

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2010

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:

0-22923

INTERNATIONAL ISOTOPES INC.

(Exact name of registrant as specified in its charter)

Texas
(State of incorporation)

74-2763837
(I.R.S. Employer Identification No.)

4137 Commerce Circle
Idaho Falls, Idaho, 83401
(Address of principal executive offices)

(208) 524-5300
(Registrant's telephone number, including area code)

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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated Filer

Non-accelerated filer (Do not check if smaller reporting company) 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

As of May 13, 2010 the number of shares of Common Stock, \$.01 par value, outstanding was 293,929,827.

INTERNATIONAL ISOTOPES INC.
For The Quarter Ended March 31, 2010

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Part I. Financial Information
Item 1. Financial Statements

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Unaudited Condensed Consolidated Balance Sheets

Assets	March 31, 2010	December 31, 2009
Current assets		
Cash and cash equivalents	\$ 2,461,964	\$ 461,091
Accounts receivable	564,418	481,702
Inventories	1,883,720	1,835,345
Prepays and other current assets	98,393	126,316
Total current assets	<u>5,008,495</u>	<u>2,904,454</u>
Long-term assets		
Restricted certificate of deposit	265,513	264,751
Property, plant and equipment, net	2,361,971	2,475,466
Capitalized lease disposal costs, net	192,579	196,287
Investment	1,290,000	1,290,000
Patents and other intangibles, net	249,847	250,347
Total long-term assets	<u>4,359,910</u>	<u>4,476,851</u>
Total assets	<u>\$ 9,368,405</u>	<u>\$ 7,381,305</u>
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 476,728	\$ 569,076
Accrued liabilities	362,656	351,437
Current installments of notes payable	132,241	126,480
Current installments of capital leases	38,109	37,061
Total current liabilities	<u>1,009,734</u>	<u>1,084,054</u>
Long-term liabilities		
Obligation for lease disposal costs	420,821	412,569
Notes payable, excluding current installments	926,256	963,657
Capital leases, excluding current installments	-	9,930
Convertible debentures, net of beneficial conversion feature of \$644,286	2,430,714	-
Mandatorily redeemable convertible preferred stock	850,000	850,000
Total long-term liabilities	<u>4,627,791</u>	<u>2,236,156</u>
Total liabilities	<u>5,637,525</u>	<u>3,320,210</u>
Stockholders' Equity		
Common stock, \$0.01 par value; 500,000,000 shares authorized; 293,912,221 and 293,677,806 shares issued and outstanding respectively	2,939,122	2,936,777
Additional paid-in capital	101,409,591	100,477,289
Accumulated deficit	(100,617,833)	(99,352,971)
Total stockholders' equity	<u>3,730,880</u>	<u>4,061,095</u>
Total liabilities and stockholders' equity	<u>\$ 9,368,405</u>	<u>\$ 7,381,305</u>

See accompanying notes to condensed consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Unaudited Condensed Consolidated Statements of Operations

	Three Months ended March 31,	
	2010	2009
Sale of product	\$ 1,109,551	\$ 1,699,670
Cost of product	733,870	830,736
Gross profit	375,681	868,934
Operating costs and expenses:		
Salaries and contract labor	519,081	536,054
General, administrative and consulting	371,365	431,641
Research and development	656,165	472,439
Total operating expenses	1,546,611	1,440,134
Net operating loss	(1,170,930)	(571,200)
Other income (expense):		
Other (expense) income	(3,040)	16,444
Interest income	1,047	5,957
Interest expense	(91,939)	(39,128)
Total other expense	(93,932)	(16,727)
Net loss	\$ (1,264,862)	\$ (587,927)
Net loss per common share - basic and diluted	\$ (0.00)	\$ (0.00)
Weighted average common shares outstanding - basic and diluted	293,873,152	288,802,293

See accompanying notes to condensed consolidated financial statements.

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Unaudited Condensed Consolidated Statements of Cash Flows

		Three Months ended March 31,	
		2010	2009
Cash flows from operating activities:			
Net loss		\$ (1,264,862)	\$ (587,927)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation and amortization		106,475	101,660
Loss on disposal of property, plant and equipment		14,635	-
Accretion of obligation for lease disposal costs		8,252	4,849
Accretion of beneficial conversion feature		58,571	
Equity based compensation		224,585	112,809
Changes in operating assets and liabilities:			
Accounts receivable		(82,716)	(88,241)
Prepays and other assets		27,923	6,931
Deferred revenue		-	(102,814)
Inventories		(48,375)	(39,856)
Accounts payable and accrued liabilities		(81,129)	116,221
Net cash used in operating activities		<u>(1,036,641)</u>	<u>(476,368)</u>
Cash flows from investing activities:			
Restricted certificate of deposit		(762)	(978)
Purchase of patents		(7,207)	(7,452)
Proceeds from sale of property, plant and equipment		3,800	-
Purchase of property, plant and equipment		-	(78,787)
Net cash used in investing activities		<u>(4,169)</u>	<u>(87,217)</u>
Cash flows from financing activities:			
Proceeds from sale of stock		7,205	7,189
Proceeds from issuance of convertible debentures		3,075,000	-
Principal payments on notes payable and capital leases		(40,522)	(33,698)
Net cash provided by (used in) financing activities		<u>3,041,683</u>	<u>(26,509)</u>
Net (decrease) increase in cash and cash equivalents		2,000,873	(590,094)
Cash and cash equivalents at beginning of period		461,091	2,149,340
Cash and cash equivalents at end of period		<u>\$ 2,461,964</u>	<u>\$ 1,559,246</u>
Supplemental disclosure of cash flow activities:			
Cash paid for interest		<u>\$ 12,486</u>	<u>\$ 20,149</u>
Supplemental disclosure of noncash transactions:			
Increase in equity for the beneficial conversion feature associated with the convertible debentures		<u>\$ 702,857</u>	<u>-</u>
Retirement of 77,091 shares of common stock at \$0.18 per share to cover certain payroll taxes of employees in connection with shares granted to employees for restricted stock awards		<u>\$ -</u>	<u>\$ 13,877</u>

INTERNATIONAL ISOTOPES INC. AND SUBSIDIARIES
Notes to Unaudited Condensed Consolidated Financial Statements
March 31, 2010

(1) The Company and Basis of Presentation

International Isotopes Inc. (the “Company”) was incorporated in Texas in November 1995. The Company has three 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.

Principles of Consolidation – The condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation.

Interim Financial Information – The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) for interim financial information and pursuant to the rules and regulations of the Securities and Exchange Commission. Accordingly, they do not include all of the information and notes required by accounting principles generally accepted in the United States of America for complete financial statements. In the opinion of management, all adjustments and reclassifications considered necessary in order to make the financial statements not misleading and for a fair and comparable presentation have been included and are of a normal recurring nature. Operating results for the three month period ended March 31, 2010, is not necessarily indicative of the results that may be expected for the year ended December 31, 2010. The accompanying financial statements should be read in conjunction with the Company’s most recent audited financial statements.

Reclassification – For the three months ended March 31, 2010, costs related to the work on the de-conversion and fluorine extraction project have been reported as research and development expense. These costs were reported as general and administrative expense for the period ended March 31, 2009; consequently, the prior year information has been reclassified to report these costs as if they had been previously reported as research and development expense. This reclassification had no affect on net loss.

Recent Accounting Pronouncements - 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. This guidance, among other things, sets forth the period after the balance sheet date during which management should evaluate events or transactions that may occur for potential recognition or disclosure in the financial statements, the circumstances under which an entity should recognize events or transactions occurring after the balance sheet date in its financial statements, and the disclosures an entity should make about events or transactions that occurred after the balance sheet date. In February 2010, new guidance was issued which removes the requirement for public companies to disclose the date through which subsequent events were reviewed. This guidance was effective upon issuance and has been adopted by the Company.

In April 2010, the FASB issued guidance related to accounting for certain tax effects of the 2010 Health Care Reform Acts. This update clarifies questions surrounding the accounting implications of the different signing dates of the Health Care and Education Reconciliation Act (signed March 30, 2010) and the Patient Protection and Affordable Care Act (signed March 23, 2010). This guidance states that the FASB and the Office of the Chief Accountant at the SEC would not be opposed to view the two Acts together for accounting purposes. The Company is currently assessing the impact, if any, the adoption of this guidance will have on the Company's disclosures, operating results, financial position and cash flows.

In January 2010, the FASB issued guidance related to escrowed share arrangement and the presumption of compensation. This update provides clarification when escrowed shares are considered compensation or in substance an inducement made to facilitate certain transactions. This guidance was effective upon issuance. The Company has adopted this guidance which had no impact on the Company's operations, financial position, cash flow or disclosures.

(2) Current Developments and Liquidity

Business Condition – Since inception, the Company has suffered substantial losses. During the three-month period ended March 31, 2010, the Company reported a loss of \$1,264,862 and operations used cash of \$1,036,641. During the same period in 2009, the Company reported a loss of \$587,927 and operations used cash of \$476,368. The Company believes that growth in its current business segments will improve thus increasing revenue and cash flow for the Company. However, the Company will continue to invest in the design, licensing, and construction of a large scale uranium de-conversion and fluorine extraction facility. Management expects to generate sufficient cash flows from the existing business segments to meet operational needs during 2010; however, there is no assurance that these cash flows will occur. In addition, the Company will require additional capital to support ongoing efforts to expand the Company business to include the envisioned large scale uranium de-conversion processing and fluorine extraction plant.

Beginning in 2004, 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. Additional planning and licensing activities for this new facility will continue through the remainder of 2010. In April of 2010, the Company entered into an agreement with Louisiana Energy Services (LES), a wholly owned subsidiary of URENCO, to provide depleted uranium de-conversion services for LES's URENCO U.S.A. facility located in New Mexico. The term of the agreement extends through the first five years of the Company's operation of its planned uranium de-conversion facility in New Mexico.

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 continues to take actions to put this plan in place.

(3) Net Loss Per Common Share - Basic and Diluted

At March 31, 2010, and 2009, 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:

	March 31,	
	2010	2009
Stock options	26,700,000	18,780,000
Warrants	25,940,637	21,533,331
Restricted stock awards issued under the 2006 Equity Incentive Plan	638,291	994,850
850 shares of Series B redeemable convertible preferred stock	425,000	425,000
Convertible debentures	8,785,714	
	<u>62,489,642</u>	<u>41,733,181</u>

(4) Investments

At March 31, 2010, the Company owned a 24.5% interest in RadQual, LLC, with which the Company has an exclusive manufacturing agreement for nuclear medicine products. 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 or policies of RadQual, LLC. Accordingly, the investment in RadQual is recorded on the cost method at the lower of cost or fair value. The 24.5% ownership of RadQual has been recorded at a cost of \$1,290,000. For the three months ended March 31, 2010, member distributions from RadQual totaled \$11,595 and for the similar period in 2009, member distributions totaled \$16,444. These distributions were recorded as Other Income.

At March 31, 2010, and March 31, 2009, the Company had receivables from RadQual, LLC in the amount of \$431,403 and \$412,179, respectively, which are recorded as part of accounts receivable. For

the three months ended March 31, 2010 and 2009, the Company had revenues from RadQual, LLC in the amount of \$829,227 and \$792,733, respectively, which are recorded as sale of product.

(5) Inventories

Inventories consist of the following at March 31, 2010, and December 31, 2009:

	<u>March 31, 2010</u>	<u>December 31, 2009</u>
Raw materials	\$ 251,035	\$ 251,035
Work in progress	1,632,685	1,584,310
	<u>\$ 1,883,720</u>	<u>\$ 1,835,345</u>

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.

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 March 31, 2010, and December 31, 2009, these isotopes had a carrying value of \$1,294,239 and \$1,154,459, 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. At December 31, 2009, 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 either bulk cobalt sales or sealed source fabrication. At March 31, 2008, no impairment was considered necessary.

(6) Convertible Debentures and Notes Payable

On February 24, 2010, the Company entered into a securities purchase agreement with certain institutional and private investors pursuant to which it sold convertible debentures for an aggregate of \$3,075,000, which accrue 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. The Company can prepay all or part of the principal without penalty provided interest is paid proportionately with the principal being prepaid. The fair market value of the Company's common stock was \$0.43 per share on the date of the agreement. Consequently, and in accordance with GAAP, the difference between the anticipated conversion price of \$0.35 and the closing price of \$0.43, multiplied by the number of issuable common shares upon conversion, has been recorded as a beneficial conversion feature with an increase to equity and a debt discount in the amount of \$702,877. This amount will be accreted to interest expense over the remaining life of the debt.

The securities purchase agreement provides the investors with certain registration rights should the debt be converted to stock. An investor may demand the Company register the securities if it is unable to sell the securities at any time following the six-month holding period provided in Rule 144, to sell the securities pursuant to 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 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 investor or 1% of the market value of the shares then outstanding. Demand for registration has not yet been made.

(7) Stockholders' Equity, Options and Warrants

Employee Stock Purchase

During the three months ended March 31, 2010, and 2009, the Company issued 15,412, and 40,281 shares of common stock, respectively, to employees for proceeds of \$7,205, and \$7,189, respectively. Subsequent to March 31, 2010, the Company issued 17,606 shares of common stock to employees for proceeds of \$5,835. All of these shares were issued in accordance with the Company's employee stock purchase plan.

Share-based Compensation Plans

Employee/Director Grants - The Company accounts for issuances of stock-based compensation to employees under the provisions of GAAP. GAAP 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. GAAP also requires the stock option compensation expense to be recognized over the period during which an employee is required to provide service in exchange for the award (the vesting period).

Non-Employee Grants - The Company accounts for its issuances of stock-based compensation to non-employees for services using the measurement date guidelines enumerated under GAAP. Accordingly, the value of any awards that were vested and non-forfeitable at their date of issuance were measured based on the fair value of the equity instruments at the date of issuance. The non-vested portion of awards that are subject to the future performance of the counterparty are adjusted at each reporting date

to their fair values based upon the then current market value of the Company's stock and other assumptions that management believes are reasonable.

Option awards outstanding as of March 31, 2010, and changes during the three months ended March 31, 2010, were as follows:

			Weighted	
		Weighted	Average	Aggregate
		Average	Remaining	Intrinsic
Fixed Options	Shares	Exercise Price	Term	Value
Outstanding at December 31, 2009	26,700,000	\$ 0.16		
Granted	-	-		
Exercised	-	-		
Forfeited	-	-		
Outstanding at March 31, 2010	<u>26,700,000</u>	0.16	5.2	\$6,555,000
Exercisable at March 31, 2010	<u>17,800,000</u>	0.07	3.3	\$5,974,000

The intrinsic value of outstanding and exercisable shares is based on a March 31, 2010, closing price of the Company's common stock of \$0.39 per share.

As of March 31, 2010, there was approximately \$1,110,370 of unrecognized compensation cost related to stock options that will be recognized over a weighted average period of 2.1 years.

Restricted Stock Grants

Restricted stock awards outstanding as March 31, 2010, and changes during the three months ended March 31, 2010, were as follows:

<u>Restricted Stock Awards</u>	<u>Shares</u>
Non-vested at December 31, 2009	876,014
Granted	-
Vested	(219,003)
Forfeited	<u>(18,720)</u>
Non-vested at March 31, 2010	<u><u>638,291</u></u>

The value of non-vested stock under the 2006 Equity Incentive Plan at March 31, 2010, is \$248,933 and is based on a March 31, 2010, value of \$0.39 per share. As of March 31, 2010, there was approximately \$53,429 of unamortized deferred compensation that will be recognized over a weighted average period of 1.9 years.

Compensation expense charged against income for stock based awards during the three-month period ended March 31, 2010, was \$224,585, of which \$204,455 is included in general and administrative

expense and \$20,131 is included in research and development expense. Stock based compensation expense for this same period in 2009 was \$112,809 and is included in general and administrative expense in the accompanying financial statements.

(8) Commitments and Contingencies

Dependence on Third Parties

The production of HSA Cobalt is dependent upon the U.S. Department of Energy (DOE), and its prime operating contractor, which controls the reactor operations and, therefore, controls the continued production of cobalt in the government funded reactor. Contracting for irradiation and handling of cobalt is conducted in accordance with the DOE's Work for Others (WFO) Non-Government Sponsor programs and subject to the government's determination of space availability and compatibility with the reactors prime operating sponsor's experimental programs. Under a WFO program, the Company is required to provide incremental advance funding to cover the cost of labor and irradiation services and these advance payments are periodically reconciled against actual costs. This contract arrangement has been in place since the Company's inception and consistent irradiation services have been, and are expected to continue to be, provided at the DOE's reactor. The discontinuation of our relationship with DOE and its prime operating contractor, or decreased ability on their part to provide irradiation services could adversely affect operating results by causing a delay in production.

Nuclear Medicine Reference and Calibration Standard manufacturing is conducted under an exclusive contract with one of our customers, RadQual, LLC, which in turn has an agreement in place with several companies for distributing the products. The contract states that the Company will manufacture these products exclusively for RadQual LLC, will not manufacture any products that would directly compete with RadQual, LLC, and that the Company holds the right of first refusal to contract manufacture products that RadQual, LLC wishes to supply to its customers. The current contract with RadQual, LLC was originally executed January 2006, and automatically renews for additional one year terms on each January 1st anniversary date unless terminated in writing by either party 90 days in advance of the anniversary date. A discontinuation of our relationship with RadQual, LLC could adversely affect operating results by causing a possible loss of sales.

The majority of the radiochemical iodine sold by the Company is provided through a supply agreement with a single entity, NTP Radioisotopes (Pty) Ltd. The termination of our relationship with NTP Radioisotopes 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, automatically 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.

(9) Segment Information

The Company has six reportable segments which include; Nuclear Medicine Standards, Cobalt Products, Radiochemical Products, Fluorine Products, Radiological Services, and Transportation. Information regarding the operations and assets of these reportable business segments is contained in the following table:

	Three months ended March 31,	
	2010	2009
<u>Sale of Product</u>		
Radiochemical Products	\$ 444,040	\$ 348,772
Cobalt Products	159,885	738,280
Nuclear Medicine Standards	433,519	488,986
Radiological Services	47,657	80,353
Flourine Products	-	878
Transportation	24,450	42,402
Total Segments	1,109,551	1,699,670
Corporate revenue	-	-
Total Consolidated	\$ 1,109,551	\$ 1,699,670
	Three Months ended March 31,	Three Months ended March 31,
	2010	2009
<u>Depreciation and Amortization</u>		
Radiochemical Products	\$ 9,449	\$ 9,923
Cobalt Products	27,619	26,163
Nuclear Medicine Standards	1,278	568
Radiological Services	2,600	2,600
Flourine Products	50,925	50,440
Transportation	9,111	6,020
Total Segments	100,981	95,714
Corporate depreciation and amortization	5,494	5,946
Total Consolidated	\$ 106,475	\$ 101,660
	Three Months ended March 31,	Three Months ended March 31,
	2010	2009
<u>Segment Income (Loss)</u>		
Radiochemical Products	\$ 57,757	\$ 56,012
Cobalt Products	(23,899)	361,400
Nuclear Medicine Standards	173,525	228,296
Radiological Services	8,690	59,438
Flourine Products	(724,453)	(675,500)
Transportation	(28,198)	(16,452)
Total Segments	(536,577)	13,194
Corporate loss	(728,285)	(601,121)
Net Loss	\$ (1,264,862)	\$ (587,927)
	Three Months ended March 31,	Three Months ended March 31,
	2010	2009
<u>Expenditures for Segment Assets</u>		
Radiochemical Products	\$ -	\$ -
Cobalt Products	-	-
Nuclear Medicine Standards	-	9,730
Radiological Services	-	-
Flourine Products	7,207	29,188
Transportation	-	47,322
Total Segments	7,207	86,239
Corporate purchases	-	-
Total Consolidated	\$ 7,207	\$ 86,239
	March 31,	December 31,
	2010	2009
<u>Segment Assets</u>		
Radiochemical Products	\$ 285,366	\$ 314,386
Cobalt Products	2,245,722	2,150,012
Nuclear Medicine Standards	557,138	546,521
Radiological Services	51,546	38,708
Flourine Products	1,840,525	1,884,243
Transportation	68,203	95,749
Total Segments	5,048,500	5,029,619
Corporate assets	4,319,905	2,351,686
Total Consolidated	\$ 9,368,405	\$ 7,381,305

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This Quarterly Report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact, including statements regarding industry prospects and future results of operations or financial position, made in this Quarterly Report are forward looking. In particular, statements regarding growth in our business segments; increased cash flow to meet operational needs; improvement in our financial strength, debt ratio and attractiveness to investors and lenders; future liquidity requirements; NRC licensing requirements; and the consequences of the loss of any of our major customers or suppliers are forward looking. Forward-looking statements reflect management's current 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 our actual results to differ significantly from management's expectations are described in the risk factors set forth in our annual report on Form 10-K for the fiscal year ended December 31, 2009 filed with the securities and Exchange Commission on March 31, 2010. These factors, describe some but not all of the factors that could cause actual results to differ significantly from management's expectations. The Company will not publicly release any revisions to these forward-looking statements 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 we file from time to time with the Securities and Exchange Commission.

RESULTS OF OPERATIONS

Three months ended March 31, 2010, and 2009

Revenues for the three-month period ended March 31, 2010, were \$1,109,551, as compared to \$1,699,670 for the same period in 2009, a decrease of \$590,119 or 35%. All business segments showed decreases in revenues with the exception of the Radiochemical Products segment which reported a 27% increase in revenue for the first quarter of the 2010 fiscal year, as compared to the same period in 2009. Gross profit for the three month period ended March 31, 2010, was \$375,681 compared to \$868,934, for the same period in 2009. This represents a decrease of \$493,253, or 57%. This reported decrease in revenue and gross profit is primarily due to a bulk cobalt sale which took place in the period ended March 31, 2009, with no comparable sale for the same period in 2010.

Operating expenses increased to \$1,546,411 for the three-month period ended March 31, 2010, compared to \$1,440,134 for the same period in 2009. This represents an increase of \$106,477, or approximately 7%, and is largely attributable to costs associated with the planning and licensing of the planned depleted uranium de-conversion facility. Salaries and contract labor decreased by \$16,973, or approximately 3%, for the three-month

period ended March 31, 2010, as compared to the same period in 2009. General administrative costs decreased by \$60,276, or approximately 14%, for this same period, to \$371,365 in 2010, as compared to \$431,641 in the same period in 2009. Research and development costs increased by \$183,726, or approximately 39% for the three months ended March 31, 2010, to \$656,165 in 2010, as compared to \$472,439 in the same period in 2009. The slight decrease in salaries and contract labor expense is due to staffing adjustments and the decrease in general administrative costs is a result of management's continued efforts to control costs in this area. The significant increase in research and development expense is almost entirely due to the planning and licensing efforts for the depleted uranium de-conversion facility. These research and development expenses are expected to continue to increase as the uranium de-conversion project progresses.

Our net loss for the three-month period ended March 31, 2010, was \$1,264,862, as compared to \$587,927 for the same period in 2009. This is an increase in loss of \$676,935 and was almost totally attributable to the increases in research and development, as well as other costs related to the planned depleted uranium de-conversion and fluorine extraction processing facility.

Interest expense for the three-month period ended March 31, 2010, was \$91,939, as compared to \$39,128 for the same period in 2009. This increase of \$52,811, is largely attributable to interest expense which was recorded as a result of the convertible debentures issued by the Company in February 2010 to various institutional and private investors. The debentures contain a beneficial conversion feature, and accordingly, the Company has recorded this feature as a contra-liability while simultaneously accreting the beneficial portion of the debt as interest expense over the 18 month life of the agreement.

The Company recorded no bulk cobalt sales for the period ended March 31, 2010, and there were \$494,661 of bulk cobalt sales during the same period in 2009. Fluctuations in bulk cobalt sales can create large variations in period to period comparisons. The following table presents a period-to-period comparison of total revenue by segment, as well as a period-to-period comparison of total revenue by segment excluding bulk cobalt sales. Management believes that a comparison of 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. Further discussion of the performance of each business segment is described more fully in the following paragraphs.

Sale of Product	For the Three Month period ended March 31,			
	2010	2010	2009	2009
	Total Sales	% of Sales	Total Sales	% of Sales
Radiochemical Products	\$ 444,040	40%	\$ 348,772	21%
Cobalt Products (including bulk cobalt sales)	159,885	14%	738,280	43%
Nuclear Medicine Standards	433,519	39%	488,986	29%
Radiological Services	47,657	4%	80,353	5%
Flourine Products	-	0%	878	0%
Transportation	24,450	2%	42,402	2%
Corporate revenue	-	0%	-	0%
Total Segments	<u>\$ 1,109,551</u>	<u>100%</u>	<u>\$ 1,699,670</u>	<u>100%</u>
Radiochemical Products	\$ 444,040	40%	\$ 348,772	29%
Cobalt Products (excluding bulk cobalt sales)	159,885	14%	243,619	20%
Nuclear Medicine Standards	433,519	39%	488,986	41%
Radiological Services	47,657	4%	80,353	7%
Flourine Products	-	0%	878	0%
Transportation	24,450	2%	42,402	4%
Corporate revenue	-	0%	-	0%
Total Segments	<u>\$ 1,109,551</u>	<u>100%</u>	<u>\$ 1,205,009</u>	<u>100%</u>

Revenues from the sale of radiochemical products for the three-month period ended March 31, 2010, were \$444,040, compared to \$348,772 for the same period in 2009. This represents an increase in revenue of \$95,268, or approximately 27%. Increases in this segment performance are attributable to increased sales of radiochemical iodine-131. Despite the strong increase in revenues from radiochemical sales, net income for this segment only marginally improved for the three-month period ended March 31, 2010, to \$444,040, an increase of \$1,746, or approximately 3%, as compared to the same period in 2009. Gross profit in this segment for the three months ended March 31, 2010, was \$92,738, compared to \$91,369 for the same period in 2009. This represents gross profit percentages of approximately 21% and 26%, for the first quarter of 2010 and 2009, respectively. This decrease in gross profit was primarily the result of increases in the cost of iodine-131, as well as increased freight and shipping costs. Operating expense for the period ended March 31, 2010, was \$34,980, as compared to \$35,357, for the same period in 2009. This small decrease is the result of management's on-going efforts to reduce all operating expenses. The Company is continuing to research alternate shipment methods that could reduce costs and support the return of segment income to historic levels.

Revenues from the sale of cobalt products for the three-month period ended March 31, 2010, were \$159,885, compared to \$738,280 for the same period in 2009. This represents a decrease in revenue of \$578,395, or about 78%. This decrease in segment revenue is the result of the timing of large bulk cobalt product sales which have a dramatic affect on period-to-period comparisons, as illustrated in the table above. Management believes that a period-to-period comparison excluding bulk cobalt sales offers a more useful comparison for the shareholder. There were no bulk cobalt sales during the period ended March 31, 2010, and total cobalt product sales were \$159,885, or approximately 14% of total revenues. During this same period in 2009, bulk cobalt sales totaled \$494,661, and total cobalt product sales (which include bulk cobalt sales) were \$738,280, or approximately 43%

of total revenues for that period. Excluding bulk cobalt sales for the three-month period ended March 31, 2009, cobalt product sales were \$243,619, or approximately 20% of total revenues. Excluding bulk cobalt sales, total cobalt product sales decreased \$83,734, or approximately 34%, during the three-month period ended March 31, 2010 as compared to the same period in 2009. This decrease in revenue can be attributed to the timing of sealed source product sales which declined during the three-months ended March 31, 2010. Operating expense in this segment increased by \$443, to \$56,102 for the three-month period ended March 31, 2010, from \$55,659 for the same period in 2009.

For the three-month period ended March 31, 2010, the cobalt products segment reported a loss of \$23,899, as compared to a profit of \$361,400 for the same period in 2009. This reported decrease in income of \$385,299, is almost entirely attributable to including bulk cobalt sales in the period comparison. Management anticipates resumed growth in this segment for 2010 as foreign markets increase their purchases and additional shipping containers become available. The Company will continue to market its sealed source products in foreign markets, particularly South America, and will continue to research and pursue additional transportation containers for shipment of material.

The Company has a contract with one customer, GE-Hitachi, for 100% of its bulk cobalt sales. This contract was renewed in April 2010 and carries a term of four years. The contract states a minimum purchase of material each year (yearly periods are each April 1 – March 31), and any shortages in annual purchases will be invoiced to the customer. Under the contract the Company expects to have a minimum of \$2,656,000 in bulk cobalt sales over the four year period.

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 of establishing a longer term agreement for continued cobalt irradiation, however, 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.

Revenues from nuclear medicine products for the three-month period ended March 31, 2010, were \$433,519, compared to \$488,986 for the same period in 2009. This represents a decrease in revenue of \$55,467, or approximately 11%. Based on discussions with a major customer, this decrease in revenues can be attributed to financial pressure and cost cutting measures employed in many medical institutions due to the downturn in the U.S. economy. Gross profit for the three-month period ended March 31, 2010, was \$204,527, as compared to \$257,495 for the same period in 2009, or 48% and 53% of nuclear medicine segment sales, respectively. Operating expense for this same period increased to \$31,001 for 2010, from \$29,199 in 2009, an increase of \$1,802 or approximately 6%. Although this segment reported a slight increase in operating expense, which was the result of typical cost adjustments, management will continue its efforts to limit operating costs in not only the nuclear medicine products segment, but all business segments. Net income for this segment decreased \$54,771, or approximately 24% for the period ended March 31, 2010 as compared to the same period in 2009. Management believes that this decrease is reflective of the postponement of necessary purchases by our customers rather than cancellation of those purchases altogether. The Company is taking steps to implement an ISO-9000 quality program that will allow sales of calibration and reference standards into Canada and the European Union.

Revenues from the radiological services segment for the three-month period ended March 31, 2010, were \$47,657, compared to \$80,353 for the same period in 2009, a decrease of \$32,696 or approximately 41%. Gross profit for this same three-month period was \$25,525 for 2010, and \$66,166 for 2009, 54% and 82% of radiological services segment revenue, respectively. Operating expense for the three months ended March 31, 2010, was \$16,836, as compared to \$7,059 for the same period in 2009. This increase is largely due to maintaining labor, as well as increased costs in equipment maintenance contracts associated with gemstone processing. 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, and although the volume of gemstones to be processed declined during the year-ended December 31, 2009, incoming material for processing has increased during the three-month period ended March 31, 2010.

Revenues from the fluorine products segment for the three-month period ended March 31, 2010, were \$0 and \$878 for the same period in 2009. The Company is developing its fluorine products in conjunction with uranium de-conversion, in order to take advantage of the anticipated need for depleted uranium de-conversion services. The Company's Fluorine Extraction Process (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, the Company commissioned a major market review of boron trifluoride and silicon tetrafluoride markets, the two major gases planned for production in the planned uranium de-conversion and fluorine extraction processing facility. Management believes the results of this market study support the projections and business model that it has prepared and adequately justifies the financial investment in this uranium de-conversion project. During 2010, the Company plans to use its existing FEP facility in Idaho for testing individual components and analytical processes required for the planned uranium de-conversion facility in New Mexico. Because we will dedicate the facility to support work for the de-conversion facility, the fluorine products segment is not projected to generate any revenue in 2010.

Revenues from the transportation services segment for the three-month period ended March 31, 2010, were \$24,450, compared to \$42,402 for the same period in 2009. This is a decrease of \$17,952, or approximately 42%. Gross profit for this segment was \$20,688 for the three-month period ended March 31, 2010, and \$35,968 for the same period in 2009. These amounts represent 85% of transportation segment revenue for both years. Operating expense for this segment was \$42,523 for the three-month period ended March 31, 2010, and \$44,415 for the same period in 2009. This represents a decrease of \$1,892 or approximately 4%. This small decrease in expense is the result of management's on-going efforts to control operating costs in all business segments. The transportation services segment was established to provide for transportation of the Company's products (such as cobalt sources) and to offer "for hire" transportation services of hazardous and non-hazardous cargo materials. This business segment provides the Company with considerable savings for the transportation of its 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.

LIQUIDITY AND CAPITAL RESOURCES

On March 31, 2010, the Company had cash and cash equivalents of \$2,461,964. For the three months ended March 31, 2010, net cash used in operating activities was \$1,036,641. Use of cash in operating activities is a combination of typical operating purchases, including inventory purchases, as well as an increase in accounts receivable and a decrease in accounts payable.

Inventories at March 31, 2010 totaled \$1,883,720, and inventories for the same period in 2009, totaled \$2,558,110. This significant investment in inventory is due to the time required to produce some cobalt products and the operating cycle for those products is considered to be approximately three years. Irradiation costs paid to the Department of Energy's prime contractor account for approximately 69% of total inventories for the period ended March 31, 2010, and approximately 74% of total inventories for the similar period in 2009. During 2009, it was determined that some cobalt target material had decreased in activity level and was written down to its estimated market value. The Company recorded an impairment charge of \$740,719 at that time.

There was no deferred revenue recorded for the three-month period ended March 31, 2010, and increases in accounts receivable reflect normal fluctuations in segment sales as well as payment terms. The Company used \$4,169 in investing activities which is primarily the result of asset purchases. Financing activities provided \$3,041,683 during the three months ended March 31, 2010, which was the result of issuing convertible debentures yielding cash proceeds of \$3,075,000.

At March 31, 2010, the Company had two outstanding loans with Compass bank. One loan carries an outstanding balance of \$62,881, with an interest rate of 9.25%, and matures September 15, 2011. The second loan, matures April 20, 2011, and has an outstanding balance of \$464,557, with an interest rate of 7.25%. The Company also has an unsecured note payable totaling \$500,000 which is payable to the former Chairman of the Board. The loan requires annual interest payments on the principal balance at 7% per year, payable each April 1st, and the note matures on April 1, 2012.

The Company is continuing to pursue the planning, licensing and construction of a depleted uranium de-conversion and fluorine extraction processing facility. The Company spent approximately \$656,000 during the first three months of fiscal 2010 on this project, and anticipates this spending level to continue through the remainder of 2010, as funding for the project is obtained. In 2009, the Company produced the Conceptual Design Report for the project and submitted the license application and required environmental report for the Nuclear Regulatory Commission license application. The Company is exploring various options of funding for the project at this time.

The Company has a long term investment of \$1,290,000, which is a 24.5% ownership in shares, or units, of RadQual, LLC. The value of this asset is based upon the purchase price of those shares and the continued business performance of RadQual, LLC. The Company purchased these shares with the intent to eventually acquire the remaining shares of RadQual, LLC and thus improve the revenues and profit margin for the nuclear medicine business segment. At the present time there is no immediate action pending or planned to acquire the remainder of those shares. Future plans to complete this acquisition will depend upon the availability of additional capital to the Company.

Our future liquidity and capital funding requirements will depend on numerous factors, including, contract manufacturing agreements, commercial relationships, technological developments, market factors, available credit, and voluntary warrant redemption by shareholders. At March 31, 2010 there were 25,940,637 warrants to purchase common stock.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We are a smaller reporting company as defined by Rule 12b-2 of the Securities Exchange Act of 1934 and are not required to provide the information under this item.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation 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 March 31, 2010, 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 March 31, 2010.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the three months ended March 31, 2010, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 5. Other Information

On April 1, 2010, the Company entered into a Sales Agreement with GE-Hitachi, pursuant to which the Company will supply bulk cobalt to GE-Hitachi. This agreement replaces a prior agreement for the supply of cobalt to GE-Hitachi and carries a term of four years. The agreement states a minimum quantity of materials to be purchased by GE-Hitachi each year (yearly periods are each April 1 – March 31), and any shortages in such annual minimum purchases are to be invoiced to GE-Hitachi. The above is only a summary of the Sales Agreement and is qualified in its entirety by reference to the full text of the Sales Agreement included as Exhibit 10.2 to this Form 10-K.

Item 6. Exhibits

- 3(i) Restated Articles of Incorporation (incorporated by reference to Exhibit 3.1 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009).
- 3(ii) Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form SB-2 filed on May 1, 1997 (Registration No. 333-26269)).
- 10.1 De-Conversion Services Agreement dated April 13, 2010 by and between International Isotopes Fluorine Products, Inc. and Louisiana Energy Services, LLC.*
- 10.2 Sales Agreement dated April 1, 2010 by and between International Isotopes Inc. and GE-Hitachi.*
- 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 by the Chief Executive Officer furnished pursuant to 18 U.S.C. Section 1350 adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification by the Chief Financial Officer furnished pursuant to 18 U.S.C. Section 1350 adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

* Contains material that has been omitted pursuant to a request for confidential treatment and such material has been filed separately with the Commission.

SIGNATURES

In accordance with the requirements of the Exchange Act the registrant caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

International Isotopes Inc.
(Registrant)

By: /s/ Steve T. Laflin

Steve T. Laflin
President and Chief Executive Officer

By: /s/ Laurie McKenzie-Carter

Laurie McKenzie-Carter
Chief Financial Officer

Date: May 17, 2010

EXHIBIT INDEX

Exhibit Number	Description of Document
3(i)	Restated Articles of Incorporation (incorporated by reference to Exhibit 3.1 of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009).
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31.2	Certification under Section 302 of the Sarbanes-Oxley Act of 2002 for Chief Financial Officer.
32.1	Certification by the Chief Executive Officer furnished pursuant to 18 U.S.C. Section 1350 adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by the Chief Financial Officer furnished pursuant to 18 U.S.C. Section 1350 adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

* Contains material that has been omitted pursuant to a request for confidential treatment and such material has been filed separately with the Commission.

Exhibit 31.(i)
CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT
OF 2002

I, Steve T. Laflin, certify that:

1. I have reviewed this quarterly report on Form 10-Q of International Isotopes, Inc;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 (e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15 (f) and 15d-15 (f)) for the registrant and have:
 - (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the

effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

- (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 17, 2010

/s/ Steve T. Laflin

Steve T Laflin, Chief Executive Officer

Exhibit 31.(ii)

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES OXLEY ACT OF 2002

I, Laurie McKenzie-Carter, certify that:

1. I have reviewed this quarterly report on Form 10-Q of International Isotopes, Inc;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 (e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15 (f) and 15d-15(f)) for the registrant and have:
 - (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the

effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

- (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 17, 2010

/s/ Laurie McKenzie-Carter
Laurie McKenzie-Carter, Chief Financial Officer

Exhibit 32.1

**CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES OXLEY ACT OF 2002**

In connection with the Quarterly Report of International Isotopes, Inc and subsidiaries (the “Company”) on Form 10-Q for the period ended March 31, 2010, as filed with the Securities and Exchange Commission (the “Form 10-Q”), I, Steve T. Laflin, Chief Executive Officer of the Company, in my capacity as such, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) To my knowledge, the Form 10-Q fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (15 U.S.C. 78m or 78o(d)); and
- (2) The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 17, 2010

/s/ Steve T. Laflin
Steve T. Laflin
Chief Executive Officer

Exhibit 32.1

**CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES OXLEY ACT OF 2002**

In connection with the Quarterly Report of International Isotopes, Inc and subsidiaries (the “Company”) on Form 10-Q for the period ended March 31, 2010, as filed with the Securities and Exchange Commission (the “Form 10-Q”), I, Laurie McKenzie-Carter, Chief Financial Officer of the Company, in my capacity as such, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) To my knowledge, the Form 10-Q fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (15 U.S.C. 78m or 78o(d)); and
- (2) The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

May 17, 2010

/s/ Laurie McKenzie-Carter

Laurie McKenzie-Carter
Chief Financial Officer