

INTERNATIONAL ISOTOPES INC
Form 10-K
March 31, 2010

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, 2009

OR

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

For the transition period from _____ to _____

Commission file number

000-22923

INTERNATIONAL ISOTOPES INC.

(Exact name of registrant as specified in its charter)

Texas

(State of incorporation)

74-2763837

(IRS Employer Identification Number)

4137 Commerce Circle

Idaho Falls, Idaho

(Address of principal executive offices)

83401

(Zip code)

(208) 524-5300

(Registrant's telephone number, including area code)

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

COMMON STOCK, \$.01 PAR VALUE

(Title of Class)

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Indicate by check mark if the registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act.
YES NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Exchange Act. YES NO

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES NO

Indicate by check mark if disclosure of delinquent filers in response 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 a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer, and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
YES NO

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to be the average bid and asked price of such common equity at June 30, 2009 was \$21,321,435.

As of March 15, 2010 the number of shares outstanding of common stock, \$.01 par value was 294,567,905 shares, which include 876,014 shares of unvested common stock grants.

Documents Incorporated by Reference

Certain information called for in Part III of this Annual Report on Form 10-K is incorporated by reference to the definitive proxy statement for the annual meeting of shareholders of the Company, which will be filed with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year ended December 31, 2009.

INTERNATIONAL ISOTOPES INC.

FORM 10-K

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PART I

This Annual Report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. This Act provides a "safe harbor" for forward-looking statements to encourage companies to provide prospective information about themselves so long as they identify these statements as forward-looking and provide meaningful cautionary statements identifying important factors that could cause actual results to differ from the projected results. All statements, other than statements of historical fact, including statements regarding industry prospects and future results of operations or financial position, made in this Annual Report are forward looking. Words such as anticipates, believes, should, expects, future and intends and similar expressions identify forward-looking statements. In particular, statements regarding: the commercial opportunity of the depleted uranium and fluorine extraction processing facility, the expected rate of capital expenditure on the depleted uranium project, the estimated capital required to support the planned timeline for the project, the planned start of uranium facility pre-licensing construction, NRC estimates of the schedule for license review and approval, the expected growth in various business segment revenues, our expansion into new markets, the ability of our products to compete with several larger companies and products, the results of market studies used to support our business model, our anticipated improvement in economic conditions and retail sales of gemstone, the anticipated availability of new transportation containers, and the sufficiency of our available cash and revenues from operations to meet our operating needs; are forward looking. Forward-looking statements reflect management's current expectations, plans or projections and are inherently uncertain. Actual results could differ materially from management's expectations, plans or projections. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this report. Certain risks and uncertainties that could cause actual results to differ significantly from management's expectations are described in the section entitled Risk Factors. That section, along with other sections of this Annual Report, describes some, but not all, of the factors that could cause actual results to differ significantly from management's expectations. The company does not intend to publicly release any revisions to these forward-looking statements that may be made to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Readers are urged, however, to review the factors set forth in reports that the company files from time to time with the Securities and Exchange Commission.

Item 1. BUSINESS

General Business and Products Description

International Isotopes Inc., was formed as a Texas corporation in 1995. Its wholly owned subsidiaries are International Isotopes Idaho Inc.; International Isotopes Fluorine Products, Inc.; and International Isotopes Transportation Services, Inc., all of which are Idaho corporations. Our headquarters and all operations are located within two facilities in Idaho Falls, Idaho. Our core business consists of six reportable segments which include: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation.

Beginning in 2004, we began a major undertaking to construct the first commercial uranium de-conversion facility in the U.S. There are two predominant reasons for our belief that this will provide an excellent commercial opportunity for the Company. First, there is a significant effort underway by several companies to construct new domestic uranium enrichment facilities in the U.S., including AREVA and its planned Eagle Rock Facility in Idaho Falls, ID., Louisiana Energy Services (LES) and its Eunice New Mexico facility, USEC's American Centrifuge project in Piketon, OH, and GE-Hitachi using a Silex laser separation technology in Wilmington, NC. We anticipate that the operation of these new commercial enrichment facilities will produce over 80 million pounds of depleted uranium hexafluoride (UF₆) annually that must eventually be processed for disposal. Second, we hold patents that give us exclusive rights for the Fluorine Extraction Process (FEP), a process that allows us to extract high value, high purity fluoride gasses in conjunction with the uranium de-conversion process.

During 2009, we made significant progress on the project. In March 2009, we concluded our site selection process and announced a location west of Hobbs, New Mexico for the uranium processing facility. Shortly after the site selection announcement, we engaged Advanced Process Technology Systems (APTS) to help the Company prepare a conceptual design and obtain a U.S. Nuclear Regulatory Commission (NRC) license for the project. The conceptual design was completed in June 2009. In October 2009, we entered into an agreement with the New Mexico Environment Department (NMED) that established mutually agreeable limits on inventories of licensed materials and product containers. And finally, in December 2009, we submitted a license application and environmental report to the NRC.

While our progress in 2009 was significant a substantial amount of work and additional capital will be required in order to complete this facility. During 2009, we completed a private placement that provided funds totaling approximately \$940,000 and we spent approximately \$3.2 million on the project. During 2010, we expect the rate of capital expenditure on the project to significantly accelerate as we are required to compensate the NRC for its license review activities and we anticipate expanding the engineering efforts to begin more formal design and construction planning. The total cost of the project is estimated to be approximately \$100 million and we will need to raise a significant amount of additional capital during 2010 to support the planned timeline for the project. It is possible that some limited pre-licensing construction can be started in 2010, pending NRC approval. However, the majority of facility construction cannot begin until after receipt of the NRC license and NRC's completion of an Environmental Impact Statement (EIS) on the project. NRC estimates these license actions will be complete by January 2012. The construction of the facility is expected to take about a year, therefore, facility operation and revenue generation will not start until 2013 at the earliest.

While the commercial uranium de-conversion business presents a significant opportunity for the company, that opportunity will not change our commitment to our current core business segments. Over the course of the past several years we have continued to invest in these segments, reduce production costs, and expand sales in these segments to increase profits in each of these business areas. The following paragraphs provide a brief description of each of these business segments. Certain financial information with respect to each of our business segments, including revenues from external customers, a measure of profit or loss and total assets, is set forth in Note 13 in the Notes to our Consolidated Financial Statements which begins on page 44 and incorporated by reference herein.

Nuclear Medicine Standards

This segment consists of the manufacture of sources and standards associated with SPECT (Single Photon Emission Computed Tomography), patient positioning, and calibration or operational testing of dose measuring equipment for the nuclear pharmacy industry. These items include flood sources, dose calibrators, rod sources, flexible and rigid rulers, spot markers, pen point markers, and a host of specialty design items. We manufacture these products for RadQual LLC, through an exclusive manufacturing agreement. The agreement states that we will manufacture sources exclusively for RadQual and will not manufacture products that would directly compete with RadQual sources. The agreement also states that RadQual will only procure sources manufactured by us for distribution to RadQual customers. Should this agreement with RadQual terminate, we are precluded from competing with RadQual in this market. For this reason, we have worked to expand all other segment revenues to decrease our risk of dependency on one specific customer, however, some risk of this occurrence does exist. The initial term of the agreement with RadQual expired on December 31, 2008, but automatically renewed on January 1, 2009 and will continue to

automatically renew each January 1st thereafter unless otherwise terminated by either party. RadQual has numerous distributors for direct sales of its products. There are over 5,000 nuclear medicine centers around the country that require these types of products on a regular repeat basis. We have been manufacturing these products for RadQual since 2001, and in 2007 and 2008, we acquired shares in RadQual totaling 24.5% of that company. The majority of these sales are to U.S. customers, however, recent years have seen an increase in foreign sales of many products. All of these products contain radioactive isotopes which decay at a predictable rate. Therefore, customers are required to periodically replace most of these products when they reach the end of their useful lives. Useful life varies from isotope to isotope and product to product but in most cases averages 18 months to 2 years. The isotopes used in manufacturing these nuclear medicine products are available from various sources world-wide. In addition to the products themselves, we have also developed a complete line of specialty packaging for the safe transport and handling of these products.

Cobalt Products

This segment includes the production of bulk cobalt (cobalt-60), fabrication of cobalt capsules for teletherapy or irradiation devices, and recycling of expended cobalt sources. We are the only production source in the U.S. for high activity cobalt for use in most teletherapy sources. The sale of bulk cobalt has typically accounted for a large percentage of the total revenue from this business segment and because those sales run in a non-annual cycle we typically see large variations in revenues for this segment in financial period comparisons. We depend on the Department of Energy (DOE) and its prime-operating contractor to produce cobalt-60 for us and we anticipate that its irradiation services will continue to be readily available to us. We have a contract with our sole bulk cobalt customer which expires April 1, 2010 and which is expected to be renewed just prior to that date. The year-over-year demand for bulk cobalt, and our ability to supply it, remains steady and the Company has continued to see a robust growth in the sales of other cobalt manufactured products such as sealed sources. Cobalt sales are expected to be one of our strongest growth segments in the coming years primarily driven by increases in sales of cobalt sources for use as teletherapy sources primarily in Mexico and South American countries where such sources are still considered the technology of choice. The production, use, transport, and import/export of these products are all heavily regulated but we have developed an experienced staff of technicians, drivers, and supervisors that have become well versed in dealing with the regulations and supporting cost effective timely delivery of these products. A major reason for our establishment of a Transportation Service segment was strictly in order to support the delivery of these cobalt products.

Radiochemical Products

This segment includes production and distribution of various isotopically pure radiochemicals for medical, industrial, or research applications. These products are either directly produced by us or are purchased in bulk from other producers and distributed by us in customized packages and chemical forms tailored to meet customer requirements. Iodine 131 radiochemical by far accounts for the largest portion of revenue within this segment. The iodine -131 is supplied through an agreement with NTP Radioisotopes (Pty) Ltd., (NTP) in South Africa and is imported as a radiochemical intended for medical applications. Although there are other manufacturers of iodine 131, we have entered into an agreement with NTP dated August 1, 2009 for the supply of iodine-131, which is for a twelve month term, that allows us to purchase iodine at a mutually agreeable pre-determined price. Either party may terminate the Agreement by giving six months notice prior to the expiration of the term. After our receipt, the iodine-131 is measured and prepared per individual radiopharmacy specifications and packaged for their use. The iodine-131 is used in the treatment and diagnosis of various diseases of the thyroid such as Graves disease, thyroid cancer, and hyperthyroidism. There are also several investigational and clinical trials underway to explore the use of iodine-131 for such things as the treatment of breast, lung, prostate, and ovarian cancers. Other less significant sales in this segment consist of bulk Cobalt-57 (Co-57), Cesium-137 (Cs-137), Sodium-22 (Na-22), and Barium-133 (Ba-133) isotope sales.

Fluorine Products

We established the fluorine products business segment in 2004 to support production and sale of the gases produced using our Fluorine Extraction Process (FEP). The FEP is a process that produces ultra-high purity fluoride gas products through a solid to solid reaction between depleted uranium tetrafluoride (DUF4) and various solid metal oxides such as silicon, boron, or germanium. We acquired seven patents for the Fluorine Extraction Process in January 2004. High purity fluoride gases are in ever-increasing demand for ion-implantation or chemical vapor deposition processes for microelectronics components and high-speed silicon chip manufacture. The FEP products have very high purity, which makes them ideally suited to these specialty applications. During 2009, the Idaho FEP facility was not used for commercial gas production but instead focused upon development of laboratory analytical processes required to support the new uranium de-conversion facility. In 2010, the Idaho FEP facility will be used to carry out additional testing of key components required for the uranium de-conversion and FEP facility in New Mexico. Therefore, no revenue is expected to be produced in the fluorine products segment during 2010.

Radiological Services

This segment includes a wide variety of miscellaneous services, the largest of which is processing gemstones that have undergone irradiation for color enhancement. We have an exclusive contract with one customer, Quali-Tech, Inc., for gemstone processing and this contract accounts for most of our sales in this segment. This contract is dated May 2004 and remains in effect until either party gives a minimum of six months notice to the other that it does not intend to continue the contract. The contract states that we shall act as an exclusive contract processor of gemstones for Quali-Tech, Inc., and no other party, for the term of the contract and two years beyond. Should we lose this customer our sales in this segment would be negatively impacted. During 2007, we obtained an additional license from the Nuclear Regulatory Commission (NRC) for exempt distribution of gemstones and we are now one of only three companies in the U.S. licensed for this sort of activity. Other services in this segment consist of radiological engineering consultant services, contract shipping services for large quantities of radioactive materials, research and development activities, and Type A package certification testing.

Transportation

This segment was established in 2006, through our subsidiary, International Isotopes Transportation Services (IITS). IITS was established to provide for transportation of our products (such as cobalt sources) and to offer for hire transportation services of hazardous and non-hazardous cargo materials. A major factor in our determination of the need to establish this subsidiary and business segment was the many regulations involving the security and tracking of shipments of cobalt. IITS provides us with considerable savings for the transportation of our own products and produces a small revenue stream by providing transportation of products for other companies. It is anticipated that this segment will also provide some of the transportation services for the planned de-conversion facility.

Industry Overview, Target Markets, and Competition

The industries and markets that require or involve the use of radioactive material are diverse. Our current core business operations involve products that are used in a wide variety of applications and in various markets. The following provides some explanation of the markets and competitive factors affecting our current business segments.

Nuclear Medicine Standards

Calibration and Reference Standards are required for the daily operational checks and calibration of the measurement of SPECT imaging devices frequently used in nuclear medicine. This calibration and quality assurance testing is required as a routine part of the normal operations of this equipment to ensure its reliability and accuracy. We exclusively manufacture many of these products for RadQual LLC, which in turn has several distributors who make direct sales around the U.S. We directly ship these products to all 50 states and several overseas locations. There is only one other producer of these products in the world that directly competes with us for these products. Most of the

products manufactured by our competitor are similar in design to our products because all must meet Original Equipment Manufacturer (OEM) dimensional and performance standards. However, we attempt to differentiate our products from our competitor's products through increased levels of quality control and customer service. Historically, we have seen a relatively constant annual growth rate of around 7% in this business segment. However, during 2009, revenue in this business segment declined by about 3% and is believed to be the result of the nationwide recession, significant cuts in medical insurance reimbursement, and new laws affecting outpatient imaging. As a result, marginally profitable imaging clinics are closing, fewer new imaging clinics are opening, and customers are stretching the useful life of their sources beyond time intervals seen in the past. We expect these adverse economic impacts to continue through 2010. However, we are taking steps to implement an ISO-9000 quality program that will allow us to start selling these products into Canada and the European Union in 2010. By expanding into these new markets, we hope to be able to increase revenue within this business segment in 2010.

Cobalt Products

We sell high activity bulk cobalt to a customer that uses it to fabricate sealed sources for the Elekta Gamma Knife unit. The gamma knife is a device used for the precise radiation treatment of certain tumors and vascular deformities of the brain. There are over 100 treatment centers around the U.S. that are using the gamma knife and through 2009 it is estimated that approximately 200,000 patients have been successfully treated with this device. We also accept old gamma knife sources for recycling when they have decayed past their useful activity. This recycled cobalt can be combined with more bulk cobalt and incorporated into new sealed sources for teletherapy devices and irradiators. These teletherapy sources are used to provide external beam radiation therapy treatment for numerous types of cancers. While there are other technologies available in the U.S. to provide this external radiation therapy, cobalt teletherapy sources remains the predominant external radiation treatment method in Mexico and many South American countries. There are no other producers of cobalt in the U.S.; however, there are at least three significant producers in other parts of the world. There is only one other company in the U.S. currently licensed to handle large quantities of cobalt. Increased regulation by the NRC in recent years has created a significant barrier to any new entrants to this market. Current economic conditions in the world could cause a decline in the sales of sealed sources into third world countries on some continents such as South America. Nonetheless, our growing market share and the advent of a new transportation container in 2010, is expected to compensate for these challenging economic conditions.

Radiochemical Products

We typically supply radioisotope products in bulk form. The markets for most radiochemicals are highly competitive. The target markets for these products are customers who 1) incorporate them into finished industrial or medical devices; 2) use radioisotope products in clinical trials for various medical applications; or 3) further process and include the radioisotope products into a pharmaceutical product for FDA approved therapy or imaging. We are the only U.S. company supplying iodine-131 radiochemical directly to radiopharmacies. Our radiochemical sales compete directly against not only other radiochemical suppliers but also against pharmaceutical grade kits and products that are mass produced by Food and Drug Administration (FDA) approved pharmaceutical manufacturers. Continuation of business in this segment is highly dependent upon maintaining low cost. While the annual growth in sales of these products has been growing in the range of 20-25%, there was some indication near the end of 2009, that economic conditions and other market factors were beginning to have an adverse impact on iodine-131 sales. We think sales could be slowing because of some consolidation taking place within the pharmaceutical sector and delayed or canceled diagnostic procedures resulting from increased unemployment and general financial uneasiness. During 2010, we intend to take steps to implement a new quality certification that will allow us to sell the iodine-131 product as an Active Pharmaceutical Ingredient (API) instead of as a radiochemical. If we obtain the certification, this improved status of the product should enhance our pharmacy customers' ability to compete with several larger chain pharmaceutical companies and pharmaceutical iodine-131 products.

Fluorine Products

We are developing our fluorine products, in conjunction with uranium de-conversion, in order to take advantage of the anticipated need for depleted uranium de-conversion services. Our FEP patents provide a unique opportunity to

provide certain high purity fluoride compounds while also offering a for fee de-conversion service to the uranium enrichment industry. During 2009, we commissioned a major market review of boron trifluoride and silicon tetrafluoride markets. These are the two major gases planned for production in the new uranium de-conversion and fluorine extraction processing facility. We believe the results of this market study support the projections and business model we have prepared and adequately justify the financial investment in this uranium de-conversion project. During 2010, our existing FEP facility will likely be used for testing individual components and analytical processes required for the planned uranium de-conversion facility in New Mexico. Therefore, the Fluorine Products segment is not projected to generate any revenue in 2010.

Radiological Services

Most of our radiological services are performed in support of gemstone processing for Quali-Tech, Inc. There are very few companies in the U.S. that possess the mix of qualifications and licensing necessary to provide this type of service. In the U.S., for example, there is only a single reactor capable of providing irradiation services for gemstone processing. On a global scale, however, the gemstone industry is a highly competitive industry and there are several alternatives to irradiation treatment. There are also other reactors located outside the U.S. that offer irradiation service. In the current economic market sales of luxury items such as jewelry, have declined significantly. In addition, during 2009, a significant purchaser of processed gemstones decreased its purchases of these products. As a result of both of these factors, revenue from this segment fell far below historic levels. Near the end of 2009, however, another gemstone purchaser became a significant customer and the volume of incoming material for processing has begun to increase. Because of these changes, and an anticipated improvement in economic conditions and retail sales of gemstone, we expect revenue in this segment to return to historic levels in 2010.

Transportation

Our transportation subsidiary International Isotopes Transportation Services, Inc. (IITS), was formed in order to support transportation of our own products and to provide for hire transportation services. IITS specializes in the transportation of hazardous, radioactive, materials including especially large quantity cobalt shipments. These types of shipments are under a significant amount of increased new regulation and enhanced security requirements and IITS is especially well suited to meeting these requirements while significantly reducing the costs of transport to our Company. IITS has specially trained drivers and equipped vehicles intended to meet all the new standards for transportation of large cobalt shipments. Therefore, IITS is capable of providing unique transportation services that we believe only one or two other commercial carriers in the U.S. can also provide. We also continue to work with Alpha Omega Services (AOS) on its development of a new family of Type B shipping containers, which will be used to transport hazardous materials. We have contracted with AOS to act as its exclusive worldwide distributor for these containers that are intended to replace a significant number of containers that have lost their regulatory approval for use in the U.S. after October 1, 2008. There are very few alternatives for other type B packages in the U.S. and we feel that the distributor arrangement should provide significant financial opportunities for additional revenues through sales and leases of these containers in the coming years. These containers have been undergoing development for several years and are still not yet approved by the U.S. Nuclear Regulatory Commission. While NRC approval is expected during 2010, there can be no guarantee of their approval and commercial value.

Government Regulation

Licensing

We have obtained two broad scope materials licenses from the Nuclear Regulatory Commission (NRC) that permit use and possession of by-product material, as well as licenses that permit the exempt distribution of irradiated gemstones, import and export of certain radioactive materials, and our Type B shipments of radioactive materials. One

broad scope material license covers calibration and reference standard manufacturing and distribution, radioisotope processing and distribution, large scale cobalt processing and recycle operations, radioactive gemstone processing, environmental sample analysis, and various research and development activities. The second broad scope materials license specifically covers FEP production and our subsidiary, International Isotopes Fluorine Products Inc. This license is specific to the handling of fairly large quantities of depleted uranium in various chemical forms. The exempt distribution license permits the direct release of irradiated gemstones into the U.S. without export. All of our existing licenses and permits are adequate to allow all current business operations. As a condition of our NRC licenses in Idaho, we are required to provide financial assurance for decommissioning activities. We fulfill this license requirement with an actual cash reserve, in the form of a certificate of deposit and irrevocable letter of credit to the NRC, to support our estimated decommissioning and disposal costs for our facilities. We do not handle "special nuclear materials" (i.e. nuclear fuels and weapons grade uranium, thorium and plutonium). Therefore, our facility is not designated as a nuclear facility that would require additional licensing.

In December 2009, we submitted a license application to the NRC, including an Environmental Report and Integrated Safety Analysis Summary, to possess and use source and by-product material at the proposed depleted uranium de-conversion and FEP production facility to be operated by International Isotopes Fluorine Products, Inc. (IIFP) facility. The IIFP facility, which is to be located in Lea County, New Mexico, is proposed to de-convert 7.3 million pounds of depleted uranium hexafluoride (DUF_6) annually into fluoride products and depleted uranium oxides (DUO). The NRC has completed an acceptance review of the application and has determined the application to be acceptable for formal review. The complete technical review by the NRC may identify omissions in the submittal information or technical issues that require additional information to be supplied by the Company. Based on the NRC's projection of administrative and technical review schedules, it anticipates completing the license review and issuing its Safety Evaluation Report and Environmental Impact Statement documents by January 2012; however, this date could change depending on NRC budget and resource constraints, the findings of the NRC's technical review, or other factors. This license application does not require the NRC to conduct a mandatory hearing, but a notice of opportunity for stakeholders to request a hearing was required to be published in the Federal Register. At the present time, there has been no request made for hearing. We also plan to submit an additional request in 2010 for limited pre-license construction activities at the planned facility site location. If approved by the NRC, this pre-license construction would be limited to certain non-process items such as roads, warehouses, and administration buildings.

Regulation of Radioisotope Production Waste

All of our manufacturing processes generate some radioactive waste. We must handle this waste pursuant to the Low Level Radioactive Waste Policy Act of 1980, which requires the safe disposal of mildly radioactive materials. The estimated costs for storage and disposal of these materials have been included in the manufacturing and sales price of our products. However, actual disposal costs are subject to change at the discretion of the disposal site and are ultimately applied at the time of disposal. We have obtained all necessary permits and approvals for the disposal of our waste materials and we do not anticipate any negative changes in capacity or regulatory conditions that would limit or restrict our waste disposal capabilities.

Other Regulations

We are registered as a medical device manufacturer through the Food and Drug Administration (FDA) for several of our nuclear medicine reference and calibration standards. We are registered with the U.S. Department of Transportation for the shipment of radioactive materials. We also have an NRC license for the import and export of radioactive materials. Because of increasing security controls and regulations, it is likely that we may encounter additional regulations affecting transportation, storage, sale, and import/export of radioactive materials. Registration of any of our radiochemicals into a Drug Master File (DMF) could subject us to the additional regulations of the Food and Drug Administration (FDA).

Employees

As of December 31, 2009 we had 24 full-time employees and 1 part-time employee.

Distribution Methods for Products

We sell our products directly to our customers who, in some cases, are both end users and distributors. We use common commercial carriers and our own IITS subsidiary for delivery of our products. For smaller quantities of material, and overnight and next day delivery, we utilize other commercial carriers. For our products that involve large quantities of radioactive material, most commonly cobalt-60, and invoke certain special transportation requirements, we use our IITS transportation subsidiary. The creation of the IITS subsidiary has produced additional revenue in for-hire operations and decreased costs by transporting our own products more cost effectively than other commercial carriers.

Dependence on Customers

During 2009, one major customer accounted for 54% of our total gross revenue. Sales under exclusive contract with this customer represents 29%, 33% and 58% of our total gross revenues for the years ended December 31, 2009, 2008 and 2007, respectively. Combined sales, on which we are dependent, to our three largest customers accounted for 51% of our total gross revenues. Comparative sales to these three customers accounted for 50% of gross revenue in 2008 and 74% in 2007. We are making efforts to reduce our dependency on a small number of customers by expanding sales in both domestic and foreign markets. Our efforts towards attaining quality certification to enable us to sell iodine-131 as an Active Pharmaceutical Ingredient (API) as well as the addition of the new group of Type B shipping containers, for which we have the opportunity to act as the worldwide distributor, should support these diversification efforts.

Patents, Trademarks, Licenses, Royalty Agreements, etc

During the year ended December 31, 2004, we obtained certain patents related to the Fluorine Extraction Process. These patents will be important to our future plans to build upon FEP production capacity. In 2007, we applied for four new patents related to various fluorination technologies and those patents were granted in 2009 and will generally expire 20 years from the application date. These new patents are important as they may potentially expand our opportunities in commercial markets to sell fluoride gases produced by FEP.

Research and Development

We had research and development expenses totaling \$2,609,834 in 2009, compared with \$402,795 in 2008. These expenses were all associated with engineering, design, and licensing activities for the new uranium processing and fluorine extraction processing facility. An additional \$683,018 was expended as operational expense in support of the FEP laboratory development work, which directly supports the planned uranium de-conversion facility.

In 2010, all expense related to the continued development of the uranium de-conversion facility project will be considered as Research and Development expenses. We anticipate that these expenses will include all Idaho FEP facility operations as well as facility design, product market development, and NRC license application review. We expect to continue to expend significant resources on this project for several years as the project total cost is expected to be approximately \$100 million.

Available Information

Our internet website address is <http://www.intisoid.com>. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. Information on our website is not incorporated by reference into this report or other reports filed with the Securities and Exchange Commission.

Item 1A. RISK FACTORS

Readers should carefully consider the following factors that may affect our business, future operating results and financial condition, as well as other information included in this Annual Report. The risks and uncertainties described below are not the only ones the company faces. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations. If any of the following risks actually occur, our business, financial condition and operating results could be materially adversely affected.

We do not have an operating history with respect to our strategy to combine de-conversion services and FEP produced fluoride gas products and this business may not succeed. We have no operating results with respect to providing de-conversion services or producing high volumes of fluoride gas products using FEP to date. Our prospects must be considered in light of the risks and uncertainties encountered in entering a new line of business. Some of these risks relate to our potential inability to:

·
construct our planned hybrid de-conversion FEP production plant;

·
secure agreements to provide de-conversion services, on acceptable terms, pursuant to which we would obtain the depleted uranium necessary for de-conversion and FEP operations;

·
commence significant operations in providing de-conversion services and producing fluoride gas using FEP;

·
effectively manage this new business and its operations; and

·
successfully establish and maintain our intended low-cost structure.

If we cannot successfully manage these risks, our business and results of operations and financial condition will suffer.

We do not have contracts to provide de-conversion services to enrichment firms or off take agreements for the fluoride gases we will produce. In order to obtain additional funds to complete construction and commence operations of a hybrid de-conversion FEP plant, we must reach agreement with one or more U.S. commercial uranium enrichment companies and with at least one supplier of depleted uranium. Failure to secure one or more of these agreements, or a failure to obtain sufficient quantities of depleted uranium would have a significant and direct impact on our ability to complete the project and any revenue we are able to generate from the hybrid de-conversion FEP facility.

Large scale commercial fluoride gas production utilizing FEP has not been performed. We have successfully demonstrated the feasibility of using the FEP process to produce germanium tetrafluoride and have used FEP to produce silicon tetrafluoride. However, the FEP process has not been used for large scale commercial production of the size and magnitude envisioned in conjunction with the de-conversion process and the FEP, and there may be technical issues and process challenges related to the utilization of FEP for commercial production. Unforeseen issues associated with constructing and scaling up these new FEP operations could significantly impact the schedule and our overall ability to produce high purity fluoride gas in the quantities anticipated.

We will need to raise additional funds to complete the construction of our hybrid de-conversion FEP facility. We need to raise approximately \$100 million additional funds to complete the design, license and construction of a de-conversion facility with a production scale FEP operation. There is no guarantee that we will be able to raise the additional capital required to complete the facility on acceptable terms, or at all. In addition, the total funds required to complete this project have been based upon early preliminary estimates and, while we believe these estimates are conservative, there can be no assurance that unforeseen expense will not be incurred and additional funding required to complete the project.

The licensing and environmental permitting process with respect to the construction of our hybrid de-conversion and FEP facility is ongoing and we cannot predict the amount of time required to obtain approval from the Nuclear Regulatory Commission for construction and operation of these facilities, or that approval will be granted at all. The timeframe discussed above in "Item 1. Business" for obtaining NRC licensing is based upon our best estimates of the time required to complete NRC review. We have no control over the actual time required by the NRC to complete its review and the environmental review process entails a series of public meetings that could delay or disrupt the license process. Furthermore, the NRC may decline to grant the required licenses, which would have a material adverse effect on our business plans.

We have incurred and may continue to incur losses. With the exception of 2002, we have incurred net losses for most fiscal periods since our inception. From inception through December 31, 2009, we have generated \$46,036,508 in revenues and accumulated deficit (including preferred stock dividends and returns) in the amount of \$99,352,971.

The negative cash flow we have sustained has materially reduced our working capital, which, in turn, could materially and negatively impact our ability to fund future operations and continue to operate as a going concern.

Management has and continues to take actions to improve our results. The availability of necessary working capital, however, is subject to many factors beyond our control, including our ability to obtain favorable financing, economic cycles, market acceptance of our products, competitors' responses to our products, the intensity of competition in our markets, and the level of demand for our products.

We will need additional financing to continue operations. Because we may continue to experience negative cash flow, we will need to obtain additional financing to continue operations. Management will continue to plan and take actions to improve our financial results which could enhance our ability to obtain debt financing. However, obtaining additional financing is subject to many factors beyond our control and may not be available to us on acceptable terms or at all.

Operational hazards could result in the spread of contamination within our facility and require additional funding to correct. An irrevocable, automatic renewable letter of credit against a certificate of deposit has been used to provide the financial assurance required by the Nuclear Regulatory Commission for our Idaho facility license. If a contamination event resulted in greater liability to us, we would have to borrow money or fund the liability from our future revenue.

We may incur material losses and costs as a result of product liability claims that may be brought against us. We face an inherent business risk of exposure to product liability claims in the event that products supplied by us fail to perform as expected or such failure results, or is alleged to result, in bodily injury, and possible adverse publicity, which could damage our reputation by raising questions about our products' safety and efficacy, and could interfere with our efforts to market our products. A successful product liability claim against us in excess of our available insurance coverage or established reserves may have a material adverse effect on our business. Although we currently maintain liability insurance in amounts we believe are commercially reasonable, any product liability we incur may exceed our insurance coverage.

We are dependent upon key personnel, particularly our President and Chief Executive Officer. Our ongoing operations are dependent on Steve T. Laflin, President and Chief Executive Officer. The loss of Mr. Laflin could have a material adverse effect on our business. We have a \$2 million dollar key man life insurance policy on Mr. Laflin and an employment agreement that extends through February 2011. There is no assurance that we will be able to retain Mr. Laflin or our existing personnel or attract additional qualified employees. The loss of any of our key personnel or an inability to attract additional qualified employees could result in a significant decline in revenue.

We are dependent on various third parties in connection with our business operations. The production of High Specific Activity (HSA) Cobalt is dependent upon the U.S. Department of Energy, and its prime-operating contractor, which controls the Idaho reactor. Loss of the ability to use these irradiation services would significantly impact our Cobalt Products business segment because there is not currently another reactor available in the U.S. that is capable of providing this type of service for us. Our gemstone production is tied to an exclusive agreement with Quali-Tech, Inc., and future gemstone irradiation services are dependent upon the continuation of that agreement. Should this agreement terminate, sales in our Radiological Services would be negatively impacted because the agreement prohibits us from processing gemstones for other customers for two years after the agreement terminates. Nuclear medicine calibration and reference standard manufacturing is conducted under an exclusive contract with RadQual, LLC, which in turn has agreements in place with several companies for marketing and sales. Termination of the RadQual agreement would directly impact the Company's ability to manufacture items in this business segment and would preclude us from competing with RadQual in this market.

We are dependent on a limited number of customers in connection with our business operations. During 2009, sales to one major customer accounted for 54% of our total gross revenue. Sales under exclusive contract with this customer represents 29%, 33% and 58% of our total gross revenues for the years ended December 31, 2009, 2008 and 2007, respectively. Combined sales, on which we are dependent, to our three largest customers accounted for 51% of our total gross revenues. Comparative sales to these three customers accounted for 50% of gross revenue in 2008 and 74% in 2007. We are making efforts to reduce our dependency on a small number of customers, and the loss of any one of these significant customers could have a significant impact on our future results of operations and financial condition.

We are subject to competition from other companies. Each of our business areas has direct competition from other businesses. HSA cobalt is supplied by other reactor facilities around the world. Nuclear medicine calibration and reference standards are being produced by one other U.S. manufacturer, and there is at least one other gemstone processor in Europe. Most of our radiochemicals are also manufactured by several other companies in the world, and there are other suppliers of high purity fluorine products. Many of these products are supplied through a single source of supply, therefore, continuing sales of some products depends upon those uninterrupted supplies. Each of our competitors has significantly greater financial resources that could give them competitive advantage over us.

General economic conditions in markets in which we do business can impact the demand for our goods and services. Decreased demand for our products and services can have a negative impact on our financial performance and cash flow. Demand for our products and services, in part, depends on the general economic conditions affecting the countries and industries in which we do business. A downturn in economic conditions in a country or industry that we serve may negatively impact demand for our products and services, and in turn negatively impact our operations and financial results. Further, changes in demand for our products and services can magnify the impact of economic cycles on our businesses. Unanticipated contract terminations by current customers or suppliers can negatively impact operations, financial results, and cash flow.

Volatility in raw material and energy costs, interruption in ordinary sources of supply and an inability to recover unanticipated increases in energy and raw material costs from customers could result in lost sales or significantly increase the cost of doing business. Market and economic conditions affecting the costs of raw materials, utilities, energy costs, and infrastructure required to provide for the delivery of those goods and services, are beyond our control and any disruption or halt in supplies, or rapid escalations in costs could affect our ability to manufacture products or to competitively price our products in the marketplace.

We are subject to extensive government regulation in jurisdictions around the globe in which we do business. Regulations address, among other things, environmental compliance, import/export restrictions, healthcare services, taxes and financial reporting, and can significantly increase the cost of doing business, which in turn can negatively impact our operations, financial results and cash flow. We are subject to extensive government regulation and intervention both in the United States and in all foreign jurisdictions in which we conduct business. Compliance with applicable laws and regulations results in higher capital expenditures and operating costs and changes to current regulations with which we comply can necessitate further capital expenditures and increases in operating costs to enable continued compliance. Additionally, from time to time, we are involved in proceedings under certain of these laws and regulations. Foreign operations are subject to political instabilities, restrictions on

funds transfers, import/export restrictions and currency fluctuation. Significant areas of regulation and intervention include the following:

Environmental and Health Compliance. We are committed to conducting our activities so that there is no significant damage to the environment; there is no assurance, however, that our activities will not at times result in liability under environmental and health regulations. Costs and expenses resulting from such liability may materially negatively impact our operations and financial condition. Overall, environmental and health laws and regulations will continue to affect our businesses worldwide.

Import/Export Regulation. We are subject to significant regulatory oversight of our import and export operations due to the nature of our product offerings. Penalties for non-compliance can be significant and violation can result in adverse publicity for the Company.

Financial Accounting Standards. Our financial results can be impacted by new or modified financial accounting standards.

Other Regulations. Our operations are subject to U.S. Nuclear Regulatory Commission, Food and Drug Administration, Department of Transportation, and Department of Homeland Security regulations. To the extent these regulations are or become burdensome, our business development could be adversely affected.

We expect to be handling large quantities of depleted uranium and fluoride gasses, which are radioactive and hazardous materials respectively, and are subject to intense regulation. The hazardous nature of depleted UF₆ and fluoride gases affects the actions we are required to take for licensing, air permitting, environmental review, emergency response, liability insurance, personnel training, and generally increases the level of concern by the general public with our handling of these materials. All of these factors complicate the licensing and operations processes and involve a host of additional regulatory factors that could affect the timeline for completing the hybrid de-conversion FEP plant, and cost estimates, as well as political pressures that could influence operations.

Our earnings, cash flow, and financial position are exposed to financial market risks worldwide, including interest rates. Fluctuations in domestic and world markets could adversely affect interest rates and impact our ability to obtain credit or attract investors. Such market risk could have a negative impact on future business opportunities including our ability to raise additional capital for planned business expansion.

Catastrophic events such as natural disasters, pandemics, war and acts of terrorism, could disrupt our business or the business of our suppliers or customers, and any such disruptions could have a negative impact on our operations, financial results and cash flow. Our operations are at all times subject to the occurrence of catastrophic events outside our control, ranging from severe weather conditions such as hurricanes, floods, earthquakes and storms, to health epidemics and pandemics, to acts of war and terrorism. Any such event could cause a serious business disruption that could affect our ability to produce and distribute our products and possibly expose us to third-party liability claims. Costs associated with insurance and other security measures may increase as a result of these threats, and some insurance coverage may become more difficult to obtain, if available at all. Additionally, such events could impact our suppliers, in which event energy and raw materials may be unavailable to us, and our customers, who may be unable to purchase or accept our products and services. Any such occurrence could have a negative impact on our operations and financial condition.

Our future growth is largely dependent upon our ability to develop new technologies that achieve market acceptance with acceptable margins. Our businesses operate in global markets that are characterized by rapidly changing technologies and evolving industry standards. Accordingly, our future growth rate depends upon a number of factors, including our ability to: (i) produce high purity fluoride gasses on a commercial scale utilizing the FEP process, (ii) obtain contracts with uranium enrichment companies to provide depleted uranium de-conversion services, (iii) identify emerging technological trends in our target end-markets, (iv) develop and maintain competitive products, (v) enhance our products by adding innovative features that differentiate our products from those of our competitors, and (vi) develop, manufacture and bring products to market quickly and cost-effectively.

Our ability to develop new products based on technological innovation can affect our competitive position and requires the investment of significant resources. These development efforts divert resources from other potential investments in our businesses, and they may not lead to the development of new technologies or products on a timely basis or that meet the needs of our customers as fully as competitive offerings. In addition, the markets for our products may not develop or grow as we currently anticipate. The failure of our technologies or products to gain market acceptance due to more attractive offerings by our competitors could significantly reduce our revenues and adversely affect our competitive standing and prospects.

Protecting our intellectual property is critical to our innovation efforts. We own or are licensed under a large number of U.S. and foreign patents and patent applications, trademarks and copyrights. Our intellectual property rights may be challenged, invalidated or infringed upon by third parties or we may be unable to maintain, renew or enter into new licenses of third party proprietary intellectual property on commercially reasonable terms. In some non-U.S. countries, laws affecting intellectual property are uncertain in their application, which can affect the scope or enforceability of our patents and other intellectual property rights. Any of these events or factors could diminish or cause us to lose the competitive advantages associated with our intellectual property, subject us to judgments, penalties and significant litigation costs, and/or temporarily or permanently disrupt our sales and marketing of the affected products or services.

Trading in our common stock is limited and the price of our common stock may be subject to substantial volatility.

Our common stock has historically traded on the OTC Bulletin Board®, or the OTCBB, under the ticker symbol INIS.OB. The market for our securities is limited, the price of our stock is volatile, and the risk to investors in our common stock is greater than the risk associated with stock trading on other markets. These factors may reduce the potential market for our common stock by reducing the number of potential investors. This may make it more difficult for investors in our common stock to sell shares to third parties or to otherwise dispose of their shares. This could cause our stock price to decline.

Additionally, the price of our common stock may be volatile as a result of a number of factors, including, but not limited to, the following:

·
our ability to successfully conceive and to develop new products and services to enhance the performance characteristics and methods of manufacture of existing products;

·
our ability to retain existing customers and customers' continued demand for our products and services;

·
the timing of our research and development expenditures and of new product introductions;

·
the timing and level of acceptance of new products or enhanced versions of our existing products; and

price and volume fluctuations in the stock market at large which do not relate to our operating performance.

We are contractually obligated to issue shares in the future, which will dilute your interest in us. As of December 31, 2009, there were approximately 17,700,000 shares of common stock issuable upon exercise of vested stock options outstanding, at a weighted average exercise price of \$0.065 per share. An additional 8,818,704 shares are reserved for issuance under our 2006 Equity Incentive and our Employee Stock Purchase Plan as of December 31, 2009. We expect to issue additional options to purchase shares of our common stock to compensate employees, consultants and directors, and may issue additional shares to raise capital to fund design, licensing and construction of a uranium de-conversion plant. Any such issuances will have the effect of further diluting the interest of the holders of our securities. Also outstanding as of December 31, 2009, are Series E warrants for the issuance of an additional 13,333,331 shares of common stock, Series F warrants for the issuance of 8,200,000 shares of common stock, and Series G warrants for the issuance of 4,407,306 of common stock.

Additionally, we have issued convertible debentures with an aggregate principal balance of \$3,075,000, which accrued a fixed sum of interest equal to 6% of the principal amount automatically upon issuance. These debentures are convertible at the option of the holders into shares of our common stock at an initial conversion price equal to \$0.35, subject to certain adjustments. Upon maturity on August 24, 2011, the outstanding principal amount of the debentures and all accrued but unpaid interest will be converted into common stock at a conversion price equal to the lesser of \$0.35 and the average closing price of our common stock for the 120 consecutive trading days up to, but not including, the maturity date, subject to adjustment as set forth in the debentures. To the extent any of the debentures are outstanding as of the maturity date and are automatically converted pursuant to the terms of the debentures, then investors holding such debentures will receive warrants to purchase the number of shares of common stock equal to one half of the number of shares of common stock issued upon automatic conversion of the debenture.

Item 2. PROPERTIES

We lease two properties in Idaho Falls, Idaho, and we are preparing to enter into a land exchange agreement, for no monetary consideration, in New Mexico. The following paragraphs provide a brief summary of these properties.

4137 Commerce Circle The facility located on this property houses our main corporate headquarters and all of our manufacturing operations except our FEP operations. We hold this property pursuant to a lease that extends through April 2011. The facility was new when leased in March 2001 and remains in excellent condition. Our lease includes unlimited automatic five year extensions of the lease at our sole discretion. Lease payments are adjusted annually based upon the Consumer Price Index. We also have a purchase option and a right of first refusal on this property that allows us to purchase this property at any time for a stated amount. __

3159 Commerce Way The facility located on this property houses our FEP production operations. The facility was first leased in February 2004 and is in excellent overall condition. We hold this property pursuant to a lease that extends through April 2011. Our lease includes unlimited automatic five year extensions of the lease at our sole discretion. Lease payments are adjusted annually based upon changes in the Consumer Price Index. We also have a purchase option and a right of first refusal on this property that allows us to purchase this property at any time for a stated amount.

Land Exchange: Lea County New Mexico We are preparing to enter into a Project Participation Agreement whereby Lea County, New Mexico, will deed property to the Company, for no monetary consideration, in return for our promise to construct a uranium de-conversion and fluorine extraction processing facility.

In order to receive title to the property, we must begin construction of the uranium processing facility no later than December 31, 2014, complete the project no later than December 31, 2015, and have hired at least 75 persons to operate the facility by that time, although commercial operations need not have begun by that time. If we do not timely perform the construction and hiring by those dates then we may, at our sole option, either purchase or reconvey the property to the County. The purchase price is considered to be the present market value of \$776,078, plus interest at the annual rate of 5.25% from the date of the closing to the date of payment. If we timely perform the project commencement requirements the County shall execute a full and complete release of the Mortgage.

Item 3. LEGAL PROCEEDINGS

None.

Item 4. (REMOVED AND RESERVED)

PART II**Item 5.****MARKET FOR REGISTRANTS COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES**

Our common stock is reported on the Over the Counter Bulletin Board (OTCBB) under the trading symbol INIS.OB. High asked prices and low bid prices reported by the OTCBB during the periods indicated are shown below, which reflect inter-dealer prices, without retail markup, mark-down, or commission and may not reflect actual transactions:

Fiscal Year	Quarter	High	Low
2009	1 st	\$0.40	\$0.17
2009	2 nd	\$0.39	\$0.25
2009	3 rd	\$0.73	\$0.24
2009	4 th	\$0.70	\$0.44
2008	1 st	\$1.15	\$0.77
2008	2 nd	\$0.85	\$0.63
2008	3 rd	\$0.82	\$0.50
2008	4 th	\$0.49	\$0.16

On March 15, 2010, there were 468 holders of record of our common stock. On this date, the closing price of our common stock was \$0.46 per share as reported on the OTCBB. We have never paid any cash dividends on our common stock. In the future, and based upon our profit performance, our Board of Directors will evaluate and determine whether to issue dividends or retain funds for research and development and expansion of our business. It is unlikely that we will pay any dividends to shareholders for the foreseeable future.

The following table sets forth information regarding purchases of our equity securities during the quarter ended March 31, 2009, all of which were shares subject to restricted stock awards that we purchased to cover applicable tax withholding obligations when these awards vested. There were no purchases during the quarters ended June 30, 2009, September 30, 2009 and December 31, 2009.

Period	(a)	(b)	(c)	(d)
	Total number of shares (or units)	Average price paid per	Total number of shares (or units)	Maximum number (or approximate dollar

	purchased	share (or unit)	purchased as part	value) of shares (or
			of publicly	units) that may yet be
			announced	purchased under the
			plans or	plans or programs
			programs	
Month 1 January 1, 2009 to January 31, 2009	77,091 \$	0.18		
Month 2 February 1, 2009 to February 28, 2009				
Month 3 March 1, 2009 to March 31, 2009				
Total	77,091 \$	0.18		

Item 6. SELECTED FINANCIAL DATA

The Company is a smaller reporting company, as defined by Item 10(f)(1) of Regulation S-K, and is, therefore, not required to provide the information required by this item.

Item 7.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of the results of the company's operations and financial condition should be read in conjunction with the accompanying financial statements and related Notes thereto included in Item 8, Financial Statements and Supplementary Data, within this report.

Our belief is that transparency and clarity are key goals of responsible financial reporting. We are committed to these goals which we believe will provide our shareholders with informative financial disclosures and present an accurate overview of our financial position and operating results.

Management's Discussion and Analysis of Financial Condition and Results of Operations is intended to provide readers of our financial statements with a clear explanation, from the perspective of our management, of our financial condition, results of operations, liquidity, and certain other factors that may affect our future results. The following is presented in six sections:

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Overview

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Business Strategy and Core Philosophies

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Results of Operations

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Liquidity and Capital Resources

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New Accounting Standards

.

Outlook for 2010

Overview

International Isotopes Inc. manufactures a full range of nuclear medicine calibration and reference standards, a wide range of products including cobalt teletherapy sources, and a varied selection of radioisotopes and radiochemicals for medical research, and clinical devices. We hold several patents for a fluorine extraction process that we are planning

to use in conjunction with a new commercial depleted uranium de-conversion facility, and provide a host of transportation, recycling, and processing services on a contract basis for clients. A more detailed description of each of these product lines and services can be found in Item 1, under General Business and Products Description, within this report.

In 2009, we continued to build our various business segments, make investments into facilities and infrastructure, launch new products, and enter into new agreements that we believe will increase our future revenues. Although a detailed description of segment performance can be found in the Results of Operations section of this report, the following list highlights some of our more significant accomplishments in 2009:

Our 2009 revenues were up approximately 9% over 2008. Our Radiochemical, Cobalt, and Transportation segments showed a year to year increase in revenues whereas our Nuclear Medicine Standards and Radiological Services segments reported decreases.

We completed a private placement with numerous investors to provide us with a stronger financial platform from which we will continue to develop our product lines as well as pursue the construction of the uranium de-conversion and fluorine extraction process facility in New Mexico.

We have continued to pursue sales agreements with new international customers.

Progress towards our licensing and construction of the planned depleted uranium de-conversion and fluorine extraction processing facility included completing a conceptual design report for the facility, selecting a site location in New Mexico, completing an agreement with the New Mexico Environment Department, and preparing and submitting a license application with environmental report to the Nuclear Regulatory Commission.

We continued to develop and implement an ISO Quality Management System program that will not only serve to enhance our overall manufacturing performance but, upon certification, will significantly broaden our market base in some of our key product lines.

Business Strategy and Core Philosophies

Broadly defined, our business strategy is to continue to build our reputation as a leader in the nuclear medicine and nuclear products industries, as well as seek ways to improve our customer service, and expand our market share with the ultimate goal of providing greater returns to our shareholders. Specifically, we are continuously working with our customers to improve and develop products to better serve the needs of the end user which, ultimately, will boost product sales. A key part of our near and long range business strategy is to continue work on building the nation's first commercial depleted uranium de-conversion and fluorine extraction process facility.

Our core philosophy is to strive to provide high quality products and services as a profitable and environmentally conscious business, while offering excellent customer service and the highest quality working environment for our employees. We are currently developing and implementing an ISO Quality Management System that will serve to improve our product manufacturing processes as well as promote a high quality and safe work environment for our employees.

Results of Operations

Summary for 2009:

Revenue in 2009 increased 9.28% to slightly over \$6.1 million. The increase is largely due to growth in both cobalt and radiochemical product sales.

Net loss for 2009 increased by approximately 113.81%. This significant increase was driven by our expenses related to the consulting and licensing activities for the proposed uranium de-conversion and fluorine extraction facility, and a write-down to cobalt inventory.

Our gross profit rate decreased from 49% in 2008 to 33% in 2009. This decrease was due primarily to a write-down in cobalt inventory of low activity material that was determined to have reduced marketability, and sales increases in lower margin products and product material cost increases.

Our operating costs, exclusive of research and development expense, decreased approximately 9% in 2009 as a result of measures taken in overall operational management of our core business segments. Including research and development expense in total operating expense, overall operating costs increased by approximately 37%, which is a direct result of our expenditures in pursuing the uranium de-conversion and fluorine extraction project.

Year ended December 31, 2009 compared to year ended December 31, 2008

The following table presents comparative Sale of Product for the years 2009 and 2008:

<u>Sale of Product</u>	Year To Date 2009	Year to Date 2008
Radiochemical Products	\$ 1,714,529	\$ 1,379,906
Cobalt Products	2,180,445	1,616,020
Nuclear Medicine Standards	1,800,935	1,864,099
Radiological Services	239,722	634,201
Flourine Products	878	-
Transportation	186,335	108,217
Total Segments	6,122,844	5,602,443
Corporate revenue	-	-
Total Consolidated	\$ 6,122,844	\$ 5,602,443

Revenues

Total revenues in 2009 were \$6,122,844, compared to \$5,602,443 in 2008, which represents an increase of \$520,401 or 9.28%. The overall increase in revenue was the result of increases in sales in three business segments: Radiochemical Products, Cobalt Products, and Transportation. For 2009, Cobalt Product sales (which includes bulk cobalt sales) account for approximately 36% of total revenue, as compared to 29% in 2008. Bulk cobalt sales account for approximately 44% of total Cobalt Product sales. Fluctuations in bulk cobalt sales can create large variations in period to period comparisons. The following table presents a year to year comparison of total revenue by segment as well as a year to year comparison of total revenue by segment excluding bulk cobalt sales. We believe that the total revenue excluding bulk cobalt sales provides meaningful information to investors because of the large period-to-period fluctuations in bulk cobalt sales. However, this information has limitations as an analytical tool and you should not consider it in isolation or as a substitute for total revenue including bulk cobalt sales.

<u>Sale of Product</u>	Year To Date 2009	% of Total Sales 2009	Year to Date 2008	% of Total Sales 2008
Radiochemical Products	\$ 1,714,529	28%	\$ 1,379,906	25%
Cobalt Products (including bulk cobalt sales)	2,180,445	36%	1,616,020	29%
Nuclear Medicine Standards	1,800,935	29%	1,864,099	33%
Radiological Services	239,722	4%	634,201	11%
Flourine Products	878	0%	-	0%
Transportation	186,335	3%	108,217	2%
Corporate revenue	-	0%	-	0%
Total Segments	\$ 6,122,844	100%	\$ 5,602,443	100%
Radiochemical Products	\$ 1,714,529	33%	\$ 1,379,906	27%
Cobalt Products (excluding bulk cobalt sales)	1,215,580	24%	1,127,764	22%
Nuclear Medicine Standards	1,800,935	35%	1,864,099	36%
Radiological Services	239,722	5%	634,201	12%
Flourine Products	878	0%	-	0%
Transportation	186,335	4%	108,217	2%
Corporate revenue	-	0%	-	0%
Total Segments	\$ 5,157,979	100%	\$ 5,114,187	100%

Radiochemical Products

Sales of radiochemical products accounted for approximately 28% of our total sales revenue in 2009 and increased by approximately 24% to \$1,714,529 in 2009, as compared to \$1,379,906 in 2008. As in prior years, increased sales performance in this segment was driven largely by increases in our sales of iodine-131. In this business segment, sales of iodine-131 in 2009 totaled \$1,710,055, or approximately 99% of total radiochemical sales, while the remaining \$4,475, or approximately 1% of radiochemical sales, consisted of miscellaneous radiochemical isotopes sales.

Of our total iodine-131 sales for 2009, approximately 87% represents sales to one customer, RadQual, LLC, of which International Isotopes Inc. owns a 24.5% share. Should RadQual, LLC discontinue sales of iodine -131, we have the option to market and sell this product directly to RadQual's customers. In 2010, we are taking steps to implement a new quality certification for iodine-131 that will allow us to sell this product as an Active Pharmaceutical Ingredient (API) instead of as a radiochemical. If we obtain this certification, we estimate that this improved status of the product will enhance our pharmacy customers' abilities to compete with several larger chain pharmaceutical companies and pharmaceutical iodine-131 products.

Cobalt Products

Total cobalt products sales accounted for approximately 36% of our total sales revenue in 2009, while sales of cobalt products excluding bulk cobalt sales accounted for approximately 24% of total sales revenue for the same period. Please refer to the previous table which presents this comparative data.

The following table presents sales of each of our cobalt products for 2009 as compared to 2008:

<u>Cobalt Products</u>	Year To Date		Year to Date		% change
	2009		2008		
HSA Cobalt Sales (bulk cobalt)	\$ 964,865	\$	488,257	\$	98%
Cobalt Recycle	253,670		318,022		-20%
Sealed Source Manufacturing	961,910		809,741		19%
	\$ 2,180,445	\$	1,616,020	\$	35%

Sales of total cobalt products increased by 35% to \$2,180,445 in 2009, as compared to \$1,616,020 in 2008. Bulk cobalt sales increased by \$476,609, or 98%, from 2008 to 2009, which is due to one additional bulk sale in 2009 over 2008. Sales of cobalt products excluding bulk cobalt sales increased by 8% to \$1,215,580, as compared to \$1,127,764 in 2008. Cobalt recycle decreased by 20% in 2009, as compared to 2008, which was in large part due to a small reduction in gamma knife unit source replacements which is believed to be a result of current economic conditions and medical facilities deferring gamma source exchanges as a cost saving measure.

Sales of sealed source products increased 19% in 2009, as compared to 2008, and can be attributed to our efforts in marketing sealed sources in foreign markets, particularly South America. Although world economic conditions will potentially have a strong impact on foreign sales, we believe, with continued marketing efforts and the anticipated availability of some new transportation containers, that we will be able to sustain growth in this area.

We contract with one customer for 100% of our bulk cobalt sales. Our current contract with this customer expires in April 2010, however, we are currently negotiating a new multi-year contract and anticipate having it in place prior to the next scheduled sale of product.

During 2009, we recorded a significant write-down in our cobalt inventory. This write-down totaled \$740,719 and was incurred due to removing numerous targets from continued irradiation in the DOE reactor because of their size, their location in the reactor, and the level of activity to which they had decayed. The write-down was recorded as an increase in cost of goods sold in our Cobalt Product business segment. This adjustment is unusual with regard to the amount of material removed from production, is not indicative of anticipated future trends, and does not represent a reduction in planned cobalt production volumes in the future.

The production of HSA cobalt, which we use in both bulk cobalt sales and sealed source sales is dependent on the U.S. Department of Energy, and its prime-operating contractor, which manages the Idaho reactor. A loss of the ability to use this reactor would cause a significant negative impact on both our bulk cobalt sales and sealed source sales. To date, our agreement with the prime-operating contractor has been on a reactor cycle by cycle contract basis. We are currently in the process establishing a longer term agreement for continued cobalt irradiation, but access to the reactor for cobalt production will remain subject to approval by the prime operating contractor of the reactor and the priorities of its experiments program.

Nuclear Medicine Standards

Sales of nuclear medicine standards accounted for approximately 29% of our total sales revenue in 2009.

The following table presents sales of our Nuclear Medicine Products for 2009, as compared to 2008:

	Year To Date		Year to Date	
<u>Nuclear Medicine Products</u>	2009		2008	% change
Flood Source Sales	\$ 1,499,961	\$	1,557,433	-4%
Miscellaneous Source Sales	300,974		306,666	-2%
	\$ 1,800,935	\$	1,864,099	-3%

Sales in this segment decreased by approximately 3% to \$1,800,935 in 2009, as compared to \$1,864,099 in 2008.

Flood source sales account for approximately 83% of all sales in this segment for 2009 and decreased approximately 4% to \$1,499,961 in 2009, from \$1,557,433 in 2008. This small decrease is believed to be the result of the nationwide recession, significant cuts in health care reimbursement, and new laws affecting outpatient imaging. As a result, marginally profitable imaging clinics are closing, fewer new imaging clinics are opening, and customers are stretching the useful life of their sources. We expect these adverse economic impacts to continue through 2010. However, we are taking steps to implement an ISO-9000 quality program that will allow us to start selling these products into Canada and the European Union in 2010.

Radiological Services

Revenues from our Radiological Services segment accounted for approximately 4% of our total sales revenue in 2009. The following table presents sales for each of our Radiological Service types for 2009, as compared to 2008:

	Year To Date	Year to Date	%
<u>Radiological Services</u>	2009	2008	change
Topaz	\$ 211,689	\$ 464,269	-54%
Miscellaneous Radiological Services	28,033	169,932	-84%
	\$ 239,722	\$ 634,201	-62%

Sales in this segment decreased by approximately 62% to \$239,722 in 2009, as compared to \$634,201 in 2008. This significant decrease is almost exclusively due to the decrease in topaz gemstone processing which accounts for approximately 88% of Radiological Services sales in 2009 and approximately 73% of Radiological Services sales in 2008. This decline in topaz gemstone processing is due to the current decline in sales of luxury items such as jewelry, and the instability of foreign markets which are key in processing product which uses irradiated gemstones. Future sales in this area are anticipated to increase based on improvements in the retail jewelry sales projections for 2010, and an increase in the quantities of gemstone supplied to us for treatment near the end of 2009.

Miscellaneous Radiological Services revenue decreased approximately 84% in 2009, as compared to 2008. Revenue from Miscellaneous Radiological Services decreased to \$28,033 in 2009, from \$169,932 in 2008. The decline in this area was attributable to a reduction in the amount of government sponsored field source recovery activities and it is not expected that there will be any significant increase in government spending in this area in 2010.

Fluorine Products

Revenues from the fluorine products segment for 2009 were \$878. This small amount of revenue resulted from the sale of an initial qualification lot of material to a prospective customer during the first quarter of 2009. Because of weak market conditions in this area we have suspended routine production of germanium tetrafluoride and are using the equipment and resources allocated to this business segment to develop laboratory and analytical processes required to support the new uranium de-conversion and fluorine extraction facility. In 2010, we will continue testing key components required for this facility in New Mexico. Therefore, we do not expect any revenue to be generated from

this business segment in 2010.

Transportation

Revenues from our Transportation segment accounted for approximately 3% of our total revenues in 2009.

Sales in this segment increased by approximately 72% to \$186,335 in 2009, as compared to \$108,217 in 2008. This increase is the result of our obtaining a new vehicle and trailer that is better suited to providing general for hire transportation services. There are numerous regulations that apply to, and agencies which monitor, the security and tracking of cobalt shipments and our Transportation segment specializes in the transport of hazardous, radioactive materials including large quantity cobalt shipments. Because of this specialization and increased regulations on transporting these types of materials we anticipate some growth in revenues in this segment. We also anticipate the approval of new Type B shipping containers in the latter half of 2010, for which we will act as an exclusive distributor. Aside from revenue from for hire transportation service our transportation segment continues to contribute to our bottom line by providing significant cost savings for us over the cost of purchasing third party transportation services for our cobalt products.

Cost of Revenues and Gross Profit

Cost of revenue for 2009 was \$4,073,761, as compared to \$2,879,839 in 2008, an increase of \$1,193,922, or 42%. Gross profit decreased 16% overall to 33% in 2009, from 49% in 2008.

The following table presents Total Sales, Cost of Sales by segment and Gross Profit for 2009 as compared to 2008:

	Year To Date 2009	% of Total Sales 2009	Year To Date 2008	% of Total Sales 2008
Total Sales	\$ 6,122,844		\$ 5,602,443	
Cost of Sales				
Radiochemical Products	\$ 1,364,769	22%	\$ 1,129,418	20%
Cobalt Products	1,665,668	27%	470,874	8%
Nuclear Medicine Standards	923,366	15%	985,981	18%
Radiological Services	66,437	1%	225,379	4%
Flourine Products	-	0%	-	0%
Transportation	53,521	1%	68,187	1%
Total Segments	\$ 4,073,761	67%	\$ 2,879,839	51%
Gross Profit	\$ 2,049,083		\$ 2,722,604	
Gross Profit %	33%		49%	

The overall decrease in gross profit was largely a result of increases in materials and freight in our Radiochemical Products and our Cobalt Products segments. The increase in cost of sales in our Radiochemical Products segment was due to an increase in the unit cost of iodine-131, as well as increases in overall freight charges for shipment of iodine-131. We have taken steps to recover these costs with price adjustments and by improving efficiencies in material ordering and processing. The increase in the cost of sales for cobalt products was due to a lower of cost or market write-down in cobalt target inventory in the amount of \$740,719, as well as increased freight and contractor costs for the shipping and handling of product. This is expected to be a one-time write-down in the value of cobalt material inventory.

Operating Costs and Expenses

Total operating costs and expenses for 2009 were \$6,626,059, as compared to \$4,827,985 in 2008, an increase of \$1,798,074, or 37%.

The following table presents Operating Costs and Expenses for 2009 as compared to 2008:

	Year To Date	Year to Date	%
	2009	2008	change
Operating Costs and Expenses:			
Salaries and Contract Labor	\$ 2,061,931	\$ 1,978,149	4%
General, Administrative and Consulting	1,954,294	2,447,041	-20%
Research and Development	2,609,834	402,795	548%
Total operating expenses	\$ 6,626,059	\$ 4,827,985	37%

Salaries and Contract Labor increased 4% in 2009, as compared to 2008, due to typical adjustments such as changes in personnel, payroll increases and stock based compensation reported, offset by a decrease in contract labor costs. General, Administrative and Consulting expenses decreased 20% due to our continued aggressive efforts to economize in all areas of general and administrative costs.

The significant increase in Research and Development expense is a result of costs associated with the planned uranium de-conversion facility. In 2009, Research and Development costs for this project increased by \$2,207,039, to \$2,609,834, as compared to \$402,795 in 2008. The majority of this increase is attributable to consulting costs which totaled \$1,973,411 in 2009, as compared to \$372,153 in 2008. We anticipate that Research and Development costs for 2010 will be significantly greater than 2009, due to efforts to support NRC full cost recovery charges for license review, increased subcontractor support for the project, and the addition of a design and build contractor to start formal design. However, our planned expenditures in this area are contingent upon our ability to raise additional funds for the uranium de-conversion project.

Other Income (Expense)

Other Income (Expense) in 2009 was (\$56,322) compared to Other Income (Expense) of (\$61,586) in 2008. The difference of \$5,264 was attributable to small decreases in Other Income and Interest Income coupled with a decrease in Interest Expense.

Net Loss

Our Net Loss was \$4,633,298 in 2009, compared to a Net Loss of \$2,166,967 in 2008. The \$2,466,331 increase in net loss was primarily attributable to the continued testing and analysis of fluorine products, which we are developing in conjunction with uranium de-conversion, the large amount of R&D expense related to the design and licensing of the depleted uranium project, and a major write-down in the inventory value of cobalt production material. As funds become available, we will continue to incur material expense for the depleted uranium project. During 2010, we expect the rate of expenditure on the project to significantly accelerate as we are required to compensate the NRC for review activities and expand engineering efforts to begin more formal design and construction planning. We do not anticipate further cobalt inventory impairment.

Liquidity and Capital Resources

On December 31, 2009, we had cash and cash equivalents of \$461,091, compared to \$2,149,340 at December 31, 2008. The decrease of \$1,688,249 is primarily due to cash used for consulting and licensing activities with regard to the uranium de-conversion facility. Research and development costs associated with this project totaled \$2,609,834 in 2009, as compared to \$402,795 in 2008. The bulk of these costs pertained to consulting and licensing activities.

Inventories at December 31, 2009 were \$1,835,345, as compared to \$2,518,254 at December 31, 2008. During 2009 it was determined that some cobalt target material had decreased in activity level and was written down to its estimated market value. Overall inventory largely consist of irradiated material held at the site of the U.S. Department of Energy's prime-operating contractor, which controls the Idaho test reactor. The typical operating cycle for the irradiation of this material is greater than one year and this inventory is expected to remain at similar levels in future years.

We incurred a loss of \$4,633,298 for the year ended December 31, 2009, and have an accumulated deficit of \$99,352,971 since inception. To date, our operations and plant and equipment expenditures have been funded principally from proceeds from public and private sales of equity as well as through asset sales.

Net cash used in investing activities was \$156,571 for 2009, \$157,737 of which was used to purchase property and equipment and intangible assets per the following table:

Assets Purchased for Year of 2009		Purchased YTD
Radiochemical Products	\$	-
Cobalt Products		6,202
Nuclear Medicine Standards		25,556
Radiological Services		-
Flourine Products		44,326
Transportation		81,653
General		-
	\$	157,737

Asset sales and accrued interest on a restricted certificate of deposit account for the balance of cash used by investing activities.

Contingent on funding, we plan to spend approximately an additional \$10 - \$15 million on the uranium de-conversion project in 2010. Our project spending in 2010 will be used to support continued NRC license review, identify a design and build subcontractor, further formal design of the facility, complete limited pre-license site construction activity, further research and development of key process systems and components, and explore markets and develop agreements for products and services of the planned facility.

Financing activities provided cash of \$853,655 for the year ended December 31, 2009. We received proceeds from both the issuance of a note payable for the purchase of a truck for use in our Transportation segment and in connection with a renewal of a note payable. We also received proceeds from the sale of stock and warrants as follows:

Proceeds from Sale of Stock and Warrants		
Proceeds from issuance of Class G Warrants	\$	940,000
Proceeds from Employee Stock Purchase Plan		27,166
	\$	967,166

Uses of cash in financing activities included routine pay down of notes payable and capital leases.

As of December 31, 2009, we had net term borrowings of \$555,739 from two loans with Compass Bank. One of these loans, with an outstanding balance of \$483,181 as of December 31, 2009, matures in April 2011. The other, with a balance of \$72,558 as of December 31, 2009, matures in September 2011. It is anticipated that these loans will renew on their respective maturity dates. Prior to maturity, the Company will continue to make scheduled loan payments in a

timely manner using operating funds.

In September 2009, \$340,753 of an unsecured note payable to our former Chairman of the Board was converted into equity leaving a principal balance of \$500,000. Principal and interest payments on this note are paid annually based upon net profits (annual principal payment to equal 30% of net pre-tax profits). The note matures in April 2012.

During September 2009, the Company completed a private placement offering of 4,407,305 units priced at \$0.30 per unit in exchange for cash proceeds of \$940,000 and conversion of \$340,753 of the note described above and accrued interest of \$41,439. Each unit consisted of one share of common stock and one Class G Warrant to purchase a share of common stock at \$0.40 per share. The Class G Warrants have a two year term, expire in 2011, and include a first anniversary price adjustment provision.

The Company has a \$1,290,000 investment in RadQual, LLC, the Company's sole Flood Source Products customer. This represents a 24.5% ownership of RadQual and is reported at cost. This is considered a non-liquid asset due to the limited marketability of the investment.

New Accounting Standards

In September 2006, the FASB issued a new accounting standard which establishes a framework for measuring fair value in generally accepted accounting principles, and expands disclosures about fair value measurements. The new standard was effective for the Company as of January 1, 2008. In February 2008, the FASB issued a new standard which extended the effective date to fiscal years beginning after November 15, 2008. Adoption of this standard did not cause a material change in financial position or results of operations.

In December 2007, the FASB issued a new standard which requires an acquirer to measure the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree at their fair values on the acquisition date, with goodwill being the excess value over the net identifiable assets acquired. The FASB also issued a second new standard which seeks to improve the relevance, comparability, and transparency of the financial information that a reporting entity provides in its consolidated financial statements by establishing accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. These two new standards were effective for fiscal years beginning on or after December 15, 2008. The adoption of these standards did not have a material effect on the Company's financial position or results of operations.

In April 2009, the FASB issued a new staff position, to require an entity to provide disclosures about fair value of financial instruments in interim financial information. The staff position also amends a previous accounting standard to require those disclosures about the fair value of financial instruments in summarized financial information at interim reporting periods. Under the new staff position, the Company will be required to include disclosures about the fair value of its financial instruments whenever it issues financial information for interim reporting periods. In addition, the Company will be required to disclose in the body or in the accompanying notes of its summarized financial information for interim reporting periods and in its financial statements for annual reporting periods, the fair value of all financial instruments for which it is practicable to estimate that value, whether recognized or not recognized in the statement of financial position. The staff position is effective for periods ending after June 15, 2009 and the adoption of this standard did not have a material impact on the Company's financial position or results of operations.

In May 2009, the FASB issued a new standard which establishes general standards of accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued or are available to be issued. The new standard was effective for interim and annual periods ending after June 15, 2009. The adoption of this standard did not have a material effect on the Company's financial position or results of operations.

Outlook for 2010

Based upon the investments we have made in our facilities, projects, and products developed in 2009, we have the following goals and objectives for 2010:

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To continue the licensing and permitting activities for the uranium de-conversion and processing facility and work towards obtaining conversion service agreements with one or more commercial uranium enrichment companies.

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To continue advertising and promoting the use of International Isotopes Transportation Services (IITS) and increase our revenues from Transportation Services to commercial customers.

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To continue to expand our customer base, increase revenues in every business segment, continue to reduce production and operating costs, and attempt to achieve profitability in our core business segment operations.

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Implement an ISO Quality certification program that will expand our product markets, including selling iodine-131 as an Active Pharmaceutical Ingredient (API) and permit sale of our nuclear medicine reference and calibration standards in Canada and the European Union.

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Implement sales of the new Type B AOS transportation container.

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Expand sales of our sealed cobalt sources through the use of the AOS and other newly approved transport containers.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company is a smaller reporting company, as defined by Item 10(f)(1) of Regulation S-K, and is, therefore, not required to provide the information required by this item.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following financial statements are included herewith and are hereby incorporated by reference:

Index to Consolidated Financial Statements

	<u>Page</u>
	<u>No.</u>
Report of Independent Registered Public Accounting Firm Financial Statements	F-1
Consolidated Balance Sheets as of December 31, 2009 and 2008	F-2
Consolidated Statements of Operations for the years ended December 31, 2009 and 2008	F-3
Consolidated Statement of Shareholders' Equity for the years ended December 31, 2009 and 2008	F-4
Consolidated Statements of Cash Flows for the years ended December 31, 2009 and 2008	F-5
Notes to Consolidated Financial Statements	F-6

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

None

Item 9A (T). CONTROLS AND PROCEDURES

Conclusion regarding the Effectiveness of Disclosure Controls and Procedures

The Company maintains disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the Exchange Act) that are designed to ensure that material information relating to the Company is made known to the officers who certify the Company's financial reports and to other members of senior management and the Board of Directors. These disclosure controls and procedures are designed to ensure that information required to be disclosed in the Company's reports that are filed or submitted under the Exchange Act, are recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Act is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management, with the participation of the CEO and CFO, has evaluated the effectiveness, as of December 31, 2009, of the Company's disclosure controls and procedures. Based on that evaluation, the CEO and CFO have concluded that the Company's disclosure controls and procedures were effective as of December 31, 2009.

There were no changes in our internal control over financial reporting during the quarter and fiscal year ended December 31, 2009, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Management on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of our financial reporting for external purposes in accordance with accounting principles generally accepted in the United States of America. Internal control over financial reporting includes maintaining records that in reasonable detail accurately and fairly reflect our transactions; providing reasonable assurance that transactions are recorded as necessary for preparation of our financial statements; providing reasonable assurance that receipts and expenditures are made in accordance with management authorization; and providing reasonable assurance that unauthorized acquisition, use or disposition of company assets that could have a material effect on our financial statements would be prevented or detected on a timely basis. Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected.

Management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework and criteria established in *Internal Control - Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission. This evaluation included review of the documentation of controls, evaluation of the design effectiveness of controls, testing of the operating effectiveness of controls and a conclusion on this evaluation. Based on this evaluation, management concluded that our Company's internal control over financial reporting was effective as of December 31, 2009.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit us to provide only management's report in this annual report.

Item 9B. OTHER INFORMATION

None

PART III.

Item 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

We have adopted a Code of Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions. Our Code of Ethics is posted on our website and can be accessed, free of charge, at www.intisoid.com.

The other information required by this item will be included in our Proxy Statement for our 2010 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2009, the close of our fiscal year.

Item 11. EXECUTIVE COMPENSATION

The information required by this item will be included in our Proxy Statement for our 2010 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2009, the close of our fiscal year.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Securities Authorized for Issuance under Equity Compensation Plans

We currently maintain three compensation plans that provide for the issuance of our Common Stock to officers and other employees, directors and consultants, the 2002 Long Term Incentive Plan, the International Isotopes Employee Stock Purchase Plan and the 2006 Equity Incentive Plan, each of which have been approved by our shareholders. The following table sets forth information regarding outstanding options and shares reserved for future issuance under the foregoing plans as of December 31, 2009:

**Equity Compensation Plan Information
December 31, 2009**

<u>Plan Category</u>	(a) Number of securities to be issued upon exercise of outstanding options, warrants, and rights	(b) Weighted-average exercise price of outstanding options, warrants, and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column) (a)
Equity compensation plans approved by shareholders:	26,700,000	\$.16	8,818,704(1)
Equity compensation plans not approved by shareholders			
Total	26,700,000	\$.16	8,818,704(1)

(1) Includes 7,283,528 shares available for issuance under the 2006 Equity Incentive Plan and 1,535,176 shares available for issuance under the International Isotopes Employee Stock Purchase Plan. Up to 13,000,000 shares that are currently subject to outstanding options granted under the 2002 Long Term Incentive Plan may become available for issuance under the Company's 2006 Equity Incentive Plan in the future to the extent those shares are not issued (for example, if those options expire without being exercised). Shares available for issuance under the Company's 2006 Equity Incentive Plan may be granted in the form of stock options, stock awards, restricted stock awards, restricted

stock units, stock appreciation rights or any other form of equity compensation approved by the Compensation Committee or the Board.

The other information required by this item will be included in our Proxy Statement for our 2010 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2009, the close of our fiscal year.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this item will be included in our Proxy Statement for our 2010 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2009, the close of our fiscal year.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item will be included in our Proxy Statement for our 2010 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission within 120 days after December 31, 2009, the close of our fiscal year.

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) and (a)(2) *Financial Statements and Financial Statement Schedules*

See the index to and the financial statements and supplementary data beginning on page 27 and 48 which are incorporated by reference.

(a)(3) *Exhibits*

The following documents are filed or incorporated by reference as exhibits to this Report:

2.1

Securities Purchase Agreement dated March 21, 2007 (incorporated by reference to Exhibit 2.1 of the Company's Current Report of Form 8-K filed on March 22, 2007).

2.2

Unit Purchase Agreement effective as of May 23, 2008 (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on June 2, 2008).

2.3

Asset Purchase Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on June 5, 2008).

2.4

First Amendment to the Asset Purchase Agreement, dated June 3, 2008 (incorporated by reference to Exhibit 99.2 of the Company's Current Report on Form 8-K filed on June 5, 2008).

2.5

Securities Purchase Agreement dated November 7, 2008 (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on November 12, 2008).

2.6

Securities Purchase Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed on September 18, 2009).

2.7

Unsecured Note Conversion Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.2 of the Company's Current Report on Form 8-K filed on September 18, 2009).

2.8

Securities Purchase Agreement dated February 24, 2010 (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed on February 25, 2010).

3.1

Restated Articles of Incorporation.

3.2

Bylaws of the Company (incorporated by reference to Exhibit 3.2 of the Company's Registration Statement on Form SB-2 filed on May 1, 1997 (Registration No. 333-26269)).

4.1

Form of Class E Warrant (incorporated by reference to Exhibits 4.1 of the Company's Current Report on Form 8-K filed on April 21, 2008).

4.2

Form of Class F Warrant (incorporated by reference to Exhibits 99.1 of the Company's Current Report on Form 8-K filed on November 12, 2008).

4.3

Form of Class G Warrant (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed on September 18, 2009).

4.4

Form of Debenture (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 25, 2010).

4.5

Form of Class H Warrant (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on February 25, 2010).

10.1

* 2002 Long Term Incentive Plan (incorporated by reference to Exhibit 10.1 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2002).

10.2

*Form of Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.2 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.3

*International Isotopes Employee Stock Purchase Plan (incorporated by reference to Appendix B to the Company's definitive proxy statement on Schedule 14A, as amended, filed on May 6, 2005).

10.4

*International Isotopes Employment Agreement with Steve T. Laflin dated February 28, 2007 (incorporated by reference to Exhibit 10.4 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2007).

10.5

Lease Agreement 4137 Commerce Circle (incorporated by reference to Exhibit 10.6 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.6

Option to Purchase and Right of First Refusal for Property located at 4137 Commerce Circle (incorporated by reference to Exhibit 10.7 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.7

Lease Agreement 3159 Commerce Way (incorporated by reference to Exhibit 10.8 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.8

Option to Purchase and Right of First Refusal for Property located at 3159 Commerce Way (incorporated by reference to Exhibit 10.9 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.9

Promissory Note dated September 15, 2007 with Compass Bank (formerly with Texas State Bank).

10.10

Unsecured Note to former Chairman of the Board, Dated April 1, 2002 (incorporated by reference to Exhibit 10.12 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.11

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Form of Note Purchase Agreement and Form of Unsecured Convertible Promissory Notes (incorporated by reference to Exhibit 10.13 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.12

2006 Equity Incentive Plan (incorporated by reference to Annex A of the Company's definitive proxy statement on Schedule 14A filed on May 1, 2006).

10.13

Alpha Omega Services, Inc. Distributor Agreement dated August 14, 2007 (incorporated by reference to Exhibit 99.1 of the Company's Current Report of Form 8-K filed on August 22, 2007).

10.14

Letter Agreement dated December 21, 2007 between the Company and Firebird Global Master Fund II, Ltd., together with a schedule of substantially identical documents omitted from filing pursuant to Rule 12b-31 promulgated under the Exchange Act (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2008).

10.15

Technical Support Services Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.3 of the Company's Current Report on Form 8-K filed on June 5, 2008).

10.16

Form of Indemnification Agreement (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on September 17, 2008).

10.17

Letter Agreement dated April 9, 2008 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on April 21, 2008).

10.18

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Memorandum of Agreement dated October 22, 2009 between International Isotopes Inc. and New Mexico Environment Department (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on October 27, 2009).

10.19

Gemstone Processing Agreement between International Isotopes Inc. and Quali-Tech, Inc. (incorporated by reference to Exhibit 10.1 of Amendment No. 1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 filed on September 24, 2009).

10.20

Manufacturing Agreement dated as of January 30, 2006 by and between International Isotopes Inc. and RadQual, LLC. (incorporated by reference to Exhibit 10.2 of Amendment No. 1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 filed on September 24, 2009).

10.21

Change in Terms Agreement dated April 20, 2009 with Compass Bank.

10.22

Promissory Note with Texas State Bank for Commercial Loan (incorporated by reference to Exhibit 10.11 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2006).

21.1

Subsidiaries (incorporated by reference to the Company's Annual Report on Form 10 KSB for the year ended December 31, 2005).

23.1

Consent of Hansen, Barnett & Maxwell, P.C.

31.1

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Executive Officer.

31.2

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Financial Officer.

32.1

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

32.2

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

*This exhibit constitutes a management contract or compensatory plan or arrangement.

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.

International Isotopes Inc.

By: /s/ Steve T. Laflin
Steve T. Laflin
President, Chief Executive Officer, Secretary, and
Director

Date: March 31, 2010

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

March 31, 2010

By: /s/ Steve T. Laflin
Steve T. Laflin
President, Chief Executive Officer, Secretary, and
Director

March 31, 2010

By: /s/ Laurie McKenzie-Carter
Laurie McKenzie Carter
Chief Financial Officer

March 31, 2010

By: /s/ Christopher Grosso
Christopher Grosso
Director, Audit Committee Chairman

March 31, 2010

By: /s/ Dr. Ralph Richart
Dr. Ralph Richart
Chairman of the Board of Directors

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS

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HANSEN, BARNETT & MAXWELL, P.C.

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Registered with the Public Company

Accounting Oversight Board

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and the Stockholders

International Isotopes Inc

We have audited the accompanying consolidated balance sheets of International Isotopes, Inc. and subsidiaries as of December 31, 2009 and 2008, and the related consolidated statements of operations, stockholders' equity, and cash flows for the years then ended. 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. The company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included 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 the consolidated financial statements referred to above present fairly, in all material respects, the financial position of International Isotopes, Inc. and subsidiaries as of December 31, 2009 and 2008, and the results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

HANSEN, BARNETT & MAXWELL, P.C.

Salt Lake City, Utah

March 31, 2010

F-1

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Balance Sheets

	December 31,	
Assets	2009	2008
Current assets		
Cash and cash equivalents	\$ 461,091	\$ 2,149,340
Accounts receivable	481,702	521,908
Inventories (Note 4)	1,835,345	2,518,254
Prepays and other current assets	126,316	117,621
Total current assets	2,904,454	5,307,123
Long-term assets		
Restricted certificate of deposit	264,751	260,517
Property, plant and equipment, net (Note 5)	2,475,466	2,748,023
Capitalized lease disposal costs, net (Note 12)	196,287	86,974
Investment (Note 3)	1,290,000	1,290,000
Patents and other intangibles, net (Note 6)	250,347	247,682
Total long-term assets	4,476,851	4,633,196
Total assets	\$ 7,381,305	\$ 9,940,319
Liabilities and Stockholders Equity		
Current liabilities		
Accounts payable	\$ 569,076	\$ 430,457
Accrued liabilities	351,437	348,427
Deferred revenue	-	102,814
Current installments of notes payable (Note 7)	126,480	580,759
Current installments of capital leases (Note 8)	37,061	33,149
Total current liabilities	1,084,054	1,495,606
Long-term liabilities		
Obligation for lease disposal costs (Note 12)	412,569	261,721
Notes payable, excluding current installments (Note 7)	963,657	930,493
Capital leases, excluding current installments (Note 8)	9,930	46,991
Mandatorily redeemable convertible preferred stock (Note 9)	850,000	850,000
Total long-term liabilities	2,236,156	2,089,205
Total liabilities	3,320,210	3,584,811
Stockholders equity (Note 9)		
Common stock, \$0.01 par value; 500,000,000 shares authorized; 293,677,806 and 288,625,708 shares issued and outstanding respectively	2,936,777	2,886,257
Additional paid-in capital	100,477,289	98,188,924
Accumulated deficit	(99,352,971)	(94,719,673)
Total stockholders equity	4,061,095	6,355,508
Total liabilities and stockholders equity	\$ 7,381,305	\$ 9,940,319

See accompanying notes to consolidated financial statements.

F-2

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Statements of Operations

	Years ended December 31,	
	2009	2008
Sale of product	\$ 6,122,844	\$ 5,602,443
Cost of product (includes \$740,719 and zero of inventory impairment, respectively)	4,073,761	2,879,839
Gross profit	2,049,083	2,722,604
Operating costs and expenses:		
Salaries and contract labor	2,061,931	1,978,149
General, administrative and consulting	1,954,294	2,447,041
Research and development	2,609,834	402,795
Total operating expenses	6,626,059	4,827,985
Operating loss	(4,576,976)	(2,105,381)
Other income (expense):		
Other income	46,918	57,535
Interest income	13,358	25,211
Interest expense	(116,598)	(144,332)
Total other (expense)	(56,322)	(61,586)
Net loss	\$ (4,633,298)	\$ (2,166,967)
Net loss per common share basic and diluted:	\$ (0.02)	\$ (0.01)
Weighted average common shares outstanding - basic and diluted	290,060,471	276,486,713

See accompanying notes to consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Statement of Stockholders' Equity
Years ended December 31, 2009 and 2008

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
Balance December 31, 2007	250,481,324	\$ 2,504,811	\$ 92,436,907	\$ (92,552,706)	\$ 2,389,012
Shares issued under private placement	8,200,000	82,000	1,968,000	-	2,050,000
Shares issued under employee stock purchase plan	40,402	404	21,099	-	21,503
Exercise of Series C and D warrants	26,666,662	266,667	2,533,330	-	2,799,997
Shares issued for acquisition of RadQual interest	1,370,753	13,708	946,292	-	960,000
Shares issued for exercise of employee stock options	1,866,567	18,667	11,334	-	30,001
Amortization of share based compensation	-	-	271,962	-	271,962
Net loss	-	-	-	(2,166,967)	(2,166,967)
Balance December 31, 2008	288,625,708	2,886,257	98,188,924	(94,719,673)	6,355,508
Shares issued under private placement	4,407,305	44,073	1,278,119	-	1,322,192
Shares issued under employee stock purchase plan	143,839	1,438	25,727	-	27,165
Shares issued for exercise of employee stock options	329,333	3,293	(3,293)	-	-
Issuance of unvested shares	171,621	1,716	(1,716)	-	-
Amortization of stock based compensation	-	-	989,528	-	989,528
Net loss	-	-	-	(4,633,298)	(4,633,298)
Balance December 31, 2009	293,677,806	\$ 2,936,777	\$ 100,477,289	\$ (99,352,971)	\$ 4,061,095

See accompanying notes to consolidated financial statements.

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INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Consolidated Statements of Cash Flows

	Years ended December 31,	
	2009	2008
Cash flows from operating activities:		
Net loss	\$ (4,633,298)	\$ (2,166,967)
Adjustments to reconcile net loss to net cash used in operating activities		
Depreciation and amortization	439,435	402,338
Accretion of obligation for lease disposal costs	21,573	21,444
Loss on disposal of property, plant and equipment	2,756	-
Loss on inventory write-down	740,719	-
Equity based compensation	989,528	271,962
Changes in operating assets and liabilities:		
Accounts receivable	40,206	(3,444)
Prepays and other current assets	(8,695)	(22,685)
Inventories	(57,809)	(15,988)
Deferred revenue	(102,814)	102,814
Accounts payable and accrued liabilities	183,066	(65,976)
Net cash used in operating activities	(2,385,333)	(1,476,502)
Cash flows from investing activities:		
Restricted certificate of deposit	(4,234)	(75,580)
Purchase of patents and other intangibles	(34,107)	(183,847)
Proceeds from sale of property, plant and equipment	5,400	-
Purchase of property, plant and equipment	(123,630)	(1,011,897)
Net cash used in investing activities	(156,571)	(1,271,324)
Cash flows from financing activities:		
Proceeds from exercise of warrants	-	2,799,997
Proceeds from issuance of debt	26,769	-
Proceeds from sale of stock and warrants	967,166	2,101,504
Principal payments on notes payable and capital leases	(140,280)	(126,222)
Net cash provided by financing activities	853,655	4,775,279
Net change in cash and cash equivalents	(1,688,249)	2,027,453
Cash and cash equivalents at beginning of year	2,149,340	121,887
Cash and cash equivalents at end of year	\$ 461,091	\$ 2,149,340
Supplemental disclosure of cash flow activities:		
Cash paid for interest	\$ 123,334	\$ 145,220
Supplemental disclosure of noncash financing and investing transactions:		
Increase in lease disposal costs	\$ 129,275	\$ 18,535
Acquisition of interest in RadQual LLC in exchange for issuance of common stock	\$ -	\$ 960,000
Conversion of \$340,753 principal and accrued interest of \$41,439 to common stock	\$ 382,192	\$ -

See accompanying notes to consolidated financial statements

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INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2009 AND 2008

NOTE 1 - DESCRIPTION OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business

International Isotopes Inc. (the Company) was incorporated in Texas in November 1995. The consolidated financial statements include all the accounts of the Company and its wholly owned subsidiaries, International Isotopes Idaho Inc., International Isotopes Fluorine Products, Inc., and International Isotopes Transportation Services, Inc., all of which are Idaho corporations. The Company's headquarters and all operations are located in Idaho Falls, Idaho.

Nature of Operations The Company's business consists of six major business segments which include: Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation.

With the exception of certain unique products, the Company's normal operating cycle is considered to be one year. Due to the time required to produce some cobalt products, the Company's operating cycle for those products is considered to be three years. All assets expected to be realized in cash or sold during the normal operating cycle of business are classified as current assets.

Significant Accounting Policies

(a)

Financial Instruments and Cash Equivalents

The carrying value of notes payable approximates fair value because they bear interest at rates which approximate market rates.

Cash and cash equivalents, totaling \$461,091 and \$2,149,340 at December 31, 2009 and 2008, respectively, consist of operating accounts, and money market accounts. For purposes of the consolidated statements of cash flows, the Company considers all highly-liquid financial instruments with original maturities of three months or less at date of purchase to be cash equivalents.

At December 31, 2009, the Company had pledged a certificate of deposit valued at \$264,751 as security on a letter of credit. The letter of credit is required as part of the licensing agreement with the Nuclear Regulatory Commission (NRC). Among other things, the licensing agreement calls for a letter of credit to provide a level of financial assurance to maintain licensing with the NRC. Accordingly, withdrawal of the certificate is restricted over the remaining life of the license.

(b)

Accounts Receivable

The Company sells products mainly to recurring customers, wherein the customer's ability to pay has previously been evaluated. The Company generally does not require collateral. The Company periodically reviews accounts receivable for amounts considered uncollectible. Allowances are provided for uncollectible accounts when deemed necessary.

(c)

Inventories

Inventories are carried at the lower of cost or market. Cost is determined using the first in, first out method. Work in progress inventory contains product that is undergoing irradiation. This irradiation process can take up to three years to reach high specific activity (HSA) levels. In 2009 it was determined that irradiated cobalt material had declined in marketability due to a decrease in activity level and accordingly, the Company recorded an impairment charge of \$740,719.

(d)

Property, Plant and Equipment

Depreciation on property, plant and equipment is computed using the straight-line method over the estimated useful life of the asset.

Leasehold improvements are amortized over the shorter of the life of the lease or the service life of the improvements. Maintenance, repairs, and renewals that neither materially add to the value of the property nor appreciably prolong its life are charged to expense as incurred. Gains or losses on dispositions of property and equipment are included in the results of operations.

(e)

Patents and Other Intangibles

Patents and other intangibles are amortized using the straight-line method over their estimated useful lives and are evaluated for impairment at least annually or when events or circumstances arise that indicate the existence of impairment.

The Company evaluates the recoverability of identifiable intangible assets whenever events or changes in circumstances indicate that an intangible asset's carrying amount may not be recoverable. Such circumstances could include, but are not limited to (1) a significant decrease in the market value of an asset, (2) a significant adverse change in the extent or manner in which an asset is used, or (3) an accumulation of costs significantly in excess of the amount originally expected for the acquisition of an asset. The Company measures the carrying amount of the asset against the estimated undiscounted future cash flows associated with it. Should the sum of the expected future cash flows be less than the carrying value of the asset being evaluated, an impairment loss would be recognized. The

impairment loss would be calculated as the amount by which the carrying value of the asset exceeds its fair value.

The evaluation of asset impairment requires the Company to make assumptions about future cash flows over the life of the asset being evaluated. These assumptions require significant judgment and actual results may differ from assumed and estimated amounts. During the years ended December 31, 2009 and 2008, the Company had no impairment losses related to an intangible asset.

(f)

Impairment of Long-Lived Assets and Long-Lived Assets to be Disposed Of

Long-lived assets are reviewed for impairment annually or when events or circumstances arise that indicate the existence of impairment. Recoverability of assets to be held and used is measured by comparison of the carrying amount of an asset to future net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount that the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed of are reported at the lower of the carrying amount or fair value less costs to sell. Based on the evaluation, no impairment was considered necessary during the years ended December 31, 2009 or 2008, respectively.

(g)

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carry forwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rate is recognized in income in the period that includes the enactment date.

(h)

Use of Estimates

Management of the Company has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of revenues and expenses during the reporting period to prepare these consolidated financial statements in conformity with accounting principles generally accepted in the United States of America. Actual results could differ from those estimates.

(i)

Revenue Recognition

Revenue is recognized when products are shipped. No warranty coverage or right of return provisions are provided to customers. During 2008, the Company was paid for some services in advance and recorded these payments as deferred revenue. As of December 31, 2008, deferred revenue amounted to \$102,814. There was no deferred revenue as of December 31, 2009.

During the fiscal year ending December 31, 2009, the Company had sales to two different entities each of which represented more than 10% of its revenues. These sales are reported in the Radiochemical Products, Nuclear Medicine and Cobalt Products business segments. These two customers accounted for approximately 70% of total revenues. At December 31, 2009, 93% of accounts receivable were from one of these customers due to their additional role as a distributor for the Company's radiochemical and nuclear medicine products. This customer accounted for 54% of total sales in 2009, and 55% of total sales in 2008. The loss of either customer may result in lower revenues and limit the cash available to grow the business and achieve profitability.

(j)

Research and Development Costs

The Company had research and development expenses totaling \$2,609,834 in 2009, and \$402,795 in 2008. Approximately \$2,584,000 of the research and development expense in 2009, and \$372,000 in 2008, was associated with the planning, site selection, licensing, and design of the planned depleted uranium de-conversion and fluorine extraction processing facility. Only a small amount of research and development expense, \$25,891 in 2009, and \$30,642 in 2008, was for research and development in the other core business segments and was associated primarily with developing new products for the nuclear medicine reference and calibration business.

(k)

Share Based Compensation

The Company accounts for issuances of share based compensation to employees in accordance with U.S. Generally Accepted Accounting Principles which requires the recognition of the cost of employee services received in exchange for an award of equity instruments in the financial statements and is measured based on the grant date fair value of the award. Compensation expense is recognized over the period during which an employee is required to provide service in exchange for the award (the vesting period).

For the year ended December 31, 2009, and December 31, 2008, the Company recognized equity based compensation expense of \$989,528 and \$271,962 respectively, related to stock options. This expense is included as part of salaries and contract labor on the accompanying statements of operations.

(l)

Net Loss Per Common Share-Basic and Diluted

Basic loss per share is computed on the basis of the weighted-average number of common shares outstanding during the year. Diluted loss per share is computed on the basis of the weighted-average number of common shares and all dilutive potentially issuable common shares outstanding during the year.

At December 31, 2009, and 2008, the Company had the following common stock equivalents outstanding that were not included in the computation of diluted net loss per common share as their effect would have been anti-dilutive, thereby decreasing the net loss per common share:

	December 31,	
	2009	2008
Stock options	26,700,000	18,780,000
Warrants	25,940,637	21,533,331
Unvested stock awards issued under the 2006 Equity Incentive Plan	876,014	-
850 shares of Series B redeemable convertible preferred stock	425,000	425,000
	53,941,651	40,738,331

(m)

Business Segments and Related Information

Generally accepted accounting principles establishes standards for the way public business enterprises are to report information about operating segments in annual financial statements and requires enterprises to report selected information about operating segments in interim financial reports issued to shareholders. It also establishes standards for related disclosure about products and services, geographic areas and major customers. The Company currently operates in six business segments.

(n)

Reclassifications

Certain 2008, amounts have been reclassified to conform to the 2009, presentation. These reclassifications had no effect on the previously reported net loss.

(o)

Recent Accounting Pronouncements

Fair Value In April 2009, the Financial Accounting Standards Board (FASB) issued new standards requiring an entity to provide disclosures about fair value of financial instruments in interim financial information. The new standards also amends a previous accounting standard to require those disclosures about the fair value of financial instruments in summarized financial information at interim reporting periods. Under the new guidance, the Company will be required to include disclosures about the fair value of its financial instruments whenever it issues financial information for interim reporting periods. In addition, the Company will be required to disclose in the body or in the accompanying notes of its summarized financial information for interim reporting periods and in its financial statements for annual reporting periods, the fair value of all financial instruments for which it is practicable to estimate that value, whether recognized or not recognized in the statement of financial position. The staff position is effective for periods ending after June 15, 2009 and the adoption of this standard did not have a material impact on the Company s financial position or results of operations.

Subsequent Events In May 2009, the FASB issued new standards which establish the accounting for and disclosure of events that occur after the balance sheet date but before financial statements are issued. In particular, the new standards set forth:

.
the period after the balance sheet date during which management of a reporting entity should evaluate events or transactions that may occur for potential recognition or disclosure in the financial statements (through the date that the financial statements are issued or are available to be issued);

.
the circumstances under which an entity should recognize events or transactions occurring after the balance sheet date in its financial statements; and

.
the disclosures that an entity should make about events or transactions that occurred after the balance sheet date.

We adopted the new standards as of June 30, 2009.

In June 2009, the FASB established the FASB Accounting Standards Codification (Codification), which officially commenced July 1, 2009, to become the source of authoritative US GAAP recognized by the FASB to be applied by nongovernmental entities. Rules and interpretive releases of the SEC under authority of federal securities laws are also sources of authoritative US GAAP for SEC registrants. Generally, the Codification is not expected to change US GAAP. All other accounting literature excluded from the Codification will be considered nonauthoritative. The Codification is effective for financial statements issued for interim and annual periods ending after September 15, 2009. We adopted the new standards for our quarter ending September 30, 2009. All references to authoritative accounting literature are now referenced in accordance with the Codification.

In August 2009, the FASB issued further guidance on how to measure the fair value of a liability. The Update clarifies that, in circumstances in which a quoted price in an active market for the identical liability is not available, a reporting entity is required to measure fair value using one or more prescribed techniques. We adopted the new guidance as of October 1, 2009. Adoption of the new guidance had no impact on our financial position or results of operations.

In January 2010, the FASB issued new standards that require an entity to disclose the following regarding fair value measurements:

Separately disclose the amounts of significant transfers in and out of Level 1 and Level 2 fair value measurements and describe reasons for the transfers.

.

Present separately information about purchases, sales, issuances and settlements, on a gross basis, rather than on one net number, in the reconciliation for fair value measurements using significant unobservable inputs (Level 3).

.

Provide fair value measurement disclosures for each class of assets and liabilities.

.

Provide disclosures about the valuation techniques and inputs used to measure fair value for both recurring and nonrecurring fair value measurements for fair value measurements that fall in either Level 2 or level 3.

This standard is effective for interim and annual reporting periods beginning after December 15, 2009, except for the disclosures about purchases, sales, issuances, and settlements in the roll forward of activity in Level 3 fair value measurements. Those disclosures are effective for fiscal years beginning after December 15, 2010. The adoption of this standard is not expected to have a material impact on our financial position or results of operations.

NOTE 2 - BUSINESS CONDITION AND LIQUIDITY

Business Condition The Company has a history of recurring losses with an accumulated deficit of \$99,352,971 at December 31, 2009, and a net loss of \$4,633,298 for the year then ended. The Company's working capital has decreased by \$1,991,117 from the prior year, working capital includes inventory which will not be sold for up to three years, and the Company has used cash flows from operations of \$2,385,333. During 2009, the Company sought to improve future cash flows from operating activities through significant investments into facilities and infrastructure, launching new products and implementing and improving operating cost control measures and raising capital. Income for the Radiochemical Products segment increased by approximately 26% from 2008, to 2009. Income for the Cobalt Products segment, not including an asset impairment in the amount of \$740,719, increased by approximately 22% from 2008, to 2009. Including the asset impairment, income for the Cobalt Products segment decreased by approximately 64%. The Company does not expect additional impairments and anticipates similar growth trends over the coming year.

In 2004, the Company acquired seven patents for the Fluorine Extraction Process (FEP) and began the design and construction of an FEP pilot plant intended to produce germanium tetrafluoride. The plant was completed to the extent required to conduct some initial production testing in early 2006. During the remainder of 2006, and 2007, the Company expanded the scale of production testing in order to define the operational parameters for regular commercial production and completed installation of additional ancillary equipment and systems. In 2008, the Company produced qualification samples of fluoride gas to provide to their prospective customer. This pilot plant has successfully demonstrated the technical viability of FEP and its ability to produce high purity germanium tetrafluoride, but, because of changing market conditions is not producing germanium tetrafluoride on a commercial scale. Instead, the pilot plant is being used for the development of various fluoride gas analytical processes and will be used to test certain key components for the planned uranium de-conversion and fluorine extraction processing facility.

Beginning in 2008, the Company started a major undertaking to construct the first commercial uranium de-conversion facility in the U.S. The Company believes this will provide an excellent commercial opportunity because there are several companies constructing new uranium enrichment facilities in the U.S., and these facilities will produce a large amount of depleted uranium hexafluoride (UF₆) that must be de-converted for disposal. In the process of de-conversion the Company plans to use the FEP process to produce high value high purity fluoride gases.

It will require significant capital and time to design, license, and construct such a uranium de-conversion facility. Nonetheless, the Company believes that the commercial opportunity will justify this investment and it has taken several actions in 2008 and 2009, to put this plan in place. In 2008, the Company completed an underwriting agreement with Cormark Securities, Inc. to support a future public offering to raise additional capital at a time best coordinated with market conditions. Although the market conditions in 2009 did not support this public offering, the plan is still in effect and is anticipated to take place during 2010. Also, in 2008, the Company completed a private offering that raised approximately \$2 million. In 2009, the company completed a second private offering that raised approximately \$1 million. Both of these offerings were to provide continuing support for near term actions associated with design and licensing of the new facility. The Company completed an acquisition of uranium de-conversion plant equipment, software, and know-how in 2008, that will be used in the new uranium de-conversion facility. During 2009, the Company completed site selection, prepared a conceptual design report, completed an initial

agreement with the New Mexico Environment Department, and submitted its license application with environmental report to the U.S. Nuclear Regulatory Commission. The Company plans to continue work on this project in 2010, and will continue to incur significant costs as a result. During the years ended December 31, 2009 and 2008, the Company incurred \$2,584,000 and \$372,000, respectively, of research and development expense associated with the de-conversion facility.

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NOTE 3 PURCHASED ASSETS AND INVESTMENTS

Assets Purchased from Sequoyah Fuels Corporation

In May 2008, the Company entered into an Asset Purchase Agreement with Sequoyah Fuels Corporation to which the Company purchased certain tangible and intangible assets related to Sequoyah's depleted uranium hexafluoride to depleted uranium tetrafluoride conversion facility located in Gore, Oklahoma. On May 30, 2008, the Company and Sequoyah entered into a Technical Support Services Agreement pursuant to which Sequoyah will perform up to 500 hours of certain technical services to support the acquired assets. As consideration for the acquired assets and the service agreement, the Company paid Sequoyah \$900,000 cash.

Of the purchase price, \$755,000 was allocated to Equipment, \$100,000 to Other Intangibles, and \$45,000 to the Service Agreement, based on a fair value analysis performed by outside consultants. Amortization for the Service Agreement is based on the five year term of the agreement and in 2009 the Company reported \$9,000 in amortization expense and \$5,250 in 2008. No depreciation has been recorded on the equipment because it has not yet been placed into service. At the time the agreement was entered into, the facility had been placed in storage and no operations had been conducted for several years. As a result, the Company considered this an asset purchase and not a business purchase.

Acquisition of Interest in RadQual, LLC

In May 2008, the Company acquired an additional 18.5% interest in RadQual, LLC, by issuing 1,370,753 shares of common stock valued at \$960,000 or \$0.70 per share. This acquisition increased the Company's total ownership in RadQual, LLC, to 24.5%. The Company had previously purchased a 6% interest in this company in April 2007.

The remaining 75.5% ownership of RadQual, LLC, is concentrated among a very small group of investors and due to this concentration the Company is unable to exert significant control or influence over the operations and policies of RadQual, LLC. Accordingly, the investment in RadQual will continue to be recorded at the lower of cost or fair value. The 24.5% ownership of RadQual has been recorded at cost of \$1,290,000. Member distributions from RadQual totaled \$49,164 and \$38,481 in 2009 and 2008 respectively, and were recorded as Other Income.

NOTE 4 - INVENTORIES

Inventories consisted of the following at December 31, 2009, and 2008:

	2009	2008
Raw materials	\$ 251,035	\$ 256,576
Work in progress	1,584,310	2,261,678
	\$ 1,835,345	\$ 2,518,254

Included in inventories are the various pellet holders and housings involved in target fabrication, raw cobalt, nickel and other raw elements, completed flood sources and irradiated cobalt.

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Work in progress includes cobalt-60 isotopes that are located in the U.S. federal government's Advanced Test Reactor (ATR) located outside Idaho Falls, Idaho. These isotopes are at various stages of irradiation. Some isotopes are near completion and others may require up to three years to complete. At December 31, 2009 and 2008, these isotopes had a carrying value of \$1,154,459 and \$2,009,356, respectively. This value is based on accumulated costs which are allocated based on the length of time isotopes remain in the reactor. During 2009, it was determined that certain cobalt production targets had been removed from continued irradiation and had since decayed to an activity level, and value, that was significantly less than their accumulated costs. This material was written down, using the lower of cost or market method, from \$1,895,177 to \$1,154,459. The Company still plans to use the material in the future as part of their recycle program. This write-down does not reflect a reduction in future cobalt production activity.

NOTE 5 - PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are summarized as follows at December 31, 2009, and 2008:

	2009	2008	Estimated Useful Lives
Furniture and fixtures	\$ 120,907	\$ 120,907	3 - 5 years
Transportation equipment	149,634	87,836	5 - 10 years
Plant and improvements	155,162	155,162	5 years
Production equipment	3,867,847	3,831,119	5 - 10 years
	4,293,550	4,195,024	
Less accumulated depreciation	(1,818,084)	(1,447,001)	
Property, plant and equipment, net	\$ 2,475,466	\$ 2,748,023	

Depreciation was \$388,033 and \$364,434 for the years ended December 31, 2009 and 2008, respectively.

NOTE 6 - PATENTS AND OTHER INTANGIBLE ASSETS

During the year ended December 31, 2008, the Company obtained certain patents and patents pending related to a Fluorine Extraction Process and a container to transport radioactive materials. During 2009, the Company was granted four additional patents for various uses of germanium and silicon tetrafluoride as fluorinating agents. These patents were developed in an effort to expand the possible markets for the high purity fluoride gases the Company will produce with its fluorine extraction process. At the present time the value of this patent technology or the feasibility of expanding the fluoride gas markets through the use of this newly patented technology is unknown.

The following table summarizes the patent activity for the years ended December 31, 2009 and 2008:

	2009	2008
Beginning	\$ 318,616	\$ 134,769
Additions	34,107	183,847
Ending	352,723	318,616
Accumulated amortization	(102,376)	(70,934)
Net	\$ 250,347	\$ 247,682

During the year ended December 31, 2009, and 2008, respectively, the Company recognized \$31,441 and \$22,772 of amortization expense, respectively.

Patent amortization is based on a ten year life and estimated amortization expense of patents is as follows:

Years Ending December 31:	
2010	\$ 29,502
2011	29,502
2012	29,502
2013	29,502
2014	2,457
Thereafter	-
	\$ 120,465

NOTE 7 - NOTES PAYABLE

In April 2009, the Company renewed a promissory note with Compass Bank. The new note bears interest at 7.25%, requires monthly installments of \$9,090 and matures in April 2011.

In September 2009, \$340,753 of principal and \$41,439 of accrued interest from a Note Payable to the former Chairman of the Board was converted into equity. The conversion was deemed a partial prepayment of principal and accrued interest under the original note. The terms and conditions of the original note remain in full force and effect. The note conversion was pursuant to an Unsecured Note Conversion Agreement dated September 18, 2009, wherein the note was reduced by the conversion amount and 1,273,972 units were issued consisting of one share of Common Stock, par value \$0.01 per share, and one Class G Warrant to purchase an underlying share of Common Stock for a purchase price equal to \$0.40 per share.

Notes payable as of December 31, 2009 and 2008, consist of the following:

	2009	2008
Note payable to a finance company bearing interest at 8.9%; monthly installments of \$674, secured by a vehicle.	\$ 16,979	\$ 23,237
Note payable to a bank, converted from a line of credit in September 2007, bears interest at 9.25%, monthly payment of \$3,760, secured by equipment and accounts receivable, due September 2011.	72,558	108,999
Promissory note to a bank, bearing interest at 7.25%; monthly installments of \$9,090, secured by equipment, accounts receivable and inventory; due April 2011.	483,181	538,263
Note payable to a finance company bearing interest at 9.4%; monthly installments of \$697, secured by a vehicle, due March 2012.	17,419	-
Note payable to the former chairman of the board, interest accrues at 7%; payable annually on April 1; principal payments are due annually on April 1 consisting of 30% of prior year net income, with remaining balance due April 2012; unsecured.	500,000	840,753
Total notes payable	1,090,137	1,511,252
Less: current maturities	(126,480)	(580,759)
Notes payable, excluding current installments	\$ 963,657	\$ 930,493

Maturities of Notes Payable obligations at December 31, 2009 are as follows:

Years ending December 31,	
2010	\$ 126,480
2011	131,836
2012	596,040
2013	97,557
2014	104,982
Thereafter	33,242
	\$ 1,090,137

NOTE 8 - LEASE OBLIGATIONS

Capital leases

The following table summarizes equipment and the related depreciation held under capital leases at December 31, 2009 and 2008:

2009	2008
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Production equipment	\$	202,910	\$	202,910
Less: accumulated depreciation		(131,892)		(91,310)
Net equipment under capital lease	\$	71,018	\$	111,600

Operating leases

The Company leases office space, certain office equipment and production equipment under operating leases expiring at various dates through 2011. Rental expense under such leases for the years ended December 31, 2009 and 2008 was \$195,802 and \$184,314 respectively.

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The following is a schedule by years of future minimum lease payments under capital and operating lease obligations together with the present value of the net minimum lease payments as of December 31, 2009:

Years ending December 31,	Capital	Operating
2010	\$ 40,092	\$ 189,444
2011	10,023	63,045
Thereafter	-	-
Total minimum lease payments	50,115	\$ 252,489
Less amount representing interest	(3,124)	
Present value of net minimum lease payments	46,991	
Less current portion	(37,061)	
Capital lease obligation - long term	\$ 9,930	

NOTE 9 - SHAREHOLDERS' EQUITY, REDEEMABLE CONVERTIBLE PREFERRED STOCK, OPTIONS AND WARRANTS

Private Placement

During January 2008, 13,333,331 Series D warrants were exercised for cash totaling \$1,466,666. In April 2008, the holders of all Class C warrants agreed to amend the terms of the Class C warrant to allow for the Company's call of those warrants. Subsequent to completing this modification, all 13,333,331 Class C warrants were exercised for cash totaling \$1,333,331 and the Company issued 13,333,331 exchange (Class E) warrants in accordance with the terms of the Class C warrant. Class E warrants entitle the holder to purchase shares of common stock, at an exercise price equal to \$0.869 per share. Class E warrants expire March 20, 2011.

During November 2008, the Company completed a private placement offering of 8,200,000 Units priced at \$0.25 per share for proceeds of \$2,050,000. Each Unit consisted of one share of common stock and one Class F Warrant to purchase a share of common stock at \$0.30 per share. The Class F Warrants have a 5 year term and expire in 2013. The proceeds were allocated to the warrants based upon their fair value of \$2,720,760, and resulted in \$929,475 being allocated to the warrants and \$1,120,525 allocated to the shares of common stock. The fair value of the warrants, determined using the Black-Scholes Option Pricing Model, was calculated using the following assumptions: risk free interest rate of 0.29%, expected dividend yield of 0%, expected volatility of 128.86% and an expected life of 4 years. In accordance with the Securities Purchase Agreement, the warrants carry registration rights. A shareholder may demand that the Company Register the securities if they are unable to sell the securities any time following the six-month holding period provided in Rule 144. The Company is to use all commercially reasonable efforts to file a Shelf registration statement within 45 days of notice, cause the registration statement to be effective within 120 days of notice and keep the registration statement continuously effective for five years after the effective date or until the underlying securities have been sold. If the Company fails to timely file the registration statement or maintain its effectiveness, the Company is required to pay a monthly penalty equal to the greater of 1% of the purchase price paid by the purchaser or 1% of the market value of the shares then outstanding. Demand for registration has not yet been made.

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During September 2009, the Company completed a private placement offering of 4,407,305 units priced at \$0.30 per unit in exchange for cash proceeds of \$940,000 and conversion of certain debt of \$340,753 and accrued interest of \$41,439. Each unit consisted of one share of common stock and one Class G Warrant to purchase a share of common stock at \$0.40 per share. The Class G Warrants have a two year term, expire in 2011, and include a first anniversary price adjustment provision. The proceeds were allocated to the warrants based upon their value of \$1,892,497 and resulted in \$778,379 being allocated to the warrants and \$543,813 allocated to the shares of common stock. The fair value of the warrants, determined using the Black-Scholes Option Pricing Model, was calculated using the following assumptions: risk free interest rate of 3%, expected dividend yield of 0%, expected volatility of 126.93% and an expected life of 2 years. In accordance with the Securities Purchase Agreement, the stock and warrants carry registration rights. A shareholder may demand that the Company Register the securities if they are unable to sell the securities any time following the six-month holding period provided in Rule 144. The Company is to use all commercially reasonable efforts to file a Shelf registration statement within 45 days of notice, cause the registration statement to be effective within 120 days of notice and keep the registration statement continuously effective for five years after the effective date or until the underlying securities have been sold or may be sold under Rule 144. If the Company fails to timely file the registration statement or maintain its effectiveness, the Company is required to pay a monthly penalty equal to the greater of 1% of the purchase price paid by the purchaser or 1% of the market value of the shares then outstanding. Demand for registration has not yet been made.

Mandatorily Redeemable Convertible Preferred Stock

The Company is authorized to issue up to 5,000,000 shares of Preferred Stock, par value \$0.01 per share. The Board of Directors is authorized to set the distinguishing characteristics of each series prior to issuance, including the granting of limited or full voting rights, rights to the payment of dividends and amounts payable in event of liquidation, dissolution or winding up of the Company.

At December 31, 2009, there were 850 shares of the Series B Preferred Stock outstanding with a mandatory redemption date of May 2022 at \$1,000 per share. The shares are also convertible into common stock at a conversion price of \$2.00 per share. These preferred shares carry no dividend preferences. Due to the mandatory redemption provision, the Series B Preferred Stock has been classified as a liability in the accompanying balance sheet.

Employee Stock Purchase Plan

In September 2004, the Company's Board of Directors approved an employee stock purchase plan for an aggregate of up to 2,000,000 shares of the Company's common stock. The plan allows employees to deduct up to 15% of their payroll each pay period to be used for the purchase of common stock at a discounted rate. The common shares will be purchased at the end of each three month offering period or other period as determined by the Board. The Plan is intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code.

During 2009, and 2008, the Company issued 143,839 and 40,402 shares of common stock to employees for proceeds of \$27,165 and \$21,503, respectively, in accordance with the employee stock purchase plan.

2006 Equity Incentive Plan

In April 2006, the Company adopted the International Isotopes 2006 Equity Incentive Plan (the "2006 Plan"). The 2006 Plan obtained shareholder approval in July 2006. The 2006 Plan replaced the Company's 2002 Long-Term Incentive Plan (the "Prior Plan").

The 2006 Plan permits the granting of any or all of the following types of awards: (1) incentive and nonqualified stock options, (2) stock appreciation rights, (3) stock awards restricted stock and stock units, (4) performance shares and performance units conditioned upon meeting performance criteria and (5) other stock or cash based awards.

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The 2006 Plan authorizes the issuance of up to 20,000,000 shares of Common Stock, plus 1,350,000 shares issued but not subject to outstanding awards under the Prior Plan. There are also 13,000,000 shares granted and outstanding under the Prior Plan that could become available for issuance under the 2006 Plan. (For example, if they are forfeited or otherwise expire or terminate without the issuance of shares.) Unless earlier terminated the 2006 Plan will terminate on July 12, 2016. At December 31, 2009, there were 7,283,528 shares available for issuance under this plan.

Non-vested Stock Grants During January 2009, the Company granted 1,243,563 shares of stock to certain employees as part of their annual performance award and incentive under the 2006 Equity Incentive Plan. Each stock award was 20% vested on the date of grant and an additional 20% of the award will vest on each anniversary thereof until fully vested. The stock awards had a grant date fair value of \$223,841. At the time of grant 20% of the shares of 248,713 shares, were vested. Simultaneously, at the request of employees, 77,092 shares were withheld to pay taxes on deemed employee compensation.

Non-vested stock awards outstanding at December 31, 2009 and 2008, and changes during the year ended December 31, 2009, were as follows:

Non-vested Stock Awards	Shares
Non-vested at December 31, 2008	-
Granted	1,243,563
Vested	(248,713)
Forfeited	(118,836)
Non-vested at December 31, 2009	876,014

The value of non-vested stock under the 2006 Equity Incentive Plan at December 31, 2009 is \$481,808 and is based on a December 31, 2009 value of \$0.55 per share. As of December 31, 2009, there was approximately \$65,528 of unamortized deferred compensation that will be recognized over a weighted average period of 2 years.

Stock Options

During May 2009, the Company issued 7,500,000 options to officers and directors under the 2006 Equity Incentive Plan. The options have an exercise price of \$0.32 per share, vest 25% on the first anniversary of the grant date and 25% after each additional one-year period of continuous service and expire 10 years from the date of grant. These options had a fair value of \$1,753,718, or \$0.23 per share as estimated on the date of grant using the Black-Scholes option pricing model.

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	2009	2008
Expected dividend yield	-	-
Risk-free interest rate	2.4%	1.6%
Expected volatility	84%	86%
Expected life	6 years	5 years

The expected life of stock options represents the period of time that the stock options granted are expected to be outstanding based on historical exercise trends. The expected volatility is based on the historical price volatility of our common stock. The risk-free interest rate represents the U.S. Treasury bill rate for the expected life of the related stock options. The dividend yield represents our anticipated cash dividend over the expected life of the stock options.

During May 2009, the Company issued 800,000 non-employee options under the 2006 Equity Incentive Plan. The options were issued to individuals providing consulting services for the depleted uranium de-conversion facility. These options have an exercise price of \$0.32 per share, vest 20% on the first and second anniversary of the grant date and 30% per year thereafter and expire in May 2019. The options had a grant date fair value of \$182,202, or \$0.23 per share as calculated using the Black-Scholes option pricing model. During the year ended December 31, 2008, the Company issued 400,000 non-employee options under the 2006 Equity Incentive Plan. The options were issued pursuant to a consulting agreement with an individual to provide consulting services related to the fluorine extraction process. The agreement states that the consultant will provide 20-40 hours of consulting per month at a rate of \$125 per hour. These options have an exercise price of \$0.77 per share, vest 25% each year subsequent to the grant date, and expire in January 2018. The options had a grant date fair value of \$258,012, or \$0.65 per share as calculated using the Black-Scholes option pricing model. As of December 31, 2009, the options awarded to non-employees were revalued using the Black-Scholes option pricing model and had a fair value of \$461,426, or \$0.44 per share.

A summary of the stock options issued under the Company's Plan is as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding at December 31, 2007	21,350,000	\$ 0.05		
Exercised	(1,970,000)	0.07	\$	1,521,500
Forfeited	(1,000,000)	0.17		
Granted	400,000	0.77		
Outstanding at December 31, 2008	18,780,000	0.09	4.7	\$ 2,963,400
Exercised	(380,000)	0.08	\$	197,600
Forfeited	-	-		
Granted	8,300,000	0.32		
Outstanding at December 31, 2009	26,700,000	\$ 0.16	3.5	\$ 10,603,000
Exercisable at December 31, 2009	17,700,000	\$ 0.07	4.3	\$ 8,694,000
Exercisable at December 31, 2008	16,780,000	\$ 0.05		

The year-end intrinsic values are based on a December 31, 2009 closing price of \$0.55.

The following table summarizes information about stock options under the Plan outstanding at December 31, 2009:

Exercise	Number	Weighted Average	Weighted Average Remaining Contractual	Number	Weighted Average
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Price	Outstanding	Exercise Price	Life	Exercisable	Exercise Price
\$0.02-0.03	12,000,000	\$ 0.02	2.4	12,000,000	\$ 0.02
\$0.07-0.08	5,000,000	\$ 0.08	5.6	5,000,000	\$ 0.08
\$0.32	8,300,000	\$ 0.32	9.3	-	\$ -
\$0.70	1,000,000	\$ 0.70	8.0	600,000	\$ 0.70
\$0.77	400,000	\$ 0.77	8.0	100,000	\$ 0.77

At December 31, 2009, there was \$1,447,434 of unrecognized compensation cost related to stock options that will be recognized over a weighted average period of 2.14 years.

All options exercised were issued under a qualified plan and accordingly, there is no income tax effect in the accompanying financial statements.

Stock Warrants

The following summarizes warrant activity for the years ended December 31, 2009 and 2008:

Warrants	Outstanding Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life
Outstanding at December 31, 2007	26,666,662	\$ 0.05	
Granted	21,533,331	0.30	
Exercised	(26,666,662)	0.11	
Outstanding at December 31, 2008	21,533,331	0.30	
Granted	4,407,306	0.40	
Outstanding at December 31, 2009	25,940,637	\$ 0.43	2.1

NOTE 10 - INCOME TAXES

The Company paid no federal or state income taxes during 2009 or 2008. Income tax expense on loss differed from the amounts computed by applying the U.S. federal income tax rate of 34% to pretax losses as a result of the following:

	2009	2008
Income tax benefit	\$ (1,575,321)	\$ (736,769)
Nondeductible expenses	9,580	10,520
State taxes net of federal benefit	(213,132)	(99,680)
Change in valuation allowance	1,778,873	825,929
Total income tax expense	\$ -	\$ -

The tax effects of temporary differences that give rise to significant portions of the Company's deferred tax assets (liabilities) as of December 31, 2009 and 2008 are presented below:

	2009	2008
Deferred income tax asset		
Net operating loss carryforward	\$ 5,528,275	\$ 3,944,912
Valuation allowance	(5,411,061)	(3,632,188)
Total deferred income tax asset	117,214	312,724
Deferred income tax liability - depreciation	(117,214)	(312,724)
Deferred tax asset (liability)	\$ -	\$ -

At December 31, 2009, the Company had net operating losses of approximately \$13,374,000 that will begin to expire in 2023. The valuation allowances for 2009 and 2008 have been applied to offset the deferred tax assets in recognition of the uncertainty that such benefits will be realized.

In accordance with generally accepted accounting principles, the Company has analyzed its filing positions in all jurisdictions where it is required to file income tax returns for the open tax years in such jurisdictions. The Company has identified its federal income tax return and its state income tax returns in Idaho as major tax jurisdictions. The Company's federal income tax returns for the years ended December 31, 2006 through 2008 remain subject to examination. The Company's income tax returns in state income tax jurisdictions remain subject to examination for years ended December 31, 2006 through 2008. The Company currently believes that all significant filing positions are highly certain and that all of its significant income tax filing positions and deductions would be sustained upon audit. Therefore, the Company has no significant reserves for uncertain tax positions and no adjustments to such reserves were required by generally accepted accounting principles. No interest or penalties have been levied against the Company and none are anticipated, therefore no interest or penalty has been included in our provision for income taxes in the consolidated statements of operations.

The Internal Revenue Code contains provisions which reduce or limit the availability and utilization of net operating loss carry forwards in the event of a more than 50% change in ownership. If such an ownership change occurs with the Company, the use of these net operating losses could be limited.

NOTE 11 COMMITMENTS AND CONTINGENCIES

Dependence on Third Parties

The production of HSA Cobalt is dependent upon the U.S. Department of Energy, and its prime operating contractor, which controls the reactor and laboratory operations. The revenue associated with the sale of HSA Cobalt is largely dependent on the Company's sole customer for this product. Nuclear Medicine Reference and Calibration Standard manufacturing is conducted under an exclusive contract with RadQual, LLC which in turn has an agreement in place with several companies for distributing the product. The majority of the radiochemical sold by the Company is provided through a supply agreement with a single entity. A loss of any of these customers or suppliers could adversely affect operating results by causing a delay in production or a possible loss of sales.

Contingencies

Because all of the Company's business segments involve radioactive materials the Company is required to have an operating license from the Nuclear Regulatory Commission (NRC) and specially trained staff to handle these materials. The Company has an NRC operating license and has amended this license several times to increase the amount of material permitted within the facility. Additional processing capabilities and license amendments could be implemented that would permit processing of other reactor produced radioisotopes by the Company but this license does not currently restrict the volume of business operation performed or projected to be performed in the coming year. An irrevocable, automatic renewable letter of credit against a Certificate of Deposit at Wells Fargo Bank has been used to provide the financial assurance required by the NRC for the Idaho facility license.

Defined Contribution Pension Plan

The Company has a 401(k) defined-contribution pension plan (the Plan) for which employees are eligible after completing six months of full time service. Participants, under provision of Internal Revenue Code §401(k), may elect to contribute up to \$16,500 of their compensation to the Plan which includes both before-tax and Roth after-tax contribution options. Although The Company reserves the right to make discretionary matching contributions to participant accounts there were no employer matching contributions made for either 2009 or 2008. All amounts withheld for employee contributions were made during 2009, with the exception of the final payment being made in January 2010. This final payment was included in accrued liabilities at December 31, 2009. The employer reserves the right to terminate the Plan at any time.

NOTE 12 ASSET RETIREMENT OBLIGATION

As part of the Company's NRC operating license and as part of the Company's facility lease agreements, the Company is responsible for decommissioning the facilities upon termination or relocation of operations. The Company has developed a decommissioning funding plan using guidance provided by the NRC and estimated a cost to decommission the facility. The decommissioning cost estimate is reviewed at least annually to validate the assumptions and is revised as necessary when changes in the facility processes or radiological characteristics would affect the cost of decommissioning.

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In accordance with Generally Accepted Accounting Principles, the Company has recognized the fair value of the decommissioning costs as an asset retirement obligation and a related capitalized lease disposal cost. The Company recognizes period-to-period changes in the liability resulting from the passage of time (accretion expense) and revisions to the original estimate resulting from changes in the facility processes or radiological characteristics.

Changes resulting from the passage of time are recorded as interest expense in the statement of operations and changes resulting from revisions to the original estimate are recorded as an increase or decrease to the capitalized lease disposal cost. The capitalized lease disposal cost is amortized on a straight line basis over the remaining life of the facility operating lease agreement.

The following summarizes, for the years ended December 31, 2009 and 2008, the activity of the asset retirement obligation:

	Obligation for		Capitalized
	Lease Disposal		Lease Disposal
	Cost		Costs
Balance January 1, 2008	\$ 221,742	\$	83,271
Increase in lease disposal costs	18,535		18,535
Accretion expense/Amortization Expense	21,444		(14,832)
Balance December 31, 2008	261,721		86,974
Increase in lease disposal costs	129,275		129,275
Accretion expense/Amortization Expense	21,573		(19,962)
Balance December 31, 2009	\$ 412,569	\$	196,287

NOTE 13 SEGMENT INFORMATION

Information related to the Company's reportable operating business segments is shown below. The Company's reportable segments are reported in a manner consistent with the way management evaluates the businesses. The Company identifies its reportable business segments based on differences in products and services. The accounting policies of the business segments are the same as those described in the summary of significant accounting policies. The Company has identified the following business segments:

Nuclear Medicine segment consists of the manufacturing of sources and standards associated with SPECT imaging, patient positioning, and calibration or operational testing of dose measuring equipment for nuclear pharmacy.

Cobalt Products segment includes the production of high and medium specific activity bulk cobalt, recycling expended cobalt sources, and fabrication of a wide array of cobalt teletherapy and experimental irradiator source capsules.

Radiochemical Products segment includes production of various isotopically pure radiochemicals for medical, industrial, or research applications. These products are either directly produced by the company or are purchased in bulk from other producers and distributed by the Company in customized packages and chemical forms tailored to customer and market demands.

Fluorine Products segment concerns the production of small scale qualification samples of high purity fluorine gas compounds (such as germanium tetrafluoride) for the electronics and silicon chip manufacturing industry, as well as development of laboratory and analytical processes required to support the uranium de-conversion and fluorine extraction facility. The Company has acquired all patent rights to these processes.

Radiological Services segment concerns a wide array of miscellaneous services such as processing of gemstone which has undergone irradiation for color enhancement, radiological engineering consultant services, Type A package certification testing, and waste packaging/recycle services.

Transportation segment includes transportation services the Company engages in for the commercial transfer of nuclear products for which the Company is licensed to transport.

The following presents certain segment information as of and for the years ended December 31, 2009 and 2008:

	2009		2008	
Sale of Product				
Radiochemical Products	\$	1,714,529	\$	1,379,906
Cobalt Products		2,180,445		1,616,020
Nuclear Medicine Standards		1,800,935		1,864,099
Radiological Services		239,722		634,201
Fluorine Products		878		-
Transportation		186,335		108,217
Total Segments		6,122,844		5,602,443
Corporate revenue		-		-
Total Consolidated	\$	6,122,844	\$	5,602,443

	2009		2008	
Depreciation and Amortization				
Radiochemical Products	\$	39,148	\$	43,961
Cobalt Products		122,687		100,863
Nuclear Medicine Standards		4,191		2,572
Radiological Services		10,730		7,011
Fluorine Products		224,379		209,517
Transportation		30,468		20,167
Total Segments		431,603		384,091
Corporate depreciation and amortization		7,832		18,247
Total Consolidated	\$	439,435	\$	402,338

	2009		2008	
Segment Income (Loss)				
Radiochemical Products	\$	157,401	\$	124,912
Cobalt Products		316,282		867,002
Nuclear Medicine Standards		752,445		772,343
Radiological Services		32,584		372,364
Fluorine Products		(3,266,961)		(1,564,557)
Transportation		(80,916)		(139,463)
Total Segments		(2,089,165)		432,601
Corporate loss		(2,544,134)		(2,599,568)
Net Loss	\$	(4,633,299)	\$	(2,166,967)

	2009		2008	
Expenditures for Segment Assets				
Radiochemical Products	\$	-	\$	-
Cobalt Products		6,202		147,335
Nuclear Medicine Standards		25,556		-

Radiological Services	-	51,995
Fluorine Products	44,326	941,939
Transportation	81,653	12,370
Total Segments	157,737	1,153,639
Corporate purchases	-	3,258
Total Consolidated	\$ 157,737	\$ 1,156,897

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Segment Assets	2009	2008
Radiochemical Products	\$ 314,386	\$ 312,049
Cobalt Products	2,150,012	3,110,486
Nuclear Medicine Standards	546,521	439,832
Radiological Services	38,708	55,042
Fluorine Products	1,884,243	2,044,333
Transportation	95,749	52,720
Total Segments	5,029,619	6,014,462
Corporate assets	2,351,686	3,925,857
Total Consolidated	\$ 7,381,305	\$ 9,940,319

NOTE 14 - SUBSEQUENT EVENTS

During February 2010, the Company entered into a securities purchase agreement. Under the terms of the agreement each investor received a convertible debenture equal to the subscription amount at 6% interest. The debt is voluntarily convertible, at the holder's option, at any time (from issue to maturity) into Common Stock or other class of securities, at \$0.35 per share. The debt is automatically convertible at maturity (August 2011) into Common Stock at the lesser of \$0.35 per share or the average share price for the preceding 120 days prior to the maturity date, plus a Class H warrant to purchase 50% of the shares issued at the automatic conversion at the lower of \$0.60 per share, or 120% of average share price for the preceding 120 days. The 6% interest will accrue automatically and will be added to the principal and converted in the event of a conversion. The Company can prepay all or part of the principal without penalty provided interest is paid proportionately with the principal being prepaid. A total of \$3,075,000 was collected during February 2010 from the issuance of these convertible debt securities.

The Securities Purchase Agreement provides the Investors with certain registration rights. A shareholder may demand the Company register the securities if they are unable to sell the securities any time following the six-month holding period provided in Rule 144. The Company is to use all commercially reasonable efforts to file a Shelf registration statement within 45 days of notice, cause the registration statement to be effective with 120 days of notice and keep the registration statement continuously effective for five years after the effective date or until the underlying securities have been sold.

If the Company fails to timely file the registration statement or maintains its effectiveness, the Company is required to pay a monthly penalty equal to the greater of 1% of the purchase price paid by the purchaser or 1% of the market value of the shares then outstanding. Demand for registration has not yet been made.

We have evaluated subsequent events after the balance sheet date of December 31, 2009 through the date the financial statements were available to be filed with the Securities and Exchange Commission (SEC) on March 31, 2010.

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EXHIBIT INDEX

Exhibit

Number

Description of Document

2.1

Securities Purchase Agreement dated March 21, 2007 (incorporated by reference to Exhibit 2.1 of the Company's Current Report of Form 8-K filed on March 22, 2007).

2.2

Unit Purchase Agreement effective as of May 23, 2008 (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on June 2, 2008).

2.3

Asset Purchase Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on June 5, 2008).

2.4

First Amendment to the Asset Purchase Agreement, dated June 3, 2008 (incorporated by reference to Exhibit 99.2 of the Company's Current Report on Form 8-K filed on June 5, 2008).

2.5

Securities Purchase Agreement dated November 7, 2008 (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on November 12, 2008).

2.6

Securities Purchase Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed on September 18, 2009).

2.7

Unsecured Note Conversion Agreement dated September 18, 2009 (incorporated by reference to Exhibit 2.2 of the Company's Current Report on Form 8-K filed on September 18, 2009).

2.8

Securities Purchase Agreement dated February 24, 2010 (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed on February 25, 2010).

3.1

Restated Articles of Incorporation.

3.2

Bylaws of the Company (incorporated by reference to Exhibit 3.2 of the Company's Registration Statement on Form SB-2 filed on May 1, 1997 (Registration No. 333-26269)).

4.1

Form of Class E Warrant (incorporated by reference to Exhibits 4.1 of the Company's Current Report on Form 8-K filed on April 21, 2008).

4.2

Form of Class F Warrant (incorporated by reference to Exhibits 99.1 of the Company's Current Report on Form 8-K filed on November 12, 2008).

4.3

Form of Class G Warrant (incorporated by reference to Exhibit 2.1 of the Company's Current Report on Form 8-K filed on September 18, 2009).

4.4

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Form of Debenture (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 25, 2010).

4.5

Form of Class H Warrant (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on February 25, 2010).

10.1

* 2002 Long Term Incentive Plan (incorporated by reference to Exhibit 10.1 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2002).

10.2

*Form of Incentive Stock Option Agreement (incorporated by reference to Exhibit 10.2 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.3

*International Isotopes Employee Stock Purchase Plan (incorporated by reference to Appendix B to the Company's definitive proxy statement on Schedule 14A, as amended, filed on May 6, 2005).

10.4

*International Isotopes Employment Agreement with Steve T. Laflin dated February 28, 2007 (incorporated by reference to Exhibit 10.4 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2007).

10.5

Lease Agreement 4137 Commerce Circle (incorporated by reference to Exhibit 10.6 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.6

Option to Purchase and Right of First Refusal for Property located at 4137 Commerce Circle (incorporated by reference to Exhibit 10.7 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.7

Lease Agreement 3159 Commerce Way (incorporated by reference to Exhibit 10.8 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.8

Option to Purchase and Right of First Refusal for Property located at 3159 Commerce Way (incorporated by reference to Exhibit 10.9 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.9

Promissory Note dated September 15, 2007 with Compass Bank (formerly with Texas State Bank).

10.10

Unsecured Note to former Chairman of the Board, Dated April 1, 2002 (incorporated by reference to Exhibit 10.12 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.11

Form of Note Purchase Agreement and Form of Unsecured Convertible Promissory Notes (incorporated by reference to Exhibit 10.13 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2004).

10.12

2006 Equity Incentive Plan (incorporated by reference to Annex A of the Company's definitive proxy statement on Schedule 14A filed on May 1, 2006).

10.13

Alpha Omega Services, Inc. Distributor Agreement dated August 14, 2007 (incorporated by reference to Exhibit 99.1 of the Company's Current Report of Form 8-K filed on August 22, 2007).

10.14

Letter Agreement dated December 21, 2007 between the Company and Firebird Global Master Fund II, Ltd., together with a schedule of substantially identical documents omitted from filing pursuant to Rule 12b-31 promulgated under the Exchange Act (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2008).

10.15

Technical Support Services Agreement, dated May 30, 2008 (incorporated by reference to Exhibit 99.3 of the Company's Current Report on Form 8-K filed on June 5, 2008).

10.16

Form of Indemnification Agreement (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on September 17, 2008).

10.17

Letter Agreement dated April 9, 2008 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on April 21, 2008).

10.18

Memorandum of Agreement dated October 22, 2009 between International Isotopes Inc. and New Mexico Environment Department (incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K filed on October 27, 2009).

10.19

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Gemstone Processing Agreement between International Isotopes Inc. and Quali-Tech, Inc. (incorporated by reference to Exhibit 10.1 of Amendment No. 1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 filed on September 24, 2009).

10.20

Manufacturing Agreement dated as of January 30, 2006 by and between International Isotopes Inc. and RadQual, LLC. (incorporated by reference to Exhibit 10.2 of Amendment No. 1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009 filed on September 24, 2009).

10.21

Change in Terms Agreement dated April 20, 2009 with Compass Bank.

10.22

Promissory Note with Texas State Bank for Commercial Loan (incorporated by reference to Exhibit 10.11 of the Company's Annual Report on Form 10-KSB for the year ended December 31, 2006).

21.1

Subsidiaries (incorporated by reference to the Company's Annual Report on Form 10 KSB for the year ended December 31, 2005).

23.1

Consent of Hansen, Barnett & Maxwell, P.C.

31.1

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Executive Officer.

31.2

Certification under section 302 of the Sarbanes-Oxley Act of 2002 for Chief Financial Officer.

32.1

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

32.2

Certification furnished under section 906 of the Sarbanes-Oxley Act of 2002.

*This exhibit constitutes a management contract or compensatory plan or arrangement.