory and fixed assets to be sold in connection with the Company's decision to sell its Ball Mill Repair business.

6. Property

The Company's property is recorded at cost. Depreciation is computed on the straight-line method, based upon useful lives of three to seven years. Leasehold improvements are amortized on the straight-line method based upon the shorter of the estimated useful lives or remaining life of the lease. Expenditures for maintenance and repairs are expensed as incurred. Upon retirement or sale of property and equipment, the cost of the disposed asset and the related accumulated depreciation are removed from the accounts and any resulting gain, or loss is credited or charged to operations.

Depreciation expense totaled $278,201, $249,029, and $123,001 for the years ended December 31, 2000, 1999, and 1998, respectively.

7. Patents, Licenses, Other Intangible Assets and Goodwill

Patents, patent applications, rights, and goodwill are stated at acquisition cost. Amortization is recorded using the straight-line method over the shorter of the legal lives or useful life of the patents. Goodwill is being amortized over 15 years. Patents, licenses and other intangible assets are being amortized over a period of 3-15 years.

8. Impairment of Long-Lived Assets

At each balance sheet date, the Company assesses whether there has been an impairment in the value of long-lived assets by determining whether projected undiscounted cash flows generated by the applicable asset exceeds its net carrying value as of the assessment date. The amount of goodwill impairment, if any, is measured based on projected discounted future operating cash flows using a discount rate reflecting the Company's average cost of funds. As of December 31, 2000, 1999 and 1998 there were no such impairments.

9. Income Taxes

The Company provides for income taxes based on the provisions of Statement of Financial Accounting Standards (SFAS) No. 109, "Accounting

for Income Taxes," which requires recognition of deferred tax assets and liabilities based on the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred tax assets and liabilities are determined based upon the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to be reversed. Under SFAS No. 109, the effect on deferred tax assets and liabilities of a change in tax rates is recognized as income or loss in the period of the change.

10. Revenue Recognition

Revenue from the sale of machines and spare parts is generally recognized upon shipment of the product or when the earnings process is complete. Rental income for the lease of equipment is recognized on a straight line basis over the term of the lease agreement. Rental income and equipment sales are classified in revenues in the consolidated statement of operations.

11. Earnings (Loss) per Share

Basic net income (loss) per share (EPS) is computed by dividing income available to common stockholders by the weighted average number of common shares outstanding for the period. Diluted net income (loss) per share (EPS) reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock unless the effects of such equivalent shares were antidilutive.

A reconciliation of the numerators and denominators of the basic and diluted EPS computations for income (loss) per share from continuing operations is shown below. Options to purchase 1,761,575, 1,303,731,and 1,416,587 shares of common stock were outstanding for the years ended 2000, 1999 and 1998, respectively. All options outstanding during 2000, 1999 and 1998 were excluded from the computation of diluted EPS because the effect of such options would have been antidilutive.

	2000	1999	
Average shares outstanding- basic	7,086,058	5,818,588	5
Basic loss per share before extraordinary gain	$(.09)	$(.15)	
Extraordinary gain per share	.03	.00	
Basic loss per share	$(.06)	$(.15)	

Effect of dilutive stock options	-	-	
Average shares outstanding- diluted	7,086,058	5,818,588	5
Diluted loss per share before extraordinary gain	$(.09)	$(.15)	
Extraordinary gain per share	.03	.00	
Diluted loss per share	$(.06)	$(.15)	

12. Use of Estimates

The process of preparing consolidated financial statements in conformity with accounting principles generally accepted in the Untied States of America requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

13. New Accounting Pronouncements

In June 1998, The Financial Accounting Standards Board ("FASB") issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities," which was amended to be effective for fiscal years beginning after June 15, 2000 by SFAS No. 137, "Accounting for Derivative Instruments and Hedging Activities-Deferral of the Effective Date of FASB Statement No. 133". SFAS No. 133 requires that all companies record derivatives on the balance sheet as assets or liabilities, measured at fair value. Gains or losses resulting from changes in the values of those derivatives would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting. The standard is effective for the Company on January 1, 2001. In June, 2000, the FASB issued SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities, an amendment of FASB Statement No. 133". The standard clarifies certain elements of SFAS No. 133. The implementation of SFAS No. 133 will not have a material impact on the Company's financial statements.

In December 1999 the Securities and Exchange Commission ("SEC") released Staff Accounting Bulletin ("SAB") No. 101, "Revenue Recognition in Financial Statements." This SAB clarifies certain elements of revenue recognition. Since December, the SEC has issued several amendments that postponed the implementation date until the fourth quarter of fiscal 2000. The implementation of SAB No. 101 did not have a material impact on the Company's Financial Statements.

14. Fair Value of Financial Instruments

The carrying amount of cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximates fair value due to the short term nature of these accounts. The Company's bank debt,

because it carries a variable interest rate, is stated at its approximate fair market value. The Company's subordinated debt bears interest at 10%, which approximates fair market value.

15. Certain fiscal 1999 and fiscal 1998 amounts have been reclassified to conform with fiscal 2000 presentations.

B. INDUSTRY SEGMENT, EXPORT SALES AND MAJOR CUSTOMER:

The Company has one business segment: the development, manufacture, marketing and sale of process and formulation equipment. The Company's sales are primarily to companies with processing needs in the chemical, pharmaceutical, food, cosmetic, and biotechnology industries.

Sales to Europe were approximately $997,000, $1,024,000, and $832,000, and sales to Asia were approximately $1,805,000, $1,542,000, and $924,000, in 2000, 1999, and 1998, respectively.

No customer accounted for over 10% of the Company's revenues in 2000, 1999 and 1998.

C. MARKETABLE SECURITIES:

In 1999, the Company sold 6,720 shares of Cardiotech International, Inc. at a gain of $11,864. In 1998, the Company sold 3,940 shares of PolyMedica Industries, Inc. at a gain of $36,203. At December 31, 2000, the Company did not hold investments in marketable securities.

D. INVENTORY

The components of inventories are as follows at December 31:

	2000	1999
Raw materials	$2,670,155	$2,070,913
Work in progress	473,095	320,151
Finished goods	879,990	1,086,059
TOTAL	$4,023,240	$3,477,123

E. INTANGIBLE AND OTHER ASSETS

The Company purchased the rights and title of certain liposome and microemulsion technology devices from Arthur D. Little in 1985. The unamortized license fee and patent are included in intangible assets and are being amortized using the straight line method over the useful life of the patent, 17 years. Patents and other intangible assets were

purchased in 1991 as a result of a share exchange by MediControl stockholders. These patents and other intangible assets were amortized using the straight line method over five years. In addition, in 1995, the Company capitalized $96,680 of patent costs related to a cooperative research venture. Amortization of these assets charged to expense was $42,269 in 2000, and $43,920 in 1999 and 1998.

Costs incurred in connection with the debt refinancing that occurred on February 28, 2000 are being amortized over three years, the initial term of the line of credit. The total of such costs was approximately $207,000.

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F. ACQUISITIONS

On August 14, 1998 (the "Closing Date") MFIC purchased substantially all of the assets (the "Transferred assets") and assumed certain liabilities of Epworth Manufacturing Company of South Haven, Michigan ("Epworth") and Morehouse-COWLES, Inc. of Fullerton, California ("Morehouse" and together with Epworth, the "Sellers") pursuant to an Asset Purchase Agreement (the "Agreement") dated as of June 19, 1998 by and among MFIC, Epworth and Morehouse. Messrs. J.B. Jennings and Bret A. Lewis were the sole stockholders of both Epworth and Morehouse (the "Principals"). Epworth and Morehouse each manufactures and distributes a product line of crushing/grinding, mixing, dissolving and dispersion systems for solid or solids materials processing that are marketed together under the EMCO U.S.A. trade name.

In accordance with the Agreement, MFIC paid or delivered to the Sellers the following as consideration for the purchase price: (i) $5,508,480 in cash, (ii) two subordinated promissory notes in the aggregate principal amount of $800,000 (the "Promissory Notes") and (iii) 900,000 shares of MFIC's restricted common stock, $.01 par value per share, subject to the restrictions set forth in a Stockholders Agreement among MFIC and the Principals dated August 14, 1998 (the "Stockholders Agreement"). MFIC also incurred approximately $500,000 in expenses. In addition, MFIC assumed approximately $1,930,000 in accounts payable and accrued liabilities. The acquisition has been accounted for under the purchase method of accounting.

The amount paid in excess of the identified fair market value of the assets purchased less liabilities assumed has been allocated to goodwill. This amount is being amortized over a fifteen year period, which the Company determined to be the useful life.

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G. INDEBTEDNESS

Long-term debt as of the following dates consisted of:

	December 31, 2000	Decembe

10% note payable	350,000
10% subordinated note payable to related party	300,000
Term note payable	403,747
Less current portion	(157,504)
TOTAL	$896,243

The subordinated notes are payable to Lake Shore Industries Inc. and J.M. Huber Corporation. See Note M to the Consolidated Financial Statements for further explanation of the note to Lake Shore Industries Inc.

In a letter dated June 16, 2000, J.M. Huber Corporation ("Huber") informed MFIC Corporation that it purportedly was revoking its acceptance of seven model LV-40 Zinger(R) horizontal media mills that Huber had purchased from MFIC's Epworth Mill Division in 1998. The notice of revocation was accompanied by a claim for the repayment of the full purchase price of $384,948 and for incidental and consequential damages as a result of alleged breaches of express and implied warranties in the amount of $2,790,350. The Company denied any liability. At the request of Huber and as an accommodation, the Company, in both 2000 and 1999 performed certain services which, the Company believed, were accepted by Huber as a cure for problems encountered by Huber with the performance of this equipment. On October 20, 2000, the Company entered into a settlement agreement with Huber pursuant to which, the Company paid $100,000 to Huber upon execution of the agreement, and executed a promissory note for $350,000 payable two years from the execution date, with interest payable quarterly in arrears at 10% per annum. The Company may prepay the note through April 2001, with the note being discharged for $300,000 plus accrued and unpaid interest. Huber has transferred all interest in the seven Media Mills to the Company, and shipped the equipment to the Company for reconditioning and resale. The Company recorded a loss on this transaction of $250,000.

From August 1998 to February 28, 2000, the Company operated under a revolving loan and security agreement with Comerica Bank. The outstanding balance was $3,075,815 at December 31, 1999, bearing interest at 12.25%. Since May 5, 1999, the Company had operated under a forbearance agreement to the Comerica Bank loan agreement, which restricted the level of borrowings, and prohibited the Company from paying dividends. The unused portion of the line of credit was $339,185 at December 31, 1999.

On February 28, 2000 (the "Closing Date") the Company entered into a revolving credit and term loan agreement with National Bank of Canada (the "Lender") providing the Company with a $4,475,000 three-year revolving credit and term loan facility (together the "Credit Facility"). The Credit Facility is comprised of: (i) a $4 million three year revolving line of credit ("Revolving Credit Line") with advances thereunder bearing interest at an interest rate equal to the prime rate

(the "Prime Rate" for United States borrowings from the National Bank of Canada as publicly announced from time to time) plus one-half percent (.50%). All borrowings under the Revolving Credit Line are evidenced by a $4 million promissory note having a maturity date of February 28, 2003 (the "Revolving Note"), and (ii) a $475,000 term promissory note, amortized over a five year period but having a maturity date of February 28, 2003 and bearing interest at an interest rate equal to the Prime Rate plus three quarters of one percent (.75%). Loans under the Credit Facility are secured by a collateral pledge to the Lender of substantially all the assets of the Company and its subsidiaries. The Company's Microfluidics Corporation subsidiary has guaranteed the Company's obligations to the Lender under the Credit Facility. The Company has pledged to the Lender all shares of Microfluidics Corporation owned by the Company. From the proceeds of the initial loan, the Company repaid the outstanding balance owed to Comerica Bank of approximately $2,585,000.

As one of the Lender's conditions precedent to the closing of the Finance Facility, the Company's Chairman, Irwin Gruverman, at the closing of the Credit Facility purchased, for $250,000, 1,000,000 shares of restricted Common Stock of the Company. This purchase was approved by the Company's Board of Directors on December 30, 1999.

The Credit Facility includes restrictive financial and non-financial covenants. The covenants include prohibition from paying dividends and limits capital expenditures to $200,000 per year. In addition, the financial covenants include quarterly calculations of tangible net worth, liabilities to worth ratio, net income, and debt service coverage. The Credit Facility also contains a subjective acceleration clause and a lock-box arrangement, whereby remittances from the Company's customers reduce the outstanding amount of the Revolving Credit Line.

At December 31, 2000, the Company was in violation of the tangible net worth, liabilities to worth ratio, and net income covenants. The Company has received a waiver of these violations from the Lender as of December 31, 2000, but is required to meet such covenants thereafter. Due to the subjective acceleration clause, and the lock-box arrangement, the Revolving Credit Line is classified as a current liability in the Consolidated Balance Sheet.

At December 31, 2000, the outstanding balance on the Revolving Credit Line was $2,724,015, having an interest rate of 10%. The balance outstanding on the term loan was $403,743, at an interest rate of 10.25%.

Management's Plans

As discussed above, the Company violated the tangible net worth, liabilities to worth ratio, and net income covenants of the Credit Facility as of December 31, 2000. The Company's ability to continue planned operations is dependent upon access to financing under the Credit Facility, which is potentially impacted by the Company's ability to achieve future compliance with the financial covenants. Given the terms of the financial covenants and historical results, it is at least reasonably possible that the Company will be in violation of the financial covenants in the future. Borrowings outstanding under the Credit Facility are secured by a collateral pledge to the Lender of substantially all of the assets of the Company.

Management of the Company is executing plans for a return to

profitability, including the recent reorganization of its Epworth Mill Division and the concentration of manufacturing operations in an effort to improve costs and marketing leverage; however, there can be no assurance that the Company will be successful in implementing these plans.

H. EMPLOYEE BENEFITS

The Company offers a 401(k) profit-sharing plan (the "Plan"), to its employees. All Company and related entity employees who are eighteen years of age and have completed one hour of service are eligible to participate in the Plan. Employees may contribute from 1% to 20% of their compensation. The Company's contribution is discretionary, with contributions made from time to time as management deems advisable. The Company made no matching contributions in 2000 or 1999 and $23,842 in 1998. Plan administration expenses of $226, $3,951, and $3,464 were incurred by the Company in 2000, 1999, and 1998, respectively. The Company instituted a cafeteria plan in 1992, giving the employees certain pre-tax advantages on specific payroll deductions.

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I. INCOME TAXES

The provision/(benefit) for income taxes for the years ended are as follows:

	Federal	State	Total
December 31, 2000			
Current	$0	$0	$0
Deferred	0	0	0
TOTAL	$0	$0	$0
December 31, 1999			
Current	$0	$0	$0
Deferred	$0	$0	$0
TOTAL	$0	$0	$0
December 31, 1998			
Current	$0	$0	$0
Deferred	351,630	62,000	413,630
TOTAL	$351,630	$62,000	$413,630

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The approximate tax effect of each type of temporary difference and carryforward and the valuation allowance is as follows at December 31:

	2000	1999
Net operating loss	$1,878,000	$1,655,000
Research and development credit	172,000	186,000
Inventory capitalization	414,000	323,000
Accruals and Allowances	76,000	65,000
Depreciation and amortization	(14,000)	(61,000)
Net deferred tax asset before valuation allowance	2,526,000	2,168,000
Valuation allowance	(2,526,000)	(2,168,000)
Net deferred tax asset	$0	$0

The Company has a federal net operating loss tax (NOL) carryforward of approximately $4,695,000 and research and development tax credit carryforwards of approximately $172,000 expiring at various dates beginning in 2001 through 2019. Ownership changes may result in future limitations on the utilization of net operating losses and research and development tax credit carryforwards.

Based on the financial results known at December 31, 2000, the Company has established a valuation allowance against the deferred tax asset due to the uncertainty of earning sufficient taxable income to realize the benefit of these assets. Therefore the Company increased the valuation allowance by $358,000 and $323,000 in 2000 and 1999, respectively.

The following schedule reconciles the difference between the federal income tax rate and the effective income tax rate for the years ended December 31,

	2000	1999	1998
Federal income tax rate	(34.0%)	(34.0)%	(34.0)%
State income tax rate	(6.0%)	(6.0)%	(6.0)%
Permanent differences	3.4%	4.5%	0.4%
Change in valuation allowance	36.6%	35.5%	77.5%
TOTAL EFFECTIVE TAX RATE	0%	0%	37.9%

J. STOCKHOLDERS' EQUITY:

The Company adopted the 1988 Stock Plan as the successor plan to the 1987 Stock Plan, which, as amended at the 1997 stockholders' meeting, authorizes the grant of Stock Rights for up to 2,350,000 shares of Common Stock and the 1989 Non-Employee Director Stock Option Plan which, as amended at the 1996 stockholders' meeting, authorizes the grant of nonqualified stock options for up to 500,000 shares of Common Stock.

Additionally, the Company has an employee stock purchase plan. Under the employee stock purchase plan, participants are granted options to purchase the Company's common stock twice a year at the lower of 85% of market value at the beginning or end of each period. Calculation of the number of options granted, and subsequent purchase of these shares, is based upon voluntary payroll deductions during each six month period. The number of options granted to each employee under this plan is limited to a maximum amount of 1000 for each six month period. The number of shares issued pursuant to this plan totaled 27,641, 4,324, and 3,929 in 2000, 1999, and 1998, respectively.

The Company applies APB Opinion No. 25 and related interpretations in accounting for its plans. FASB Statement No. 123 "Accounting For Stock-Based Compensation"("FAS 123") was issued in 1995 and, if fully adopted, changes the method for recognition of cost on plans similar to those of the Company. Pro forma disclosures as if the Company adopted the cost recognition requirements under SFAS 123 are presented below.

The Company's employee stock option plan provides for the granting of nonqualified stock options that 1.) are granted at prices which equate to or are above the market value of the stock on the date of the grant; 2.) vest ratably over a three and one half to four year service vesting period and 3.) expire ten years subsequent to award.

A summary of the status of the Company's stock options as of December 31, 2000, 1999, and 1998, and changes during the year ended on those

dates is presented below:

	2000		1999		
		Weighted Average		Weighted Average	
	Shares	Exercise Price	Shares	Exercise Price	Share
Outstanding, at beginning of year	1,303,731	$1.13	1,416,587	$1.15	94
Option shares:					
-Granted	583,500	.41	64,044	.71	1,70
-Exercised	0	0	0	0	(1
-Cancelled	(125,656)	.96	(176,900)	1.16	(1,21
Outstanding, at end of year	1,761,575	$.94	1,303,731	$1.13	1,41

In October, 1998 the Board of Directors approved a vote to reprice 1,591,225 employee stock options. The options were originally issued between January 1990 through January 1998 and had original grant prices ranging between $1.16 and $6.25. The grant price for these options was lowered to $1.13 which reflected the market value of the stock as of the reprice date. The repriced options vest over either a three or four year period, depending upon when the original grants were issued. No compensation expense was recorded for the repricing.

The table below summarizes options outstanding and exercisable at December 31, 2000:

	Options Outstanding			Options Ex
Range of Exercise Price	Number of Options	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Exercisa As of December 2000
$.31 - 2.00	1,732,275	7.5	$.92	6
$2.01 - 5.88	29,300	.6	2.10	

TOTAL	1,761,575	7.5	$.94	6

	2000	
Options Available for Future Grant	420,475	8
Weighted Average Fair Value of Options Granted During the Year	$0.38	

The fair value of each option granted during 2000, 1999, and 1998 is estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions: (i) dividend yield of 0%; (ii) expected volatility of 146% in 2000 and 137% in 1999 and 1998; (iii) risk-free interest rate of 5.25% in 2000, 1999 and 1998; and (iv) Expected life of five years.

Had compensation cost for the Company's 2000, 1999, 1998 grants for stock-based compensation plans been determined consistent with SFAS 123, the Company's net loss, and basic and diluted net loss per share for 2000, 1999, 1998 would approximate the pro forma amounts below:

	As Reported			Pro f	
	2000	1999	1998	2000	199
Net loss	$(473,108)	$(854,434)	$(1,505,441)	$(862,383)	$(1,209
Net loss per share	$(.06)	$(.15)	$(.28)	$(.12)	

On September 23, 1999, the Chief Executive Officer of the Company, Irwin J. Gruverman, was granted warrants to purchase up to 100,000 shares of the Company's common stock at a per share price of $.52 a share, having an expiration date of July 2, 2004. As of December 31, 2000, there were 100,000 warrants outstanding.

At December 31, 2000, the Company has reserved 2,850,000 shares for issuance under the above mentioned stock plans and warrants.

K. COMMITMENTS AND CONTINGENCIES:

At December 31, 2000, the Company had operating leases for the rental of its facilities, which require the following minimum payments:

Minimum Payments	
2001	$420,005
2002	286,805
2003	139,120
2004	66,000
2005	66,000

Rent expense for 2000, 1999, and 1998 was approximately $405,000, $499,000, and $282,000, respectively. The current leases are due to terminate at various times through August 2006.

L. RELATED PARTY TRANSACTIONS

During 2000, 1999, and 1998, the Company and G&G Corporation (G&G), an entity controlled by Mr. Gruverman, the Company's Chairman, entered into an arrangement whereby G&G reimbursed the Company for certain administrative expenses incurred for services performed by the Company. The Company was reimbursed approximately $75,780, $79,291, and $76,363 by G&G during 2000, 1999, and 1998, respectively. At December 31, 2000, and 1999, G&G owed the Company $18,525 and $23,252 respectively.

As discussed in Notes F and G, the Company owed the former Principals of Morehouse and Epworth $300,000 and $775,000 at December 31, 2000 and 1999, respectively. Interest expense on the subordinated debt for 1999 was $77,500. Interest capitalized on the $300,000 note in connection with the Settlement Agreement discussed in note M amounted to $88,750 and is being amortized over 5 years. Total payments in 2000 were $17,916.

M. SETTLEMENT AGREEMENT, DEBT RESTRUCTURING AND REFINANCING

On December 20, 1999 the Company signed an agreement in principle (the "Agreement In Principle") with J.B. Jennings and Bret A. Lewis, the former owners of the Epworth Mill and Morehouse-COWLES businesses (the "Sellers"), Lake Shore Industries, Inc., and JLJ Properties, Inc., entities owned and controlled by the Sellers. The Agreement In Principle set forth understandings among the parties concerning restructuring of the Company's subordinated debt and resolution of various disputes. On January 17, 2000 a definitive settlement agreement incorporating these subject matters was executed between the parties (the "Settlement Agreement"). In connection with the closing of the Credit Facility, and pursuant to a Settlement Agreement dated January 17, 2000 with the Company's subordinated debt holders, the subordinated debt of the Company was restructured in the following manner. The

outstanding August 14, 1998 $500,000 subordinated promissory note, having a remaining $475,000 principal balance together with accrued interest at the Closing Date in the approximate amount of $77,500, and accrued interest on the August 14, 1998 $300,000 subordinated note were converted to 500,000 shares of MFIC restricted common stock (the "Conversion Shares"). The fair market value of the Company's Common Stock on the date of the Agreement In Principle was $0.31 per share. MFIC was granted the right for a three-year period to repurchase the Conversion Shares at a purchase price of $1.75 per share. The August 14, 1998 $300,000 subordinated note was replaced with a new $300,000 subordinated promissory note dated February 28, 2000 (the "2000 Subordinated Note"). The 2000 Subordinated Note has a maturity date of February 28, 2005 and bears interest at a rate of ten percent (10%) per annum. The note is payable interest only in its first year and then is payable in equal quarterly installments of principal together with outstanding interest thereon until maturity.

A disputed lease between the Company and one of the Seller's entities for property located in South Haven, Michigan, which was the subject of a suit to terminate filed by the Company, was voluntarily dismissed in return for the payment by the Company of a total of $58,000. The initial payment in the amount of $30,000 was paid on January 19, 2000 upon execution of the Settlement Agreement and the balance on February 28, 2000. The Company dismissed with prejudice by joint stipulation its lawsuit to terminate the lease. The Company and the Sellers executed a mutual release of liability related to the August 14, 1998 Asset Purchase Agreement.

As a result of the debt restructuring and refinancing, the Company recorded an extraordinary gain of approximately $195,000 in the first quarter of 2000.

N. Subsequent Event

After review of the results as of and for the quarter ended March 31, 2001, the Company notified the National Bank of Canada that it was in violation of the tangible net worth and liabilities to worth ratio covenants contained in the Credit Facility for the quarter ended March 31, 2001. On April 13, 2001, the Company received a waiver of these violations from the National Bank of Canada, but is required to meet all covenant requirements thereafter. As a result of the waiver and management's expectations of future compliance, the non-current portion of the term promissory note has been classified as a non-current liability.

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Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information concerning directors and executive officers of the Company required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2000.

Item 11. EXECUTIVE COMPENSATION

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2000.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2000.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required under this item is incorporated herein by reference to the Company's definitive proxy statement pursuant to Regulation 14A, to be filed with the Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2000.

PART IV

Item 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES AND REPORTS ON FORM 8-K

(a)(1.) Consolidated Financial Statements.

The following Consolidated Financial Statements are included in Item 8:

Consolidated Balance Sheets as of December 31, 2000 and 1999

Consolidated Statements of Operations for the years ended December 31, 2000, 1999 and 1998

Consolidated Statements of Cash Flows for the years ended December 31, 2000, 1999 and 1998

Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2000, 1999 and 1998

Notes to Consolidated Financial Statements

Report of Independent Auditors

(a)(2.) Financial Statement Schedules.

The following Consolidated Financial Statement Schedule of the Registrant is filed as part of this report:

Schedule II - Valuation and Qualifying Accounts and Reserves

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(a)(3.) List of Exhibits.

Exhibit Index

Exhibit Number	Description of Exhibit
3(a)	Certificate of Incorporation for the Company, as amended (filed as Exhibit 2A to Registration Statement No. 0-11625 on Form 8-A and as Exhibit 3.1(a) to the Company's Report on Form 10-Q for the quarterly period ended September 30, 1999 and incorporated herein by reference).
3(b)	Amended and Restated By-Laws for the Company (filed as Exhibit 3.3(b) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1996 and incorporated herein by reference).
10.1	1987 Stock Plan (filed as Exhibit 10(g) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1987 and incorporated herein by reference).
10.2	1988 Stock Plan (filed as Exhibit 10(g) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1998 and incorporated herein by reference).
10.3	1989 Non-Employee Directors Stock Option Plan (filed as Exhibit 10.1 to the Company's registration statement on Form S-8 filed October 22, 1996 and incorporated herein by refernce).
10.4	Lease for 30 Ossipee Road, Newton, Massachusetts dated May 23, 1997 between Microfluidics International Corporation and J. Frank Gerrity, Trustee of 1238 Chestnut Street Trust under Declaration of Trust dated May 23, 1969, recorded with Middlesex South Registry of Deeds in Book 11682, Page 384 (filed as Exhibit 3.10(a) to the Company's form 10-Q for the quarterly period ended June 30, 1997 and incorporated herein by reference).
10.5	Letter of Understanding between Microfluidics International Corporation and Worcester Polytechnic Institute dated as of April 3, 1992 (filed as Exhibit 3.10(f) to the Company's Form 10-K for the fiscal year ended December 31, 1993 and incorporated herein by reference).
10.6	Agreement between Microfluidics International Corporation and Catalytica, Inc. dated as of October 18, 1993 (filed as Exhibit 3.10(g) to the Company's Form 10-K for the fiscal year ended December 31, 1993 and incorporated herein by reference) with amendments dated September 1, 1994 and March 31, 1995.

10.7	Amendment to agreement dated September 1, 1994 between Microfluidics International Corporation and Catalytica, Inc. dated as of October 18, 1993 (filed as Exhibit 3.10(g) to the Company's Form 10-K for the fiscal year ended December 31, 1993, and incorporated herein by reference).
10.8	Amendment to agreement dated March 31, 1995 between Microfluidics International Corporation and Catalytica, Inc. dated as of October 18, 1993 (filed as Exhibit 3.10(g) to the Company's Form 10-K for the fiscal year ended December 31, 1993 and incorporated herein by reference).
10.9	License Agreement among Microfluidics International Corporation, Worcester Polytechnic Institute and Catalytica, Inc. dated as of October 18, 1993 (filed as Exhibit 3.10(h) to the Company's Form 10-K for the

fiscal year ended December 31, 1993, and incorporated herein by reference).

10.10 Amendment to agreement dated September 1, 1994 between Microfluidics International Corporation and Catalytica, Inc. dated as of October 18, 1993 (filed as Exhibit 3.10(g) to the Company's Form 10-K for the fiscal year ended December 31, 1993, and incorporated herein by reference).

10.11 Letter, dated August 15, 1995, from Microfluidics International Corporation to Michael T. Rumley. (filed as Exhibit 3.10(j) to the Company's Form 10-K for the fiscal year ended December 31, 1995, and incorporated herein by reference).

10.12 Letter, dated December 31, 1995 from Microfluidics International Corporation to Irwin J. Gruverman. (filed as Exhibit 3.10(k) to the Company's Form 10-K for the fiscal year ended December 31, 1996, and incorporated herein by reference).

10.13 Warrant for the Purchase of Shares of Common Stock, dated July 14, 1993, in favor of Ladenburg, Thalmann & Co. Inc. (filed as Exhibit 3.10(l) to the Company's Form 10-K for the fiscal year ended December 31, 1996, and incorporated herein by reference).

10.14 Letter, dated December 31, 1996, from Microfluidics International Corporation to Irwin J. Gruverman. (filed as Exhibit 3.10(o) to the Company's Form 10-K for the fiscal year ended December 31, 1996, and incorporated herein by reference).

10.15 Agreement between Microfluidics International Corporation and Catalytica, Inc. dated January 1, 1995 regarding participation in and management of the Advanced Technology Program (ATP) (filed as Exhibit 3.10(p) to the Company's Form 10-K for the fiscal year ended December 31, 1996, and incorporated herein by reference).

10.16 Consulting Agreement with James Little. (filed as Exhibit 3.10(q) to the Company's Form 10-K for fiscal year ended December 31, 1996 and incorporated herein by reference).

10.17 Supplemental Agreement between Catalytica Advanced Technologies, Inc. and Microfluidics International Corporation dated December 31, 1997.

10.18 Letter dated December 31, 1997, from Microfluidics International Corporation to Irwin J. Gruverman and G & G Diagnostics Corp.

10.19 1988 Stock Plan as amended (filed as Exhibit 10(a) to the Company's Form 10-Q for the quarterly period ended March 31, 1997 and incorporated herein by reference.

10.20 Asset Purchase Agreement dated as of June 19, 1998, by and among the Company, Epworth Manufacturing Company and Morehouse-COWLES, Inc. (filed as Exhibit 2.1 to Schedule 13D of Bret A. Lewis, File No. 005-35850, and incorporated herein by reference).

10.21 Stockholders Agreement dated August 14, 1998, by and among the Company and J.B. Jennings and Bret A. Lewis (filed as Exhibit 2.2 to Schedule 13D of Bret A. Lewis, File No. 005-35850, and incorporated herein by reference).

10.22 $500,000 Subordinated Promissory Note issued by the Company to Epworth

Manufacturing Company (filed as exhibit 99.2 to the Company's Form 8-K on August 27, 1998, File No. 000-11625, and incorporated herein by reference).

10.23 $300,000 Subordinated Promissory Note issued by the company to Epworth Manufacturing Company (filed as exhibit 99.2 to the Company's Form 8-K on August 27, 1998, File No. 000-11625, and incorporated herein by reference).

10.24 Revolving credit loan between Comerica Bank and the Company dated August 12, 1998 (filed as Exhibit 10.1 to the Company's Form 10-Q for the quarterly period ended September 30, 1998 and incorporated herein by reference).

10.25 Letter Dated December 31, 1998 from Microfluidics International Corporation To Irwin J. Gruverman (filed as exhibit 3.10(2) to the Company's Annual Report on Form 10-K for fiscal year ended December 31, 1998 and incorporated herein by reference).

10.26 Revolving Credit and Term Loan Agreement among MFIC Corporation and National Bank of Canada dated February 28, 2000.

10.27 Revolving Credit Note of the Company in favor of National Bank of Canada in the amount of $4,000,000.00 dated February 28, 2000.

10.28 Term Note of the Company in favor of National Bank of Canada in the amount of $475,000.00 dated February 28, 2000.

10.29 Security Agreement of the Company in favor of National Bank of Canada dated February 28, 2000.

10.30 Trademark and Trademark Applications Security Agreement of the Company in favor of National Bank of Canada dated February 28, 2000.

10.31 Patent and Patent Applications Security Agreement of the Company in favor of National Bank of Canada dated February 28, 2000.

10.32 Unlimited Guaranty of Microfluidics Corporation in favor of National Bank of Canada Dated February 28, 2000.

10.33 Stock Pledge Agreement between the Company and National Bank of Canada dated February 28, 2000.

10.34 Subordination Agreement among the Company, Lake Shore Industries, Inc. and National Bank of Canada dated as of February 28, 2000.

10.35 Subordinated Promissory Note on the Company in favor of Lake Shore Industries, Inc. in the amount of $300,000.00 dated February 28, 2000.

10.36 Forbearance Agreements with Comerica.

10.37 Settlement Agreement dated January 17, 2000 by and among the Company, Bret A. Lewis, J. B. Jennings, Lake Shore Industries, Inc., and JLJ Properties, Inc., with $300,000 Subordinated Promissory Note dated February 28, 2000 issued by the Company to Lake Shore Industries, Inc. (FKA Epworth Manufacturing Company, Inc).

10.38 Letter dated December 31, 1999 from MFIC Corporation to Irwin J.

Gruverman and G&G Diagnostics Corp.

10.39 Letter dated December 31, 1999 from MFIC Corporation to Irwin J. Gruverman.

*10.40 First Amendment to Revolving Credit and Term Loan Agreement between the Company and National Bank of Canada dated March 30, 2000.

*10.41 Lease between ABB and Microfluidics dated April 14, 2000 for space at Lampertheim, Germany

*10.42 Security agreement between MFIC Corporation and J.M. Huber Corporation dated October 18, 2000

*10.43 Settlement agreement between MFIC and J.M. Huber Corporation dated December 18, 2000.

*10.44 Termination agreement between Michael A. Lento and MFIC Corporation dated December 14, 2000.

*10.45 Letter dated December 31, 2000 from MFIC Corporation to Irwin J. Gruverman and G&G.

*10.46 Letter dated December 31, 2000 from MFIC Corporation to Irwin J. Gruverman.

*23(a) Consent of Deloitte & Touche LLP

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*Filed herewith
**Management contracts or compensatory plan or arrangement required to be filed as an exhibit to this Form 10-K pursuant to of this report.

(b) Reports on Form 8-K.
None

(c) Exhibits.
The Company hereby files as part of this Form 10-K the Exhibits listed in Item 14(a)(3) as set forth above.

(d) Financial Statement Schedules.
See (a)(2) above.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized, in the city of Newton, Commonwealth of Massachusetts, on the 26th day of March 2001.

MFIC CORPORATION

By: /s/ Irwin J. Gruverman

Irwin J. Gruverman
Chief Executive Officer

Pursuant to the requirements of the Securities and Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Irwin J. Gruverman ---------------------- Irwin J. Gruverman	Chief Executive Officer (Principal Executive Officer), Chairman of the Board of Directors and Secretary	March 26, 2001
/s/ James N. Little ------------------- James N. Little	Director	March 26, 2001
/s/ Vincent Cortina -------------------- Vincent Cortina	Director	March 26, 2001
/s/ Leo Pierre Roy ------------------ Leo Pierre Roy	Director	March 26, 2001
/s/Edward T. Paslawski ---------------------- Edward T. Paslawski	Director	March 26, 2001

SCHEDULE II

MFIC CORPORATION

Valuation and Qualifying Accounts and Reserves
For the years ended December 31, 2000, 1999, and 1998

	Balance at Beginning of Period	Additions Charged to Costs and Expenses

ALLOWANCE FOR DOUBTFUL ACCOUNTS		
For the year ended December 31, 2000	$65,321	$58,280
For the year ended December 31, 1999	100,000	18,291
For the year ended December 31, 1998--Note 1	40,000	30,000

INVENTORY RESERVE		
For the year ended December 31, 2000	157,034	59,010
For the year ended December 31, 1999	147,034	10,000
For the year ended December 31, 1998--Note 2	82,000	-

ACCUMULATED AMORTIZATION RELATED TO GOODWILL AND OTHER		
For the year ended December 31, 2000	$1,021,718	526,653
For the year ended December 31, 1999	577,799	443,919
For the year ended December 31, 1998	379,549	198,250

Note 1: An amount totaling $30,000 was added to the allowance for doubtful accounts reserve as a result of the acquisition of Epworth Manufacturing and Morehouse--COWLES, Inc. on August 14, 1998.

Note 2: An amount totaling $65,034 was added to the inventory reserve via the acquisition of Morehouse--COWLES, Inc. on August 14, 1998.