



Hawaii Agriculture Research Center

*P.O. Box 100, Kunia, Hawaii 96759
Ph: 808-621-1350/Fax: 808-621-1359*

September 8, 2009

Nuclear Materials Licensing Branch
U.S. Nuclear Regulatory Commission, Region IV
612 E. Lamar Blvd., Suite 400
Arlington, TX 76011-4125

Dear License Reviewer:

Subject: License Amendment
NRC License No. 53-00515-01
Docket No. 030-06839

We are requesting an amendment to our license to remove the facility located at 99-193 Aiea Heights Drive, Aiea, HI. All radioactive materials have been transferred to our Kunia facility. We have enclosed the final decommissioning survey for your review.

If you require any additional information, please contact our Radiation Safety Consultant, Ronald Frick, at 808-373-7009.

Sincerely,

Stephanie A. Whalen
Executive Director

Enclosures

No 472404

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), 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, (3150-0120), 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.

APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-4005

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

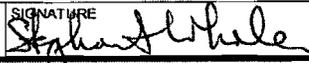
<input type="checkbox"/> THIS IS AN APPLICATION FOR (Check appropriate item) <input checked="" type="checkbox"/> A. NEW LICENSE <input checked="" type="checkbox"/> B. AMENDMENT TO LICENSE NUMBER <u>53-00515-01</u> <input type="checkbox"/> C. RENEWAL OF LICENSE NUMBER _____	2. NAME AND MAILING ADDRESS OF APPLICANT (include ZIP code) Hawaii Agriculture Research Center P.O. Box 100 Kunia, HI 96759
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3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED Hawaii Agriculture Research Center 94-340 Kunia Road Kunia, HI 96759	4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION Ronald Frick, M.S., CHP, DABR TELEPHONE NUMBER (808) 373-7009
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SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.
9. FACILITIES AND EQUIPMENT.	10. RADIATION SAFETY PROGRAM.
11. WASTE MANAGEMENT.	12. LICENSE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY 3M AMOUNT ENCLOSED \$ 0.00

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.
 THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.
 WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 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.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE Stephanie A. Whalen, Executive Director	SIGNATURE 	DATE 09-08-09
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FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
APPROVED BY			\$	DATE	No 472404



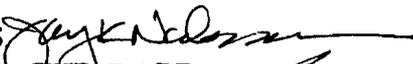
Decommissioning Survey

Facility: Hawaii Agriculture Research Center

Address: 99-193 Aiea Heights Drive
Aiea, HI 96701-3900

Survey Area: 99-193 Aiea Heights Drive, Floors 2, 3, and 4

Survey dates: 8/12/04, 2/4/05, 10/7/08, 4/21/09, 4/29/09, 5/5-7/09, 7/1-2/09

Performed By: Jay Nakasone, B.S. 
Ronald Frick, M.S., ~~CNP~~ DABR 

Background

Small quantities of radioactive material (less than 1 mCi per experiment) have been used in various laboratories within this building since its construction in 1975. During this time, radioactive materials were used by three separate companies which operated under a single NRC license issued to Hawaii Agriculture Research Center. The three groups were Hawaii Agriculture Research Center (previously Hawaiian Sugar Planters' Association), USDA, and Hawaii Biotech, Inc. (previously Hawaii Biotech Group). Hawaii Agriculture Research Center has relocated to Kunia, HI. USDA has recently ceased work within this building. Hawaii Biotech, Inc. remains within the building, but has elected to discontinue the use of radioactive materials.

Under the conditions of the NRC license, laboratories within the building have been 'established' and 'disestablished' as restricted areas. When an area of use was 'disestablished', surveys would be performed to release the area, and the area would be approved for non-radioactive work. Accordingly, many of the laboratories which were previously restricted areas have not been used with radioactive material for many years. The history of use for each of the laboratories in question is detailed within this report.

All radioactive materials have now been removed from the building. This report details the results of the final status survey.

Laboratory use history

Information regarding use history was obtained by reviewing existing documentation available at the site, and by interviewing building personnel.

Second Floor

Rooms 215, 217, and 218BB were the only radioactive material use areas on this floor. Use records indicate that short-lived P-32 and Rb-86 were used within Room 215 between 1975 and 1992. Since 2001, Rooms 215, 217 BSL-2, and 218BB have primarily been areas of H-3 use, with occasional use of S-35. Use of radioactive materials within these laboratories was discontinued in late 2008. Waste was removed prior to the final status survey on May 5, 2009.

Third Floor

Room 328: This is was the primary area for use of radioactive material on the third floor. C-14, H-3, and P-32 have been used in this laboratory since 1991. Use of radioactive material in this laboratory was terminated in December 2008. All remaining radioactive waste was packaged into drums before the final status survey, performed on July 1&2, 2009. The remaining waste was transferred to the HARC laboratory in Kunia on August 4, 2009.

Rooms 346, 347, 348, 349, 350, and 351

Rooms 348, 349, and 350 were used for C-14, H-3, and P-32 work periodically from 1975 to 1993. This area was disestablished in June 1995.

Room 351 (cold storage) was used for occasional storage of radioactive samples related to work performed in Room 350.

It is possible that radioactive materials have been used in Rooms 346 and 347. However, records indicating the dates and types of use were not available. It was assumed that radioactive materials were used in this area, and the rooms were included in the final status survey. Final status survey was performed on May 6 and 7, 2009.

Fourth Floor

Rooms 417-423: Radioactive materials, including C-14, H-3, S-35 and P-32, were used periodically in this area between 1985 and 2004. Thorough decommissioning surveys were performed in these labs on 8/12/04 and 2/4/05. The data from these surveys is included in this report. Surveys in these labs were not repeated during the 2009 final status survey.

Room 432: This room was used for storage of radioactive waste, including C-14, H-3, S-35 and P-32. All waste was removed from this area in October 2008. Final status survey was performed on October 7, 2008.

Room 444: This room housed gas chromatographs using Ni-63 sources. C-14 was used briefly in an area of this room. Use of this area was stopped in late 2007. Final status survey was performed April 21 and 29, 2009.

Room 445: The only use of radioactive material on record for this area is for storage of samples containing C-14. The primary area of use was within the adjacent lab, room 447. This area was disestablished in 1995. Final status survey was performed on April 21 and 29, 2009.

Room 447: C-14 was used in this area until it was disestablished in April 1995. Final status survey was performed on April 21 and 29, 2009.

Room 448: No records could not be found indicating that this room was ever established as a restricted area. It was assumed that radioactive materials may have been used at some time in this area, since it is located between Room 453 and Room 447. Final status survey in this room was performed on May 6 and 7, 2009.

Room 453: This room was previously the primary area for use of radioactive materials between 1975 and 1991. A sealed 100 mCi Cs-137 calibration source was stored in this area until it was transferred to US Ecology on 3/4/82. A sealed 50 mCi Am-241 Hydroprobe was stored in this area from 1980 until it was transferred to University of Hawaii on 2/2/89. C-14 and H-3 were also used in this area until 1991. The area was disestablished in 1991.

Survey Units

For this survey, each room or laboratory was considered to be an individual survey unit.

Based on site history, the following rooms are considered to be Class 2 areas (not likely to have concentrations of residual activity that exceed the DCGL):

- Rooms 215, 217 BSL-2, and 218BB
- Room 328
- Room 432

The following rooms are considered to be Class 3 areas (low probability of containing residual radioactivity):

- Rooms 346, 347, 348, 349, 350, and 351
- Rooms 417-423
- Rooms 444, 445, 447, 448, 453

Survey Guidelines

Subpart E of 10 CFR 20, Radiological Criteria for License Termination, states that "A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable". NRC NUREG-1757, *Consolidated NMSS Decommissioning Guidance*, provides tables which list the residual surface concentrations in dpm/100 cm² for

radionuclides which would result in a TEDE of less than 25 mrem/year for a building occupancy scenario. For the unsealed materials used at this facility, C-14 has the most restrictive concentration (3,700,000 dpm/100 cm²). NUREG 1556, Vol 7, *Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope*, sets the removable and non-removable contamination limits for beta-gamma emitters at 1000 and 5000 dpm/100 cm², respectively.

Based on these documents, we have set a removable contamination guideline of 1,000 dpm/100 cm² for all beta-gamma emitters and a surface contamination guideline of 5,000 dpm/100 cm² for all beta-gamma emitters. These contamination levels are above the minimum detectable activities of the survey equipment used, and can be reasonably achieved using standard decontamination methods.

Survey Design

A statistical analysis to determine the necessary number of wipe samples per survey unit was not performed. A minimum number of 30 samples per survey unit was established based on guidance provided by Nuclear Regulatory Commission staff.

Instrumentation

For the 2008 and 2009 final status surveys, scan surveys were performed using a Bicon Analyst survey meter with Thermo HP308 100 cm² beta scintillation probe. Calibration certificates are attached.

For the 2004-2005 decommissioning survey of Rooms 417-423, scan surveys were performed using a Bicon Analyst survey meter with Bicon B-100 100 cm² beta scintillation probe. Calibration certificates are attached.

Wipe samples obtained from Room 432 were analyzed using the TopCount NXT v2.13 liquid scintillation counter. Wipe samples obtained during the 2004 and 2005 surveys of Rooms 417-423 were analyzed using the Beckman LS 5000 TD liquid scintillation counter. Wipe samples obtained from all other areas were analyzed using the Beckman LS 6500 liquid scintillation counter. Efficiency and Minimum Detectable Activity determinations are attached.

Survey Description

All floors, walls, work benches, sinks, and fume hoods within each lab were surveyed using the 100cm² beta scintillation probe.

Wipe samples were taken in the numbered locations indicated on the attached survey diagram. All wipes were performed using dry filter paper over at least 100 cm², and counted in the LSC. Wipes of sink traps were taken using six inch Q-tip single tip

applicators and counted in the LSC. For each sink, the trap was removed, and a sample was taken within the trap bend. A second sample was also taken within the pipe which protrudes from the wall. Samples were also taken within fume hood exhaust vents using dry filter paper.

Survey Results

Scan surveys revealed no areas which exceeded the minimum detectable activity. All wipe samples were well below the DCGL of 1,000 dpm/100 cm². Tabulated wipe results are attached.

Conclusion

Residual contamination within the building is below the levels which would result in a member of the critical group receiving a TEDE greater than 25 mrem/year. Residual contamination is also below the ALARA levels published in NRC guidance documents, and below facility trigger levels. It is recommended that this building be released for unrestricted use.

Efficiency/MDA Determinations

Scan surveys

Bicron Analyst/Thermo HP308 100 cm² beta scintillation probe

Measured efficiency for C-14: 6.7%

Background count rate: 300 cpm = 5 cps

Based on the information in MARSSIM, the minimum detectable count rate for scanning surveys is determined by the following equation (assuming a scan rate of one probe width per second):

$$\text{Scan MDCR} = \frac{d' \sqrt{5\text{cps}} \times 60}{\sqrt{p}}$$

$d' = 1.38$, based on a requirement of 95% correct detections, and an acceptable rate of false positives equal to 60%.

p is assumed to be 0.5

$$\text{Scan MDCR} = 262 \text{ cpm}$$

For a detection efficiency of 6.7%, and a probe area of 100 cm², the **minimum detectable concentration is 3,908 dpm per 100 cm²**, which is below the DCGL of 5,000 dpm/100 cm².

Bicron Analyst/Bicron B-100 100 cm² beta scintillation probe

Measured efficiency for C-14: 8.7%

Background count rate: 300 cpm = 5 cps

Based on the information in MARSSIM, the minimum detectable count rate for scanning surveys is determined by the following equation (assuming a scan rate of one probe width per second):

$$\text{Scan MDCR} = \frac{d' \sqrt{5\text{cps}} \times 60}{\sqrt{p}}$$

$d' = 1.38$, based on a requirement of 95% correct detections, and an acceptable rate of false positives equal to 60%.

p is assumed to be 0.5

$$\text{Scan MDCR} = 262 \text{ cpm}$$

For a detection efficiency of 8.7%, and a probe area of 100 cm², the **minimum detectable concentration is 3,011 dpm per 100 cm²**, which is below the DCGL of 5,000 dpm/100 cm².

Liquid Scintillation Counters

Note: Sample detection efficiency for all LSC samples is conservatively based on efficiency for tritium. Standards for both C-14 and H-3 were counted with each batch of samples, and were within the specified ranges.

Detection efficiency for H-3 was determined using a H-3 scintillation standard. Minimum detectable activity for a 1 minute count was determined using the following equation:

$$MDA(dpm) = \frac{3.00 + 4.65\sqrt{CR_B}}{\epsilon \sqrt{t}}$$

Beckman LS 5000 TD LSC

H-3 Standard activity = 0.047 μ Ci, Cal. 4/23/1993

Activity on 2/4/05 = 53343.89 dpm

Measured cpm = 33727

Detection efficiency = 61%

Background count rate = 36 cpm

Wipe area = 100 cm²

MDA = 51 dpm/100cm²

Beckman LS 6500 LSC

H-3 Standard activity = 94,400 dpm, Cal. 10/31/2005

Activity on 4/29/09 = 77,494dpm

Measured cpm = 47299

Detection efficiency = 61%

Background count rate = 29 cpm

Wipe area = 100 cm²

MDA = 46 dpm/100cm²

TopCount NXT v2.13 LSC

Detection efficiency = 36%

Background count rate = 47 cpm

Wipe area = 100 cm²

MDA = 96 dpm/100cm²

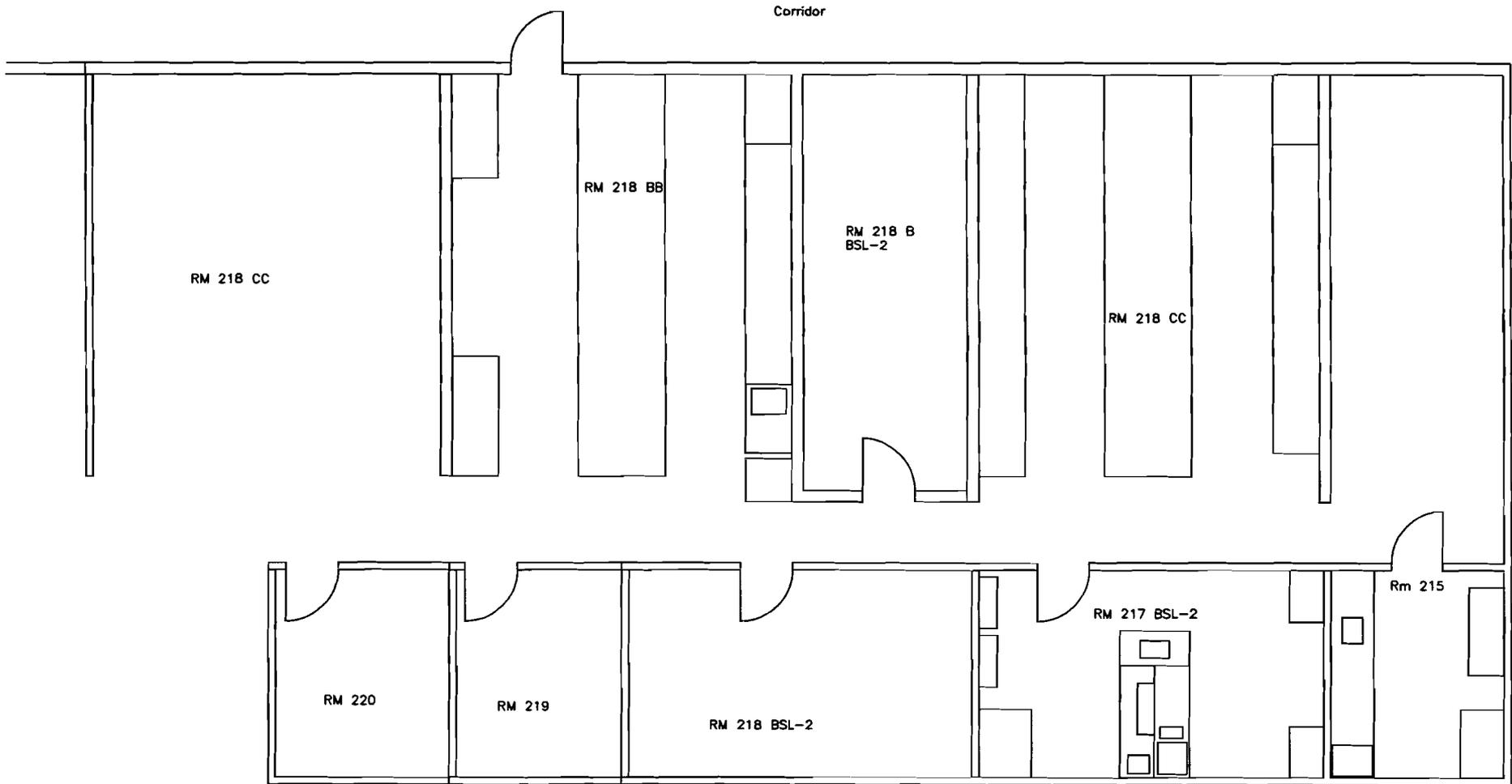
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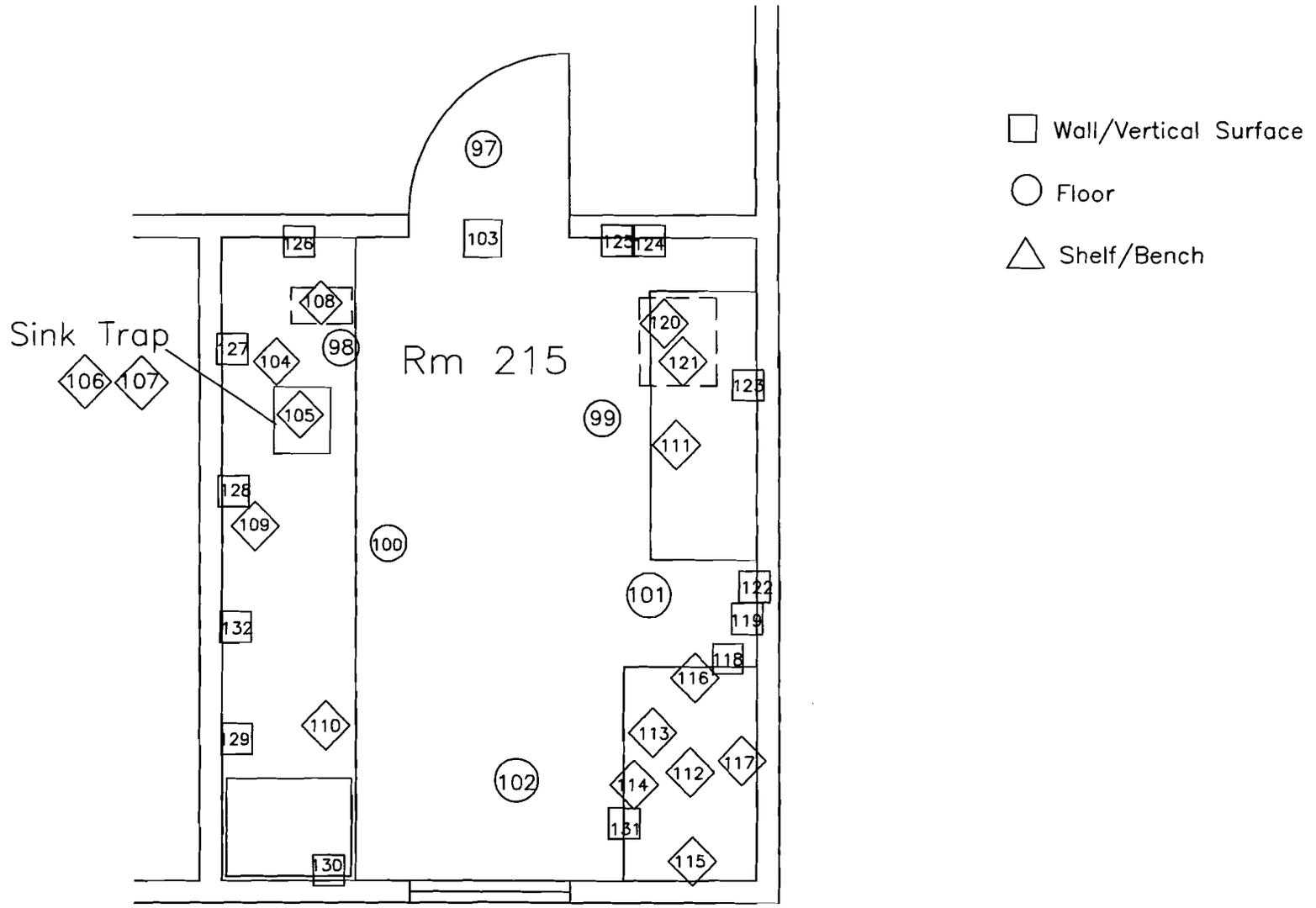
1. Second floor wipe test data
2. Third floor wipe test data(Rooms 346-350)
3. Room 328 wipe test data
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5. Room 432 wipe test data
6. Rom 417-423 August 12, 2004 survey wipe data
7. Room 417-423 February 4, 2005 survey wipe data

Figure 1
Second Floor



HARC Experiment Station	Survey Sheet
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Figure 2



HARC Experiment Station Survey Sheet

Figure 3

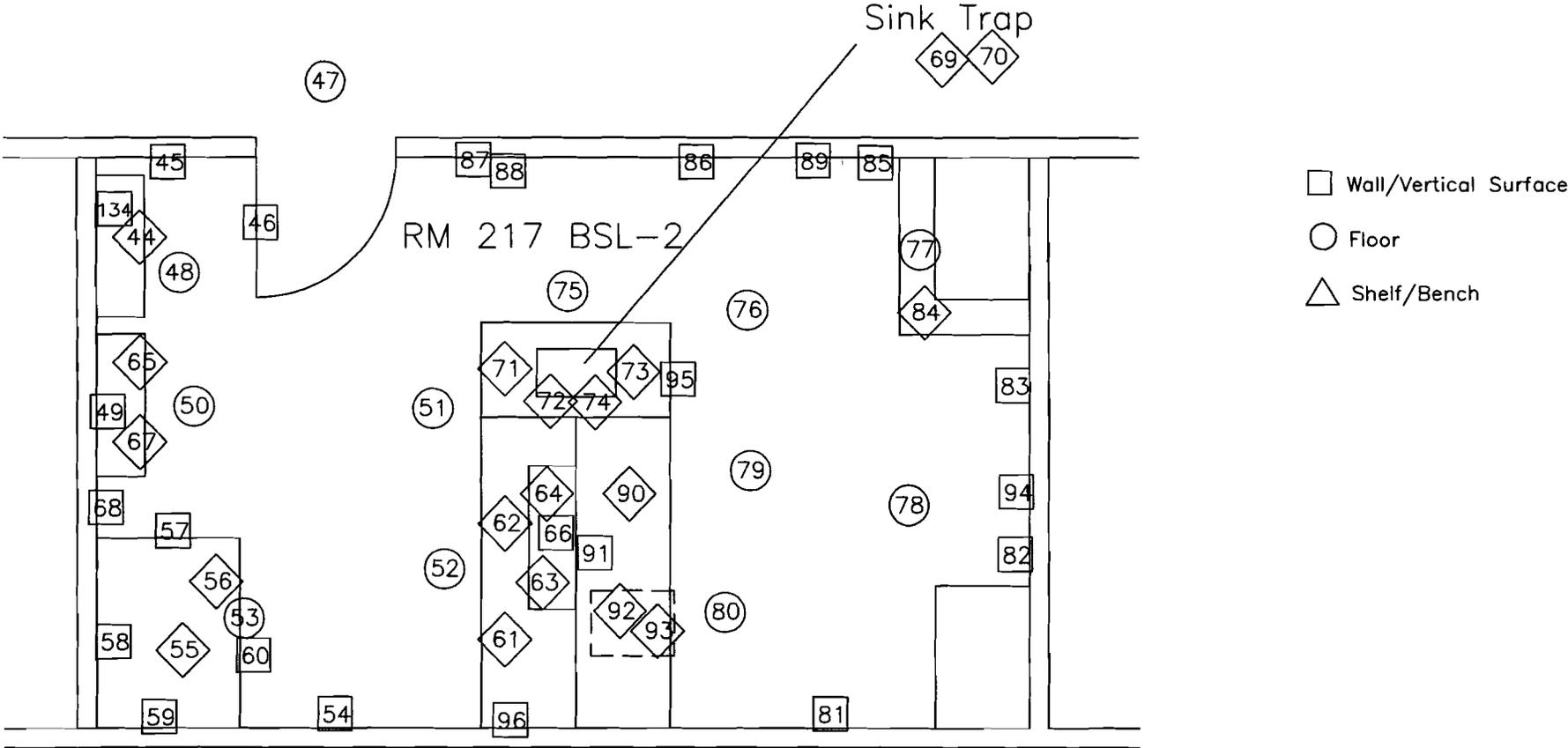


Figure 4

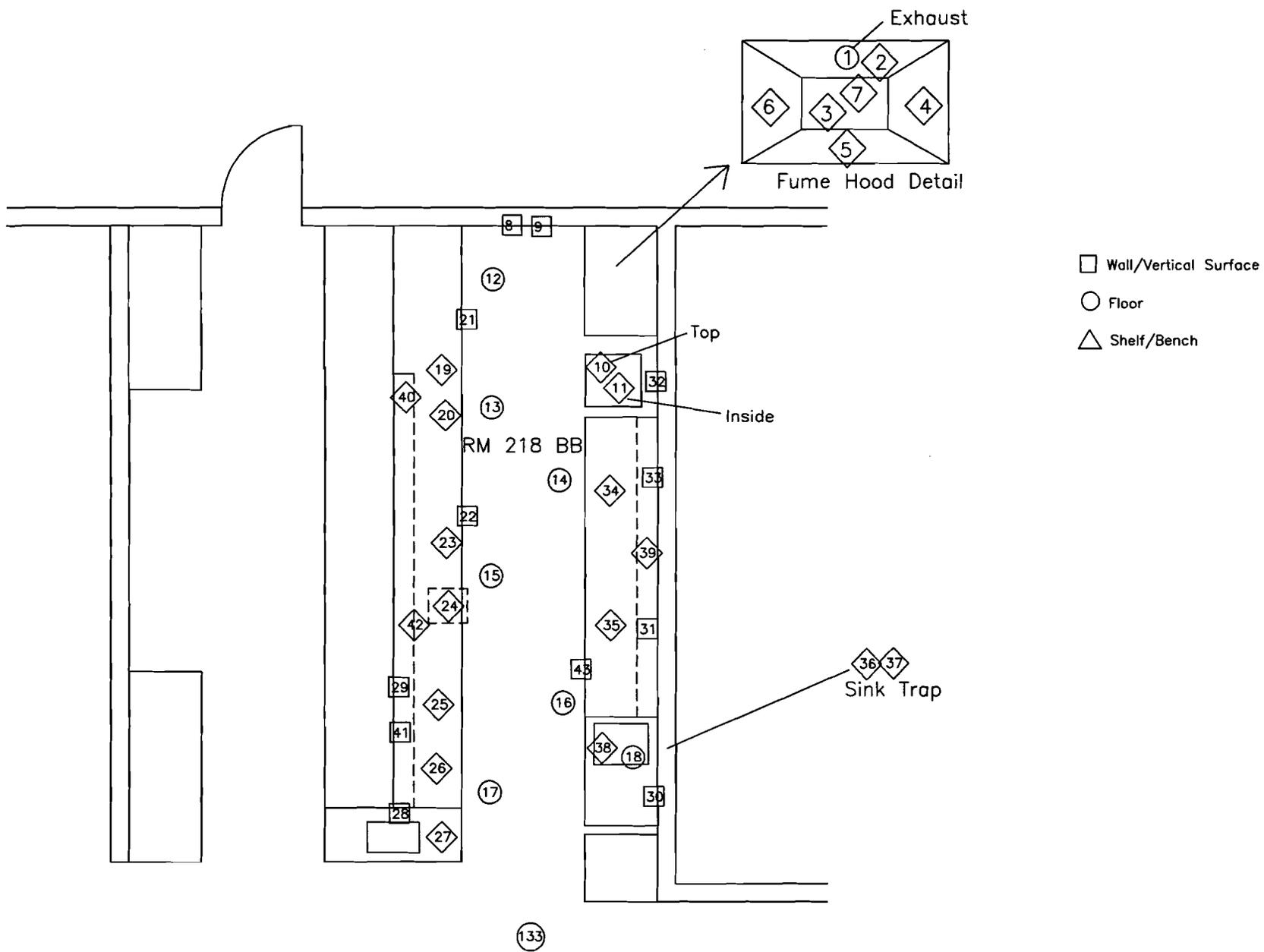
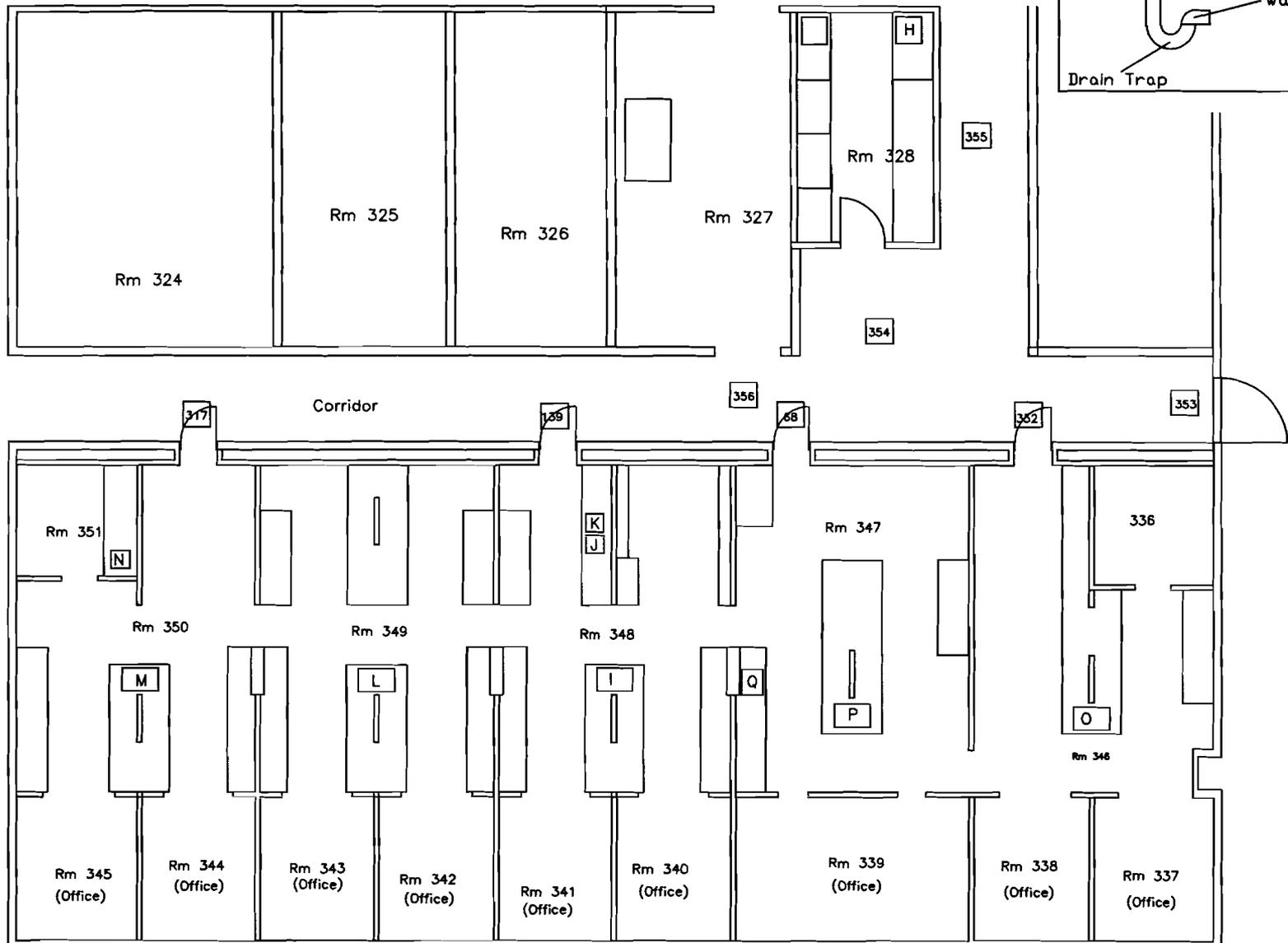
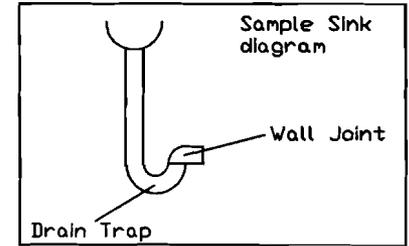


Figure 5

Third Floor
Sinks





Floor



Vertical
Surfaces

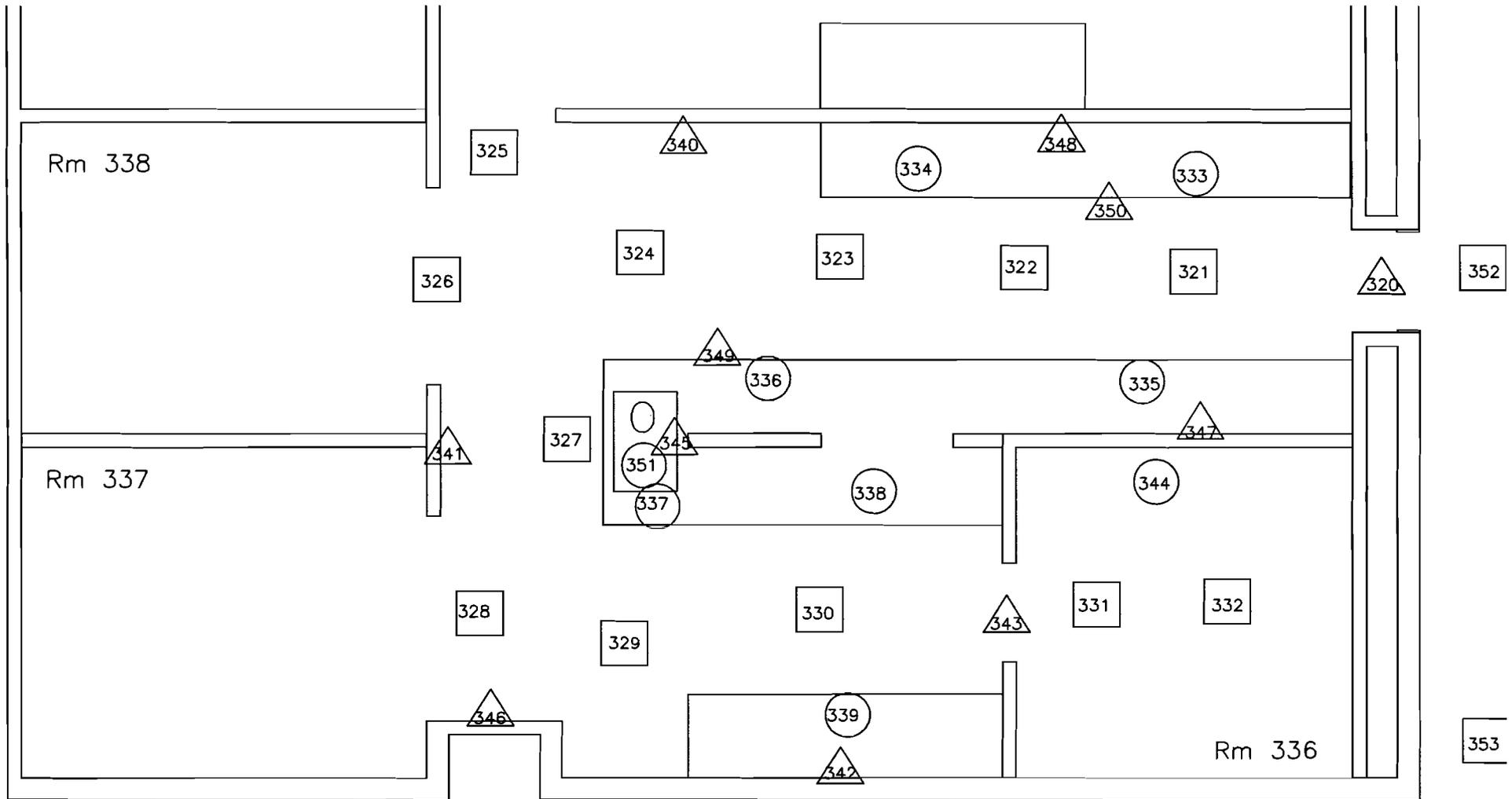


Horizontal
Surfaces



Sink #

Figure 6
LAB 346



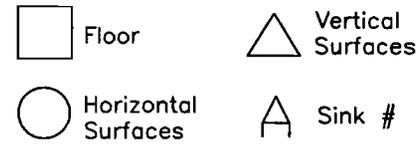


Figure 7
LAB 347

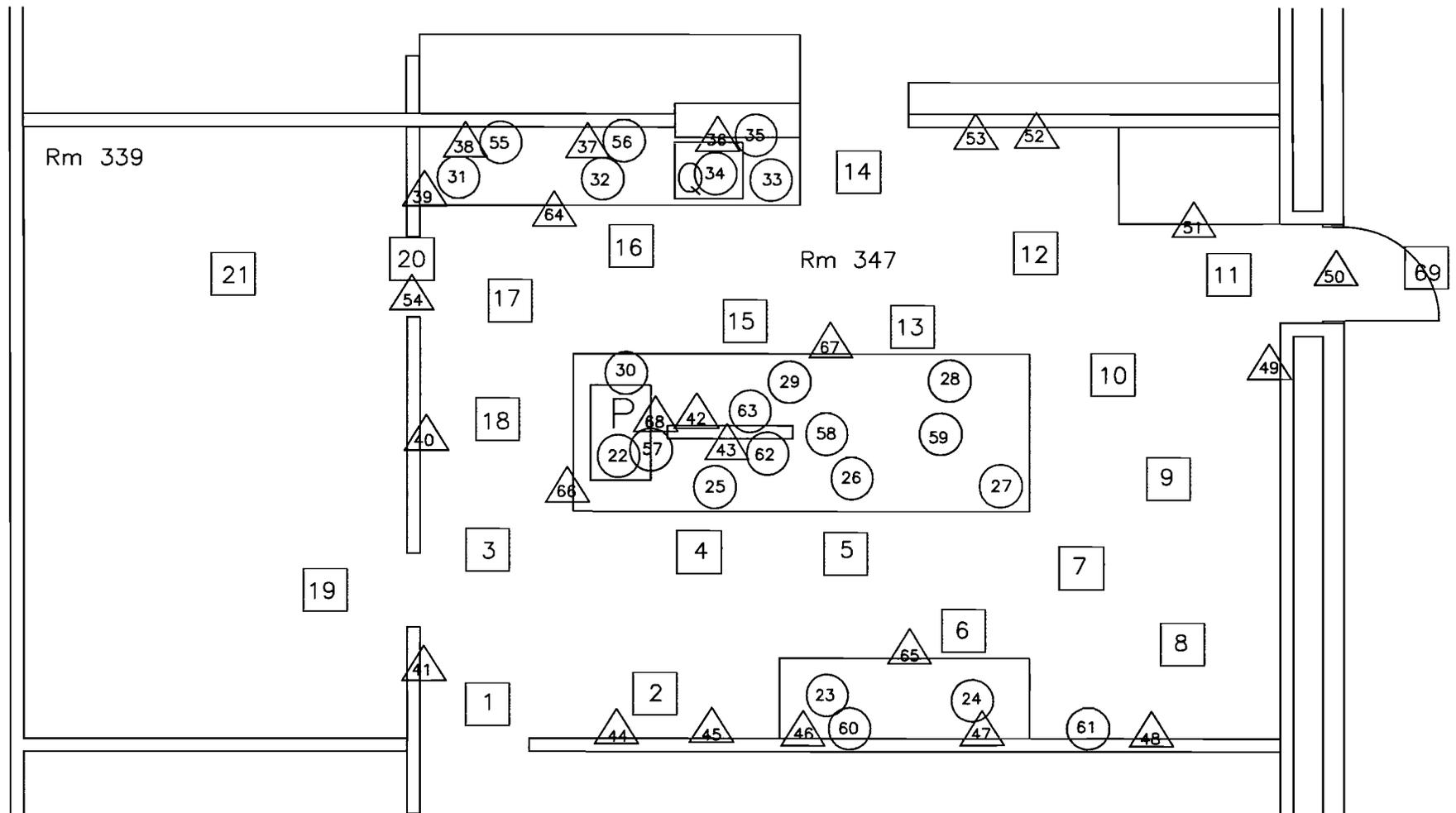


Figure 8
LAB 348

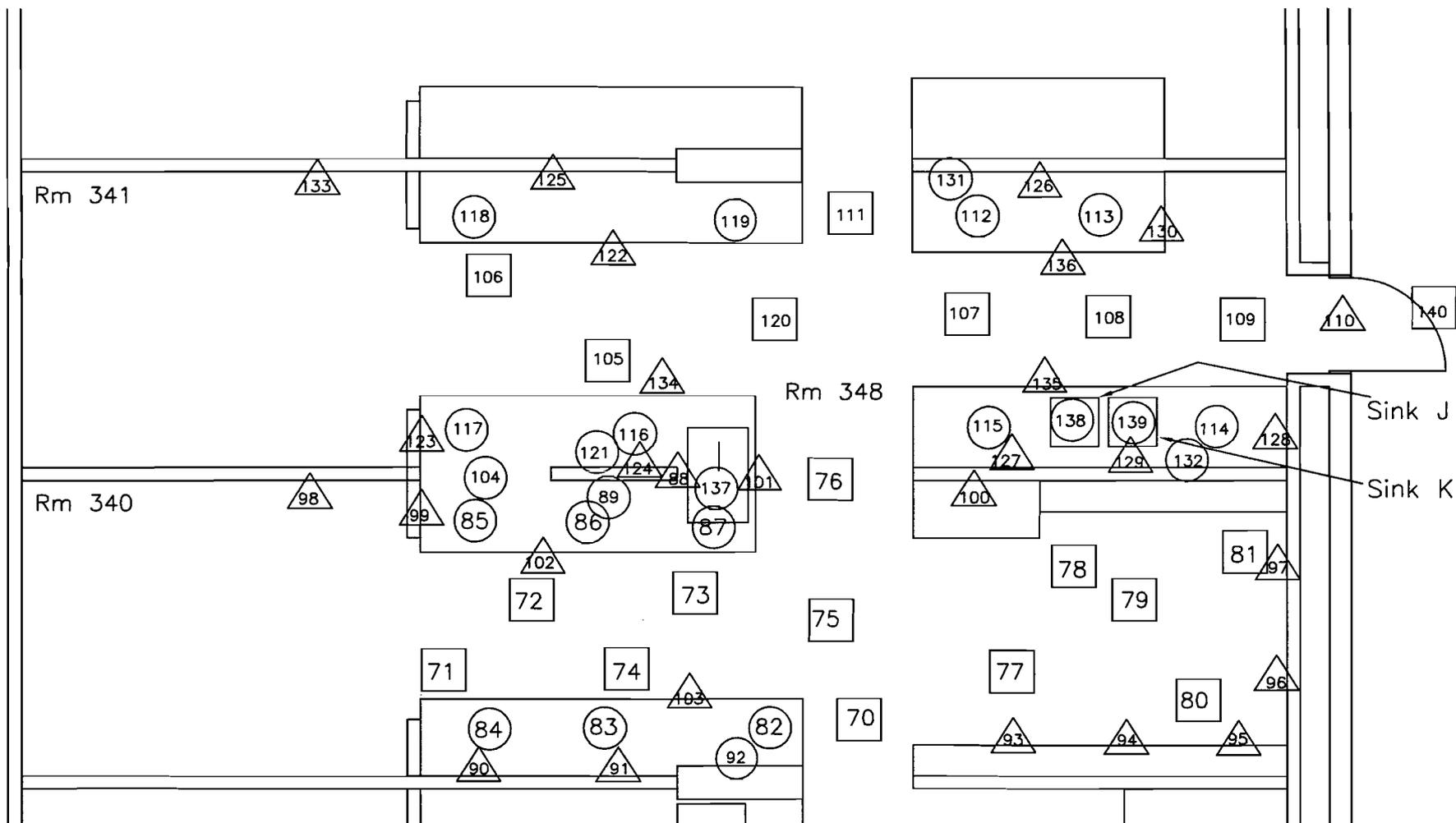
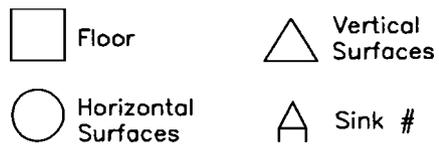
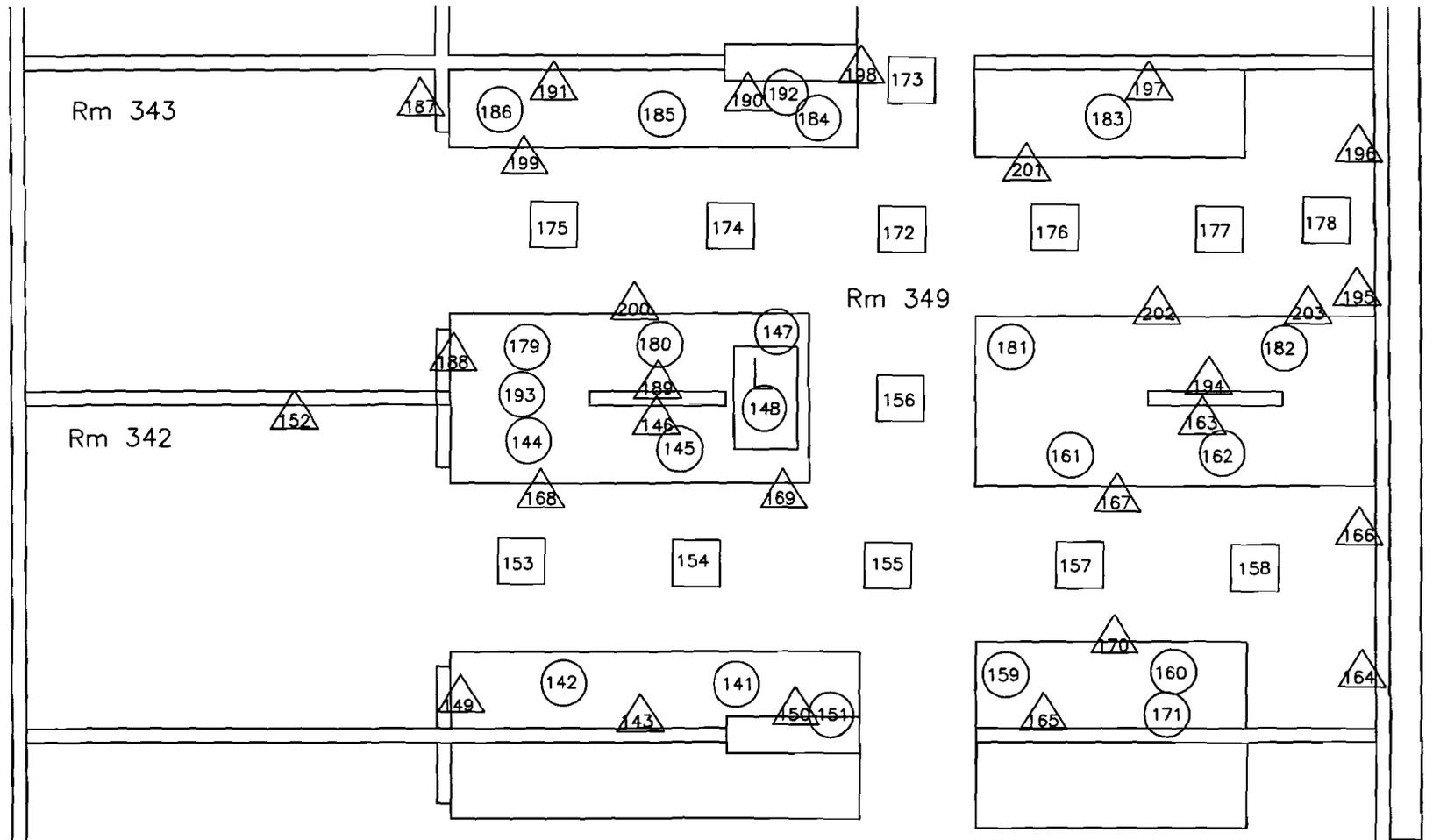
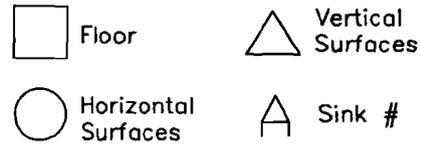


Figure 9
LAB 349



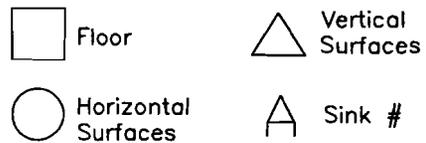


Figure 10
LAB 350

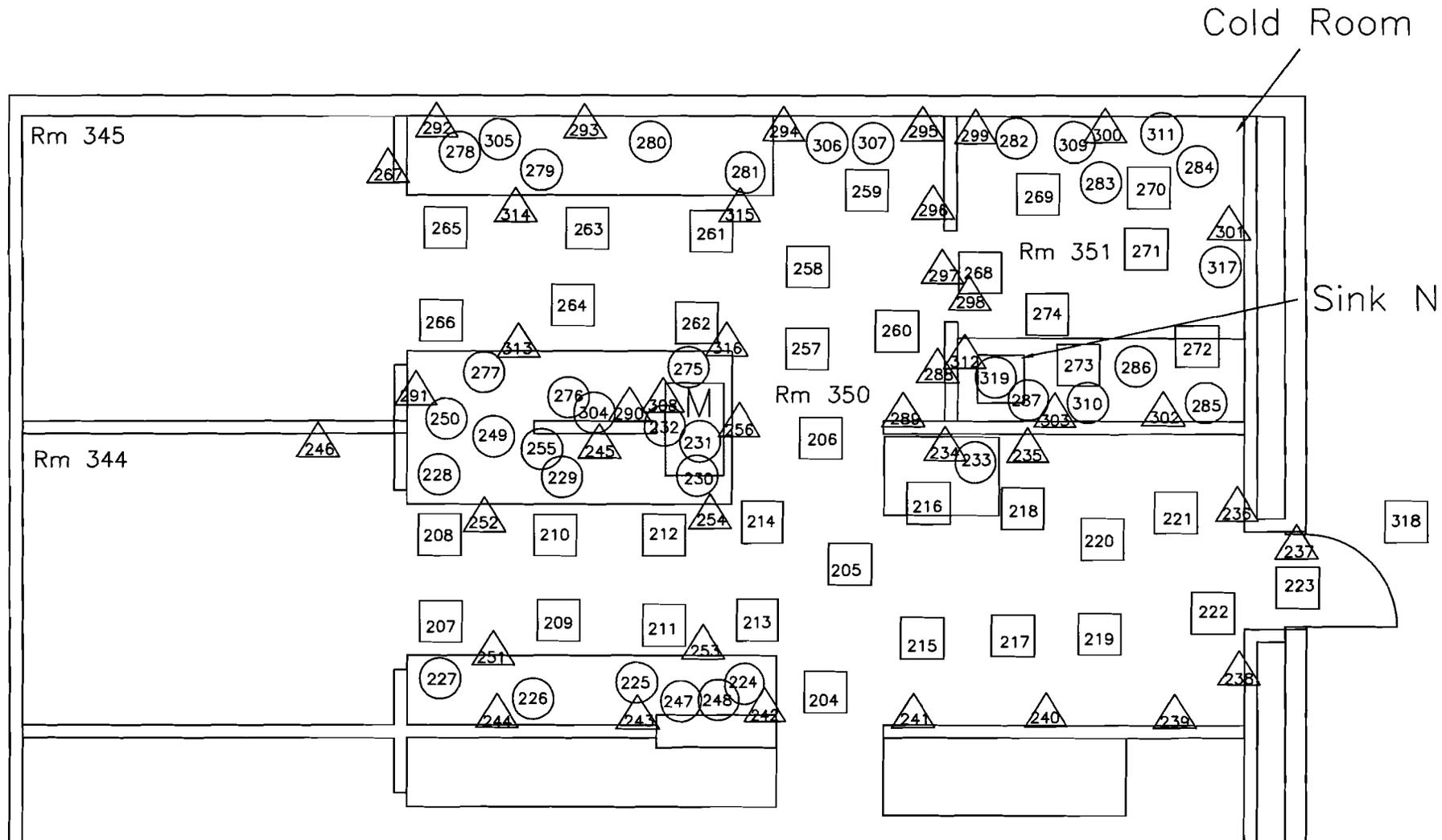
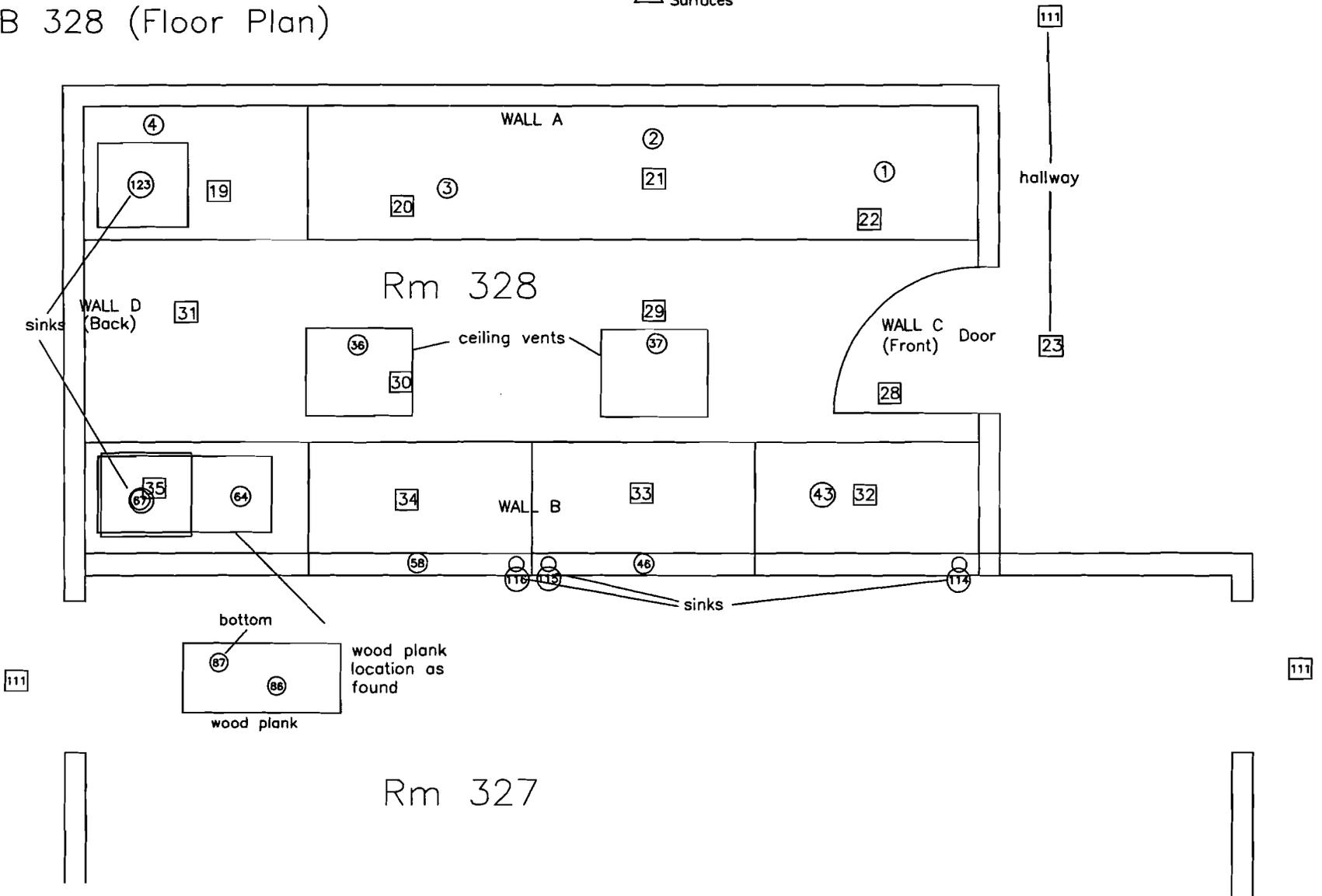
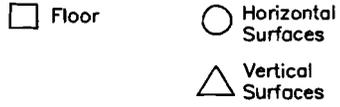


Figure 11
LAB 328 (Floor Plan)



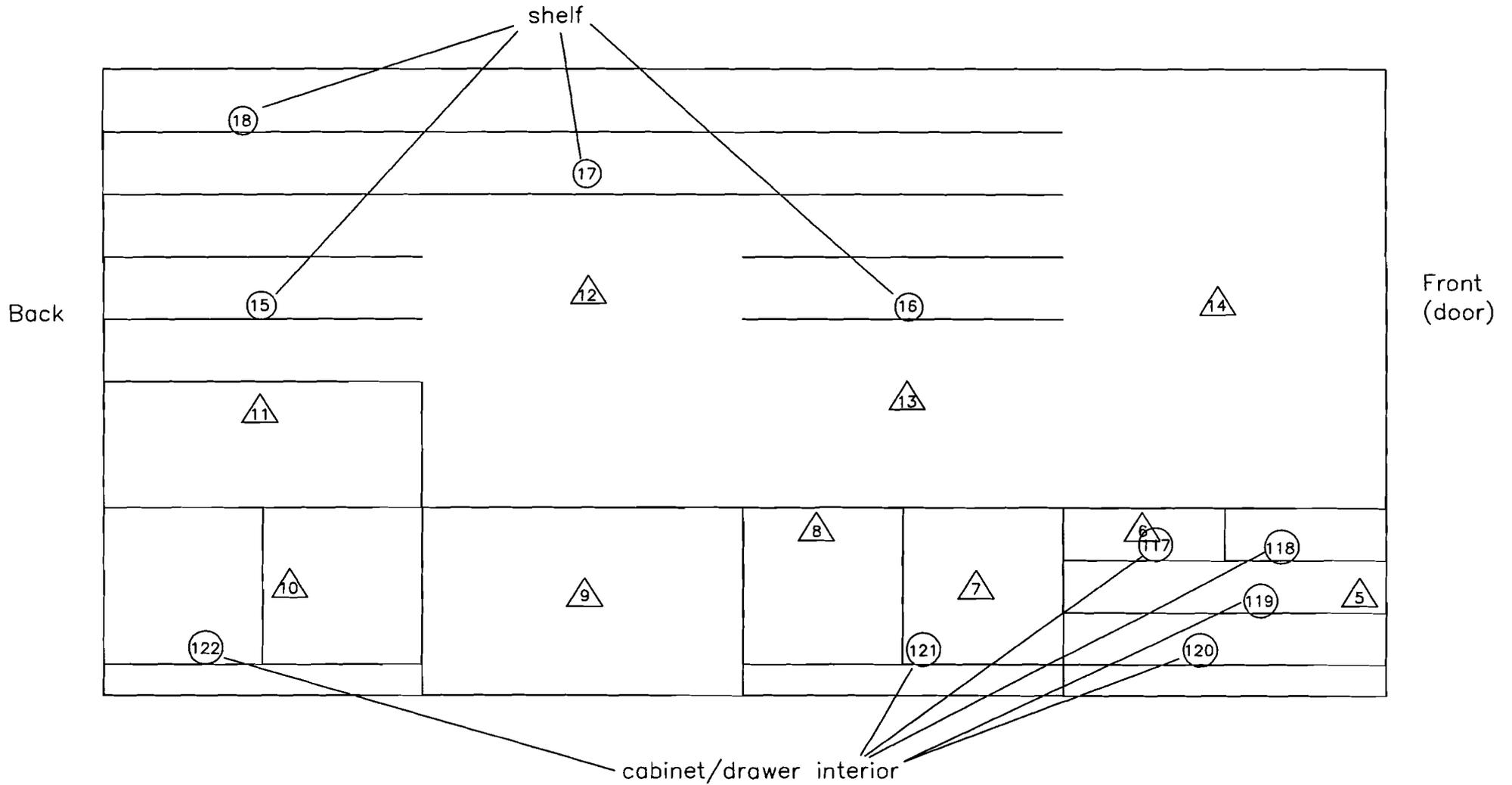
□ Floor

○ Horizontal
Surfaces

△ Vertical
Surfaces

Figure 12

LAB 328 (WALL A)





Floor



Vertical
Surfaces



Horizontal
Surfaces



Plumbing

Figure 13

LAB 328 (WALL B)

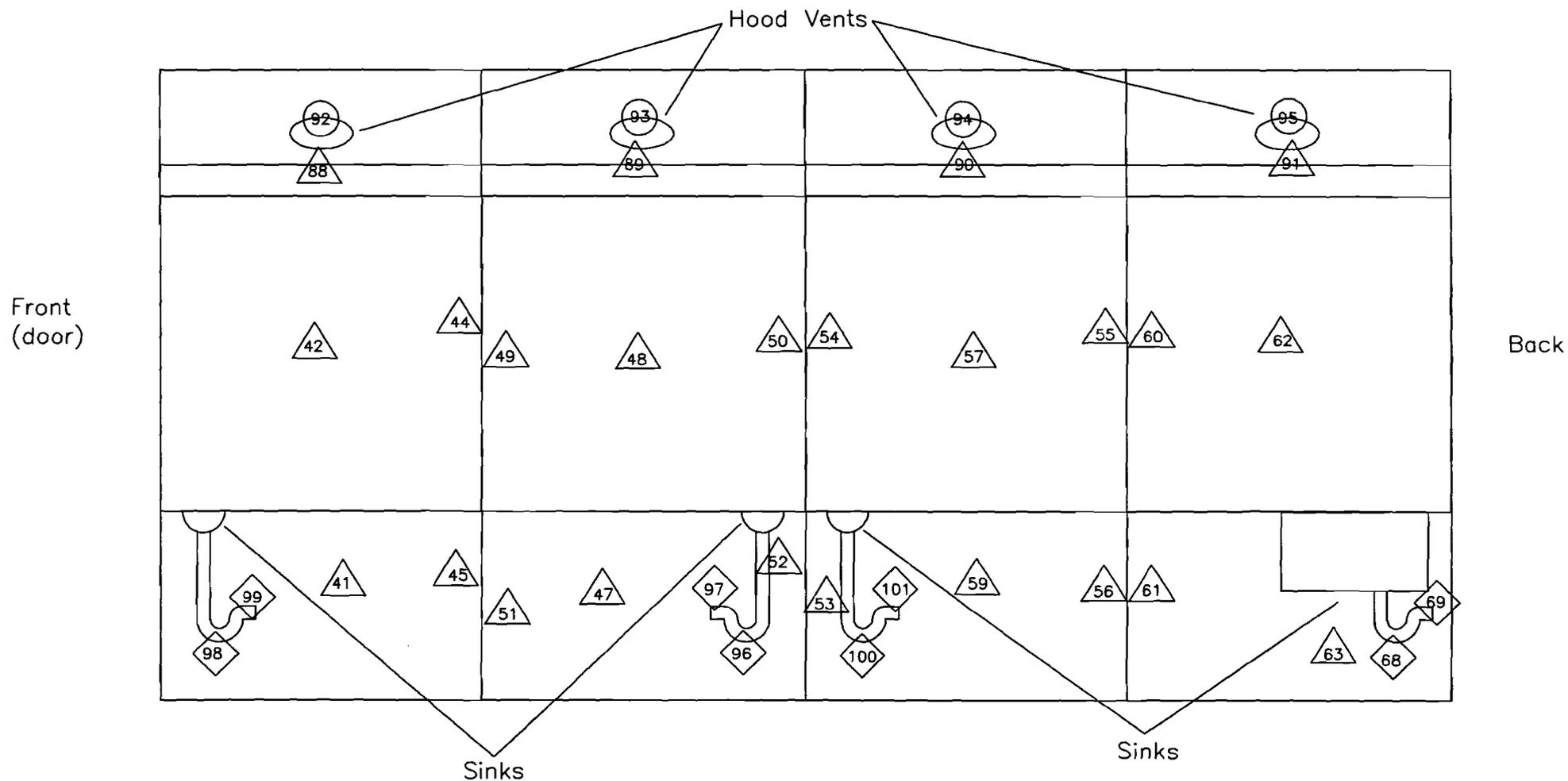
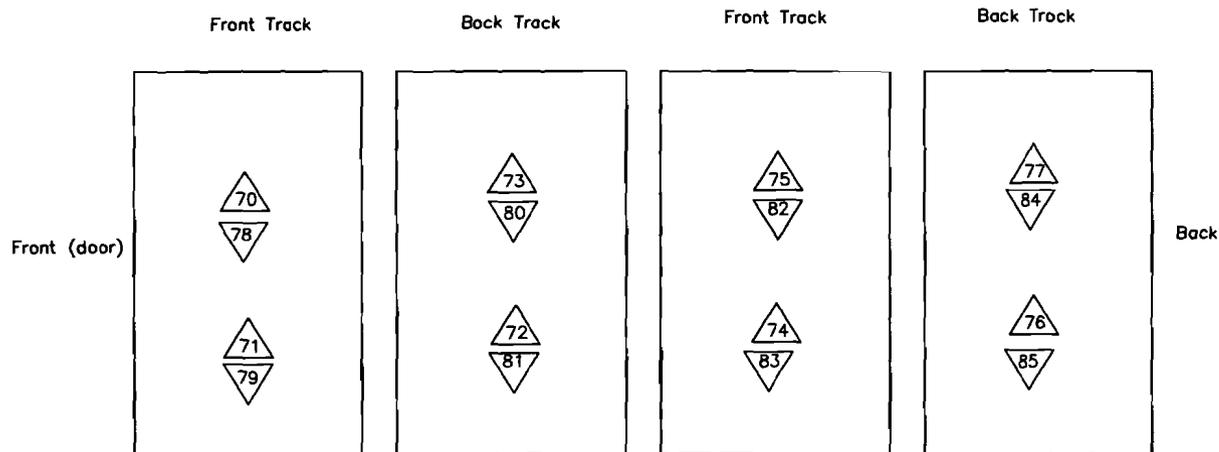


Figure 14

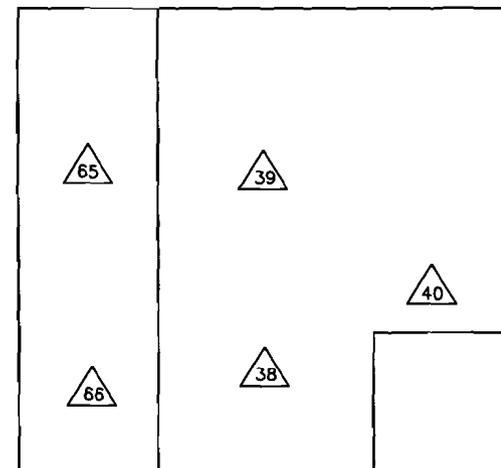
LAB 328 (Wall C & D, and HOOD doors)

- Floor
- Horizontal Surfaces
- △ Vertical Surfaces
- ▽ Reverse side of Vertical Surfaces

Hood Plexiglass
Sliding Doors



Wall D
(back)



Wall C
(door)

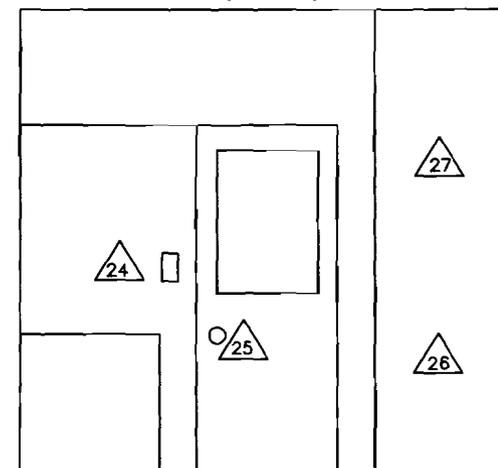


Figure 15
Fourth Floor Overview

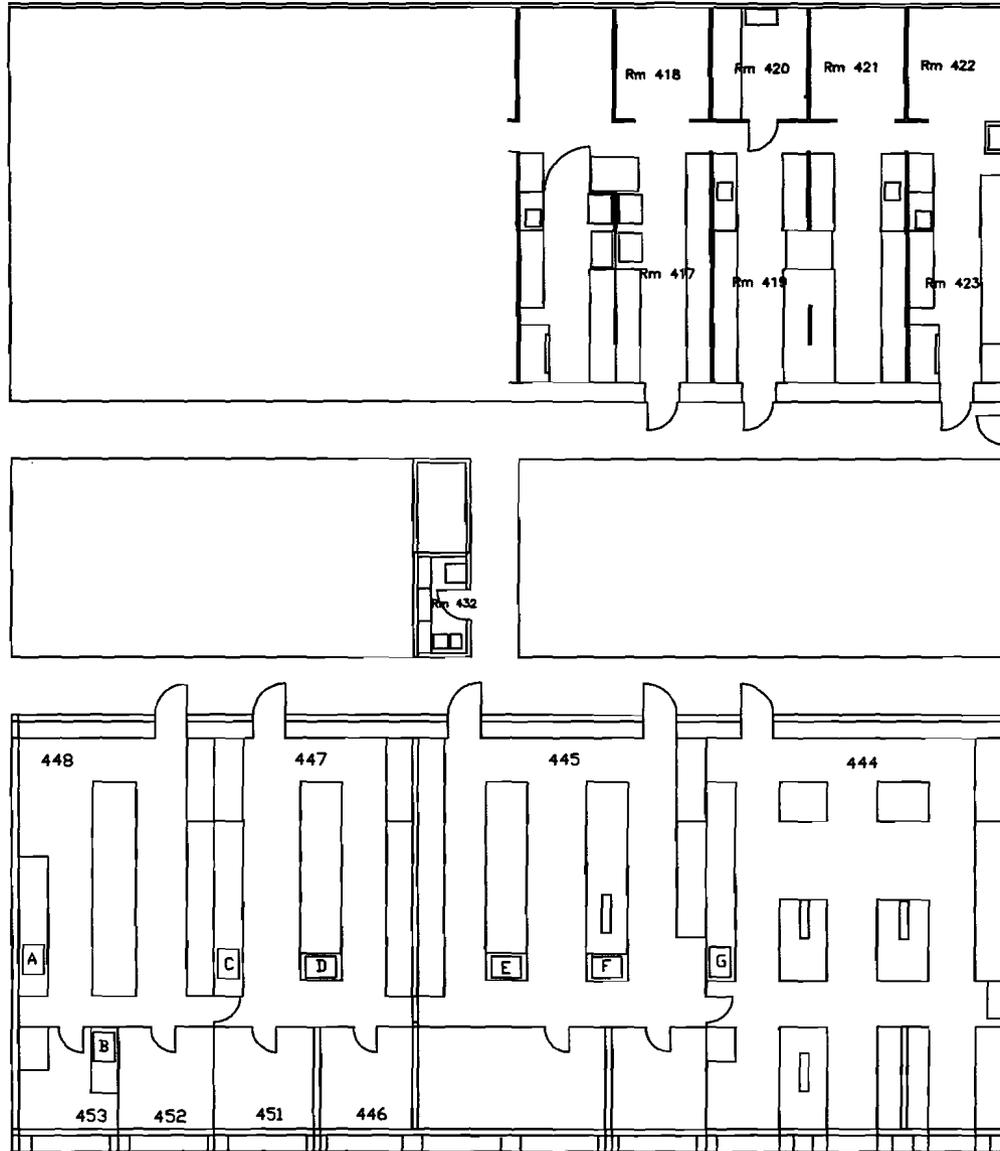
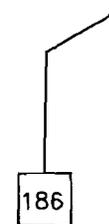
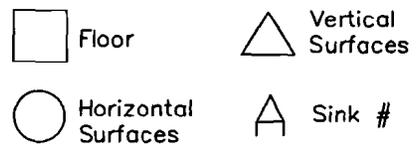


Figure 16
LAB 444



Location is outside
of room 432 door

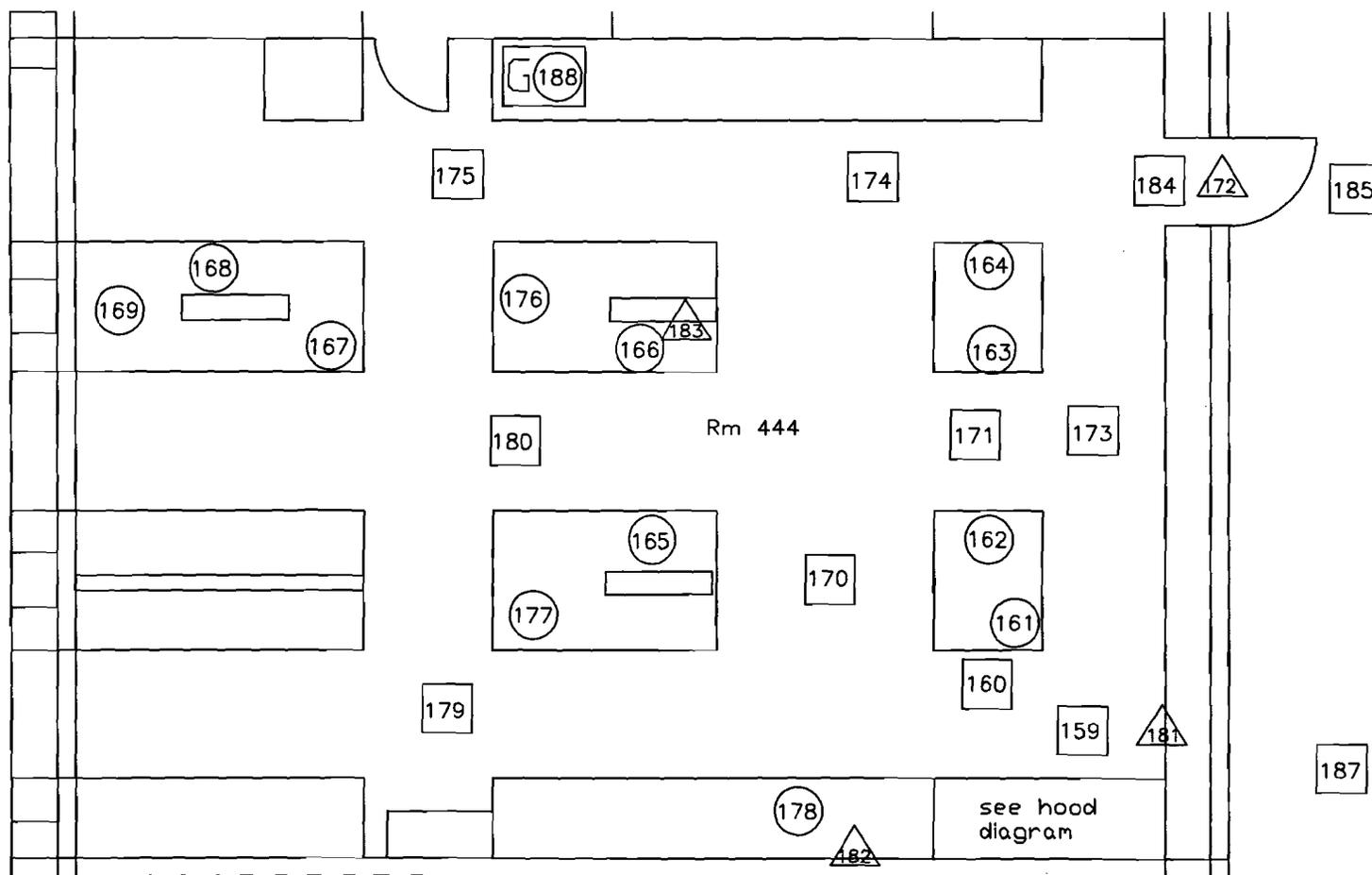


Figure 17
LAB 445

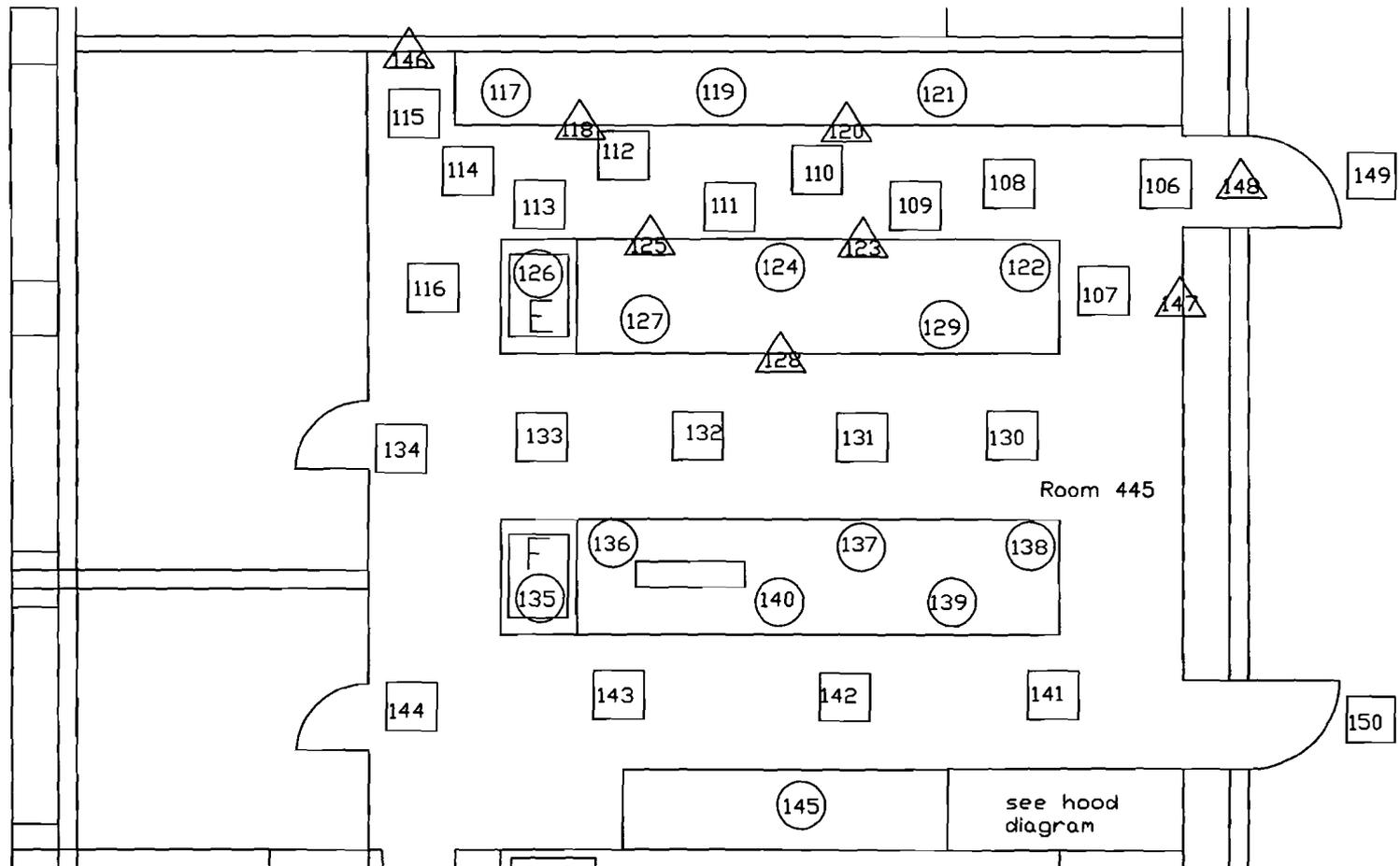
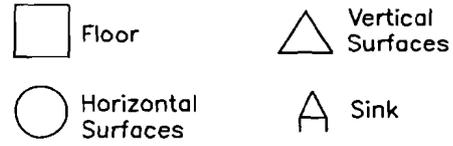


Figure 18
LAB 447

- Floor
- △ Vertical Surfaces
- Horizontal Surfaces
- ⌋ Sink #

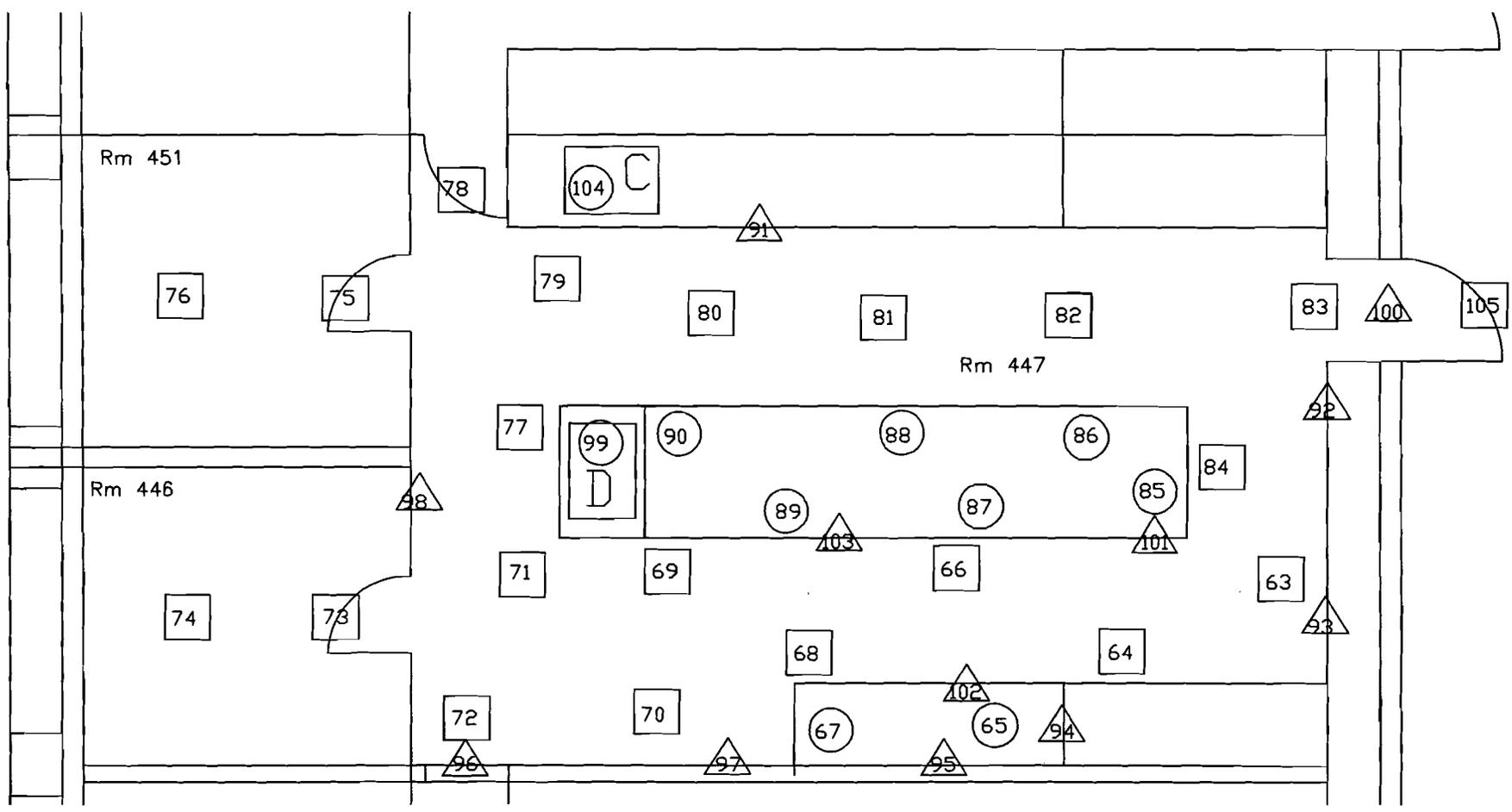


Figure 19
LAB 448

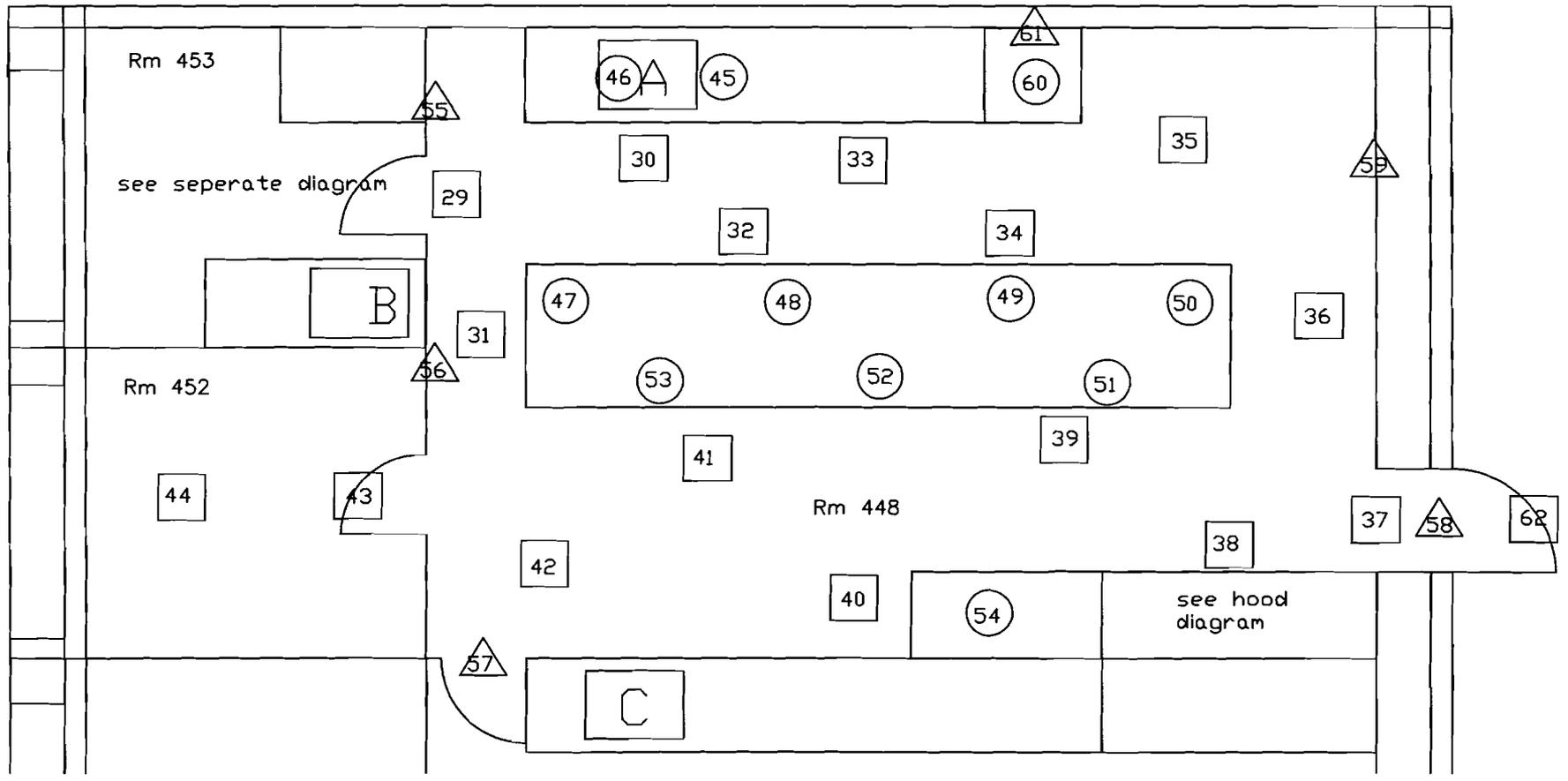
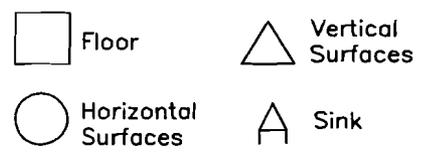
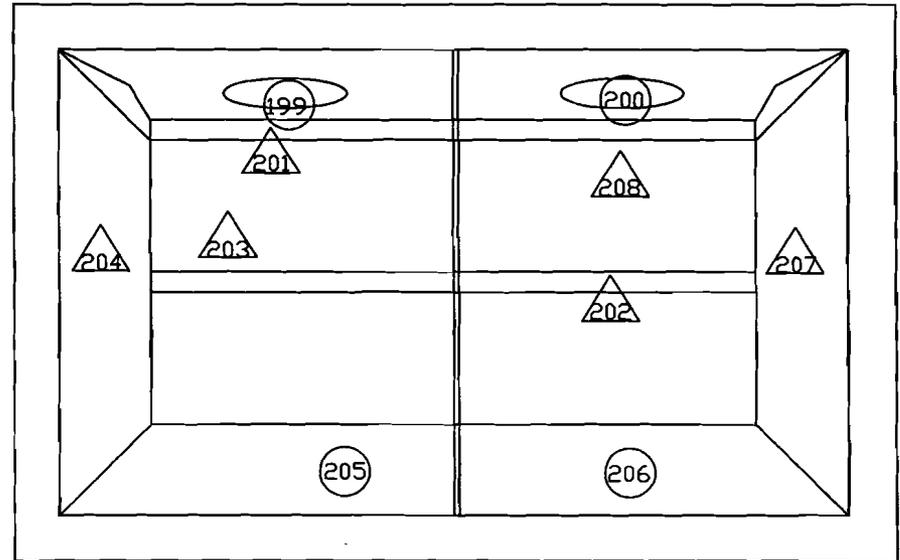


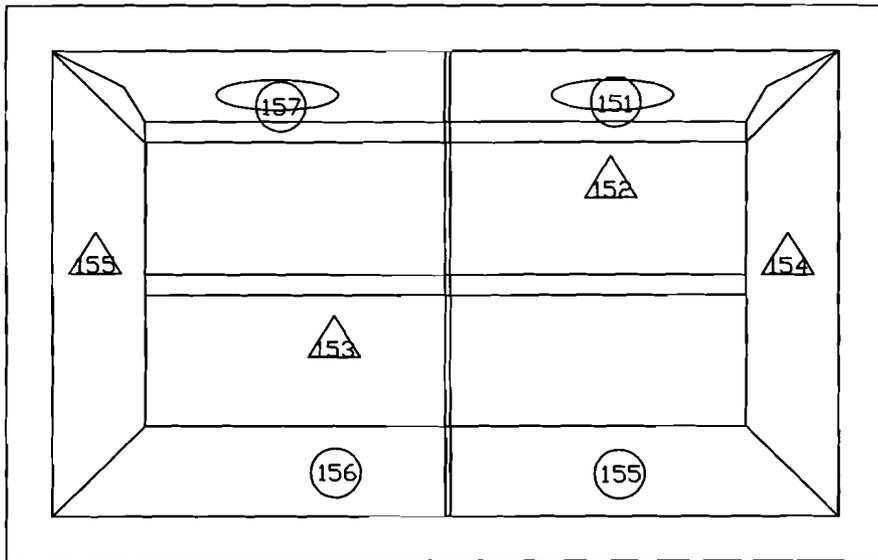
Figure 20
Fume Hood 444, 445, and 448

- Horizontal Surfaces
- △ Vertical Surfaces

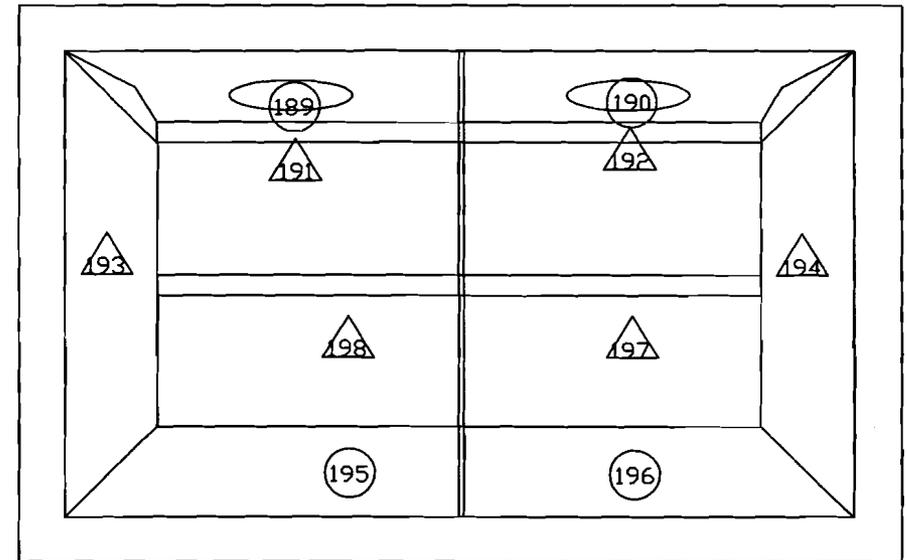
Hood 448



Hood 444



Hood 445





Floor



Vertical
Surfaces

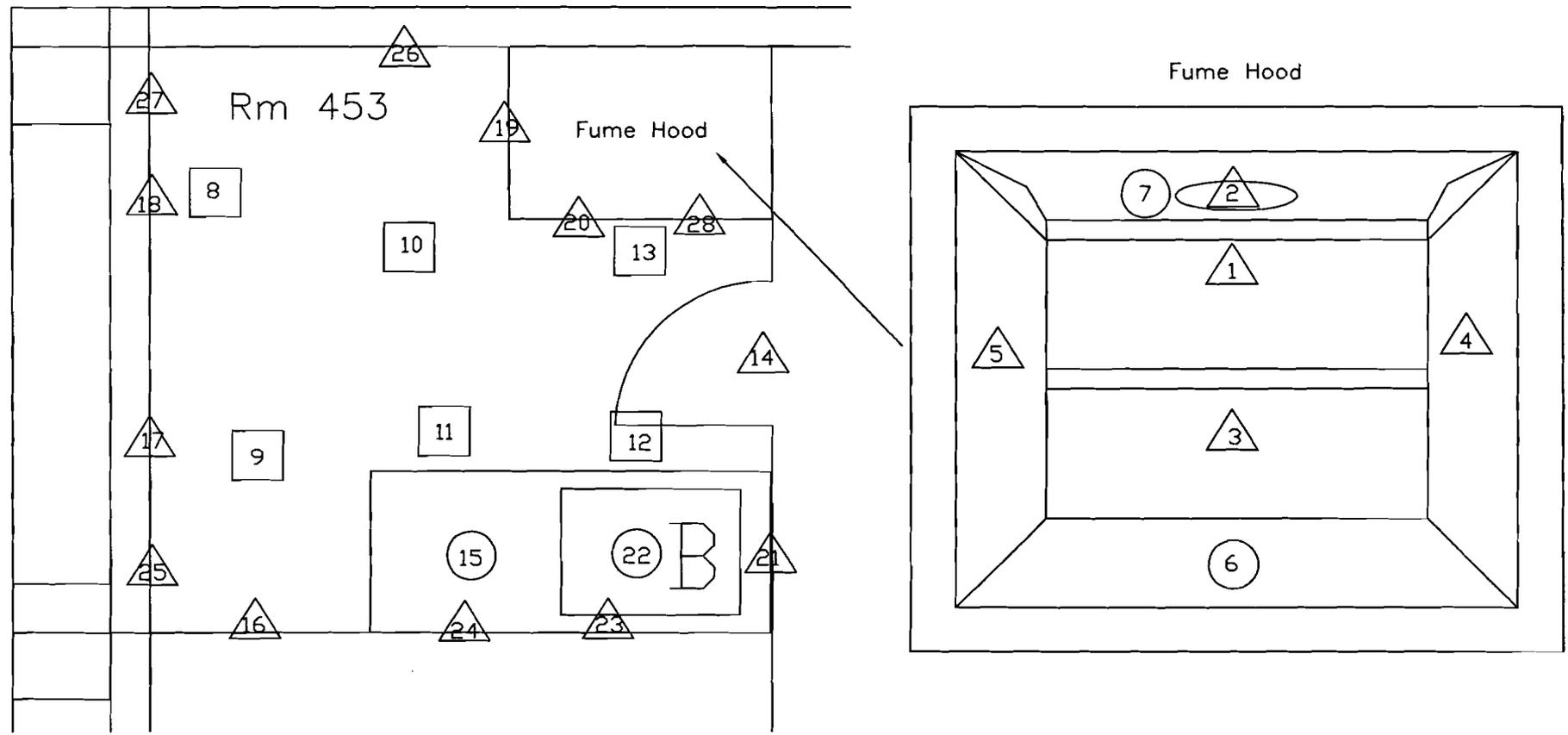


Horizontal
Surfaces



Sink

Figure 21
Lab 453



□ Floor

○ Horizontal
Surfaces

△ Vertical
Surfaces

Figure 22

Rm 432 Plan View, Wall B & C

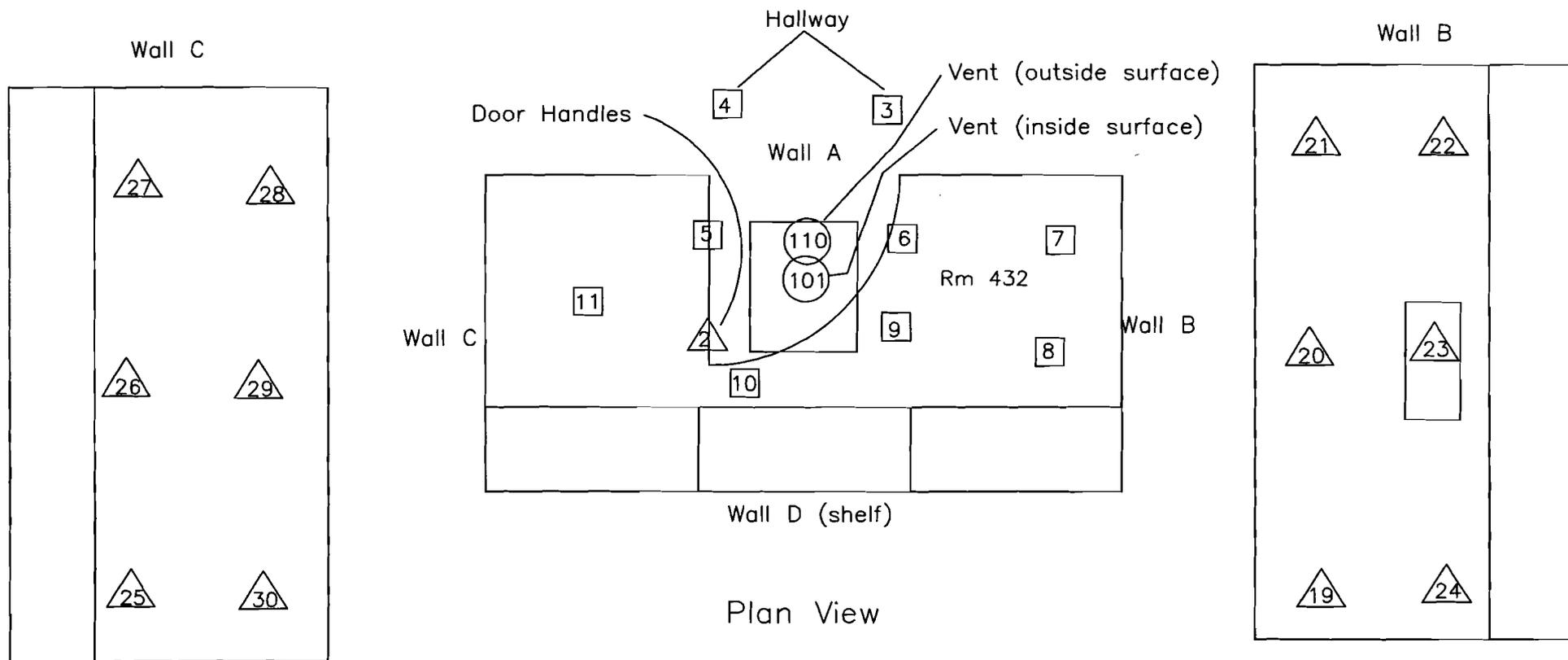
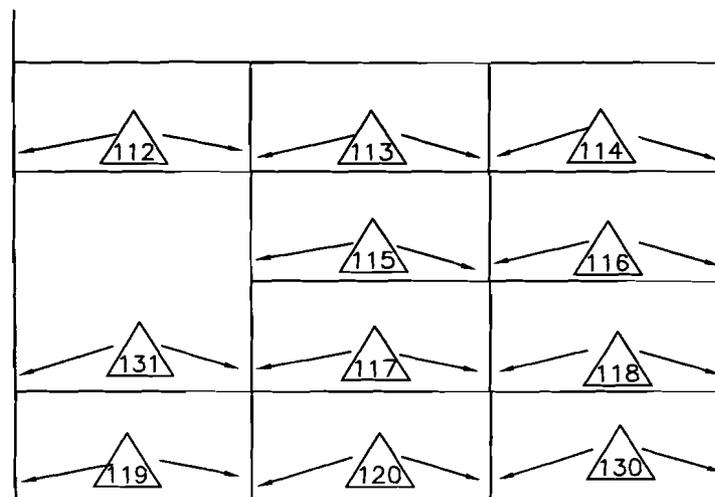


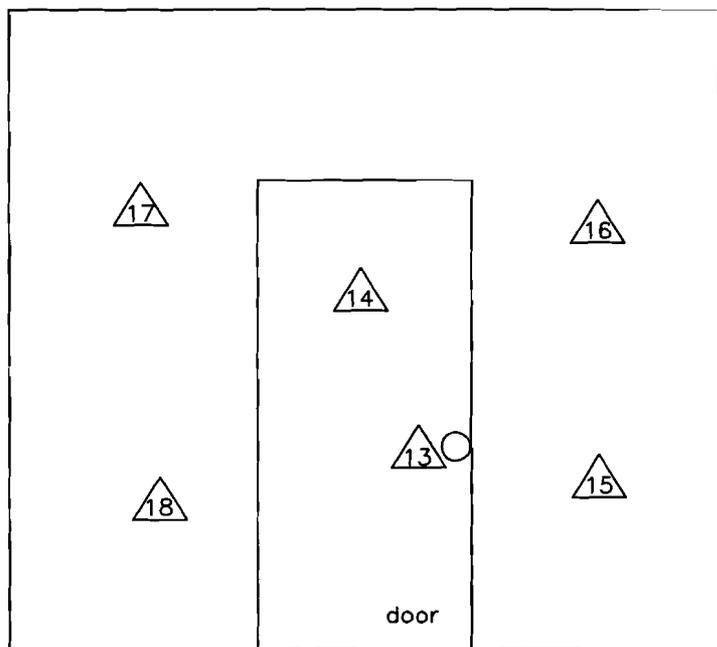
Figure 23
Rm 432 Wall A & D

- Floor
- Horizontal Surfaces
- △ Vertical Surfaces



Wall D (shelf dividers)

Wall A



Wall D (shelf)

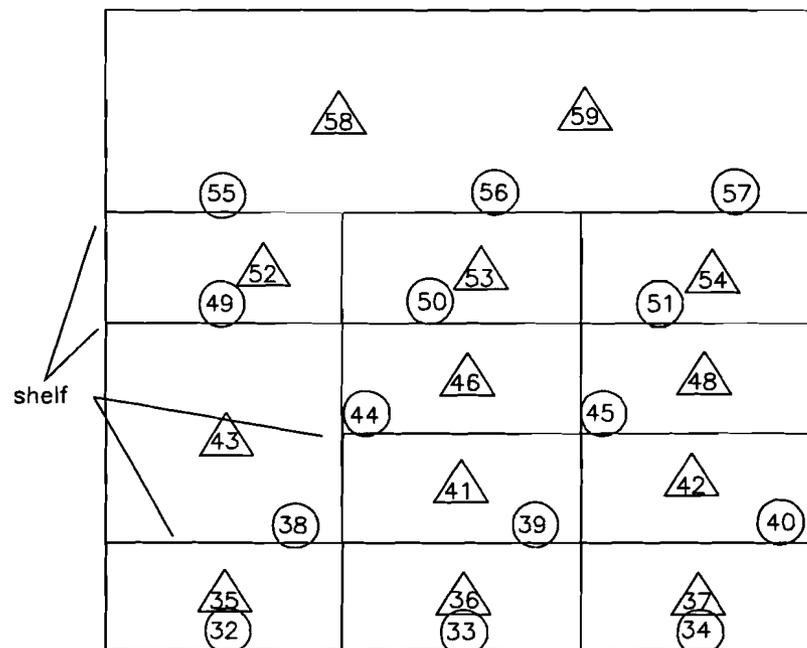
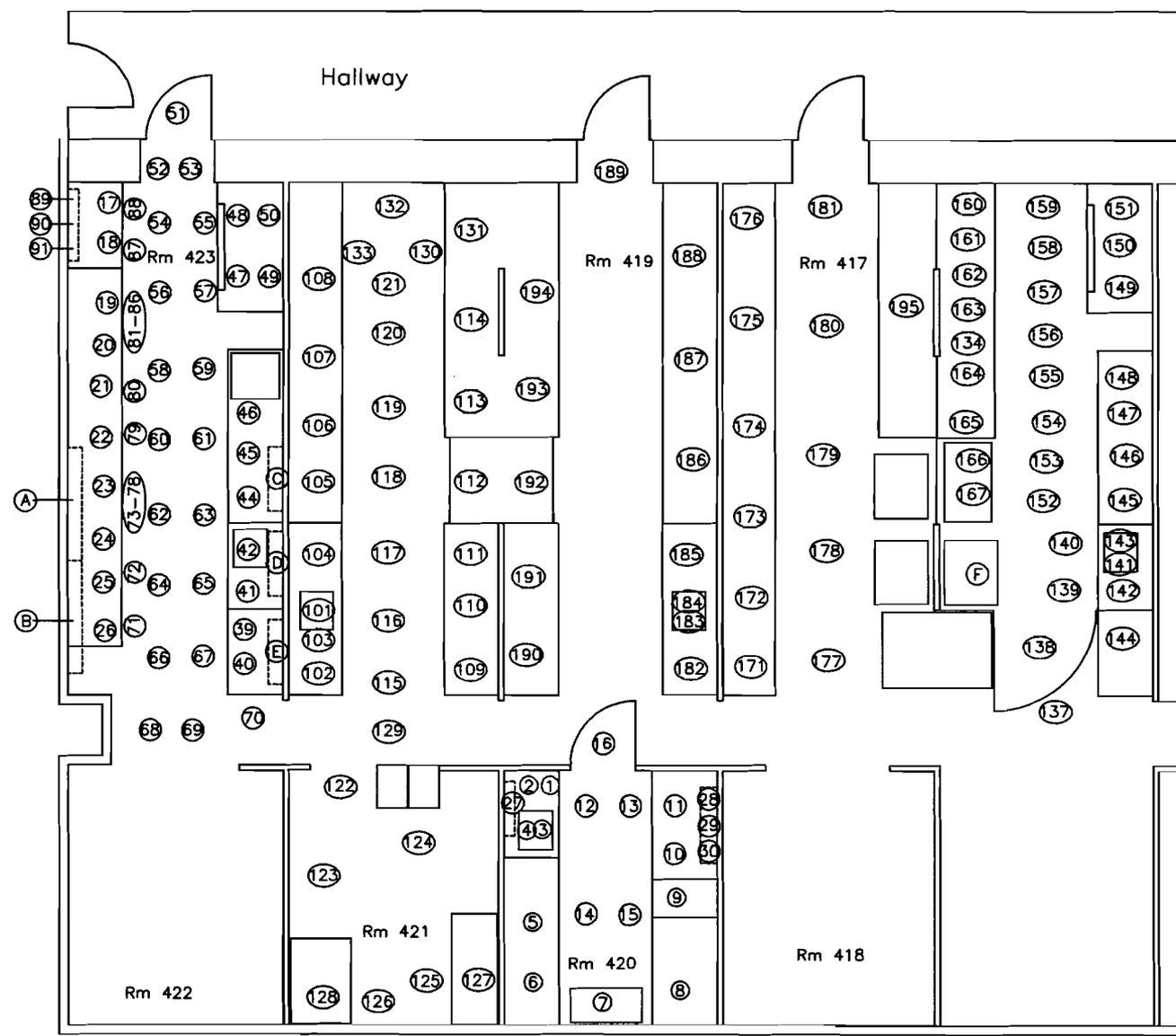
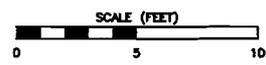


Figure 24
 Labs 417-423
 August 12, 2004 Survey



- 3: sink
- 4: deep sink drain
- 27: Shelf
- 28-30: Shelves 1,2,3
- A: Wipes 31,33,35,37 on shelves 1-4
- B: Wipes 32,34,36,38 on shelves 1-4
- 43: Deep sink drain at location 42
- 71-88: Drawers
- 89-91: Shelves 1-3
- C: Wipes 95-97 on shelves 1-3
- D: Wipe 94 on shelf 1
- E: Wipes 92,93 on shelves 1,2
- F: Wipe 168: freezer floor, 169: shelves, 170: freezer door
- 141, 184: deep sink drain



Gamma Corporation		850 W Hind Dr #116 Honolulu, HI 96821
APPROVALS	DATE	FACILITY
DASH		Hawaii Agriculture Research Center
CHECKED		ROOM
ISSUED	R. Frick	99-193 Aiea Heights Drive Aiea, HI 96701-3900

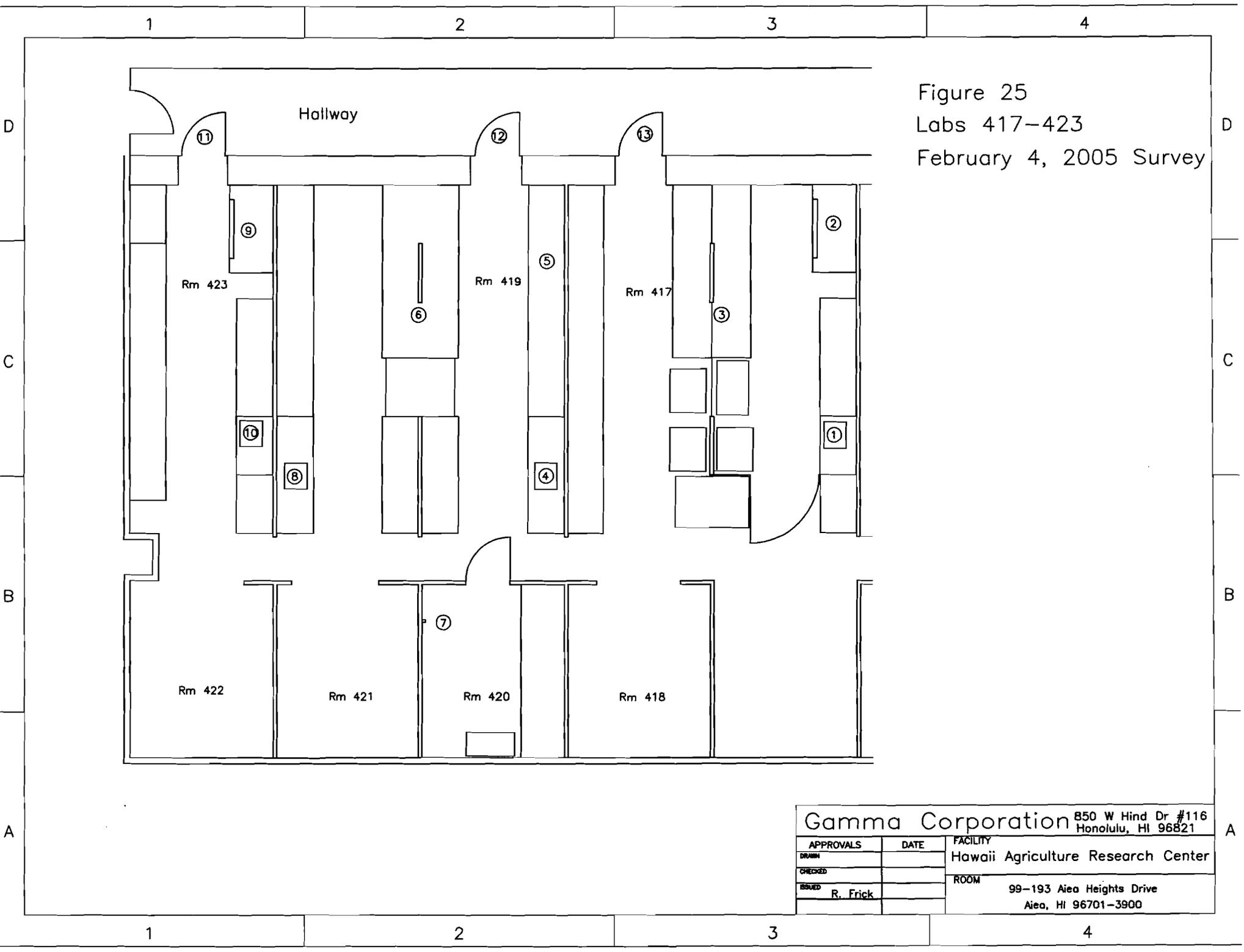


Figure 25
 Labs 417-423
 February 4, 2005 Survey

Gamma Corporation		850 W Hind Dr #116 Honolulu, HI 96821
APPROVALS	DATE	FACILITY
DRAWN		Hawaii Agriculture Research Center
CHECKED		ROOM
ISSUED	R. Frick	99-193 Aiea Heights Drive Aiea, HI 96701-3900

Table 1
Second Floor Wipe Test Data

Survey Date	5/5/2009			
Bkg	29			
eff	0.62		MDA	45
Wipe #	Room	Description	CPM	net dpm/ 100 sqcm
1	218BB	Hood exhaust	36	<MDA
2	218BB	Hood top panel	35	<MDA
3	218BB	Hood rear panel	23	<MDA
4	218BB	Hood right panel	26	<MDA
5	218BB	Hood bottom panel	22	<MDA
6	218BB	Hood left panel	25	<MDA
7	218BB	Hood rear panel	30	<MDA
8	218BB	Wall	25	<MDA
9	218BB	Wall	30	<MDA
10	218BB	Refrigerator	33	<MDA
11	218BB	Refrigerator	29	<MDA
12	218BB	Floor	31	<MDA
13	218BB	Floor	35	<MDA
14	218BB	Floor	38	<MDA
15	218BB	Floor	26	<MDA
16	218BB	Floor	37	<MDA
17	218BB	Floor	38	<MDA
18	218BB	Floor	24	<MDA
19	218BB	Bench	20	<MDA
20	218BB	Bench	25	<MDA
21	218BB	Cabinet	23	<MDA
22	218BB	Cabinet	24	<MDA
23	218BB	Bench	34	<MDA
24	218BB	Bench	28	<MDA
25	218BB	Bench	25	<MDA
26	218BB	Bench	36	<MDA
27	218BB	Sink counter	29	<MDA
28	218BB	Sink counter	25	<MDA
29	218BB	Divider	20	<MDA
30	218BB	Wall	25	<MDA
31	218BB	Wall	29	<MDA
32	218BB	Wall	35	<MDA
33	218BB	Wall	25	<MDA
34	218BB	Bench	27	<MDA
35	218BB	Bench	28	<MDA
36	218BB	Sink trap	39	<MDA
37	218BB	Sink trap	33	<MDA
38	218BB	Sink	30	<MDA
39	218BB	Shelf	23	<MDA
40	218BB	Shelf	28	<MDA
41	218BB	Wall	31	<MDA
42	218BB	Bench	20	<MDA
43	218BB	Cabinet	28	<MDA
44	217 BSL-2	Shelf	29	<MDA
45	217 BSL-2	Wall	35	<MDA

Table 1
Second Floor Wipe Test Data

Survey Date	5/5/2009			
Bkg	29			
eff	0.62		MDA	45
Wipe #	Room	Description	CPM	net dpm/ 100 sqcm
46	217 BSL-2	Door	25	<MDA
47	217 BSL-2	Floor	30	<MDA
48	217 BSL-2	Floor	21	<MDA
49	217 BSL-2	Wall	21	<MDA
50	217 BSL-2	Floor	31	<MDA
51	217 BSL-2	Floor	24	<MDA
52	217 BSL-2	Floor	31	<MDA
53	217 BSL-2	Floor	34	<MDA
54	217 BSL-2	Wall	39	<MDA
55	217 BSL-2	Bio-hood bottom	32	<MDA
56	217 BSL-2	Bio hood under grate	34	<MDA
57	217 BSL-2	Bio-hood right wall	33	<MDA
58	217 BSL-2	Bio-hood rear wall	30	<MDA
59	217 BSL-2	Bio hood left wall	28	<MDA
60	217 BSL-2	Bio hood front	34	<MDA
61	217 BSL-2	Bench	27	<MDA
62	217 BSL-2	Bench	31	<MDA
63	217 BSL-2	Shelf	35	<MDA
64	217 BSL-2	Shelf	31	<MDA
65	217 BSL-2	Shelf	38	<MDA
66	217 BSL-2	Wall	49	<MDA
67	217 BSL-2	Shelf	24	<MDA
68	217 BSL-2	Wall	30	<MDA
69	217 BSL-2	Sink trap	31	<MDA
70	217 BSL-2	Sink trap	22	<MDA
71	217 BSL-2	Sink counter	38	<MDA
72	217 BSL-2	Sink counter	32	<MDA
73	217 BSL-2	Sink counter	25	<MDA
74	217 BSL-2	Sink counter	33	<MDA
75	217 BSL-2	Floor	35	<MDA
76	217 BSL-2	Floor	28	<MDA
77	217 BSL-2	Floor	26	<MDA
78	217 BSL-2	Floor	23	<MDA
79	217 BSL-2	Floor	27	<MDA
80	217 BSL-2	Floor	25	<MDA
81	217 BSL-2	Wall	35	<MDA
82	217 BSL-2	Wall	21	<MDA
83	217 BSL-2	Wall	31	<MDA
84	217 BSL-2	Shelf	26	<MDA
85	217 BSL-2	Wall	29	<MDA
86	217 BSL-2	Wall	31	<MDA
87	217 BSL-2	Wall	37	<MDA
88	217 BSL-2	Wall	34	<MDA
89	217 BSL-2	Wall	25	<MDA
90	217 BSL-2	Bench	35	<MDA

Table 1
Second Floor Wipe Test Data

Survey Date	5/5/2009			
Bkg	29			
eff	0.62		MDA	45
Wipe #	Room	Description	CPM	net dpm/ 100 sqcm
91	217 BSL-2	Wall	26	<MDA
92	217 BSL-2	Refrigerator	21	<MDA
93	217 BSL-2	Freezer	35	<MDA
94	217 BSL-2	Wall	28	<MDA
95	217 BSL-2	Sink cabinet	20	<MDA
96	217 BSL-2	Wall	35	<MDA
97	215	Floor	24	<MDA
98	215	Floor	25	<MDA
99	215	Floor	31	<MDA
100	215	Floor	32	<MDA
101	215	Floor	33	<MDA
102	215	Floor	25	<MDA
103	215	Door	31	<MDA
104	215	Bench	27	<MDA
105	215	Sink	26	<MDA
106	215	Sink trap	45	<MDA
107	215	Sink trap	31	<MDA
108	215	Waste box	28	<MDA
109	215	Bench	22	<MDA
110	215	Bench	30	<MDA
111	215	Bench	22	<MDA
112	215	Bio hood bottom	22	<MDA
113	215	Bio hood under grate	34	<MDA
114	215	Bio hood bottom	29	<MDA
115	215	Bio hood right wall	38	<MDA
116	215	Bio hood left wall	25	<MDA
117	215	Bio hood rear wall	29	<MDA
118	215	Bio hood exterior	27	<MDA
119	215	Wall	29	<MDA
120	215	Refrigerator	28	<MDA
121	215	Refrigerator/freezer sect.	28	<MDA
122	215	Wall	27	<MDA
123	215	Wall	23	<MDA
124	215	Wall	30	<MDA
125	215	Wall	36	<MDA
126	215	Wall	43	<MDA
127	215	Wall	32	<MDA
128	215	Wall	31	<MDA
129	215	Wall	33	<MDA
130	215	Wall	35	<MDA
131	215	Bio hood front	27	<MDA
132	215	Wall	27	<MDA
133	218BB	Floor	24	<MDA
134	217 BSL-2	Wall	27	<MDA

Table 2

3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)

Wipe Date 5/6/2009, 5/7/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
1	347	Lab	Floor	18	<MDA
2	347	Lab	Floor	56	<MDA
3	347	Lab	Floor	28	<MDA
4	347	Lab	Floor	33	<MDA
5	347	Lab	Floor	26	<MDA
6	347	Lab	Floor	30	<MDA
7	347	Lab	Floor	24	<MDA
8	347	Lab	Floor	29	<MDA
9	347	Lab	Floor	29	<MDA
10	347	Lab	Floor	27	<MDA
11	347	Lab	Floor	29	<MDA
12	347	Lab	Floor	34	<MDA
13	347	Lab	Floor	24	<MDA
14	347	Lab	Floor	31	<MDA
15	347	Lab	Floor	27	<MDA
16	347	Lab	Floor	32	<MDA
17	347	Lab	Floor	15	<MDA
18	347	Lab	Floor	28	<MDA
19	339	Adjacent Office	Floor	26	<MDA
20	339	Lab	Floor	26	<MDA
21	339	Lab	Floor	35	<MDA
22	347	Lab	Sink P	27	<MDA
22	347	Sink #P	Plumbing drain trap	24	<MDA
22	347	Sink #P	Plumbing wall joint	29	<MDA
23	347	Lab	Bench Top	24	<MDA
24	347	Lab	Bench Top	24	<MDA
25	347	Lab	Bench Top	38	<MDA
26	347	Lab	Bench Top	32	<MDA
27	347	Lab	Bench Top	26	<MDA
28	347	Lab	Bench Top	27	<MDA
29	347	Lab	Bench Top	30	<MDA
30	347	Lab	Bench Top	31	<MDA
31	347	Lab	Bench Top	27	<MDA
32	347	Lab	Bench Top	33	<MDA
33	347	Lab	Bench Top	91	102
33	347	Sink #Q	Plumbing drain trap	21	<MDA
33	347	Sink #Q	Plumbing wall joint	32	<MDA
34	347	Lab	Drying rack	28	<MDA

Table 2

3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)

Wipe Date 5/6/2009, 5/7/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
35	347	Lab	Shelf Top	26	<MDA
36	347	Lab	Wall	27	<MDA
37	347	Lab	Wall	32	<MDA
38	347	Lab	Wall	31	<MDA
39	347	Lab	Wall	27	<MDA
40	347	Lab	Wall	39	<MDA
41	347	Lab	Wall	28	<MDA
42	347	Lab	Wall	34	<MDA
43	347	Lab	Wall (lower half)	86	94
44	347	Lab	Wall (higher half)	28	<MDA
45	347	Lab	Wall	25	<MDA
46	347	Lab	Wall	32	<MDA
47	347	Lab	Wall (lower half)	20	<MDA
48	347	Lab	Wall	29	<MDA
49	347	Lab	Door	24	<MDA
50	347	Lab	Hood (exterior)	30	<MDA
51	347	Lab	Wall (lower half)	28	<MDA
52	347	Lab	Wall (higher half)	30	<MDA
53	347	Lab	Door	29	<MDA
54	347	Lab	Shelf Top	26	<MDA
55	347	Lab	Shelf Top	26	<MDA
56	347	Lab	Shelf Top	24	<MDA
57	347	Lab	Shelf Top	34	<MDA
58	347	Lab	Shelf Top	24	<MDA
59	347	Lab	Shelf Top	40	<MDA
60	347	Lab	Shelf Top	31	<MDA
61	347	Lab	Shelf Top	32	<MDA
62	347	Lab	Shelf Top	33	<MDA
63	347	Lab	Cabinet front	35	<MDA
64	347	Lab	Cabinet front	24	<MDA
65	347	Lab	Cabinet front	25	<MDA
66	347	Lab	Cabinet front	31	<MDA
67	347	Lab	Drying rack	19	<MDA
68	3rd Floor	Hallway	outside 347	28	<MDA
69	348	Lab	Floor	21	<MDA
70	348	Lab	Floor	74	74
71	348	Lab	Floor	23	<MDA
72	348	Lab	Floor	19	<MDA

Table 2**3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)****Wipe Date** 5/6/2009, 5/7/2009

Bkg 29

Eff 0.61

MDA 45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
73	348	Lab	Floor	20	<MDA
74	348	Lab	Floor	30	<MDA
75	348	Lab	Floor	20	<MDA
76	348	Lab	Floor	31	<MDA
77	348	Lab	Floor	28	<MDA
78	348	Lab	Floor	33	<MDA
79	348	Lab	Floor	38	<MDA
80	348	Lab	Floor	28	<MDA
81	348	Lab	Bench Top	42	<MDA
82	348	Lab	Bench Top	22	<MDA
83	348	Lab	Bench Top	25	<MDA
84	348	Lab	Bench Top	38	<MDA
85	348	Lab	Bench Top	21	<MDA
86	348	Lab	Bench Top	36	<MDA
87	348	Lab	Drying rack	25	<MDA
88	348	Lab	Wall	20	<MDA
89	348	Lab	Wall	27	<MDA
90	348	Lab	Wall	25	<MDA
91	348	Lab	Wall	35	<MDA
92	348	Lab	Wall	28	<MDA
93	348	Lab	Wall	28	<MDA
94	348	Lab	Wall	22	<MDA
95	348	Lab	Wall	26	<MDA
96	348	Lab	Wall	39	<MDA
97	348	Adjacent Office	Wall	25	<MDA
98	348	Lab	Wall	40	<MDA
99	348	Lab	Wall	31	<MDA
100	348	Lab	Cabinet front	30	<MDA
101	348	Lab	Cabinet front	27	<MDA
102	348	Lab	Cabinet front	25	<MDA
103	348	Lab	Shelf Top	30	<MDA
104	348	Lab	Floor	31	<MDA
105	348	Lab	Floor	27	<MDA
106	348	Lab	Floor	24	<MDA
107	348	Lab	Floor	28	<MDA
108	348	Lab	Floor	32	<MDA
109	348	Lab	Door	30	<MDA
110	348	Lab	Floor	36	<MDA

Table 2

3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)

Wipe Date 5/6/2009, 5/7/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
111	348	Lab	Bench Top	30	<MDA
112	348	Lab	Bench Top	30	<MDA
113	348	Lab	Bench Top	22	<MDA
114	348	Lab	Bench Top	26	<MDA
115	348	Lab	Bench Top	27	<MDA
116	348	Lab	Bench Top	21	<MDA
117	348	Lab	Bench Top	23	<MDA
118	348	Lab	Bench Top	33	<MDA
119	348	Lab	Floor	30	<MDA
120	348	Lab	Shelf Top	23	<MDA
121	348	Lab	Cabinet front	69	66
122	348	Lab	Wall	18	<MDA
123	348	Lab	Wall	29	<MDA
124	348	Lab	Wall	27	<MDA
125	348	Lab	Wall	17	<MDA
126	348	Lab	Wall	19	<MDA
127	348	Lab	Wall	22	<MDA
128	348	Lab	Wall	27	<MDA
129	348	Lab	Wall	26	<MDA
130	348	Lab	Shelf Top	33	<MDA
131	348	Lab	Shelf Top	22	<MDA
132	348	Adjacent Office	Wall	30	<MDA
133	348	Lab	Cabinet front	24	<MDA
134	348	Lab	Cabinet front	24	<MDA
135	348	Lab	Cabinet front	32	<MDA
136	348	Sink #I	Plumbing drain trap	31	<MDA
136	348	Sink #I	Plumbing wall joint	32	<MDA
137	348	Sink #J	Plumbing drain trap	25	<MDA
137	348	Sink #J	Plumbing wall joint	15	<MDA
138	348	Sink #K	Plumbing drain trap	19	<MDA
138	348	Sink #K	Plumbing wall joint	34	<MDA
139	3rd Floor	Hallway	outside 348	32	<MDA
140	349	Lab	Bench Top	32	<MDA
141	349	Lab	Bench Top	36	<MDA
142	349	Lab	Wall	27	<MDA
143	349	Lab	Bench Top	22	<MDA
144	349	Lab	Bench Top	26	<MDA
145	349	Lab	Wall	32	<MDA

Table 2

3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)

Wipe Date 5/6/2009, 5/7/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
146	349	Lab	Bench Top	36	<MDA
147	349	Lab	Sink L	17	<MDA
147	349	Sink #L	Plumbing drain trap	26	<MDA
147	349	Sink #L	Plumbing wall joint	26	<MDA
148	349	Lab	Shelf Top	29	<MDA
149	349	Lab	Wall	37	<MDA
150	349	Lab	Wall	28	<MDA
151	349	Lab	Wall	29	<MDA
152	349	Lab	Floor	32	<MDA
153	349	Lab	Floor	33	<MDA
154	349	Lab	Floor	24	<MDA
155	349	Lab	Floor	34	<MDA
156	349	Lab	Floor	26	<MDA
157	349	Lab	Floor	24	<MDA
158	349	Lab	Bench Top	32	<MDA
159	349	Lab	Bench Top	26	<MDA
160	349	Lab	Bench Top	27	<MDA
161	349	Lab	Bench Top	14	<MDA
162	349	Lab	Wall	31	<MDA
163	349	Lab	Wall	32	<MDA
164	349	Lab	Wall	24	<MDA
165	349	Lab	Wall	33	<MDA
166	349	Lab	Cabinet front	23	<MDA
167	349	Lab	Cabinet front	31	<MDA
168	349	Lab	Cabinet front	26	<MDA
169	349	Lab	Cabinet front	15	<MDA
170	349	Lab	Shelf Top	23	<MDA
171	349	Lab	Floor	27	<MDA
172	349	Lab	Floor	28	<MDA
173	349	Lab	Floor	20	<MDA
174	349	Lab	Floor	21	<MDA
175	349	Lab	Floor	25	<MDA
176	349	Lab	Floor	26	<MDA
177	349	Lab	Floor	22	<MDA
178	349	Lab	Bench Top	27	<MDA
179	349	Lab	Bench Top	29	<MDA
180	349	Lab	Bench Top	68	64
181	349	Lab	Bench Top	32	<MDA

Table 2**3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)****Wipe Date 5/6/2009, 5/7/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
182	349	Lab	Bench Top	28	<MDA
183	349	Lab	Bench Top	24	<MDA
184	349	Lab	Bench Top	30	<MDA
185	349	Lab	Bench Top	26	<MDA
186	349	Lab	Wall	25	<MDA
187	349	Lab	Wall	25	<MDA
188	349	Lab	Wall	27	<MDA
189	349	Lab	Wall	33	<MDA
190	349	Lab	Wall	23	<MDA
191	349	Lab	Shelf Top	24	<MDA
192	349	Lab	Shelf Top	25	<MDA
193	349	Lab	Wall	23	<MDA
194	349	Lab	Wall	24	<MDA
195	349	Lab	Wall	25	<MDA
196	349	Lab	Wall	33	<MDA
197	349	Lab	Wall	34	<MDA
198	349	Lab	Cabinet front	29	<MDA
199	349	Lab	Cabinet front	24	<MDA
200	349	Lab	Cabinet front	43	<MDA
201	349	Lab	Cabinet front	28	<MDA
202	349	Lab	Cabinet front	34	<MDA
203	350	Lab	Floor	24	<MDA
204	350	Lab	Floor	26	<MDA
205	350	Lab	Floor	39	<MDA
206	350	Lab	Floor	26	<MDA
207	350	Lab	Floor	27	<MDA
208	350	Lab	Floor	27	<MDA
209	350	Lab	Floor	26	<MDA
210	350	Lab	Floor	26	<MDA
211	350	Lab	Floor	35	<MDA
212	350	Lab	Floor	30	<MDA
213	350	Lab	Floor	21	<MDA
214	350	Lab	Floor	38	<MDA
215	350	Lab	Floor	34	<MDA
216	350	Lab	Floor	30	<MDA
217	350	Lab	Floor	27	<MDA
218	350	Lab	Floor	30	<MDA
219	350	Lab	Floor	23	<MDA

Table 2**3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)****Wipe Date 5/6/2009, 5/7/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
220	350	Lab	Floor	29	<MDA
221	350	Lab	Floor	27	<MDA
222	350	Lab	Floor	36	<MDA
223	350	Lab	Bench Top	28	<MDA
224	350	Lab	Bench Top	23	<MDA
225	350	Lab	Bench Top	28	<MDA
226	350	Lab	Bench Top	26	<MDA
227	350	Lab	Bench Top	25	<MDA
228	350	Lab	Bench Top	27	<MDA
229	350	Lab	Bench Top	18	<MDA
230	350	Lab	Sink M	25	<MDA
230	350	Sink #M	Plumbing drain trap	24	<MDA
230	350	Sink #M	Plumbing wall joint	37	<MDA
231	350	Lab	Drying rack	26	<MDA
232	350	Lab	Shelf Top	30	<MDA
233	350	Lab	Wall	31	<MDA
234	350	Lab	Wall	29	<MDA
235	350	Lab	Wall	28	<MDA
236	350	Lab	Door	22	<MDA
237	350	Lab	Wall	34	<MDA
238	350	Lab	Wall	33	<MDA
239	350	Lab	Wall	29	<MDA
240	350	Lab	Wall	27	<MDA
241	350	Lab	Wall	28	<MDA
242	350	Lab	Wall	26	<MDA
243	350	Lab	Wall	19	<MDA
244	350	Lab	Wall	22	<MDA
245	350	Adjacent Office	Wall	28	<MDA
246	350	Lab	Shelf Top	31	<MDA
247	350	Lab	Shelf Top	30	<MDA
248	350	Lab	Shelf Top	24	<MDA
249	350	Lab	Shelf Top	16	<MDA
250	350	Lab	Cabinet front	28	<MDA
251	350	Lab	Cabinet front	26	<MDA
252	350	Lab	Cabinet front	21	<MDA
253	350	Lab	Cabinet front	22	<MDA
254	350	Lab	Shelf Top	39	<MDA
255	350	Lab	Cabinet front	33	<MDA

Table 2**3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)****Wipe Date 5/6/2009, 5/7/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
256	350	Lab	Floor	19	<MDA
257	350	Lab	Floor	19	<MDA
258	350	Lab	Floor	28	<MDA
259	350	Lab	Floor	24	<MDA
260	350	Lab	Floor	27	<MDA
261	350	Lab	Floor	27	<MDA
262	350	Lab	Floor	30	<MDA
263	350	Lab	Floor	24	<MDA
264	350	Lab	Floor	41	<MDA
265	350	Lab	Floor	37	<MDA
266	350	Adjacent Office	Wall	24	<MDA
267	350	Cold Room	Floor	31	<MDA
268	350	Cold Room	Floor	30	<MDA
269	350	Cold Room	Floor	31	<MDA
270	350	Cold Room	Floor	21	<MDA
271	350	Cold Room	Floor	31	<MDA
272	350	Cold Room	Floor	28	<MDA
273	350	Cold Room	Floor	27	<MDA
274	350	Lab	Bench Top	31	<MDA
275	350	Lab	Bench Top	23	<MDA
276	350	Lab	Bench Top	23	<MDA
277	350	Lab	Bench Top	31	<MDA
278	350	Lab	Bench Top	26	<MDA
279	350	Lab	Bench Top	25	<MDA
280	350	Lab	Bench Top	29	<MDA
281	350	Cold Room	Shelf Top	29	<MDA
282	350	Cold Room	Shelf Top	35	<MDA
283	350	Cold Room	Shelf Top	18	<MDA
284	350	Cold Room	Shelf Top	22	<MDA
285	350	Cold Room	Bench Top	28	<MDA
286	350	Cold Room	Shelf Top	29	<MDA
287	350	Lab	Wall	27	<MDA
288	350	Lab	Wall	31	<MDA
289	350	Cold Room	Shelf Top	27	<MDA
290	350	Lab	Wall	30	<MDA
291	350	Lab	Wall	26	<MDA
292	350	Lab	Wall	30	<MDA
293	350	Lab	Wall	25	<MDA

Table 2**3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)****Wipe Date 5/6/2009, 5/7/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
294	350	Lab	Wall	20	<MDA
295	350	Lab	Wall	30	<MDA
296	350	Lab	Door	19	<MDA
297	350	Cold Room	Door (inside)	29	<MDA
298	350	Cold Room	Wall	26	<MDA
299	350	Cold Room	Wall	19	<MDA
300	350	Cold Room	Wall	39	<MDA
301	350	Cold Room	Wall	24	<MDA
302	350	Lab	Wall	31	<MDA
303	350	Lab	Shelf Top	29	<MDA
304	350	Lab	Shelf Top	28	<MDA
305	350	Lab	Shelf Top	47	<MDA
306	350	Cold Room	Shelf Top	28	<MDA
307	350	Lab	Shelf Top	32	<MDA
308	350	Cold Room	Shelf Top	35	<MDA
309	350	Cold Room	Shelf Top	30	<MDA
310	350	Cold Room	Shelf Top	33	<MDA
311	350	Cold Room	Wall	33	<MDA
312	350	Lab	Cabinet front	36	<MDA
313	350	Lab	Cabinet front	35	<MDA
314	350	Lab	Cabinet front	33	<MDA
315	350	Lab	Cabinet front	31	<MDA
316	350	Cold Room	Chiller Vanes	34	<MDA
317	3rd Floor	Hallway	outside 350	28	<MDA
318	351	Sink #N	Plumbing drain trap	13	<MDA
318	351	Sink #N	Plumbing wall joint	32	<MDA
319	346	Lab	Door	33	<MDA
320	346	Lab	Floor	33	<MDA
321	346	Lab	Floor	32	<MDA
322	346	Lab	Floor	22	<MDA
323	346	Lab	Floor	23	<MDA
324	346	Lab	Floor	32	<MDA
325	346	Lab	Floor	29	<MDA
326	346	Lab	Floor	36	<MDA
327	346	Lab	Floor	34	<MDA
328	346	Lab	Floor	29	<MDA
329	346	Lab	Floor	26	<MDA
330	346	Cold Room	Floor	28	<MDA

Table 2

3rd Floor Labs (346, 347, 348, 349, 350 and Adjacent Areas)

Wipe Date 5/6/2009, 5/7/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
331	346	Cold Room	Floor	24	<MDA
332	346	Lab	Bench Top	34	<MDA
333	346	Lab	Bench Top	20	<MDA
334	346	Lab	Bench Top	27	<MDA
335	346	Lab	Bench Top	25	<MDA
336	346	Lab	Bench Top	27	<MDA
337	346	Lab	Bench Top	35	<MDA
338	346	Lab	Bench Top	28	<MDA
339	346	Lab	Wall	70	68
340	346	Lab	Wall	30	<MDA
341	346	Lab	Wall	23	<MDA
342	346	Lab	Door	29	<MDA
343	346	Cold Room	Bench Top	31	<MDA
344	346	Lab	Drying rack	38	<MDA
345	346	Lab	Wall	27	<MDA
346	346	Lab	Wall	30	<MDA
347	346	Lab	Wall	26	<MDA
348	346	Lab	Cabinet front	35	<MDA
349	346	Lab	Cabinet front	25	<MDA
350	346	Sink #O	Plumbing drain trap	28	<MDA
351	346	Sink #O	Plumbing wall joint	23	<MDA
352	3rd Floor	Hallway	outside 346	26	<MDA
353	3rd Floor	Hallway	interior 3rd exit	36	<MDA
354	3rd Floor	Hallway	outside 328	21	<MDA
355	3rd Floor	Hallway	Hall adjacent 328	25	<MDA
356	3rd Floor	Hallway	outside 327	34	<MDA

Table 3
3rd Floor Lab (328 and Adjacent Areas)
Wipe Date 7/1/2009, 7/2/2009

Bkg 31
 Eff 0.61

MDA 45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
1	328	Lab	Bench Top	23	<MDA
2	328	Lab	Bench Top	28	<MDA
3	328	Lab	Bench Top	28	<MDA
4	328	Lab	behind sink H	26	<MDA
5	328	Lab	Cabinet front	35	<MDA
6	328	Lab	Cabinet front	35	<MDA
7	328	Lab	Cabinet front	28	<MDA
8	328	Lab	Cabinet front	36	<MDA
9	328	Lab	Cabinet front	33	<MDA
10	328	Lab	Cabinet front	32	<MDA
11	328	Lab	Drying Rack	68	61
12	328	Lab	Wall	30	<MDA
13	328	Lab	Wall	31	<MDA
14	328	Lab	Wall	24	<MDA
15	328	Lab	Shelf Top	35	<MDA
16	328	Lab	Shelf Top	25	<MDA
17	328	Lab	Shelf Top	25	<MDA
18	328	Lab	Shelf Top	23	<MDA
19	328	Lab	Floor	23	<MDA
20	328	Lab	Floor	37	<MDA
21	328	Lab	Floor	25	<MDA
22	328	Lab	Floor	33	<MDA
23	328	Hallway	Outside 328	33	<MDA
24	328	Lab	Wall	41	<MDA
25	328	Lab	Wall	23	<MDA
26	328	Fume Hood	Wall (lower)	37	<MDA
27	328	Fume Hood	Wall (upper)	26	<MDA
28	328	Lab	Floor	23	<MDA
29	328	Lab	Floor	31	<MDA
30	328	Lab	Floor	21	<MDA
31	328	Lab	Floor	37	<MDA
32	328	Fume Hood	Floor	25	<MDA
33	328	Fume Hood	Floor	40	<MDA
34	328	Fume Hood	Floor	25	<MDA
35	328	Fume Hood	Floor	27	<MDA
36	328	Lab	Ceiling Vent (inside)	33	<MDA
37	328	Lab	Ceiling Vent (inside)	32	<MDA
38	328	Lab	Wall (lower)	21	<MDA

Table 3**3rd Floor Lab (328 and Adjacent Areas)****Wipe Date 7/1/2009, 7/2/2009**

Bkg 31

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
39	328	Lab	Wall (upper)	47	<MDA
40	328	Lab	Wall	21	<MDA
41	328	Fume Hood	Wall (lower)	21	<MDA
42	328	Fume Hood	Wall (upper)	28	<MDA
43	328	Fume Hood	Bench Top	30	<MDA
44	328	Fume Hood	Wall (upper)	33	<MDA
45	328	Fume Hood	Wall (lower)	26	<MDA
46	328	Fume Hood	Shelf Top	21	<MDA
47	328	Fume Hood	Wall (lower)	32	<MDA
48	328	Fume Hood	Wall (upper)	29	<MDA
49	328	Fume Hood	Wall (upper)	36	<MDA
50	328	Fume Hood	Wall (upper)	23	<MDA
51	328	Fume Hood	Wall (lower)	32	<MDA
52	328	Fume Hood	Wall (lower)	25	<MDA
53	328	Fume Hood	Wall (lower)	35	<MDA
54	328	Fume Hood	Wall (upper)	26	<MDA
55	328	Fume Hood	Wall (upper)	41	<MDA
56	328	Fume Hood	Wall (lower)	25	<MDA
57	328	Fume Hood	Wall (upper)	30	<MDA
58	328	Fume Hood	Shelf Top	35	<MDA
59	328	Fume Hood	Wall (lower)	38	<MDA
60	328	Fume Hood	Wall (upper)	23	<MDA
61	328	Fume Hood	Wall (lower)	22	<MDA
62	328	Fume Hood	Wall (upper)	27	<MDA
63	328	Fume Hood	Wall (lower)	20	<MDA
64	328	Fume Hood	Bench Top	29	<MDA
65	328	Fume Hood	Wall (upper)	34	<MDA
66	328	Fume Hood	Wall (lower)	29	<MDA
67	328	Fume Hood	Sink	32	<MDA
68	328	Fume Hood	Plumbing drain trap	24	<MDA
69	328	Fume Hood	Plumbing wall joint	30	<MDA
70	328	Glass Door	Front (upper)	30	<MDA
71	328	Glass Door	Front (lower)	31	<MDA
72	328	Glass Door	Front (lower)	24	<MDA
73	328	Glass Door	Front (upper)	36	<MDA
74	328	Glass Door	Front (lower)	29	<MDA
75	328	Glass Door	Front (upper)	25	<MDA
76	328	Glass Door	Front (lower)	28	<MDA

Table 3
3rd Floor Lab (328 and Adjacent Areas)
Wipe Date 7/1/2009, 7/2/2009

Bkg 31
 Eff 0.61

MDA 45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
77	328	Glass Door	Front (upper)	31	<MDA
78	328	Glass Door	Back (upper)	24	<MDA
79	328	Glass Door	Back (lower)	31	<MDA
80	328	Glass Door	Back (upper)	29	<MDA
81	328	Glass Door	Back (lower)	26	<MDA
82	328	Glass Door	Back (upper)	32	<MDA
83	328	Glass Door	Back (lower)	22	<MDA
84	328	Glass Door	Back (upper)	26	<MDA
85	328	Glass Door	Back (lower)	30	<MDA
86	328	Wood Plank	Top	66	58
87	328	Wood Plank	Bottom	25	<MDA
88	328	Fume Hood	Vent plate backing	24	<MDA
89	328	Fume Hood	Vent plate backing	24	<MDA
90	328	Fume Hood	Vent plate backing	20	<MDA
91	328	Fume Hood	Vent plate backing	35	<MDA
92	328	Fume Hood	Exhaust Vent	27	<MDA
93	328	Fume Hood	Exhaust Vent	22	<MDA
94	328	Fume Hood	Exhaust Vent	29	<MDA
95	328	Fume Hood	Exhaust Vent	38	<MDA
96	328	Fume Hood	Plumbing drain trap	34	<MDA
97	328	Fume Hood	Plumbing wall joint	33	<MDA
98	328	Fume Hood	Plumbing drain trap	28	<MDA
99	328	Fume Hood	Plumbing wall joint	25	<MDA
100	328	Fume Hood	Plumbing drain trap	24	<MDA
101	328	Fume Hood	Plumbing wall joint	41	<MDA
102	328	New Beckman	Right Tray	33	<MDA
103	328	New Beckman	Left Tray	28	<MDA
104	328	New Beckman	Front	32	<MDA
105	328	New Beckman	Lid	34	<MDA
106	328	New Beckman	Rightside	26	<MDA
107	328	New Beckman	Leftside	32	<MDA
108	328	New Beckman	Top	25	<MDA
109	328	New Beckman	Back	34	<MDA
110	3rd floor	Hallway	outside 327 front door	23	<MDA
111	3rd floor	Hallway	adjacent 328	33	<MDA
112	3rd floor	Hallway	outside 327 back door	28	<MDA
113	328	New Beckman	Bottom	23	<MDA
114	328	Fume Hood	sink	31	<MDA

Table 3
3rd Floor Lab (328 and Adjacent Areas)
Wipe Date 7/1/2009, 7/2/2009

Bkg 31

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
115	328	Fume Hood	sink	35	<MDA
116	328	Fume Hood	sink	19	<MDA
117	328	Lab	inside cabinet / drawer	27	<MDA
118	328	Lab	inside cabinet / drawer	29	<MDA
119	328	Lab	inside cabinet / drawer	35	<MDA
120	328	Lab	inside cabinet / drawer	41	<MDA
121	328	Lab	inside cabinet / drawer	37	<MDA
122	328	Lab	inside cabinet / drawer	38	<MDA
123	328	Lab	Sink #H	26	<MDA
123	328	Sink #H	Plumbing drain trap	18	<MDA
123	328	Sink #H	Plumbing wall joint	33	<MDA

Table 4**4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)****Wipe Date 4/21/2009. 4/29/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
1	453	Prep Lab Hood	Back wall Vent	24	<MDA
1	453	Prep Lab Hood	Behind Vent Plate	30	<MDA
2	453	Prep Lab Hood	Exhaust	27	<MDA
3	453	Prep Lab Hood	Hood interior Back	21	<MDA
4	453	Prep Lab Hood	Hood interior Right wall	29	<MDA
5	453	Prep Lab Hood	Hood interior Left wall	30	<MDA
6	453	Prep Lab Hood	Hood interior bottom	31	<MDA
7	453	Prep Lab Hood	Hood interior top	22	<MDA
8	453	Prep Lab	Floor	21	<MDA
9	453	Prep Lab	Floor	18	<MDA
10	453	Prep Lab	Floor	33	<MDA
11	453	Prep Lab	Floor	21	<MDA
12	453	Prep Lab	Floor	33	<MDA
13	453	Prep Lab	Floor	24	<MDA
14	453	Prep Lab	Door	31	<MDA
15	453	Prep Lab	Bench top	33	<MDA
16	453	Prep Lab	Wall (lower half)	27	<MDA
16	453	Prep Lab	Wall (upper half)	32	<MDA
17	453	Prep Lab	Wall (lower half)	20	<MDA
18	453	Prep Lab	Wall (lower half)	33	<MDA
19	453	Prep Lab	Hood exterior	23	<MDA
20	453	Prep Lab	Hood (lower)	28	<MDA
21	453	Prep Lab	Wall	27	<MDA
21	453	Prep Lab	Wall (upper)	26	<MDA
22	453	Prep Lab	Sink B	22	<MDA
22	453	Sink #B	Plumbing drain trap	32	<MDA
22	453	Sink #B	Plumbing wall joint	17	<MDA
23	453	Prep Lab	Drying Rack	30	<MDA
24	453	Prep Lab	Wall (upper)	24	<MDA
25	453	Prep Lab	Wall (upper)	30	<MDA
26	453	Prep Lab	Wall (upper)	27	<MDA
27	453	Prep Lab	Wall (upper)	35	<MDA
28	453	Prep Lab	Hood exterior (glass)	29	<MDA
28	453	Prep Lab	Hood interior (glass)	25	<MDA
29	448	Lab	Floor	27	<MDA
30	448	Lab	Floor	22	<MDA
31	448	Lab	Floor	27	<MDA

Table 4

4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)

Wipe Date 4/21/2009. 4/29/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
32	448	Lab	Floor	31	<MDA
33	448	Lab	Floor	16	<MDA
34	448	Lab	Floor	18	<MDA
35	448	Lab	Floor	30	<MDA
36	448	Lab	Floor	22	<MDA
37	448	Lab	Floor	28	<MDA
38	448	Lab	Floor	28	<MDA
39	448	Lab	Floor	25	<MDA
40	448	Lab	Floor	21	<MDA
41	448	Lab	Floor	21	<MDA
42	448	Lab	Floor	24	<MDA
43	452	Storage	Floor	31	<MDA
44	452	Storage	Floor	26	<MDA
45	448	Lab	Sink top	31	<MDA
46	448	Lab	Sink #A	34	<MDA
46	448	Sink #A	Plumbing drain trap	30	<MDA
46	448	Sink #A	Plumbing wall joint	33	<MDA
47	448	Lab	Bench top	23	<MDA
48	448	Lab	Bench top	21	<MDA
49	448	Lab	Bench top	24	<MDA
50	448	Lab	Bench top	28	<MDA
51	448	Lab	Bench top	45	<MDA
52	448	Lab	Bench top	28	<MDA
53	448	Lab	Bench top	26	<MDA
54	448	Lab	Bench top	22	<MDA
55	448	Lab	Wall	29	<MDA
56	448	Lab	Wall	30	<MDA
57	448	Lab	Door	33	<MDA
58	448	Hallway	Floor Outside 448	32	<MDA
59	448	Lab	Wall	28	<MDA
60	448	Lab	Bench top	29	<MDA
61	448	Lab	Wall	23	<MDA
62	4th Floor	Hallway	Floor outside 448	44	<MDA
63	447	Lab	Floor	21	<MDA
64	447	Lab	Floor	35	<MDA
65	447	Lab	Bench top	30	<MDA
66	447	Lab	Floor	22	<MDA

Table 4

4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)

Wipe Date 4/21/2009. 4/29/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
67	447	Lab	Bench top	21	<MDA
68	447	Lab	Floor	27	<MDA
69	447	Lab	Floor	37	<MDA
70	447	Lab	Floor	20	<MDA
71	447	Lab	Floor	30	<MDA
72	447	Lab	Floor	21	<MDA
73	446	Equipment Rm	Floor	27	<MDA
74	446	Equipment Rm	Floor	33	<MDA
75	451	Office	Floor	24	<MDA
76	451	Office	Floor	30	<MDA
77	447	Lab	Floor	29	<MDA
78	447	Lab	Floor	26	<MDA
79	447	Lab	Floor	28	<MDA
80	447	Lab	Floor	23	<MDA
81	447	Lab	Floor	25	<MDA
82	447	Lab	Floor	25	<MDA
83	447	Lab	Floor	16	<MDA
84	447	Lab	Floor	22	<MDA
85	447	Lab	Bench top	24	<MDA
86	447	Lab	Bench top	28	<MDA
87	447	Lab	Bench top	20	<MDA
88	447	Lab	Bench top	32	<MDA
89	447	Lab	Bench top	27	<MDA
90	447	Lab	Bench top	24	<MDA
91	447	Lab	Bench Draw front	31	<MDA
92	447	Lab	Wall	28	<MDA
93	447	Lab	Wall	34	<MDA
94	447	Lab	Hood Exterior	44	<MDA
95	447	Lab	Wall	33	<MDA
96	447	Lab	Door	33	<MDA
97	447	Lab	Wall	24	<MDA
98	447	Lab	Wall	32	<MDA
99	447	Lab	Sink #D	29	<MDA
99	447	Sink #D	Plumbing drain trap	33	<MDA
99	447	Sink #D	Plumbing wall joint	29	<MDA
100	447	Lab	Door	26	<MDA
101	447	Lab	Bench Draw front	26	<MDA

Table 4**4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)****Wipe Date 4/21/2009, 4/29/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
102	447	Lab	Bench Draw front	33	<MDA
103	447	Lab	Bench Draw front	29	<MDA
104	447	Sink #C	Plumbing drain trap	23	<MDA
104	447	Sink #C	Plumbing wall joint	24	<MDA
105	4th Floor	Hallway	Floor outside 447	32	<MDA
106	445	Lab	Floor	17	<MDA
107	445	Lab	Floor	29	<MDA
108	445	Lab	Floor	37	<MDA
109	445	Lab	Floor	24	<MDA
110	445	Lab	Floor	26	<MDA
111	445	Lab	Floor	23	<MDA
112	445	Lab	Floor	29	<MDA
113	445	Lab	Floor	22	<MDA
114	445	Lab	Floor	31	<MDA
115	445	Lab	Floor	27	<MDA
116	445	Lab	Floor	18	<MDA
117	445	Lab	Bench top	26	<MDA
118	445	Lab	Bench side	20	<MDA
119	445	Lab	Bench top	36	<MDA
120	445	Lab	Bench side	24	<MDA
121	445	Lab	Bench top	31	<MDA
122	445	Lab	Bench top	26	<MDA
123	445	Lab	Bench side	24	<MDA
124	445	Lab	Bench top	26	<MDA
125	445	Lab	Bench side	28	<MDA
126	445	Lab	Sink #E	29	<MDA
126	445	Sink #E	Plumbing drain trap	33	<MDA
126	445	Sink #E	Plumbing wall joint	29	<MDA
127	445	Lab	Bench top	29	<MDA
128	445	Lab	Bench side	29	<MDA
129	445	Lab	Bench top	28	<MDA
130	445	Lab	Floor	32	<MDA
131	445	Lab	Floor	23	<MDA
132	445	Lab	Floor	37	<MDA
133	445	Lab	Floor	32	<MDA
134	445	Lab	Floor	23	<MDA
135	445	Lab	Sink #F	28	<MDA

Table 4**4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)****Wipe Date 4/21/2009. 4/29/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
135	445	Sink #F	Plumbing drain trap	27	<MDA
135	445	Sink #F	Plumbing wall joint	39	<MDA
136	445	Lab	Bench top	27	<MDA
137	445	Lab	Bench side	28	<MDA
138	445	Lab	Bench top	21	<MDA
139	445	Lab	Bench top	28	<MDA
140	445	Lab	Bench top	21	<MDA
141	445	Lab	Floor	31	<MDA
142	445	Lab	Floor	28	<MDA
143	445	Lab	Floor	24	<MDA
144	445	Lab	Floor	24	<MDA
145	445	Lab	Bench top	29	<MDA
146	445	Lab	Door	31	<MDA
147	445	Lab	Wall	24	<MDA
148	445	Lab	Door	31	<MDA
149	4th Floor	Hallway	Floor outside 445	22	<MDA
150	4th Floor	Hallway	Floor outside 445	33	<MDA
151	444	Fume Hood	Right exhaust vent	32	<MDA
152	444	Fume Hood	Behind Vent Plate	25	<MDA
153	444	Fume Hood	Back wall	24	<MDA
154	444	Fume Hood	Right interior wall	33	<MDA
155	444	Fume Hood	Right interior bottom	23	<MDA
156	444	Fume Hood	Left interior wall	38	<MDA
157	444	Fume Hood	Left interior bottom	18	<MDA
158	444	Fume Hood	Left exhaust vent	28	<MDA
159	444	Lab	Floor	27	<MDA
160	444	Lab	Floor	31	<MDA
161	444	Lab	Bench Top	24	<MDA
162	444	Lab	Bench Top	24	<MDA
163	444	Lab	Bench Top	27	<MDA
164	444	Lab	Bench Top	26	<MDA
165	444	Lab	Bench Top	30	<MDA
166	444	Lab	Bench Top	30	<MDA
167	444	Lab	Bench Top	25	<MDA
168	444	Lab	Bench Top	21	<MDA
169	444	Lab	Shelf Top	30	<MDA
170	444	Lab	Floor	23	<MDA

Table 4**4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)****Wipe Date 4/21/2009. 4/29/2009**

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
171	444	Lab	Floor	26	<MDA
172	444	Lab	Door	28	<MDA
173	444	Lab	Floor	28	<MDA
174	444	Lab	Floor	29	<MDA
175	444	Lab	Floor	16	<MDA
176	444	Lab	Bench Top	34	<MDA
177	444	Lab	Bench Top	29	<MDA
178	444	Lab	Bench Top	31	<MDA
179	444	Lab	Wall	19	<MDA
180	444	Lab	Floor	28	<MDA
181	444	Lab	Wall	34	<MDA
182	444	Lab	Wall	29	<MDA
183	444	Lab	Wall	37	<MDA
184	444	Lab	Floor	25	<MDA
185	4th Floor	Hallway	Floor outside 444	31	<MDA
186	4th Floor	Hallway	Floor outside 432	27	<MDA
187	4th Floor	Hallway	Floor inside 4th exit	32	<MDA
188	444	Sink #G	Plumbing drain trap	30	<MDA
188	444	Sink #G	Plumbing wall joint	33	<MDA
189	445	Fume Hood	Left vent exhaust	17	<MDA
190	445	Fume Hood	Right vent exhaust	28	<MDA
191	445	Fume Hood	Behind Vent Plate	20	<MDA
192	445	Fume Hood	Behind Vent Plate	24	<MDA
193	445	Fume Hood	Left interior wall	39	<MDA
194	445	Fume Hood	Right interior wall	30	<MDA
195	445	Fume Hood	Left interior bottom	15	<MDA
196	445	Fume Hood	Left interior bottom	26	<MDA
197	445	Fume Hood	Back wall	20	<MDA
198	445	Fume Hood	Back wall	27	<MDA
199	448	Fume Hood	Left vent exhaust	22	<MDA
200	448	Fume Hood	Right vent exhaust	17	<MDA
201	448	Fume Hood	Vent	30	<MDA
202	448	Fume Hood	Vent	43	<MDA
203	448	Fume Hood	Back wall	31	<MDA
204	448	Fume Hood	Left interior wall	22	<MDA
205	448	Fume Hood	Left interior bottom	24	<MDA
206	448	Fume Hood	Right interior bottom	13	<MDA

Table 4

4th Floor Labs (444, 445, 447, 448, 453 and adjacent areas)

Wipe Date 4/21/2009. 4/29/2009

Bkg 29

Eff 0.61

MDA

45 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
207	448	Fume Hood	Right interior wall	22	<MDA
208	448	Fume Hood	Back wall	31	<MDA

Table 5
4th Floor (Rm 432 and Adjacent Areas)
Wipe Date: 10/7/2008

Bkg 47
 Eff 0.36

MDA 96 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
1		Blank		64	<MDA
2	432	Door	Handles	52	<MDA
3	4th Floor	Hallway	Outside 432	45	<MDA
4	4th Floor	Hallway	Outside 432	38	<MDA
5	432		Floor	39	<MDA
6	432		Floor	28	<MDA
7	432		Floor	73	<MDA
8	432		Floor	49	<MDA
9	432		Floor	50	<MDA
10	432		Floor	49	<MDA
11	432		Floor	48	<MDA
12		Blank		41	<MDA
13	432	Wall A	Door	65	<MDA
14	432	Wall A	Door	49	<MDA
15	432	Wall A	Wall (lower)	56	<MDA
16	432	Wall A	Wall (Upper)	42	<MDA
17	432	Wall A	Wall (Upper)	30	<MDA
18	432	Wall A	Wall (lower)	39	<MDA
19	432	Wall B	Wall (lower)	59	<MDA
20	432	Wall B	Wall	57	<MDA
21	432	Wall B	Wall (Upper)	44	<MDA
22	432	Wall B	Wall (Upper)	42	<MDA
23	432	Wall B	Fuse Box Ext	44	<MDA
24	432	Wall B	Wall (lower)	35	<MDA
25	432	Wall C	Wall (lower)	51	<MDA
26	432	Wall C	Wall	64	<MDA
27	432	Wall C	Wall (Upper)	53	<MDA
28	432	Wall C	Wall (Upper)	35	<MDA
29	432	Wall C	Wall	46	<MDA
30	432	Wall C	Wall (lower)	41	<MDA
31			Blank	62	<MDA
32	432	Wall D	Shelf Top	43	<MDA
33	432	Wall D	Shelf Top	27	<MDA
34	432	Wall D	Shelf Top	37	<MDA
35	432	Wall D	Wall (lowest shelf)	43	<MDA
36	432	Wall D	Wall (lowest shelf)	49	<MDA
37	432	Wall D	Wall (lowest shelf)	56	<MDA
38	432	Wall D	Shelf Top	42	<MDA

Table 5
4th Floor (Rm 432 and Adjacent Areas)
Wipe Date: 10/7/2008

Bkg 47
 Eff 0.36

MDA 96 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
39	432	Wall D	Shelf Top	59	<MDA
40	432	Wall D	Shelf Top	43	<MDA
41	432	Wall D	Wall (mid shelf)	36	<MDA
42	432	Wall D	Wall (mid shelf)	45	<MDA
43	432	Wall D	Wall (mid shelf)	56	<MDA
44	432	Wall D	Shelf Top	44	<MDA
45	432	Wall D	Shelf Top	51	<MDA
46	432	Wall D	Wall (mid shelf)	53	<MDA
47			Blank	38	<MDA
48	432	Wall D	Wall (mid shelf)	39	<MDA
49	432	Wall D	Shelf Top	52	<MDA
50	432	Wall D	Shelf Top	49	<MDA
51	432	Wall D	Shelf Top	45	<MDA
52	432	Wall D	Wall (mid shelf)	51	<MDA
53	432	Wall D	Wall (mid shelf)	37	<MDA
54	432	Wall D	Wall (mid shelf)	48	<MDA
55	432	Wall D	Shelf Top	42	<MDA
56	432	Wall D	Shelf Top	49	<MDA
57	432	Wall D	Shelf Top	39	<MDA
58	432	Wall D	Wall (upper shelf)	45	<MDA
59	432	Wall D	Wall (upper shelf)	40	<MDA
60			Blank	40	<MDA
61		Drawer	Exterior	42	<MDA
62		Drawer	Exterior	55	<MDA
63		Drawer	Exterior	47	<MDA
64		Drawer	Exterior	42	<MDA
65		Drawer	Exterior	41	<MDA
66			Object	46	<MDA
67			Object	48	<MDA
68			Object	47	<MDA
69			Object	65	<MDA
70			Object	48	<MDA
71			Object	42	<MDA
72			Object	39	<MDA
73			Blank	52	<MDA
74		Drawer	Interior	52	<MDA
75		Drawer	Interior	41	<MDA
76		Drawer	Interior	40	<MDA

Table 5
4th Floor (Rm 432 and Adjacent Areas)
Wipe Date: 10/7/2008

Bkg 47
 Eff 0.36

MDA 96 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
77		Drawer	Interior	64	<MDA
78		Drawer	Interior	44	<MDA
79		Drawer	Interior	44	<MDA
80		Drawer	Interior	35	<MDA
81		Drawer	Interior	50	<MDA
82		Drawer	Interior	42	<MDA
83		Drawer	Interior	33	<MDA
84		Drawer	Interior	27	<MDA
85			Blank	47	<MDA
86			Object	51	<MDA
87			Object	41	<MDA
88			Object	41	<MDA
89			Object	44	<MDA
90			Object	33	<MDA
91			Object	91	122
92			Object	119	200
93			Object	56	<MDA
94			Object	45	<MDA
95			Blank	45	<MDA
96			Object	42	<MDA
97			Object	46	<MDA
98			Object	54	<MDA
99			Object	42	<MDA
100			Blank	57	<MDA
101	432	Vent	Inside Surface	53	<MDA
102		Drawer	Partitions	44	<MDA
103		Drawer	Partitions	49	<MDA
104		Drawer	Partitions	59	<MDA
105		Drawer	Partitions	39	<MDA
106		Drawer	Partitions	41	<MDA
107		Drawer	Partitions	33	<MDA
108		Drawer	Partitions	45	<MDA
109			Blank	44	<MDA
110	432	Vent	Outside Surface	53	<MDA
111			Object	42	<MDA
112	432	Shelf	Vertical dividers	55	<MDA
113	432	Shelf	Vertical dividers	42	<MDA
114	432	Shelf	Vertical dividers	40	<MDA

Table 5
4th Floor (Rm 432 and Adjacent Areas)
Wipe Date: 10/7/2008

Bkg 47
 Eff 0.36

MDA 96 DPM

Loc #	Rm / Location	Description	Item	CPM	DPM / 100 cm ²
115	432	Shelf	Vertical dividers	50	<MDA
116	432	Shelf	Vertical dividers	57	<MDA
117	432	Shelf	Vertical dividers	51	<MDA
118	432	Shelf	Vertical dividers	56	<MDA
119	432	Shelf	Vertical dividers	31	<MDA
120	432	Shelf	Vertical dividers	39	<MDA
121			Object	64	<MDA
122			Object	37	<MDA
123			Object	51	<MDA
124			Object	48	<MDA
125			Object	40	<MDA
126			Object	47	<MDA
127			Object	47	<MDA
128			Object	44	<MDA
129			Object	44	<MDA
130	432	Shelf	Vertical Divider	47	<MDA
131	432	Shelf	Vertical Divider	53	<MDA
132			Blank	34	<MDA

Note: Wipes noted as 'Object' were taken on equipment and loose items remaining in the room at the time of the final status survey, and are not part of the final status survey for this room.

Wipes noted as 'Drawer' were taken on a chest of drawers which was later removed from this area.

Table 6

Survey data for Rooms 417-423, August 12, 2004

Background 36 cpm

Efficiency 0.61 MDA 51 dpm

Wipe #	CPM	net dpm
1	32	<MDA
2	41	<MDA
3	47	<MDA
4	29	<MDA
5	31	<MDA
6	44	<MDA
7	30	<MDA
8	42	<MDA
9	29	<MDA
10	36	<MDA
11	34	<MDA
12	36	<MDA
13	39	<MDA
14	27	<MDA
15	28	<MDA
16	36	<MDA
17	38	<MDA
18	32	<MDA
19	31	<MDA
20	40	<MDA
21	35	<MDA
22	40	<MDA
23	36	<MDA
24	35	<MDA
25	37	<MDA
26	35	<MDA
27	46	<MDA
28	42	<MDA
29	30	<MDA
30	38	<MDA
31	44	<MDA
32	38	<MDA
33	48	<MDA
34	33	<MDA
35	40	<MDA
36	33	<MDA
37	41	<MDA
38	33	<MDA
39	27	<MDA
40	31	<MDA
41	32	<MDA
42	40	<MDA
43	45	<MDA
44	42	<MDA
45	57	<MDA
46	39	<MDA

Wipe #	CPM	net dpm
47	38	<MDA
48	40	<MDA
49	34	<MDA
50	26	<MDA
51	41	<MDA
52	40	<MDA
53	31	<MDA
54	34	<MDA
55	39	<MDA
56	36	<MDA
57	38	<MDA
58	40	<MDA
59	33	<MDA
60	36	<MDA
61	38	<MDA
62	40	<MDA
63	36	<MDA
64	34	<MDA
65	28	<MDA
66	41	<MDA
67	39	<MDA
68	29	<MDA
69	41	<MDA
70	38	<MDA
71	36	<MDA
72	37	<MDA
73	29	<MDA
74	37	<MDA
75	33	<MDA
76	48	<MDA
77	32	<MDA
78	40	<MDA
79	36	<MDA
80	37	<MDA
81	30	<MDA
82	30	<MDA
83	41	<MDA
84	28	<MDA
85	33	<MDA
86	45	<MDA
87	36	<MDA
88	40	<MDA
89	40	<MDA
90	29	<MDA
91	28	<MDA
92	41	<MDA

Wipe #	CPM	net dpm
93	34	<MDA
94	23	<MDA
95	50	<MDA
96	35	<MDA
97	37	<MDA
98	43	<MDA
99	33	<MDA
100	40	<MDA
101	59	<MDA
102	37	<MDA
103	50	<MDA
104	55	<MDA
105	52	<MDA
106	20	<MDA
107	38	<MDA
108	38	<MDA
109	30	<MDA
110	40	<MDA
111	38	<MDA
112	46	<MDA
113	42	<MDA
114	37	<MDA
115	33	<MDA
116	49	<MDA
117	24	<MDA
118	38	<MDA
119	43	<MDA
120	27	<MDA
121	44	<MDA
122	38	<MDA
123	38	<MDA
124	39	<MDA
125	39	<MDA
126	43	<MDA
127	39	<MDA
128	30	<MDA
129	50	<MDA
130	35	<MDA
131	37	<MDA
132	44	<MDA
133	34	<MDA
134	49	<MDA
137	36	<MDA
138	35	<MDA
139	43	<MDA
140	33	<MDA
141	33	<MDA
142	52	<MDA
143	37	<MDA
144	32	<MDA
145	42	<MDA
146	45	<MDA

Wipe #	CPM	net dpm
146	45	<MDA
147	35	<MDA
148	37	<MDA
149	44	<MDA
150	29	<MDA
151	35	<MDA
152	47	<MDA
153	36	<MDA
154	31	<MDA
155	45	<MDA
156	29	<MDA
157	33	<MDA
158	28	<MDA
159	32	<MDA
160	42	<MDA
161	23	<MDA
162	33	<MDA
163	40	<MDA
164	34	<MDA
165	37	<MDA
166	50	<MDA
167	34	<MDA
168	119	136
169	36	<MDA
170	48	<MDA
171	32	<MDA
172	42	<MDA
173	50	<MDA
174	31	<MDA
175	36	<MDA
176	40	<MDA
177	38	<MDA
178	38	<MDA
179	39	<MDA
180	35	<MDA
181	48	<MDA
182	47	<MDA
183	37	<MDA
184	36	<MDA
185	41	<MDA
186	28	<MDA
187	45	<MDA
188	31	<MDA
189	45	<MDA
190	44	<MDA
191	34	<MDA
192	39	<MDA
193	26	<MDA
194	53	<MDA
195	24	<MDA
196	32	<MDA
197	39	<MDA
198	39	<MDA

Table 7

Survey data for Rooms 417-423, February 4, 2005

Background

38 cpm

Efficiency

0.61

MDA

52 dpm

Location	Description	CPM	net dpm
1	Sink trap	26	<MDA
1	Drain/wall joint	34	<MDA
2	Sink trap	27	<MDA
2	Sink drain	32	<MDA
2	Hood vent	28	<MDA
3	Drain/wall joint	42	<MDA
3	Sink trap	32	<MDA
4	Drain/wall joint	39	<MDA
4	Sink trap	28	<MDA
5	Drain/wall joint	38	<MDA
5	Sink trap	20	<MDA
6	Drain/wall joint	35	<MDA
6	Sink trap	28	<MDA
7	Drain/wall joint	41	<MDA
8	Sink trap	51	<MDA
8	Drain/wall joint	31	<MDA
9	Sink trap	27	<MDA
9	Sink drain	30	<MDA
9	Hood vent	54	<MDA
10	Sink trap	33	<MDA
10	Drain/wall joint	38	<MDA
11	Floor	44	<MDA
12	Floor	44	<MDA
13	Floor	37	<MDA

Certificate of Calibration

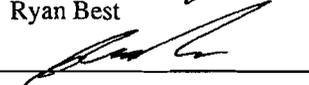
Facility	Gamma Corporation	Dept.					Batteries	
						<input checked="" type="checkbox"/> OK	<input type="checkbox"/> Replaced	
Mfgr/Model	Bicron Analyst	S/N	B798M	Probe	B-100	Detector Voltage	1191	

- Calibrated with Cs-137 radiation source with NIST traceable output: 44.8 mR/hr @ 1 meter on 10/6/95.
 Calibrated with electronic pulser for scales below 0.1 mR/hr.
 Calibrated with electronic pulser for all scales.

Range (cpm)	Calculated Value	As Found Value	Accepted Value	Correction Factor	Corrected Value	% Error
X1000	400000	395000	395000	1.0	395000	1%
X1000	100000	95000	95000	1.0	95000	5%
X100	40000	40000	40000	1.0	40000	0%
X100	10000	10000	10000	1.0	10000	0%
X10	4000	3950	3950	1.0	3950	1%
X10	1000	1000	1000	1.0	1000	0%
X1	400	390	390	1.0	390	3%
X1	100	100	100	1.0	100	0%

Detector Type	<input type="checkbox"/> G.M. <input checked="" type="checkbox"/> Plastic Scint. <input type="checkbox"/> NaI Scint. <input type="checkbox"/> Proportional <input type="checkbox"/> Ion Chamber
Detector Exposure Orientation	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Perpendicular <input type="checkbox"/> Internal
Condition Received	<input checked="" type="checkbox"/> In tolerance <input type="checkbox"/> Out of tolerance

Comments: Sr-90 efficiency = 47.8% C-14 efficiency = 8.7%

Calibrated by:  Ryan Best	Check Source Reading Sr-90 = 32,200 cpm Calibration Date January 19, 2004 Calibration Due January 19, 2005
Review:  Date: 1/19/04	

Acceptable tolerance is stated as ±10% of calculated value at each calibration point.

Certificate of Calibration

Facility	Gamma Corporation	Dept.		Batteries	
Mfgr/Model	Bicron Analyst	S/N	B798M	Probe	HP380B
				<input checked="" type="checkbox"/> OK	<input type="checkbox"/> Replaced
				Detector Voltage	693

- Calibrated with Cs-137 radiation source with NIST traceable output: 44.8 mR/hr @ 1 meter on 10/6/95.
- Calibrated with electronic pulser for scales below 0.1 mR/hr.
- Calibrated with electronic pulser for all scales.

Range	Calculated Value	As Found Value	Accepted Value	Correction Factor	Corrected Value	% Error
X1000	400000	400000	400000	1	400000	0%
X1000	100000	95000	95000	1.0	95000	5%
X100	40000	40000	40000	1	40000	0%
X100	10000	10000	10000	1	10000	0%
X10	4000	4000	4000	1	4000	0%
X10	1000	1000	1000	1	1000	0%
X1	400	390	390	1.0	390	3%
X1	100	100	100	1	100	0%

Detector Type	<input type="checkbox"/> G.M.	<input checked="" type="checkbox"/> Plastic Scint.	<input type="checkbox"/> NaI Scint.	<input type="checkbox"/> Proportional	<input type="checkbox"/> Ion Chamber
Detector Exposure Orientation	<input type="checkbox"/> Parallel	<input checked="" type="checkbox"/> Perpendicular	<input type="checkbox"/> Internal		
Condition Received	<input checked="" type="checkbox"/> In tolerance		<input type="checkbox"/> Out of tolerance		

Comments:	Sr-90 efficiency = 40% C-14 efficiency = 7.5%, Check source 0.24 uCi, Threshold 14 mV				
Calibrated by:	Check Source Reading		Sr-90 = 25,092 cpm		
	Calibration Date		June 24, 2008		
	Calibration Due		June 24, 2009		
Review:	Date: 6/25/08				

Acceptable tolerance is stated as $\pm 10\%$ of calculated value at each calibration point.

Certificate of Calibration

Facility	Gamma Corporation	Dept.		Batteries	
Mfgr/Model	Bicron Analyst	S/N	B798M	Probe	HP380B
				Detector Voltage	694

- Calibrated with Cs-137 radiation source with NIST traceable output: 44.8 mR/hr @ 1 meter on 10/6/95.
 Calibrated with electronic pulser for scales below 0.1 mR/hr.
 Calibrated with electronic pulser for all scales.

Range	Calculated Value	As Found Value	Accepted Value	Correction Factor	Corrected Value	% Error
X1000	400000	400000	400000	1	400000	0%
X1000	100000	95000	95000	1.0	95000	5%
X100	40000	40000	40000	1	40000	0%
X100	10000	10000	10000	1	10000	0%
X10	4000	4000	4000	1	4000	0%
X10	1000	1000	1000	1	1000	0%
X1	400	395	395	1.0	395	1%
X1	100	100	100	1	100	0%

Detector Type	<input type="checkbox"/> G.M. <input checked="" type="checkbox"/> Plastic Scint. <input type="checkbox"/> NaI Scint. <input type="checkbox"/> Proportional <input type="checkbox"/> Ion Chamber
Detector Exposure Orientation	<input type="checkbox"/> Parallel <input checked="" type="checkbox"/> Perpendicular <input type="checkbox"/> Internal
Condition Received	<input checked="" type="checkbox"/> In tolerance <input type="checkbox"/> Out of tolerance

Comments: Sr-90 efficiency = 41% C-14 efficiency = 6.7%, Threshold 280 mV, Check source 0.024 uCi,

Calibrated by: <u><i>Jay K. Nelson</i></u> Review: <u><i>[Signature]</i></u> Date: <u>6/3/09</u>	Check Source Reading Sr-90 = 24,330 cpm Calibration Date June 01, 2009 Calibration Due June 01, 2010
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Acceptable tolerance is stated as ±10% of calculated value at each calibration point.

ACCEPTANCE REVIEW MEMO (ARM)

Licensee: Hawaii Agriculture Research Ctr **License:** 53-00515-01
Docket: 030-06839 **Mail Control:** 472404
Type of Action: Decommissioning **Date of Requested Action** 9-08-09
Reviewer Assigned: **ARM reviewer(s):** Torres

Response	Deficiencies Noted During Acceptance Review
	[] Open ended possession limits. Submit inventory. Limit possession. [] Submit copies of latest leak test results. [] Add IC L.C./Fingerprint LC, add SUNSI markings to license. [] Confirm with licensee if they have NARM material. [] Change of contact information (RSO), send request to update IC database.

Reviewer's Initials: _____ **Date:** _____

<input type="checkbox"/> Yes <input type="checkbox"/> No	Request for unrestricted release Group 2 or >. Consult with Bravo Branch.
<input type="checkbox"/> Yes <input type="checkbox"/> No	Termination request < 90 days from date of expiration
<input type="checkbox"/> Yes <input type="checkbox"/> No	Expedite (medical emergency, no RSO, location of use/storage not on license, RAM in possession not on license, other)
<input type="checkbox"/> Yes <input type="checkbox"/> No	TAR needed to complete action.

Branch Chief's and/or HP's Initials: _____ **Date:** _____

SUNSI Screening according to RIS 2005-31

Yes No **Sensitive and Non-Publicly Available** if any item below is checked

General guidance:

- _____ RAM = or > than Category 3 (Table 1, RIS 2005-31), use Unity Rule
- _____ Exact location of RAM [suite #, bldg. #, location different from mailing address] (whether = or > than Category 3 or not)
- _____ Design of structure and/or equipment (site specific)
- _____ Information on nearby facilities
- _____ Detailed design drawings and/or performance information
- _____ Emergency planning and/or fire protection systems

Specific guidance for medical, industrial and academic (above Category 3):

- _____ RAM quantities and inventory
- _____ Manufacturer's name and model number of sealed sources & devices
- _____ Site drawings with exact location of RAM, description of facility
- _____ RAM security program information (locks, alarms, etc.)
- _____ Emergency Plan specifics (routes to/from RAM, response to security events)
- _____ Vulnerability/security assessment/accident-safety analysis/risk assess
- _____ Mailing lists related to security response

Branch Chief's and/or HP's Initials: RTZ **Date:** SEP 15

9-15-09
DATE

This is to acknowledge the receipt of your letter/application dated 9-08-09, and to inform you that the initial processing, which includes an administrative review, has been performed.

There were no administrative omissions. Your application will be assigned to a technical reviewer. Please note that the technical review may identify other omissions or require additional information.

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

The action you requested is normally processed within — days.

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 472404.
When calling to inquire about this action, please refer to this mail control number.
You may call me at 817-860-8103.

Sincerely,

Colleen Murnihan
Licensing Assistant

(FOR LFMS USE)
INFORMATION FROM LTS

BETWEEN:
License Fee Management Branch, ARM
and
Regional Licensing Sections

: Program Code: 03620
: Status Code: 0
: Fee Category: 3M 3P
: Exp. Date: 20150630
: Fee Comments:
: Decom Fin Assur Req'd: N
:.....

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: HAWAII AGRICULTURE RESEARCH CENTER
Received Date: 20090910
Docket No.: 3006839
Control No.: 472404
License No.: 53-00515-01
Action Type: ~~Amendment~~

Decommissioning

2. FEE ATTACHED

Amount: _____
Check No.: /

3. COMMENTS

Signed *Colleen Muraahan*
Date 9-14-09

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /_/)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:

Amendment _____
Renewal _____
License _____

3. OTHER _____

Signed _____
Date _____