NEOSE TECHNOLOGIES, INC.
102 Witmer Road, Horsham, PA 19044 215.315-9000 fax:215.315-9100
email: info@neose.com www.neose.com

August 1, 2005

NMSB2

RECEIVED
2005 AUG 11 AM 11:54

U.S. Nuclear Regulatory Commission, Region I
Division of Nuclear Materials Safety
475 Allendale Road
King of Prussia, PA 19406-1415

License number 37-28751-01
Docket No. 030-32749
Decommissioning Control No. 136507

Enclosed is documentation supporting the decommissioning of the Neose Technologies, Inc. facility at 102 Witmer Road, Horsham, PA. Neose will continue to occupy 102 Witmer Road, but is now conducting and will conduct licensed activities only at its facility at 102 Rock Road, Horsham, PA.

Please send all future correspondence regarding our NRC license to this address-

Neose Technologies, Inc.
102 Witmer Road
Horsham, PA 19044
Attention: General Counsel

Questions regarding the enclosed decommissioning materials may be directed to Debra Alvarez, RSO, at (215) 315-9090.

Respectfully submitted

Debra J. Poul
Senior Vice President and General Counsel

Enclosures

cc: Deb Alvarez, w/o enc.

137674

NMSS/RGN1 MATERIALS-002

REF. 136507

NRC FORM 314 (6-2004)
10 CFR 30.36(j)(1); 40.42(j)(1); 70.38(j)(1); and 72.54(j)(1)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0028 EXPIRES: 06/30/2007

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

CERTIFICATE OF DISPOSITION OF MATERIALS

LICENSEE NAME AND ADDRESS	LICENSE NUMBER	DOCKET NUMBER
Neose Technologies, Inc 102 Rock Road Horsham, PA 19044	37-28751-01	030-32749
	LICENSE EXPIRATION DATE 08/31/2012	

A. LICENSE STATUS *(Check the appropriate box)*

☐ This license has expired. ☐ This license has not yet expired; please terminate it. Do NOT terminate license

B. DISPOSAL OF RADIOACTIVE MATERIAL

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

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

☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.

☑ 2. All activities authorized by this license have ceased,* and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner.

☐ a. Transfer of radioactive materials to the licensee listed below:

☑ b. Disposal of radioactive materials:

*Licensed operations have only ceased at the Neose Witmer Road Facility. Licensed operations continue at the Neose Rock Road Facility.

☐ 1. Directly by the licensee:

☐ 2. By licensed disposal site:

☐ 3. By waste contractor:

(☑) 4. Transfer to Rock Road Facility

☐ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

C. SURVEYS PERFORMED AND REPORTED

☑ 1. A radiation survey was conducted by the licensee. The survey confirms:

☐ a. the absence of licensed radioactive materials

☑ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.

☑ 2. A copy of the radiation survey results:

☑ a. is attached; or ☐ b. is not attached (Provide explanation); or ☐ c. was forwarded to NRC on: _____ Date

☐ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and

☐ a. The results of the latest leak test are attached; and/or ☐ b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE *(Include Area Code)*	E-MAIL ADDRESS
Debra Alvarez	Radiation Safety Officer	(215) 315-9090	dalvarez@neose.com

Mail all future correspondence regarding this license to:
Debra J. Poul, Neose Technologies, Inc., 102 Rock Road, Horsham, PA 19044

C. CERTIFYING OFFICIAL

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

PRINTED NAME AND TITLE	SIGNATURE	DATE
Debra J. Poul, Vice President and Counsel	Debra J. Poul	8/22/05

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

Decommissioning Report for the Neose Technologies, Inc. facility at --

102 Witmer Road
Horsham, PA

Neose Technologies, Inc
102 Witmer Road
Horsham, PA 19044

License number 37-28751-01
Docket No. 030-32749
Decommissioning Control No. 136507

Neose Point of Contact: Debra Alvarez, Radiation Safety Officer
(215) 315-9090

Contents

1. Facility

The 102 Witmer Road facility is a single story building of about 45,000 square feet. Licensed operations were conducted in the building between 1994 and 2004. No more than 6000 square feet of the building was ever used for licensed work. The facility is situated in an industrial park area well isolated from residential areas. The property is bordered by a public road on one side and a paved parking lot and other commercial buildings on the other sides.

A map showing the facility's location can be found in Appendix A. Building plans showing areas used for licensed work are also found in Appendix A.

2. History

Neose has used radionuclides in the Witmer facility for over ten years, first as Neose Pharmaceuticals and later as Neose Technologies, Inc. NRC inspections were conducted of its operations in June of 1998 and again in May of 2003. No violations were identified during either inspection.

Through records search and personal interviews the following information regarding licensed work was obtained.

1. Radionuclide work began in Labs 1, 3, 4, and the Common Equipment Room. In 1996, Lab 9 was added to conduct some low level analytical work. In 1998, Lab 2 was also added to the license although this lab was only ever used for storage of closed radiochemical stock containers. Radioactive waste storage was moved from its original approved location to Room 190 in 1997, then to Room 128A in 2000, and finally to Room 415 in 2001. Clearance surveys were conducted in former waste storage rooms when they were no longer employed for licensed activities.

2. The following radionuclides were approved for use in 1992: H-3, C-14, S-35, P-32, P-33, I-125, and Cr-51. With the license renewal in 2002, Cr-51 was removed from the list. P-33, I-125 and Cr-51 were rarely used and were not used at all since 1998. P-32 and S-35 were used periodically until 2000. Since 2000, only H-3 and C-14 compounds have been used. An average of 6 radiochemical stock vials have been ordered per year for the past fours years. Approximately eight years ago a few experiments with 10 to 100mCi of H-3 sodium borohydride were conducted in the fume hood in Lab 3. Except for these few, experiments have utilized only non-volatile radioactive material in sub-millicurie amounts.

3. Radionuclides were never introduced into live animals or humans.

4. Radioactive materials were only used within the confines of laboratory rooms, never outdoors. Waste was never released to the sanitary sewer. The only release of licensed materials to the environment was from fume hood emissions resulting from the H-3 sodium borohydride work mentioned in item #2. Emissions were well below the air effluent concentration limit.

5. Radioactive contamination surveys were conducted and documented each month of licensed operation by laboratory staff. Independent radiation safety consultants also conducted contamination surveys on a quarterly basis. Any area found contaminated was promptly and completely cleaned.

3. Decommissioning Records

Neose will continue to work under its current license in its 102 Rock Road facility and will thus continue to retain required records related to its radiation safety program, including personal monitoring and waste management documentation.

All licensed materials in the Witmer facility were either transferred to the Rock Road facility or removed for disposal by a licensed radioactive waste broker. Waste shipping manifests are available for inspection.

The NRC Form 314 is attached.

4. Final Status Survey (FSS)

Surveys for radiation levels and surface contamination were conducted in all locations in the facility where licensed material was used or stored. Wipe testing was the primary method used to demonstrate compliance with release criteria.

The FSS was conducted in phases. As laboratories ceased work with radionuclides surveys were conducted. Once the survey in a laboratory was complete, radionuclides were no longer permitted in the laboratory. Below is the schedule that was followed:

Survey Date	Area(s) Surveyed
May 26, 2004	Labs 4 and 9
June 16, 2004	Labs 1 and 2, Common Equipment Room
July 27, 2004	Lab 3
August 27, 2004	Lab 3 Fume Hood Exhaust Fan (Roof)
December 29, 2004	Waste Room 415

During all phases, sections of the hallway corridors adjacent to surveyed work labs were also surveyed. The results of these surveys and those in radiation use areas did not demonstrate the need to further expand contamination surveys into adjacent locations where licensed operations were not authorized.

Calibration certificates for instrumentation used to conduct surveys are found in Appendix B.

Summary of Surveys: No residual contamination exceeding the screening values or radiation levels exceeding background were found in any surveyed location. See results below for details. See the room diagrams in Appendix C which identify the locations where contamination and radiation levels surveys were conducted.

FIXED CONTAMINATION

A Ludlum Model 3 ratemeter with Ludlum Model 44-9 GM probe was used to scan floors, worksurfaces, sinks, walls adjacent to worksurfaces, and drawer handles and knobs in all radiation use and storage locations. Floors in hallways adjacent to radiation work rooms were also scanned. The meter background was 40 counts per minute. See Appendix B for meter calibration. No readings exceeding background were found on any surface.

Scanning for I-125 using a gamma detector was not conducted because this radionuclide has not been used or stored in the facility for at least four years.

Location	**Ludlum Reading**
Lab 1	Background
Lab 2	Background
Lab 3	Background
Lab 4	Background
Lab 9	Background
Common Equipment Room	Background
Waste Room 415	Background
Hallways*	Background
Rooftop near Lab 3 Ex. Fan*	Background

* These locations were not radioactive material storage or use areas.

REMOVABLE CONTAMINATION

Approximately 460 wipe tests were conducted throughout the facility in all locations where radioactive materials were stored or used. Paper wipes measuring 1-5/8" in diameter were used to wipe 100 square centimeters of test surface using moderate pressure. (For wiping the rooftop exhaust fan, cotton swabs were used instead of paper wipes.) Wipes/swabs were placed in 20 ml glass counting vials containing 10 ml of Ultima Gold liquid scintillation cocktail and counted for five minutes in the liquid scintillation counter with a wide open setting.

Wipe tests were conducted on every 4 linear foot section of workbench, for every ten linear feet of wall surface, and for each 50-100 square foot section of floor surface.

The average counter background varied between 220 and 255 counts per five minutes. Using 255 counts per five minutes as the conservative value--
The MDA for H-3 was determined to be 34 dpm.
[2.71 + (4.65*SQRT(51cpm*5min)/(5min*0.47cpm/dpm))].
For C-14, S-35, P-33, and P-32, the C-14 counting efficiency was used. The MDA was determined to be 19 dpm.
[2.71 + (4.65*SQRT(51cpm*5min)/(5min*0.92cpm/dpm))].
(Note that neither Cr-51 nor I-125 has been used or stored in the facility for over four years.)

Incorporating a 10% wipe removal efficiency, the MDC for H-3 was 340dpm/100cm^2.
For C-14, S-35, P-32, and P-33 the MDC was 190dpm/100cm^2.

The wipe results demonstrate that no tested surface exceeded the screening values in NUREG-1757 (vol. 1), Appendix B, Table B.1.

During the course of the FSS, a few surfaces were found with readings well below the screening values but above the counter background. Following the ALARA principle these few areas were cleaned as well as reasonably achievable.

See Appendix D for table of wipe results.

RADIATION LEVELS

Radiation levels were measured at 1 meter from surfaces in radioactive material use or storage areas. Hallways adjacent to radioactive material use rooms were also measured. A Victoreen 450P ionization chamber was used. No radiation levels exceeding 10 uR per hour were detected.

5. Waste Disposal and Records

All radioactive waste, radioactive stocks, and equipment contaminated with radioactive material were either disposed via waste broker or transferred to the Rock Road Facility prior to December 20, 2004.

Since Neose is continuing licensed operations at its Rock Road facility and is not terminating its license, it will continue to retain its waste disposal records. Decay-in-storage records and manifests of waste shipped off-site are available for inspection and can be provided to the NRC upon request.

6. Qualifications of Surveyor

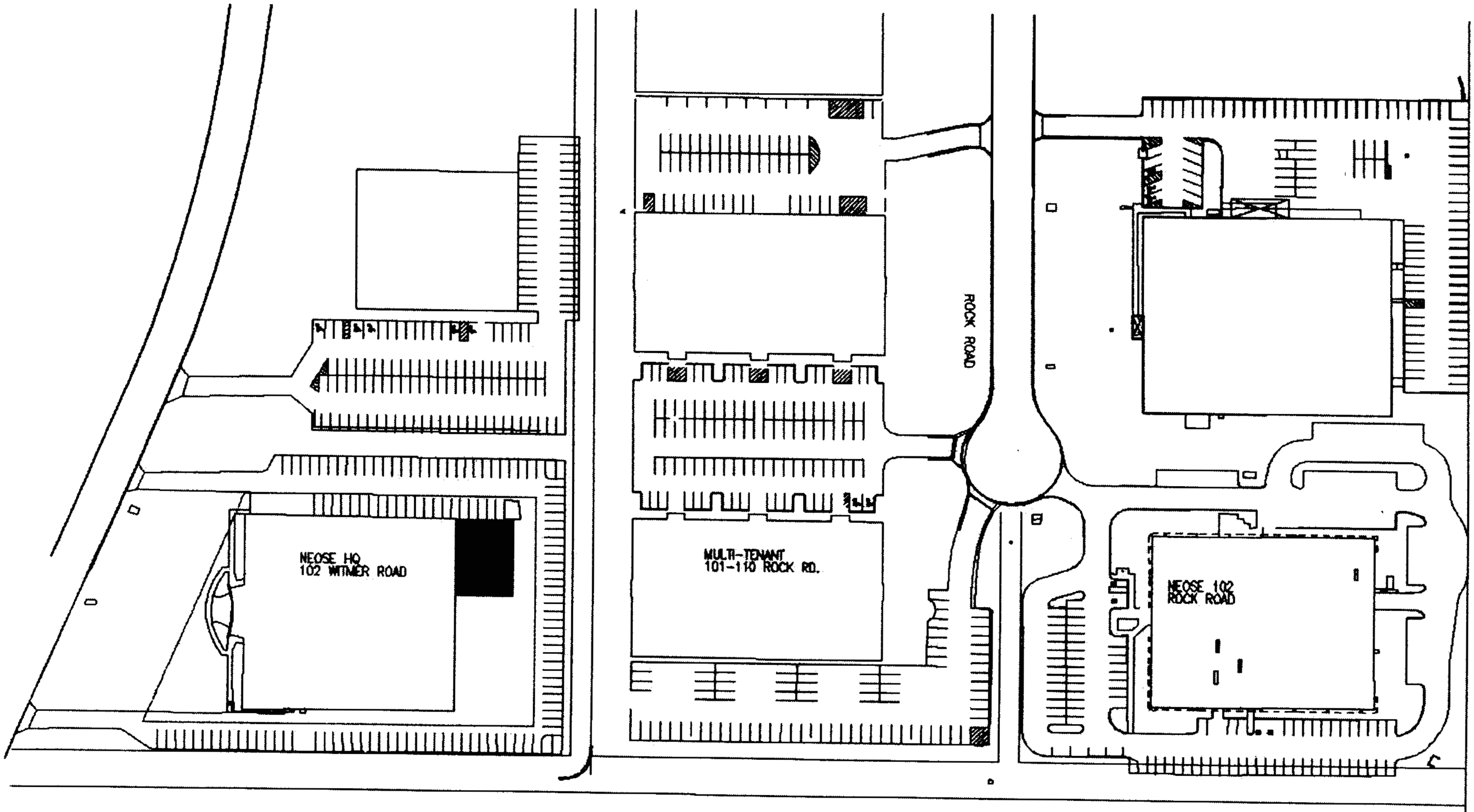
WILLIAM FENDT

William Fendt has assisted Neose Technologies, Inc. as a radiation safety consultant since 1997. Mr. Fendt is currently the full time Radiation Safety Officer for the University of Delaware (1990-present) and was employed as Radiation Safety Technician and Health Physicist at the University of Pennsylvania from 1980 to 1990.

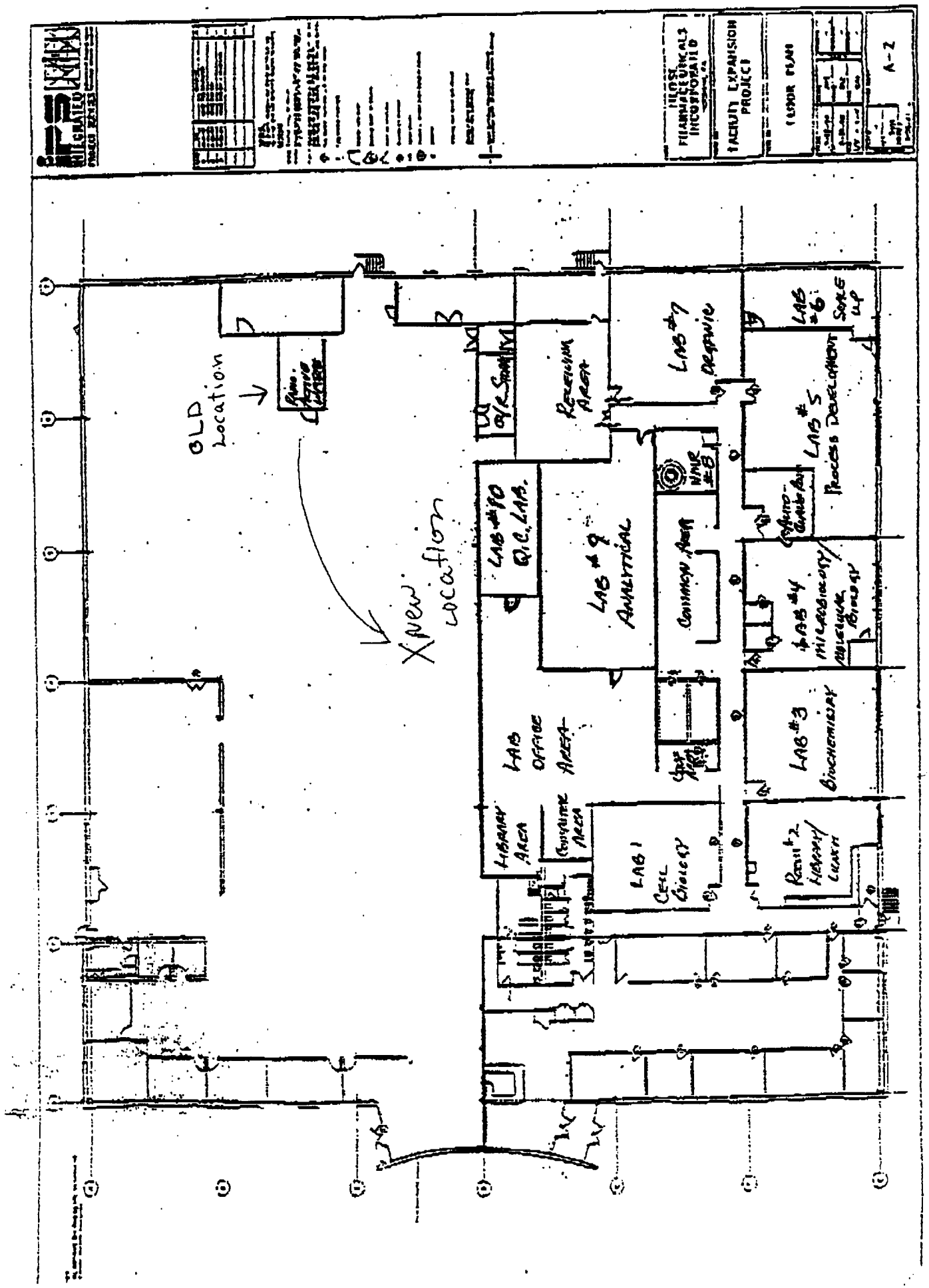
Mr. Fendt has a Bachelor's degree in Biology from the University of Pennsylvania and has attended several training courses including-

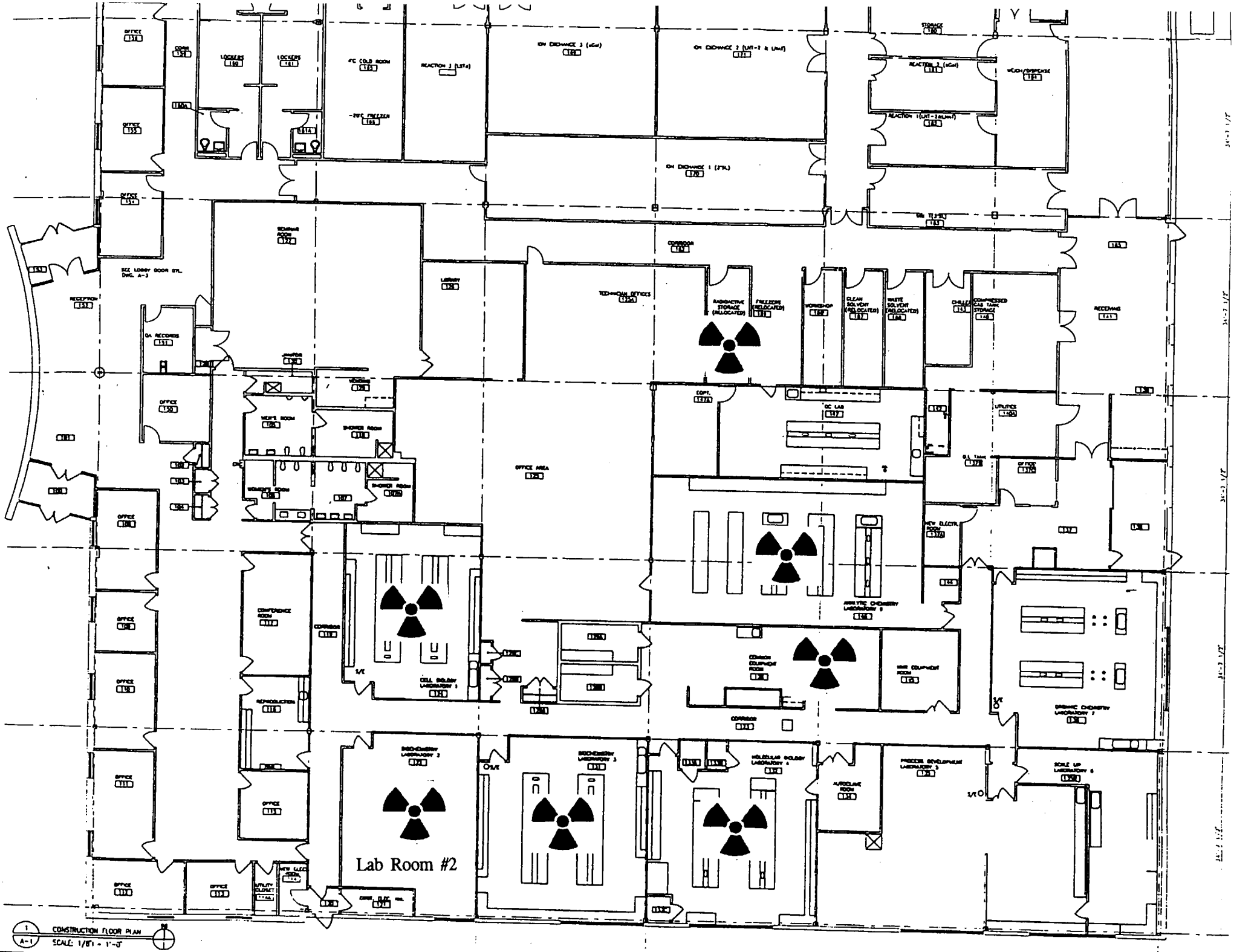
- Radiation Safety Officer Training (40 hours)
- Radioactive Materials Transportation and Disposal Training (40 hours)
- Fundamentals of Industrial Hygiene Training (40 hours)
- Environmental Technician Certificate (120 hours)

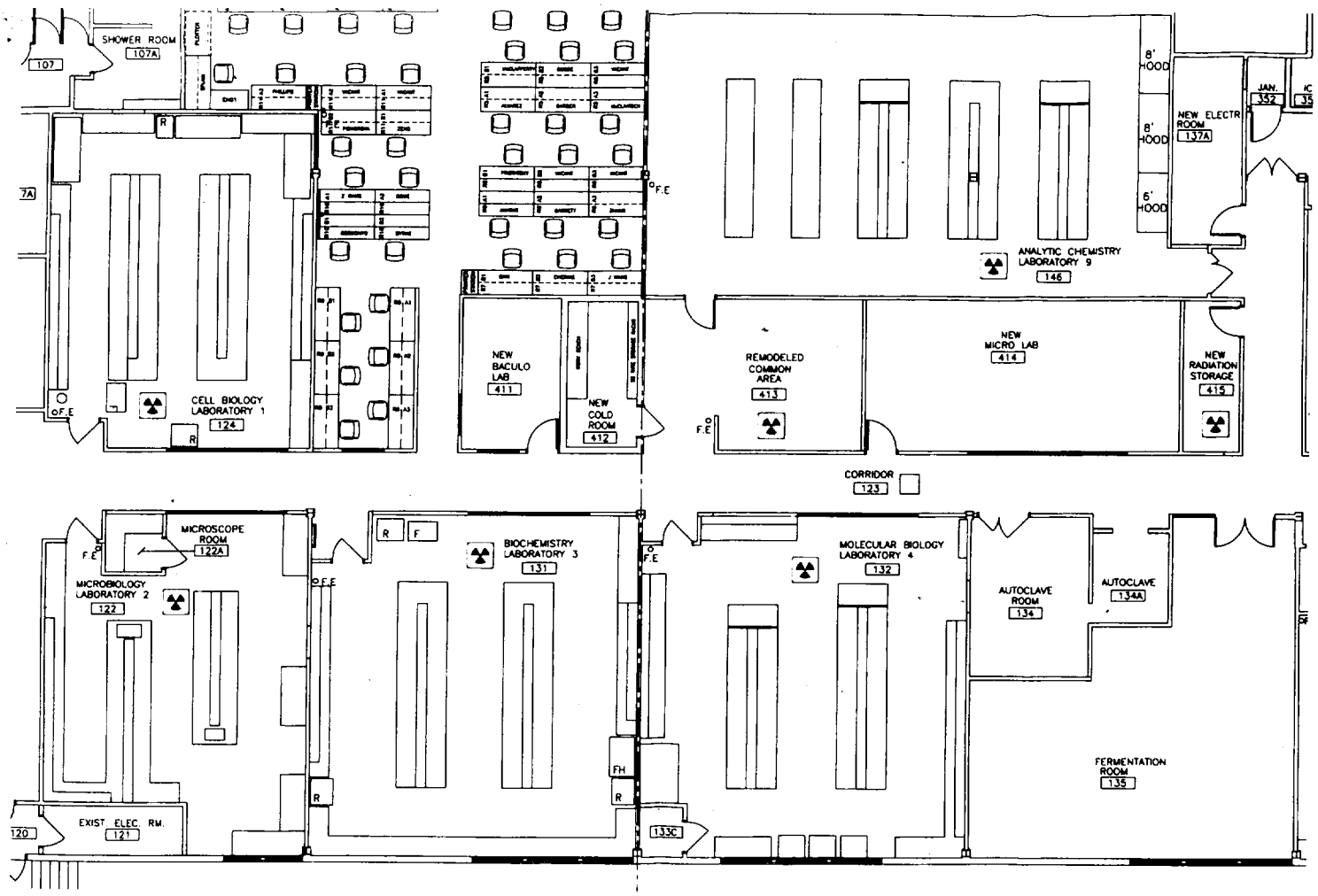
APPENDIX A



NEOSE HQ
102 WITMER ROAD
MULTI-TENANT
101-110 ROCK RD.
ROCK ROAD
NEOSE 102
ROCK ROAD


FACILITY EXPANSION PROJECT
FLOOR PLAN
A-2
OLD Location
X New location
LAB #10 Q.C. LAB.
LAB #9 ANALYTICAL
LAB #7
LAB #6
LAB #5
LAB #4
LAB #3
LAB #2
LAB #1
LAB OFFICE AREA
LIBRARY AREA
CONFERENCE AREA
RECEIVING AREA
COMMON AREA


Lab Room #2
CONSTRUCTION FLOOR PLAN
SCALE: 1/8" = 1'-0"


SHOWER ROOM
107A
107
CELL BIOLOGY LABORATORY 1
124
NEW BACULO LAB
411
NEW COLD ROOM
412
REMODELED COMMON AREA
413
ANALYTIC CHEMISTRY LABORATORY 9
146
NEW MICRO LAB
414
NEW RADIATION STORAGE
415
8' HOOD
8' HOOD
6' HOOD
NEW ELECTR ROOM
137A
JAN.
352
CORRIDOR
123
MICROSCOPE ROOM
122A
MICROBIOLOGY LABORATORY 2
122
EXIST. ELEC. RM.
121
BIOCHEMISTRY LABORATORY 3
131
MOLECULAR BIOLOGY LABORATORY 4
132
AUTOCLAVE ROOM
134
AUTOCLAVE
134A
FERMENTATION ROOM
135
133C
F.E
R
F
FH

APPENDIX B

LIQUID SCINTILLATION CTR CALIBRATION AND QUENCH CURVE

1. Set a counting region on the liquid scintillation counter, 0-1000.
2. Run the Autocalibrate program on the liquid scintillation counter per the counter manual.
3. Prepare two counting vials, each with 15ml of Ultima Gold cocktail in a 20 glass vial.
4. Count the two vials to determine background count rate.
5. Pipet 200ul of H-3 calibration standard into one vial. Pipet 200ul of C-14 calibration standard into the other. Mark vials. Enter "calibration date" below.

CALIBRATION DATE:	06/30/2004		
DPM H-3 IN 200ul:	508000	DPM (200ul) ON CALIBRN DATE:	411613
ASSAY DATE:	10/05/2000		
DPM C-14 IN 200ul:	94000	DPM (200ul) ON CALIBRN DATE:	93800
ASSAY DATE:	12/01/1986		

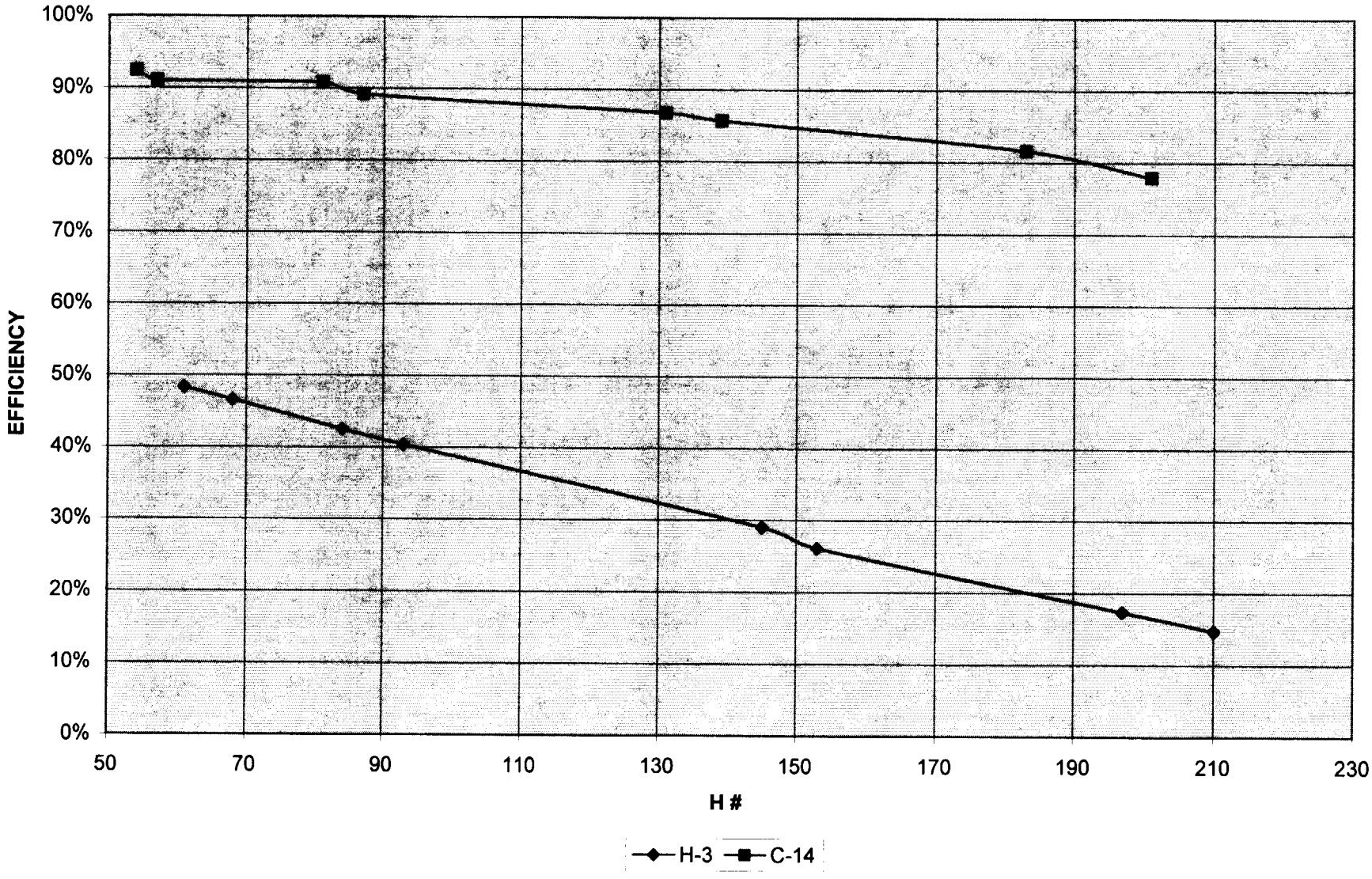
5. Count both vials. Record CPM and H#. Add quenching agent to each vial and count again. Repeat until H# approaches or exceeds 200.

RESULTS

OPEN CHANNEL (0-1000)

VOLUME QUENCH(ul)	H-3 Ultima Gold CPM	H#	EFF	C-14 Ultima Gold CPM	H#	EFF
0	198728	61	48%	86646	54	92%
10	191834	68	47%	85363	57	91%
20	174888	84	42%	85152	81	91%
40	166204	93	40%	83649	87	89%
70	119358	145	29%	81389	131	87%
100	107428	153	26%	80384	139	86%
150	71426	197	17%	76558	183	82%
200	60525	210	15%	73107	201	78%

QUENCH CURVE 6/30/2004



SURVEY METER BETA CALIBRATION

SURVEY METER DESCRIPTION--
LUDLUM MODEL 3 RATEMETER (sn 109560) WITH MODEL 44-9 GM PROBE
MEASUREMENTS PERFORMED WITH PROBE AT CONTACT WITH SOURCE

CALIBRATION DATE: 12/22/2003

PULSER CALIBRATION

Johnson Varipulser VP-CC, Amplitude = 0.25V negative

Scale		Pulser CPM	Meter CPM
x0.1		250	250
x0.1		300	310
x1		2500	2600
x1		5000	5000
x10		25k	25k
x10		50k	58k
x100		250k	240k
x100		500k	470k

SOURCE CALIBRATION

BETA SOURCES (except Si32)-- ISOTOPE PRODUCTS LABS MODEL #200-1 BETA SOURCE SET
Si-32 SOURCE-- ISOTOPE PRODUCT LABS, MODEL EF-032-A

SOURCE	HALF LIVE IN YEARS	MAX BETA (MeV)	ORIGINAL ACTIVITY (uCi)	DATE ORIGINAL ACTIVITY	DPM ON CALIBRATION DATE	NET CPM MEASURED	COUNTER EFFICIENCY	CORRECTION FACTOR (cpm/uCi)
C-14	5730	0.156	0.1039	06/01/1993	230363	100000	0.43	963694
Tc-99	213000	0.292	0.01062	05/01/1993	23576	3900	0.17	367244
Cl-36	301000	0.709	0.0114	06/01/1993	25307	9000	0.36	789493
Si-32	104	1.71	0.05098	07/01/2002	112067	52000	0.46	1030094

RADIATION SURVEY INSTRUMENT CALIBRATION RECORD

INSTRUMENT--

METER (MAKE/MODEL/SN) Victoreen 450P SN2884
PROBE (MAKE/MODEL/SN) Ionization Chamber

CALIBRATION SOURCE-- Cs-137 (120mCi, 5/13/93)
JL SHEPHERD MODEL 28-5 CALIBRATOR

DATE OF CALIBRATION-- 02/27/2004

BACKGROUND READING-- L.T. 0.01mR/hr

SOURCE STRENGTH	SCALE RANGE (mR/hr)	DISTANCE-SOURCE TO PROBE (cm)	EXPOSURE (mR/hr)	INSTRUMENT READING (mR/hr)	CORRECTION FACTOR (EXP/READNG)
FULL	0-500	25.4	400	380	1.05
FULL	0-500	29.3	300	290	1.03
FULL	0-500	50.7	100	95	1.05
FULL	0-50	93	30	27	1.11
FULL	0-50	160	10	9.5	1.05
9.75	0-5	94	3	2.6	1.15
9.75	0-5	163	1	1	1.00
9.75	0-0.5	297	0.3	0.25	1.20
9.75	0-0.5	514	0.1	0.09	1.11

Exposure to front of chamber

Not calibrated for dose rates exceeding 500 mrem/hr.

Isotope Products Laboratories
An Eckert & Ziegler Company

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide: Si-32
Half-life: 104 ± 13 years
Catalog No.: BF-032-A
Source No.: 941-27

P.O. No.: MASTER CARD
Reference Date: 1-Jul-02 12:00 PST
Contained Radioactivity: 50.98 nCi 1886 Bq
(Si-32 only)

Physical description:

A. Capsule type:	A (25.4 mm OD x 3.18 mm THK)
B. Nature of active deposit:	Distributed and evaporated metallic salt
C. Active Diameter:	20 mm
D. Backing:	Stainless steel
E. Cover:	0.0508 mm aluminum (See Notes below)

Radioimpurities:

None detected (P-32 daughter in equilibrium)

Method of Calibration:

This source was prepared from a weighed aliquot of solution whose activity in µCi/g was determined using a liquid scintillation counter.

Uncertainty of Measurement:

A. Type A (random) uncertainty:	± 2.5 %
B. Type B (systematic) uncertainty:	± 3.0 %
C. Uncertainty in aliquot weighing:	± 0.4 %
D. Total uncertainty at the 99% confidence level:	± 3.9 %

Notes:

- See reverse side for leak test(s) performed on this source.
- IPL participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).
- Nuclear data was taken from NCRP Report No. 58, 1985.
- This source has a working life of 5 years.
- This cover will stop approximately 74% of betas from Si-32 and 4% of betas from P-32.
- This source had a total surface emission rate (Si-32 + P-32) of 69580 β/min in 2π on 27 Jun 02.

David James Van Dalsen
Quality Control

27-Jun-02
Date Signed

IPL Ref. No.: 941-27

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	C-14	*Customer:*	ATLANTIC NUCLEAR	
Half Life:	5730 ± 40 years	P.O.No.:	AN-11906	
Catalog No.:	200-1 type A	Reference Date:	June 1 1993	12:00 PST.
Source No.:	424-61-1	Contained Radioactivity:	0.1039	µCi.
		Contained Radioactivity:	3.84	kBq.

Description of Source

a. Capsule type:	A
b. Nature of active deposit:	Distributed and evaporated organic C-14 compound
c. Active diameter/volume:	22 mm
d. Backing:	0.254 mm stainless steel
e. Cover:	0.9 mg/cm² aluminized mylar

RadioImpurities

None detected

Method of Calibration

The source was prepared from a weighed aliquot of solution whose concentration in µCi/gram was determined by a liquid scintillation counter.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	± 1.8%
b. Random uncertainty in assay:	± 0.8%
c. Random uncertainty in weighing(s):	± 0.2%
d. Total uncertainty at the 99% confidence level:	± 2.0%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).

ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

QUALITY CONTROL

May 24, 1993

Date Signed

IPL Ref. No.: N/A

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Tc-99	Customer:	ATLANTIC NUCLEAR	
Half Life:	(2.13 ± 0.05) x 10^5 years	P.O.No.:	AN-11906	
Catalog No.:	200-1 type A	Reference Date:	May 1 1993	12:00 PST.
Source No.:	424-61-4A	Contained Radioactivity:	0.01062	µCi.
		Contained Radioactivity:	0.393	kBq.

Description of Source

a. Capsule type:	A
b. Nature of active deposit:	Distributed and evaporated metallic salts
c. Active diameter/volume:	22 mm
d. Backing:	0.254 mm stainless steel
e. Cover:	0.9 mg/cm² aluminized mylar

Radioimpurities

None detected

Method of Calibration

The source was assayed using a windowless internal gas flow proportional counter.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	± 1.9%
b. Random uncertainty in assay:	± 1.1%
c. Random uncertainty in weighing(s):	± 0.0%
d. Total uncertainty at the 99% confidence level:	± 2.2%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).

ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

QUALITY CONTROL

May 24, 1993

Date Signed

IPL Ref. No.: N/A

CERTIFICATE OF CALIBRATION
BETA STANDARD SOURCE

Radionuclide:	Cl-36	Customer:	ATLANTIC NUCLEAR
Half Life:	(3.01 ± 0.02) x 10^5 years	P.O.No.:	AN-11906
Catalog No.:	200-1 type A	Reference Date:	June 1 1993 12:00 PST.
Source No.:	424-61-2	Contained Radioactivity:	0.01140 µCi.
		Contained Radioactivity:	0.422 kBq.

Description of Source

a. Capsule type:	A
b. Nature of active deposit:	Distributed and evaporated metallic salts
c. Active diameter/volume:	22 mm
d. Backing:	0.254 mm stainless steel
e. Cover:	0.9 mg/cm² aluminized mylar

Radioimpurities

None detected

Method of Calibration

The source was prepared from a weighed aliquot of solution whose concentration in µCi/gram was determined by a liquid scintillation counter.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	± 1.0%
b. Random uncertainty in assay:	± 0.7%
c. Random uncertainty in weighing(s):	± 0.6%
d. Total uncertainty at the 99% confidence level:	± 1.4%

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).

ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna Wilson
QUALITY CONTROL

May 24, 1993
Date Signed

IPL Ref. No.: N/A

Received 3-15-88

CERTIFICATE OF RADIOACTIVITY CALIBRATION

CARBON-14 REFERENCE SOURCE

NES-006

Half-Life: 5730 ± 40 years
Lot Number: 0060686A

The activity of Carbon-14 was found to be 4.7×10^5 dpm/ml in December 1986.

DESCRIPTION OF THE SOURCE

Chemical Composition:	^{14}C Toluene
Volume:	~ 10 milliliters
Physical Form:	10cc Combi-Vial
Temperature at Calibration:	20°C

DECAY SCHEME

	INTENSITY (%)
β- 156 KeV maximum	
49 KeV average	100

REFERENCE: A Handbook of Radioactivity Measurements Procedures, NCRP Report No. 58, February 1985 Second Edition.

METHOD OF CALIBRATION

Aliquots of the solution were calibrated by liquid scintillation counting. The counting efficiency was determined using equal aliquots of a ^{14}C-toluene solution certified by the National Bureau of Standards for Du Pont under PO #34004.

Du Pont participates in a National Bureau of Standards - Atomic Industrial Forum measurement assurance program in order to insure the continuing traceability of Du Pont's radioassays to the NBS.

ERRORS

Random Errors (99% confidence level)

Precision of the Du Pont measurements	± 0.9%

Systematic Errors

Accuracy of the NBS standard	± 2.0%
Pipetting Error	± 0.2%

Overall Error

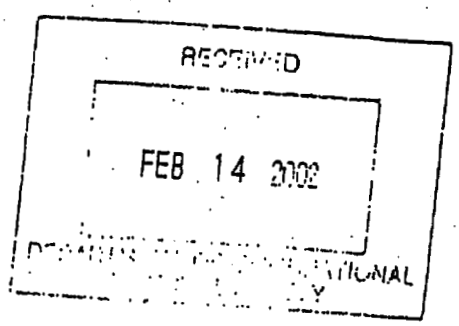
0.9 + 2.0 + 0.2 = ± 3.1%

By: John Rung

Calibration Laboratory, Analytical Services

076205 — 1286

Packard Instrument Company 2200 Warrenville Road Downers Grove, IL 60515 Tel. 630-969-6000 Fax: 630-969-6511



CERTIFICATE OF RADIOACTIVITY

PRODUCT:	Tritiated Water Internal Standard
CATALOG / PART NUMBER:	6004052
RADIONUCLIDE:	^{3}H (Tritium)
DATE OF ASSAY:	05 Oct 2000
ASSAYED VALUE:	2.54×10^{6} dpm/g $\pm$ 3.0%

REFERENCE STANDARD: National Institute of Standards and Technology SRM 4927

METHOD OF STANDARDIZATION:

The assayed value was determined by direct gravimetric comparison to the reference standard.

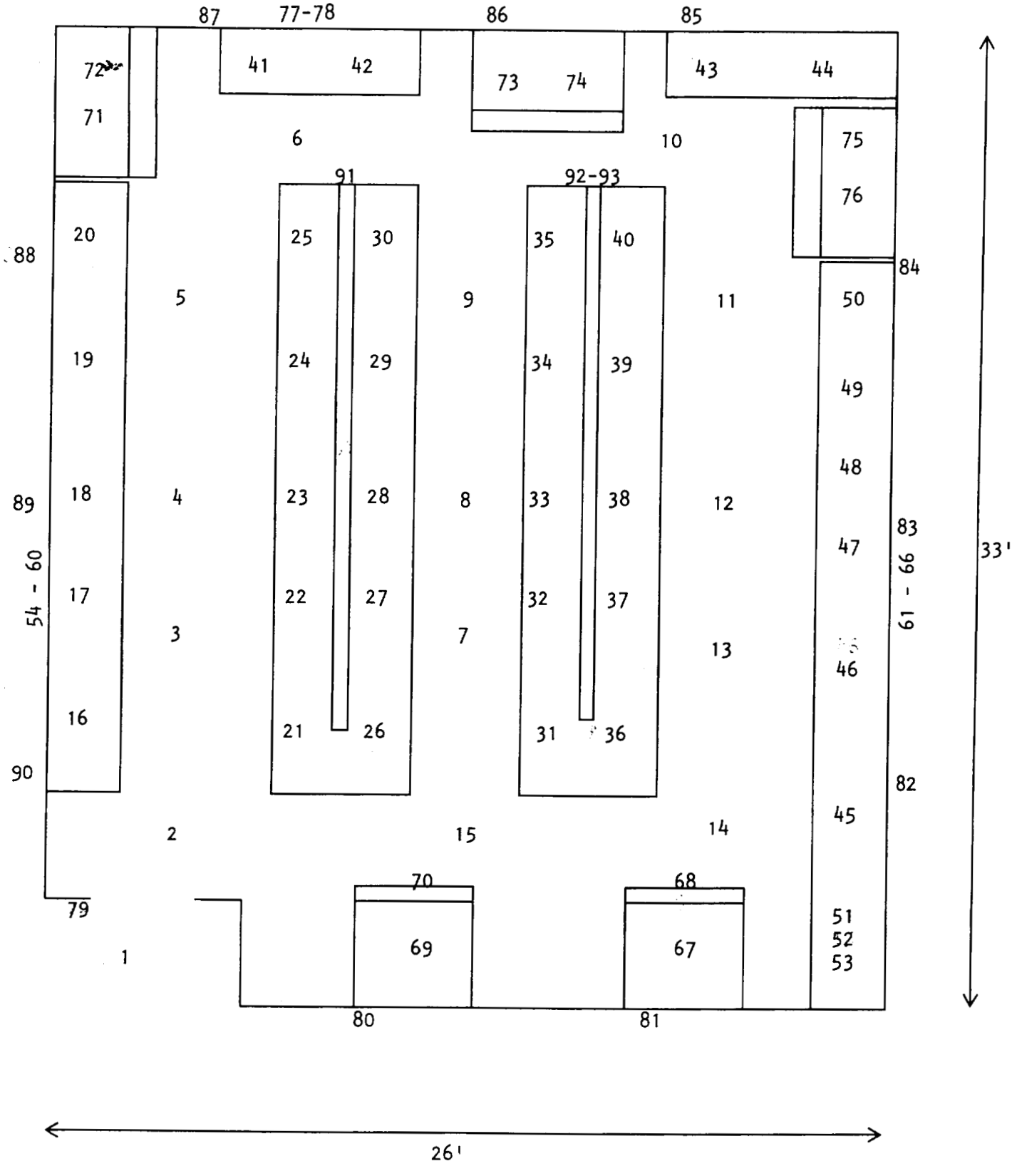
I hereby certify that the above information is accurate.

Lilibeth L. Salera

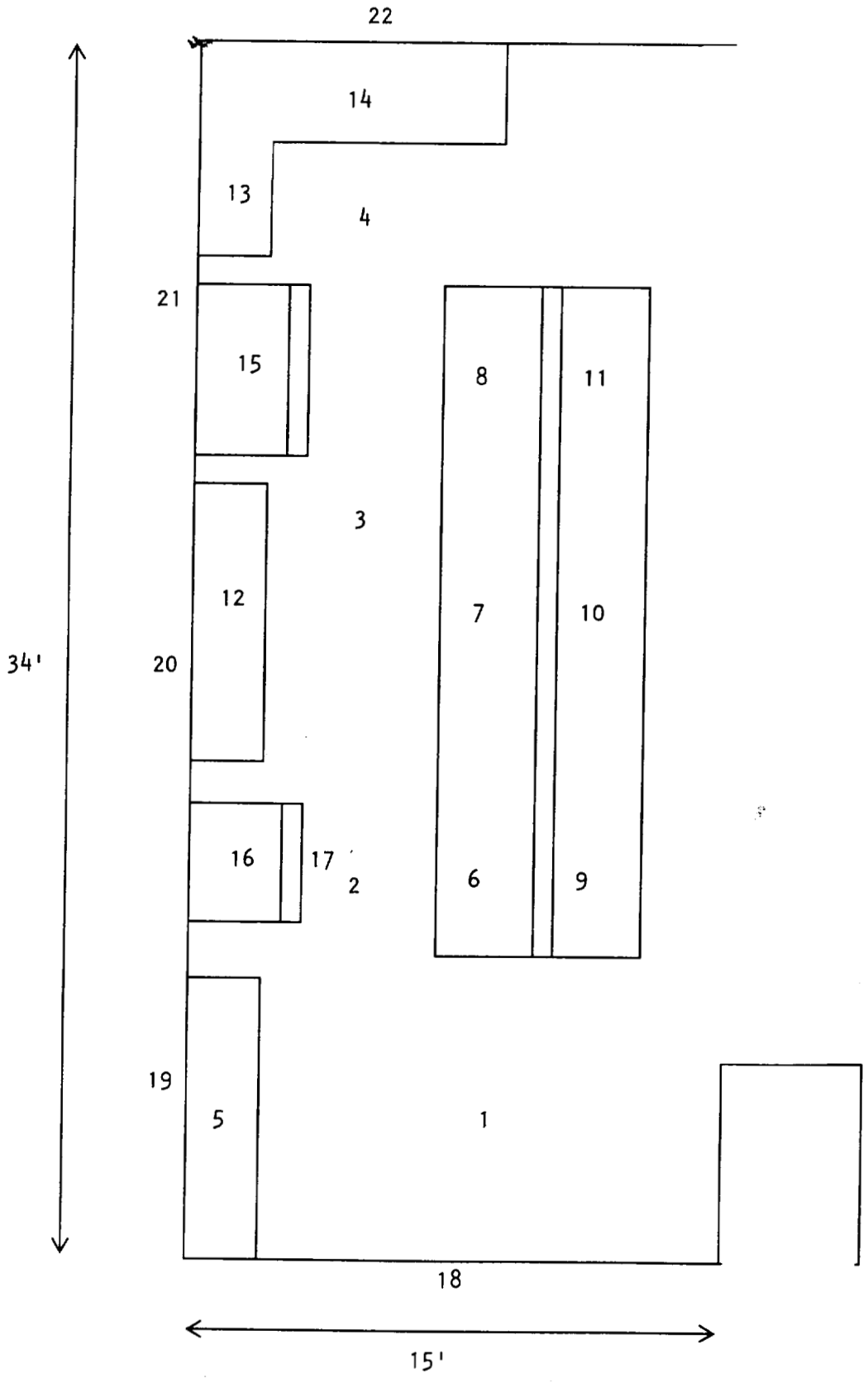
Chemist

APPENDIX C

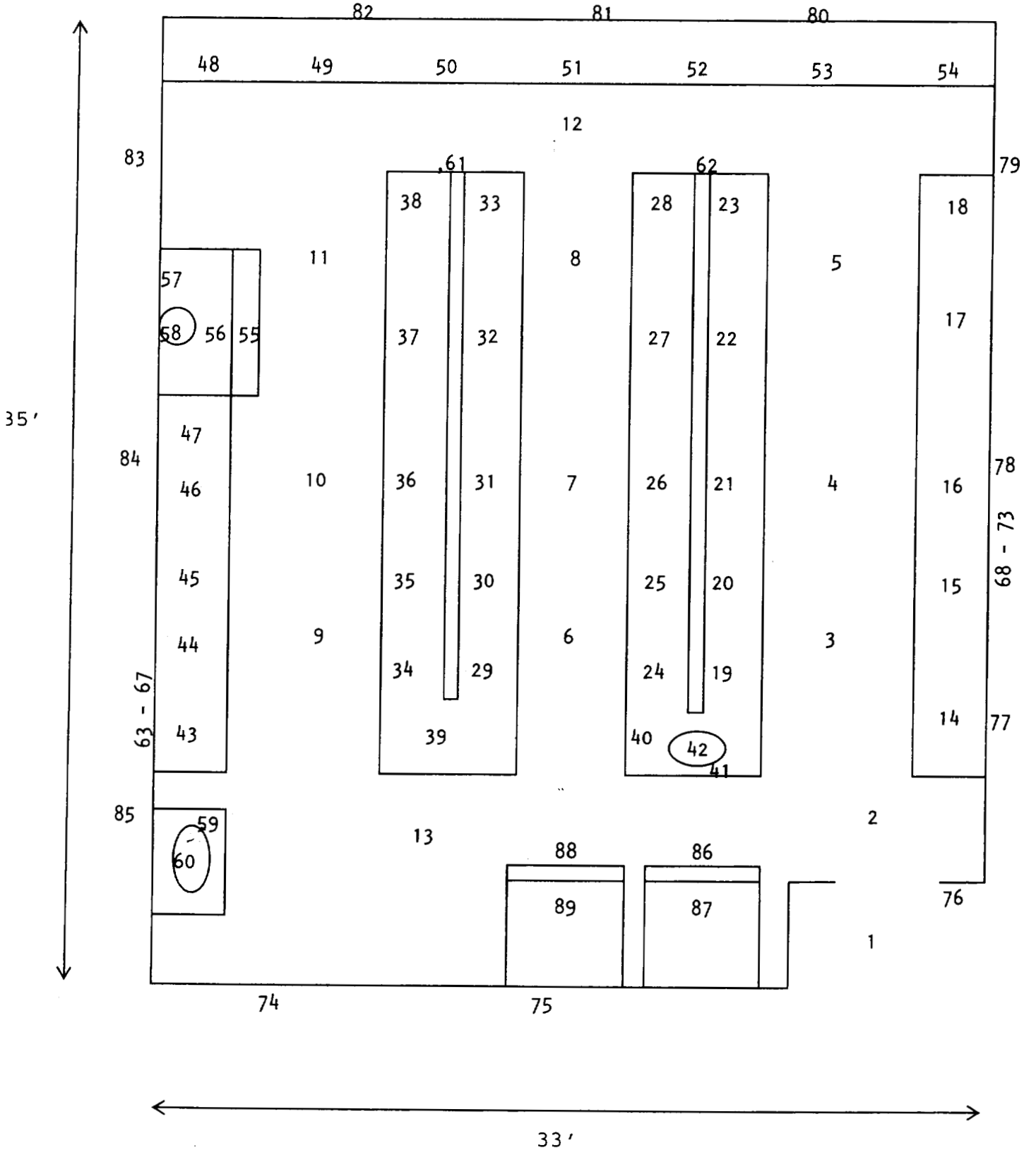
LABORATORY ROOM 1



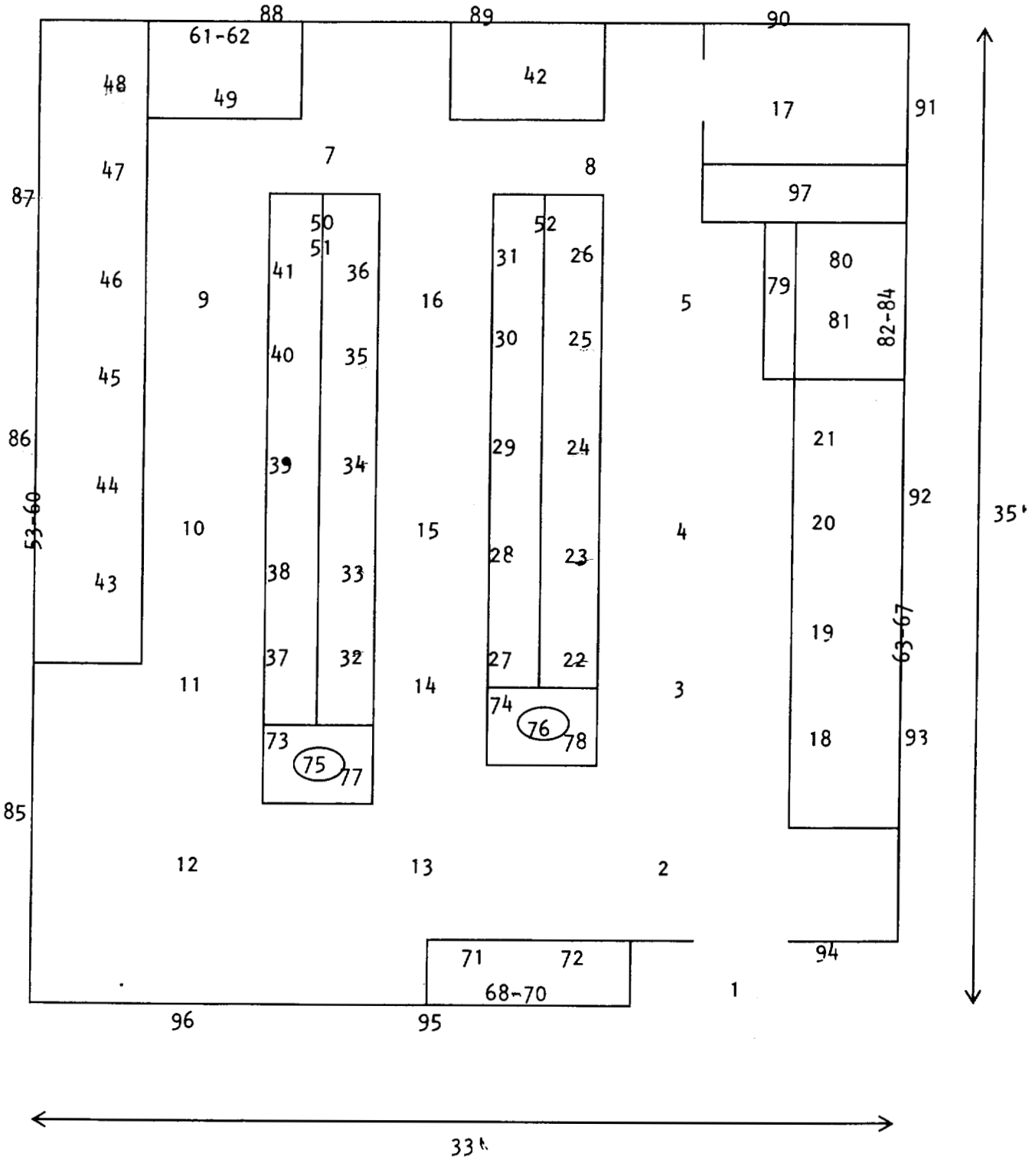
LABORATORY ROOM 2



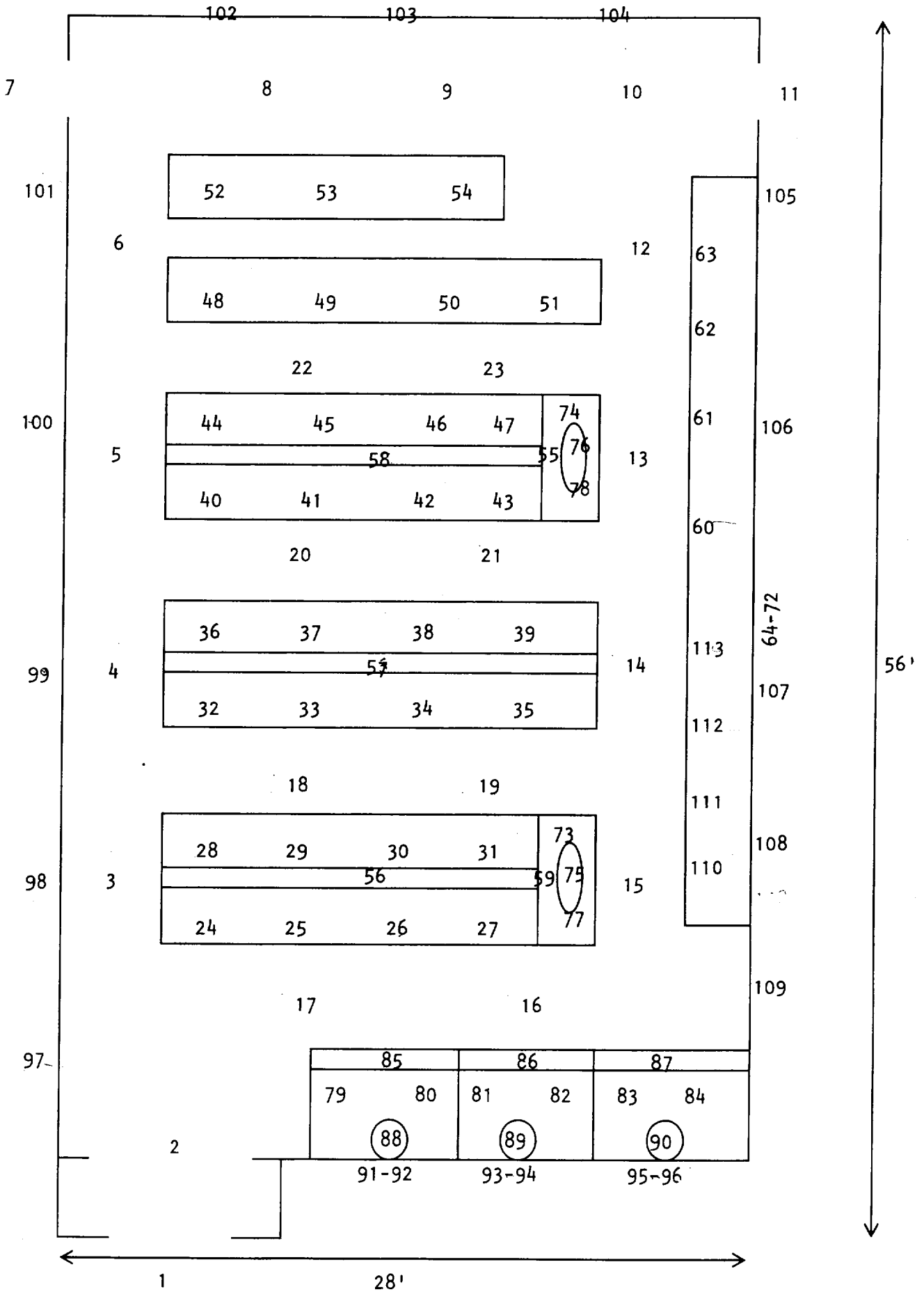
Lab Room 3


82
81
80
48
49
50
51
52
53
54
12
83
61
62
79
38
33
28
23
18
11
8
5
57
17
58
56
55
37
32
27
22
35'
47
84
78
10
36
31
7
26
21
4
16
46
68 - 73
45
35
30
25
20
15
9
6
3
44
34
29
24
19
63 - 67
14
77
43
39
40
42
41
85
59
2
13
60
88
86
89
87
76
1
74
75
33'

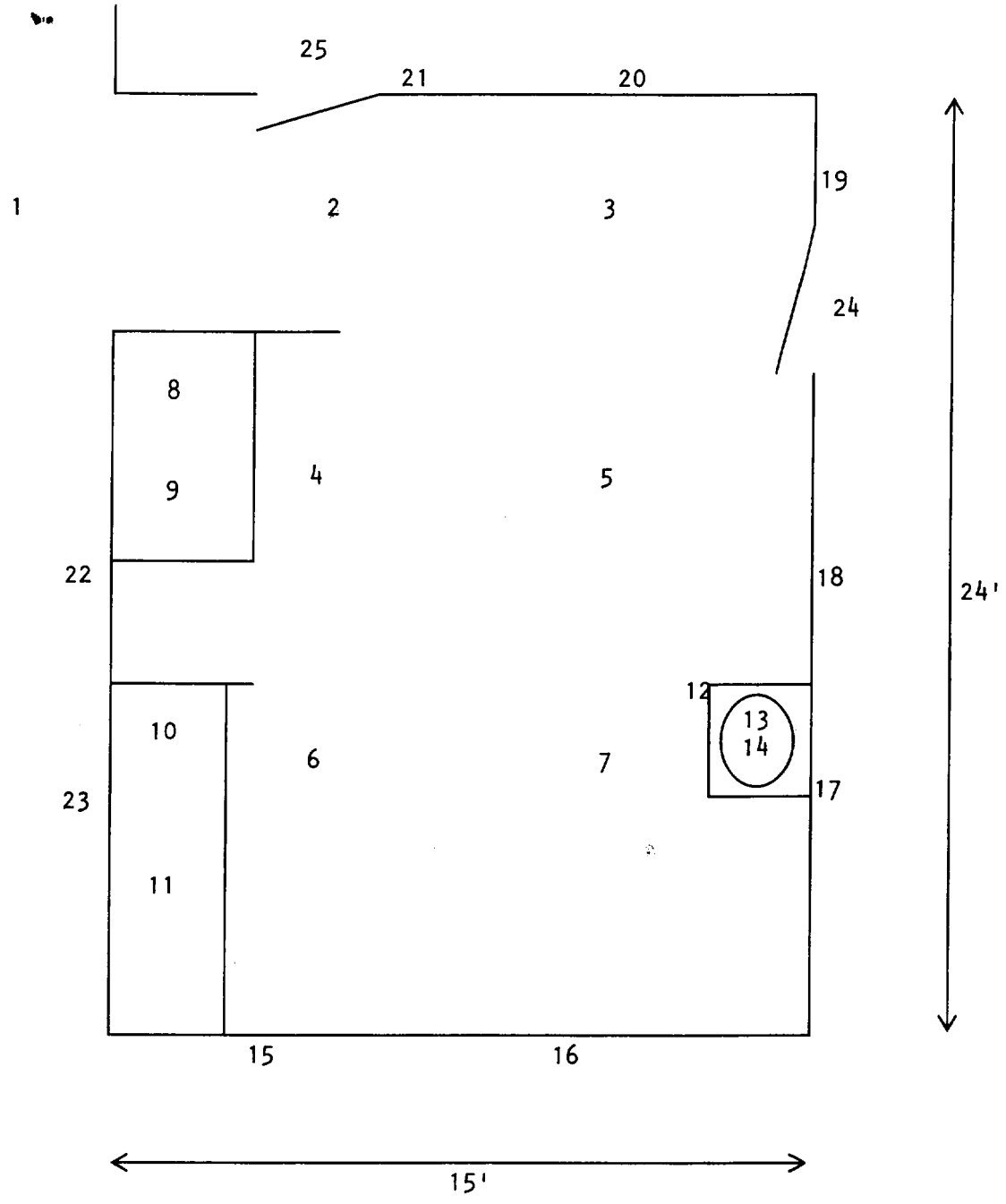
LABORATORY ROOM 4



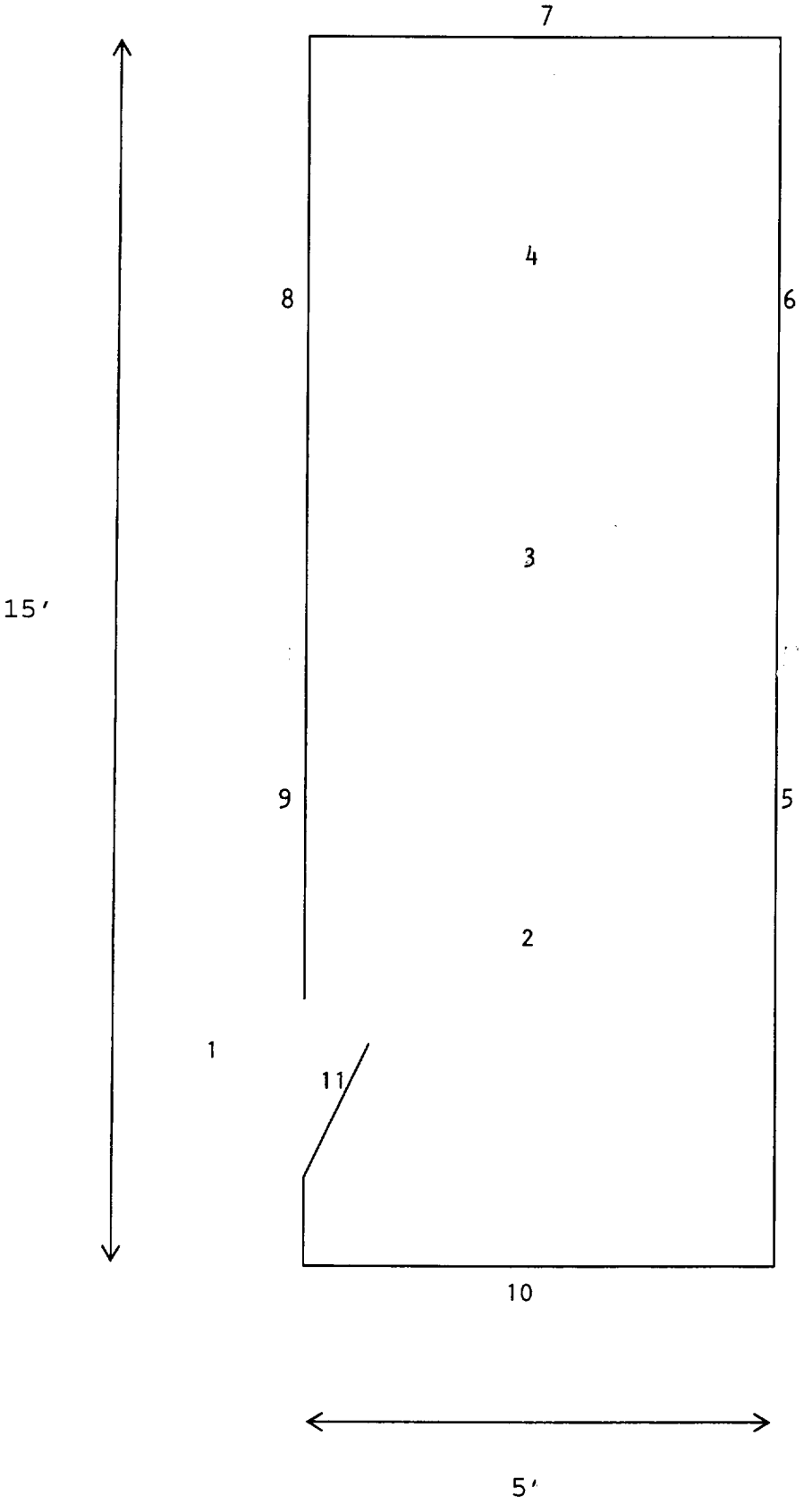
LABORATORY ROOM 9



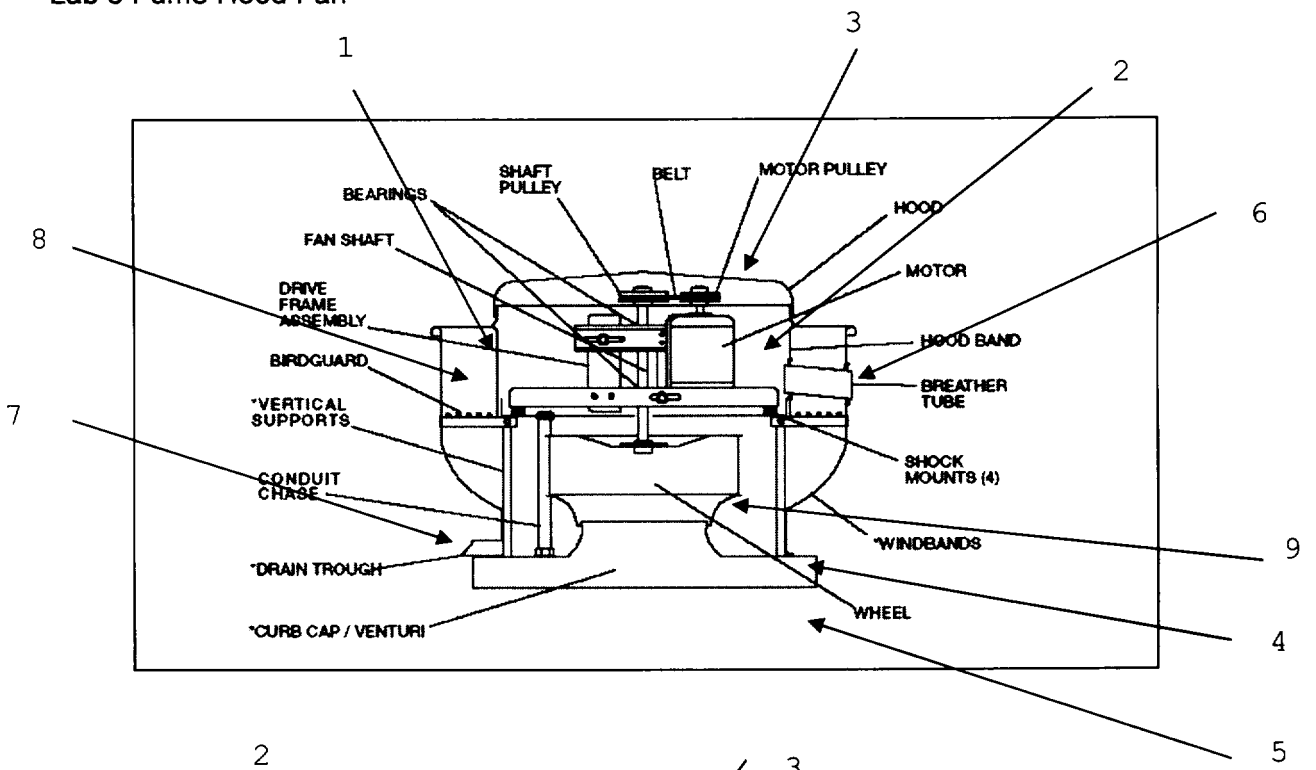
COMMON ROOM

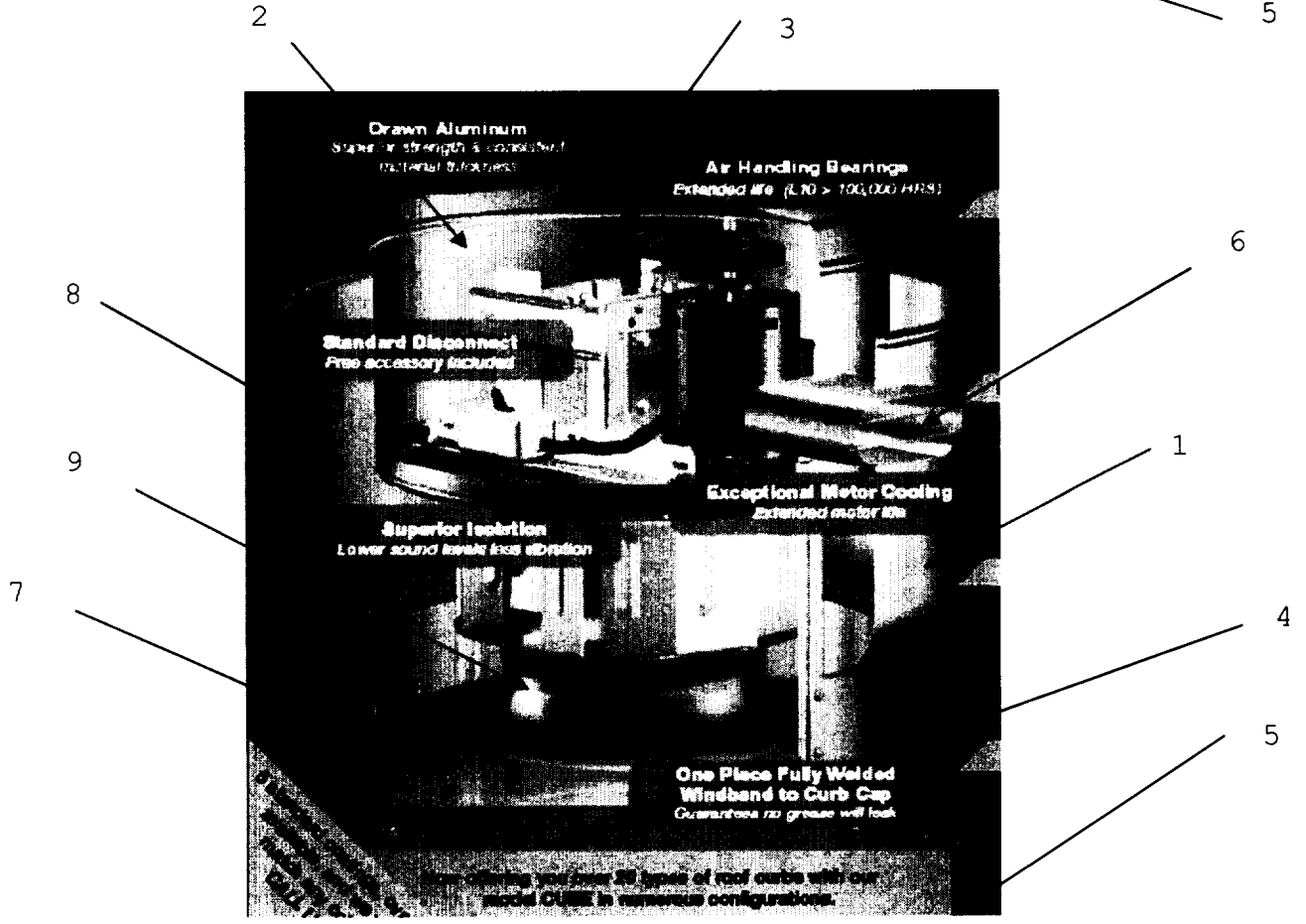


Waste Room 415



Lab 3 Fume Hood Fan





APPENDIX D

RESULTS OF WIPE TESTS-- May 26, 2004

LAB ID	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	44		
		Control 2	46		
		Control 3	47		
ROOM 4	1	hallway floor	-6	-13	-7
ROOM 4	2	floor	0	0	0
ROOM 4	3	floor	0	0	0
ROOM 4	4	floor	3	6	3
ROOM 4	5	floor	-1	-2	-1
ROOM 4	6	floor	-7	-15	-8
ROOM 4	7	floor	-4	-9	-4
ROOM 4	8	floor	-4	-9	-4
ROOM 4	9	floor	-5	-11	-5
ROOM 4	10	floor	2	4	2
ROOM 4	11	floor	1	2	1
ROOM 4	12	floor	-1	-2	-1
ROOM 4	13	floor	3	6	3
ROOM 4	14	floor	0	0	0
ROOM 4	15	floor	1	2	1
ROOM 4	16	floor	-2	-4	-2
ROOM 4	17	darkroom floor	-4	-9	-4
ROOM 4	18	bench	-5	-11	-5
ROOM 4	19	bench	2	4	2
ROOM 4	20	bench*	2	4	2
ROOM 4	21	bench	3	6	3
ROOM 4	22	bench	-4	-9	-4
ROOM 4	23	bench	-8	-17	-9
ROOM 4	24	bench	-1	-2	-1
ROOM 4	25	bench	-1	-2	-1
ROOM 4	26	bench	-4	-9	-4
ROOM 4	27	bench	4	9	4
ROOM 4	28	bench	0	0	0
ROOM 4	29	bench	-4	-9	-4
ROOM 4	30	bench	-6	-13	-7
ROOM 4	31	bench	0	0	0
ROOM 4	32	bench	0	0	0
ROOM 4	33	bench	-3	-6	-3
ROOM 4	34	bench	-2	-4	-2
ROOM 4	35	bench	0	0	0
ROOM 4	36	bench	-5	-11	-5
ROOM 4	37	bench	-7	-15	-8
ROOM 4	38	bench	-2	-4	-2
ROOM 4	39	bench	3	6	3
ROOM 4	40	bench	-4	-9	-4
* Post-cleaning wipe results shown (June 16, 2004).					

	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
ROOM 4	41	bench	-3	-6	-3
ROOM 4	42	bench	2	4	2
ROOM 4	43	bench	-5	-11	-5
ROOM 4	44	bench	-3	-6	-3
ROOM 4	45	bench	1	2	1
ROOM 4	46	bench	1	2	1
ROOM 4	47	bench	4	9	4
ROOM 4	48	bench	2	4	2
ROOM 4	49	bench	1	2	1
ROOM 4	50	top shelf	0	0	0
ROOM 4	51	bottom shelf	0	0	0
ROOM 4	52	shelf	6	13	7
ROOM 4	53	wall cabinet	-2	-4	-2
ROOM 4	54	wall cabinet	2	4	2
ROOM 4	55	wall cabinet	2	4	2
ROOM 4	56	wall cabinet	-3	-6	-3
ROOM 4	57	wall cabinet	-1	-2	-1
ROOM 4	58	wall cabinet	-1	-2	-1
ROOM 4	59	wall cabinet	0	0	0
ROOM 4	60	wall cabinet	-3	-6	-3
ROOM 4	61	top shelf	3	6	3
ROOM 4	62	bottom shelf	5	11	5
ROOM 4	63	wall cabinet	-4	-9	-4
ROOM 4	64	wall cabinet	-7	-15	-8
ROOM 4	65	wall cabinet	-3	-6	-3
ROOM 4	66	wall cabinet	-3	-6	-3
ROOM 4	67	wall cabinet	-3	-6	-3
ROOM 4	68	bottom shelf	2	4	2
ROOM 4	69	mid shelf	-2	-4	-2
ROOM 4	70	top shelf	-4	-9	-4
ROOM 4	71	bench	12	26	13
ROOM 4	72	bench	5	11	5
ROOM 4	73	sink bench	-4	-9	-4
ROOM 4	74	sink bench	3	6	3
ROOM 4	75	sink basin	-6	-13	-7
ROOM 4	76	sink basin	-6	-13	-7
ROOM 4	77	Qtip down drain	-1	-2	-1
ROOM 4	78	Qtip down drain	3	6	3
ROOM 4	79	hood bib	-1	-2	-1
ROOM 4	80	hood bench	-1	-2	-1
ROOM 4	81	hood bench	-3	-6	-3
ROOM 4	82	hood lo baffle	-3	-6	-3
ROOM 4	83	hood mid baffle	0	0	0
ROOM 4	84	hood duct interior	2	4	2
ROOM 4	85	wall	1	2	1
ROOM 4	86	wall	-2	-4	-2
ROOM 4	87	wall	2	4	2
ROOM 4	88	wall	1	2	1
ROOM 4	89	wall	6	13	7
ROOM 4	90	wall	-4	-9	-4

	LOCATION	DESCRIPTION	NET CPM	NET DPM (H-3)	NET DPM (C-14/S-35)
	ID		per 100 sq cm	per 100 sq cm	per 100 sq cm
ROOM 4	91	wall	-4	-9	-4
ROOM 4	92	wall	-2	-4	-2
ROOM 4	93	wall	0	0	0
ROOM 4	94	wall	-4	-9	-4
ROOM 4	95	wall	3	6	3
ROOM 4	96	wall	-2	-4	-2
ROOM 4	97	bench	-3	-6	-3

	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	44		
		Control 2	46		
		Control 3	49		
ROOM 9	1	hallway floor	1	2	1
ROOM 9	2	floor	0	0	0
ROOM 9	3	floor	-4	-9	-4
ROOM 9	4	floor	-1	-2	-1
ROOM 9	5	floor	1	2	1
ROOM 9	6	floor	-4	-9	-4
ROOM 9	7	floor	0	0	0
ROOM 9	8	floor	1	2	1
ROOM 9	9	floor	-2	-4	-2
ROOM 9	10	floor	-2	-4	-2
ROOM 9	11	floor	0	0	0
ROOM 9	12	floor	0	0	0
ROOM 9	13	floor	3	6	3
ROOM 9	14	floor	3	6	3
ROOM 9	15	floor	-1	-2	-1
ROOM 9	16	floor	-5	-11	-5
ROOM 9	17	floor	-3	-6	-3
ROOM 9	18	floor	-2	-4	-2
ROOM 9	19	floor	0	0	0
ROOM 9	20	floor	1	2	1
ROOM 9	21	floor	-1	-2	-1
ROOM 9	22	floor	-3	-6	-3
ROOM 9	23	floor	-7	-15	-8
ROOM 9	24	bench	-5	-11	-5
ROOM 9	25	bench	-3	-6	-3
ROOM 9	26	bench	-3	-6	-3
ROOM 9	27	bench	-2	-4	-2
ROOM 9	28	bench	2	4	2
ROOM 9	29	bench	-1	-2	-1
ROOM 9	30	bench	-8	-17	-9
ROOM 9	31	bench	-2	-4	-2
ROOM 9	32	bench	-1	-2	-1
ROOM 9	33	bench	3	6	3
ROOM 9	34	bench	2	4	2
ROOM 9	35	bench	5	11	5
ROOM 9	36	bench	2	4	2
ROOM 9	37	bench	-4	-9	-4
ROOM 9	38	bench	6	13	7
ROOM 9	39	bench	0	0	0
ROOM 9	40	bench	-4	-9	-4
ROOM 9	41	bench	7	15	8
ROOM 9	42	bench	-3	-6	-3
ROOM 9	43	bench	0	0	0
ROOM 9	44	bench	0	0	0
ROOM 9	45	bench	1	2	1
ROOM 9	46	bench	-3	-6	-3
ROOM 9	47	bench	-5	-11	-5
ROOM 9	48	bench	-4	-9	-4
ROOM 9	49	bench	-1	-2	-1
ROOM 9	50	bench	0	0	0
ROOM 9	51	bench	-1	-2	-1
ROOM 9	52	bench	-2	-4	-2
ROOM 9	53	bench	2	4	2
ROOM 9	54	bench	-7	-15	-8
ROOM 9	55	sink faucet	-2	-4	-2
ROOM 9	56	shelf	-4	-9	-4
ROOM 9	57	shelf	1	2	1
ROOM 9	58	shelf	5	11	5
ROOM 9	59	sink faucet	1	2	1
ROOM 9	60	bench	-4	-9	-4
ROOM 9	61	bench	-6	-13	-7
ROOM 9	62	bench	-5	-11	-5
ROOM 9	63	bench	-3	-6	-3
ROOM 9	64	wall cabinet	-1	-2	-1

	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
ROOM 9	65	wall cabinet	7	15	8
ROOM 9	66	wall cabinet	2	4	2
ROOM 9	67	wall cabinet	-7	-15	-8
ROOM 9	68	wall cabinet	1	2	1
ROOM 9	69	wall cabinet	1	2	1
ROOM 9	70	wall cabinet	-1	-2	-1
ROOM 9	71	wall cabinet	-4	-9	-4
ROOM 9	72	wall cabinet	1	2	1
ROOM 9	73	sink counter	-4	-9	-4
ROOM 9	74	sink counter	-8	-17	-9
ROOM 9	75	sink basin	-1	-2	-1
ROOM 9	76	sink basin	-3	-6	-3
ROOM 9	77	Qtip down drain	1	2	1
ROOM 9	78	Qtip down drain	-1	-2	-1
ROOM 9	79	hood bench	0	0	0
ROOM 9	80	hood bench	-5	-11	-5
ROOM 9	81	hood bench	-4	-9	-4
ROOM 9	82	hood bench	-1	-2	-1
ROOM 9	83	hood bench	-7	-15	-8
ROOM 9	84	hood bench	1	2	1
ROOM 9	85	hood bib	-2	-4	-2
ROOM 9	86	hood bib	-9	-19	-10
ROOM 9	87	hood bib	-3	-6	-3
ROOM 9	88	hood duct interior	-4	-9	-4
ROOM 9	89	hood duct interior	-2	-4	-2
ROOM 9	90	hood duct interior	-2	-4	-2
ROOM 9	91	hood baffle bottom	0	0	0
ROOM 9	92	hood baffle top	-1	-2	-1
ROOM 9	93	hood baffle bottom	0	0	0
ROOM 9	94	hood baffle top	-1	-2	-1
ROOM 9	95	hood baffle bottom	0	0	0
ROOM 9	96	hood baffle top	1	2	1
ROOM 9	97	wall	-4	-9	-4
ROOM 9	98	wall	-4	-9	-4
ROOM 9	99	wall	2	4	2
ROOM 9	100	wall	2	4	2
ROOM 9	101	wall	-3	-6	-3
ROOM 9	102	wall	-1	-2	-1
ROOM 9	103	wall	-1	-2	-1
ROOM 9	104	wall	-4	-9	-4
ROOM 9	105	wall	3	6	3
ROOM 9	106	wall	0	0	0
ROOM 9	107	wall	-1	-2	-1
ROOM 9	108	wall	-3	-6	-3
ROOM 9	109	wall	-2	-4	-2
ROOM 9	110	bench	-1	-2	-1
ROOM 9	111	bench	2	4	2
ROOM 9	112	bench	-3	-6	-3
ROOM 9	113	bench	-5	-11	-5

RESULTS OF WIPE TESTS-- June 16, 2004

LAB ID	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	48		
		Control 2	53		
		Control 3	45		
ROOM 1	1	hallway floor	-9	-20	-10
ROOM 1	2	floor	-4	-9	-4
ROOM 1	3	floor	-6	-13	-7
ROOM 1	4	floor	-4	-9	-4
ROOM 1	5	floor*	13	29	14
ROOM 1	6	floor	-7	-16	-8
ROOM 1	7	floor	3	7	3
ROOM 1	8	floor	-4	-9	-4
ROOM 1	9	floor	-7	-16	-8
ROOM 1	10	floor	-5	-11	-6
ROOM 1	11	floor	-6	-13	-7
ROOM 1	12	floor	3	7	3
ROOM 1	13	floor	-6	-13	-7
ROOM 1	14	floor	-3	-7	-3
ROOM 1	15	floor	2	4	2
ROOM 1	16	bench	-9	-20	-10
ROOM 1	17	bench	-5	-11	-6
ROOM 1	18	bench	-5	-11	-6
ROOM 1	19	bench	-8	-18	-9
ROOM 1	20	bench	-5	-11	-6
ROOM 1	21	bench	-2	-4	-2
ROOM 1	22	bench	-4	-9	-4
ROOM 1	23	bench	-6	-13	-7
ROOM 1	24	bench	-2	-4	-2
ROOM 1	25	bench	-2	-4	-2
ROOM 1	26	bench	11	24	12
ROOM 1	27	bench	-11	-24	-12
ROOM 1	28	bench	-5	-11	-6
ROOM 1	29	bench	-1	-2	-1
ROOM 1	30	bench	3	7	3
ROOM 1	31	bench*	13	29	14
ROOM 1	32	bench	6	13	7
ROOM 1	33	bench	-1	-2	-1
ROOM 1	34	bench	4	9	4
ROOM 1	35	bench	-6	-13	-7
ROOM 1	36	bench	-7	-16	-8
ROOM 1	37	bench	-4	-9	-4
ROOM 1	38	bench	6	13	7
ROOM 1	39	bench	-3	-7	-3
ROOM 1	40	bench	-2	-4	-2
* Post-cleaning wipe results shown (July 27, 2004).					

	LOCATION	DESCRIPTION	NET CPM	NET DPM (H-3)	NET DPM (C-14/S-35)
	ID		per 100 sq cm	per 100 sq cm	per 100 sq cm
ROOM 1	41	bench	1	2	1
ROOM 1	42	bench	-10	-22	-11
ROOM 1	43	bench	-5	-11	-6
ROOM 1	44	bench	2	4	2
ROOM 1	45	bench	-3	-7	-3
ROOM 1	46	bench	-6	-13	-7
ROOM 1	47	bench	2	4	2
ROOM 1	48	bench	-4	-9	-4
ROOM 1	49	bench	-8	-18	-9
ROOM 1	50	bench	-3	-7	-3
ROOM 1	51	sink counter	-4	-9	-4
ROOM 1	52	sink basin	-1	-2	-1
ROOM 1	53	Qtip down drain	-6	-13	-7
ROOM 1	54	wall cabinet	-4	-9	-4
ROOM 1	55	wall cabinet	-5	-11	-6
ROOM 1	56	wall cabinet	-4	-9	-4
ROOM 1	57	wall cabinet	0	0	0
ROOM 1	58	wall cabinet	-4	-9	-4
ROOM 1	59	wall cabinet	-1	-2	-1
ROOM 1	60	wall cabinet	-6	-13	-7
ROOM 1	61	wall cabinet	-6	-13	-7
ROOM 1	62	wall cabinet	-7	-16	-8
ROOM 1	63	wall cabinet	-3	-7	-3
ROOM 1	64	wall cabinet	-5	-11	-6
ROOM 1	65	wall cabinet	-6	-13	-7
ROOM 1	66	wall cabinet	-2	-4	-2
ROOM 1	67	freezer interior	2	4	2
ROOM 1	68	freezer exterior	14	31	16
ROOM 1	69	refrigerator interior	-2	-4	-2
ROOM 1	70	refrigerator exterior	-8	-18	-9
ROOM 1	71	biocabinet	-1	-2	-1
ROOM 1	72	biocabinet	0	0	0
ROOM 1	73	biocabinet	-6	-13	-7
ROOM 1	74	biocabinet	-2	-4	-2
ROOM 1	75	biocabinet	-7	-16	-8
ROOM 1	76	biocabinet	-3	-7	-3
ROOM 1	77	bottom shelf	-2	-4	-2
ROOM 1	78	top shelf	-1	-2	-1
ROOM 1	79	wall	0	0	0
ROOM 1	80	wall	-10	-22	-11
ROOM 1	81	wall	-3	-7	-3
ROOM 1	82	wall	-4	-9	-4
ROOM 1	83	wall	-8	-18	-9
ROOM 1	84	wall	-1	-2	-1
ROOM 1	85	wall	2	4	2
ROOM 1	86	wall	1	2	1
ROOM 1	87	wall	-5	-11	-6
ROOM 1	88	wall	1	2	1
ROOM 1	89	wall	-5	-11	-6
ROOM 1	90	wall	0	0	0

	LOCATION	DESCRIPTION	NET CPM	NET DPM (H-3)	NET DPM (C-14/S-35)
	ID			per 100 sq cm	per 100 sq cm
ROOM 1	91	shelf	2	4	2
ROOM 1	92	top shelf	-4	-9	-4
ROOM 1	93	bottom shelf	-3	-7	-3

	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	45		
		Control 2	42		
		Control 3	44		
ROOM 2	1	hallway floor	0	0	0
ROOM 2	2	floor	-3	-7	-3
ROOM 2	3	floor	-1	-2	-1
ROOM 2	4	floor	3	7	3
ROOM 2	5	bench	-1	-2	-1
ROOM 2	6	bench	1	2	1
ROOM 2	7	bench	-4	-9	-4
ROOM 2	8	bench	6	13	7
ROOM 2	9	bench	7	16	8
ROOM 2	10	bench	-1	-2	-1
ROOM 2	11	bench	-6	-13	-7
ROOM 2	12	bench	0	0	0
ROOM 2	13	bench	3	7	3
ROOM 2	14	bench	5	11	6
ROOM 2	15	biocabinet	4	9	4
ROOM 2	16	refrigerator interior	0	0	0
ROOM 2	17	refrigerator exterior	-1	-2	-1
ROOM 2	18	wall	-3	-7	-3
ROOM 2	19	wall	-2	-4	-2
ROOM 2	20	wall	1	2	1
ROOM 2	21	wall	3	7	3
ROOM 2	22	wall	3	7	3

	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	41		
		Control 2	42		
		Control 3	44		
COMMON	1	hallway floor	-6	-13	-7
COMMON	2	floor	-2	-4	-2
COMMON	3	floor	-1	-2	-1
COMMON	4	floor	3	7	3
COMMON	5	floor	-5	-11	-6
COMMON	6	floor	5	11	6
COMMON	7	floor	-2	-4	-2
COMMON	8	bench	0	0	0
COMMON	9	bench	3	7	3
COMMON	10	bench	0	0	0
COMMON	11	bench	1	2	1
COMMON	12	sink counter	4	9	4
COMMON	13	sink basin	0	0	0
COMMON	14	Qtip down drain	5	11	6
COMMON	15	wall	5	11	6
COMMON	16	wall	3	7	3
COMMON	17	wall	-1	-2	-1
COMMON	18	wall	2	4	2
COMMON	19	wall	3	7	3
COMMON	20	wall	2	4	2
COMMON	21	wall	9	20	10
COMMON	22	wall	2	4	2
COMMON	23	wall	1	2	1
COMMON	24	floor	-4	-9	-4
COMMON	25	cold room floor	0	0	0

RESULTS OF WIPE TESTS-- July 27, 2004

LAB ID	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	44		
		Control 2	49		
		Control 3	39		
ROOM 3	1	hallway floor	-8	-18	-9
ROOM 3	2	floor	2	4	2
ROOM 3	3	floor	3	7	3
ROOM 3	4	floor	1	2	1
ROOM 3	5	floor	-5	-11	-6
ROOM 3	6	floor	-2	-4	-2
ROOM 3	7	floor	-4	-9	-4
ROOM 3	8	floor	-2	-4	-2
ROOM 3	9	floor	-4	-9	-4
ROOM 3	10	floor	-6	-13	-7
ROOM 3	11	floor	-1	-2	-1
ROOM 3	12	floor	-7	-16	-8
ROOM 3	13	floor	-7	-16	-8
ROOM 3	14	bench	-3	-7	-3
ROOM 3	15	bench	-8	-18	-9
ROOM 3	16	bench	-2	-4	-2
ROOM 3	17	bench	5	11	6
ROOM 3	18	bench	1	2	1
ROOM 3	19	bench	-4	-9	-4
ROOM 3	20	bench	1	2	1
ROOM 3	21	bench	-1	-2	-1
ROOM 3	22	bench	-1	-2	-1
ROOM 3	23	bench	-5	-11	-6
ROOM 3	24	bench	-8	-18	-9
ROOM 3	25	bench	-4	-9	-4
ROOM 3	26	bench	-3	-7	-3
ROOM 3	27	bench	-3	-7	-3
ROOM 3	28	bench	-4	-9	-4
ROOM 3	29	bench	-4	-9	-4
ROOM 3	30	bench	-6	-13	-7
ROOM 3	31	bench	0	0	0
ROOM 3	32	bench	-4	-9	-4
ROOM 3	33	bench	-7	-16	-8
ROOM 3	34	bench	-8	-18	-9
ROOM 3	35	bench	-1	-2	-1
ROOM 3	36	bench	0	0	0
ROOM 3	37	bench	-1	-2	-1
ROOM 3	38	bench	-1	-2	-1
ROOM 3	39	bench	4	9	4
ROOM 3	40	sink counter	-8	-18	-9

	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
ROOM 3	41	sink basin	-5	-11	-6
ROOM 3	42	Qtip down drain	0	0	0
ROOM 3	43	bench	-9	-20	-10
ROOM 3	44	bench	-1	-2	-1
ROOM 3	45	bench	-3	-7	-3
ROOM 3	46	bench	-8	-18	-9
ROOM 3	47	bench	-3	-7	-3
ROOM 3	48	bench	1	2	1
ROOM 3	49	bench	-3	-7	-3
ROOM 3	50	bench	-5	-11	-6
ROOM 3	51	bench	0	0	0
ROOM 3	52	bench	-3	-7	-3
ROOM 3	53	bench	-4	-9	-4
ROOM 3	54	bench	-5	-11	-6
ROOM 3	55	hood bib	-3	-7	-3
ROOM 3	56	hood work surface*	4	9	4
ROOM 3	57	hood baffles*	58	129	64
ROOM 3	58	hood duct opening*	18	40	20
ROOM 3	59	sink basin	3	7	3
ROOM 3	60	Qtip down drain	-5	-11	-6
ROOM 3	61	shelf	3	7	3
ROOM 3	62	shelf	3	7	3
ROOM 3	63	wall cabinet	3	7	3
ROOM 3	64	wall cabinet	-7	-16	-8
ROOM 3	65	wall cabinet	-2	-4	-2
ROOM 3	66	wall cabinet	-6	-13	-7
ROOM 3	67	wall cabinet	0	0	0
ROOM 3	68	wall cabinet	-2	-4	-2
ROOM 3	69	wall cabinet	-4	-9	-4
ROOM 3	70	wall cabinet	-1	-2	-1
ROOM 3	71	wall cabinet	-3	-7	-3
ROOM 3	72	wall cabinet	-5	-11	-6
ROOM 3	73	wall cabinet	-3	-7	-3
ROOM 3	74	wall	-6	-13	-7
ROOM 3	75	wall	0	0	0
ROOM 3	76	wall	7	16	8
ROOM 3	77	wall	15	33	17
ROOM 3	78	wall	5	11	6
ROOM 3	79	wall	44	98	49
ROOM 3	80	wall	6	13	7
ROOM 3	81	wall	8	18	9
ROOM 3	82	wall	-4	-9	-4
ROOM 3	83	wall	-1	-2	-1
ROOM 3	84	wall	10	22	11
ROOM 3	85	wall	-1	-2	-1
ROOM 3	86	freezer exterior	19	42	21
ROOM 3	87	freezer interior*	94	209	104
ROOM 3	88	freezer exterior	7	16	8
ROOM 3	89	freezer interior	22	49	24
* Post-cleaning wipe results shown (August 27, 2004). Decon and full resurvey report can be provided if requested.					

RESULTS OF WIPE TESTS-- December 29, 2004

LAB ID	LOCATION ID	DESCRIPTION	NET CPM per 100 sq cm	NET DPM (H-3) per 100 sq cm	NET DPM (C-14/S-35) per 100 sq cm
		Control 1	53		
		Control 2	51		
		Control 3	49		
WASTE RM	1	hallway floor	0	0	0
WASTE RM	2	floor*	-10	-22	-11
WASTE RM	3	floor*	2	4	2
WASTE RM	4	floor	2	4	2
WASTE RM	5	wall	2	4	2
WASTE RM	6	wall	3	7	3
WASTE RM	7	wall	-5	-11	-6
WASTE RM	8	wall	-3	-7	-3
WASTE RM	9	wall	-5	-11	-6
WASTE RM	10	wall	-3	-7	-3
WASTE RM	11	door	-4	-9	-4
* Post-cleaning wipe results shown (January 18, 2005).					

Contamination Survey of Fume Hood Exhaust Fan-- August 27, 2004

The exhaust fan that services the hood in Lab 3 was identified on the rooftop of the facility. The fan, identified as EF-FH3-1, is a Greenheck Model CUBE centrifugal roof upblast unit.

Results of Exhaust Fan Wipe Tests

The results, shown below, demonstrate that there is no detectable contamination at the Lab 3 fume hood exhaust point and indicates that there is no significant inaccessible fume hood duct contamination.

Location	Wipe Result Net CPM ($cpm/100cm^2$)	Wipe Result ($dpm/100cm^2$) removable contamination 45% counter efficiency
Windband, exterior (1)	-4	--
Hood band, exterior (2)	-4	--
Hood (3)	-5	--
Curb cap (4)	-1	--
Roof surface around fan (5)	5	12
Breather tube (6)	-8	--
Drain trough (7)	-3	--
Windband, interior (8)	-8	--
Hood band, interior (9)	-2	--
Control (background) wipe	49	--

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

8/1/2005, and to inform you that the initial processing which includes an administrative review has been performed.

AMEND. 37-28751-01

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

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

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

Your action has been assigned **Mail Control Number** 137674.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader