ALTAIR NANOTECHNOLOGIES INC
Form 10-K
March 09, 2005

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 2004

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM _____ TO ---------- ----------

ALTAIR NANOTECHNOLOGIES INC.

(Exact name of registrant as specified in its charter)

Canada	1-12497	33-1084375
(State or other jurisdiction of incorporation)	(Commission File No.)	(IRS Employer Identification No.)

204 Edison Way
Reno, Nevada 89502-2306

(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (775) 856-2500

[ ] Securities registered pursuant to Section 12(b) of the Act: None
[X] Securities registered pursuant to Section 12(g) of the Act:

Common Shares, no par value	Nasdaq SmallCap Market
(Title of Class)	(Name of each exchange on which registered)

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. [ ]

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). YES [] NO [X]

The aggregate market value of the common shares held by non-affiliates of the Registrant on June 30, 2004, based upon the average bid and asked price of the common shares on the NASDAQ SmallCap Stock Market of $2.30 per share on June 30, 2004, was approximately $111,914,000; however, the Registrant satisfied the "small business issuer" requirements as of December 31, 2004, and, accordingly, is not an accelerated filer. Common Shares held by each officer and director and by each other person who may be deemed to be an affiliate of the Registrant have been excluded. As of February 16, 2005, the Registrant had 57,993,975 common

shares outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement on Schedule 14A for the Registrant's 2005 Annual Meeting of Shareholders are incorporated by reference in Part III as specified.

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PART I

This Annual Report on Form 10-K for the year ended December 31, 2004 (this "Form 10-K") contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that involve risks and uncertainties. Purchasers of any of the common shares, no par value (the "common shares") of Altair Nanotechnologies Inc. ("Altair" or the "Company") are cautioned that the Company's actual results will differ (and may differ significantly) from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences include those factors discussed herein under "Factors That May Affect Future Results" and elsewhere in this Form 10-K generally. The reader is also encouraged to review other filings made by the Company with the Securities and Exchange Commission (the "SEC") describing other factors that may affect future results of the Company.

Unless the context requires otherwise, all references to "Altair," "we," "Altair Nanotechnologies Inc.," or the "Company" in this Form 10-K refer to Altair Nanotechnologies Inc. and all of its subsidiaries. Altair currently has one wholly-owned subsidiary, Altair US Holdings, Inc., a Nevada corporation. Altair US Holdings, Inc. directly or indirectly wholly-owns Altair Nanomaterials, Inc., a Nevada corporation, Mineral Recovery Systems, Inc., a Nevada corporation ("MRS"), Fine Gold Recovery Systems, Inc., a Nevada corporation ("Fine Gold") and Tennessee Valley Titanium, Inc., a Nevada corporation.

Item 1: Business

We are a Canadian company, with principal assets and operations in the United States, whose primary business is developing and commercializing nanomaterial and titanium dioxide pigment technologies. We also provide contract research services on select projects where we can utilize our resources to develop intellectual property and/or new products and technology. We have recently organized into two divisions, a Life Sciences Division and a Performance Materials Division, in anticipation of generating a substantial amount of business activity and revenues from life sciences products, specifically pharmaceuticals and drug delivery products. During 2004, revenues from life science products were not significant. Our research, development, production and marketing efforts are currently directed toward six market applications that utilize our proprietary technologies:

The Performance Materials Division

- Advanced Materials for Paints, Coatings and Sensors
  - The production of titanium dioxide pigments;
  - The production of nano-structured powders for thermal spray applications;
  - The production of nano-structured powders for nano-sensor applications.
- Advanced Materials for Improving Process Technologies
  - The development of titanium dioxide electrode structures in connection with a research program aimed at developing a lower-cost process for producing titanium metals and related alloys;
  - The development and production of NanoCheck TM phosphate binding materials for prevention of algae growth.
- Advanced Materials for Alternative Energy
  - The development of materials for high performance batteries, fuel

cells and photovoltaics.

The Life Sciences Division

- Pharmaceutical Products

  - The co-development of RenaZorb(TM), a new active pharmaceutical ingredient, which is designed to be useful in the treatment of elevated serum phosphate levels in patients undergoing kidney dialysis.
- Drug Delivery Products
  - The development of TiNano SpheresTM are rigid, hollow, porous high surface area ceramic micro structures that are derived from Altair's proprietary process technology.
- Dental Materials
  - The development of nanomaterials for use in various products for dental fillings.

We also provide contract research services on select projects where we can utilize our resources to develop intellectual property and/or new products and technology.

Our Nanomaterials and Titanium Dioxide Pigment Business

Background and Description of Process

Most of our existing products, potential products and contract research services are built upon our proprietary nanomaterials and titanium dioxide pigment technology. We acquired the basis for this technology from BHP Minerals International, Inc. in 1999 and, over the past five years, have continued to expand and refine various applications of the technology. Today, we use the technology in order to produce various finely-sized powders that have current or potential applications in a wide range of industries, including pharmaceuticals, TiO2 pigment, photocatalytic oxidation products, catalyst structures, protective thermal spray powders, algae control and high performance rechargeable batteries. Although the existing and potential applications are varied, each is directly or indirectly built upon the ingenuity of our management and engineering team and our proprietary nanomaterials and titanium dioxide pigment technology.

This nanomaterials and titanium dioxide pigment technology enables our production of conventional titanium dioxide pigment products that are finely-sized powders consisting of titanium dioxide crystals. These powders approximate 170-300 nanometers in size. This technology is also capable of producing titanium dioxide and other metal and mixed metal oxide nanomaterials. These are specialty products with a size range of 10 to 100 nanometers (approximately one tenth the size of conventional TiO2 pigment). The primary products currently being produced in the processing plant are titanium dioxide, lithium titanate spinel, lanthanum products and stabilized zirconia nanomaterials. The technology also enables the production of customized products for catalyst support structures and porous titanium oxide electrode structures for titanium metal production.

Our nanomaterials and titanium dioxide pigment technology is fundamentally different from current commercial processing techniques. Other processes are based on either a precipitation of materials from a solution or the formation of crystallites from molten droplets of titanium oxide generated in high temperature flame reactors. Our process is a dense-phase crystal growth technique which controls crystal formation using a combination of mechanical, fluid dynamics, chemical and thermal control. Our process permits exceptional control over particle size, shape, and crystalline form. Our titanium dioxide processing technology produces discrete anatase crystals in nanometer sizes and

may be doped to be thermally stable up to 800 degrees centigrade. By remaining stable in high-temperature processing, nanomaterials produced by our titanium dioxide pigment processing technology retain the desired nanomaterials size and crystalline phase. In addition, our technology is designed to minimize process effluents needing environmental remediation and to accept a wide variety of low-cost, naturally occurring titanium feed stocks.

Using this technology, we are in various stages of research, development and marketing of numerous products and potential products. We also use this technology to provide contract research services on select projects where we can utilize our resources to develop intellectual property and/or new products and technology. The following sections describe the research and development services we provide and the principal projects we are using our nanomaterials and titanium dioxide pigment technology to develop.

Contract Research Services

In addition to doing research and development work for our own benefit, we provide these services to others, principally in commercial collaboration arrangements and under government grants. During 2005, we will utilize our nanomaterials and titanium dioxide pigment technology under the following:

- a contract with Western Oil Sands, Inc. for the production of titanium dioxide pigment and pigment-related products from oil sands. We have approximately $200,000 of work remaining to be done on an existing contract and expect to enter into a second phase contract to do additional work in 2005;
- a contract with Western Michigan University to develop nanosensors for the detection of chemical, biological and radiological agents. We have approximately $250,000 of work to be done under existing contracts in 2005 and approximately $250,000 in 2006;
- a grant awarded by the National Science Foundation to fund joint development work on next generation lithium ion power sources. We will receive $33,000 under an existing agreement in 2005 and hope to receive an additional grant for further development work;
- an agreement with the University of Nevada, Las Vegas Research Foundation to act as a subcontractor under a $3,000,000 grant awarded to them by the U.S. Department of Energy for joint research activities related to solar hydrogen production. We have approximately $400,000 of work to be done in 2005 under the agreement; and
- a contract with Titanium Metals Corporation to provide feedstocks used in the production of titanium metal. We will receive approximately $60,000 under the existing contract in 2005 and hope to enter into another contract for further development work.

At December 31, 2003, we had a backlog of work totaling $319,000 under a contract with Western Michigan University and $141,000 under a contract with Titanium Metals Corp.

We expect that contract research services will be a significant portion of our revenues in the short-term but will decline in significance if we are successful in bringing nanoparticle and other products to market and license our technologies. During the year ended December 31, 2004, research and development costs funded by customers were $1,144,389 while such costs funded by Altair were $954,369. During the year ended December 31, 2003, research and development costs funded by customers were $64,249 while such costs funded by Altair were $1,897,495.

During the year ended December 31, 2004, we recorded revenues from

three major customers, each of which accounted for 10% or more of revenues and all of which were in the performance materials business segment. Revenues from Western Michigan University were $491,320, revenues from Western Oil Sands, Inc. were $314,359 and revenues from Titanium Metals Corp. were $152,550.

Trademarks

We have registered or are in the process of registering the following trademarks: Altair Nanotechnologies, Altair Nanomaterials, Altairnano, TiNano, Nanocheck, RenaZorb and Altair Hydrochloride Pigment Process. The Performance Materials Division Primary Products The Altair Hydrochloride TiO2 Pigment Process(TM) (AHPP)

The Performance Materials Division

Primary Products

The Altair Hydrochloride Tio2 Pigment Process (TM) (AHPP)

We have named the portion of the nanomaterials and titanium dioxide pigment technology that was developed to produce high quality titanium dioxide pigment the Altair Hydrochloride Pigment Process(TM) (AHPP). This package of technologies includes three US patents and over eight years of trade secrets and know-how. The technology represents a comprehensive process to extract titanium from raw materials, produce a high quality titanium dioxide pigment and minimize environmental impact.

Key Features

The AHPP is the first new, comprehensive technology to produce titanium dioxide pigment in over fifty years and takes advantage of new technologies to enable high quality pigment production. Titanium dioxide pigment is produced in bulk and is used principally as a whitener and opacifier for paper, plastics and paint. The AHPP uses a dense-phase crystal growth technique which controls crystal formation using a combination of mechanical, fluid dynamics, chemical and thermal control. A third party engineering study suggests that cost associated with this process will be lower than costs associated with alternative processes. All hydrochloric acid waste streams can be recycled to recover acid, and the waste solids generated from the purification process are easily manageable iron oxides.

Target Markets and Marketing Plans/Efforts

We intend to benefit from the AHPP through technology license agreements with large materials companies under which we would receive royalties and other payments. We do not anticipate being a manufacturer of pigments or competing directly in the pigment market. Our market approach has been to target chemical manufacturing and mining companies who are addressing the market for high grade titanium dioxide pigment. In general, the Western segments of the world have substantial investment in traditional chloride and sulphate based methods of producing pigment so will be slow to adopt new technology like Altair's AHPP. However, the developing world sees substantial value in being self-sufficient in titanium dioxide production both from an economic as well as a political viewpoint. These geographies are also swifter to adopt new technology as they have less infrastructure and investment tied to traditional methods of production

Over the last 2 years Altair has developed relationships with potential and existing major producers of titanium dioxide, the majority of them in Asia. Several of these negotiations are now at the point where the next step is detailed analysis of the ore to be processed to ensure it can produce the

quality of titanium dioxide required. Assuming positive results, this will be followed by a process designed to demonstrate the feasibility of the overall manufacturing process with a small pilot plant, and then, if successful, a larger scale plant. This is the normal course for establishing a new chemical plant that can ultimately produce in excess of 100,000 tons of pigment per year. During each of these phases, we expect to receive consulting and engineering study fees. If a full plant is constructed, we would expect to begin receiving royalty payments.

Research, Testing, Development and Licensing Status

The AHPP is substantially developed, and, in a test environment, we are able to extract titanium from raw materials in order to produce a high quality titanium dioxide pigment. The AHPP is not, however, a one-size-fits-all

technology and needs to be customized to the particular needs of any potential licensee. As described below, we have entered into a license with Western Oil Sands, Inc. ("WTO") with respect to the AHPP. In addition to our work with WTO, we have submitted phased development proposals for the testing and economic evaluation of our titanium pigment production technology to several companies and have entered into a testing and development license with one of these, called Avireco, located in Vietnam. Although we have been verbally informed that two hundred and fifty thousand dollars have now been authorized to begin the first phase of pilot plant testing, we have not received a formal work authorization. As illustrated by the description of our license with WTO below, any license of the AHPP will involved various stages of testing and development tailored to the licensee's specific needs. Such licenses may involve incremental payments and development services along the way but will lead to significant revenue only if a full-scale commercial titanium pigment production facility is constructed.

In January 2004, we entered into a license agreement with WTO with respect to its possible use of the AHPP for the production of titanium dioxide pigment and pigment-related products at the Athabasca Oil Sands Project in Alberta, Canada, and elsewhere. Upon execution of the agreement, we granted WTO an exclusive, conditional license to use the AHPP on heavy minerals derived from oil sands in Alberta, Canada. The agreement also contemplates a three-phase, five-year program pursuant to which the parties will work together to further evaluate, develop and commercialize the AHPP. In the first phase of the program, WTO is expected to spend $650,000 ($500,000 of which is scheduled to be paid to Altair for work performed) to evaluate the AHPP and confirm that the AHPP will produce pigment from oil sands. During 2004, we received several bulk samples of oil sand material from WTO, processed them in various configurations to obtain mineral concentrates, and processed the concentrates using the AHPP to recover the titanium dioxide. We have now completed in excess of 50% of the work scope included in phase one with satisfactory results. Assuming phase one is successful, WTO may elect to commence phase two, the construction of a demonstration titanium pigment production facility using the AHPP. If phase two is successful, WTO may elect to commence phase three, the construction and operation of a full-scale commercial titanium pigment production facility using the AHPP.

The scope of the license granted to WTO under the agreement will vary with WTO's commitment to the project. The initial license, related to use of the AHPP on heavy minerals derived from oil sands in Alberta, Canada, will terminate if WTO fails to complete phase one and will convert to a non-exclusive license if WTO commences phase two but fails to complete, or spend at least $25 million in an effort to complete, phase two.

If WTO completes phase one and commences phase two, WTO's license will be expanded to include the right to use the AHPP for the production of titanium dioxide pigment and pigment-related products from oil sands resources, primary ore resources and titanium deposits in Canada and Minnesota and for the production of titanium dioxide pigment and pigment-related products from oil sands resources world wide. This expanded license will continue on an exclusive basis if WTO completes phase two and completes, or spends at least $50 million in an effort to complete phase three. This expanded license will continue, but on a non-exclusive basis, if WTO completes phase two but, after spending more than $5 million but less than $50 million on phase three, does not complete phase three. If WTO does not commence, or spends less than $5 million with respect to, phase three, the expanded license terminates.

If commercialization occurs, WTO is required to pay Altair royalties based on a percentage of net sales revenue from any production facility.

Proprietary Rights

We have been awarded three U.S. and several international patents protecting this technology including: 1) Processing titaniferous ore to titanium dioxide pigment, 2) Processing aqueous titanium chloride solutions to ultrafine titanium dioxide and 3) Processing aqueous titanium solutions to titanium dioxide pigment. The U.S. patents expire in 2020.

Competition

Existing chloride pigment technologies are guarded by the top tier producers that developed the technologies. Licenses are not typically granted by top tier companies to emerging nation companies because of the complexity of the process and difficulty in extracting revenues from those countries. By contrast, we are willing to license our AHPP. Companies assessing the viability of our process to manufacture pigment from their resource are also evaluating alternatives, including producing mineral concentrates for sale to pigment producers and producing a high value synthetic rutile to be sold to pigment producers as feed stock. They may elect to commercialize either of these alternatives instead of producing pigment by the AHPP. We believe there are no competing new technologies to produce titanium dioxide pigment.

Nanocheck(TM)

We have developed a compound that has an affinity for certain oxy anions including phosphate and arsenate. We believe the best near-term potential application for this material is the removal of phosphate from recreational waters, industrial waters used for cooling and aquariums to arrest the growth of algae.

Key Feature

Nanocheck(TM) is a lanthanum based compound that can be used to treat water for the removal of phosphates as well as a wide range of deleterious impurities. It has no reported human health hazards and works effectively in existing filtration units without the need of purchasing additional equipment.

The management of swimming pool water is a difficult and time-consuming task. The chemical balance of the water must be carefully monitored to ensure that it does not become fouled with algae, or grow too much bacteria. Either of

these will make the water smell and look unpleasant, and can be a health hazard. Nanocheck(TM) safely deprives algae of the phosphate nutrients required for them to reproduce and therefore reduces or minimizes algae formation.

The Safe Drinking Water Act required the EPA to revise the existing 50 parts per billion (ppb) standard for arsenic in drinking water. On January 22, 2001 the EPA adopted a new standard, and public water systems must comply with the 10 ppb standard beginning January 23, 2006. Significantly high arsenic levels are found in some rural Western U.S. communities that rely on well water as a drinking water source. Low-cost, point-of-entry or point-of-use treatments are required to comply with the new standard. During the second quarter of 2004, we performed a study using Nanocheck(TM) to remove arsenic from drinking water. The results of the study indicate that Nanocheck's performance is not significantly superior to other less costly products that are commercially available. As a result, we have elected not to pursue this application of Nanocheck(TM) at this time.

Target Markets and Marketing Plans/Efforts

We are attempting to license and sell the technology to manufacture Nanocheck(TM) to companies that already sell products into the recreational water treatment market including pool and spa chemical companies. The marketing effort so far has been focused on the major suppliers of chemicals to the recreational water market - swimming pools and spas, both private and public. These suppliers provide a distribution channel that enables rapid market entry once Nanocheck(TM) has proven it meets its claims. If we are able to enter into a long-term relationship with one or more such suppliers, we expect to generate revenue in the form of royalties and in connection with our supply of key ingredients. The business relations with these companies will result in revenue to Altair that results from royalties and the supply of manufactured Nanocheck(TM). Nanocheck(TM)'s ability to bind with the phosphate in water and effectively "starve" the algae makes it an ideal adjunct to algaecide based water treatment. As such it is seen as line extension for the pool chemical suppliers.

We are in discussion with the top three recreational water chemical suppliers. These discussions are at various stages of maturity; however two of the suppliers are actively testing Nanocheck(TM) with promising results so far. The next step will be to move from controlled testing, begun in the summer of 2004, to large scale field testing with recreational swimming pools in a variety of climates.

Research, Testing and Development

We have conducted in-house tests for phosphate removal in swimming pool simulations, and a recreational water company has performed materials and pool testing that shows effective phosphate removal, pool water turbidity reduction and good phosphate binding kinetics. Larger scale swimming pool tests being performed by a recreational water company began in mid-August 2004 and are continuing. These were delayed first due to internal issues within the recreational water company and then due to the effects of hurricanes in the locale where tests were to be conducted. As a result, tests are now scheduled through the summer of 2005. Negotiations with major pool chemical companies are underway and if testing is successful and sales agreements are entered into, significant sales of products incorporating Nanocheck(TM), if any, may begin in 2006.

Proprietary Rights

We have filed two U.S. patent applications for the application of this product entitled "Rare Earth Compositions and Structures for Removing Phosphates from Water" and "Ceramic structure for removing toxic elements from water."

Competition

Pool chemicals are a commodity market with price, merchandising and small functional advances providing differentiation. There are already a few other phosphate binding products on the market. These products are high maintenance, usually requiring weekly service. We believe that Nanocheck(TM) offers high phosphate binding capacity with a long service life. Although field trials of Nanocheck(TM) are still under way, early indications are that it can be added to a swimming pool and then left for a month or two without requiring attention.

Lithium Titanate Spinel

We have developed technologies to manufacture nano-sized specialty materials to make electrodes for lithium ion batteries that will allow very

rapid charging and discharging of these types of batteries. We believe that advancements in materials availability will ultimately be paired with advancements in the electrolyte's ability to carry high current density and result in batteries that can yield very high power and recharge in only a few minutes. Altair has demonstrated nanomaterials that can accept a full charge within less than one minute. Altair has now prepared special nano-sized samples of lithium titanate, lithium manganate, and lithium cobaltate. Some of these materials, in large crystalline sizes, are currently used by the battery industry. Nanomaterials are expected to improve the performance of these systems and enable their use in applications where immediate high power delivery is necessary.

Key Features

The large specific surface area of Altairnano(TM) Lithium Titanate Spinel nanoparticle material enables very rapid charge and discharge rates. The material is durable and is projected to last for thousands of charging cycles. The next steps in the development program call for the optimization of the cathode materials to complement the work that has been completed on the anode. This will result in a matched anode/cathode pair. In parallel with the next phase of development, work is being conducted with other organizations to provide an electrolyte that will deliver a conducting layer consistent with the matched electrodes. This work will consist of optimizing the electrolyte for conductivity as well as other physical properties such as heat dissipation.

Target Markets and Marketing Plans/Efforts

Batteries constitute a $42 billion market worldwide according to information supplied by Telcordia (Subsidiary of SAI; Science Applications International). Of that, around $6 billion is rechargeable and $3 billion includes the market that has, and continues to be taken by, lithium ion batteries. These lithium ion rechargeable batteries do not develop memory and fail and are expected to gradually increase their share of the world market. New developments indicate that high power batteries of this type will ultimately be developed for application as replacements for lead acid batteries in automobiles, electric vehicles, and hybrid automobiles where direct electrical energy for starting and passing will assist the gasoline engines. Also, the development of fuel cells and solar generation systems will require enhanced

battery capabilities.

Our technology provides a fundamental building block for a new generation of rechargeable batteries; however we are not battery manufacturers. Our marketing efforts are focused on developing relationships with high volume battery manufacturers who will integrate our materials into new battery designs. Early stage discussions have taken place with several manufacturers with a view to developing a joint development program that will use the Altair electrode materials as the basis for a new generation of batteries. These discussions could lead to commercial relationships that will be characterized by a revenue stream consisting of one of more of development funding, materials manufacturing and royalties.

Research, Testing and Development

We have completed a series of tests in collaboration with the EPFL Switzerland, Heyrovsky Institute in Prague, Czech Republic and the Xoliox subsidiary of Ntera, a display and battery technology development company. A joint patent was filed with Ntera related to electrode performance of nanoparticles made by Altair. We have extended a marketing agreement with Nissho Iwai Americas Corporation for product marketing in Japan to leading lithium ion battery manufacturers.

In August 2004, we began work under a $100,000 Small Business Innovative Research grant awarded by the National Science Foundation to fund joint development work on next generation lithium ion power sources with Hosokawa Micron's Nanoparticle Technology Center and Rutgers University's Energy Storage Research Group. The work was completed in December 2004 and a report issued on it in January 2005. Our research indicated that our materials provide a significant improvement over conventional materials in lithium ion batteries. As a result, we have submitted a proposal for a second phase project totaling $500,000 to continue and expand the work of phase 1 by making cathode materials for use with anode materials already produced. The anode and cathode of a battery are mutually complimentary, one supplying the charge, and the other acting as the collector of the charge. As such, their chemistry is different but linked, so the work that has been done so far to optimize the anode materials now needs to be complemented with work on the cathode materials. This will result in a matched anode/cathode pair. We have also submitted a proposal for another project in the amount of $100,000 to improve the manufacturing method for the materials to make it more scalable and efficient. We expect decisions on these proposals in July 2005.

Proprietary Rights

We have filed three patent applications including 1) "Process for making lithium titanate", 2) "High Performance Lithium Titanium Spinel for Electrode Material", and 3) "Process for making nano-sized and sub-micron sized lithium-transition metal oxides". We have also filed a joint patent on nano-lithium titanate performance with Ntera. In October 2004, we were awarded a European patent for our "Process for Making Lithium Titanate", a product used in the development of lithium ion batteries and super capacitors.

Competition

There are presently no commercial products available with the same characteristics as our lithium titanate spinel, but others are conducting research on similar materials. Based solely on our review of published information, it appears that our development work is at a more advanced stage than others being reported.

Secondary Products and Research and Development Projects in Progress

Thermal Spray Grade Powders (TSGP)

We have developed thermal spray grade nanomaterial powders that can be applied on the surface of metals by standard thermal "gunning" techniques. We have sold approximately one ton of our powders to F.W. Gartner Thermal Spraying Company for thermal application onto heavy-duty ball valves. Ball valves made of solid titanium alloys have been introduced to control the flow and containment of hot acidic slurry solutions in high pressure acid leach technologies applied to metal extraction of nickel/cobalt ores. To extend the life of these critical components, a ceramic coating is applied via a thermal spray process. These coatings must be impervious to the acidic solution and provide protection against wear from the abrasive solid particles. F.W. Gartner's use of our nanomaterial powders application was delayed due to technical and political problems associated with other aspects of the mining prospect.

Our nanomaterials coatings possess enhanced toughness and increased hardness; these features contribute to superior abrasive wear resistance over the conventional coating of the same material. The nanomaterial coatings also demonstrate improved porosity over standard thermal spray powders making them more resistant to corrosive attack. We believe that improvements will enable longer periods between maintenance, repairs and examinations of these critical components therefore improving the economics of the industrial application. Such

thermal spray products could be used in a variety of harsh environment applications such as aerospace propulsion systems, blades and vanes, medical applications, textile and paper machinery, boilers for power plants, waste incinerators, oil and gas industry, etc.

F.W. Gartner Thermal Spraying Company, Mogas Industries, Inc. and Perpetual Technologies researchers have reported on the use of our nanomaterial powders in tests to determine the bond strength, corrosion and abrasion resistance and the porosity after applying ours and competitors' materials on metal using Vacuum Plasma Spray and Atmosphere Plasma Spray. The results of these researchers' tests indicate that our novel coatings possess enhanced toughness and increased hardness; these features contribute to its superior abrasive wear resistance over the conventional coating of the same material. Ball valves with the new coatings have been introduced into different high pressure acid leach autoclave installations over the past two years.

In November 2003, we contracted the National Research Council of Canada to demonstrate, test and evaluate our powders and prepare specification sheets of standard thermal spray gunning instructions to advise specialty thermal spray shops how to apply our material. The goal of the project was to produce titania coatings by thermal spraying using nano-structured titania powders developed by Altair and compare and contrast to conventional titania powders. The coatings were characterized and evaluated to determine various characteristics, including porosity and abrasion resistance. The report, completed in the first quarter of 2004, concluded that our powders were more abrasion resistant than conventional powders. Since that time, we have prepared sample packages of our thermal spray grade powders for customer testing.

Our thermal spray grade powders are protected by U.S. Patent titled, "Processing aqueous titanium chloride solutions to Ultrafine titanium dioxide", which expires in 2020.

Catalyst Support and Electrode Structures for Titanium Metals

In January 2004 we entered into a contract with Titanium Metals Corporation ("TIMET") to provide custom oxide feedstocks for a novel, four-year, titanium metal research program funded by the Department of Defense, Defense Advanced Research Projects Agency ("DARPA"). We became a subcontractor for the DARPA program with responsibility to design and develop a titanium oxide electrode structure and supply TIMET optimized titanium oxide feedstock to produce 50 pounds of titanium metal per day in batch production demonstrations. During 2004, we provided TIMET with over 100 pounds of titania electrodes in accordance with the agreement, the first phase of which expired on December 31, 2004. The total value of the contract has been $215,000. TIMET is seeking an extension of the contract from DARPA in order to continue work. Both our technology and the FFC Cambridge Process are in a development stage and are not expected to generate significant revenue for several years, if ever.

The DARPA program seeks to lower the cost of titanium metal and titanium metal alloys through the use of a new process for making titanium metal (the "FFC Cambridge Process") and thereby enable a broader market use and lower the cost of military applications. Under the terms of the DARPA subcontract, we will attempt to develop a low-cost manufacturing process for titanium dioxide electrode materials, critical to the successful commercialization of the FFC Cambridge Process for production of titanium metal. Our unique process for making the titanium dioxide electrodes may provide a superior feedstock for the FFC Cambridge Process by enabling the process to work more efficiently.

According to the AMPTIAC Quarterly, a Department of Defense-sponsored publication, current global production of titanium metal is approximately 50,000 tons per year at a market value of $600 million. AMPTIAC estimates that, due to the current state of manufacturing, titanium is produced at only about 1/20th of

its current potential world volume. It is widely believed that a reduction of cost in the manufacturing process will expand the use of titanium metal in a wider range of applications that include lightweight armored military vehicles, the manufacture of automotive components and components for utility plants, oil and gas drilling, and lightweight and durable consumer goods. Our intent is to develop a suitable process for making the titanium dioxide electrodes used by the FFC Cambridge Process but not ultimately to manufacture the electrodes. We would most likely license the technology for manufacture of the titanium dioxide electrodes to producers of metal using the FFC Cambridge Process or their suppliers.

We have been awarded one US patent protecting the catalyst and electrode structure technologies entitled "Method for producing catalyst structures", which expires in 2021.

Solid Oxide Fuel Cell ("SOFC") Materials

Our efforts in the fuel cell area have been focused on the development of materials for the solid oxide fuel cell market. Our materials are novel precursor ceramic materials used in the construction of a solid oxide fuel cell. Virtually every ceramic material used as functional components of the fuel conversion element of this type of cell can be manufactured by Altair's basic process for making nanomaterials. Raw materials used by the Altair process are in the category of commodity chemicals available on a worldwide basis. Altair is engaged in a process of attempting to demonstrate that 1) using its proprietary nanotechnology, the cost of raw materials for a solid oxide fuel cell can be reduced to below $20 per kilowatt. 2) using the specially prepared nanomaterials, all fuel cell elements can be made from tape cast components, and 3) several fuel cells can be stacked in a single fuel conversion unit. Stages 1

and 2 have been demonstrated in concept and are being improved, and stage 3 is under development now. Altair has operated its fuel cell with hydrogen as a fuel. The Massachusetts Institute of Technology ("MIT") has completed the final stage of adding a compatible ceramic catalyst to the cell under contract with Altair. The catalyst developed by MIT is intended to overcome the high cost of the platinum catalyst in the solid oxide fuel cell.

We have successfully completed our single cell program, and we do not have any ongoing research or development activities specifically for this program. We have been awarded one U.S. patent for the application of this product entitled "Method for producing catalyst structures." The patent expires in 2021. The fundamental research is complete and testing confirmed the feasibility of our concept. The project is on hold while Altair searches for partners and/or funding to help defer further costs of development.

Nanosensors Program

In September 2003, we entered into an agreement with Western Michigan University ("WMU") to provide research services and materials to support research involving a technology used in the detection of chemical, biological and radiological agents. The teaming/research agreement with WMU, funded by the Department of Energy ("DOE"), provides for total payments to Altair of $356,500 over a two-year period. Through 2004, we received $288,000 in connection with this research agreement. In September 2004, the DOE awarded a stage 2 contract for the project under which we will continue joint development work for the design, synthesis and characterization of nanosensors for chemical, biological and radiological agents. Altair will receive an additional $672,000 over the two-year term of the stage 2 contract. WMU and Altair have a joint partnership for seeking Federal support for nanotechnology research and development and will utilize the new grant funding equally.

Hydrogen Generation using Solar Energy and Water

In November 2004, we entered into an agreement with the University of Nevada, Las Vegas Research Foundation to act as a subcontractor under a

$3,000,000 grant awarded to them by the U.S. Department of Energy for joint research activities related to solar hydrogen production at a refilling station under development in Las Vegas. The agreement, which is effective through December 31, 2005, provides for payments to Altair of $400,000 for research and development work utilizing nanotechnology processes for the production and commercialization of solar-based hydrogen technologies. The agreement has a work scope totaling $500,000 and contains a cost-sharing provision that requires Altair to share project costs in the amount of $100,000.

Hydrogen Solar LLC ("Hydrogen Solar") and Altair will act as research and product development partners on the project utilizing nanotechnology processes. Under Phase 1 of the project, the parties plan to develop a hydrogen refilling station. Under Phase 2, the parties plan to expand the capabilities of the station by developing a high pressure, more efficient electrolyser using Hydrogen Solar's Tandem CellTM. This device converts light and water directly into hydrogen fuel in a highly efficient, renewable and carbon-free process using photo-catalytic nano-crystalline thin films to gather photons of incident light and convert them into electrons to directly split water into its constituent elements. We expect to be able to use our nanomaterials synthesis technology to develop low cost processing for, and further improve, the performance of the thin film electrode in the front section of the Tandem CellTM. Our efforts will focus on iron oxide-based materials and include development of film deposition methods and synthesis routes for the optimized

metal oxide nanomaterials.

The Life Sciences Division

Primary Product

RenaZorb(TM)

In the second quarter of 2002, we initiated research and development efforts directed toward the utilization of nanomaterials in the pharmaceuticals industry. In July 2002, we announced the development of a new active pharmaceutical ingredient ("API") for the treatment of hyperphosphatemia (elevated serum phosphate levels) in patients undergoing kidney dialysis, as well as a new drug delivery system using inorganic ceramic nanomaterials. This API, given the name RenaZorb(TM), showed excellent capacity for phosphate removal in laboratory tests using standard in-vitro (laboratory) procedures. Animal testing of this product was initiated in late 2002 and was completed during the first quarter of 2003. Results of this pre-clinical animal testing confirmed the efficacy for phosphate binding. In September 2004, we completed a pre-clinical animal study of RenaZorb(TM) which was conducted to determine its phosphate binding efficiency. The results indicated that RenaZorb(TM) bound more phosphate per gram of drug than Renagel, a drug currently on the market, and Fosrenol, a drug of similar compounds produced by Shire Pharmaceuticals Group plc ("Shire"). Fosrenol was approved by the FDA on October 26, 2004.

In January 2005, we signed a licensing agreement with Spectrum Pharmaceuticals, Inc. ("Spectrum") which grants Spectrum exclusive worldwide rights to develop, market and sell RenaZorb(TM). Upon signing the agreement, Spectrum issued to us 100,000 restricted shares of their common stock, purchased 38,314 restricted shares of our common stock at the then current market value of $2.61 per share, and also paid us $100,000 in connection with the licensing agreement. Additional payments by Spectrum are contingent upon the achievement of various milestones in the testing, regulatory approval and sale of RenaZorb(TM). Assuming that planned milestones are achieved, we may receive cash and restricted shares of Spectrum common stock with a combined value of approximately $1.3 million in 2005, between $9 million and $14 million over the first 5-7 years and in excess of $100 million over the life of the agreement.

Key Features

RenaZorb(TM) is a highly active, lanthanum-based nanomaterial with low intestinal solubility and excellent in vitro phosphate binding. Animal testing of RenaZorb(TM) has been conducted in dogs and rats, but no human tests have yet been conducted. Based upon our initial laboratory and animal testing, we believe that RenaZorb(TM) may offer the following advantages over competing products:

- Lower dosage requirements because of better phosphate binding per gram of drug compared with existing or currently proposed drugs;
- Fewer and less severe side effects because of less gassing and lower dosage; and
- Better patient compliance because of fewer and smaller tablets

Target Markets

Our pharmaceutical product RenaZorb(TM) was developed to treat elevated phosphate levels in patients with chronic kidney disease, especially in patients with end stage renal disease. According to information published by AnorMED, the worldwide market for phosphate binders for chronic renal failure patients is approximately $400 million to $600 million annually.

Research, Testing and Development

RenaZorb(TM) must undergo animal and human testing and receive approval from the FDA in the U.S. and similar regulatory bodies in other parts of the world before it can be approved for marketing. Human testing typically takes 1 to 2 years and, if merited by the results of human testing, the process of seeking U.S. regulatory approval typically takes between 3 and 5 years. We believe, however, that the FDA's approval of Fosrenol(TM), a chemically related drug, by the FDA and other regulatory bodies may accelerate the approval process for RenaZorb(TM) but note that timing for FDA and other regulatory approval of drug candidates is unpredictable. Spectrum, with technical assistance from Altair, is responsible for the clinical testing and other activities necessary to obtain regulatory approval of RenaZorb(TM).

Proprietary Rights

We have applied for patent protection for the manufacture of RenaZorb(TM) and a wide range of similar compounds for the application as an orally administered phosphate binder for patients suffering from end stage renal disease.

Competition

Existing phosphate binders include Tums(TM) antacid, which contains calcium carbonate, and also aluminum hydroxide-based products such as Gaviscon(TM) manufactured by Glaxo Smith Kline, both of which are available over the counter, as well as Renagel(TM) manufactured by Genzyme, which is available only by prescription. In addition, Fosrenol(TM), another lanthanum based active pharmaceutical agent developed by Shire Pharmaceuticals ("Shire") of the UK, has received certain foreign regulatory approvals and received approval from the United States FDA in October 2004.

While over the counter phosphate binders are relatively inexpensive, they have several disadvantages. Calcium carbonate-containing phosphate binders, such as Tums(TM), in high doses, may cause increased blood pressure and increased risk of cardiovascular disease and is generally not recommended for long-term use by dialysis patients. With prolonged use, aluminum hydroxide-based phosphate binders, such as Gaviscon(TM), may cause toxic neurological effects and are generally avoided by physicians. Aluminum dementia has been widely reported in kidney dialysis patients using these products.

The prescription phosphate binder Renagel(TM) is relatively expensive (approximately $2,800 per patient per year), has a high dosage requirement (2 x 800 mg or 4 x 400 mg capsules/tablets or more three times per day) and water intake is required. The most common side effects related to the use of Renagel(TM) include nausea (7% of patients), constipation (2% of patients), diarrhea (4% of patients), gas or bloating (4% of patients) and heartburn or indigestion (5% patients).

Fosrenol(TM) is marketed as large chewable tablets with a proposed dosage of 1.5 to 3.0 grams active drug per day. As with all medicines, Fosrenol(TM) has some side effects, primarily associated with the gastrointestinal system including bloating, GI upset and vomiting. It has been reported that the use of Fosrenol does increase serum lanthanum levels compared with levels in patients taking a placebo. RenaZorb(TM), which is nanotechnology based, is expected to be developed in a tablet dosage form with a projected dosage of 0.6 to 3.0 grams API per day. Although we have done no human testing on RenaZorb(TM), we believe RenaZorb(TM) has the potential for fewer side

effects, lower cost and better patient compliance. We base these possible advantages upon in vitro testing conducted by Altair in which RenaZorb was compared to lanthanum carbonate tetrahydrate ("LCTH"), the API in Fosrenol. Our in vitro testing showed that RenaZorb binds 30% more phosphate per gram of drug than LCTH, therefore requiring a lower dose. Lower dose often correlates well with a reduction of observed side effects in chemically related compounds. In all animal testing conducted on RenaZorb(TM), which to date included three separate testing protocols, no adverse side effects were reported. In all testing, RenaZorb(TM) was administered to the animals by mixing the drug with the food they eat. In no case was there any reduction in the amount of food the animals consumed when RenaZorb(TM) was mixed with the food. The drug appears to be tasteless.

Both RenaZorb(TM) and Fosrenol(TM) involve the binding of phosphate by lanthanum compounds. In fact, the end product of the binding mechanism is identical; lanthanum phosphate is the product formed. Based on laboratory tests conducted by Altair comparing RenaZorb(TM) with LCTH, the API in Fosrenol(TM), RenaZorb(TM) RZB 012, one of the two drug candidates, required 30% less drug to bind the same amount of phosphate and shows less lanthanum going into solution in simulated stomach fluid at various pH values. In addition, in Altair's testing, using methods published by AnorMed, RenaZorb(TM) reacts with phosphate more rapidly. In 20 minute simulated stomach acid tests conducted by Altair, RenaZorb(TM) absorbed approximately 140 mg of phosphate and LCTH absorbed approximately 60 mg of phosphate.

Secondary Products and Research and Development Projects in Progress

TiNano Spheres(TM)

Our proposed drug delivery system involves depositing drugs on or inside hollow "wiffle ball" -like spheres made of titanium dioxide and other metal oxide materials, including nanomaterials.

Because of the early stage of development of this drug delivery system, we are unable to state with any certainty how (or if) such drug delivery system would be used and, if used, what the uses for such system would be and what the comparative advantages, side effects and other aspects of such drug delivery system would be. Nevertheless, based upon our early testing, we believe that the following uses of a nanomaterials-based drug delivery system are feasible:

- New delivery forms for existing drugs;
- Delivery methods for new drugs;

- Enhanced delivery of hard to dissolve drugs;
- Delivery of sustained release drugs; and
- Delivery of dual action drugs

Altair's hollow sphere "wiffle ball" like structures can deliver active chemicals or drugs in a sustained release fashion because the active component can be "mounted" on both the outside surface and inside the hollow ball structure. The dissolution and availability of the surface-mounted active component will be different than the active component inside the hollow spheres. Material inside the hollow structure will possibly be released more slowly compared to surface-mounted material. An additional feature of Altair's nanomaterials based hollow "wiffle ball"-like structures is that two different active substances could be mounted, one inside the hollow spheres and another on the surface. This allows the possibility for dual action pharmaceuticals to be developed using this technology.

To date, our research on drug delivery systems involving the use of nanomaterials has been limited to coating known drugs on the surface of and inside titanium dioxide micron-sized materials and nanomaterials. We have not done any animal or human testing with our new drug delivery systems and do not have the expertise, resources or capacity to complete such testing. In 2005, we hope to undertake a joint development program with a pharmaceutical company to conduct additional testing and development of our drug delivery system using the pharmaceutical company's drug compounds.

During 2004, we tested the "wiffle ball"-like structure in a model drug delivery system for narcotic and other Class 2 drugs that is potentially non-abuseable and less prone to common "street" abuse techniques. The results of our tests did not meet our expectations and we have deferred further testing of the system for this application.

We have filed two patent applications regarding this field including: 1) "Pharmaceutical composition and structure containing rare earth porous particles" and 2) "Pharmaceutical composition with controlled surface area."

Dental Materials

We are working with a research consortium sponsored by the National Institutes of Health to strengthen polymer-based dental fillings utilizing our nano-sized zirconia. Test results to date have been promising. We are continuing development work and will provide a larger sample of our materials in the first quarter of 2005 for further testing.

Tennessee Mineral Property

The Tennessee mineral property presently consists of approximately 3,950 acres of land containing fine, heavy minerals that we have leased in or near Camden, Tennessee since 1996.

Between 1996 and 2000, we conducted various tests and pre-feasibility studies on approximately 14,000 acres of property in Tennessee on which we held mineral leases. In 2000, we constructed a spiral-based pilot plant for testing at the Tennessee mineral property. Although test results were generally consistent with expectations, during 2002 and 2003, we significantly curtailed our testing on the Tennessee mineral property in order to conserve capital. During that same period, we actively sought to enter into joint venture or other relationships with larger mining operations that could provide capital and other resources necessary to complete testing of the Tennessee mineral property and, if merited, develop a mine on the property. Such efforts were not successful.

During 2004, our board of directors made the decision to terminate the mineral leases, dispose of the related assets and remediate the subject property to the extent required by regulatory authorities. Consequently, we have terminated the mineral leases on approximately 4,750 acres as of December 31, 2004 and expect to terminate the leases on the remaining 3,950 acres during the first six months of 2005. In October 2004, we filed a reclamation and closure plan with the Tennessee Department of Environment and Conservation and are now in discussions with them toward finalizing the plan. We are also in discussions with potential purchasers of the pilot plant assets. We expect that costs associated with the abandonment of the Tennessee mineral property will equal or not significantly exceed any proceeds from the disposition of related assets.

The Altair Jig

We hold certain intellectual property rights with respect to, and have built several demonstration models of the Altair jig. The Altair jig segregates

particles based on differences in their specific gravity. A conventional jig separates a slurry of mineral particles as it flows across the top of a screen. Water is periodically pulsed up through the screen to eliminate interparticle friction and allow differential settling according to the variations in the net specific gravities of the ore. Heavier minerals are allowed to pass downward through the screen while lighter materials flow across the screen to a discharge point. The Altair jig operates according to conventional jig principles except that the screen surface is cylindrical and is rotated to subject the particles to centrifugal forces.

In September 2003, we entered into a technology license agreement with Bateman Luxembourg SA ("Bateman") for the manufacture, installation and operation of the Altair jig. Bateman is expected to have exclusive use of the Altair jig for specifically identified applications in selected territories throughout the world. Bateman is currently testing the jig and has not used it in commercial operations. If and when Bateman utilizes the Altair jig in commercial applications, it is required to compensate Altair through a licensing fee for each project managed by Bateman that utilizes the Altair jig. The compensation, if any, is based on Bateman's profits generated through utilization of the Altair jig and will vary based on the size and scope of the individual projects.

During 2004, our Board of Directors determined to suspend all expenditures on the Altair jig. We continue to hold rights under the Batemen agreement and certain intellectual property rights with respect to the Altair jig but are not making efforts to further develop or market the Altair jig and do not expect to generate substantial revenue from the licensing or disposition of the Altair jig. All jig-related assets have been written off of our balance sheet.

Government Regulation and Environmental Concerns

Government Regulation

Most of our current and proposed activities are subject to a number of federal, state, and local laws and regulations concerning machine and chemical safety and environmental protection. Such laws include, without limitation, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation Liability Act. Such laws require that we take steps to, among other things, maintain air and water quality standards, protect threatened, endangered and other species of wildlife and vegetation, preserve certain cultural resources, and reclaim exploration, mining and processing sites.

Compliance with federal, state, or local laws or regulations represents a small part of our present budget. If we fail to comply with any such laws or regulations, however, a government entity may levy a fine on us or require us to take costly measures to ensure compliance. Any such fine or expenditure may adversely affect our development.

We are committed to complying with and, to our knowledge, are in compliance with, all governmental regulations. We cannot predict the extent to which future legislation and regulation could cause us to incur additional operating expenses, capital expenditures, and/or restrictions and delays in the development of our products and properties.

Environmental Regulation and Liability

Any proposed processing operation at our main operating facility in Reno, Nevada or any other property we use will be subject to federal, state, and

local environmental laws. In addition, our cleanup efforts on the Tennessee mineral property have been, and will continue to be, subject to such environmental laws. Under such laws, we may be jointly and severally liable with prior property owners for the treatment, cleanup, remediation, and/or removal of substances discovered at any other property used by us, to the extent the substances are deemed by the federal and/or state government to be toxic or hazardous ("Hazardous Substances"). Courts or government agencies may impose liability for, among other things, the improper release, discharge, storage, use, disposal, or transportation of Hazardous Substances. We use Hazardous Substances in our testing and operations and, although we employ all reasonably practicable safeguards to prevent any liability under applicable laws relating to Hazardous Substances, companies engaged in materials production are inherently subject to substantial risk that environmental remediation will be required.

Financial Information about Segments

Information with respect to assets, net sales, loss from operations and depreciation and amortization for the performance materials, life sciences, Tennessee mineral property and Altair jig segments is presented in Note 13, Business Segment Information, of Notes to Consolidated Financial Statements in Part IV.

Subsidiaries

Altair Nanotechnologies Inc. was incorporated under the laws of the province of Ontario, Canada in April 1973 under the name Diversified Mines Limited, which was subsequently changed to Tex-U.S. Oil & Gas Inc. in February 1981, then to Orex Resources Ltd. in November 1986, then to Carlin Gold Company Inc. in July 1988, then to Altair International Gold Inc. in March 1994, then to Altair International Inc. in November 1996 and then to Altair Nanotechnologies Inc. in July 2002. In July 2002, Altair Nanotechnologies Inc. redomesticated from the Ontario Business Corporations Act to Canada's federal corporate statutes, the Canada Business Corporations Act.

Altair US Holdings, Inc. was incorporated by Altair in December 2003 for the purpose of facilitating a corporate restructuring and consolidation of all U.S. subsidiaries under a U.S. holding company. At the completion of the corporate restructuring, Fine Gold, MRS and Altair Nanomaterials, Inc. were direct wholly-owned subsidiaries of Altair US Holdings, Inc., while Tennessee Valley Titanium, Inc. remained a wholly-owned subsidiary of MRS.

Fine Gold was acquired by Altair in April 1994. Fine Gold has earned no operating revenues to date. Fine Gold acquired the intellectual property associated with the Altair jig, a fine particle separation device for use in minerals processing, in 1996. Altair intends that Fine Gold will hold and maintain jig technology rights, including patents.

MRS was incorporated by Altair in April, 1987 and was formerly known as Carlin Gold Company. MRS previously has been involved in the exploration for minerals on unpatented mining claims in Nevada, Oregon and California. All mining claims have now been abandoned. MRS currently holds, directly or indirectly, all of Altair's interest in the Tennessee mineral property. Its wholly-owned subsidiary, Tennessee Valley Titanium, does not presently have any assets or operations.

Altair Nanomaterials, Inc. was incorporated in 1998 as a wholly-owned subsidiary of MRS and holds all of the Company's interest in our nanomaterials

and titanium dioxide pigment technology and related assets.

Corporate History

Altair Nanotechnologies Inc. was incorporated under the laws of the Province of Ontario, Canada in April 1973 for the purpose of acquiring and exploring mineral properties. It was redomesticated in July 2002 from the Business Corporations Act (Ontario) to the Canada Business Corporations Act, a change which causes Altair to be governed by Canada's federal corporate statute. The change reduced the requirement for resident Canadian directors from 50% to 25% of the board of directors, which gives us greater flexibility in selecting qualified nominees to our board.

During the period from inception through 1994, we acquired and explored multiple mineral properties. In each case, sub-economic mineralization was encountered and the exploration was abandoned.

Since 1996, we have leased mineral property near Camden, Tennessee and owned the rights to the Altair jig. However, we are disposing of the Tennessee mineral properties and limiting our expenditures on our centrifugal jig to patent maintenance expenses.

In November 1999, we acquired all the rights of BHP Minerals International, Inc. ("BHP") in the nanomaterials and titanium dioxide pigment technologies and the nanomaterials and titanium dioxide pigment assets from BHP. We are employing the nanomaterials and titanium dioxide pigment technology as a platform for the sale of contract services, intellectual property licenses and for the production and sale of metal oxide nanoparticles in various applications.

We have experienced an operating loss in every year of operation. In the fiscal year ended December 31, 2004, we experienced a net loss of $7,002,280.

Employees

The business of Altair is currently managed by Dr. Alan J. Gotcher, Chief Executive Officer of the Company, Dr. Rudi E. Moerck, President of the Company, Mr. Douglas Ellsworth, Senior Vice President of the Company and President of Altair Nanomaterials, Inc., Mr. Roy Graham, Senior Vice President, and Mr. Edward Dickinson, Chief Financial Officer. We have 23 additional regular employees and five full-time temporary employees in research and development, operations and administration. We have employment agreements with Messrs. Gotcher, Ellsworth, Graham and Dickinson.

During 2005, we expect to hire the five temporary employees, who are primarily working in research and development, as regular employees, and we may hire as many as five additional employees, primarily in operations and sales.

Forward-looking Statements

This Form 10-K contains various forward-looking statements. Such statements can be identified by the use of the forward-looking words "anticipate," "estimate," "project," "likely," "believe," "intend," "expect," or similar words. These statements discuss future expectations, contain projections regarding future developments, operations, or financial conditions, or state other forward-looking information. When considering such forward-looking statements, you should keep in mind the risk factors noted in the following section and other cautionary statements throughout this Form 10-K and our other

filings with the Commission. You should also keep in mind that all forward-looking statements are based on management's existing beliefs about present and future events outside of management's control and on assumptions that may prove to be incorrect. If one or more risks identified in this Form 10-K or any other applicable filings materializes, or any other underlying assumptions prove incorrect, our actual results may vary materially from those anticipated, estimated, projected, or intended.

Among the key factors that may have a direct bearing on our operating results are risks and uncertainties described under "Factors That May Affect Future Results," including those attributable to the absence of profits, risks related to our proposed development and exploitation of our nanomaterials and titanium dioxide pigment technology and nanomaterials and titanium dioxide pigment assets and uncertainties regarding our ability to obtain capital sufficient to continue our operations and pursue our proposed business strategy.

Factors that May Affect Future Results

We may continue to experience significant losses from operations.

We have experienced a loss from operations in every fiscal year since our inception. Our losses from operations were $6,904,955 in 2004 and $5,785,210 in 2003. We will continue to experience a net operating loss until, and if, the applications of our nanomaterials and titanium dioxide pigment technology begin generating revenues in excess of our operating expenses. Even if any or all applications of the nanomaterials and titanium dioxide pigment technology begin generating significant revenues, the revenues may not exceed our costs of production and operating expenses. We may not ever realize a profit from operations.

Our patents and other protective measures may not adequately protect our proprietary intellectual property, and we may be infringing on the rights of others.

We regard our intellectual property, particularly our proprietary rights in our nanomaterials and titanium dioxide pigment technology, as critical to our success. We have received various patents, and filed other patent applications, for various applications and aspects of our nanomaterials and titanium dioxide pigment technology and other intellectual property. In addition, we generally enter into confidentiality and invention agreements with our employees and consultants. Such patents and agreements and various other measures we take to protect our intellectual property from use by others may not be effective for various reasons, including the following:

- Our pending patent applications may not be granted for various reasons, including the existence of similar patents or defects in the applications;
- The patents we have been granted may be challenged, invalidated or circumvented because of the pre-existence of similar patented or unpatented intellectual property rights or for other reasons;
- Parties to the confidentiality and invention agreements may have such agreements declared unenforceable or, even if the agreements

are enforceable, may breach such agreements;
- The costs associated with enforcing patents, confidentiality and invention agreements or other intellectual property rights may make aggressive enforcement cost prohibitive;
- Even if we enforce our rights aggressively, injunctions, fines and other penalties may be insufficient to deter violations of our

intellectual property rights; and

- Other persons may independently develop proprietary information and techniques that, although functionally equivalent or superior to our intellectual proprietary information and techniques, do not breach our patented or unpatented proprietary rights.

Because the value of our company and common stock is rooted primarily in our proprietary intellectual property rights, our inability to protect our proprietary intellectual property rights or gain a competitive advantage from such rights could have a material adverse effect on our business.

In addition, we may inadvertently be infringing on the proprietary rights of other persons and may be required to obtain licenses to certain intellectual property or other proprietary rights from third parties. Such licenses or proprietary rights may not be made available under acceptable terms, if at all. If we do not obtain required licenses or proprietary rights, we could encounter delays in product development or find that the development or sale of products requiring such licenses is foreclosed.

We have a substantial number of warrants and options outstanding and may issue a significant number of additional shares upon exercise thereof.

As of February 16, 2005, there were outstanding warrants to purchase up to 1,657,452 shares of common stock and options to purchase up to 3,014,700 shares of common stock. The existence of such warrants and options, and any additional warrants and options we issue in the future, may hinder future equity offerings, and the exercise of such warrants and options may further dilute the interests of all shareholders. The shares of common stock issuable upon the exercise of many of our outstanding warrants are subject to resale registration statements, and all of our options are subject to a registration statement on Form S-8. Accordingly, future resale of the shares of common stock issuable on the exercise of such warrants and options in most cases occurs immediately after exercise and may have an adverse effect on the prevailing market price of the shares of common stock.

Our competitors have more resources than we do, which may give them a competitive advantage.

We have limited financial and other resources and, because of our early stage of development, have limited access to capital. We compete or may compete against entities that are much larger than we are, have more extensive resources than we do and have an established reputation and operating history. Because of their size, resources, reputation, history and other factors, certain of our competitors may be able to exploit acquisition, development and joint venture opportunities more rapidly, easily or thoroughly than we can. In addition, potential customers may choose to do business with our more established competitors, without regard to the comparative quality of our products, because of their perception that our competitors are more stable, are more likely to complete various projects, are more likely to continue as a going concern and lend greater credibility to any joint venture.

We may not be able to generate substantial revenues from the licensing of RenazorbTM.

On January 28, 2005, we entered into a license agreement with Spectrum Pharmaceuticals, Inc. under which we granted Spectrum the exclusive worldwide

rights to develop, market and sell RenazorbTM, a potential drug candidate for patients with kidney disease, for human therapeutic and diagnostic applications.

Under the terms of the license, we will not generate substantial recurring revenues unless and until Spectrum completes clinical testing of RenazorbTM and applies for and receives marketing approval from the FDA and similar regulatory agencies worldwide, begins marketing products containing RenazorbTM and experiences substantial, sustained market penetration with such products. There are substantial risks associated with that process, including the following:

- further testing conducted by Spectrum may indicate that RenazorbTM is less effective than existing products, is unsafe, has significant side effects or is otherwise not viable;
- Spectrum may be unable to obtain FDA or other regulatory approval of RenazorbTM for technical, political or other reasons or, even if it obtains such approval, may not obtain such approval on a timely basis;
- products containing RenazorbTM may not be accepted in the market for various reasons, including questions about its efficacy, safety and side effects or because of poor marketing by Spectrum;
- Spectrum may terminate the license agreement, experience financial or other problems or otherwise fail to effectively test, seek approval for and market RenazorbTM; and
- prior to or following regulatory approval, superior products may be developed and introduced into the market.

If any or the foregoing risks, or other risks associated with developing pharmaceutical products were to occur, we would not receive substantial, recurring revenue from our license with Spectrum.

Our nanomaterial technology with potential applications in rechargeable batteries is still in a developmental stage.

We are still testing and developing our AltairnanoTM Lithium Titanate Spinel nanomaterial technology, which has potential applications in rechargeable batteries. Even if we complete the testing and development of our technology, we lack the ability to integrate the technology into a commercial battery product without the assistance of a strategic partner. In addition, even if we are able to enter into an agreement with a strategic partner to commercialize the technology:

- products utilizing the technology, all of which would still need to be developed, may never be completed;
- products utilizing the technology may not exhibit expected charge or discharge rates or durability or may otherwise not prove competitive with existing technologies or those being created by other persons;
- products incorporating the technology may not meet the distinct needs of potential customers, applications or industries; and
- marketing and branding efforts by us, a potential strategic partner or others may be insufficient to attract a sufficient number of customers.

We may not benefit from licenses to use our technology for titanium dioxide pigment production.

Because of our relatively small size and limited resources, we do not plan to use our titanium processing technology for large-scale production of titanium dioxide pigments. We have entered into discussions with various minerals and materials companies about licensing our technology to such entities for large-scale production of titanium dioxide pigments. To date, we have entered into a license agreement with only one such entity, Western Oil Sands, Inc. Under our license agreement with Western Oil Sands, we expect to receive a limited amount of revenue during the early testing and development phase of the

agreement but will receive significant royalties only if Western Oil Sands and licensees of Western Oil Sands determine in their discretion, after testing at a demonstration plant, to construct or license the construction of a full-scale titanium pigment production facility. If we enter into other license agreements, we expect that, as with the Western Oil Sands agreement, we would not receive significant revenues from such licenses unless and until feasibility testing yielded positive results and the licensee determined, in its discretion, to construct and operate a titanium pigment production facility.

We may not be able to sell nanoparticles produced using the nanomaterials and titanium dioxide pigment technology.

We plan to use the nanomaterials and titanium dioxide pigment technology to produce titanium dioxide nanoparticles. Titanium dioxide nanoparticles and other products we intend to initially produce with the nanomaterials and titanium dioxide pigment technology generally must be customized for a specific application working in cooperation with the end user. We are still testing and customizing our titanium dioxide nanoparticle products for various applications and have no long-term agreements with end users to purchase any of our titanium dioxide nanoparticle products. We may be unable to recoup our investment in the nanomaterials and titanium dioxide pigment technology and nanomaterials and titanium dioxide pigment equipment for various reasons, including the following:

- products utilizing our titanium dioxide nanoparticle products, most of which are in the research or development stage, may not be completed or, if completed, may not be readily accepted by expected end users;
- we may be unable to customize our titanium dioxide nanoparticle products to meet the distinct needs of potential customers;
- potential customers may purchase from competitors because of perceived or actual quality or compatibility differences;
- our marketing and branding efforts may be insufficient to attract a sufficient number of customers; and
- because of our limited funding, we may be unable to continue our development efforts until a strong market for nanoparticles develops.

Our costs of production may be too high to permit profitability.

We have not produced any pigments, nanoparticles or other products using our nanomaterials and titanium dioxide pigment technology and equipment on a commercial basis. Our actual costs of production, or those of our licensees, may exceed those of competitors and, even if our costs of production are lower, competitors may be able to sell titanium dioxide and other products at a lower price than is economical for us or our licensees.

We have issued a $3,000,000 note to secure the purchase of the land and the building where our nanomaterials and titanium dioxide pigment assets are located.

In August 2002, we entered into a purchase and sale agreement with BHP Minerals International Inc. to purchase the land, building and fixtures in Reno, Nevada where our nanomaterials and titanium dioxide pigment assets are located. In connection with this transaction, we issued to BHP a note in the amount of $3,000,000, at an interest rate of 7%, secured by the property we acquired. The first payment of $600,000 of principal plus accrued interest is due February 8, 2006. Additional payments of $600,000 plus accrued interest are due annually on February 8, 2007 through 2010. If we fail to make the required payments on the

note, BHP has the right to foreclose and take the property. If this should occur, we would be required to relocate our primary operating assets and offices, causing a significant disruption in our business.

We may not be able to raise sufficient capital to meet future obligations.

As of February 16, 2005, we had $31 million in cash, an amount sufficient to fund our ongoing operations for approximately 4-5 years at current working capital expenditure levels. However, we may use our existing capital sooner than projected in connection with an unanticipated transaction, litigation or another unplanned event. We may also use more capital than projected as we expand our research, development and marketing efforts. Unless we experience a significant increase in revenue, we will need to raise additional capital in the future in order to sustain our ongoing operations, continue unfinished testing and additional development work and, if certain of our products have been commercialized, produce and market such products.

We may not be able to obtain the amount of additional capital needed or may be forced to pay an extremely high price for capital. Factors affecting the availability and price of capital may include the following:

- market factors affecting the availability and cost of capital generally;
- the price, volatility and trading volume of our shares of common stock;
- our financial results, particularly the amount of revenue we are generating from operations;
- the amount of our capital needs;
- the market's perception of nanotechnology and/or chemical stocks;
- the economics of projects being pursued; and
- the market's perception of our ability to generate revenue through the licensing or use of our nanoparticle technology for pharmaceutical, pigment production, nanoparticle production and other uses.

If we are unable to obtain sufficient capital or are forced to pay a high price for capital, we may be unable to meet future obligations or adequately exploit existing or future opportunities, and may be forced to discontinue operations.

Operations using the nanomaterials and titanium dioxide pigment technology or our Tennessee mineral property may lead to substantial environmental liability.

Virtually any prior or future use of the nanomaterials and titanium dioxide pigment technology is subject to federal, state and local environmental laws. In addition, we have constructed a pilot plant on, and are in the process of reclaiming, our Tennessee mineral property. Under such laws, we may be jointly and severally liable with prior property owners for the treatment, cleanup, remediation and/or removal of any hazardous substances discovered at any property we use. In addition, courts or government agencies may impose liability for, among other things, the improper release, discharge, storage, use, disposal or transportation of hazardous substances.

Certain of our experts and directors reside in Canada and may be able to avoid civil liability.

We are a Canadian corporation, and three of our directors and our Canadian legal counsel are residents of Canada. As a result, investors may be unable to effect service of process upon such persons within the United States

and may be unable to enforce court judgments against such persons predicated upon civil liability provisions of the U.S. securities laws. It is uncertain whether Canadian courts would (i) enforce judgments of U.S. courts obtained against us or such directors, officers or experts predicated upon the civil liability provisions of U.S. securities laws or (ii) impose liability in original actions against us or our directors, officers or experts predicated upon U.S. securities laws.

We are dependent on key personnel.

Our continued success will depend to a significant extent on the services of Dr. Alan J. Gotcher, our Chief Executive Officer, Dr. Rudi Moerck, our President, Douglas Ellsworth and Roy Graham, our Senior Vice Presidents and Edward Dickinson, our Chief Financial Officer. The loss or unavailability of any or all of these individuals could have a material adverse effect on our business and the market price of our shares of common stock. We do not carry key man insurance on the lives of any of our personnel and do not have agreements requiring any of them to remain with our company.

We may issue substantial amounts of additional shares without stockholder approval.

Our articles of incorporation authorize the issuance of an unlimited number of shares of common stock that may be issued without any action or approval by our stockholders. In addition, we have two stock option plans and a stock purchase plan that have potential for diluting the ownership interests of our stockholders. The issuance of any additional shares of common stock would further dilute the percentage ownership of Altair held by existing stockholders.

The market price of our common stock may increase or decrease dramatically at any time for any or no apparent reason.

The market price of our common stock, like that of the securities of other early stage companies, may be highly volatile. Our stock price may change dramatically as the result of announcements of our quarterly results, new products or innovations by us or our competitors, uncertainty regarding the viability of the nanomaterials and titanium dioxide pigment technology, significant customer contracts, significant litigation or other factors or events that would be expected to affect our business, financial condition, results of operations and future prospects. In addition, the market price for our common stock may be affected by various factors not directly related to our business or future prospects, including the following:

- Intentional manipulation of our stock price by existing or future shareholders or a reaction by investors to trends in our stock rather than the fundamentals of our business;
- A single acquisition or disposition, or several related acquisitions or dispositions, of a large number of our shares;
- The interest of the market in our business sector, without regard to our financial condition, results of operations or business prospects;
- Positive or negative statements or projections about our company, or our industry, by analysts, stock gurus and other persons;
- The adoption of governmental regulations or government grant programs and similar developments in the United States or abroad that may enhance or detract from our ability to offer our products and services or affect our cost structure;
- Economic and other external market factors, such as a general decline in market prices due to poor economic indicators or

investor distrust; and

- Speculation by short sellers of our common stock or other persons who stand to profit from a rapid increase or decrease in the price of our common stock.

We have never declared a cash dividend and do not intend to declare a cash dividend in the foreseeable future.

We have never declared or paid cash dividends on our common stock. We currently intend to retain any future earnings, if any, for use in our business and, therefore, do not anticipate paying dividends on our common stock in the foreseeable future.

Item 2. Properties

Our corporate headquarters is located at 204 Edison Way, Reno, Nevada 89502 in a building we purchased in August 2002. Our nanomaterials and titanium dioxide pigment assets are located in this building which contains approximately 80,000 square feet of production, laboratory, testing and office space. We have pledged our corporate headquarters and associated land to secure a promissory note we issued to BHP Minerals International, Inc. in the amount of $3,000,000, at an interest rate of 7%. The first payment of $600,000 of principal plus accrued interest on such promissory note is due February 8, 2006.

We also maintain a registered office at 56 Temperance Street, Toronto, Ontario M5H 3V5. We do not lease any space for, or conduct any operations out of, the Toronto, Ontario registered office.

We believe that the existing offices and test facilities of Altair and its subsidiaries are adequate for our current needs. In the event that alternative or additional office space is required, we believe we could obtain additional space on commercially acceptable terms.

As mentioned above in Tennessee Mineral Property, we have terminated the mineral leases on approximately 4,750 acres of our Tennessee mineral property and intend to terminate the leases on the remaining 3,950 acres during the first quarter of 2005. We are also working with the Tennessee Department of Environment and Conservation to finalize a plan for remediation of the property and are in discussions with potential purchasers of the pilot plant assets. When we have terminated all of the mineral leases, performed the required remediation and disposed of the plant assets, we will no longer have any properties in Tennessee. We expect to accomplish this during the first half of 2005.

Item 3. Legal Proceedings

We are from time to time involved in routine litigation incidental to the conduct of our business. We are currently not involved in any suit, action or other legal proceedings which management believes will materially and adversely affect the business or operations of Altair or its subsidiaries.

Item 4. Submission of Matters to a Vote of Security Holders

We did not submit any matters to a vote of security holders during the fourth quarter of the 2004 fiscal year.

PART II

Item 5. Market for the Common Shares and Related Shareholder Matters

Market Price

Our common shares are traded on the Nasdaq SmallCap Market under the symbol "ALTI." The following table sets forth, for the periods indicated, the high and low sales prices for our common shares, as reported on our principal trading market at the time.

Fiscal Year Ended December 31, 2003	Low	High
1st Quarter	$0.31	$0.56
2nd Quarter	$0.30	$1.48
3rd Quarter	$0.73	$1.65
4th Quarter	$1.12	$2.90

Fiscal Year Ended December 31, 2004	Low	High
1st Quarter	$2.20	$4.40
2nd Quarter	$2.05	$3.58
3rd Quarter	$0.95	$2.37
4th Quarter	$1.50	$3.17

The last sale price of our common shares, as reported on the Nasdaq SmallCap Market, on February 16, 2005 was $4.28 per share.

Outstanding Shares and Number of Shareholders

As of February 16, 2005, the number of common shares outstanding was 57,993,975 held by approximately 500 holders of record. In addition, as of the same date, we have reserved 3,962,700 common shares for issuance upon exercise of options that have been, or may be, granted under our employee stock option plans and 1,657,452 common shares for issuance upon exercise of outstanding warrants.

Dividends

We have never declared or paid cash dividends on our common shares. Moreover, we currently intend to retain any future earnings for use in our business and, therefore, do not anticipate paying any dividends on our common shares in the foreseeable future.

Securities Authorized for Issuance under Equity Compensation Plans

We have stock option plans administered by the Board of Directors that provide for the granting of options to employees, officers, directors and other service providers of the Company. All option plans have been approved by security holders. We also have an Employee Stock Purchase Plan ("ESPP") which allows employees to purchase common shares through payroll deductions when, as and if determined by our board of directors. The ESPP, which is a broadly-based plan open to all employees, other than executive officers, has not been approved by shareholders. The following table sets forth certain information with respect to compensation plans under which equity securities are authorized for issuance at December 31, 2004:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of s remaining a for future under e compensati (excluding s reflected i (a) (c)
Equity compensation plans approved by security holders	3,293,700	$2.28	1,048,
Equity compensation plans not approved by security holders	None	N/A	348,5
Total	3,293,700	$2.28	1,396,

Recent Sales of Unregistered Securities

Except as previously reported, we did not sell any securities in transactions that were not registered under the Securities Act in the quarter ended December 31, 2004.

Transfer Agent and Registrar

The Transfer Agent and Registrar for our common shares is Equity Transfer Services, Inc., Suite 420, 120 Adelaide Street West, Toronto, Ontario, M5H 4C3.

Canadian Taxation Considerations

Dividends paid on common shares owned by non-residents of Canada are subject to Canadian withholding tax. The rate of withholding tax on dividends under the Income Tax Act (Canada) (the "Act") is 25%. However, Article X of the reciprocal tax treaty between Canada and the United States of America (the "Treaty") generally limits the rate of withholding tax on dividends paid to United States residents to 15%. The Treaty further generally limits the rate of withholding tax to 5% if the beneficial owner of the dividends is a U.S. corporation which owns at least 10% of the voting shares of the Company.

If the beneficial owner of the dividend carries on business in Canada through a permanent establishment in Canada, or performs in Canada independent personal services from a fixed base in Canada, and the shares of stock with respect to which the dividends are paid is effectively connected with such permanent establishment or fixed base, the dividends are taxable in Canada as business profits at rates which may exceed the 5% or 15% rates applicable to dividends that are not so connected with a Canadian permanent establishment or fixed base. Under the provisions of the Treaty, Canada is permitted to apply its domestic law rules for differentiating dividends from interest and other disbursements.

A capital gain realized on the disposition of common shares by a person resident in the United States ("a non-resident") will be subject to tax under the Act if the shares held by the non-resident are "taxable Canadian property." In general, common shares will be taxable Canadian property if the particular non-resident used (or in the case of a non-resident insurer, used or held) the Common Stock in carrying on business in Canada or where at any time during the five-year period immediately preceding the realization of the gain, not less than 25% of the issued and outstanding shares of any class or series of shares of the Company, which were listed on a prescribed stock exchange, were owned by the particular non-resident, by persons with whom the particular non-resident did not deal at arms' length, or by any combination thereof. If common shares constitute taxable Canadian property, relief nevertheless may be available under the Treaty. Under the Treaty, gains from the alienation of common shares owned by a non-resident who has never been resident in Canada generally will be exempt from Canadian capital gains tax if the shares do not relate to a permanent establishment or fixed base which the non-resident has or had in Canada, and if not more than 50% of the value of the shares was derived from real property (which includes rights to explore for or to exploit mineral deposits) situated in Canada.

Item 6. Selected Financial Data

The following table sets forth selected consolidated financial information with respect to the Company and its subsidiaries for the periods indicated. The data is derived from financial statements prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). The selected financial data should be read in conjunction with the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and accompanying notes included herein. All amounts are stated in U.S. dollars.

For the Year Ended December 31,	2004	2003	2002	2001
STATEMENTS OF OPERATIONS				
Revenues	$ 1,151,892	$ 72,851	$ 253,495	$ 42,816
Operating Expenses	$ 8,056,847	$ 5,858,061	$ 8,110,206	$ 6,064,348
Interest expense	$ 194,180	$ 454,415	$ 1,151,388	$ 1,881,077
Interest Income	$ (96,229)	$ (1,879)	$ (2,105)	$ (148,980)
Loss (Gain) on foreign exchange	$ (626)	$ 193	$ 835	$ 402
Loss on extinguishment of debt	$ --	$ --	$ 914,667	$ --
Net Loss	$ 7,002,280	$ 6,237,939	$ 9,921,496	$ 7,754,031
Basic and diluted net loss per common share	$ 0.14	$ 0.19	$ 0.40	$ 0.39
Cash dividends declared per common share	$ --	$ --	$ --	$ --
BALANCE SHEET DATA				
Working capital	$ 7,663,264	$ 3,565,039	$ (204,365)	$ (81,154)
Total assets	$ 15,547,021	$ 11,659,754	$ 8,914,405	$ 10,853,243
Long-term obligations	$ 2,880,311	$ 2,686,130	$ 3,905,040	$ 1,462,060
Current liabilities	$ 376,773	$ 397,141	$ 604,503	$ 714,689
Net shareholders' equity	$ 12,289,937	$ 8,576,483	$ 4,404,862	$ 8,676,494

Item 7. Management's Discussion and Analysis of Financial Condition and Results

of Operations.

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto.

Overview

We are a Canadian company, with principal assets and operations in the United States, whose primary business is developing and commercializing nanomaterial and titanium dioxide pigment technologies. We have recently organized into two divisions, a Life Sciences Division and a Performance Materials Division, in anticipation of generating a substantial amount of business activity and revenues from life sciences products, specifically pharmaceuticals and drug delivery products. During 2004, revenues from life science products were not significant. Our research, development, production and marketing efforts are currently directed toward six market applications that utilize our proprietary technologies:

The Performance Materials Division.

- Advanced Materials for Paints, Coatings and Sensors
  - The production of titanium dioxide pigments;
  - The production of nano-structured powders for thermal spray applications;
  - The production of nano-structured powders for nano-sensor applications.
- Advanced Materials for Improving Process Technologies
  - The development of titanium dioxide electrode structures in connection with a research program aimed at developing a lower-cost process for producing titanium metals and related alloys;
  - The development and production of NanoCheck TM phosphate binding materials for prevention of algae growth.
- Advanced Materials for Alternative Energy
  - The development of materials for high performance batteries, fuel cells and photovoltaics.

The Life Sciences Division.

- Pharmaceutical Products
  - The co-development of RenaZorb(TM), a test-stage active pharmaceutical ingredient, which is designed to be useful in the treatment of elevated serum phosphate levels in patients undergoing kidney dialysis.
- Drug Delivery Products
  - The development of TiNano SpheresTM, which are rigid, hollow, porous, high surface area ceramic micro structures that are derived from Altair's proprietary process technology.
- Dental Materials
  - The development of nanomaterials for use in various products for dental fillings.

We also provide contract research services on select projects where we can utilize our resources to develop intellectual property and/or new products and technology.

We currently have agreements in place to (1) provide research involving a technology used in the detection of chemical, biological and radiological agents, (2) provide custom oxide feedstocks for a titanium metal research program funded by the Department of Defense, (3) license and evaluate our pigment production process for the production of TiO2 pigment and pigment-related products from titanium-bearing oil sands, (4) supply nano-sized anode and cathode materials for design and development of high capacity lithium

ion battery and super capacitor applications, and (5) provide research utilizing nanotechnology processes for the production and commercialization of solar-based hydrogen technologies. In addition, we have entered into a licensing agreement for RenaZorbTM, our potential pharmaceutical product. Future revenues will depend on the success of these projects, the results of our other research and development work, the success of the RenaZorbTM licensee in obtaining FDA approval for the drug, and the success of our marketing efforts.

General Outlook

We have generated net losses in each fiscal year since incorporation. Our revenues in fiscal 2004 were $1,152,000, representing a significant increase over our revenues of $73,000 in fiscal 2003. Total operating expenses for fiscal 2004 were $8,056,847. Substantially all of our revenues in 2004 came from commercial collaborations, grants and other research or development work which we have undertaken primarily in order to benefit from resulting technology. Our gross profit margins on such research and development work is very low, and in order that we may be profitable in the long run, our business plan focuses on the development of products and technologies that we expect will eventually bring a substantial amount of higher-margin revenues from licensing, manufacturing, product sales and other sources.

As we attempt to significantly expand our revenues from licensing, manufacturing, sales and other sources, some of the key near-term events that will affect our long term success prospects include the following:

- We must complete animal testing of our RenaZorb(TM) product demonstrating specified result levels of our RenaZorb(TM) product, which we expect to be performed during the first half of 2005. Successful completion of this milestone under our license agreement with Spectrum will result in Spectrum's release of the associated milestone payment to Altair, 100,000 shares of Spectrum common stock, and enable Spectrum to begin the testing and application processes necessary to receive FDA approval.

- Licensing and product purchase commitments for our Nanocheck(TM) swimming pool product are currently under discussion. Successful completion of potential license agreement(s) and product purchase commitments are essential for the commercialization of the Nanocheck(TM) product, which could bring manufacturing and licensing revenue in late 2005 or 2006.

- The initial phase of work for the Western Oil Sands License agreement is approximately 50% complete. We must successfully complete the initial phase, and Western Oil Sands must decide to proceed with phase 2 work for this project to continue to move toward commercialization.

- We have completed phase one work under a National Science Foundation grant to produce materials enabling a next generation of rechargeable batteries and have applied for a phase two grant of $500,000. Phase two grants are scheduled to be announced during July 2005. The ultimate commercialization of our battery materials will be dependant upon our ability to secure a technology license or similar agreement with one or more battery manufacturers. We are currently in discussions with several such manufacturers and cannot project when, or if, we will enter into a partnering agreement with respect to our batter materials technology and what

the terms of such agreement may be.

- Although its is not essential that all of these projects be successful in order to permit substantial long-term revenue growth, we believe that full commercialization of several of our

technologies will be necessary in order to expand our revenues enough to create a likelihood of our becoming profitable in the long term. We are optimistic with respect to our current key projects, as well as other we are pursuing, but recognize that, with respect to each, there are development, marketing, partnering and other risks to be overcome.

Restructuring Progress

In June 2004, we reorganized the Company in order to concentrate resources on the nanomaterials and titanium dioxide pigment business. The reorganization involved the creation of the Performance Materials Division and the Life Sciences Division and the commencement of a process of narrowing down the number of projects within those divisions and selecting certain projects for increased near-term focus and effort. The reorganization also involved the decision to discontinue our mineral processing business, particularly that aspect related to our Tennessee mineral properties. During 2004, we terminated the mineral leases on approximately 4,750 acres and expect to terminate the leases on the remaining 3,950 acres during the first six months of 2005. In October 2004, we filed a reclamation and closure plan with the Tennessee Department of Environment and Conservation and are now in discussions with them toward finalizing the plan. We are also in discussions with potential purchasers of the pilot plant assets. We expect that costs associated with the abandonment of the Tennessee mineral property will equal or exceed any proceeds from the disposition of related assets.

Liquidity and Capital Resources

Current and Expected Liquidity

Our cash position was significantly enhanced during 2004 and through February 2005. During 2004, we received $8,955,000 from the exercise of warrants and $902,000 from the exercise of options. In early February 2005, the market price of our common shares increased significantly. As a result, 2,839,281 warrants and 379,000 options were exercised, resulting in cash proceeds to us of $4,903,487. Additionally, on February 14, 2005, we sold 5,000,000 of our common shares which had been previously registered in a shelf registration for net proceeds to us of $19.2 million. As of February 16, 2005, we had cash and cash equivalents on hand of approximately $31 million, an amount sufficient to fund our operations for approximately 4-5 years at projected operating levels.

We intend to use these funds for working capital, capital expenditures, research and development activities and the acquisition of other technologies. Net cash used in operations was $5,620,000 in 2004 and we expect this amount to remain approximately the same in 2005. Although we expect cash outflows to increase in 2005 due primarily to staff additions and increased capital expenditures, as outlined in the following paragraphs, we expect a similar increase in revenues as a result of increased contract R&D work, product sales and licensing revenues.

In 2005, we expect to generate revenues from commercial collaborations, contracts and grants by utilizing our nanomaterials and titanium dioxide pigment technology. We currently have six contracts in place that will generate revenues

in 2005. These are:

- a licensing agreement with Spectrum Pharmaceuticals for RenaZorb(TM) under which we expect to receive approximately $1.3 million during 2005;

- a contract with Western Oil Sands, Inc. for the production of titanium dioxide pigment and pigment-related products from oil sands. We have approximately $200,000 of work remaining to be done on an existing contract and expect to enter into a second phase contract to do additional work in 2005.

- a contract with Western Michigan University to develop nanosensors for the detection of chemical, biological and radiological agents. We have approximately $250,000 of work to be done under existing contracts in 2005.
- a grant awarded by the National Science Foundation to fund joint development work on next generation lithium ion power sources. We will receive $33,000 under an existing agreement in 2005 and hope to receive an additional grant for further development work.
- an agreement with the University of Nevada, Las Vegas Research Foundation to act as a subcontractor under a $3,000,000 grant awarded to them by the U.S. Department of Energy for joint research activities related to solar hydrogen production. We have approximately $400,000 of work to be done in 2005 under the agreement.
- a contract with Titanium Metals Corporation to provide feedstocks used in the production of titanium metal. We will receive approximately $60,000 under the existing contract in 2005 and hope to enter into another contract for further development work.

In addition, to these existing collaborations, contracts and grants, we hope to commence generating revenue from certain of our products, including Nanocheck (TM), a lanthanum-based compound that can be used to treat water for the removal of a wide range of deleterious impurities, and yttria stabilized zirconia, a product that may be used in solid oxide fuel cells and as a thermal barrier coating. Contributions to total revenues from these products during 2005 will not likely be significant, but such increases may lay the foundation for more substantial revenue in future years.

In addition, we will generate revenue through the licensing of RenaZorb(TM), a potential drug that may be useful in phosphate control in kidney dialysis patients. In January 2005, we signed a RenaZorb(TM) licensing agreement with Spectrum Pharmaceuticals, Inc. ("Spectrum") which grants Spectrum exclusive worldwide rights to develop, market and sell RenaZorb(TM). Upon signing the agreement, Spectrum issued to us 100,000 restricted shares of their common stock and purchased 38,314 restricted shares of our common stock at the then current market value of $2.61 per share, and also paid us $100,000 in connection with the licensing agreement. Additional payments by Spectrum are contingent upon the achievement of various milestones in the testing, regulatory approval and sale of RenaZorb(TM). Assuming that planned milestones are achieved, we may receive payments of approximately $1.3 million in 2005, between $9 million and $14 million over the first 5-7 years and in excess of $100 million over the life of the agreement. We expect that most of the revenue generated during 2005 from our RenaZorb(TM) license will be in the form of restricted shares of Spectrum common stock, and, as a result, such revenue will be non-cash.

Historically, we have financed operations primarily through the

issuance of equity securities (common shares, convertible debentures, stock options and warrants) and by the issuance of debt. In light of our recent public offering of securities, we do not presently have any plans to pursue additional debt or equity financing during 2005 but reserve the right to do so if deemed necessary in connection with an unexpected business opportunity or need. We do not have any commitments with respect to future financing and may, or may not, be able to obtain such financing on reasonable terms, or at all. We have a single note payable in the principal amount of $3,000,000 that does not contain any restrictive covenants with respect to the issuance of additional debt or equity securities by Altair.

Capital Commitments and Expenditures

The following table discloses aggregate information about our contractual obligations including notes payable, mineral lease payments, facilities lease payments and contractual service agreements, and the periods in which payments are due as of December 31, 2004:

Contractual Obligations	Total	Less Than 1 Year	1-3 Years	4-5 Years	After 5 Years
Notes Payable	$3,000,000*	$ --	$1,200,000	$1,200,000	$ 600,000
Interest on notes payable	525,000	--	273,000	210,000	42,000
Mineral Leases	284,575	47,815	96,181	69,097	71,482
Contractual Service Agreements	651,650	589,150	62,500	--	--
Unfulfilled Purchase Orders	161,151	161,151	--	--	--
Total Contractual Obligations	$4,622,376	$ 798,116	$1,631,681	$1,479,097	$ 713,482

* Before discount of $119,689.

During 2003, our capital expenditures consisted of pilot plant extraction columns and a company vehicle which totaled $92,000. In 2004, we spent $310,000 for equipment used in our nanosensor project with Western Michigan University, $165,000 for computer equipment and software, $105,000 for a centrifuge used in production of RenaZorb(TM), $97,000 for equipment used in making titanium dioxide disks for the Timet project and $72,000 for other equipment. During 2005, we expect to spend $800,000 to upgrade our laboratories and purchase new equipment for them, $100,000 for production equipment, $80,000 for pilot plant equipment, $67,000 for computers and software, $27,000 for building improvements and $130,000 for other equipment. At December 31, 2004, we had no significant commitments for capital asset expenditures.

Critical Accounting Policies and Estimates

Management based the following discussion and analysis of our financial condition and results of operations on our consolidated financial statements. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, we evaluate our critical accounting policies and estimates, including those related to long-lived assets, stock-based compensation, revenue recognition, overhead allocation and allowance for doubtful accounts. We base

our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe the following critical accounting policies affect the more significant judgments and estimates used in the preparation of our consolidated financial statements. These judgments and estimates affect the reported amounts of assets and liabilities and the reported amounts of revenues and expenses during the reporting periods. Changes to these judgments and estimates could adversely affect the Company's future results of operations and cash flows.

- Long-Lived assets. Our long-lived assets consist principally of the nanomaterials and titanium dioxide pigment assets, the intellectual property (patents and patent applications) associated with them, and a building. Included in these long-lived assets are long-lived assets that relate to our research and development process. These assets are initially evaluated for capitalization based on Statement of Financial Accounting Standards ("SFAS") No. 2, Accounting for Research and Development Costs. If the assets have alternative future uses (in research and development projects or otherwise), they are capitalized

when acquired or constructed; if they do not have alternative future uses, they are expensed as incurred. At December 31, 2004, the carrying value of these assets was $7,309,635, or 47% of total assets. We evaluate the carrying value of long-lived assets when events or circumstances indicate that an impairment may exist. In our evaluation, we estimate the net undiscounted cash flows expected to be generated by the assets, and recognize impairment when such cash flows will be less than the carrying values. Events or circumstances that could indicate the existence of a possible impairment include obsolescence of the technology, an absence of market demand for the product, and/or the partial or complete lapse of technology rights protection.

- Stock-Based Compensation. We have two stock option plans which provide for the issuance of common stock options to employees and service providers. Although SFAS No. 123, Accounting for Stock Based Compensation, encourages entities to adopt a fair-value-based method of accounting for stock options and similar equity instruments, it also allows an entity to continue measuring compensation cost for stock-based compensation for employees and directors using the intrinsic-value method of accounting prescribed by Accounting Principles Board ("APB") Opinion No. 25, Accounting for Stock Issued to Employees. We have elected to follow the accounting provisions of APB 25 and to furnish the pro forma disclosures required under SFAS 123 for employees and directors, but we also issue warrants and options to non-employees that are recognized as expense when issued in accordance with the provisions of SFAS 123. We calculate compensation expense under SFAS 123 using a modified Black-Scholes option pricing model. In so doing, we estimate certain key assumptions used in the model. We believe the estimates we use, which are presented in Note 2 of Notes to Consolidated Financial Statements, are appropriate and reasonable. As explained in Note 2 to the Consolidated Financial Statements, the Financial Accounting Standards Board has issued a revision to SFAS 123 that eliminates the alternative of applying the intrinsic value measurement provisions of APB 25. We are required to adopt the revised SFAS 123 no later than July 1, 2005. Although we have not yet quantified the effects of adoption, it is expected that the new

standard will result in significant additional expense depending upon the nature and amount of stock-based compensation awards which may be granted.

- Revenue Recognition. We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or service has been performed, the fee is fixed and determinable, and collectibility is probable. During 2004, our revenues were derived principally from three sources: commercial collaborations, contract research and development and product sales. Based on the specific terms and conditions of each contract/grant, revenues are recognized on a time and materials basis, a percentage of completion basis and/or a completed contract basis. Revenue for product sales is recognized at the time the purchaser has accepted delivery of the product. Revenue under contracts based on time and materials is recognized at contractually billable rates as labor hours and expenses are incurred. Revenue under contracts based on a fixed fee arrangement is recognized based on various performance measures, such as stipulated milestones. As these milestones are achieved, revenue is recognized. From time to time, facts develop that may require us to revise our estimated total costs or revenues expected. The cumulative effect of revised estimates is recorded in the period in which the facts requiring revisions become known. The full amount of anticipated losses on any type of contract are recognized in the period in which they become known.

- Overhead Allocation. Facilities overhead, which is comprised primarily of occupancy and related expenses, is initially recorded in general and administrative expenses and then allocated monthly to research and

development expense based on labor costs. Facilities overheads allocated to research and development projects may be chargeable when invoicing customers under certain research and development contracts.

- Allowance for Doubtful Accounts. The allowance for doubtful accounts is based on our assessment of the collectibility of specific customer accounts and the aging of accounts receivable. We analyze historical bad debts, the aging of customer accounts, customer concentrations, customer credit-worthiness, current economic trends and changes in our customer payment patterns when evaluating the adequacy of the allowance for doubtful accounts. From period to period, differences in judgments or estimates utilized may result in material differences in the amount and timing of our bad debt expenses.

Results of Operations

Fiscal Year 2004 vs. 2003

Our revenues increased significantly from $73,000 in 2003 to $1,152,000 in 2004 as a result of new customer contracts we entered into under which we provide research and development ("R&D") work on a variety of projects. See Note 13, Business Segment Information, in Notes to Consolidated Financial Statements, for sales and accounts receivable information with respect to major customers. We anticipate that revenues will increase in 2005 over 2004 as a result of increased contract R&D work, product sales and licensing revenues.

Cash used in operations increased by $1,617,000 from $4,005,000 in 2003 to $5,620,000 in 2004 due to increased R&D and general and administrative ("G&A") expenses. We added staff in R&D in order to meet the workload created by new customer contracts and we added staff in G&A primarily to meet the

requirements of the Sarbanes-Oxley Act. Other increases in these expenses are discussed below. We believe the staffing additions and certain other expenditures in 2004 have significantly strengthened the Company's R&D capabilities and enhanced our ability to grow the business. We expect cash used in operations to remain at approximately the same level in 2005. However, to the extent that we can generate increased product sales and licensing revenues, which provide higher profit margins than contract R&D, our cash flow will be improved. We do not, however, expect to generate positive cash flow in 2005.

Operating losses increased from $5,785,210 in the 2003 fiscal year to $6,904,955 in the 2004 fiscal year. Although revenues increased significantly in 2004, this increase was more than offset by increases in R&D and G&A expenses.

Revenues from commercial collaborations increased by $524,803, from $27,696 in 2003 to $552,499, in 2004. Revenues in 2003 were derived from two customers. In late 2003 and during 2004, we entered into new contracts which generated the substantial increase in revenues. Our commercial collaborations now include projects to (1) provide custom oxide feedstocks for a titanium metal research program funded by the Department of Defense, (2) license and evaluate our pigment production process for the production of TiO2 pigment and pigment-related products from titanium-bearing oil sands, (3) develop advanced aerospace materials, and (4) evaluate our pigment production process for the production of TiO2 pigment from titanium-bearing minerals.

Revenues from contracts and grants increased by $555,337, from $36,553 in 2003 to $591,890, in 2004. We had one customer contract in place during the last half of 2003, and we entered into two additional contracts during 2004. Our contracts and grants revenues are now generated by projects to (1) provide research involving a technology used in the detection of chemical, biological and radiological agents, (2) supply nano-sized anode and cathode materials for design and development of high capacity lithium ion battery and super capacitor applications, and (3) provide research utilizing nanotechnology processes for the production and commercialization of solar-based hydrogen technologies.

Increased customer contract work was the primary driver behind the increase in R&D expenses in 2004. R&D labor costs increased by $340,000 from $768,000 in 2003 to $1,108,000 in 2004 due to the addition of four R&D employees, the cost of temporary employees doing R&D work, salary increases for existing employees and an increase in the cost of employee benefit plans. RenaZorb(TM) development expenses increased by $157,000 from $4,000 in 2003 to $161,000 in 2004 as a result of animal testing, laboratory and other costs. Out-of-pocket costs for customer projects increased by $221,000 from $3,000 in 2003 to $224,000 in 2004 due to the increase in the amount of customer contract work being done. These increases were partially offset by a decrease in stock option expense allocable to R&D of $264,000 as a result of a reduction in value of repriced stock options. Repriced stock options are revalued at each reporting date based on the market price of our common shares on that date. Any increase or decrease in the value of the options is recorded in the accounts. We also experienced a decrease in development expenses for other products of approximately $60,000 and a decrease in minerals R&D of $224,000. During 2004, our board of directors made the decision to dispose of the Tennessee mineral properties. In accordance with this, we began terminating the mineral leases and prepared plans for remediation of the property and sale of the pilot plant. As of December 31, 2004, we had terminated the mineral leases on 4,750 acres out of a total of approximately 8,700 acres originally under lease. We expect to terminate the remaining mineral leases in 2005.

Our general and administrative expenses increased by $2,036,346, from $3,015,829 in 2003 to $5,052,175 in 2004. G&A labor increased by $604,000 from

$1,269,000 in 2003 to $1,873,000 in 2004 due to salary increases, employee bonuses, an increase in the cost of employee benefit plans and the net addition of three new employees. Investor relations expenses increased by $305,000, from $225,000 in 2003 to $530,000 in 2004, as a result of increased investor relations programs aimed at increasing investor awareness of Altair. In 2004, we incurred an expense of $235,000 representing the value of common shares issued to a shareholder in connection with an agreement resolving certain issues raised by the shareholder. Consulting fees increased by $270,000, from $93,000 in 2003 to $363,000 in 2004, primarily as a result of consultants hired to assist with marketing and product development in both the performance materials and life sciences divisions. Legal expenses increased by $257,000, from $293,000 in 2003 to $550,000 in the 2004, due to patent costs associated with performance materials and life sciences products, and a settlement agreement involving a shareholder. Accounting fees increased by $124,000, from $112,000 during 2003 to $236,000 in 2004, primarily as a result of costs associated with the Sarbanes-Oxley Act. General office expenses increased by $172,000, from $387,000 in 2003 to $559,000 in 2004, primarily as a result of additional purchases of office supplies and equipment as well as higher costs for utilities, telephone, postage and printing. Director fees and expenses increased by $108,000, from $16,000 in 2003 to $124,000 in 2004, due to the addition of two non-employee directors and an increase in the fees paid to directors. Insurance expense increased by $65,000, from $154,000 in 2003 to $219,000 in 2004, as a result of increased premiums for liability insurance. Shareholder information expenses increased by $43,000, from $69,000 in 2003 to $112,000 in 2004, due to annual report printing and mailing costs; the number of shareholders owning our stock increased substantially in 2004. These increases were partially offset by a decrease in stock option expense of $194,000 which occurred due to a reduction in value of repriced stock options.

Interest expense decreased by $260,235, from $454,415 in 2003 to $194,180 in 2004. The decrease is due to the payoff of our note payable to Doral 18, LLC in September 2003.

Interest income increased by $94,350, from $1,879 in 2003 to $96,229 in 2004, as a result of increased invested cash balances. Cash balances increased early in 2005, due to the exercise of a significant number of warrants and options.

Fiscal Year 2003 vs. 2002

During 2003, we generated $36,553 of revenues for research services involving a technology used in the detection of chemical, biological and radiological agents. This work was conducted under an agreement funded by a government grant. Revenues from commercial collaborations decreased by $90,874, from $118,570 in 2002 to $27,696 in 2003, due to a decline in business activity. Revenues from product sales decreased by $126,323, from $134,925 in 2002 to $8,602 in 2004 due to a decrease in sales of thermal spray grade powders, lithium titanate and titanium dioxide nanoparticles.

During 2003, we concentrated our research and development efforts on nanotechnology and materials science, specifically TiO2 pigment, TiO2 electrodes for titanium metal, pharmaceutical delivery structures, pharmaceuticals, dental materials and nanostructured materials for lithium ion batteries and fuel cells. Total research and development expenses increased by $420,169, from $1,541,575 in 2002 to $1,961,744 in 2003. The suspension of development work on the Tennessee mineral properties and jig allowed us to reassign certain employees from those efforts to other research and development work, primarily titanium pigment process development. As a result of this, our nanotechnology and materials R&D increased by $338,000, from $628,000 in 2002 to $966,000 in 2003. In addition, stock option expense increased by $377,000 from $0 in 2002 to

$377,000 in 2003 as a result of an increase in the value of repriced options, and facilities overheads increased by $148,000 as a result of the purchase of our headquarters building in Reno, Nevada in August 2002. These increases were partially offset by a decrease in minerals R&D expenses related to the Tennessee mineral properties. These expenses declined by $443,000, from $599,000 in 2002 to $156,000 in 2003, as we significantly reduced our expenditures for minerals R&D in 2003 in order to conserve cash for operating requirements and development of the nanomaterials and titanium dioxide pigment technology.

General and administrative expenses increased by $257,984, from $2,757,845 in 2002 to $3,015,829 in 2003. Consulting fees decreased by $176,000, from $347,000 in 2002 to $171,000 in 2003. We issued stock options and warrants in 2002 and 2003 in payment for a portion of our consulting fees, primarily for assistance with financing. The options and warrants issued in 2002 had a fair value of $219,000 whereas the options and warrants issued in 2003 had a fair value of $92,000. In addition to this, cash payments for consulting decreased by $49,000 due to a decrease in services purchased. Accounting fees decreased by $18,000, from $127,000 in 2002 to $109,000 in 2003, due to a decrease in audit fees. We also experienced a decrease in general office expenses of $295,000, from $711,000 in 2002 to $416,000 in 2003, and a decrease in technical operating costs of $104,000, from $357,000 in 2002 to $253,000 in 2003, both of which occurred as a result of our efforts to reduce operating costs. Offsetting these decreases was an increase in investor relations expenses of $236,000, from $53,000 in 2002 to $289,000 in 2003, as a result of increased investor relations programs aimed at increasing investor awareness of Altair. Also, insurance expense increased by $11,000, from $143,000 in 2002 to $154,000 in 2003, as a result of increased premiums for liability insurance, and stock option expense increased by $527,000, from $0 in 2002 to $527,000 in 2003 as a result of an increase in the value of repriced options. In addition, legal fees increased by $58,000, from $235,000 in 2002 to $293,000 in 2003, due to patent work, financing transactions and general corporate matters.

During the year ended December 31, 2002, we recorded $1,080,000 of interest expense for interest accruals, amortization of debt issuance costs and amortization of debt discount on the Doral 18, LLC ("Doral") note. In November 2002, we entered into a new note with Doral (see Note 6 to the consolidated financial statements), the balance of unamortized debt issuance costs was written off as a component of loss on extinguishment of debt and no further amortization of debt discount costs was incurred. In September 2003, we paid the remaining balance due on the Doral note. As a result of all this, interest expense decreased by $696,973 from $1,151,388 in 2002 to $454,415 in 2003.

Preferential warrant dividend increased by $543,820, from $48,666 in 2002 to $592,486 in 2003. On June 2, 2003, we reduced the exercise price of 796,331 outstanding warrants held by a shareholder to $1.00 per share. As a result, we recorded a preferential warrant dividend of $176,472 as of the repricing date. The warrants had been previously issued with exercise prices ranging from $2.50 to $3.50. In addition, in September 2003, we issued 631,882 warrants to a shareholder which had a fair value of $416,014 and was recorded as a preferential warrant dividend.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Not Applicable.

Item 8. Financial Statements and Supplementary Data.

Supplementary Data

The following Supplementary Financial Information for the fiscal

quarters ended March 31, June 30, September 30 and December 31 in each of the years 2003 and 2004 were derived from our unaudited quarterly consolidated financial statements filed by us with the SEC in our Quarterly Reports on Form 10-Q with respect to such periods (except for 4th quarter data).

Supplementary Financial Information by Quarter, 2004 and 2003
(Unaudited)

	Quarter Ended March 31	Quarter Ended June 30	Quarter Ended September 30	Quarter Ended December 31
Year Ended December 31, 2004:				
Revenues	$ 139,749	$ 154,233	$ 346,907	$ 511,003
Operating Expenses	$1,822,763	$2,283,269	$1,766,962	$2,183,853
Net Loss	$1,710,757	$2,154,032	$1,440,324	$1,697,167
Loss per Common Share: (1)				
Basic and Diluted	$ 0.04	$ 0.04	$ 0.03	$ 0.03
Year Ended December 31, 2003:				
Revenues	$ 20,277	$ 4,434	$ 17,318	$ 30,822
Operating Expenses	$1,217,278	$1,193,110	$1,205,762	$2,241,911
Net Loss (2)	$1,316,994	$1,334,591	$1,329,471	$2,256,883
Loss per Common Share: (1)				
Basic and Diluted	$ 0.04	$ 0.04	$ 0.05	$ 0.06

(1) Loss per common share is computed independently for each of the quarters presented. Therefore, the sum of the quarterly loss per common share amounts does not necessarily equal the total for the year.

(2) The increase in net loss from the quarter ended September 30, 2003 to the quarter ended December 31, 2003 is primarily the result of $870,000 of expense associated with stock options that were repriced in prior periods. The Company uses the variable accounting method to account for repricing of stock options and the market price of the Company's stock increased substantially in the quarter ended December 31, 2003.

Financial Statements

The financial statements required by this Item appear on pages F-1 through F-21 of this Form 10-K.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures

The information required by this Item is incorporated by reference to the Section entitled "Principal Accountant Fees and Services" in the Company's definitive proxy statement to be filed with the Commission.

a) Under the supervision and with the participation of our management,

including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of December 31, 2004. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures are effective in alerting them on a timely basis to material information relating to our Company (including its consolidated subsidiaries) required to be included in our reports filed or submitted under the Exchange Act.

b) There were no significant changes (including corrective actions with regard to significant deficiencies or material weaknesses) in our internal controls over financial reporting that occurred during the fourth quarter of fiscal 2004 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Pursuant to Nasdaq Stock Market Rule 4350(a), the Company is disclosing herein that, prior to September 30, 2004, the Company relied upon an exemption from the requirements of Nasdaq Stock Market Rule 4350(f). Nasdaq Stock Market Rule 4350(f) requires that each issuer have a minimum quorum requirement for its shareholders meetings of at least 33 1/3% of the outstanding shares of its voting stock. Prior to September 30, 2004, Altair's quorum requirement was that two shareholders be present, in person or by proxy, at a shareholders meeting.

Altair requested, and relied upon, the exemption from Nasdaq Stock Market Rule 4350(f) prior to September 30, 2004 on the basis that a greater quorum requirement would be contrary to generally accepted business practices in Canada and under the Canadian Business Corporations Act (the "CBCA"). Altair is incorporated under the CBCA. The CBCA contains no quorum requirement for shareholders meetings where a quorum requirement is designated in the corporation's bylaws. Consistent with the CBCA, the rules of Canada's largest stock exchange, the Toronto Stock Exchange, contain no quorum requirement. As a result, it is commercially acceptable practice for corporations incorporated under the CBCA and other corporations listed on the Toronto Stock Exchange to have a quorum requirement for shareholders meetings that is the same as, or similar to, the former quorum requirement of Altair. As of September 30, 2004, the Company amended its bylaws in order to increase its quorum requirement to 33 1/3% of its outstanding common shares.

PART III

Item 10. Directors and Executive Officers of the Registrant

The information required by this Item is incorporated by reference to the section entitled "Election of Directors" in the Company's definitive proxy statement to be filed with the Commission.

Item 11. Executive Compensation

The information required by this Item is incorporated by reference to the section entitled "Executive Compensation" in the Company's definitive proxy statement to be filed with the Commission.

Item 12. Security Ownership of Certain Beneficial Owners and Management and

Related Stockholder Matters

The information required by this Item is incorporated by reference to the section entitled "Security Ownership of Certain Beneficial Owners and Management" in the Company's definitive proxy statement to be filed with the Commission.

Item 13. Certain Relationships and Related Transactions

The information required by this Item is incorporated by reference to the section entitled "Certain Relationships and Related Transactions" in the Company's definitive proxy statement to be filed with the Commission.

Item 14. Principal Accountant Fees and Services

The information required by this Item is incorporated by reference to the section entitled "Auditor Fees and Services" in the Company's definitive proxy statement to be filed with the Commission.

PART IV

Item 15. Exhibits, Financial Statement Schedules and Reports on Form 8-K

(a) Documents Filed

1. Financial Statements. The following Consolidated Financial Statements of the Company and Auditors' Report are filed as part of this Annual Report on Form 10-K:

- Report of Independent Registered Public Accounting Firm
- Consolidated Balance Sheets, December 31, 2004 and 2003
- Consolidated Statements of Operations for Each of the Three Years in the Period Ended December 31, 2004
- Consolidated Statements of Shareholders' Equity for Each of the Three Years in the Period Ended December 31, 2004
- Consolidated Statements of Cash Flows for Each of the Three Years in the Period Ended December 31, 2004
- Notes to Consolidated Financial Statements

2. Financial Statement Schedule. Not applicable.

3. Exhibit List

Exhibit No.	Description	Incorporated by Reference/ Filed Herewith (and Sequent
3.1	Articles of Continuance	Incorporated by reference t Form 8-K filed with the SEC

3.2	Bylaws	Filed herewith
4.1	Form of Common Stock Certificate	Incorporated by refere Statement on Form 10-SB fil on November 25, 1996, File
4.2	Amended and Restated Shareholder Rights dated October 15, 1999, between the Company and Equity Transfer Services, Inc.	Incorporated by reference dated October 15, 1999, bet on Form 8-K filed with th Transfer Services, Inc. Com 1999, File No. 1-12497.
10.1	Altair International Inc. Stock Option Plan adopted by shareholders on May 10, 1996	Incorporated by reference t by shareholders on May Statement on Form S-8 filed July 11, 1997.

10.2	1998 Altair International Inc. Stock Option Plan adopted by Shareholders on June 11, 1998	Incorporated by reference adopted by Shareholders Proxy Statement on Form 1 Commission on May 12, 1998.
10.3	2003 Employee Wage Stock Purchase Plan	Incorporated by referenc Registration Statement on 333-108419, filed with the 2, 2003.
10.4	Form of Renegotiated Mineral Lease	Incorporated by reference t Report on Form 10-K file March 24, 2004.
10.5	Purchase and Sale Agreement dated August 8, 2002 between the Company and BHP Minerals International Inc. (re Edison Way property)	Incorporated by referenc Amendment No. 1 to Registra S-2, File No. 333-1025 Commission on February 7, 2
10.6	Installment Note dated August 8, 2002 (re Edison Way property) on February 7, 2003.	Incorporated by referenc Amendment No. 1 to Registra S-2, File No. 333-1025 Commission on February 7, 2
10.7	Trust Deed dated August 8, 2002 (re Edison Way property)	Incorporated by referenc Amendment No. 1 to Registra S-2, File No. 333-1025 Commission on February 7, 2
10.8	Technology License Agreement dated September 29, 2003, with Bateman Luxembourg SA *	Incorporated by referenc Quarterly Report on Form Commission November 14, 200
10.9	Memorandum of Understanding dated as of April 21, 2003, with Titanium Metals Corporation *	Incorporated by referenc Quarterly Report on Form Commission November 14, 200
10.10	Western Michigan University Project Agreement dated August 15, 2003	Incorporated by referenc Quarterly Report on Form Commission November 14, 200
10.11	Technology Investment Agreement dated	Incorporated by reference t

	January 8, 2004 between Titanium Metals Corporation and Altair Nanomaterials, Inc. *	Report on Form 8-K filed w February 3, 2004.
10.12	License Agreement for Altair TiO2 Pigment Technology between Altair Nanotechnologies, Inc. and Western Oil Sands, Inc. *	Incorporated by reference t Report on Form 8-K filed w February 3, 2004.

10.13	Memorandum of Understanding with Hosokawa Nano Particle Technology Center (USA)	Incorporated by reference t Report on Form 10-K file March 24, 2004.
10.14	Settlement Agreement with Louis Schnur et al	Incorporated by referenc Amendment No. 2 to Registra S-3, File No. 333-117125, July 30, 2004.
10.15	Employment Agreement of Douglas Ellsworth	Incorporated by referenc Quarterly Report on Form Commission November 15, 200
10.16	Employment Agreement of Edward Dickinson	Incorporated by referenc Quarterly Report on Form Commission November 15, 200
10.17	Employment Agreement of Alan J. Gotcher, Ph.D.	Incorporated by referenc Quarterly Report on Form Commission November 15, 200
10.18 10.18	License Agreement dated January 28, 2005 with Spectrum Pharmaceuticals, Inc.*	Incorporated by referenc Current Report on Form Commission on February 4, 2
10.19	Letter Agreement dated February 11, 2005 between the Company and Maxim Group LLC	Incorporated by reference on Form 8-K filed by the Co 2005
21	List of Subsidiaries	Incorporated by reference f
23.1	Consent of Deloitte & Touche LLP	Filed herewith.
24	Powers of Attorney	Included in the Signature P
31.1	Rule 13-14(a)/15d-14a Certification of Chief Executive Officer	Filed herewith
31.2	Rule 13-14(a)/15d-154a Certification of Chief Financial Officer	Filed herewith
32.1	Section 1350 Certification of Chief Executive Officer	Filed herewith
32.2	Section 1350 Certification of Chief Financial Officer	Filed herewith

*Portions of this Exhibit have been omitted pursuant to Rule 24b-2, are filed separately with the SEC and are subject to a confidential treatment request.

(b) Reports on Form 8-K

On November 12, 2004, we filed a Form 8-K to file a press release announcing results of operations and financial condition for the third quarter of fiscal year 2004.

(c) Exhibits

Exhibits to this Report are attached following page F-22 hereof.

(d) Financial Statement Schedule. Not applicable.

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, on March 9, 2005.

ALTAIR NANOTECHNOLOGIES INC.

By: /s/ Alan J. Gotcher

Alan J. Gotcher,
Chief Executive Officer

Date: March 9, 2005

POWER OF ATTORNEY AND ADDITIONAL SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, this Form 10-K has been signed by the following persons in the capacities and on the dates indicated. Each person whose signature to this Form 10-K appears below hereby constitutes and appoints Alan J. Gotcher and Edward Dickinson, and each of them, as his true and lawful attorney-in-fact and agent, with full power of substitution, to sign on his behalf individually and in the capacity stated below and to perform any acts necessary to be done in order to file all amendments and post-effective amendments to this Form 10-K, and any and all instruments or documents filed as part of or in connection with this Form 10-K or the amendments thereto and each of the undersigned does hereby ratify and confirm all that said attorney-in-fact and agent, or his substitutes, shall do or cause to be done by virtue hereof.

Signature	Title	Da
/s/ Alan J. Gotcher --- Alan J. Gotcher	Chief Executive Officer and Director (Principal Executive Officer)	March

_____	Director	March
Rudi E. Moerck		
/s/ Edward Dickinson	Chief Financial Officer and	March
----------	Secretary (Principal Financial	
Edward Dickinson	and Accounting Officer)	
/s/ Michel Bazinet	Director	March

Michel Bazinet		
/s/ Jon N. Bengtson	Director	March

Jon N. Bengtson		

/s/ James I. Golla	Director	March

James I. Golla		
/s/ George Hartman	Director	March

George Hartman		
/s/ Christopher E. Jones	Director	March

Christopher E. Jones		
/s/ David King	Director	March

David King		

Altair Nanotechnologies Inc.
and Subsidiaries

Consolidated Financial Statements as of December 31, 2004 and 2003 and for Each of the Three Years in the Period Ended December 31, 2004 and Report of Independent Registered Public Accounting Firm

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES

TABLE OF CONTENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Altair Nanotechnologies Inc.
Reno, Nevada

We have audited the accompanying consolidated balance sheets of Altair Nanotechnologies Inc. and subsidiaries (the "Company") as of December 31, 2004 and 2003, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2004. These financial statements are the responsibility of the Company's

management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). 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 consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, 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, such consolidated financial statements present fairly, in all material respects, the financial position of Altair Nanotechnologies Inc. and subsidiaries as of December 31, 2004 and 2003, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2004, in conformity with accounting principles generally accepted in the United States of America.

/s/ DELOITTE & TOUCHE LLP

Salt Lake City, Utah
March 7, 2005

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Expressed in United States Dollars)

	December 31, 2004	December 31, 2003
ASSETS		
Current Assets		
Cash and cash equivalents	$ 7,357,843	$ 3,869,669
Accounts receivable, net	499,599	13,324
Prepaid expenses and other current assets	182,595	79,187
Total current assets	8,040,037	3,962,180

Property, Plant and Equipment, net	6,513,907	6,618,805
Patents, net	974,877	1,060,569
Other Assets	18,200	18,200
Total Assets	$ 15,547,021	$ 11,659,754
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Trade accounts payable	$ 81,030	$ 85,255
Accrued liabilities	295,743	311,886
Total current liabilities	376,773	397,141
Note Payable, Long-Term Portion	2,880,311	2,686,130
Commitments and Contingencies (Notes 6, 8, 9, and 11)		
Stockholders' Equity		
Common stock, no par value, unlimited shares authorized; 49,775,694 and 43,188,362 shares issued and outstanding at December 31, 2004 and 2003	65,505,630	54,789,896
Accumulated deficit	(53,215,693)	(46,213,413)
Total Stockholders' Equity	12,289,937	8,576,483
Total Liabilities and Stockholders' Equity	$ 15,547,021	$ 11,659,754

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(Expressed in United States Dollars)

Year Ended December 31,

	2004	2003	2002
Revenues:			
Product sales	$ 7,503	$ 8,602	$ 134,925
Commercial collaborations	552,499	27,696	118,570
Contracts & grants	591,890	36,553	--
Total revenues	1,151,892	72,851	253,495
Operating Expenses			
Cost of product sales	1,361	1,731	53,122
Research and development	2,098,758	1,961,744	1,541,575
General and administrative expenses	5,052,175	3,015,829	2,757,845
Depreciation and amortization	904,553	878,757	997,708
Asset impairment	--	--	2,759,956
Total operating expenses	8,056,847	5,858,061	8,110,206
Loss from Operations	6,904,955	5,785,210	7,856,711
Other (Income) Expense:			
Interest expense	194,180	454,415	1,151,388
Interest income	(96,229)	(1,879)	(2,105)
Loss (gain) on foreign exchange	(626)	193	835
Loss on extinguishment of debt	--	--	914,667
Total other expense, net	97,325	452,729	2,064,785
Net loss	7,002,280	6,237,939	9,921,496
Preferential Warrant Dividend	--	592,486	48,666
Net Loss Applicable to Shareholders	$ 7,002,280	$ 6,830,425	$ 9,970,162
Loss per common share - Basic and diluted	$ 0.14	$ 0.19	$ 0.40
Weighted average shares - Basic and diluted	48,677,283	36,222,026	24,975,837

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Expressed in United States Dollars)

	Common Stock			
	Shares	Stated Amount	Accumulated Deficit	Total
BALANCE, JANUARY 1, 2002	22,694,142	$ 38,089,320	$(29,412,826)	$ 8,676,
Stock options issued to non-employees	--	27,601	--	27,
Shares issued under Employee Stock Purchase Plan	161,550	92,183	--	92,
Stock warrants issued	--	347,773	--	347,
Preferential warrant dividend	--	48,666	(48,666)	-
Shares issued for settlement of debt	1,500,090	975,000	--	975,
Shares issued for interest	299,304	292,208	--	292,
Shares issued for services	400,000	279,500	--	279,
Exercise of warrants	286,169	300,477	--	300,
Common stock issued	4,903,093	3,335,122	--	3,335,
Net loss	--	--	(9,921,496)	(9,921,
BALANCE, DECEMBER 31, 2002	30,244,348	43,787,850	(39,382,988)	4,404,
Stock options issued to non-employees	--	64,346	--	64,
Variable accounting on stock options	--	903,668	--	903,
Shares issued under Employee Stock Purchase Plan	873,480	606,675	--	606,
Stock warrants issued	--	101,416	--	101,
Preferential warrant dividend	--	592,486	(592,486)	-
Shares issued for settlement of debt	695,052	280,000	--	280,
Shares issued for interest	277,169	133,315	--	133,
Shares issued for services	213,102	89,297	--	89,
Exercise of stock options	478,100	488,836	--	488,
Exercise of warrants	3,210,328	3,417,109	--	3,417,
Common stock issued	7,196,783	4,324,898	--	4,324,

Net loss	--	--	(6,237,939)	(6,237,
BALANCE, DECEMBER 31, 2003	43,188,362	54,789,896	(46,213,413)	8,576,

(continued)

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Expressed in United States Dollars) (continued)

BALANCE, DECEMBER 31, 2003	43,188,362	54,789,896	(46,213,413)	8,576,
Stock options issued to non-employees	--	270,560	--	270,
Modification of stock options issued to employee	--	39,000	--	39,
Variable accounting on stock options	--	136,212	--	136,
Shares issued for services	200,000	413,000	--	413,
Exercise of stock options	561,900	902,109	--	902,
Exercise of warrants	5,825,432	8,954,853	--	8,954,
Net loss	--	--	(7,002,280)	(7,002,
BALANCE, DECEMBER 31, 2004	49,775,694	$ 65,505,630	$(53,215,693)	$ 12,289,

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Expressed in United States Dollars)

	Year Ended December 31,		
	2004	2003	2002
Cash flows from operating activities:			
Net loss	$(7,002,280)	$(6,237,939)	$(9,921,4
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	904,553	878,757	997,7
Shares issued for services	413,000	89,297	203,5

Shares issued for interest	--	133,315	292,2
Stock options issued to non-employees	270,560	64,346	27,6
Modification of stock options issued to employee	39,000	--	--
Variable accounting on stock options	136,212	903,668	--
Issuance of stock warrants	--	101,416	108,5
Amortization of discount on note payable	194,182	181,090	384,6
Amortization of debt issuance costs	--	--	404,5
Asset impairment	--	--	2,759,9
Loss on extinguishment of debt	--	--	914,6
Loss on disposal of fixed assets	34,716	25,661	--
Changes in assets and liabilities:			
Accounts receivable	(486,275)	119,535	(128,7
Prepaid expenses and other current assets	(103,408)	(56,589)	6,8
Other assets	--	--	(2,0
Trade accounts payable	(4,225)	(247,461)	(30,9
Accrued liabilities	(16,143)	40,099	107,0
Deferred revenue	--	--	(40,9
Net cash used in operating activities	(5,620,108)	(4,004,805)	(3,916,7

(continued)

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Expressed in United States Dollars)

	Year Ended December 31,		
	2004	2003	2002
Cash flows from investing activities:			
Purchase of property and equipment	(748,680)	(92,400)	(2,525,916)
Proceeds received from sale of property and equipment	--	4,675	--
Net cash used in investing activities	(748,680)	(87,725)	(2,525,916)

Cash flows from financing activities:			
Issuance of common shares for cash, net of issuance costs	--	4,324,898	3,335,122
Issuance of shares under Employee Stock Purchase Plan	--	606,675	92,183
Proceeds from exercise of stock options	902,109	488,836	--
Proceeds from exercise of warrants	8,954,853	3,417,109	300,477
Issuance of related party notes	--	--	6,243
Issuance of notes payable	--	--	2,505,040
Payment of notes payable	--	(1,120,000)	--
Payment of related party notes	--	--	(149,243)
Payment on capital lease	--	--	(2,312)
Net cash provided by financing activities	9,856,962	7,717,518	6,087,510
Net increase (decrease) in cash and equivalents	3,488,174	3,624,988	(355,203)
Cash and cash equivalents, beginning of year	3,869,669	244,681	599,884
Cash and cash equivalents, end of year	$ 7,357,843	$ 3,869,669	$ 244,681
Supplemental disclosures:			
Cash paid for interest	None	$ 140,009	None
Cash paid for income taxes	None	None	None

(continued)

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Expressed in United States Dollars)

Supplemental schedule of non-cash investing and financing activities:
For the year ended December 31, 2004:

- None

For the year ended December 31, 2003:

- We issued 695,052 common shares to Doral 18, LLC in payment of $280,000 of principal on our note payable. The conversion of the note resulted in additional interest expense of $133,315 (See Note 6).
- On or about June 2, 2003, we repriced warrants, held by a shareholder, for 796,331 common shares. The repriced warrants have an incremental fair value of $176,472 and have been accounted for as a preferential warrant dividend.
- In September 2003, we entered an agreement with a shareholder wherein the shareholder agreed to exercise 631,882 warrants that had an exercise price of $1.00 each. In return, we issued the shareholder 631,882 new warrants having an exercise price of $1.75 each. The new warrants have a fair value of $416,014 and have been accounted for as a preferential warrant dividend.

For the year ended December 31, 2002:

- We issued 50,000 common shares in payment of financing fees associated with the Doral 18, LLC 2001 Note. The common shares had a fair value of $76,000 which was recorded as debt issue cost on the balance sheet.
- In connection with the extinguishment of the Doral 18, LLC 2001 Note, we issued 1,500,000 shares of our common stock to reduce our note payable balance by $600,000. We also issued to Doral 18, LLC a warrant for 750,000 common shares that had a fair value of $239,217, as determined by the Black-Scholes pricing model. As a result of this transaction, we recorded a loss on extinguishment of debt of $914,667.
- We entered into a note payable with BHP with a face amount of $3,000,000. There is no interest due on the note for the first 36 months. As a result, we imputed the interest and reduced the face amount of the note payable by $566,763. The imputed interest expense for the period was $24,786.
- We repriced warrants, held by a shareholder, for 582,500 common shares. The repriced warrants have an incremental fair value of $48,666 and have been accounted for as a preferential warrant dividend.

(concluded)

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2004, 2003, AND 2002
(Expressed in United States Dollars)

1. DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Description of Business-- We are a Canadian company, with principal assets and operations in the United States, whose primary business is developing and commercializing nanomaterial and titanium dioxide pigment technologies. We also provide contract research services on select projects where we can utilize our resources to develop intellectual property and/or new products and technology.

Through September 30, 2004, we considered ourselves to be a development stage company. However, our contract research business, utilizing our proprietary nanoparticle production technology, has grown considerably through new research and development contracts. We believe that the contracts entered into and the revenues generated from them establish our nanoparticle production

technology as a commercially accepted technology. Accordingly, effective October 1, 2004, we no longer consider ourselves to be a development stage company.

Principles of Consolidation--The consolidated financial statements include the accounts of Altair Nanotechnologies Inc. and its subsidiaries (the "Company") which include (1) Altair US Holdings, Inc., (2) Mineral Recovery Systems, Inc. ("MRS"), (3) Fine Gold Recovery Systems, Inc. ("FGRS"), (4) Altair Nanomaterials, Inc. ("ANI"), and (5) Tennessee Valley Titanium, Inc. ("TVT"), (collectively referred to as the "Company"), all of which are 100% owned. All of the subsidiaries are incorporated in the United States of America. Intercompany transactions and balances have been eliminated in consolidation.

Basis of Presentation--The accompanying consolidated financial statements have been prepared on a going concern basis which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. As shown in the consolidated financial statements for the years ended December 31, 2004, 2003, and 2002, we incurred net losses of $7,002,280, $6,237,939, and $9,921,496, respectively. At December 31, 2004 and 2003, we had stockholders' equity of $12,289,937 and $8,576,483, respectively.

The consolidated financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or the amounts and classification of liabilities that might be necessary should we be unable to continue as a going concern. Our continuation as a going concern is dependent upon our ability to generate sufficient cash flow to meet our obligations on a timely basis, to obtain additional financing or refinancing as may be required, to develop commercially viable products and processes, and ultimately to establish profitable operations. We have financed operations through operating revenues and through the issuance of equity securities (common stock, convertible debentures, stock options and warrants), and debt (term notes). Until we are able to generate positive operating cash flows, additional funds will be required to support operations. We believe that current working capital, cash receipts from anticipated sales, and funding through sales of common stock will be sufficient to enable us to continue as a going concern through 2006.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates--The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires that we make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents--Cash and cash equivalents are highly liquid investments with an original maturity of three months or less from the date of purchase. Cash equivalents are recorded at cost, which approximates fair value.

Accounts Receivable--Accounts receivable consists of amounts due from customers for services and product sales, net of an allowance for losses of $0 and $466 at December 31, 2004 and 2003, respectively. We determine the allowance for doubtful accounts by reviewing each customer account and specifically identifying any potential for loss.

Property, Plant and Equipment--Property, plant and equipment are stated at cost less accumulated depreciation. Depreciation is recorded using the straight-line method over the following useful lives:

Furniture and office equipment	3-7 years
Vehicles	5 years
Nanoparticle production equipment	5-10 years
Building and improvements	30 years

Patents--Patents related to the nanoparticle production technology are carried at cost and amortized on a straight-line basis over their estimated useful lives, which range from 14 to 20 years.

Research and Development Expenditures-- The costs of materials, equipment, or facilities that are acquired or constructed for a particular research and development project and that have no alternative future uses (in other research and development projects or otherwise) are expensed as research and development costs at the time the costs are incurred. Research and development expenditures related to materials and equipment or facilities that are acquired or constructed for research and development activities and that have alternative future uses (in research and development projects or otherwise) are capitalized when acquired or constructed. Research and development expenditures, which include the cost of materials consumed in research and development activities, salaries, wages and other costs of personnel engaged in research and development, costs of services performed by others for research and development on behalf of the company and indirect costs are expensed as research and development costs when incurred.

Foreign Currency Translation--Asset and liability accounts, which are originally recorded in the appropriate local currencies, are translated into U.S. dollars at year-end exchange rates. Revenue and expense accounts are translated at the average exchange rates for the period. Transaction gains and losses are included in the accompanying consolidated statements of operations. Substantially all of our assets are located in the United States of America.

Stock-Based Compensation--Our stock option plans are subject to the provisions of Statement of Financial Accounting Standards ("SFAS") No. 123, Accounting for Stock-Based Compensation. Under the provisions of SFAS 123, employee and director stock-based compensation expense is measured using either the intrinsic-value method as prescribed by Accounting Principles Board ("APB") Opinion No. 25, Accounting for Stock Issued to Employees, or the fair value method described in SFAS 123. We have elected to follow the accounting provisions of APB 25 for our employee and director stock-based awards and to furnish the pro forma disclosures required under SFAS 123.

We account for stock options and warrants issued to non-employees in accordance with SFAS 123. In calculating pro forma compensation, the fair value of each stock option is estimated on the date of grant using the Black-Scholes option-pricing model and the following weighted average assumptions:

	2004	2003	2002
Dividend yield	None	None	None
Expected volatility	61%	65%	67%
Risk-free interest rate	3.17%	2.33%	2.19%
Expected life (years)	5.4	4.1	5.0

To estimate compensation expense that would be recognized under SFAS 123 for all stock-based awards, we have used the modified Black-Scholes option pricing model. If we had accounted for our stock options issued to employees and directors using the accounting method prescribed by SFAS 123, our net loss and loss per share would be as follows:

	2004	2003	2002
Net loss applicable to shareholders (basic and diluted) as reported	$ 7,002,280	$ 6,830,425	$ 9,970,162
Deduct: stock-based employee compensation expense included in reported net loss, net of $0 related tax effects	(445,772)	(903,668)	--
Add: total stock-based employee compensation expense determined under fair value based method for all awards, net of $0 related tax effects	1,536,945	590,908	235,823
Pro forma net loss applicable to shareholders	$ 8,093,453	$ 6,517,665	$10,205,985
Loss per common share (basic and diluted):			
As reported	$ 0.14	$ 0.19	$ 0.40
Pro forma	$ 0.17	$ 0.18	$ 0.41

In calculating pro forma compensation related to employee stock option grants, the fair value of each stock option is estimated on the date of grant using the Black-Scholes option-pricing model and the following weighted average assumptions:

	2004	2003	2002
Dividend yield	None	None	None
Expected volatility	61%	65%	67%
Risk-free interest rate	3.55%	3.16%	2.19%
Expected life (years)	5.3	5.0	5.0

Long-Lived Assets--We evaluate the carrying value of long-term assets, including intangibles, when events or circumstance indicate the existence of a possible impairment, based on projected undiscounted cash flows, and recognize impairment when such cash flows will be less than the carrying values. Measurement of the amounts of impairments, if any, is based upon the difference between carrying value and fair value. Events or circumstances that could indicate the existence of a possible impairment include obsolescence of the technology, an absence of market demand for the product, and/or continuing technology rights protection. As discussed in Note 3, during the year ended December 31, 2002, we recorded an asset impairment charge of $2,759,956 related to the jig assets.

Revenue Recognition-- We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or service has been performed, the fee is fixed and determinable, and collectibility is probable. During 2004, our revenues were derived principally from three sources: commercial collaborations, contract research and development and product sales. Based on the specific terms and conditions of each contract/grant, revenues are recognized on a time and materials basis, a percentage of completion basis and/or a completed contract

basis. Revenue for product sales is recognized at the time the purchaser has accepted delivery of the product. Revenue under contracts based on time and materials is recognized at contractually billable rates as labor hours and expenses are incurred. Revenue under contracts based on a fixed fee arrangement is recognized based on various performance measures, such as stipulated milestones. As these milestones are achieved, revenue is recognized. From time to time, facts develop that may require us to revise our estimated total costs or revenues expected. The cumulative effect of revised estimates is recorded in the period in which the facts requiring revisions become known. The full amount of anticipated losses on any type of contract are recognized in the period in which they become known.

For the year ended December 31, 2004, we sold titanium dioxide and lithium titanate nanoparticles, and other materials, to customers totaling $7,503. Revenue also includes $552,499 earned under commercial collaboration agreements for the development of new products, processes and/or technologies, and $591,890 earned for research and development work done under contracts and grants.

Overhead Allocation-- Facilities overhead, which is comprised primarily of occupancy and related expenses, is initially recorded in general and administrative expenses and then allocated to research and development based on labor costs.

Net Loss per Common Share-- Basic earnings per share is computed using the weighted average number of common shares outstanding during the period. Diluted earnings per share is computed using the weighted average number of common and potentially dilutive shares outstanding during the period. Potentially dilutive shares consist of the incremental common shares issuable upon the exercise of stock options and warrants. Potentially dilutive shares are excluded from the computation if their effect is antidilutive. We had a net loss for all periods presented herein; therefore, none of the stock options and warrants outstanding during each of the periods presented, as discussed in Note 7, were included in the computation of diluted loss per share as they were antidilutive. Stock options and warrants to purchase a total of 7,865,431, 14,122,431 and 13,231,871 shares of common stock were excluded from the calculations of diluted loss per share for the years ended December 31, 2004, 2003 and 2002, respectively.

Recent Accounting Pronouncements--As described above in Stock Based Compensation, we account for stock-based compensation awards issued to employees using the intrinsic value measurement provisions of APB 25. Accordingly, no compensation expense has been recorded for stock options granted to employees

with exercise prices greater than or equal to the fair value of the underlying common stock at the option grant date. On December 16, 2004, the FASB issued Statement of Financial Accounting Standards No. 123 (revised 2004), Share-Based Payment ("SFAS 123R") which eliminates the alternative of applying the intrinsic value measurement provisions of Opinion 25 to stock compensation awards issued to employees. The new standard requires enterprises to measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. That cost will be recognized over the period during which an employee is required to provide services in exchange for the award, known as the requisite service period (usually the vesting period).

We have not yet quantified the effects of the adoption of SFAS 123R, but it is expected that the new standard will result in significant stock-based compensation expense. The pro forma effects on net loss and loss per share if we

had applied the fair value recognition provisions of original SFAS 123 on stock compensation awards (rather than applying the intrinsic value measurement provisions of Opinion 25) are disclosed above in Stock Based Compensation. Although such pro forma effects of applying original SFAS 123 may be indicative of the effects of adopting SFAS 123R, the provisions of these two statements differ in some important respects. The actual effects of adopting SFAS 123R will be dependent on numerous factors including, but not limited to, the valuation model chosen by the Company to value stock-based awards, the assumed award forfeiture rate, the accounting policies adopted concerning the method of recognizing the fair value of awards over the requisite service period, and the transition method (as described below) chosen for adopting SFAS 123R.

SFAS 123R will be effective for our fiscal quarter beginning July 1, 2005, and requires the use of either the Modified Prospective Application Method or the Modified Retrospective Method. Under the Modified Prospective Method, SFAS 123R is applied to new awards and to awards modified, repurchased, or cancelled after the effective date. Additionally, compensation cost for the portion of awards for which the requisite service has not been rendered (such as unvested options) that are outstanding as of the date of adoption shall be recognized as the remaining requisite services are rendered. The compensation cost relating to unvested awards at the date of adoption shall be based on the grant-date fair value of those awards as calculated for pro forma disclosures under the original SFAS123. In addition, companies may use the Modified Retrospective Application Method. This method may be applied to all prior years for which the original SFAS 123 was effective or only to prior interim periods in the year of initial adoption. If the Modified Retrospective Application Method is applied, financial statements for prior periods shall be adjusted to give effect to the fair-value-based method of accounting for awards on a consistent basis with the pro forma disclosures required for those periods under the original SFAS 123.

Comprehensive Loss--The only component of comprehensive loss in 2004, 2003, and 2002 was net loss.

Deferred Income Taxes--We use the asset and liability approach for financial accounting and reporting for income taxes. Deferred income taxes are provided for temporary differences in the bases of assets and liabilities as reported for financial statement purposes and income tax purposes. We have recorded a valuation allowance against all net deferred tax assets. The valuation allowance reduces deferred tax assets to an amount that represents management's best estimate of the amount of such deferred tax assets that more likely than not will be realized.

Fair Value of Financial Instruments--Our financial instruments such as cash and cash equivalents and long-term debt, when valued using market interest rates, would not be materially different from the amounts presented in the consolidated financial statements.

Reclassifications--Certain reclassifications have been made to prior period amounts to conform to classifications adopted in the current year.

3. ASSET IMPAIRMENT

During the quarter ended June 30, 2002, we made the determination that certain assets of the Company were impaired. Due to a shortage of cash, we made the decision to reduce expenditures associated with exploring and developing the Tennessee mineral property to the minimum amount required to maintain it. As a result, development activities were delayed, including our intended use of the jig to enhance the recovery of heavy minerals on the property. We could not

determine when and if the jig would generate substantial revenues and profits. This, in combination with our lack of funds to further develop the jig for commercial use, caused us to believe that the jig assets were impaired. Since we could not determine when adequate funds would be available to further develop and utilize the jig, we recorded an impairment charge related to the jig assets in the amount of $2,759,956, which represented the remaining net book value of the jig patents and related expenditures of $2,366,155 and the jigs included in property, plant, and equipment of $393,801.

4. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following as of December 31, 2004 and 2003:

	2004	2003
Machinery and equipment	$ 7,726,679	$ 7,144,365
Building	2,335,979	2,335,979
Vehicles	16,678	129,734
Furniture, office equipment & other	201,314	75,749
Total	10,280,650	9,685,827
Less accumulated depreciation	(3,766,742)	(3,067,022)
Total property and equipment	$ 6,513,907	$ 6,618,805

Depreciation expense for the years ended December 31, 2004, 2003, and 2002 totaled $818,861, $793,077, and $770,250, respectively.

5. PATENTS

Patents consisted of the following at December 31, 2004 and 2003:

	2004	2003
Patents and patent applications	$ 1,517,736	$ 1,517,736
Less accumulated amortization	(542,859)	(457,167)
Total patents and patent applications	$ 974,877	$ 1,060,569

All patents are being amortized on a straight-line basis over their useful lives with a weighted average amortization period of approximately 16.5 years. Amortization expense was $85,692 for the year ended December 31, 2004, which represented the amortization relating to the identified intangible assets still required to be amortized under SFAS 142. For each of the next five years, amortization expense relating to intangibles is expected to be $85,680 per year. Amortization expense was $85,680 for the year ended December 31, 2003 and $227,458 for the year ended December 31, 2002, which included $141,779 of amortization related to jig patents that was recorded prior to an adjustment for asset impairment at June 30, 2002.

6. NOTES PAYABLE

Notes payable consisted of the following at December 31, 2004 and 2003:

	December 31, 2004	December 31, 2003
Note payable to BHP Minerals International, Inc.	$ 2,880,311	$ 2,686,130
Less current portion	-	-
Long-term portion of notes payable	$ 2,880,311	$ 2,686,130

On August 8, 2002, we entered into a purchase and sale agreement with BHP Minerals International, Inc. ("BHP") wherein we purchased the land, building and fixtures in Reno, Nevada where our titanium processing assets are located. In connection with this transaction, BHP also agreed to terminate our obligation to pay royalties associated with the sale or use of the titanium processing technology. In return, we issued to BHP a note in the amount of $3,000,000, at an interest rate of 7%, secured by the property we acquired. Interest does not begin to accrue until August 8, 2005. As a result, we imputed the interest and reduced the face amount of the note payable by $566,763, an amount that is being amortized to interest expense over the life of the note. The first payment of $600,000 of principal plus accrued interest is due February 8, 2006. Additional payments of $600,000 plus accrued interest are due annually on February 8, 2007 through 2010.

7. STOCK OPTIONS AND WARRANTS

Stock Options--We have stock option plans administered by the Board of Directors that provide for the granting of options to employees, officers, directors and other service providers of the Company. Options granted under the plans generally are granted with an exercise price equal to the market value of a common share at the date of grant, have five-year terms and typically vest over periods ranging from immediately to three years from the date of grant.

Stock option activity for the years ended December 31, 2004, 2003, and 2002 is summarized as follows:

	2004		2003		
	Shares	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price	Shares
Outstanding at beginning of year	3,668,600	$ 3.11	4,061,700	$ 3.83	3,666,7
Granted during the year	1,055,000	2.03	1,010,000	1.10	975,0
Cancelled/ Expired	(868,000)	5.31	(925,000)	6.20	(580,00

Exercised	(561,900)	1.61	(478,100)	1.02	
Outstanding at end of year	3,293,700	$ 2.28	3,668,600	$ 3.11	4,061,
Options exercisable at year end	2,708,700	$ 2.41	3,181,100	$ 3.38	3,410,7
Weighted average fair value of options granted during the year		$ 1.15		$ 0.51	

The following table summarizes information about stock options outstanding at December 31, 2004:

	Stock Options Outstanding			Stock Options Exercisable	
Range of Exercise Prices	Shares	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
$0.47 to $1.06	890,000	5.5	$ 0.98	640,000	$ 0.96
$1.12 to $1.59	751,500	3.0	1.26	684,000	1.25
$2.00 to $2.09	728,500	2.5	2.03	561,000	2.02
$2.25 to $6.85	923,700	3.2	4.56	823,700	4.75
	3,293,700	3.6	$ 2.28	2,708,700	$ 2.41

We have elected to follow the measurement provisions of APB 25, under which no recognition of expense is required in accounting for stock options granted to employees and directors for which the exercise price equals or exceeds the fair market value of the stock at the grant date. Generally, stock options are granted at an option price at or greater than fair market value on the date of grant. We recorded compensation expense of $136,212 and $903,668 for stock options that had been previously repriced and are accounted for under variable accounting in accordance with APB 25 for the year ended December 31, 2004 and 2003, respectively.

We follow the measurement provisions of SFAS 123 for stock options issued to non-employees. We recorded compensation expense of $270,560, $64,346, and $27,601 for stock options granted to non-employees for the years ended December 31, 2004, 2003, and 2002, respectively.

Warrants--Warrant activity for the years ended December 31, 2004, 2003, and 2002 is summarized as follows:

	2004	2003	

	Warrants	Weighted Average Exercise Price	Warrants	Weighted Average Exercise Price	Warr
Outstanding at beginning of year	10,453,831	$ 1.71	9,170,171	$ 1.92	4,6
Issued	60,000	2.50	5,331,827	1.31	5,0
Expired	(116,668)	3.14	(837,839)	2.72	(22
Exercised	(5,825,432)	1.54	(3,210,328)	1.38	(28
Outstanding at end of year	4,571,731	$ 1.90	10,453,831	$ 1.71	9,1
Currently exercisable	4,571,731	$ 1.90	10,453,831	$ 1.71	9,1

The following table summarizes information about warrants outstanding at December 31, 2004:

	Warrants Outstanding			Warrants Exercisable	
Range of Exercise Prices	Warrants	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price	Warrants	Weighted Average Exercise Price
$1.00	1,756,627	3.3	$ 1.00	1,756,627	$ 1.00
$1.20 to $2.00	1,576,475	2.9	$ 1.88	1,576,475	$ 1.88
$2.50 to $5.00	1,238,629	2.0	$ 3.20	1,128,629	$ 3.20
	4,571,731	2.8	$ 1.90	4,461,731	$ 1.87

The warrants were issued in conjunction with debt offerings, issuance of common stock, and payment for outside services. To estimate expense related to the issuance of warrants, we have used the modified Black-Scholes option pricing model using a life equal to the maximum contractual life. The warrants expire on various dates ranging from February 2005 to December 2008.

8. OTHER TRANSACTIONS

On April 16, 2002, we reduced the exercise price of 582,500 outstanding warrants to $1.05 per share for the period April 26, 2002 through June 30, 2002. The warrants had been previously issued with exercise prices ranging from $3.50 to $5.00. As a result of these repricings, we recorded a preferential warrant dividend of $48,666 as of the repricing date. A total of 286,169 warrants were exercised prior to the expiration date.

On or about June 2, 2003, we reduced the exercise price of 796,331 warrants to $1.00 per share. As a result of these repricings, we recorded a preferential warrant dividend of $176,472 as of the repricing date. The warrants had been previously issued with exercise prices ranging from $2.50 to $4.50.

In September 2003, we entered into an agreement with a shareholder wherein the shareholder agreed to exercise 631,882 warrants that had an exercise price of $1.00 each. In return, we issued to the shareholder 631,882 new warrants having an exercise price of $1.75 each. The new warrants have a fair value of $416,014 and were recorded as a preferential warrant dividend.

On August 6, 2002, we adopted an Employee Stock Purchase Plan ("ESPP") which allows employees to purchase common shares at the fair market value through payroll deductions. Through December 31, 2003, a total of 864,584 common shares were issued under the ESPP at prices ranging from $0.33 to $2.10 per share.

9. LEASES

Operating Leases--We lease certain premises and equipment under operating leases, all of which are on a month-to-month basis.

Lease expense for the years ended December 31, 2004, 2003, and 2002 totaled $28,207, $33,239, and $207,265, respectively.

Mineral Leases--During 2004, the Company decided to terminate the mineral leases on the Tennessee mineral property, dispose of the related assets and remediate the subject property to the extent required by regulatory authorities. During the quarter ended December 31, 2004, leases representing a total of 4,750 acres were terminated. At that time, we reversed $162,025 of accrued advance royalty payments that were no longer owed. We expect to terminate the leases on the remaining 3,950 acres during the first quarter of 2005. The minimum annual advance royalty payments on these 3,950 acres at December 31, 2004 are as follows:

Year ending December 31:

2005	$ 47,815
2006	53,139
2007	43,042
2008	39,197
2009	29,900
Thereafter	71,482

The Company has incurred royalties of $14,675, $147,467, and $129,691 for the years ended December 31, 2004, 2003, and 2002, respectively.

10. INCOME TAXES

Because of the net operating losses and a valuation allowance on deferred tax assets, there was no provision for income taxes recorded in the accompanying consolidated financial statements for the three years in the period ended December 31, 2004.

A reconciliation of the federal statutory income tax rate and our effective income tax rates is as follows:

	Year Ended December 31,		
	2004	2003	2002
Federal statutory income taxes (benefit)	$(2,450,798)	$(2,390,649)	$(3,489,557)
Meals and entertainment	3,875	3,821	3,470
Valuation allowance	2,446,923	2,386,828	3,486,087
Total	$ --	$ --	$ --

The components of the deferred tax assets consisted of the following as of December 31, 2004 and 2003:

	2004	2003
Deferred tax assets:		
Net operating loss carryforward	$ 10,570,378	$ 8,174,014
Basis difference in assets	175,722	493,242
Allowance for bad debts	--	163
Total deferred tax assets	10,746,100	8,667,419
Deferred tax liabilities:		
Accrued vacation	(35,839)	(27,012)
Valuation allowance	(10,710,262)	(8,640,407)
Total deferred tax assets	$ --	$ --

The net operating loss carryforwards total $30,201,080 as of December 31, 2004 and will expire at various dates as follows:

2005-2009	$ 1,385,536
2010-2014	$ 2,267,080
2015-2019	$ 2,045,989
2020-2024	$ 24,502,475

11. COMMITMENTS AND CONTINGENCIES

Litigation--We are currently not aware of any investigations, claims, or lawsuits which we believe could have a material adverse effect on our consolidated financial position or on our consolidated results of operations.

Significant Contracts--In July 2003 we entered into a memorandum of understanding (the "MOU") with Titanium Metals Corporation ("TIMET") to provide custom oxide feedstocks for a four-year, titanium metal research program funded by the Department of Defense, Defense Advanced Research Projects Agency ("DARPA"). The MOU sets up a relationship under which TIMET and Altair will explore opportunities for collaboration and funding of development work in connection with the DARPA program. The DARPA program's goal is to lower the cost of titanium metal and titanium metal alloys to enable a broader market use. DARPA is specifically interested in lowering the cost to provide for a broader use in military applications such as aerospace and weapons systems. During 2003, we received $9,000 in connection with the MOU agreement. In January 2004 we became a subcontractor for the DARPA program and were awarded a $150,000 contract from TIMET to design and develop a titanium oxide electrode structure and provide TIMET optimized titanium oxide feedstock to produce 50 pounds of titanium metal per day in batch production demonstrations. During 2004, we met the contract and project goals and were awarded an additional $80,000 contract to supply testing quantities of customized nano-sized coating materials.

In September 2003, we entered into an agreement with Western Michigan University ("WMU") to provide research services and materials to support research involving a technology used in the detection of chemical, biological and radiological agents. The teaming/research agreement with WMU, funded by the Department of Energy, provides for total payments to Altair of $356,500 over a two-year period. During 2003, we received $36,600 in connection with this research agreement. Total revenues generated by Altair under this agreement in 2004 were $287,580. In September 2004, the DOE awarded a stage 2 contract for the project under which we will continue joint development work for the design, synthesis and characterization of nanosensors for chemical, biological and radiological agents. Altair will receive an additional $672,000 over the two-year term of the stage 2 contract. Revenues of $203,740 were recorded in 2004 under this contract.

In January 2004, we entered into a license agreement with Western Oil Sands, Inc. with respect to its possible use of the Altair Hydrochloride Pigment Process ("AHPP") for the production of titanium dioxide pigment and pigment-related products at the Athabasca Oil Sands Project in Alberta, Canada, and elsewhere. Upon execution of the agreement, we granted Western Oil Sands an exclusive, conditional license to use the AHPP on heavy minerals derived from oil sands in Alberta, Canada. The agreement also contemplates a three-phase, five-year program pursuant to which the parties will work together to further evaluate, develop and commercialize the AHPP. In the first phase of the program, Western Oil Sands is expected to spend $650,000 ($500,000 of which is scheduled to be paid to Altair for work performed) to evaluate the AHPP and confirm that the AHPP will produce pigment from oil sands. Assuming phase one is successful, Western Oil Sands may elect to commence phase two, the construction of a demonstration titanium pigment production facility using the AHPP. If phase two is successful, Western Oil Sands may elect to commence phase three, the construction and operation of a full-scale commercial titanium pigment production facility using the AHPP. Revenues of $314,359 were recorded in 2004 under this contract.

In June 2004, we were awarded a National Science Foundation grant of $100,000 to fund joint development work on next generation lithium ion power sources with Hosokawa Micron's Nanoparticle Technology Center and Rutgers University's Energy Storage Research Group. The grant was effective July 1, 2004

and the project was substantially complete at December 31, 2004. We expect to supply nano-sized anode and cathode materials for design and development of high capacity lithium ion battery and super capacitor applications. Nanomaterials are

expected to improve the performance of these systems and enable their use in applications where immediate high power delivery is necessary.

In November 2004, we entered into an agreement with the University of Nevada, Las Vegas Research Foundation to act as a subcontractor under a $3,000,000 grant awarded to them by the U.S. Department of Energy for joint research activities related to solar hydrogen production at a refilling station that is under development in Las Vegas. The agreement, which is effective through December 31, 2005, provides for payments to Altair of $400,000 for research and development work utilizing nanotechnology processes for the production and commercialization of solar-based hydrogen technologies. The agreement, which has a work scope totaling $500,000, contains a cost-sharing provision that requires Altair to share project costs in the amount of $100,000.

12. RELATED PARTY TRANSACTIONS

On December 31, 2003, we entered into a consulting agreement with Advanced Technology Group LLC ("ATG"), whose managing partner is David King, a Director of the Company. The agreement stipulates that ATG will furnish consulting services in reviewing potential federal grant opportunities and providing proposal development assistance on selected programs for a period of one year. Under the terms of the agreement, ATG is paid on a contingency basis at a rate of 6% of the first $1,000,000 in grant monies secured from applications prepared in any calendar year plus 3.5% of any cumulative amounts over $1,000,000. ATG also agreed to provide consulting services at a rate of $200 per hour upon request of the Corporation. In October 2004, we paid ATG $6,000 in fees in connection with securing a $100,000 grant from the National Science Foundation for development of nano-structured electrodes for use in lithium ion ultra-capacitors. Also in October 2004, we paid ATG $4,500 in fees for consulting work in connection with product marketing.

13. BUSINESS SEGMENT INFORMATION

In accordance with SFAS No. 131, Disclosure about Segments of an Enterprise and Related Information, management views the Company as operating in four business segments: Performance Materials, Life Sciences, Tennessee Mineral Property, and the Altair Jig.

The Performance Materials segment produces advanced materials for paints, coatings, sensors, alternative energy devices and materials for improving process technologies. The Life Sciences segment produces pharmaceutical products, drug delivery products and dental materials. The Tennessee Mineral Property segment, which was involved in the exploration of mineral properties, is being disposed of and the Altair Jig segment is inactive with a zero net book value for its assets and minimal operating costs.

The accounting policies of these business segments are the same as described in Note 1 to the consolidated financial statements. During 2004, we reorganized our nanomaterials and titanium dioxide pigment technology business segment into two distinct segments: Performance Materials and Life Sciences and, as such, the information presented below for 2003 and 2002 has been revised to reflect this change.

Reportable segment data reconciled to the consolidated financial statements as of and for the fiscal years ended December 31, 2004, 2003, and 2002 is as follows:

	Net Sales	Loss From Operations	Depreciation and Amortization	Assets
2004:				
Performance Materials	$ 1,151,892	$ 4,475,013	$ 839,974	$ 5,567,685
Life Sciences	--	250,855	1,307	104,534
Tennessee Mineral Property	--	12,142	--	--
Altair Jig	--	9,264	--	--
Corporate and other	--	2,157,680	63,272	9,874,802
Consolidated Total	$ 1,151,892	$ 6,904,955	$ 904,553	$15,547,021
2003:				
Performance Materials	$ 72,851	$ 2,771,433	$ 809,344	$ 5,362,003
Life Sciences	--	51,451	--	--
Tennessee Mineral Property	--	155,709	--	40,418
Altair Jig	--	27,729	--	--
Corporate and other	--	2,778,888	69,413	6,257,333
Consolidated Total	$ 72,851	$ 5,785,210	$ 878,757	$11,659,754
2002:				
Performance Materials	$ 225,225	$ 2,456,771	$ 792,399	$ 6,274,732
Life Sciences	--	--	--	--
Tennessee Mineral Property	--	598,977	--	18,200
Altair Jig	28,270	2,929,010	163,343	10,270
Corporate and other	--	1,871,953	41,966	2,611,203
Consolidated Total	$ 253,495	$ 7,856,711	$ 997,708	$ 8,914,405

For the year ended December 31, 2004, we had sales to three major customers, each of which accounted for 10% or more of revenues and all of which were made in the performance materials business segment. Total sales to these customers for the year ended December 31, 2004 and the balance of their accounts receivable at December 31, 2004 were as follows:

Customer	Sales - Year Ended December 31, 2004	Accounts Receivable at December 31, 2004
Western Michigan University	$491,320	$319,739
Titanium Metals Corp.	152,550	39,382
Western Oil Sands	314,359	67,191

For the year ended December 31, 2003, we had sales to three major

customers, each of which accounted for 10% or more of revenues and all of which were made in the performance materials business segment. Total sales to these customers for the year ended December 31, 2003 and the balance of their accounts receivable at December 31, 2003 were as follows:

Customer	Sales - Year Ended December 31, 2003	Accounts Receivable at December 31, 2003
Western Michigan University	$ 36,553	$ 12,620
New Zealand Steel	18,696	--
Titanium Metals Corp.	9,000	--

For the year ended December 31, 2002, we had sales to four major customers, each of which accounted for 10% or more of revenues. Total sales to these customers for the year ended December 31, 2002 and the balance of their accounts receivable at December 31, 2002 were as follows:

Customer	Sales - Year Ended December 31, 2002	Accounts Receivable at December 31, 2002
New Zealand Steel	$ 90,300	$ 55,500
FW Gartner	62,073	62,073
Inframat Corp.	42,403	--
Kerr-McGee Corp.	28,270	10,270

Of these sales, $28,270 relates to the Altair Jig segment and the remainder relates to the performance materials business segment.

14. SUBSEQUENT EVENTS

On January 28, 2005, we signed a RenaZorb(TM) licensing agreement with Spectrum Pharmaceuticals, Inc. ("Spectrum") which grants Spectrum exclusive worldwide rights to develop, market and sell RenaZorb(TM), a potential drug candidate for patients with kidney disease, for human therapeutic and diagnostic applications. Upon signing the agreement, Spectrum issued to us 100,000 restricted shares of their common stock, purchased 38,314 restricted shares of our common stock at the then current market value of $2.61 per share, and also paid us $100,000 in connection with the licensing agreement. Additional payments by Spectrum are contingent upon the achievement of various milestones in the testing, regulatory approval and sale of RenaZorb(TM). Under the terms of a contract with RBC Capital Markets Corporation ("RBC"), we are required to pay a transaction fee of $750,000 to RBC for their assistance in arranging the transaction.

On February 14, 2005, we sold 5,000,000 common shares that had been registered previously in a shelf registration. The sales were made at $4.05 per share with net proceeds to the Company, after expenses, of approximately $19.2 million. The placement agent also received a warrant to purchase 250,000 shares of our common stock at $5.27 per share. The warrant has a four-year term. Using a Black-Scholes pricing model, we estimate these warrants have a value of approximately $581,000 at their date of issuance.

On March 4, 2004, the closing market price of our common stock was $4.07 per share and, as of that date, the value of the Company's repriced common stock options had increased by $762,000 over their value at December 31, 2004 when the closing market price was $2.71 per share. The value of repriced common stock options increases or decreases with changes in the market price of our common stock.