

45-18398-01

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MS-16

Physics Associates
5346 Peter's Creek Road NW
Roanoke, Virginia 24109
Phone: (540) 563-0165
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facsimile transmittal

To: Richard McKinley

Fax: 610 337 5269

From: James P. Nunn

Date: 10/24/06

Re: Twin Carries Disposal

Pages: 6 including cover

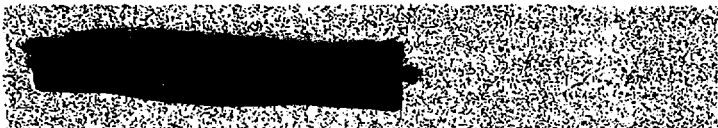
CC:

Urgent For Review Please Comment Please Reply Please Recycle



Richard,
I hope this is enough documentation.
Sorry it took a week to get it to you.
call if you need anything else.

James Nunn
540 353-2594



Memorial Hospital Sr-90 source

50 mCi 1/74

ICN Tracerlab

RA_ / Medical Applicator, Serial No. 1287

Calibrated 12/27/73 62.0 roentgen equivalent-betas per second

On 5 April 1996 41 rad/sec.

NRC License 45-13692-01

1/30/06

Twin County Regional Medical Center
Amersham International
Sr-90 Applicator Code SIA.20

55 mCi 25 Mar 97

Measurement Certification # B 3147

NRC License 45-18398-01

TRANSFERRED TO BIONOMICS ON THIS DATE: January 30, 2006

LEAK TEST REPORT

Facility: Physics Associates

S T A N D A R D I N F O R M A T I O N

ID: Cs-137 T(1/2) Yrs: 30.000
 Abundance(#/dis.): 1.0000
 CALIB. DATE (yr): 1991 Month: 9 Day: 26
 Act.on Calibration Date(uCi): 0.1000

C O U N T I N G D A T A

Counting time in minutes for:
 Bkd: 1.00 Standards: 1.00 Samples: 1.00
 Sample Abundance(#/dis.): 1.0000
 Instrument Used: Canberra Accuspec NaI(Tl)
 Counted By: James P. Nunn, MS

Date Counted Year 2006 Month: 1 Day: 30

Sample ID	Counts	Ctg. Efficiency =	0.5099
Background	174	LLD(uCi)=	5.54E-05
Standard	81441		

No.	SEALED SOURCES	Counts
1	ICN Tracerlab Sr-90 Eye Applicator Serial Number 1287 50 mCi on 1/1974	182
2	Amersham International Sr-90 Eye Applicator Code SIA.20 S/N B3147 55 mCi on 3/25/1997	182

L E A K T E S T R E S U L T S

No.	SEALED SOURCES	uCi
1	ICN Tracerlab Sr-90 Eye Applicator Serial Number 1287 50 mCi on 1/1974	7.07E-06
2	Amersham International Sr-90 Eye Applicator Code SIA.20 S/N B3147 55 mCi on 3/25/1997	7.07E-06

This is to certify that wipe test samples were counted using standard methods by comparison to NBS/NIST traceable standards. Wipe tests were taken using ANSI/NRC recommended methods.

By: James P. Nunn, MS *[Signature]* 1/30/06

Lee S. Anthony 1/30/06

COMMENTS: ALL WIPES COUNTED SIMULTANEOUSLY

UNIFORM LOW-LEVEL RADIOACTIVE MANIFEST WASTE MANIFEST		BIOMONICS, INC		1. MANIFEST TOTALS							2. MANIFEST NUMBER					
CONTAINER AND WASTE DESCRIPTION				NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET VOLUME m ³	NET WEIGHT kg	SPECIAL NUCLEAR MATERIAL (grms)				013006					
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				1	0.005	4.5	U-230	U-235	Pu	TOTAL	3. PAGE 1 OF 1 PAGE(S)					
				ALL INCLUDES			TRITIUM	C-14	Tc-99	I-125	SOURCE	4. SHIPPER NAME				
				MBq 2775.0			NP	NP	NP	NP	%	NP	5. SHIPMENT ID NUMBER			
DISPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER												
6. CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER	7. CONTAINER DESCRIPTION (See Note 1) PROCESS TYPE (See Note 1A)	8. VOLUME m ³	9. WASTE AND CONTAINER WEIGHT kg	10. SURFACE RADIATION LEVEL mSv/hr	10. SURFACE CONTAMINATION MBq/100 cm ²		11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (lit)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 2)	14. CHEMICAL DESCRIPTION CHEMICAL FORM / CHELATING AGENT		15. WEIGHT % CHELATING AGENT IF > 0.1%	15. INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable FS-Class B C-Class C
					ALPHA	BETA-GAMMA				RADIONUCLIDES	MBq		PACKAGE TOTAL (MBq)			
PH-06-01	4 Metal Drum or Pail 5A Encapsulate 11A Barwell	0.1148	45.00	0.15 20-005	<3.3e-7	<1.6e-5	36	0.005	100 None Required	Oxides	NP	NP	Sr 90	2775.0	2775.0	C
Package Total		0.115	45.00 kg	PAGE TOTALS			0.005	PAGE TOTALS		2775.0						

NOTE 1: Container Description Codes: For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "OP".

1. Wooden Box or Crate	13. Unpackaged Component
2. Metal Box	13. High Integrity Container
3. Plastic Drum or Pail	13. Other: Describe in Item 6, or add formal page.
4. Metal Drum or Pail	19A. Fiber Box
5. Metal Tank or Liner	19B. Innerpack
6. Concrete Tank or Liner	
7. Polyethylene Tank or Liner	
8. Fiberglass Tank or Liner	
9. Drum or Liner	
10. Gas Cylinder	
11. Bulk, Unpackaged Waste	

NOTE 1A: Process Type Codes are Specific to Biomionics and Only Apply to How The Waste Will Be Processed/Handled By The Originator. Use up to two process codes and one disposal site.

1. Absorption	11A. Barwell
2. Absorption	12A. Ritzland
3. Air/water	13A. Evaporate
4. Air/soil	14A. Return
5. Air/encapsulate	20A. Other: Specify in the block or on an attached page.
6. Air/heat	
7. AS	
8A	
10A/Other: Specify in the block or on attached page.	

Note 2: Waste Descriptor Codes: (Choose up to three predominants by volume.)

20. Charcoal	29. Demolition Rubble	38. Evaporator Bottoms / Sludges / Concentrates
21. Incinerator Ash	30. Carbon Ion-exchange Media	39. Compactible Trash
22. Soil	31. Anion Ion-exchange Media	40. Incompressible Trash
23. Gas	32. Mixed Bed Ion-exchange Media	41. Animal Carcasses
24. Oil	33. Contaminated Equipment	42. Biological Material (except animal carcasses)
25. Aqueous Liquid	34. Organic Liquid	43. Activated Material
26. Filter Media	35. Obscure or Unknown	49. Other: Describe in Item 11, or add formal page.
27. Mechanical Filter	36. Sealed Source / Device	
28. EPA or State Hazardous	37. Palm or Planting	

Note 3: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "S". For all solidification media, the vendor (manufacturer)/brand name must also be identified in Item 13. Code 100-NONE REQUIRED.

DESCRIPTION	Build A Sorb	77. Aguard II
50. Spent Oil	Chemel 30	58. Other
61. Cellulose	Chemel 50	Describe in Item 13, or add formal page.
62. Floor Dry Superline	Chemel 2020	
63. H. Di	Chemel HP200	
64. Safe T Sorb	Chemel HP500	
65. Safe N Di	Petroset	
66. Fibrec	Petroset II	SOLIDIFICATION
67. Fibroc X	Aquevel	90. Cement

None Required

NRC FORM 540		BIONOMICS, INC.		5. SHIPPER NAME AND FACILITY Bionomics For: Physics Associates 5346 Peters Creek Road Roanoke, VA 24019		SHIPPER I.D. NUMBER		7. HRC FORM 540 AND 540A HRC 541 AND 541A HRC 542 AND 542A ADDITIONAL INFORMATION		PAGE 1 OF 1 PAGE(S) 1 PAGE(S) 0 PAGE(S) 0 PAGE(S)		8. MANIFEST NUMBER (Show file number on all continuation pages) 013006									
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				USER PERMIT NUMBER		SHIPMENT NUMBER		GENERATOR TYPE (if any)		9. CONSIGNEE - Name and Facility Address Bionomics, Inc. 1550 Bear Creek Road Oak Ridge, TN 37831		CONTACT John McCormick TELEPHONE NUMBER (including Area Code) (865) 220-8501									
1. EMERGENCY TELEPHONE NUMBER (include Area Code) (865) 220-8520				CONTACT Dr. Lee Anthony		TELEPHONE NUMBER (including Area Code) (540) 563-0165		EPA I.D. NUMBER TNR000003111		SIGNATURE - Authorized consignee acknowledging waste receipt		DATE									
ORGANIZATION BIONOMICS, INC.				6. CARRIER - Name and Address T.A.G. Transport 2818 Roane State Hwy. Harriman, TN 37748		EPA I.D. NUMBER TNR000003111		SHIPPING DATE 1-30-06		SIGNATURE - Authorized carrier acknowledging waste receipt		DATE 1-30-06									
2. IS THIS AN 'EXCLUSIVE USE' SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST =====> 1		EPA MANIFEST NUMBER N/A		CONTACT Gary Kindrick		TELEPHONE NUMBER (including Area Code) (865) 882-0457		10. CERTIFICATION The is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.		AUTHORIZED SIGNATURE <i>[Signature]</i>		DATE 1/30/06							
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If "Yes" provide Manifest Number =====>				11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information) Radioactive Material, Type A Package, 7, UN2915		12. DOT LABEL 'RADIOACTIVE' Yellow White		13. TRANSPORT INDEX 0.3 NA		14. PHYSICAL AND CHEMICAL FORM Solid / Oxides		15. INDIVIDUAL RADIONUCLIDES Sr 90		16a. TOTAL PACKAGE ACTIVITY IN MBq 2715.0		17. LSA/SCO CLASS N/A		18a. TOTAL VOLUME m ³ 0.01 6.1145		19. CERTIFICATION NUMBER OF PACKAGE PH-06-01	
										BIONOMICS, INC.											

Zionomics, Inc.

CC

P.O. Box 817 — Kingston, TN 37763 — (865) 220-8501

July 19, 2006

Dr. Lee Anthony
Physics Associates
5346 Peters Creek Rd.
Roanoke, VA 24019

RE: Barnwell Disposal Certificate

Dear Dr. Anthony:


This is to certify that the radioactive material picked at your facility on January 30, 2006, on manifest number 013006 has been disposed of at the Chem-Nuclear Disposal Site in Barnwell, SC.

Please reference the following table for detailed disposal information of shipment.

Barnwell Manifest Number	Barnwell Container Number	Disposal Volume (ft ³)	Barnwell Shipment Number	Barnwell Disposal Date
0606-13101	B2006-01	0.3	13101	7/10/06

If you have any questions please feel free to contact me at (865) 220-8501.

Thank you,



Mia Hammonds
Administrative Assistant

Cc: File