

K-3

NRC FORM 314 (6-2004) 10 CFR 30.36(j)(1); 40.42(j)(1); 70.38(j)(1); and 72.54(j)(1)	U.S. NUCLEAR REGULATORY COMMISSION APPROVED BY OMB: NO. 3150-0028 EXPIRES: 06/30/2007 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	

LICENSEE NAME AND ADDRESS Tenet Health System Graduate, L.L.C. dba Graduate Hospital One Graduate Plaza Philadelphia, Pennsylvania 19146	LICENSE NUMBER 37-28359-01	DOCKET NUMBER 030-31046
	LICENSE EXPIRATION DATE 01/31/2014	

A. LICENSE STATUS (Check the appropriate box)

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

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, 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:

b. Disposal of radioactive materials:

1. Directly by the licensee:
 Short lived radioisotopes, principally Tc-99m, have been disposed through decay in storage.

2. By licensed disposal site:

3. By waste contractor:
 Bionomics Inc., P.O. Box 817, Kingston, TN 37763 Phone 865-220-8501

c. All radioactive materials 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: _____ 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	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Patrick Glennon, CHP, DABR	Radiation Safety Officer	(215) 893-7066	Patrick.Glennon@tenet.com

Mail all future correspondence regarding this license to:

C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE	SIGNATURE	DATE
Teri Martin Sr. Director Support Svcs	<i>Teri Martin</i>	3/15/07

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.

Decommissioning Survey Report

for

Tenet Health System Graduate, L.L.C.

d/b/a

Graduate Hospital

**One Graduate Plaza
Philadelphia, Pennsylvania**

NRC License No. 37-28359-01

Prepared by: Kent Lambert, M.S., CHP

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A. Executive Summary

Tenet Health System Graduate, L.L.C., d/b/a Graduate Hospital is licensed by the U.S. Nuclear Regulatory Commission (37-28359-01) to use byproduct material at 1800 Lombard Street (except the Atrium Suite) and the Diagnostic Services Building. The Atrium Suite was leased to and used by Cardiac Imaging Center under NRC license number 37-28653-01. The Atrium Suite was removed as a licensed use location from their license in December 2006 (personal conversation with Michelle Simmons, USNRC).

Licensed activities included the use of byproduct material permitted by 10CFR35.100, §35.200, §35.300 and specific sealed sources allowed under §35.400. Long lived isotopes (half life >120 days) known to have been used at this location are Cesium 137 and Strontium 90 in sealed sources. Leak tests performed on sealed sources confirmed the integrity of the source containment.

All areas where radioactive materials were used or stored are included in this decommissioning survey except the brachytherapy source storage room. This area will be surveyed upon the disposal of all sealed sources, scheduled for the morning of March 15, 2007. All surveyed areas were surveyed with thin window GM survey meters, except as noted. Removable contamination surveys were performed in the Nuclear Medicine department. The maximum activity found on any wipe sample was 70 dpm per 100 cm² on a floor area wipe. No fixed contamination was discovered. All short lived radioactive waste was held for decay in storage and has been surveyed and released as non-radioactive.

Depleted uranium remains in shielding components of the linear accelerator. The depleted uranium is possessed under a general license. It will not be removed by Graduate Hospital, and therefore, it will be transferred to the University of Pennsylvania. NRC Form 244 and pertinent regulations (10 CFR 40.25) have been provided to the University of Pennsylvania Radiation Safety Officer (via e-mail 3/9/07).

B. Background and History

The Graduate Hospital was established as the clinical teaching facility of the University of Pennsylvania Graduate School of Medicine in 1916, but actually traces its roots back to the 19th century. One ancestor, the Philadelphia Polyclinic, began to treat patients on the current site of the Graduate Hospital in 1889.

More recently, Graduate Hospital was acquired by Allegheny Health Education and Research Foundation (AHERF) in the mid 1990's. AHERF went bankrupt in 1998 and Graduate Hospital was acquired by Tenet HealthSystems, Inc in the bankruptcy agreement. Tenet is selling the facility to the University of Pennsylvania, effective March 31, 2007. The University of Pennsylvania does not plan to use radioactive materials at this location; therefore, the license is being terminated.

The campus at One Graduate Plaza consists of 3 buildings, Main Hospital Building, Diagnostic Services Building (also known as Tuttleman Center) and Pepper Pavilion with a total area of 358,245 square feet. Research activities took place exclusively at the Bockus Research Center, 415 South 19th Street until March 2000. The facility was released for unrestricted use in March 2001 (license amendment number 12).

At the Tuttleman Center located at 1840 South Street (the Diagnostic Services Building) licensed activities were conducted in radiation oncology and a patient discharge unit (prostate patients recovery area). At the Main Hospital Building licensed activities were conducted in nuclear medicine, operating rooms (prostate implants), specific patient rooms (temporary implants and thyroid carcinoma therapy), and cardiology (intravascular brachytherapy).

As indicated in the Executive Summary, ⁹⁰Sr was used for intravascular brachytherapy. In September, 2001 the Novoste Beta-Cath System containing ⁹⁰Sr as sealed sources was authorized. There were no lost sources during its use. The Novoste Beta Cath device including the enclosed Sr-90 sealed sources was returned to Novoste on August 4, 2004, and the license amended on or before December 2005 removing Strontium 90 and the Novoste Beta Cath device.

Nuclear medicine ceased operations on February 23, 2007. Spent generators have been packaged and are scheduled to be returned to the manufacturer on 3/15/07. Longer-lived isotopes (e.g., ⁸⁹Sr, ¹³¹I) have not been used recently, so any residual waste from these procedures had time to decay in storage before disposal. All ¹²⁵I seeds used in the prostate implant program were accounted for. Unused seeds were returned to the manufacturer. The leaking ¹²⁵I seeds (from 2/5/02 and 10/22/02) were sequestered in leak-proof containers to prevent the spread of contamination and held for decay until indistinguishable from background, at which time they were disposed as non-radioactive waste.

A waste broker is scheduled to remove all remaining radioactive materials on Thursday, March 15, 2007. This consists of calibration sources used in nuclear medicine authorized by 10 CFR 35.65 and ¹³⁷Cs brachytherapy tube sources.

C. Methods and Materials

Surveys were conducted by the following individuals under the supervision of Kent Lambert, M.S., CHP.

- Kendall Berry, M.S.P.H.
- Andrew Giagnacova, B.S.
- Jennifer Noll, B.S.
- Edward Yeager

Table 1. Surveyors

Decommissioning surveys of 1800 Lombard and the Diagnostic Services Building were performed March 8, 2007. All areas were surveyed using thin window GM survey meters unless otherwise noted; no contamination or radiation levels above background were identified in any of the areas surveyed. All drawers and cabinets were opened in a search for the presence of radioactive materials and/or radioactive contamination. Rooms where surveys were performed are listed in Table 2.

Room	Location	Date Performed	Wipe Survey	Instrument Survey
Nuclear Medicine Hot Lab	1800 Lombard	03/08/07	✓	✓
Nuclear Medicine Stress Lab 1	1800 Lombard	03/08/07	✓	✓
Nuclear Medicine Stress Lab 2	1800 Lombard	03/08/07	✓	✓
Nuclear Medicine GE 1	1800 Lombard	03/08/07	✓	✓
Nuclear Medicine Low Level Counting	1800 Lombard	03/08/07	✓	✓
Nuclear Medicine Elscint Storage	1800 Lombard	03/08/07	✓	✓
Nuclear Medicine Waste	1800 Lombard	03/08/07	✓	✓
Post Anesthesia Care Unit	1800 Lombard	03/08/07		✓
Operating Room Suite	1800 Lombard	03/08/07		✓
Cardiac Catheterization Suite	1800 Lombard	03/08/07		✓
Cardiac Catheterization Darkroom	1800 Lombard	03/08/07		✓
Fifth Floor Patient Rooms	1800 Lombard	03/08/07		✓*
Tuttleman Discharge Unit	Tuttleman	03/08/07		✓*

Table 2. Survey Locations and Type

*Instrument used in these areas was the Bicron Microrem meter.

Wipe samples were taken using dry filter papers and applying moderate pressure to workbenches, floors, and other surfaces. To assess the potential for residual radioactivity in air ducts, wipe samples were taken of the upper interior surfaces of the chemical fume hood where airflow would exhaust into ducts. To assess the potential for residual radioactivity in drain pipes, wipe samples were taken with cotton swabs inserted into sink drains.

Wipe samples were assayed using a sodium iodide crystal scintillation detection system. Table 3 indicates the counters used for these assays and their efficiencies.

Make, Model and Serial Number	Survey Dates Used	Efficiencies*
Packard B5002, S/N: 103841	03/08/07	¹²⁹ I – 90%; ⁵⁷ Co – 90%

Table 3. Analytical Equipment Used

* When counting for unknowns, an efficiency of 50% is assumed (lowest efficiency of commonly encountered isotopes)

The equipment used to analyze wipe samples was/is capable of detecting a wide range of isotopes in addition to those isotopes known to have been used at the facility.

The radiation detection survey instruments indicated in Table 4 were used to detect fixed contamination.

Ratemeter Make & Model #	Ratemeter Serial #	Probe Model #	Probe Serial #	Date Used	Prior Calibration
Ludlum 14C	134867	44-9	131506	03/08/07	11/01/06
Ludlum 3	96886	44-9	165340	03/08/07	08/11/06
Bicron Microrem	B026Q	N/A	N/A	03/08/07	08/11/06
Victoreen 190	850	489-110D	621	03/08/07	11/28/06

Table 4. Portable Radiation Detection Survey Instruments Used

D. Results

The following pages show the results for each room or area surveyed and includes:

- a map of the room;
- checklist of closeout activities performed;
- summary of contamination survey results;
- the locations where wipes were taken;
- survey meter instrument readings;
- lower limit of detection for the gamma counter;
- background measurements for the gamma counter; and
- removable contamination levels as measured by the gamma counter.

Graduate Hospital Closeout Survey Report

Building & Room No.: Hot Lab, 1800 Lombard	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and/or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

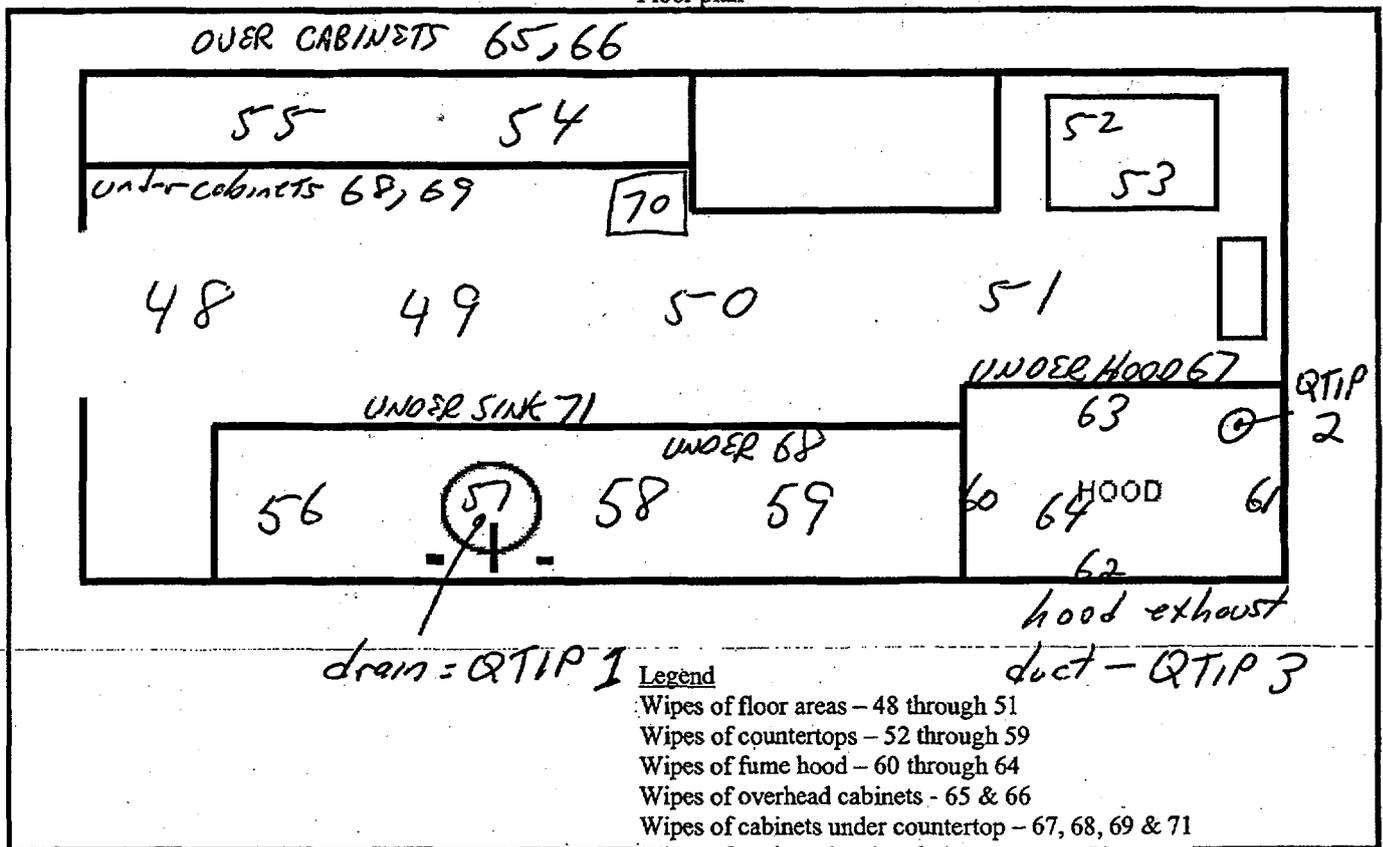
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Legend

- Wipes of floor areas - 48 through 51
- Wipes of countertops - 52 through 59
- Wipes of fume hood - 60 through 64
- Wipes of overhead cabinets - 65 & 66
- Wipes of cabinets under countertop - 67, 68, 69 & 71
- Wipes of packaged and sealed generators - 70
- Drain Pipe Swabs - Qtip 1 & 2
- Air Exhaust Swab - Qtip 3

Survey meter used: Mfg & model: Victoreen 190_ Serial No.: 850 Date of Calibration: 11/28/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.04
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 3/8/2007 *
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 66
 Count Time (min) 2

Graduate Hospital
 Nuclear Medicine
 Hot Lab

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0	NA	NA	NA	NA
48	195.0	0	0	1	0
49	207.0	7	14	1	14
50	204.0	4	8	1	8
51	199.0	0	0	1	0
52	191.0	0	0	1	0
53	181.0	0	0	1	0
54	197.0	0	0	1	0
55	198.0	0	0	1	0
56	197.0	0	0	1	0
57	204.0	4	8	1	8
58	207.0	7	14	1	14
59	196.0	0	0	1	0
60	200.0	0	0	1	0
61	204.0	4	8	1	8
62	208.0	8	16	1	16
63	190.0	0	0	1	0
64	201.0	1	2	1	2
65	207.0	7	14	1	14
66	202.0	2	4	1	4
67	219.0	19	38	1	38
68	197.0	0	0	1	0
69	214.0	14	28	1	28
70	206.0	6	12	1	12
71	220.0	20	40	1	40
Q tip #1	198.0	0	0	1	0
Q tip #2	199.0	0	0	1	0
Q tip #3	212.0	12	24	1	24

Graduate Hospital Closeout Survey Report

Building & Room No.: 1800 Lombard - Stress Lab 1	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and /or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

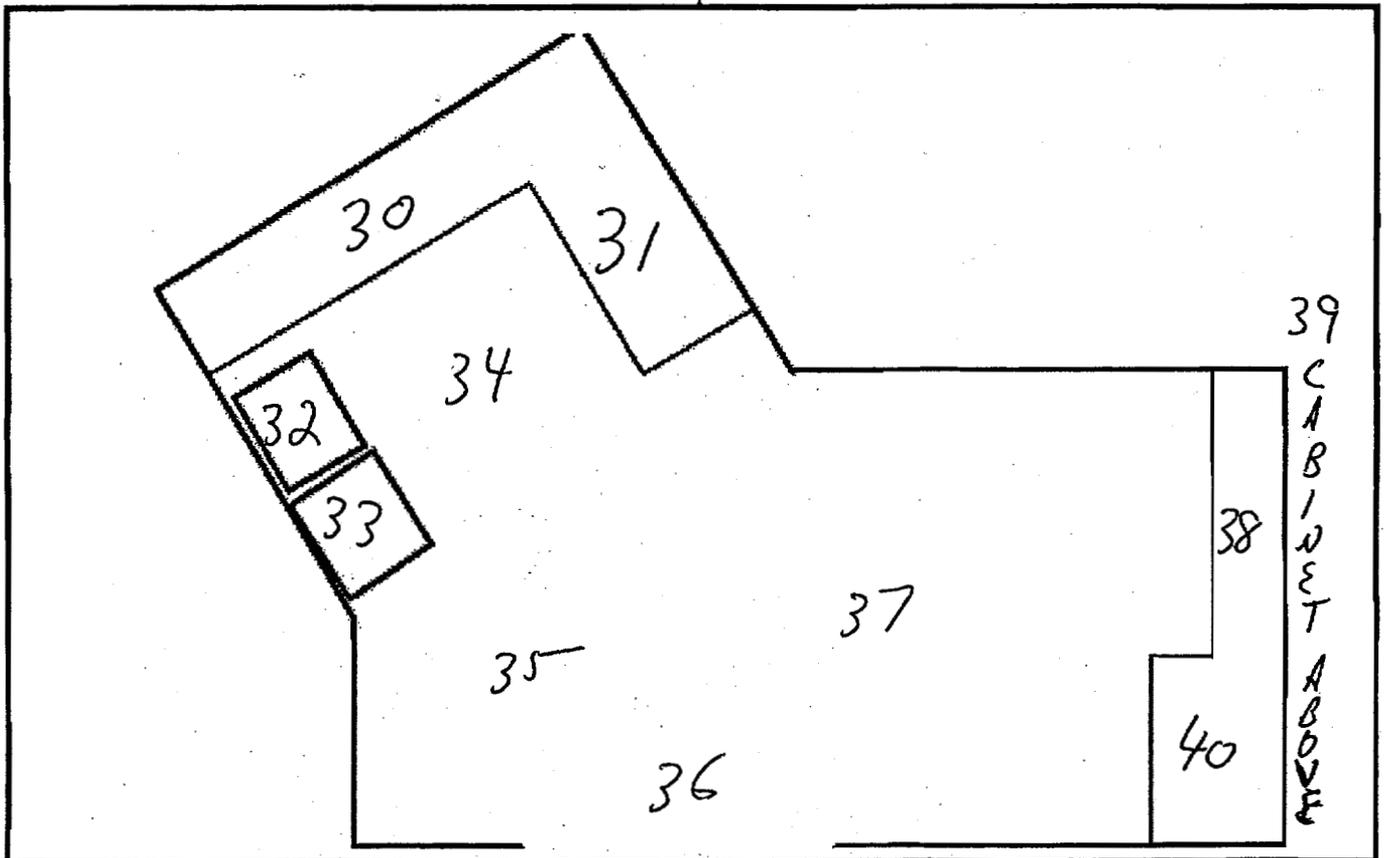
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Victoreen 190_ Serial No.: 850 Date of Calibration: 11/28/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.008
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 3/8/2007
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 66
 Count Time (min) 2

Graduate Hospital
 Nuclear Medicine
 Stress Lab #1

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0	NA	NA	NA	NA
30	202.0	2	4	1	4
31	227.0	27	54	1	54
32	198.0	0	0	1	0
33	180.0	0	0	1	0
34	188.0	0	0	1	0
35	210	10	20	1	20
36	205.0	5	10	1	10
37	198.0	0	0	1	0
38	191.0	0	0	1	0
39	191.0	0	0	1	0
40	206.0	6	12	1	12

Graduate Hospital Closeout Survey Report

Building & Room No.: Stress Lab 2 , 1800 Lombard	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and /or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

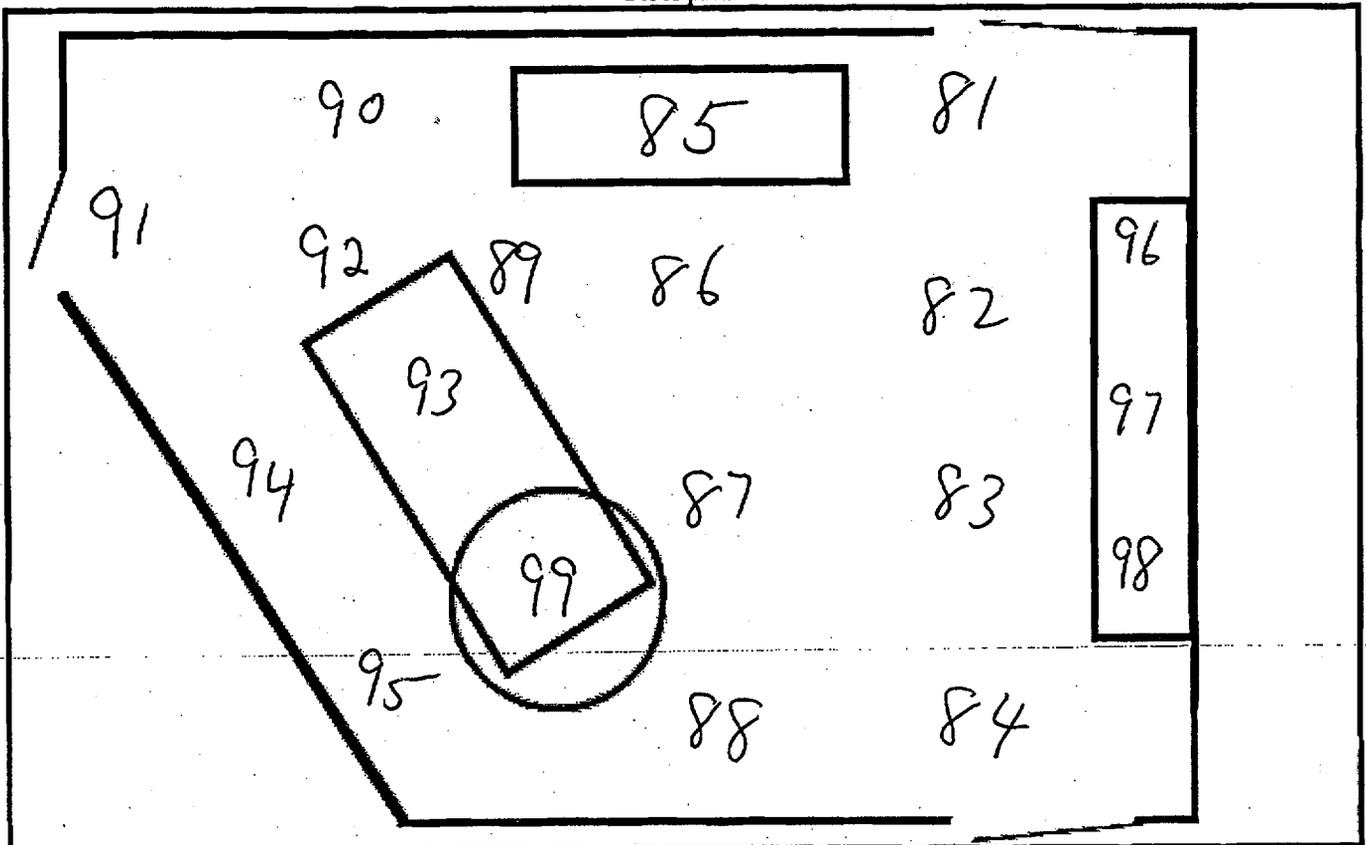
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Victoreen 190_ Serial No.: 850 Date of Calibration: 11/28/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.008
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 3/8/2007
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 66
 Count Time (min) 2

Graduate Hospital
 Nuclear Medicine
 Stress Lab #2

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0*	NA	NA	NA	NA
81	199.0	0	0	1	0
82	198.0	0	0	1	0
83	194.0	0	0	1	0
84	225.0	25	50	1	50
85	212.0	12	24	1	24
86	205.0	5	10	1	10
87	206.0	6	12	1	12
88	210.0	10	20	1	20
89	208.0	8	16	1	16
90	192.0	0	0	1	0
91	209.0	9	18	1	18
92	197.0	0	0	1	0
93	210.0	10	20	1	20
94	212.0	12	24	1	24
95	235.0	35	70	1	70
96	200.0	0	0	1	0
97	197.0	0	0	1	0
98	196.0	0	0	1	0
99	210.0	10	20	1	20

Graduate Hospital Closeout Survey Report

Building & Room No.: GE 1, 1800 Lombard	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and/or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

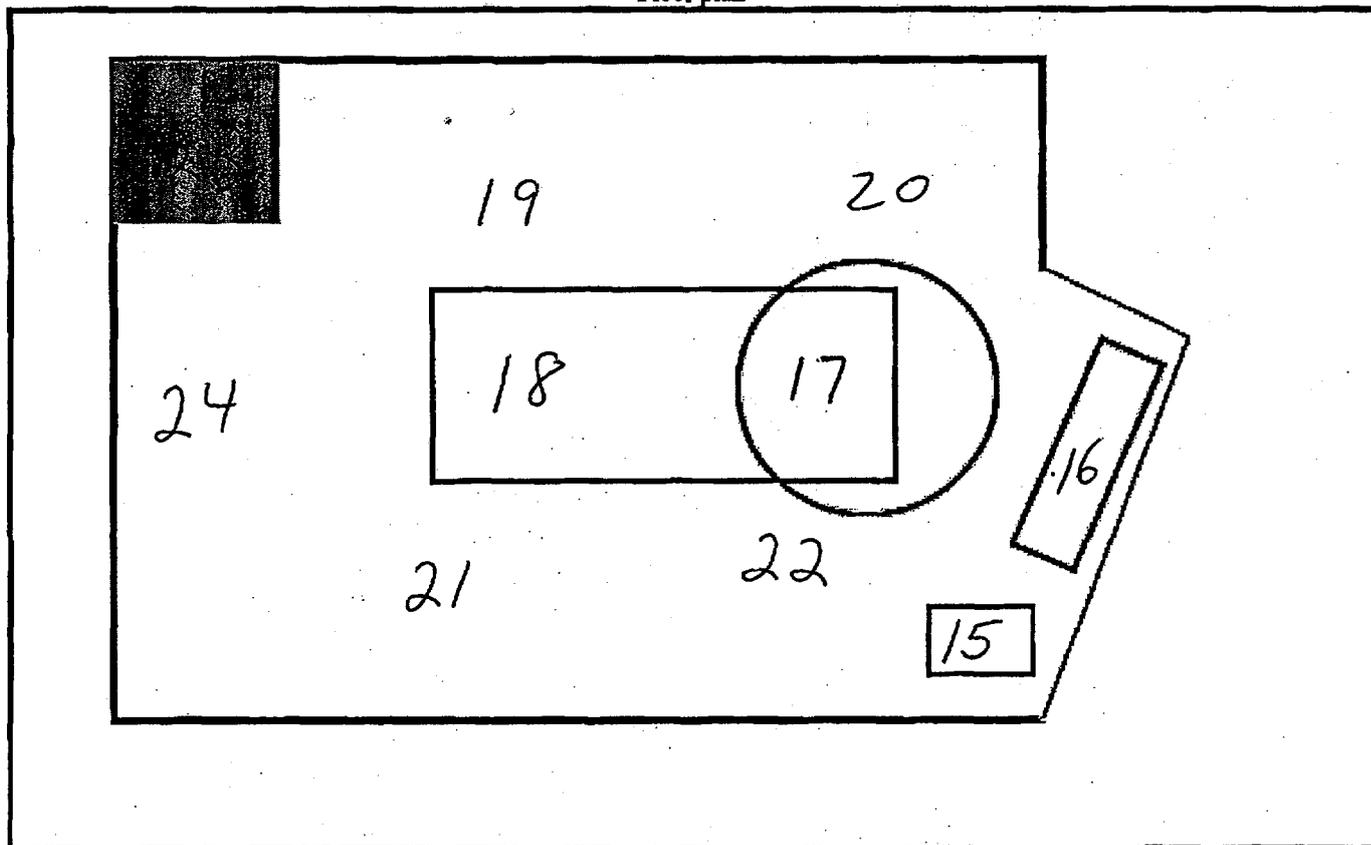
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Victoreen 190_ Serial No.: 850 Date of Calibration: 11/28/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.008
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 3/8/2007
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 66
 Count Time (min) 2

Graduate Hospital
 Nuclear Medicine
 GE camera room #1

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0	NA	NA	NA	NA
15	198.0	0.00	0	1	0
16	216.0	16.00	32	1	32
17	212.0	12.00	24.0	1	24
18	199.0	0.00	0.0	1	0
19	204.0	4	8	1	8
20	211.0	11	22	1	22
21	197.0	0	0	1	0
22	198.0	0	0	1	0
23	203.0	3	6	1	6
24	208.0	8	16	1	16

Graduate Hospital Closeout Survey Report

Building & Room No.: 1800 Lombard - Low Level Counting	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and /or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

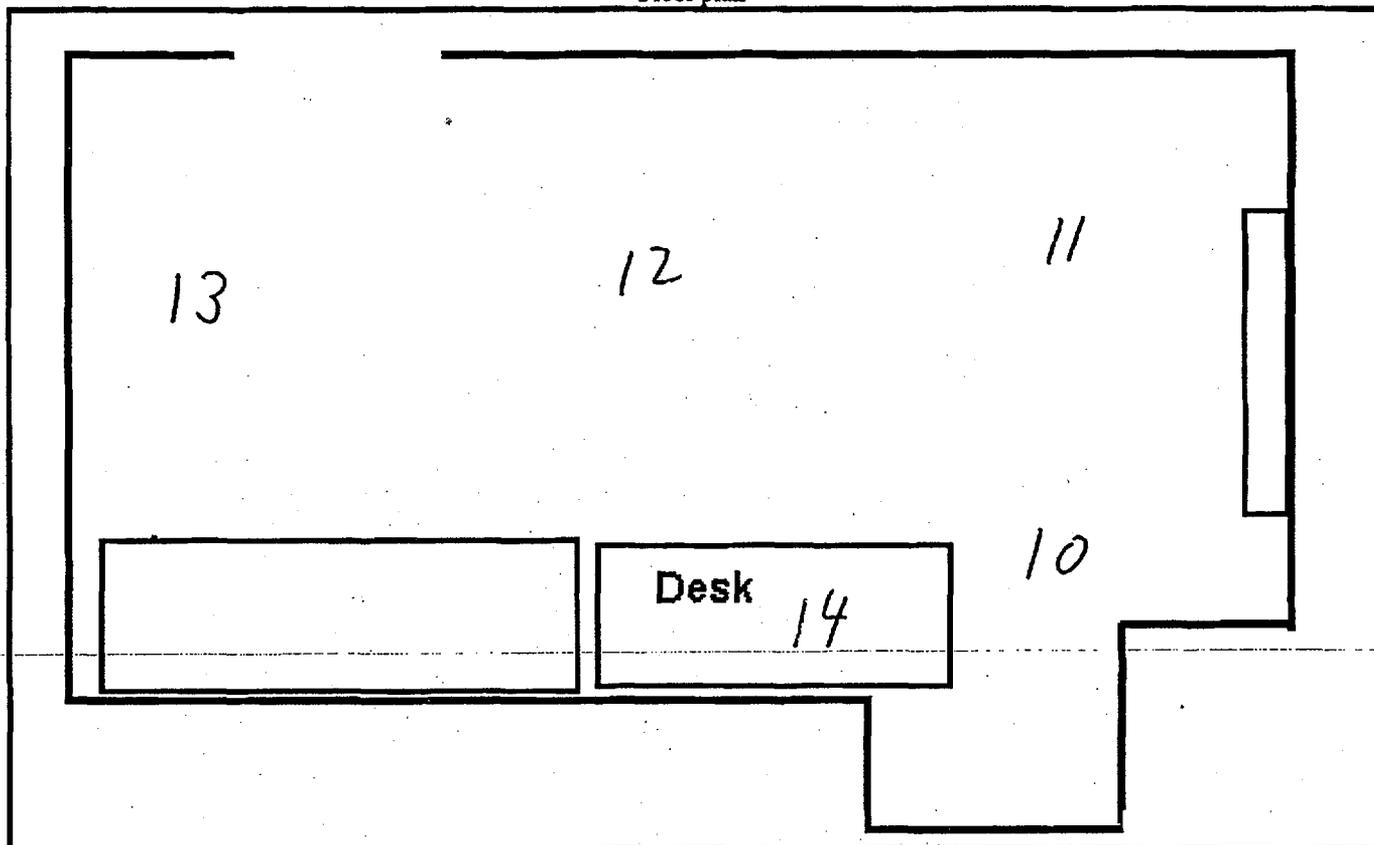
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Victoreen 190_ Serial No.: 850 Date of Calibration: 11/28/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.008
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 3/8/2007
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 66
 Count Time (min) 2

Graduate Hospital
 Nuclear Medicine
 Low Level Room

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0	NA	NA	NA	NA
10	215.0	15	30	1	30
11	204.0	4	8	1	8
12	180.0	0	0	1	0
13	219.0	19	38	1	38
14	209.0	9	18	1	18

Graduate Hospital Closeout Survey Report

Building & Room No.: 1800 Lombard – Elscint Storage	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and /or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

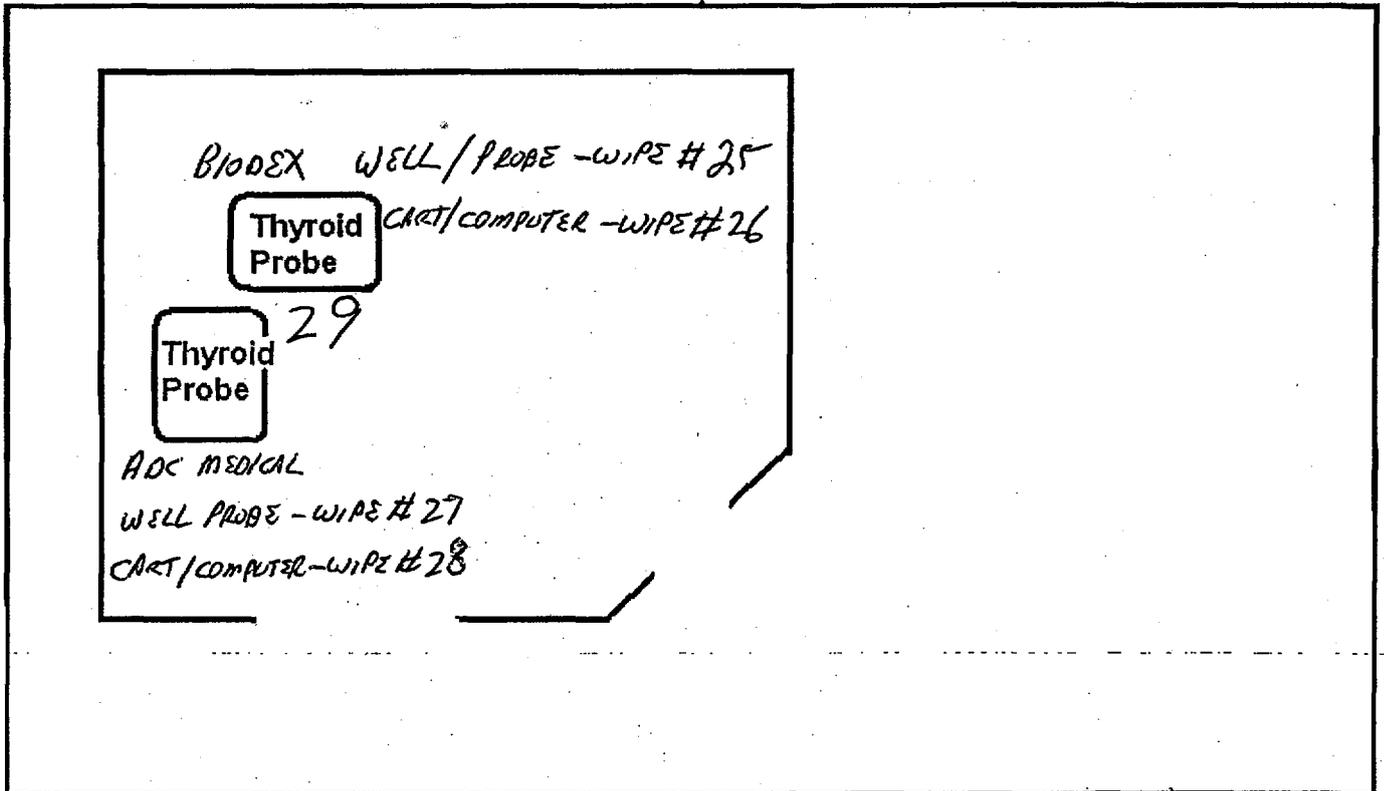
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Ludlum 14C_ Serial No.: 162343 Date of Calibration: 05/19/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.04
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

**Drexel University Radiation Safety Office
Wipe Test Results**

Date Counted	<u>3/8/2007</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>66</u>
Count Time (min)	<u>2</u>

Graduate Hospital
Nuclear Medicine
Elscint Storage Room

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0	NA	NA	NA	NA
25	196.0	0	0	1	0
26	206.0	6	12	1	12
27	224.0	24	48	1	48
28	205.0	5	10	1	10
29	223.0	23	46	1	46

Graduate Hospital Closeout Survey Report

Building & Room No.: Long Lived Waste , 1800 Lombard	Department: Nuclear Medicine
Contact Person: Pat Glennon, Radiation Safety Officer	Phone Number and Address: 215-893-7066
Surveyor: Drexel Univ Radiation Safety Staff	Survey Date: March 8, 2007

Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive waste removed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radiation warning signs removed from doors, hoods, work areas, equipment, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive sources removed from equipment such as gamma and /or beta counters
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Department notified

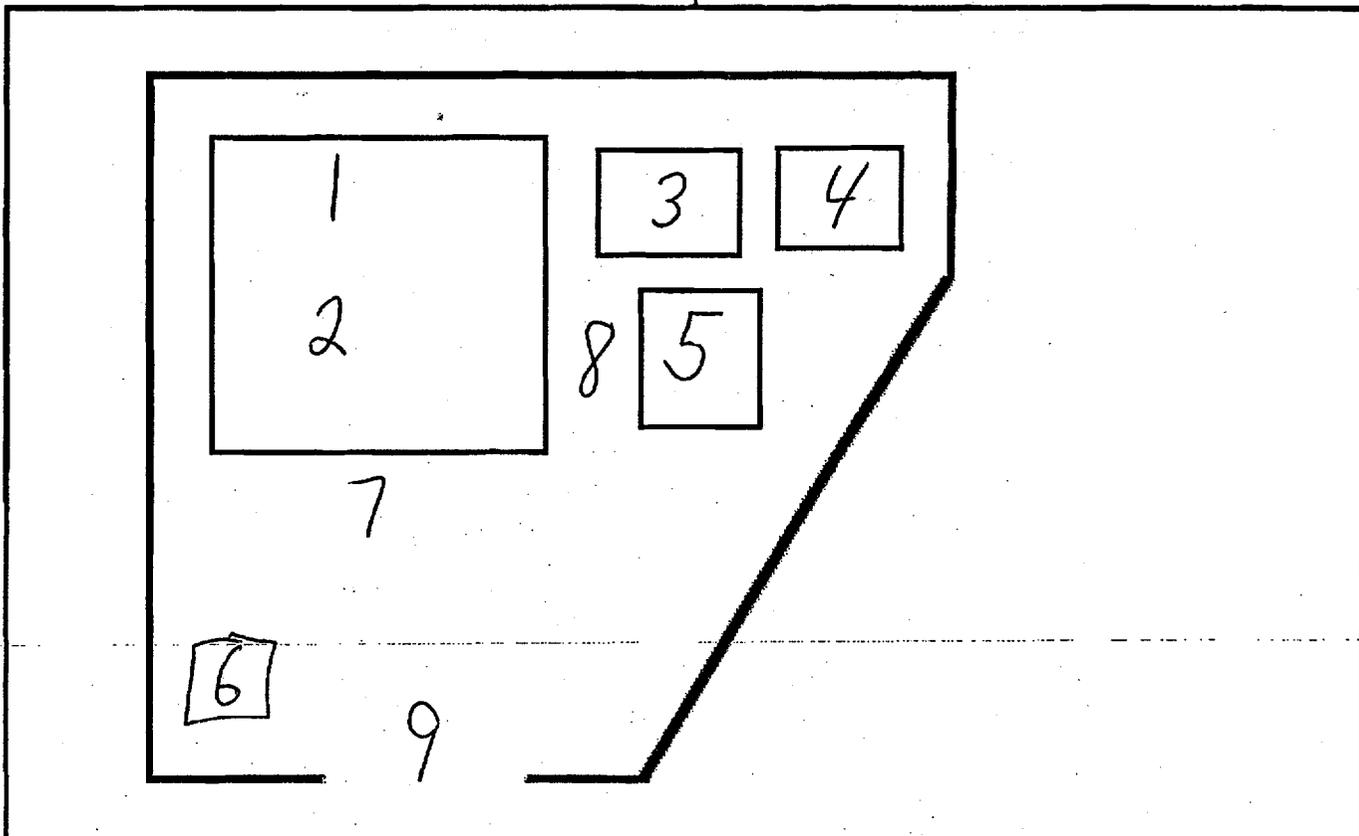
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²

- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Victoreen 190_ Serial No.: 850 Date of Calibration: 11/28/2006

Survey meter locations	Survey meter reading (mR/hr)
Background	0.008
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	<Background

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 3/8/2007
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 66
 Count Time (min) 2

Graduate Hospital
 Nuclear Medicine
 Waste Room

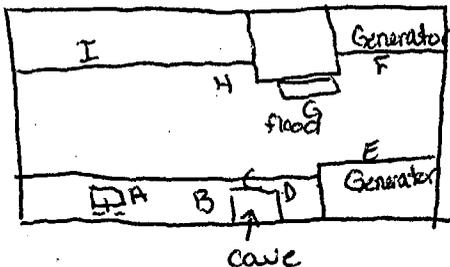
Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	200.0	NA	NA	NA	NA
1	186.0	0.00	0	1	0
2	200.0	0.00	0	1	0
3	186.0	0.00	0.0	1	0
4	207.0	7.00	14.0	1	14
5	205.0	5	10	1	10
6	191.0	0	0	1	0
7	197.0	0	0	1	0
8	196.0	0	0	1	0
9	199.0	0	0	1	0

Sealed Sources Leak Test

Room	Isotope	Cal date	Current Activity (mCi) as of 12/1/2006	Manu / Model	Serial Number	Type	Gross (cpm)	Bkgd (cpm)	Net (cpm)	Efficien cy	Net (DPM)	Less Than 11000 DPM
Graduate Hospital				Graduate								
Nuclear Medicine	CO-57	12/1/2002	0.47833788	Iso Prod Labs SFL24R-057-20M	938-288	FLOOD	208	149	39	80%	78	✓ 83
Nuclear Medicine	CO-57	2/1/2004	0.78314329	Syncor	1014-64-7	VIAL	184		15		30	✓ 84
Nuclear Medicine	CO-57	3/1/2005	3.79273393	ISO PROD LAB SFL24R-057-20M	0098-034	FLOOD	199		30		60	✓ 85
Nuclear Medicine	CS-137	7/13/1988	0.14159708	#59 DUPONT NES-356	S356008-027	VIAL	191.5		22.5		45	✓ 86
Nuclear Medicine	CS-137	11/2/1979	0.10806337	#1 NEN NES356	S5811179A-17	VIAL	193.5		24.5		49	✓ 87
Nuclear Medicine	CS-137	2/5/1990	0.13930825	#13 DUPONT NES-356	356014-029	VIAL	211	↓	42	↓	84	✓ 88

Highest Five Readings in this room:

Location: A	mR/hr: 5.0
Location: B	mR/hr: 2.0
Location: C	mR/hr: 0.1
Location: D	mR/hr: 0.2
Location: E	mR/hr: 0.7
Location: F	mR/hr: 1.0
G	0.5
H	0.08
I	0.04



Leak Test By: N. Noll
Date Inventoried: 12/1/06
Reviewed By: Kendall Berry
Date Reviewed: 12/15/06
Survey Meter Type And Cal Date
Ludlum 376331 1/27/06

Bkg \approx 0.04 mR/hr

A \rightarrow hot spot to left of sink; cleaned
 B \rightarrow Absorb. paper cont. \rightarrow changed

*Original data filed w/ Graduate Hot Lab survey

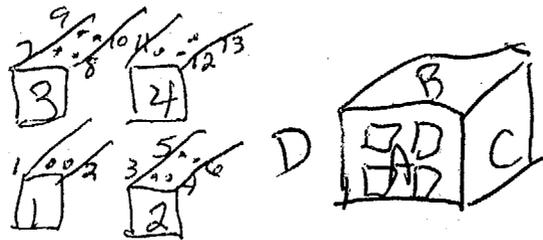
Sealed Sources Leak Test

Room	Isotope	Cal date	Current Activity (mCi) as of 12/1/2006	Manu./Model	Serial Number	Type	Gross (cpm)	Bkgd (cpm)	Net (cpm)	Efficien cy	Net (DPM)	Less Than 11000 DPM
Graduate Hospital				Graduate								
Radiation Oncology	CS-137	4/18/1991	27.51327486	3-M-15-6D6C-CA	5618	CAPSULE	207.5	109.0	38.5	50%	77	✓
Radiation Oncology	CS-137	4/18/1991	27.51327486	3-M-15-6D6C-CA	5608	CAPSULE	188.0		19	50%	38	—
Radiation Oncology	CS-137	4/18/1991	18.92539682	3-M-10-6D6C-CA	7983	CAPSULE	184.5		15.5		31	—
Radiation Oncology	CS-137	4/18/1991	27.51327486	3-M-15-6D6C-CA	5630	CAPSULE	196.5		28.75		55	✓
Radiation Oncology	CS-137	4/18/1991	49.33150398	Medi-Physics CDCT1	SN704	CAPSULE	186.5		18.75		35	✓
Radiation Oncology	CS-137	4/18/1991	49.33150398	Medi-Physics CDCT1	SN703	CAPSULE	189.5		20.5		41	—
Radiation Oncology	CS-137	4/18/1991	26.63496915	3-M-15-6D6C-CA	5835	CAPSULE	186.5		17.5		35	✓
Radiation Oncology	CS-137	4/18/1991	18.92539682	3-M-10-6D6C-CA	7989	CAPSULE	201.5		32.5		65	—
Radiation Oncology	CS-137	4/18/1991	18.92539682	3-M-10-6D6C-CA	7985	CAPSULE	174.0		5.0		10	—
Radiation Oncology	CS-137	4/18/1991	26.63496915	3-M-15-6D6C-CA	5826	CAPSULE	205.5		36.5		73	✓
Radiation Oncology	CS-137	4/18/1991	18.92539682	3-M-10-6D6C-CA	7984	CAPSULE	191.0		22		44	—
Radiation Oncology	CS-137	4/18/1991	47.31697739	3-M-25-6D6C-CA	1377	CAPSULE	215.5		46.5		93	—
Radiation Oncology	CS-137	4/18/1991	47.31697739	3-M-25-6D6C-CA	1422	CAPSULE	188.5	↓	19.5	↓	39	—

Highest Five Readings in this room:

Location: A mR/hr: 0.2
 Location: B mR/hr: 0.04
 Location: C mR/hr: ↓
 Location: D mR/hr: ↓
 Location: mR/hr:
 Location: mR/hr:

Bkg 0.04 mR/hr



Leak Test By: N. No 11
 Date Inventoried: 12/1/06

Reviewed By: Kendall Berry
 Date Reviewed: 12/15/06

Survey Meter Type And Cal Date
Ludlum 3 76331 1/27/06

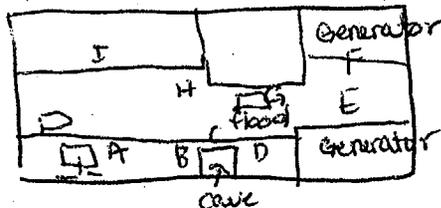
* original data filed w/ Graduate Hot Lab Survey

Sealed Sources Inventory

Room	Isotope	Cal. date	Nominal Activity mCi	Current Activity (mCi) as of 12/1/2006	Manufacturer / Model	Serial Number	Type	Found
Graduate Hospital			Graduate					
Nuclear Medi	BA-133	5/19/1989	0.0001	0.00003269	#15 DUPONT NES 1005	NONE14	ROD	<input checked="" type="checkbox"/>
Nuclear Medi	Ba-133	1/31/1989	0.2720	0.08384040	#2 DUPONT 358	S358006-023	VIAL	<input checked="" type="checkbox"/>
Nuclear Medi	CD-109	3/15/1989	0.0012	0.00000008	#21 DUPONT NES 1005	NONE20	ROD	<input checked="" type="checkbox"/>
Nuclear Medi	CO-57	7/12/1999	10.0000	0.01003494	DUPONT NES8400	S8400983-01	FLOOD	<input checked="" type="checkbox"/>
Nuclear Medi	CO-57	9/15/1999	5.7990	0.00687195	ISO PROD LAB SRV-057-5M	644-68-45	VIAL	<input checked="" type="checkbox"/>
Nuclear Medi	CO-57	5/29/1999	10.0000	0.00896669	DUPONT NES-8400	S8400982-03	FLOOD	<input checked="" type="checkbox"/>
Nuclear Medi	CO-57	9/1/1995	0.0001	0.00000000	#58 GF 0012	503-47	ISO PROD	<input checked="" type="checkbox"/>
Nuclear Medi	CO-57	6/1/2001	0.0500	0.00029312	Syncor 741-88	S2	DISC CHECK	<input checked="" type="checkbox"/>
Nuclear Medi	CO-57	6/1/2001	0.0500	0.00029312	Syncor 741-88	S1	DISC CHECK	<input checked="" type="checkbox"/>
Nuclear Medi	CO-60	5/2/1988	0.0001	0.00000904	#18 DUPONT NES 1005	NONE17	ROD	<input checked="" type="checkbox"/>
Nuclear Medi	CS-137	6/16/1989	0.0001	0.00007634	#16 DUPONT NES 1005	NONE15	ROD	<input checked="" type="checkbox"/>
Nuclear Medi	CS-137	1/1/1990	0.0010	0.00067806	THE NUCLEUS #45	C8	DISC CHECK	<input checked="" type="checkbox"/>

Highest Five Readings in this room:

Location: A mR/hr: 5.0
 Location: B mR/hr: 2.0
 Location: C mR/hr: 0.1
 Location: D mR/hr: 0.2
 Location: E mR/hr: 0.7
 Location: F mR/hr: 1.0



Inventoried By: N. No 11

Date Inventoried: 12/1/06

Reviewed By: R. Baum

Date Reviewed: 12/15/06

Survey Meter Type And Cal Date

Ludlum 3 76331 1/27/06

G 0.5
 H 0.08
 I 0.04

Bkg \approx 0.04 mR/hr

A \rightarrow hot spot to left of sink; cleaned

B \rightarrow Absorb. paper cont \rightarrow changed

~~All original data filed w/ Graduate Hot Lab Survey~~

This is to acknowledge the receipt of your letter/application dated

3/15/2007, and to inform you that the initial processing which includes an administrative review has been performed.

TEAM. 37-28359-01 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

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** 140242.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.