



# Kardionuclear

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**CARDIOLOGOS**

June 30, 2014

Licensing Assistance Team  
Division of Nuclear Material Safety  
U.S. Nuclear Regulatory Commission, Region I  
2100, Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713

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03038197  
52-30841-02

REC'D 1 07 08 14 PM 07/14

## TERMINATION REPORT OF THE MATERIAL LICENSE FOR THE KARDIO NUCLEAR FACILITY

We are requesting to the Nuclear Regulatory Commission the termination of the material license of this facility from the material license number 52-30841-02, docket number 030-38197, since we have decided to permanently cease principal activities at the entire site. A decommissioning process started on June 26, 2014 and finished on June 30, 2014. This included a surface contamination and ambient rate surveys to certify that there is no evidence of radioactive contamination or detectable radiation levels at the Kardio Nuclear, Inc located at Hospital San Carlos de Borromeo, 1<sup>st</sup> floor, 550 Concepción Vera Ayala Street, Moca, Puerto Rico, license number 52-30841-02, docket number 030-38197. This facility was authorized for the following use: any uptake, dilution and excretion study permitted by 10 CFR 35.100 and any imaging and localization study permitted by 10 CFR 35.200. Enclose the results of this survey and a diagram of the areas for your evaluation.

The results of the surface contamination survey were under the trigger level (2,000 dpm). This indicates that there were no detectable radiation levels of concern. The areas surveyed were: 1. Hot Room, 2. Gamma Camera Room, 3. Hallway I, 4. Hallway I, 5. Stress Room, 6. Patient Bathroom and 7. Waiting Area. The instruments used for the surface contamination survey were: Atomlab 500 Wipe Test Counter: Biodex, Model 086-331, S/N: 09100018 and Wipe Test Counter (Well Chamber): Model 075-594, S/N: 09100059.

The results of the ambient rate surveys were also under acceptable limits. The instrument used for the ambient rate survey was the Geiger Muller: Biodex, Model 14 C, S/N: 258698, Probe: Model 44-9, S/N: PR282717. This indicates that there are no detectable radiation levels of concern.

REC'D IN LAT 7-8-14

Hospital San Carlos de Borromeo • 1 Piso, Moca, P.R. 00676  
Call Box 6480, Bayamón, P.R. 00960-9004  
Tel. 787-551-0215 • Fax 787-551-0214

584318

NMSS/RGN1 MATERIALS-002



# *Kardionuclear*

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All sealed sources used for equipment calibration were transferred on June 30, 2014 by Lantheus Medical Imaging to the Nuclear Medicine Department Hot Lab, at Nuclear Medicine, Inc. located at Edificio Médico Menonita, Oficina 209, Carr 14, Barrio Rincón, Sector Lomas, Cayey, Puerto Rico under the license number 52-30841-01, docket number 030-36419. Enclose is an inventory of the sealed sources transferred. Also no radioactive waste is present or accumulated since this facility was using unit doses and the syringes were returned back to the Radiopharmacy for proper disposal process.

A report of the survey results is being submitted for your evaluation. We will be expecting for your approval and the corresponding release of these premises. Please contact me for any additional information at phone number (939) 717-1959 or Mr. Jossian J. Pagán Lisboa (RSO) at (787) 612-6825.

Humberto Quintana Irazola, MD  
President and Director, Kardio Nuclear

## SEALED SOURCES TRANSFERED TO THE NEW FACILITY

**Address:**

**Mailing Address:**

Nuclear Medicine, Inc.  
P.O. Box 6480  
Santa Rosa Unit Bayamón,  
Puerto Rico 00960-9005

**Physical Address:**

Nuclear Medicine Department Hot Lab  
Edificio Médico Menonita, Oficina 209,  
Carr 14, Barrio Rincón, Sector Lomas,  
Cayey, Puerto Rico.

**License Number:** 52-30841-01

**Docket Number:** 030-36419

Co-57 Model : RV-057-5U S/N:1366-44-1 Ref Date: Jan/01/2010 Act: 10.35 mCi (383.0 MBq) Manufacture: E&Z, Isotope Products Lab.	Cs-137 Model: RV-137-200U S/N: 1393-31-13 Ref Date: Feb/01/2010 Act: 190.9 uCi (7063 KBq) Manufacture: E&Z, Isotope Products Lab.	Ba-133 Model: RV-133-250U S/N: 1393-18-17 Ref. Date: Dec/01/2009 Act: 256.4 uCi (9487 KBq) Manufacture: E&Z, Isotope Products Lab.
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Cs-137 (Rod Source) Model: RV-137-200U S/N: 1407-18-8 Ref Date: Jan/01/2010 Act: 99.23 nCi (3672 Bq) Manufacture: E&Z, Isotope Products Lab.	Gd-153 Model: MMS07-153-100U S/N:1414-23-1 thru 6 Ref Date: Jan/01/2010 Act: 100 uCi (3.7 MBq) Manufacture: Siemens Medical Solutions	Co-57 (Flood Source) Model: MED 3709 S/N:1474-119 Ref Date: Feb/1/2011 Act: 5.0 mCi (185 MBq) Manufacture: E&Z, Isotope Products Lab.
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## SURFACE CONTAMINATION AND AMBIENT RATE SURVEY RESULTS

**Date performed: June 26, 2014**

Kardio Nuclear, Inc  
 Hospital San Carlos de Borromeo,  
 1<sup>st</sup> floor, 550 Concepción Vera Ayala Street,  
 Moca, Puerto Rico.

**WIPE LOCATION: HOT ROOM**

1. HOT ROOM	Date	Bkg (cpm)	Sample counting time (sec)	Net Activity (dpm)	Trigger level (dpm)	Bkg Ambient Rate (mR/hr)	Ambient Rate (mR/hr)
1. Floor	06/26/2014	524	60	-119	2,000	0.20	0.02
2. Floor	06/26/2014	524	60	125	2,000	0.20	0.02
3. Floor	06/26/2014	524	60	85	2,000	0.20	0.02
4. Floor	06/26/2014	524	60	-102	2,000	0.20	0.02
5. Floor	06/26/2014	524	60	-51	2,000	0.20	0.02
6. Floor	06/26/2014	524	60	23	2,000	0.20	0.02
7. Floor	06/26/2014	524	60	-57	2,000	0.20	0.02
8. Floor	06/26/2014	524	60	40	2,000	0.20	0.02
9. Floor	06/26/2014	524	60	-51	2,000	0.20	0.02
10. Floor	06/26/2014	524	60	-142	2,000	0.20	0.02
11. Floor	06/26/2014	524	60	-23	2,000	0.20	0.02
12. Floor	06/26/2014	524	60	-125	2,000	0.20	0.02
13. Floor	06/26/2014	524	60	-28	2,000	0.20	0.02
14. Floor	06/26/2014	524	60	-159	2,000	0.20	0.02
15. Floor	06/26/2014	524	60	-11	2,000	0.20	0.02
16. Floor	06/26/2014	524	60	-51	2,000	0.20	0.02
17. Floor	06/26/2014	524	60	28	2,000	0.20	0.02
18. Floor	06/26/2014	524	60	-62	2,000	0.20	0.02
19. Floor	06/26/2014	524	60	0	2,000	0.20	0.02
20. Floor	06/26/2014	524	60	-17	2,000	0.20	0.02
21. Injection Site	06/26/2014	524	60	-51	2,000	0.20	0.02
22. Waste Area	06/26/2014	524	60	23	2,000	0.20	0.02
23. Sink	06/26/2014	524	60	-51	2,000	0.20	0.02
24. Sink	06/26/2014	524	60	17	2,000	0.20	0.02
25. L. Block	06/26/2014	524	60	-23	2,000	0.20	0.02

26. Dose Calibrator	06/26/2014	524	60	23	2,000	0.20	0.02
27. Work Bench	06/26/2014	524	60	-6	2,000	0.20	0.02
28. Work Bench	06/26/2014	524	60	-40	2,000	0.20	0.02
29. Work Bench	06/26/2014	524	60	-45	2,000	0.20	0.02
30. Work Bench	06/26/2014	524	60	11	2,000	0.20	0.02
31. Work Bench	06/26/2014	524	60	34	2,000	0.20	0.02
32. Work Bench	06/26/2014	524	60	-5	2,000	0.20	0.02
33. Well Counter	06/26/2014	524	60	-28	2,000	0.20	0.02
34. Door Knob	06/26/2014	524	60	-23	2,000	0.20	0.02

**WIPE LOCATION: GAMMA CAMERA ROOM**

<b>2. GAMMA CAMERA ROOM</b>	<b>Date</b>	<b>Bkg (cpm)</b>	<b>Sample counting time (sec)</b>	<b>Net Activity (dpm)</b>	<b>Trigger level (dpm)</b>	<b>Bkg Ambient Rate (Mr/hr)</b>	<b>Ambient Rate (Mr/hr)</b>
1. Camera Table	06/26/2014	524	60	119	2,000	0.06	0.02
2. Camera Table	06/26/2014	524	60	-136	2,000	0.06	0.02
3. Camera Gamma	06/26/2014	524	60	-17	2,000	0.06	0.02
4. Camera Gamma	06/26/2014	524	60	-74	2,000	0.06	0.02
5. Camera Gamma	06/26/2014	524	60	-6	2,000	0.06	0.02
6. Floor	06/26/2014	524	60	-11	2,000	0.06	0.02
7. Floor	06/26/2014	524	60	-17	2,000	0.06	0.02
8. Floor	06/26/2014	524	60	96	2,000	0.06	0.02
9. Floor	06/26/2014	524	60	-34	2,000	0.06	0.02
10. Floor	06/26/2014	524	60	136	2,000	0.06	0.02
11. Floor	06/26/2014	524	60	-79	2,000	0.06	0.02
12. Floor	06/26/2014	524	60	-114	2,000	0.06	0.02
13. Floor	06/26/2014	524	60	-6	2,000	0.06	0.02
14. Floor	06/26/2014	524	60	0	2,000	0.06	0.02
15. Floor	06/26/2014	524	60	30	2,000	0.06	0.02
16. Door Knob	06/26/2014	524	60	-108	2,000	0.06	0.02

**WIPE LOCATION: HALLWAY I**

<b>3. HALLWAY I</b>	<b>Date</b>	<b>Bkg (cpm)</b>	<b>Sample counting time (sec)</b>	<b>Net Activity (dpm)</b>	<b>Trigger level (dpm)</b>	<b>Bkg Ambient Rate (Mr/hr)</b>	<b>Ambient Rate (Mr/hr)</b>
1. Floor	06/26/2014	524	60	-17	2,000	0.04	0.02

2. Floor	06/26/2014	524	60	-62	2,000	0.04	0.02
3. Floor	06/26/2014	524	60	79	2,000	0.04	0.02
4. Floor	06/26/2014	524	60	62	2,000	0.04	0.02
5. Floor	06/26/2014	524	60	85	2,000	0.04	0.02
6. Floor	06/26/2014	524	60	-74	2,000	0.04	0.02
7. Floor	06/26/2014	524	60	51	2,000	0.04	0.02
8. Floor	06/26/2014	524	60	40	2,000	0.04	0.02
9. Floor	06/26/2014	524	60	91	2,000	0.04	0.02
10. Floor	06/26/2014	524	60	80	2,000	0.04	0.02
11. Floor	06/26/2014	524	60	-8	2,000	0.04	0.02
12. Floor	06/26/2014	524	60	-10	2,000	0.04	0.02
13. Floor	06/26/2014	524	60	-11	2,000	0.04	0.02
14. Floor	06/26/2014	524	60	5	2,000	0.04	0.02
15. Floor	06/26/2014	524	60	13	2,000	0.04	0.02

**WIPE LOCATION: HALLWAY II**

4. HALLWAY II	Date	Bkg (cpm)	Sample counting time (sec)	Net Activity (dpm)	Trigger level (dpm)	Bkg Ambient Rate (Mr/hr)	Ambient Rate (Mr/hr)
1. Floor	06/26/2014	524	60	60	2,000	0.04	0.02
2. Floor	06/26/2014	524	60	55	2,000	0.04	0.02
3. Floor	06/26/2014	524	60	20	2,000	0.04	0.02
4. Floor	06/26/2014	524	60	-10	2,000	0.04	0.02
5. Floor	06/26/2014	524	60	-120	2,000	0.04	0.02
6. Floor	06/26/2014	524	60	-55	2,000	0.04	0.02
7. Floor	06/26/2014	524	60	-60	2,000	0.04	0.02
8. Floor	06/26/2014	524	60	-160	2,000	0.04	0.02
9. Floor	06/26/2014	524	60	20	2,000	0.04	0.02
10. Floor	06/26/2014	524	60	102	2,000	0.04	0.02
11. Floor	06/26/2014	524	60	17	2,000	0.04	0.02
12. Floor	06/26/2014	524	60	32	2,000	0.04	0.02
13. Floor	06/26/2014	524	60	30	2,000	0.04	0.02
14. Floor	06/26/2014	524	60	18	2,000	0.04	0.02
15. Floor	06/26/2014	524	60	20	2,000	0.04	0.02

**WIPE LOCATION STRESS ROOM**

5. STRESS ROOM	Date	Bkg (cpm)	Sample counting time (sec)	Net Activity (dpm)	Trigger level (dpm)	Bkg Ambient Rate (Mr/hr)	Ambient Rate (Mr/hr)
1. Treadmill	06/26/2014	524	60	-11	2,000	0.04	0.02
2. Treadmill	06/26/2014	524	60	-96	2,000	0.04	0.02
3. Treadmill	06/26/2014	524	60	-85	2,000	0.04	0.02
4. Treadmill	06/26/2014	524	60	32	2,000	0.04	0.02
5. Floor	06/26/2014	524	60	28	2,000	0.04	0.02
6. Floor	06/26/2014	524	60	-136	2,000	0.04	0.02
7. Floor	06/26/2014	524	60	-57	2,000	0.04	0.02
8. Floor	06/26/2014	524	60	17	2,000	0.04	0.02
9. Floor	06/26/2014	524	60	-114	2,000	0.04	0.02
10. Floor	06/26/2014	524	60	23	2,000	0.04	0.02
11. Floor	06/26/2014	524	60	-17	2,000	0.04	0.02
12. Floor	06/26/2014	524	60	102	2,000	0.04	0.02
13. Floor	06/26/2014	524	60	45	2,000	0.04	0.02
14. Floor	06/26/2014	524	60	79	2,000	0.04	0.02
15. Door Knob	06/26/2014	524	60	15	2,000	0.04	0.02

**WIPE LOCATION: PATIENT BATHROOM**

6. PATIENT BATHROOM	Date	Bkg (cpm)	Sample counting time (sec)	Net Activity (dpm)	Trigger level (dpm)	Bkg Ambient Rate (mR/hr)	Ambient Rate (mR/hr)
1. Floor	06/26/2014	524	60	57	2,000	0.04	0.02
2. Floor	06/26/2014	524	60	57	2,000	0.04	0.02
3. Floor	06/26/2014	524	60	79	2,000	0.04	0.02
4. Floor	06/26/2014	524	60	89	2,000	0.04	0.02
5. Toilet Seat	06/26/2014	524	60	17	2,000	0.04	0.02
6. Sink	06/26/2014	524	60	68	2,000	0.04	0.02
7. Door Knob	06/26/2014	524	60	-23	2,000	0.04	0.02

**WIPE LOCATION: WAITING AREA**

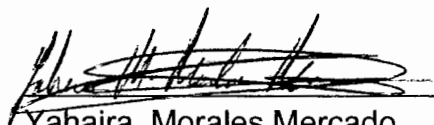
7. WAITING AREA	Date	Bkg (cpm)	Sample counting time (sec)	Net Activity (dpm)	Trigger level (dpm)	Bkg Ambient Rate (mR/hr)	Ambient Rate (mR/hr)
1. Floor	06/26/2014	524	60	0	2,000	0.04	0.02

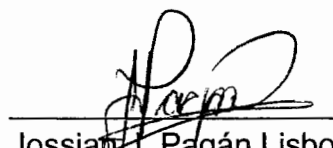
2. Floor	06/26/2014	524	60	18	2,000	0.04	0.02
3. Floor	06/26/2014	524	60	20	2,000	0.04	0.02
4. Floor	06/26/2014	524	60	33	2,000	0.04	0.02
5. Floor	06/26/2014	524	60	-15	2,000	0.04	0.02
6. Floor	06/26/2014	524	60	-18	2,000	0.04	0.02
7. Floor	06/26/2014	524	60	5	2,000	0.04	0.02
8. Floor	06/26/2014	524	60	-60	2,000	0.04	0.02
9. Floor	06/26/2014	524	60	79	2,000	0.04	0.02
10. Floor	06/26/2014	524	60	5	2,000	0.04	0.02
11. Floor	06/26/2014	524	60	23	2,000	0.04	0.02
12. Floor	06/26/2014	524	60	-28	2,000	0.04	0.02
13. Floor	06/26/2014	524	60	-31	2,000	0.04	0.02
14. Floor	06/26/2014	524	60	51	2,000	0.04	0.02
15. Floor	06/26/2014	524	60	91	2,000	0.04	0.02
16. Door Knob	06/26/2014	524	60	28	2,000	0.04	0.02

**Instrument's used for survey:**

1. **Atomlab 500 Wipe Test Counter: Biodex, Model 086-331, S/N: 09100018**  
**Wipe Test Counter (Well Chamber): Model 075-594, S/N: 09100059**
2. **Geiger Muller: Biodex, Model 14 C, S/N: 258698,**  
**Probe: Model 44-9, S/N: PR282717**

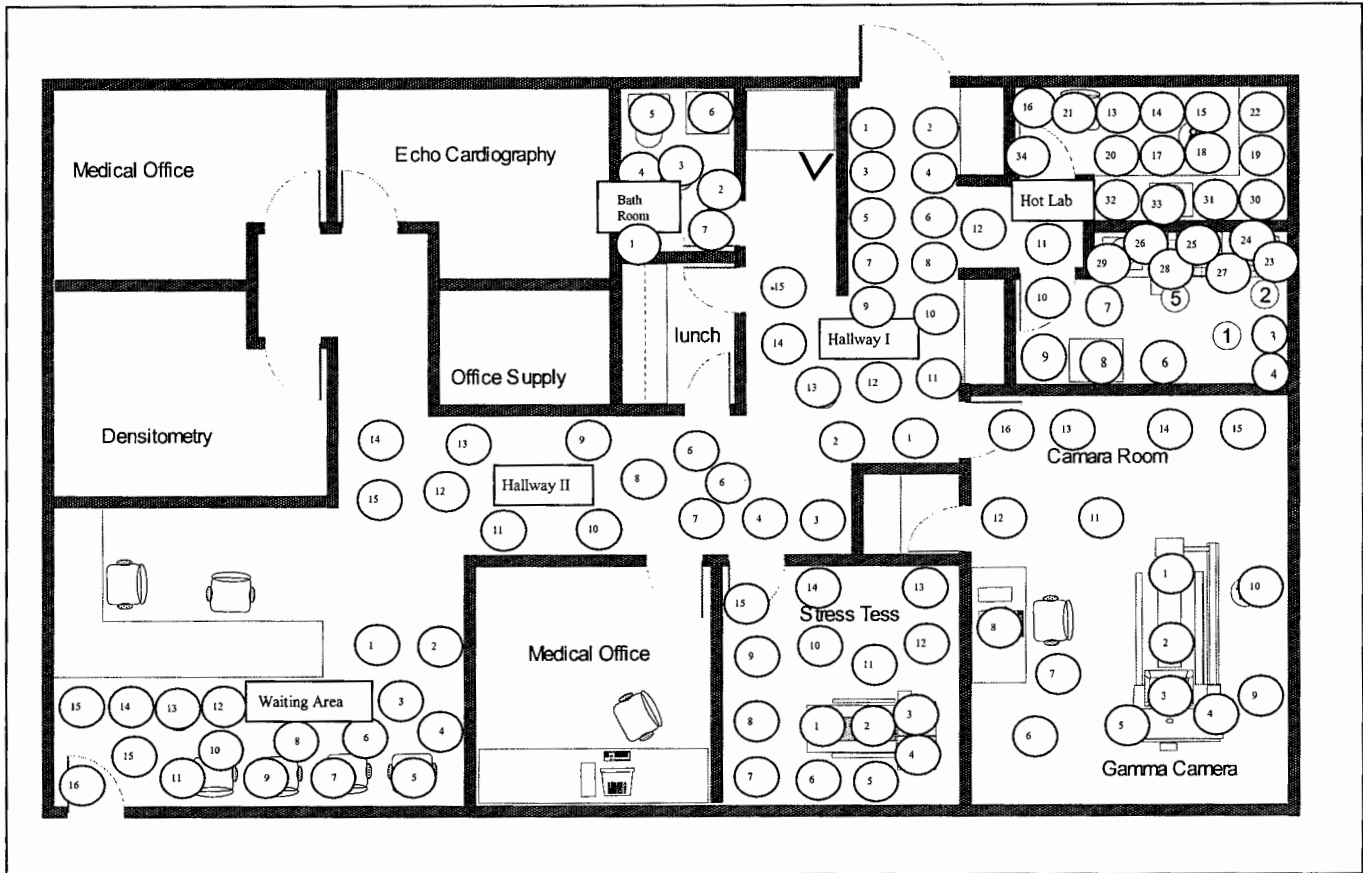
**Performed by:**

  
 Yahaira Morales Mercado  
 Certified Nuclear Medicine Technologist

  
 Jossian J. Pagán Lisboa  
 Radiation Safety Officer



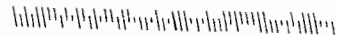
# SURVEY DIAGRAMA KARDIO NUCLEAR LAB



Kardionuclear Inc  
Call Box 6480  
Bayamon PR 00960



Licensing Assistance Team  
Division of Nuclear Material Safety  
U.S. Nuclear Regulatory Commission,  
Region I  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713



This is to acknowledge the receipt of your letter application dated

6-30-14, and to inform you that the initial processing which includes an administrative review has been performed.

*Terminate : 52-30841-02*  
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 584318.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.