



DREXEL UNIVERSITY
COLLEGE OF MEDICINE

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Office of Research Compliance

August 7, 2006

U.S. Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Br. 2

re: License No. 37-07438-15 03012998

Dear Sir or Madam:

Please amend the above referenced license to remove 3300 Henry Avenue as a licensed use location. In support of this request, attached is the Final Status Survey Report for the laboratory spaces that may have been used for licensed activities by Philadelphia Health and Education Corporation, d/b/a Drexel University College of Medicine and its predecessors.

If you have any questions or need any additional information, please feel free to contact Kent Lambert, Radiation Safety Officer, (215-762-8768, kent.lambert@drexel.edu). If I can be of assistance, please do not hesitate to contact me.

Sincerely,

Sreekant Murthy, Ph.D.

Sreekant Murthy, Ph.D.
Associate Vice Provost for Research Compliance

cc K. Lambert
K. Blank
F. Pizzulo

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In the tradition of Woman's Medical College of Pennsylvania and Hahnemann Medical College®

Philadelphia Health & Education Corporation d/b/a Drexel University College of Medicine is a separate not-for-profit subsidiary of Drexel University.

139266
NMSS/RGNI MATERIALS-C02

Final Status Survey Report

for

**3300 Henry Avenue
Pennsylvania**

**a use location listed on NRC License No. 37-07438-15
Philadelphia Health and Education Corporation
d/b/a
Drexel University College of Medicine**

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

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A. Executive Summary

3300 Henry Avenue is licensed by the U.S. Nuclear Regulatory Commission (37-07438-15) as a use location for Philadelphia Health and Education Corporation, d/b/a Drexel University College of Medicine (DUCoM). 3300 Henry Avenue is also a licensed use location for Woman's Medical Hospital (37-30485-01).

The campus at 3300 Henry Avenue consists of eight buildings, including a 1,200-vehicle parking garage, on 15 acres. Research laboratories were exclusively in the Heritage Building; therefore, the final status survey for DUCoM is limited to these areas. In recent history, only one research group (Neonatology) has been performing licensed activities under DUCoM's control at the facility. This group confined its use of radioactive material to a single laboratory in which they used ^3H , ^{14}C , ^{45}Ca and some radioactive materials with half-lives less than 120 days, most predominantly ^{33}P . Neonatology occupied this space for approximately 20 years.

All research laboratory spaces at 3300 Henry Avenue, regardless of whether used or leased by DUCoM, are included in the final status survey. Licensed activities at this location have been under a broad scope license which permitted the use of tritium and isotopes with atomic numbers between 3 and 83, inclusive. Long lived isotopes (half life >120 days) known to have been used in the biomedical research conducted at this location are listed in Table 1.

Isotope
Tritium
Carbon 14
Calcium 45

Table 1. Isotopes Used at 3300 Henry Ave.

All laboratory areas were surveyed with thin window GM survey meters regardless of whether or not there was a history or evidence of radioactive material use. Removable contamination surveys were performed where radioactive materials were known to be used or there was evidence that radioactive materials were used in the room in the past. No removable contamination exceeded the screening values; indeed, none were within 1% of the screening values. The maximum activity found on any wipe sample was 2600 dpm per 100 cm² of tritium in a drain pipe. No fixed contamination was discovered.

Screening values are based on those published in the Federal Register, Volume 63, No. 222, Wednesday, November 18, 1998 and, for the case of Calcium 45, as determined by D and D Version 2.1.0 using default values for building occupancy. These values have been reduced by a factor of 10 because comparisons are made only to removable contamination. The adjusted screening values are presented in Table 2.

Radionuclide	Adjusted Screening Values (dpm/100 cm ²)
Tritium	1.2×10^7
Carbon 14	3.7×10^5
Calcium 45	2.7×10^5

Table 2. Screening Values

B. Background and History

In 1850, the world's first medical school for women, the Female Medical College of Pennsylvania was established. The name was changed in 1867 to Woman's Medical College of Pennsylvania and moved to 3300 Henry Avenue in 1930. In 1970 the name changed again to Medical College of Pennsylvania.

In 1988, MCP joined in partnership with Allegheny Health Services (renamed Allegheny Health, Education and Research Foundation, or AHERF).

In 1992, the new educational and research facility on Queen Lane was opened.

In 1993, the Medical College of Pennsylvania and Hahnemann University merged when Hahnemann University became part of AHERF, and the two academic institutions began the process of consolidation.

In 1995, the first medical school class was admitted to the new Medical College of Pennsylvania and Hahnemann University. In June 1996, the university took the name Allegheny University of the Health Sciences (AUHS).

On July 22, 1998, AHERF filed for bankruptcy.

On September 29, 1998, the Bankruptcy Court approved the asset purchase agreement offered by Tenet Health System Philadelphia, Inc. Upon consummation of this agreement on November 10, 1998, AUHS assigned its assets to Philadelphia Health and Education Corporation (PHEC). The Pennsylvania Department of Education, upon petition by AUHS, approved the application to amend the articles of incorporation of AUHS. The approval of this application assigned, transferred, and delivered to PHEC, doing business as MCP Hahnemann University, all programs of undergraduate and graduate instruction and all licenses, permits and authority to award degrees and diplomas.

Integral to this transaction was an agreement between PHEC and Drexel University that Drexel would manage the new university. Senior officers of Drexel University, including its President, Provost, and Chief Financial Officer, assumed similar positions at MCP Hahnemann University.

In 2002, the Drexel University Board of Trustees voted in favor of merging MCP Hahnemann University into Drexel. To reflect this change, the name was changed to Philadelphia Health and Education Corporation d.b.a. Drexel University College of Medicine.

In December 2003, Tenet announced their decision to close MCP Hospital, but in September 2004 sold the property to an independent, not-for-profit corporation, WMCH, Inc., which took title to the campus. Woman's Medical Hospital would run the clinical services of the hospital and be WMCH's anchor tenant with the other space leased to other tenants to create a health care mall on the campus.

March 9, 2005, the closure of Woman's Medical Hospital was announced.

April 2006, WMCH, Inc, auctioned off much of the equipment housed in the property.

In June, 2006, WMCH, Inc. sold the property to Iron Stone Real Estate Group 1, L.L.C. of Bala Cynwyd.

The lease agreement for Drexel University College of Medicine to occupy space at the property ended July 31, 2006.

C. Methods and Materials

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

Monika Komosinski, B.S.
 Kendall Berry, M.S.P.H.
 Jennifer Noll, B.S.
 Edward Yeager

Table 3. Surveyors

An inspection of the Heritage Building was performed April 22, 2005 to assess the need for decommissioning surveys. All accessible laboratories were surveyed using thin window GM survey meters; no contamination or radiation levels above background were identified. All drawers and cabinets were opened in a search for the presence of radioactive materials and for evidence that radioactive materials were at one time used or stored in the area. Examples of the type of evidence that would trigger a full survey include NRC Form 3, can of Radcon, acrylic or lead shielding, radioactive tape, etc. Rooms that warranted further scrutiny were noted. Records of previously conducted surveys were found for several of these rooms and are included as a part of this report. Rooms that were inaccessible were also noted although there was no evidence that radioactive material had been used or stored in any of these rooms. Rooms where surveys were performed are listed in Table 3.

Room Number	Date Performed	Wipe Survey	Instrument Survey
306R	07/08/02	✓	✓
211H	04/04/06		✓
209H	04/04/06		✓
318R	04/04/06		✓
218C	04/04/06		✓
217C	04/04/06		✓
4R062/11R	04/04/06	✓	✓
252C & 253C	04/04/06	✓	✓
219H	04/04/06	✓	✓
4R064/9R	04/04/06	✓	✓
4R056/13R	04/04/06	✓	✓
308R	07/08/02	✓	✓
311R	07/08/02	✓	✓
312R	07/08/02	✓	✓
Waste Room	4/28/06	✓	✓
Neonatology Suite	7/28/06	*	*

Table 4. Survey Locations and Type

* Wipe and instrument survey performed in radioactive lab and instrument survey performed in all other areas

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 chemical fume hoods 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 liquid scintillation counter, and except for the Neonatology suite, wipe samples were also assayed with a sodium iodide crystal scintillation detection system. (Only beta emitting radionuclides were used in Neonatology.) Table 4 indicates the counters used for these assays and their efficiencies.

Make, Model and Serial Number	Survey Dates Used	Efficiencies*
Beckman LS 5801, S/N 7012518	07/08/02	³ H - 64%; ¹⁴ C - 90%
Beckman LS6500, S/N: 7068352	04/04/06, 04/28/06	³ H - 57%; ¹⁴ C - 78%
Beckman LS6500, S/N: 7068451	07/28/06	³ H - 55%; ¹⁴ C - 78%
TM Analytic Gammatrak 1193, S/N 931101	07/08/02	¹²⁵ I - 90%; ⁵⁷ Co - 95%
Packard B5002, S/N: 103841	04/04/06, 04/28/06	¹²⁹ I - 90%; ⁵⁷ Co - 90%

Table 5. 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 long-lived isotopes known to have been used at the facility.

The radiation detection survey instruments indicated in Table 5 were used to detect fixed contamination (excluding tritium).

Rateometer Make & Model #	Rateometer Serial #	Probe Model #	Probe Serial #	Date Used	Prior Calibration	¹⁴ C / ³⁶ Cl Detection Efficiency*
Ludlum 14C	134867	44-9	131506	07/08/02	12/28/01	9% / 16%
Ludlum 3	53700	44-7	012074	07/08/02	06/14/02	13% / 44%
Ludlum 3	88936	44-9	083493	04/04/06	01/30/06	6% / 18%
Ludlum 14C	162343	44-9	093262	04/04/06	05/18/05	not determined
Ludlum 3	125971	44-9-18	176341	04/04/06	05/19/05	12% / 22%
Ludlum 3	14241	44-7	010614	04/22/05	04/20/05	5% / 22%
Ludlum 3	48232	44-9	134604	04/22/05	04/20/05	4% / 11%
Ludlum 14C	134867	44-9	131506	04/28/06	06/06/04†	9% / 16%
Victoreen 190	580	489-110D	621	07/28/06	11/21/05	10% / 19%
Ludlum 3	88936	44-9	083493	07/28/06	1/30/06	6% / 18%
Ludlum 3	14241	44-7	010614	07/28/06	6/23/06	5% / 22%
Ludlum 14C	126857	44-9	128688	07/28/06	11/21/05	9% / 20%

Table 6. Survey instruments

* Measured 1 cm from window face.

† Calibration was over 1 year old; however an operational check of instrument at the time of the survey showed that it was operating satisfactorily.

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 each counter;
- background measurements for each counter; and
- removable contamination levels as measured by LSC and/or gamma counter.

Closeout Survey Report

Building & Room No.: MCP Heritage Bldg. 7 th Flr. 306R	Department:
Contact Person:	Phone Number and Address:
Surveyor: Kendall Berry, M.S.P.H	Survey Date: July 8, 2002

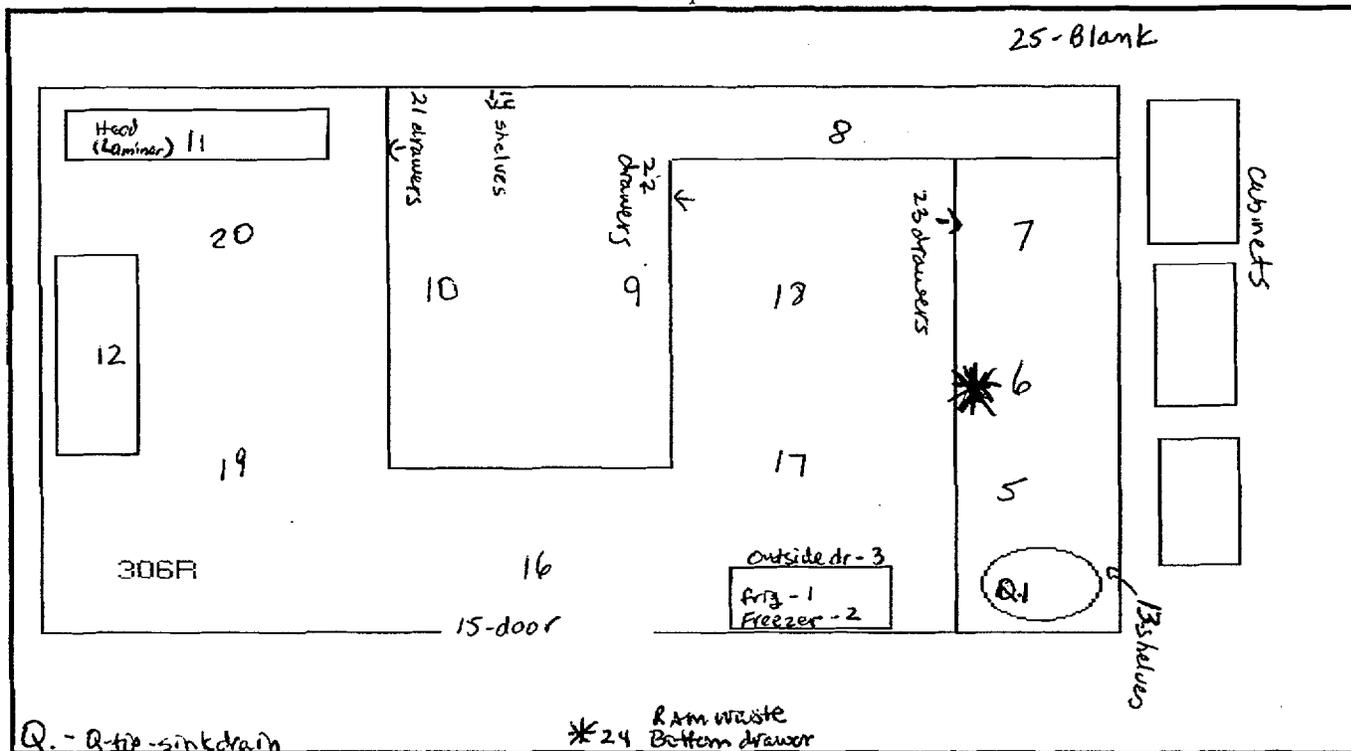
Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pgs, refrigerators, freezers, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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, pgs, 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 (5Kg 50cpm)
- Radiation levels above background found

Contamination Survey Results

Floor plan



Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	7/8/2002
Counter Used	LSC
Efficiency %	50
Efficiency	0.5
LLD	29
Count Time (min)	2

Wipe Number	gross cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background		40.0	NA	NA	NA
1	41.5	1.5	3	1	3
2	35.0	0.0	0	1	0
3	36.0	0.0	0	1	0
4	41.5	1.5	3	1	3
5	33.0	0.0	0	1	0
6	24.5	0.0	0	1	0
7	34.0	0.0	0	1	0
8	40.5	0.5	1	1	1
9	39.0	0.0	0	1	0
10	39.5	0.0	0	1	0
11	39.5	0.0	0	1	0
12	41.0	1.0	2	1	2
13	41.0	1.0	2	1	2
14	36.5	0.0	0	1	0
15	38.0	0.0	0	1	0
16	42.5	2.5	5	1	5
17	43.0	3.0	6	1	6
18	32.5	0.0	0	1	0
19	39.5	0.0	0	1	0
20	45.5	5.5	11	1	11
21	44.5	4.5	9	1	9
22	35.0	0.0	0	1	0
23	42.5	2.5	5	1	5
24	48.0	8.0	16	1	16
25	42.0	2.0	4	1	4
Q-Tip	31.0	0.0	0	1	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>7/9/2002</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>166</u>
Count Time (min)	<u>2</u>

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1271	1271	NA	NA	NA
1	1276	5	10	1	10
2	1266	0	0	1	0
3	1300	29	58	1	58
4	1340	69	138	1	138
5	1305	34	68	1	68
6	1324	53	106	1	106
7	1262	0	0	1	0
8	1284	13	26	1	26
9	1505	234	468	1	468 *
10	1232	0	0	1	0
11	1329	58	116	1	116
12	1281	10	20	1	20
13	1292	21	42	1	42
14	1273	2	4	1	4
15	1265	0	0	1	0
16	1250	0	0	1	0
17	1310	39	78	1	78
18	1240	0	0	1	0
19	1221	0	0	1	0
20	1215	0	0	1	0
21	1152	0	0	1	0
22	1204	0	0	1	0
23	1217	0	0	1	0
24	1189	0	0	1	0
25	1139	0	0	1	0
Q-Tip	1222	0	0	1	0

* Sample recounted, see next page

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>7/9/2002</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>161</u>
Count Time (min)	<u>2</u>

Immediate recount of samples initially > 200 dpm/100 cm², sample holder changed for recount.

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1192.0	NA	NA	NA	NA
9	1211.0	19	38	1	38

Closeout Survey Report

Building & Room No.: MCP Heritage Bldg. 7 th Flr. 308R	Department:
Contact Person:	Phone Number and Address:
Surveyor: Kendall Berry, M.S.P.H	Survey Date: July 8, 2002

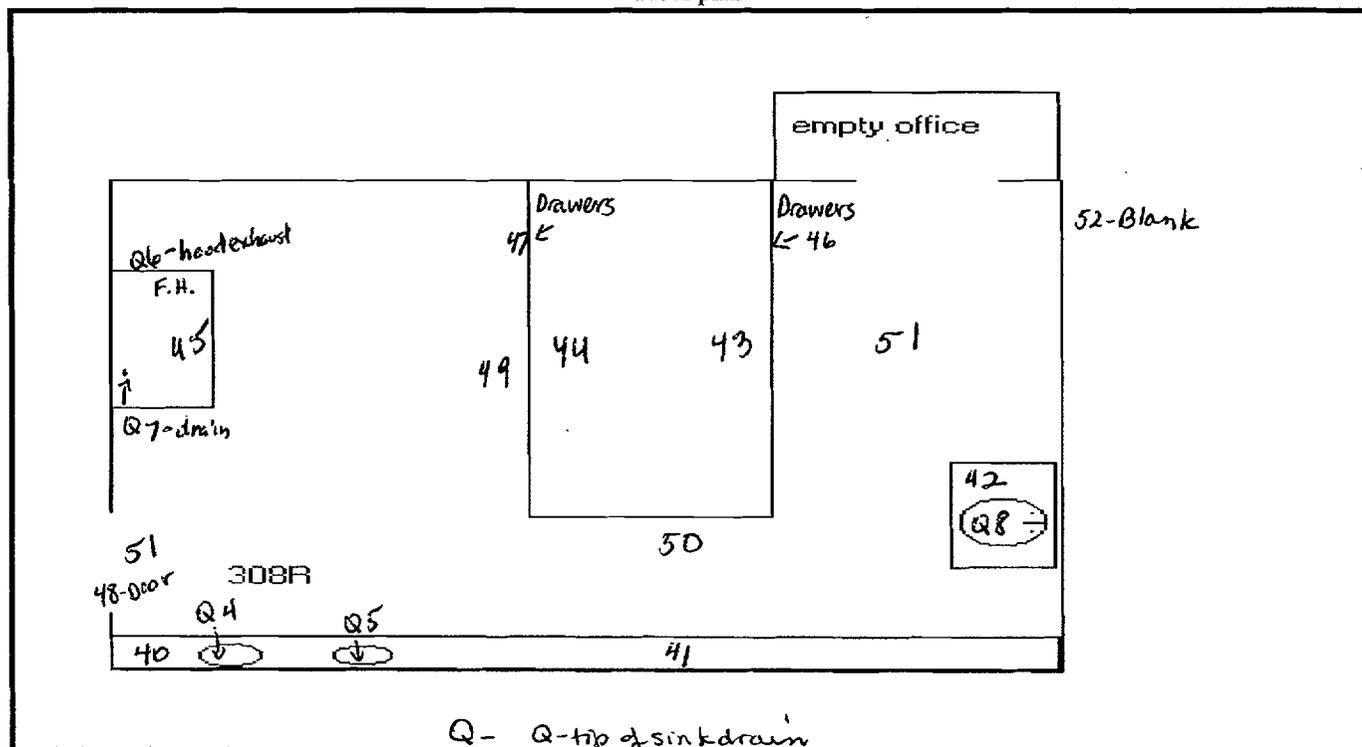
Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 (*bkgs 54cpm*)
- Radiation levels above background found

Contamination Survey Results

Floor plan



Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>7/8/2002</u>
Counter Used	<u>LSC</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>28</u>
Count Time (min)	<u>2</u>

Wipe Number	gross cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background		36.0	NA	NA	NA
40	39.0	3.0	6	1	6
41	33.5	0.0	0	1	0
42	33.5	0.0	0	1	0
43	43.5	7.5	15	1	15
44	37.0	1.0	2	1	2
45	42.5	6.5	13	1	13
46	40.0	4.0	8	1	8
47	37.5	1.5	3	1	3
48	36.0	0.0	0	1	0
49	38.0	2.0	4	1	4
50	37.5	1.5	3	1	3
51	34.5	0.0	0	1	0
52	39.0	3.0	6	1	6
blank	30.5	0.0	0	1	0
Q-Tip #4	32.5	0.0	0	1	0
Q-Tip #5	32.0	0.0	0	1	0
Q-Tip #6	40.5	4.5	9	1	9
Q-Tip #7	28.5	0.0	0	1	0
Q-Tip #8	36.0	0.0	0	1	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	7/9/2002
Counter Used	Gamma
Efficiency %	50
Efficiency	0.5
LLD	166
Count Time (min)	2

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1271	1271	NA	NA	NA
40	1192	0	0	1	0
41	1348	77	154	1	154
42	1173	0	0	1	0
43	1330	59	118	1	118
44	1233	0	0	1	0
45	1179	0	0	1	0
46	1215	0	0	1	0
47	1157	0	0	1	0
48	1239	0	0	1	0
49	1196	0	0	1	0
50	1173	0	0	1	0
51	1207	0	0	1	0
52	1146	0	0	1	0
blank	1197	0	0	1	0
Q-Tip #4	1198	0	0	1	0
Q-Tip #5	1189	0	0	2	0
Q-Tip #6	1135	0	0	3	0
Q-Tip #7	1200	0	0	4	0
Q-Tip #8	1206	0	0	5	0

Closeout Survey Report

Building & Room No.: MCP Heritage Bldg. 7 th Flr. 311R	Department:
Contact Person:	Phone Number and Address:
Surveyor: Kendall Berry, M.S.P.H	Survey Date: July 8, 2002

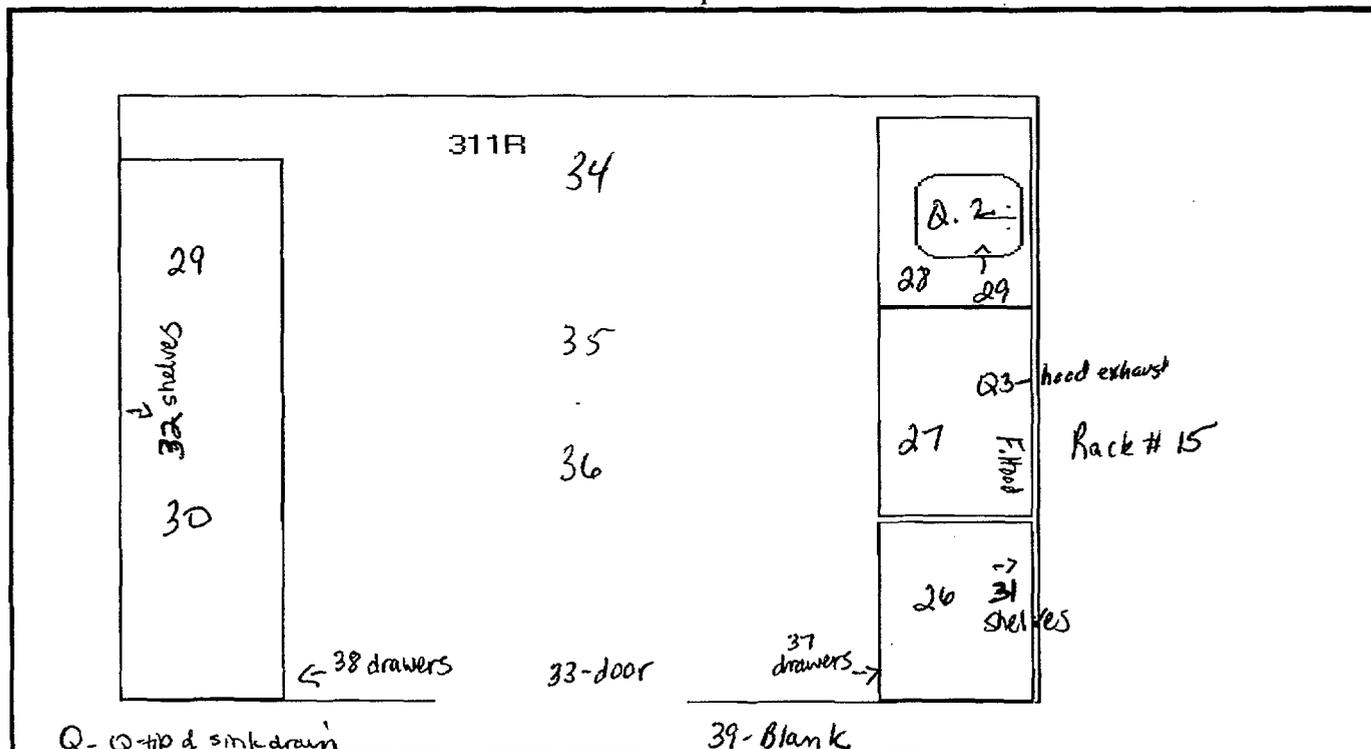
Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 (*bkgr 63cpm*)
- Radiation levels above background found

Contamination Survey Results

Floor plan



Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	7/8/2002
Counter Used	LSC
Efficiency %	50
Efficiency	0.5
LLD	28
Count Time (min)	2

Wipe Number	gross cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background		35.0	NA	NA	NA
26	37.0	2.0	4	1	4
27	42.0	7.0	14	1	14
28	42.0	7.0	14	1	14
29	36.5	1.5	3	1	3
30	39.0	4.0	8	1	8
31	41.0	6.0	12	1	12
32	43.0	8.0	16	1	16
33	28.5	0.0	0	1	0
34	34.0	0.0	0	1	0
35	41.0	6.0	12	1	12
36	38.0	3.0	6	1	6
37	40.5	5.5	11	1	11
38	38.5	3.5	7	1	7
39	32.5	0.0	0	2	0
Q-Tip #2	29.5	0.0	0	1	0
Q-Tip #3	33.0	0.0	0	1	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>7/9/2002</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>166</u>
Count Time (min)	<u>2</u>

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1271	1271	NA	NA	NA
26	1222	0	0	1	0
27	1160	0	0	1	0
28	1206	0	0	1	0
29	1167	0	0	1	0
30	1187	0	0	1	0
31	1189	0	0	1	0
32	1173	0	0	1	0
33	1216	0	0	1	0
34	1161	0	0	1	0
35	1139	0	0	1	0
36	1168	0	0	1	0
37	1181	0	0	1	0
38	1388	117	234	1	234*
39	1269	0	0	1	0
Q-Tip #2	1280	9	18	1	18
Q-Tip #3	1240	0	0	2	0

** Sample recounted, see next page*

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>7/9/2002</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>161</u>
Count Time (min)	<u>2</u>

Immediate recount of samples initially > 200 dpm/100 cm², sample holder changed for recount.

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1192.0	NA	NA	NA	NA
38	1191.0	0	0	1	0

Closeout Survey Report

Building & Room No.: MCP Heritage Bldg. 7 th Flr. 312R	Department:
Contact Person:	Phone Number and Address:
Surveyor: Monika Komosinski, B.S.	Survey Date: July 8, 2002

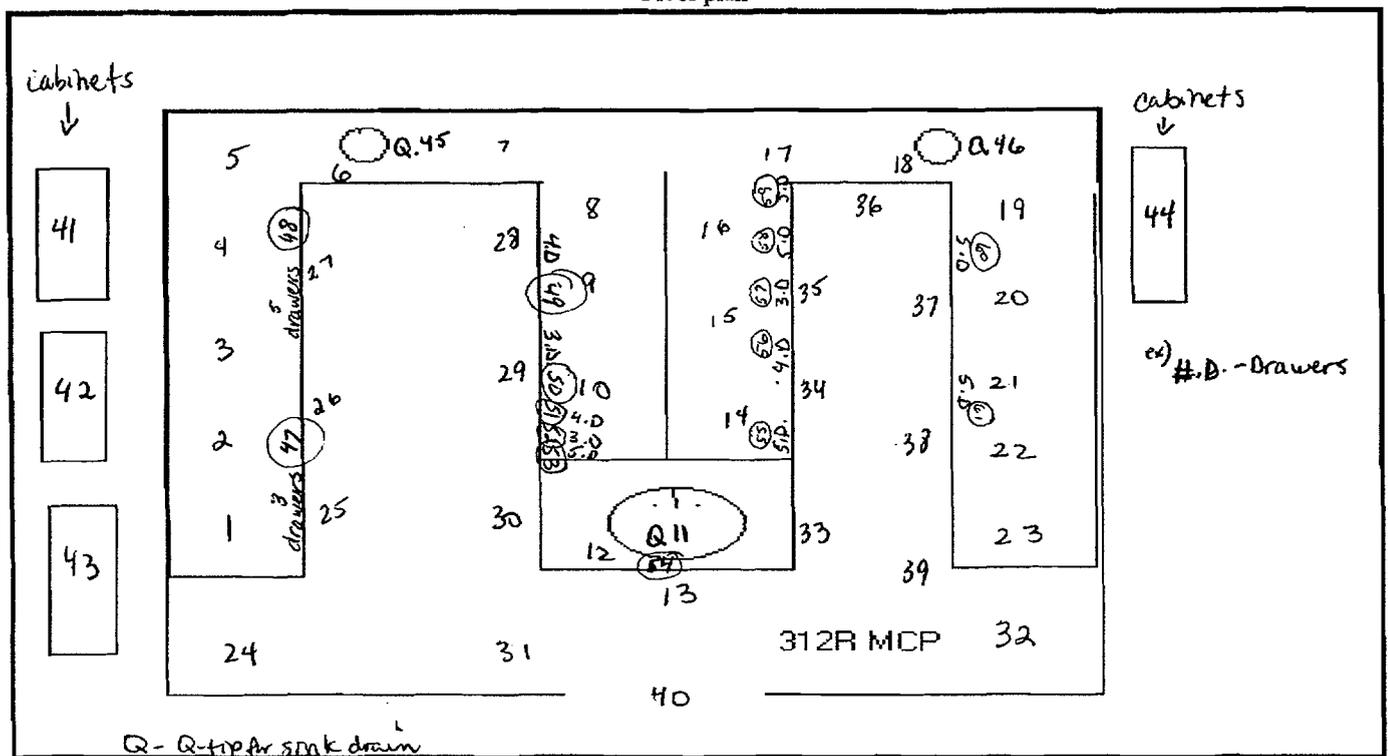
Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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 checked="" 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 (*blkg 48cpm*)
- Radiation levels above background found

Contamination Survey Results

Floor plan



Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	7/8/2002
Counter Used	LSC
Efficiency %	50
Efficiency	0.5
LLD	27
Count Time (min)	2

Wipe Number	gross cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background		34.5	NA	NA	NA
1	53.5	19.0	38	1	38
2	41.5	7.0	14	1	14
3	46.5	12.0	24	1	24
4	43.0	8.5	17	1	17
5	42.0	7.5	15	1	15
6	38.5	4.0	8	1	8
7	36.5	2.0	4	1	4
8	29.5	0.0	0	1	0
9	37.5	3.0	6	1	6
10	38.5	4.0	8	1	8
11	37.0	2.5	5	1	5
12	45.0	10.5	21	1	21
13	38.0	3.5	7	1	7
14	37.0	2.5	5	1	5
15	48.0	13.5	27	1	27
16	31.0	0.0	0	1	0
17	32.0	0.0	0	1	0
18	46.5	12.0	24	1	24
19	34.5	0.0	0	1	0
20	44.0	9.5	19	1	19
21	39.0	4.5	9	1	9
22	35.5	1.0	2	1	2
23	40.5	6.0	12	1	12
24	35.0	0.5	1	1	1
25	33.0	0.0	0	1	0
26	35.0	0.5	1	1	1
27	36.5	2.0	4	1	4
28	40.5	6.0	12	1	12
29	36.5	2.0	4	1	4
30	39.0	4.5	9	1	9
31	36.0	1.5	3	1	3
32	42.0	7.5	15	1	15
33	32.5	0.0	0	1	0
34	35.5	1.0	2	1	2
35	32.5	0.0	0	1	0
36	45.0	10.5	21	1	21

37	39.0	4.5	9	1	9
38	35.0	0.5	1	1	1
39	43.5	9.0	18	1	18
40	37.0	2.5	5	1	5
41	44.0	9.5	19	1	19
42	33.5	0.0	0	1	0
43	37.5	3.0	6	1	6
44	33.5	0.0	0	1	0
45	41.0	6.5	13	1	13
46	35.0	0.5	1	1	1
47	42.5	8.0	16	1	16
48	38.0	3.5	7	1	7
49	33.5	0.0	0	1	0
50	35.5	1.0	2	1	2
51	42.5	8.0	16	1	16
52	38.0	3.5	7	1	7
53	20.0	0.0	0	1	0
54	37.0	2.5	5	1	5
55	41.5	7.0	14	1	14
56	30.5	0.0	0	1	0
57	36.0	1.5	3	1	3
58	32.5	0.0	0	1	0
59	47.5	13.0	26	1	26
60	31.5	0.0	0	1	0
61	35.0	0.5	1	1	1

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>7/9/2002</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>166</u>
Count Time (min)	<u>2</u>

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1271	1271	NA	NA	NA
1	1320	49	98	1	98
2	1303	32	64	1	64
3	1314	43	86	1	86
4	1353	82	164	1	164
5	1791	520	1040	1	1040*
6	1366	95	190	1	190
7	1291	20	40	1	40
8	1282	11	22	1	22
9	1251	0	0	1	0
10	1260	0	0	1	0
11	1260	0	0	1	0
12	1297	26	52	1	52
13	1277	6	12	1	12
14	1323	52	104	1	104
15	1270	0	0	1	0
16	1244	0	0	1	0
17	1254	0	0	1	0
18	1303	32	64	1	64
19	1284	13	26	1	26
20	1493	222	444	1	444*
21	1280	9	18	1	18
22	1241	0	0	1	0
23	1292	21	42	1	42
24	1270	0	0	1	0
25	1297	26	52	1	52
26	1698	427	854	1	854*
27	1304	33	66	1	66
28	1326	55	110	1	110
29	1275	4	8	1	8
30	1262	0	0	1	0
31	1293	22	44	1	44
32	1283	12	24	1	24
33	1288	17	34	1	34
34	1296	25	50	1	50
35	1316	45	90	1	90
36	1262	0	0	1	0
37	1286	15	30	1	30
38	1270	0	0	1	0
39	1277	6	12	1	12
40	1293	22	44	1	44
41	1262	0	0	1	0

42	1245	0	0	1	0
43	1309	38	76	1	76
44	1279	8	16	1	16
45	1324	53	106	1	106
46	1288	17	34	1	34
47	1297	26	52	1	52
48	1325	54	108	1	108
49	1254	0	0	1	0
50	1305	34	68	1	68
51	1239	0	0	1	0
52	1289	18	36	1	36
53	1219	0	0	1	0
54	1254	0	0	1	0
55	1270	0	0	1	0
56	1284	13	26	1	26
57	1337	66	132	1	132
58	1324	53	106	1	106
59	1248	0	0	1	0
60	1304	33	66	1	66
61	1305	34	68	1	68

* Samples recounted, see next page

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 7/9/2002
Counter Used Gamma
Efficiency % 50
Efficiency 0.5
LLD 161
Count Time (min) 2

Immediate recount of samples initially > 200 dpm/100 cm², sample holder changed for recount.

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	1192.0	NA	NA	NA	NA
5	1182.0	0	0	1	0
20	1222.0	30	60	5	12
26	1222.0	30	60	5	12

Closeout Survey Report

Building & Room No.: <u>WM1A 252C + 253C</u>	Department: <u>Radiation Safety</u>
Contact Person: <u>Kent Lambert</u>	Phone Number and Address: <u>NCB, B304</u>
Surveyor: <u>A. Hovey + K. Berry</u>	Survey Date: <u>4/4/06</u>

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

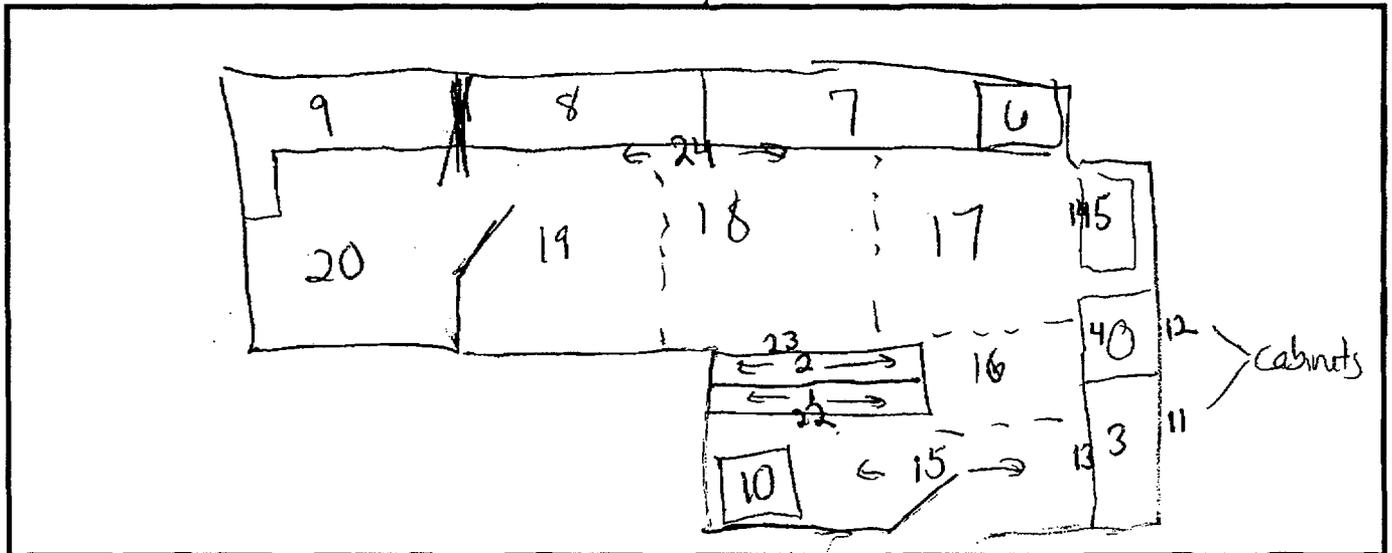
Closeout Contamination Survey Results Summary

- 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



wipes 1-24

21 all shelves

13+14 draws
22+23 below
24 bench

Survey meter used: Mfg & model: Ludlum Mod 3 Serial No.: 88936+ 125971 Date of Calibration: 1/30/06 5/19/05

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

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 4/5/2006
 Counter Used LSC
 Efficiency % 50
 Efficiency 0.5
 LLD 24
 Count Time (min) 2

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	27.0	27	NA	NA	NA
1	23.0	0	0	5	0
2	24.0	0	0	5	0
3	27.0	0	0	5	0
4	22.0	0	0	5	0
5	23.5	0	0	5	0
6	23.5	0	0	5	0
7	20.0	0	0	5	0
8	21.5	0	0	5	0
9	25.0	0	0	5	0
10	19.5	0	0	5	0
11	21.0	0	0	5	0
12	19.0	0	0	5	0
13	20.5	0	0	5	0
14	30.5	4	7	5	1
15	18.0	0	0	5	0
16	19.5	0	0	5	0
17	25.5	0	0	5	0
18	21.0	0	0	5	0
19	19.5	0	0	5	0
20	23.0	0	0	5	0
21	25.5	0	0	5	0
22	17.5	0	0	5	0
23	25.0	0	0	5	0
24	24.0	0	0	5	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	4/4/2006
Counter Used	Gamma
Efficiency %	50
Efficiency	0.5
LLD	71
Count Time (min)	2

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	229.0	NA	NA	NA	NA
1	219.0	0	0	5	0
2	205.0	0	0	5	0
3	201.5	0	0	5	0
4	211.0	0	0	5	0
5	215.5	0	0	5	0
6	201.5	0	0	5	0
7	222.5	0	0	5	0
8	215.0	0	0	5	0
9	225.5	0	0	5	0
10	202.0	0	0	5	0
11	218.0	0	0	5	0
12	223.0	0	0	5	0
13	215.0	0	0	5	0
14	211.5	0	0	5	0
15	217.5	0	0	5	0
16	216.0	0	0	5	0
17	221.0	0	0	5	0
18	205.0	0	0	5	0
19	210.5	0	0	5	0
20	206.5	0	0	5	0
21	201.5	0	0	5	0
22	207.0	0	0	5	0
23	206.5	0	0	5	0
24	230.5	1.5	3	5	1

Closeout Survey Report

Building & Room No.: <u>WML 219H</u>	Department: <u>Radiation Safety</u>
Contact Person: <u>Kent Lambert</u>	Phone Number and Address: <u>NCR B304</u>
Surveyor: <u>A. Harvey + K. Berry</u>	Survey Date: <u>4/4/06</u>

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive waste removed.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

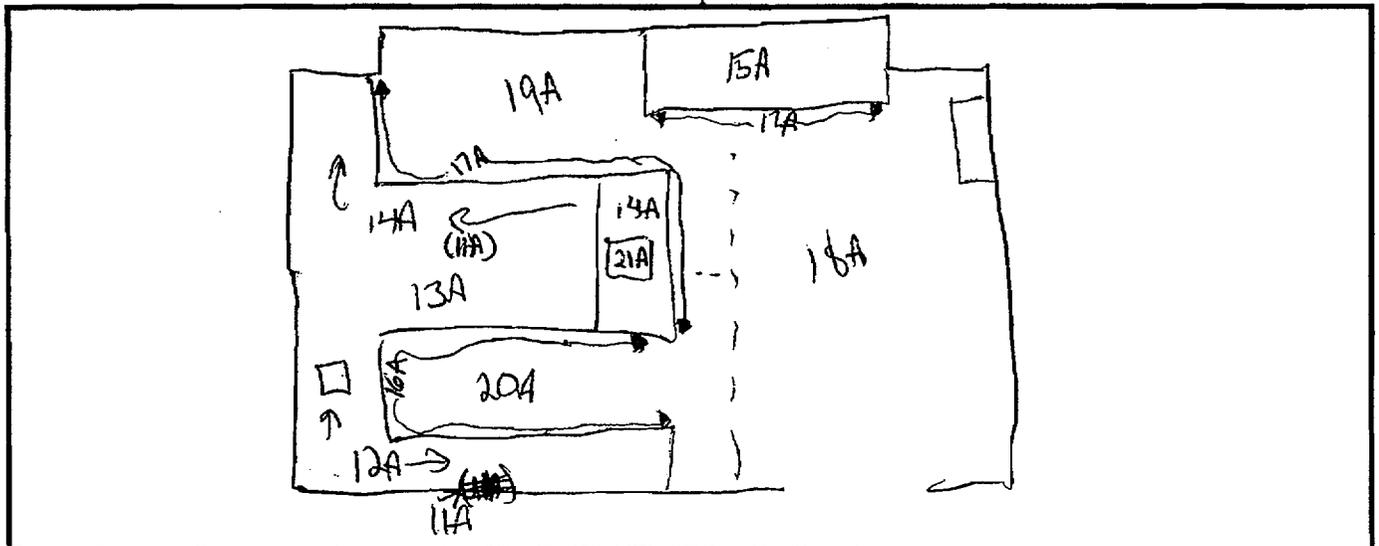
Closeout Contamination Survey Results Summary

- 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



11A shelves

wipes #11A-21A

Survey meter used: Mfg & model: Lyddon med 3 Serial No.: 125971 Date of Calibration: 5/19/05

88936+

1/30/06+

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

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>4/5/2006</u>
Counter Used	<u>LSC</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>24</u>
Count Time (min)	<u>2</u>

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	27.0	27	NA	NA	NA
11A	26.0	0	0	5	0
12A	21.0	0	0	5	0
13A	24.5	0	0	5	0
14A	23.5	0	0	5	0
15A	24.0	0	0	5	0
16A	27.0	0	0	5	0
17A	28.5	2	3	5	1
18A	25.5	0	0	5	0
19A	25.5	0	0	5	0
20A	24.5	0	0	5	0
21A	28.0	1	2	5	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>4/4/2006</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>71</u>
Count Time (min)	<u>2</u>

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	229.0	NA	NA	NA	NA
11A	236.0	7	14	5	3
12A	223.5	0	0	5	0
13A	220.0	0	0	5	0
14A	198.0	0	0	5	0
15A	227.0	0	0	5	0
16A	224.0	0	0	5	0
17A	219.5	0	0	5	0
18A	207.5	0	0	5	0
19A	197.5	0	0	5	0
20A	207.0	0	0	5	0
21A	204.5	0	0	5	0

Closeout Survey Report

Building & Room No.: <u>WMH 4R062 aka IIR</u>	Department: <u>Radiation Safety</u>
Contact Person: <u>Kent Lambert</u>	Phone Number and Address: <u>NCR, B304</u>
Surveyor: <u>A. Hovey + K. Berry</u>	Survey Date: <u>4/4/06</u>

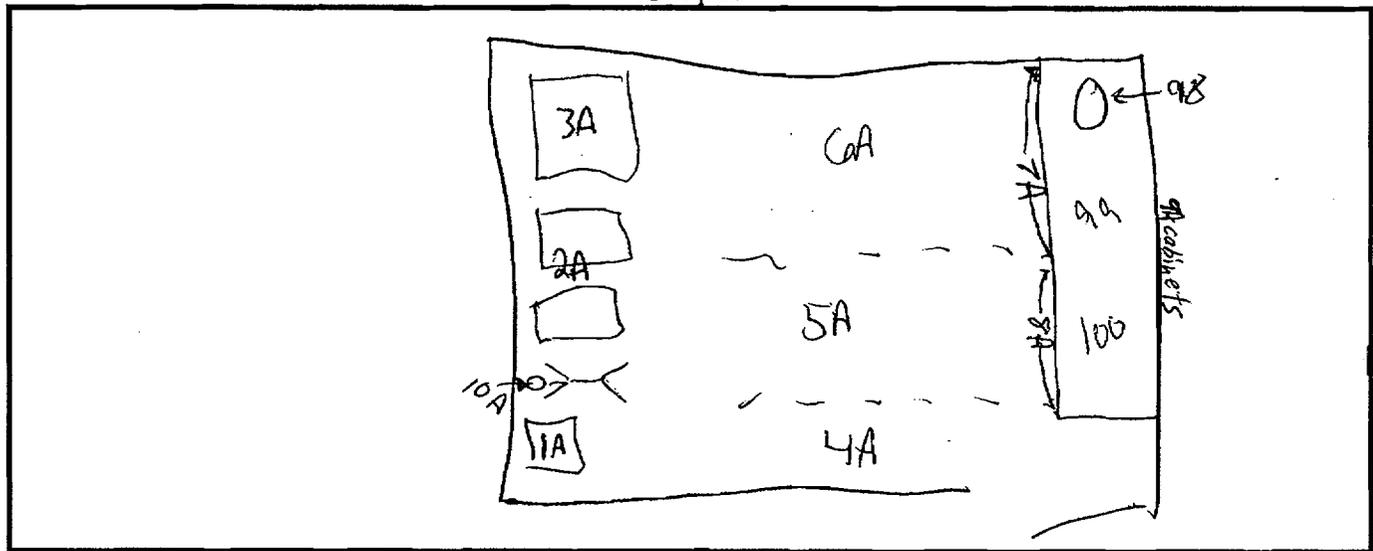
Completed	Not Completed	Not Applicable	Closeout Checklist
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Radioactive material removed. Cabinets, freezers, refrigerators, drawers, etc. checked.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thorough contamination survey performed for fixed and removable contamination throughout facility, including workbenches, floors, remaining equipment, glassware, pigs, refrigerators, freezers, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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



wipes # 98-10A

Survey meter used: Mfg & model: Ludlum mod. 3 Serial No.: 88936+ 125971 Date of Calibration: 1/30/06 + 5/19/05

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

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>4/5/2006</u>
Counter Used	<u>LSC</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>24</u>
Count Time (min)	<u>2</u>

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	27.0	27	NA	NA	NA
98	20.5	0	0	5	0
99	28.0	1	2	5	0
100	28.5	2	3	5	1
1A	22.0	0	0	5	0
2A	31.5	5	9	5	2
3A	25.0	0	0	5	0
4A	23.5	0	0	5	0
5A	23.0	0	0	5	0
6A	25.0	0	0	5	0
7A	27.5	1	1	5	0
8A	23.0	0	0	5	0
9A	16.0	0	0	5	0
10A	17.5	0	0	5	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>4/4/2006</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>71</u>
Count Time (min)	<u>2</u>

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	229.0	NA	NA	NA	NA
98	211.0	0	0	5	0
99	209.5	0	0	5	0
100	215.0	0	0	5	0
1A	215.5	0	0	5	0
2A	207.5	0	0	5	0
3A	201.5	0	0	5	0
4A	222.5	0	0	5	0
5A	220.5	0	0	5	0
6A	220.5	0	0	5	0
7A	204.5	0	0	5	0
8A	194.0	0	0	5	0
9A	230.0	1	2	5	0
10A	205.5	0	0	5	0

Closeout Survey Report

Building & Room No.: 4R064 + 4R065 OR 8R 9R	Department: Radiation Safety
Contact Person: Kent Lambert	Phone Number and Address: NCB B304
Surveyor: A. Hovey + K. Berry	Survey Date: 4/4/06

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

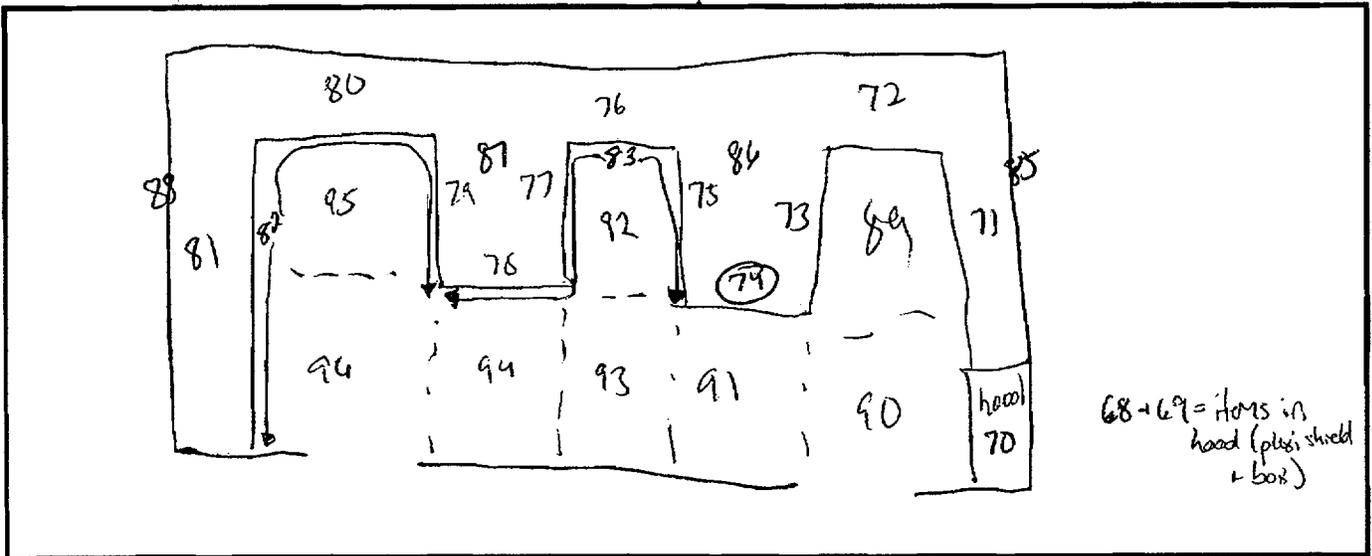
Closeout Contamination Survey Results Summary

- 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



wipes # 68-97

97 = drain of RAM sink

Survey meter used: Mfg & model: Ludlum model 3 Serial No.: 125971 Date of Calibration: 5/19/05

88936+

11/30/06

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

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>4/5/2006</u>
Counter Used	<u>LSC</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>24</u>
Count Time (min)	<u>2</u>

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	27	27	NA	NA	NA
68	25.5	0	0	5	0
69	35.0	8	16	5	3
70	23.5	0	0	5	0
71	27.5	1	1	5	0
72	18.5	0	0	5	0
73	23.0	0	0	5	0
74	25.5	0	0	5	0
75	29.5	3	5	5	1
76	21.5	0	0	5	0
77	29.5	3	5	5	1
78	17.0	0	0	5	0
79	25.5	0	0	5	0
80	25.5	0	0	5	0
81	22.5	0	0	5	0
82	29.5	3	5	5	1
83	19.5	0	0	5	0
84	25.0	0	0	5	0
85	19.0	0	0	5	0
86	21.5	0	0	5	0
87	24.0	0	0	5	0
88	26.0	0	0	5	0
89	23.5	0	0	5	0
90	21.5	0	0	5	0
91	28.0	1	2	5	0
92	19.0	0	0	5	0
93	24.5	0	0	5	0
94	27.5	1	1	5	0
95	20.0	0	0	5	0
96	25.5	0	0	5	0
97	22.0	0	0	5	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	4/4/2006
Counter Used	Gamma
Efficiency %	50
Efficiency	0.5
LLD	71
Count Time (min)	2

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	229.0	NA	NA	NA	NA
68	215.5	0	0	5	0
69	207.5	0	0	5	0
70	197.5	0	0	5	0
71	217.5	0	0	5	0
72	225.0	0	0	5	0
73	209.5	0	0	5	0
74	211.5	0	0	5	0
75	214.0	0	0	5	0
76	219.0	0	0	5	0
77	212.5	0	0	5	0
78	202.5	0	0	5	0
79	194.0	0	0	5	0
80	226.5	0	0	5	0
81	213.0	0	0	5	0
82	211.0	0	0	5	0
83	205.0	0	0	5	0
84	227.0	0	0	5	0
85	215.0	0	0	5	0
86	232.0	3	6	5	1
87	252.0	23	46	5	9
88	200.0	0	0	5	0
89	227.5	0	0	5	0
90	228.0	0	0	5	0
91	234.0	5	10	5	2
92	205.0	0	0	5	0
93	200.5	0	0	5	0
94	211.5	0	0	5	0
95	219.0	0	0	5	0
96	210.5	0	0	5	0
97	219.5	0	0	5	0

Closeout Survey Report

Building & Room No.: <u>WMM 4 R056 + R057 (13R)</u>	Department: <u>Radiation Safety</u>
Contact Person: <u>Kent Lambert</u>	Phone Number and Address: <u>NCB B304</u>
Surveyor: <u>A. Hovey + K. Berry</u>	Survey Date: <u>4/4/06</u>

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radioactive waste removed.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Radiation labels removed/obliterated from radioactive material containers, pigs, etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

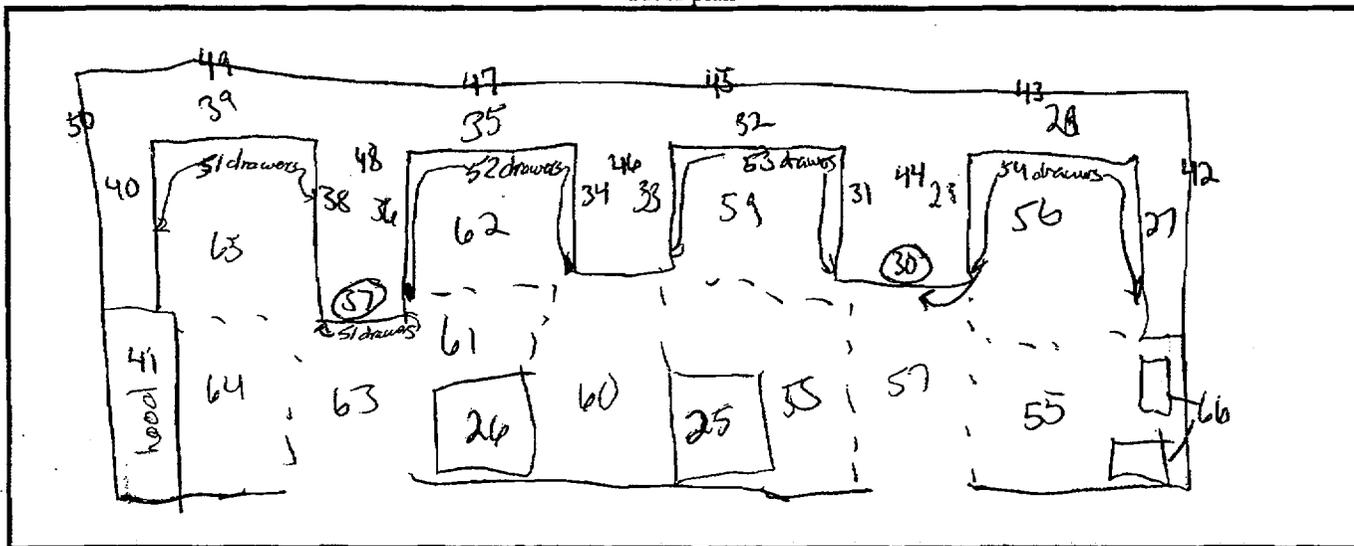
Closeout Contamination Survey Results Summary

- 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



42-50 = cabinets/shelves above benches

67 = knobs, switches, phones

wipes #25-67

Survey meter used: Mfg & model: Ludlum model 3 Serial No.: 88936 + 125971 Date of Calibration: 1/30/06
5/19/05

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

Survey notes/comments:

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 4/5/2006
 Counter Used LSC
 Efficiency % 50
 Efficiency 0.5
 LLD 24
 Count Time (min) 2

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	27	27	NA	NA	NA
25	100.5	74	147	5	29
26	21.0	0	0	5	0
27	21.0	0	0	5	0
28	29.0	2	4	5	1
29	25.5	0	0	5	0
30	20.0	0	0	5	0
31	26.5	0	0	5	0
32	24.5	0	0	5	0
33	25.0	0	0	5	0
34	30.0	3	6	5	1
35	34.5	8	15	5	3
36	25.5	0	0	5	0
37	23.5	0	0	5	0
38	29.5	3	5	5	1
39	22.5	0	0	5	0
40	39.5	13	25	5	5
41	22.5	0	0	5	0
42	22.5	0	0	5	0
43	25.5	0	0	5	0
44	24.0	0	0	5	0
45	24.0	0	0	5	0
46	25.0	0	0	5	0
47	25.0	0	0	5	0
48	23.5	0	0	5	0
49	20.5	0	0	5	0
50	32.0	5	10	5	2
51	24.5	0	0	5	0
52	19.0	0	0	5	0
53	28.0	1	2	5	0
54	26.0	0	0	5	0
55	27.5	1	1	5	0
56	23.0	0	0	5	0
57	20.5	0	0	5	0
58	17.5	0	0	5	0
59	21.5	0	0	5	0
60	20.5	0	0	5	0
61	24.0	0	0	5	0
62	22.5	0	0	5	0
63	24.0	0	0	5	0
64	22.5	0	0	5	0
65	24.5	0	0	5	0
66	28.5	2	3	5	1
67	26.5	0	0	5	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted	<u>4/4/2006</u>
Counter Used	<u>Gamma</u>
Efficiency %	<u>50</u>
Efficiency	<u>0.5</u>
LLD	<u>71</u>
Count Time (min)	<u>2</u>

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	229.0	NA	NA	NA	NA
25	219.5	0	0	5	0
26	211.0	0	0	5	0
27	215.0	0	0	5	0
28	227.5	0	0	5	0
29	215.5	0	0	5	0
30	218.5	0	0	5	0
31	192.5	0	0	5	0
32	208.0	0	0	5	0
33	208.5	0	0	5	0
34	218.0	0	0	5	0
35	192.5	0	0	5	0
36	214.5	0	0	5	0
37	213.0	0	0	5	0
38	225.5	0	0	5	0
39	207.0	0	0	5	0
40	218.0	0	0	5	0
41	217.5	0	0	5	0
42	216.5	0	0	5	0
43	241.0	12	24	5	5
44	222.5	0	0	5	0
45	216.0	0	0	5	0
46	214.0	0	0	5	0
47	215.5	0	0	5	0
48	219.5	0	0	5	0
49	205.0	0	0	5	0
50	219.5	0	0	5	0
51	201.0	0	0	5	0
52	215.0	0	0	5	0
53	219.5	0	0	5	0
54	196.0	0	0	5	0
55	210.0	0	0	5	0
56	215.5	0	0	5	0
57	214.5	0	0	5	0
58	215.0	0	0	5	0
59	201.0	0	0	5	0
60	214.5	0	0	5	0
61	204.5	0	0	5	0
62	208.5	0	0	5	0
63	217.5	0	0	5	0
64	222.0	0	0	5	0
65	210.5	0	0	5	0
66	204.5	0	0	5	0
67	224.0	0	0	5	0

Closeout Survey Report

Building & Room No.: WMH Waste Room 1 st Floor	Department: Radiation Safety Office
Contact Person: Adrienne Hovey	Phone Number and Address: (215) 762-4050, NCB B304
Surveyor: A. Hovey, K. Berry, K. Lambert	Survey Date: 4/28/2006

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Contaminated items decontaminated or disposed as radioactive waste <i>none found</i>
<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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

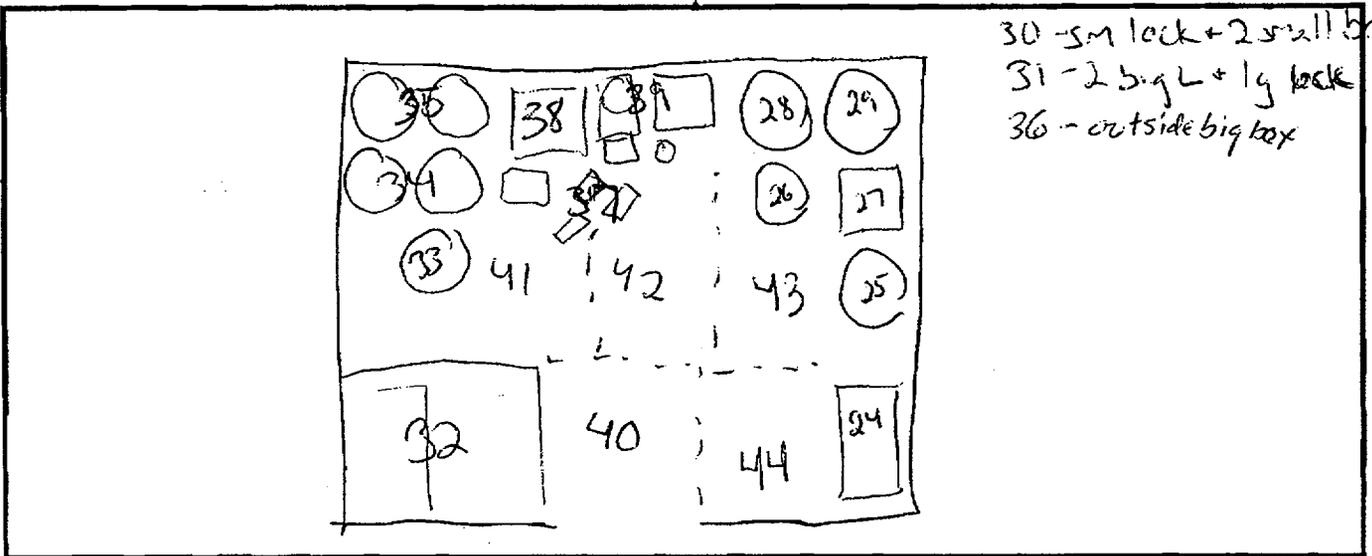
Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm²
- No radiation levels above background found
- Radiation levels above background found

**Door sign not removed
**Room may still contain hospital-owned material
All university material removed.*

Contamination Survey Results

Floor plan



Survey meter used: Mfg & model: Ludlum model 14 Serial No.: 134867 Date of Calibration: 2005
meter operational at time of survey

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

Survey notes/comments:

This was a shared RAM waste facility between Ducom and Women's Medical Hospital. This is documentation of closing out all university RAM waste and contents from the waste room. This is not a closeout ~~of~~ documenting removal of all hospital RAM materials. At the time of our survey there was a single C-14 bactec vial, Xe-123 Filter, and unused(?) dosages in Ammon boxes remaining in the waste room that are clearly Hospital materials.

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 4/29/2006
 Counter Used LSC
 Efficiency % 50
 Efficiency 0.5
 LLD 24
 Count Time (min) 2

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	24	27	NA	NA	NA
24	28.5	5	9	5	2
25	26.0	2	4	5	1
26	25.5	2	3	5	1
27	29.5	6	11	5	2
28	22.5	0	0	5	0
29	22.5	0	0	5	0
30	24.0	0	0	5	0
31	27.0	3	6	5	1
32	24.5	1	1	5	0
33	25.5	2	3	5	1
34	28.5	5	9	5	2
35	19.5	0	0	5	0
36	26.0	2	4	5	1
37	27.5	4	7	5	1
38	21.5	0	0	5	0
39	20.5	0	0	5	0
40	37.5	14	27	5	5
41	33.5	10	19	5	4
42	26.5	3	5	5	1
43	21.5	0	0	5	0
44	19.5	0	0	5	0

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 4/28/2006
 Counter Used Gamma
 Efficiency % 50
 Efficiency 0.5
 LLD 76
 Count Time (min) 2

Wipe Number	CPM	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	262.5	NA	NA	NA	NA
24	280.0	18	35	5	7
25	279.5	17	34	5	7
26	267.5	5	10	5	2
27	278.5	16	32	5	6
28	282.5	20	40	5	8
29	282.0	20	39	5	8
30	270.0	8	15	5	3
31	263.5	1	2	5	0
32	255.0	0	0	5	0
33	284.0	22	43	5	9
34	271.0	9	17	5	3
35	263.0	1	1	5	0
36	267.0	5	9	5	2
37	279.0	17	33	5	7
38	252.0	0	0	5	0
39	281.0	19	37	5	7
40	301.0	39	77	5	15
41	289.5	27	54	5	11
42	262.0	0	0	5	0
43	286.0	24	47	5	9
44	266.5	4	8	5	2

Closeout Survey Report

7th Floor Suite

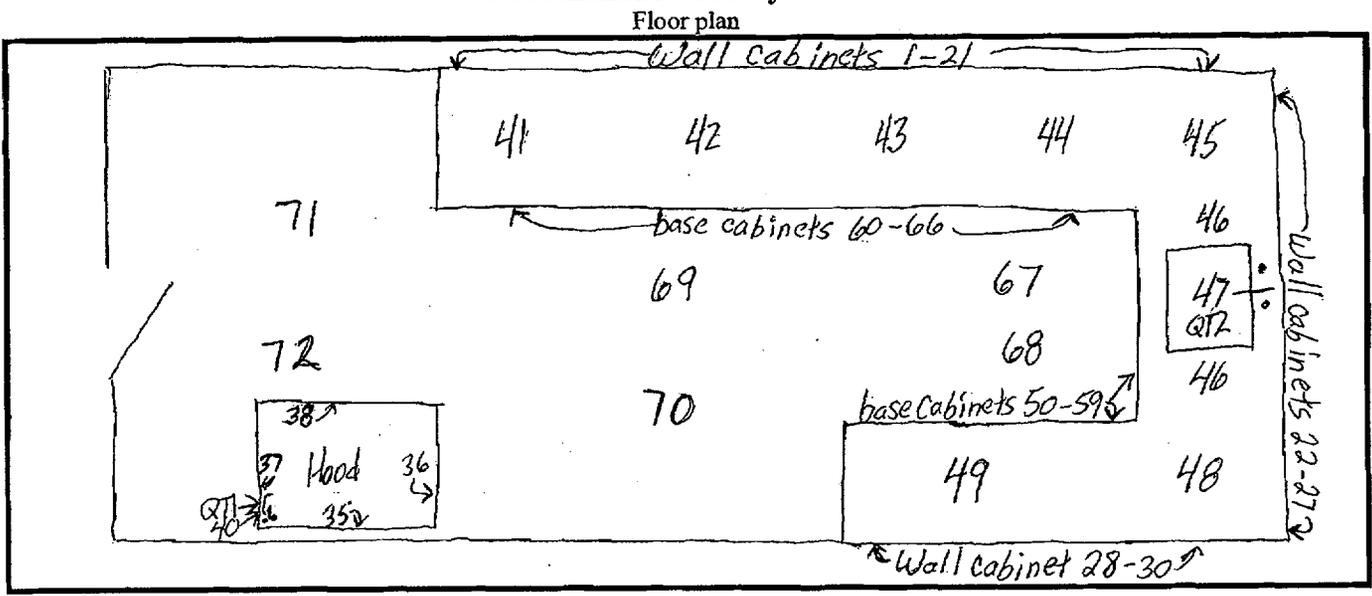
Building & Room No.: <i>Heritage Building Radioactive Lab</i>	Department: <i>Pediatrics</i>
Contact Person: <i>Dr. Om Prakash Mishra</i>	Phone Number and Address:
Surveyor: <i>Edward Yeager + Niki Noll</i>	Survey Date: <i>7/28/06</i>

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 <i>NA</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Department notified

Closeout Contamination Survey Results Summary

- No contamination above 200 dpm/100 cm²
- Contamination above 200 dpm/100 cm² @ *Tip #2 of sink drain*
- No radiation levels above background found
- Radiation levels above background found

Contamination Survey Results



- | | |
|--|---|
| <ul style="list-style-type: none"> 31-34 hood exhaust 35-38 sides of the hood 39 - work surface of the hood 40 - sink in hood 41-49 counter-top wipes 50-66 base cabinets under counter top 67-72 Floor Wipes | <ul style="list-style-type: none"> 1-30 Wall cabinets above counter-top Qtip #1 - Hood sink drain Qtip #2 - Lab sink drain Qtip #3 - 1000ml pipette Qtip #4 - 20ml pipette |
|--|---|

Survey meter used: Mfg & model: Victoreen 190 850 Serial No.: 88936 Date of Calibration: 11/21/05
Ludlum M3 1/30/06

Survey meter locations	Survey meter reading (mR/hr)
BKG	Ludlum - 0.04 $\frac{mR}{hr}$ Victoreen - 0.017 $\frac{mR}{hr}$
Thorough readings taken throughout the laboratory (including floors, shelves, cabinets, etc.)	Ludlum - 0.04 $\frac{mR}{hr}$ Victoreen - 0.017 $\frac{mR}{hr}$

Survey notes/comments:

Sink drain not decontaminated because contamination identified is several orders of magnitude below the screening levels for H-3. No further action required.

Drexel University Radiation Safety Office
Wipe Test Results

Date Counted 7/28/2006
 Counter Used LSC
 Efficiency % 50
 Efficiency 0.5
 LLD 26
 Count Time (min) 2

Wipe Number	Total cpm	net cpm (total cpm for background)	dpm	total area wiped (x100cm ²)	dpm/100cm ²
Background	32.0	32	NA	NA	NA
1	32.0	0	0	1	0
2	36.0	4	8	1	8
3	34.0	2	4	1	4
4	22.0	0	0	1	0
5	19.0	0	0	1	0
6	23.0	0	0	1	0
7	25.0	0	0	1	0
8	30.0	0	0	1	0
9	26.0	0	0	1	0
10	32.0	0	0	1	0
11	26.0	0	0	1	0
12	24.0	0	0	1	0
13	31.0	0	0	1	0
14	32.0	0	0	1	0
15	27.0	0	0	1	0
16	25.0	0	0	1	0
17	21.0	0	0	1	0
18	36.0	4	8	1	8
19	32.0	0	0	1	0
20	29.0	0	0	1	0
21	27.0	0	0	1	0
22	29.0	0	0	1	0
23	22.0	0	0	1	0
24	35.0	3	6	1	6
25	27.0	0	0	1	0
26	30.0	0	0	1	0
27	27.0	0	0	1	0
28	20.0	0	0	1	0
29	26.0	0	0	1	0
30	32.0	0	0	1	0
31	23.0	0	0	1	0
32	27.0	0	0	1	0
33	26.0	0	0	1	0
34	31.0	0	0	1	0
35	34.0	2	4	1	4
36	21.0	0	0	1	0
37	35.0	3	6	1	6
38	39.0	7	14	1	14
39	31.0	0	0	1	0
40	28.0	0	0	1	0
41	25.0	0	0	1	0

42	27.0	0	0	1	0
43	41.0	9	18	1	18
44	32	0	0	1	0
45	35	3	6	1	6
46	30	0	0	1	0
47	33	1	2	1	2
48	37	5	10	1	10
49	22	0	0	1	0
50	24	0	0	1	0
51	20	0	0	1	0
52	27	0	0	1	0
53	27	0	0	1	0
54	24	0	0	1	0
55	24	0	0	1	0
56	38	6	12	1	12
57	23	0	0	1	0
58	29	0	0	1	0
59	32	0	0	1	0
60	37	5	10	1	10
61	36	4	8	1	8
62	32	0	0	1	0
63	30	0	0	1	0
64	29	0	0	1	0
65	40	8	16	1	16
66	37	5	10	1	10
67	35	3	6	1	6
68	34	2	4	1	4
69	26	0	0	1	0
70	31	0	0	1	0
71	34	2	4	1	4
72	37	5	10	1	10
QTip1	38	6	12	1	12
QTip2	1324	1292	2584	1	2584
QTip3	39	7	14	1	14
QTip4	22	0	0	1	0

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

8/7/2006, and to inform you that the initial processing which includes an administrative review has been performed.

Amendment 37-07438-15 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** 139266.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.