



RECEIVED  
REGION 1

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April 12, 2006

USNRC Region 1  
Materials Licensing Branch  
475 Allendale Road  
King of Prussia, PA 19406-1415

03034556

RE: License # 47-25408-01

To Whom It May Concern:

This is an additional notification of our change in the location of our facility. Both sites have relocated to the following address:

Huntington Regional Medical Center  
5170 US Rt 60 East  
Huntington, WV 25705

The following sites will be closed:

Huntington Internal Medicine Group  
(Radiology & Nuclear Medicine Department)  
1115 20<sup>th</sup> Street  
Huntington, WV 25703  
&  
2860 3<sup>rd</sup> Avenue  
Huntington, WV 25702

Closeout surveys have been conducted and sent to the NRC. We are awaiting approval prior to releasing the building to use for the general public.

All conditions of the existing license will be adhered to.

Please contact me if you have any questions.

Sincerely,

Mike Sundall, CEO

138402

NMCS/RCM MATERIALS-002



April 12, 2006

USNRC Region 1  
Materials Licensing Branch  
475 Allendale Road  
King of Prussia, PA 19406-1415

RE: License # 47-25408-01

To Whom It May Concern:

These are the closeout swipes and surveys from our former nuclear medicine labs located at:

2860 Third Avenue, Suite 210  
Huntington, WV 25702

If there are any problems or questions, please contact Stephanie Elkins at (304) 697-6000 ext 2111.

Sincerely,

Mike Sundall, CEO



April 12, 2006

USNRC Region 1  
Materials Licensing Branch  
475 Allendale Road  
King of Prussia, PA 19406-1415

RE: License # 47-25408-01

To Whom It May Concern:

Please amend the above license for our facility to reflect the following:

Delete: Linda G. Carr, M.D. as an authorized user.

Please contact me if you have any questions.

Sincerely,

Mike Sundall, CEO

(6-2004)  
10 CFR 30.36(j)(1); 40.42(j)(1);  
70.38(j)(1); and 72.54(j)(1)

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

### CERTIFICATE OF DISPOSITION OF MATERIALS

*As it applies to the facility at 2860 Third Avenue, Suite 210, Huntington West Virginia only*

LICENSEE NAME AND ADDRESS  
Huntington Regional Medical Center  
5170 US Rt 60 EAST  
Huntington, WV 25705

LICENSE NUMBER: 47-25408-01  
DOCKET NUMBER: 030-34556  
LICENSE EXPIRATION DATE: May 31, 2013

This license has expired.  This license has not yet expired; please terminate it. *NA*

#### B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- 2. All activities authorized by this license have *ceased at this site*, and all radioactive materials procured and/or possessed by the licensee under this license number cited above *have been disposed of in the following manner.*
  - a. Transfer of radioactive materials to the licensee listed below: *Huntington Regional Medical Center*  
*\* Sources transferred to new location by Cardinal Health 1-13-06*  
5170 US Rt 60 East  
Huntington, WV. 25705
  - b. Disposal of radioactive materials:
    - 1. Directly by the licensee:
    - 2. By licensed disposal site:
    - 3. By waste contractor:
  - c. All radioactive materials *at this site* have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

#### C. SURVEYS PERFORMED AND REPORTED

- 1. A radiation survey was conducted by the licensee. The survey confirms:
  - a. the absence of licensed radioactive materials
  - b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- 2. A copy of the radiation survey results:
  - a. is attached; or  b. is not attached (Provide explanation); or  c. was forwarded to NRC on: Jan. 23, 2006  
Date
- 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
  - a. The results of the latest leak test are attached; and/or
  - b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:  
NAME: Stephanie Elkins TITLE: Nuclear Medicine Tech TELEPHONE (include Area Code): 304 697 6000 EXT. 2111 E-MAIL ADDRESS:  
Mail all future correspondence regarding this license to: Huntington Regional Medical Center 5170 US Rt. 60 East Huntington, WV 25705

C. CERTIFYING OFFICIAL  
I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT  
PRINTED NAME AND TITLE: *Michael Sundell* SIGNATURE: *[Signature]* DATE:

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.



~~Room 1~~

~~SWIPES~~

4-10-06

BKG - 490

CPM

Tech

	CPM	Tech
Hot LAB Counter	509 cpm	SE
Hot LAB sink	487 cpm	"
Hot LAB Floor	478 cpm	"
Floor (well counter)	449 cpm	"
Floor (camera)	491 cpm	"
Floor (desk)	488 cpm	"
(camera) wall	472 cpm	"
Floor (Acquisition station)	464 cpm	"
(Prep) Floor	479 cpm	"
(Treadmill) Floor	434 cpm	"
(Treadmill desk) Floor	452 cpm	"
(Treadmill) wall	461 cpm	"
Hallway	470 cpm	"
(Storage) Floor	439 cpm	"
( " ) wall	489 cpm	"
Restroom (Floor & wall)	475 cpm	"
Hot Lab (wall)	461 cpm	"
Hallway	458 cpm	"
Hallway	474 cpm	"
Treadmill Room Entrance (Floor)	462 cpm	"
Camera computer station (Floor)	442 cpm	"

	cpm	Temp
2 Camera room door handle	445 cpm	SE
3 Treadmill room door handle	511 cpm	"
4 hot lab door handle	491 cpm	"
5 Storage Room door handle	482 cpm	"
6 Restroom door handle	498 cpm	"

oom 2

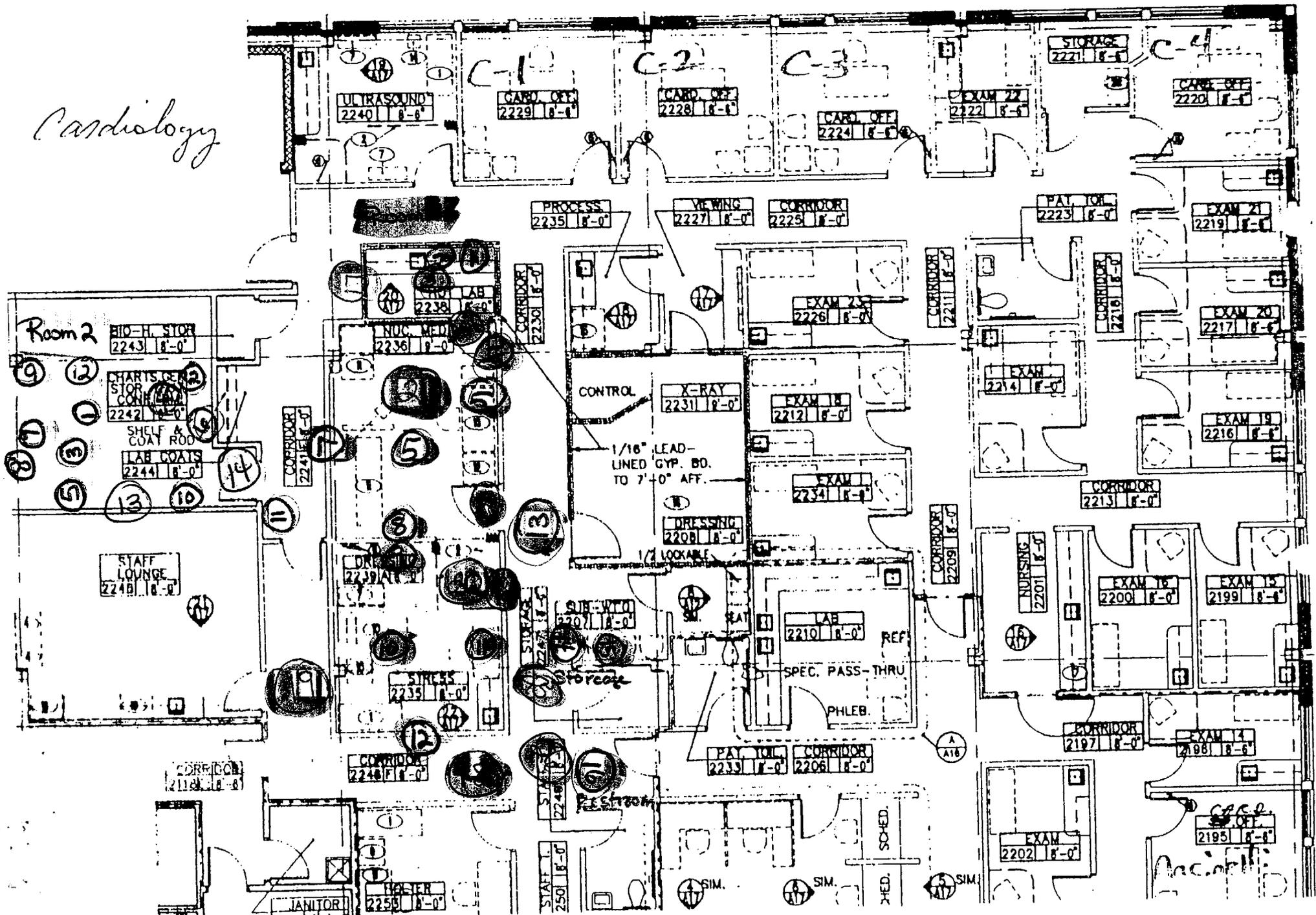
Swipes 4-10-06

BKG 476

Surface Tech

	Surface	Tech
① (Patient Area) Floor	470 cpm	SE
② (Treadmill) Floor	486 cpm	"
③ (Scan) Floor	465 cpm	"
④ (Prep) Floor	474 cpm	"
⑤ (Table) Floor	480 cpm	"
⑥ (Injection Stand) Floor	474 cpm	"
⑦ (Desk) Floor	469 cpm	"
⑧ Wall	457 cpm	"
⑨ (Processing Station) Floor	436 cpm	"
⑩ (Camera) Floor	447 cpm	"
⑪ Hallway	433 cpm	"
⑫ Countertop	448 cpm	"
⑬ (Camera) Wall	456 cpm	"
⑭ (Entrance) Floor	473 cpm	"

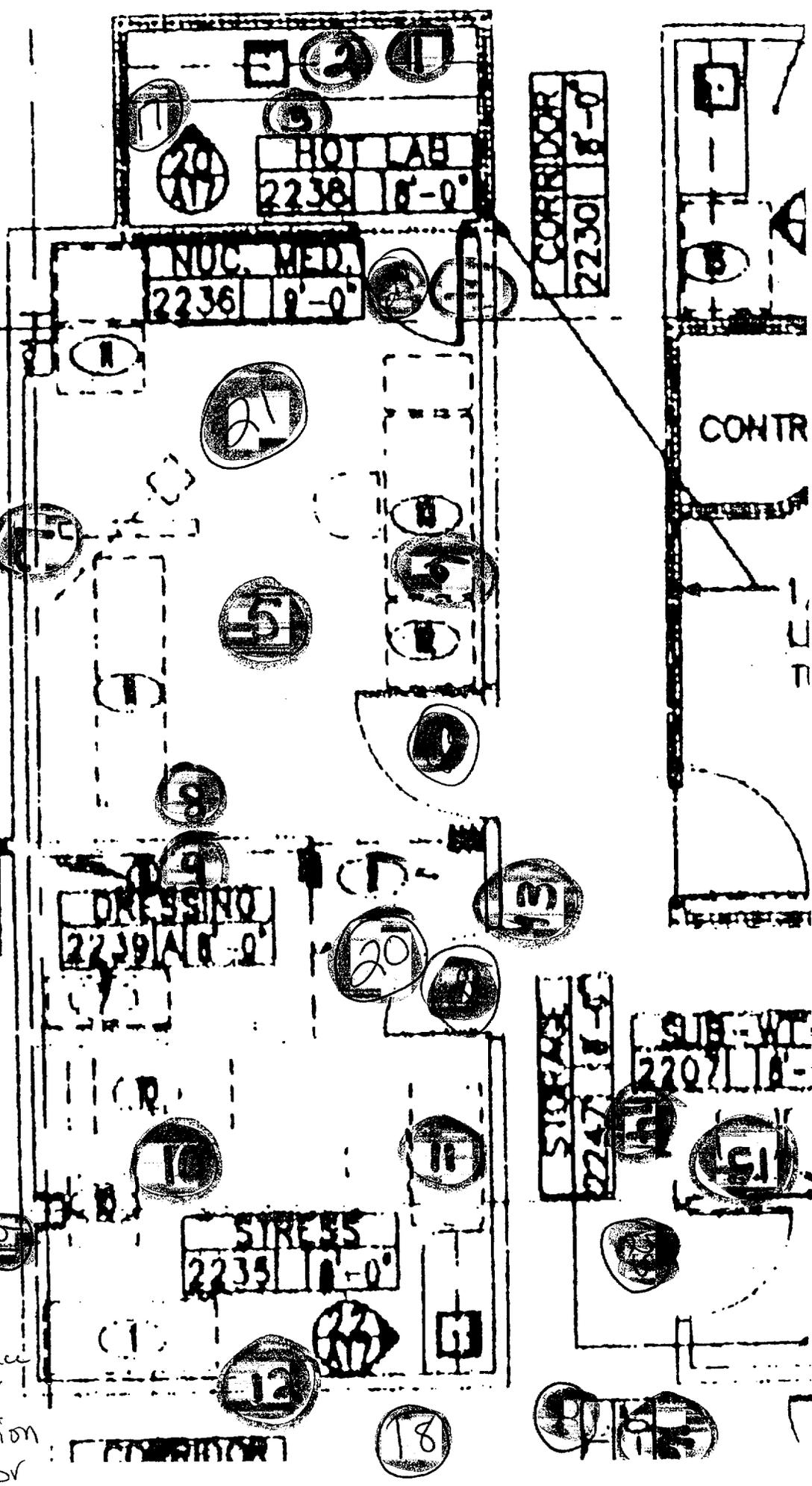
*Cardiology*



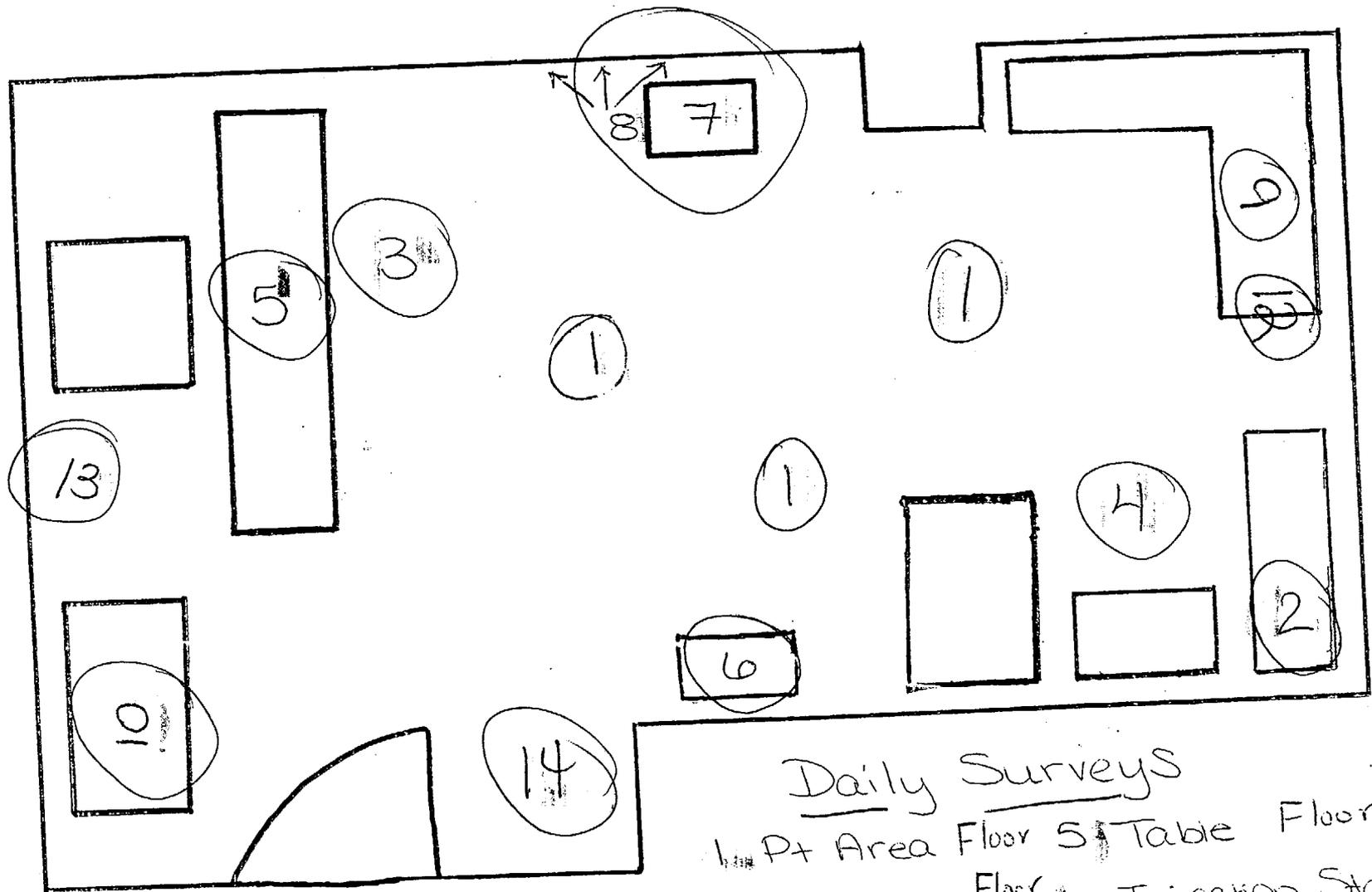
cam

2235 18'-0"

- Hot LAB Counter
- Hot LAB / Sink
- Hot LAB Floor
- Floor (well counter)
- Floor (Camera)
- Floor (Desk)
- Wall
- Floor (Aeg. Station)
- Prep Floor
- (Treadmill) Floor
- Floor (Treadmill Desk)
- Wall (Treadmill Room)
- Hallway
- Storage Floor
- " Wall
- Restroom
- Hot LAB wall
- Hallway
- Hallway
- Treadmill Room Entrance Floor
- Camera Computer station Floor



Room 2



### Daily Surveys

- 1. Pt Area Floor
- 2. Treadmill Floor
- 3. Scan Floor
- 4. Prep Floor
- 5. Table Floor
- 6. Injection Stand Floor
- 7. Desk Floor
- 8. WALL
- 9. Processing station
- 10. Floor
- 11. Hallway

14. entrance Floor

12. counter top  
13. camera wall

# Huntington Regional Medical Center

## Well Quality Control

**Manufacturer:** Ludlum  
**Model:** 2200 **S/N:** 92450  
**Test Date:** 01/16/06  
**Isotope:**  $^{137}\text{Cs}$  **Activity:** 0.5000  $\mu\text{Ci}$  on 4/1/98  
**Current Activity:** 927814 dpm **Net cpm:** 119216 **Bkg:** 320  
**Efficiency =** 12.81%  **$X_{\text{avg}}$  =** 27291  
**Present H.V.** 272 **New H.V.** 272  **$\chi^2$  =** 4.697  
**Background** 320 cpm  **$\sigma$  =** 119.35  
**Expected  $\sigma = (X)^{1/2} =$**  165.20

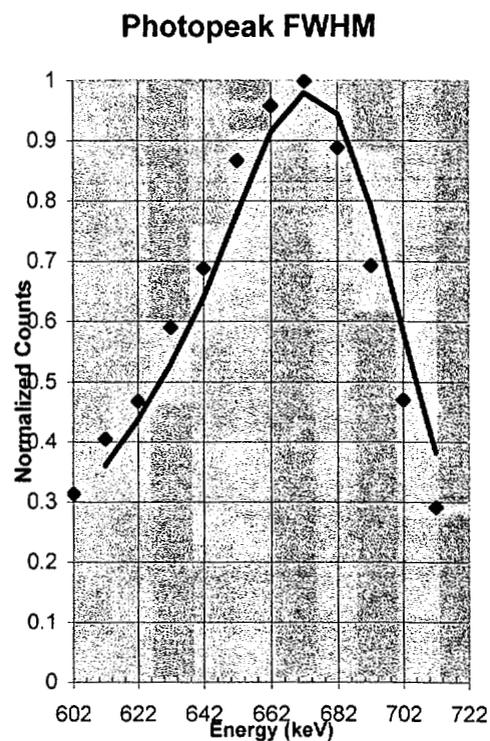
### STATISTICAL ANALYSIS (Chi Square Test)

Normal Range: - 4.17-14.68 For 10 Counts

$X_i$	$(X_i - X_{\text{avg}})^2$
27074	46958.89
27383	8519.29
27343	2735.29
27402	12387.69
27264	712.89
27485	37752.49
27261	882.09
27261	882.09
27160	17082.49
27274	278.89

### Photo Peak Resolution

Peak KeV	Counts	Normalized Ratio
602	704	0.313446
612	910	0.405165
622	1051	0.467943
632	1326	0.590383
642	1547	0.68878
652	1948	0.86732
662	2154	0.959038
672	2246	1
682	1997	0.889136
692	1557	0.693232
702	1057	0.470614
712	655	0.29163



**FWHM = 11.960**

**Results:** Chi-square results acceptable. Good photopeak resolution.

Analysis performed by:

Dale R. Keith, Health Physicist  
 Universal Consultants, Inc.

**MEDICAL PHYSICS SURVEY REPORT  
Huntington Regional Medical Center  
SCINTILLATION WELL EVALUATION**

MODEL:	Ludlum Model 2200			(B)	(C)		(D)
DATE:	(A) NUCLIDE	H.V.	CPM	RESOL	CHI <sup>2</sup>	EFFICIENCY Co-57	MDA
11/30/2005	Cs-137	272	118744	7.4%	3.5	85.1	140
01/16/06	Cs-137	272	119416			85.1%	140

- A. 0.5 uCi 4/1/98
- B. Normal Range: 7-12%
- C. Normal Range: 4.17 - 14.68 for 10 counts
- D. MDA = Minimum Detectable Activity =

$$4.65\sqrt{Bkg. + Eff.}$$

**MEDICAL PHYSICS SURVEY REPORT**  
**Huntington Regional Medical Center**  
**SEALED SOURCE LEAK TEST ANALYSIS REPORT**

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and revealed removable contamination was less than 0.005 uCi, unless otherwise noted, when compared against NIST traceable standards.

SOURCE: Co-57 Vial, Serial #744-49-14 5.4 mCi 7/1/01

Date: 01/16/06

Wipe No: 12324

Gross Wipe CPM: 79

Background CPM: 91

Net CPM: 0

CPM: for 0.005 uCi: 7687

Analyst: D. Keith

SOURCE: Cs-137 Vial, Serial #S356035-099, 214 uCi 7/7/97

Date: 01/16/06

Wipe No: 12325

Gross Wipe CPM: 79

Background CPM: 91

Wipe CPM: 0

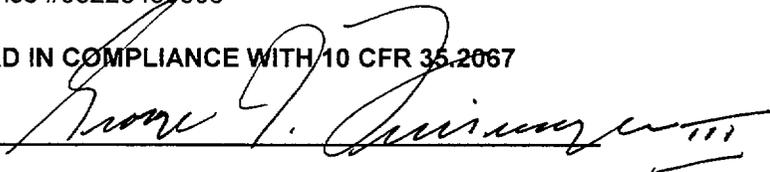
CPM: for 0.005 uCi: 7867

Analyst: D. Keith

Performed by: Universal Consultants, Inc. Ohio License #03223480006

**RETAIN THIS RECORD IN COMPLIANCE WITH 10 CFR 35.2067**

**RSO SIGNATURE:**



**MEDICAL PHYSICS SURVEY REPORT**  
**Huntington Regional Medical Center**  
**SEALED SOURCE LEAK TEST ANALYSIS REPORT**

Analysis of the WIPE used to conduct a leak test on the sealed sources identified below was performed by gas or scintillation detection and revealed removable contamination was less than 0.005 uCi, unless otherwise noted, when compared against NIST traceable standards.

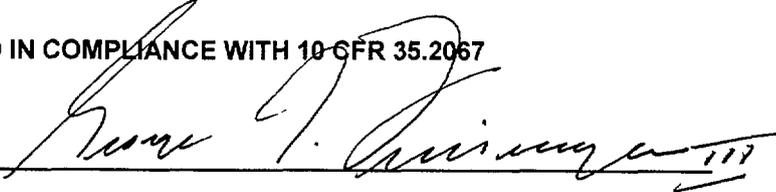
SOURCE: Co-57 Flood 10 mCi on 3/1/004 SN 1025 - 081  
Date: 01/16/06  
Wipe No: 12323  
Gross Wipe CPM: 79  
Background CPM: 91  
Net CPM: 0  
CPM: for 0.005 uCi: 7867  
Analyst: D. Keith

SOURCE:  
Date:  
Wipe No:  
Gross Wipe CPM:  
Background CPM:  
Wipe CPM:  
CPM: for 0.005 uCi:  
Analyst:

Performed by: Universal Consultants, Inc. Ohio License #03223480006

**RETAIN THIS RECORD IN COMPLIANCE WITH 10 CFR 35.2067**

**RSO SIGNATURE:**

  
\_\_\_\_\_

# FLOOD SOURCE EVALUATION REPORT

Isotope	Co-57	Model Number	MED3709
Serial Number	76523	Activity	370 MBq (10 mCi)
Reference Date	15 February 2006	Half-Life	271.77 days
Total Co-56/58 Impurity	<0.12%		

## Source Field Uniformity Measurement

Source uniformity measurement of the 122/136 keV gamma emission was performed using a collimated single crystal rectilinear scanning system. An array of 1 cm<sup>2</sup> "unit cells" comprising approximately 70% of the source was measured over the Useful Region to calculate the uniformity data shown below.

Coefficient of Variation:	0.45 %	Overall Dimensions:	638 mm x 454 mm (25.2" x 17.9")
Integral Uniformity:	1.35 %	Active Region:	610 mm x 419 mm (24.0" x 16.5")
Differential Uniformity:	0.88 %	Useful Region:	584 mm x 393 mm (23.0" x 15.5")
Maximum Absolute Deviation from the Mean:	1.54 %		

## Decay Characteristics

NUCLIDE	HALF-LIFE <sup>(1)</sup>	DECAY MODE	PHOTON ENERGY keV <sup>(1)</sup>	% ABUNDANCE
Co-57	271.77 d	e.c.	14.412	9.54
			122.0612	85.5
			136.4730	10.69
			691.982	0.158
			Fe K x-rays (6.391-7.058)	54.7

(1) Table of Radioactive Isotopes, 7th edition, 1986.

## Recommended Use

North American Scientific offers a complete line of Co-57 Flood Sources designed to determine gamma camera field uniformity performance and assist in evaluating possible camera malfunctions which could interfere with diagnostic procedures. The Co-57 Flood Source should be measured with the energy window set to include the 122 keV gamma emission. Narrower window settings (130-150 keV) may provide data which could result in a faulty image. For many of the newer more sensitive gamma cameras this is especially critical.

## Leak Test Certification

The source(s) was/were leak tested in accordance with the Wipe (Smear) Test (ANSI N542-1977, Appendix A2.1.1). All external surfaces of the source are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured. Acceptance limit: 0.0001 µCi alpha, 0.001 µCi beta-gamma. The source(s) should be leak tested every six months or as specified in a specific NRC or Agreement State license.



Health Physics

2/17/06

Date

**NORTH AMERICAN SCIENTIFIC, INC.**

7435 Greenbush Ave., North Hollywood, CA 91605 Tel (818) 734-8600 Fax (818) 734-5200

# NORTH AMERICAN SCIENTIFIC

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*...Because you really can't afford to be less than 100% sure.*

1. **Coefficient of Variation (Percent Standard Deviation):** defined by the standard deviation of the distribution of the measured values by the mean of measured values, expressed as a percentage.
2. **Maximum Absolute Deviation from the Mean:** defined by the largest sample difference from the mean measured value, expressed as a percentage.
3. **Useful Region:** is defined as the central region, 12.7 mm (0.5") in from the active border.
4. **Integral Uniformity:** ratio  $(Max_I - Min_I) / (Max_I + Min_I)$  where  $Max_I$  represents the largest measurement and  $Min_I$  the smallest measurement in the useful region.
5. **Differential Uniformity:** ratio  $(Max_D - Min_D) / (Max_D + Min_D)$  represents the largest deviation between a central value and the eight surrounding measurements.

# CERTIFICATE OF CALIBRATION

## MODEL MED3550 GAMMA REFERENCE STANDARD

Radionuclide: Co-57 Activity: 220.5 MBq (5.961 mCi)  
Serial Number: 76370 Reference Date: 1200 PST February 1, 2006  
Half Life<sup>(1)</sup>: 271.77 ± 0.05 days

### PRINCIPAL EMISSIONS<sup>(1)</sup>

Type	Energy (keV)	Intensity (%)
gamma	14.4119	9.54
gamma	122.0612	85.5
gamma	136.4730	10.69

### SOURCE DESCRIPTION

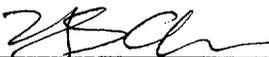
The activity is uniformly distributed throughout approximately 10 milliliters of epoxy resin and covered with 10 milliliters of inactive epoxy resin in a 30 milliliter polyethylene vial with an epoxy sealed cap.

### METHOD OF CALIBRATION

The standard was calibrated by direct comparison to 10 milliliters of standardized solution traceable to the National Institute of Standards and Technology, in an identical geometry, using a pressurized ion chamber. Therefore, the activity value provided is equivalent to 10 milliliters of standardized solution. This standard is indirectly (implicitly) traceable to the National Institute of Standards and Technology.

North American Scientific, Inc. actively participates in the Radioactivity Measurements Assurance Program conducted by the National Institute of Standards and Technology in cooperation with the Nuclear Energy Institute.

TOTAL UNCERTAINTY (99% Confidence Level) ± 4.00%

  
\_\_\_\_\_  
Amy Chen  
Calibration Laboratory

February 15, 2006  
\_\_\_\_\_  
Date

### REFERENCES

(1) Table of Radioactive Isotopes, 7th edition, 1986.

• LEAK TEST CERTIFICATION ON REVERSE •

North American Scientific, Inc. 7435 Greenbush Ave., North Hollywood, CA 91605 (818) 734-8600 Fax (818) 734-5200

## LEAK TEST METHODS

1. **Soak (Immersion) Test** (ISO/TR 4826-1979 (E) section 2.1.3)

The source is immersed in water or other suitable liquid at 50°C for at least 4 hours and the activity in the liquid measured. Acceptance limit: 0.0001  $\mu\text{Ci}$  alpha, 0.001  $\mu\text{Ci}$  beta-gamma.

2. **Immersion Test** (ANSI N542-1977, Appendix A2.1.3)

The source is immersed in water at 100°C for 10 minutes. The water is removed and the source cooled and rinsed using fresh water. These operations are repeated twice, boiling in the water from the previous rinsing operation. Acceptance limit: 0.0001  $\mu\text{Ci}$  alpha, 0.005  $\mu\text{Ci}$  beta-gamma for all the water collected.

3. **Wipe (Smear) Test** (ANSI N542-1977, Appendix A2.1.1)

All external surfaces of the source are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured. Acceptance limit: 0.0001  $\mu\text{Ci}$  alpha, 0.001  $\mu\text{Ci}$  beta-gamma.

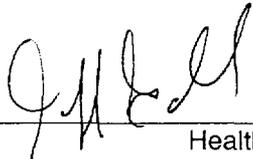
4. **Leak Test Not Applicable**

For sources with no covering or a delicate covering over the radioactive portion or gas standards and sources, the inactive portions or containment vessel are wipe tested as in Method 3 above. Acceptance limit: 0.0001  $\mu\text{Ci}$  alpha, 0.001  $\mu\text{Ci}$  beta-gamma.

5. **Other**

### LEAK TEST CERTIFICATION

The source(s) was/were leak tested in accordance with the Leak Test Method checked above. The source(s) should be leak tested every six months or as specified in a specific NRC or Agreement State license.



Health Physics

2/17/06

Date