Saint Mary's University
OF MINNESOTA

January 10, 2005

U.S. Nuclear Regulatory Commission
Region III Office
Materials Licensing Branch
2443 Warrenville Road Suite 210
Lisle, Illinois 60532-4352

Dear Reviewer:

With this letter, St. Mary's University, is requesting termination of its NRC License No. 22-00027-06 (see enclosed NRC Form 314). In support of this request for termination we have attached the NRC decommissioning survey results for the radioisotope laboratories that are authorized as storage and use areas under this NRC License.

The above NRC license authorized the possession and use of the radionuclides, H-3, C-14, P-32, Tc-99m, I-125, I-131, Ba-133, Cs-137, and Tl 204. In preparation for this license termination request, all licensed radioactive materials were transferred to other licensees as per our Attachment: Section B Item 2 a or were packaged and shipped as low-level radioactive waste to Philotechnics on 6/11/03 as per our Attachment: Section B, Item 2 b .

As indicated by the enclosed decommissioning survey results , Attachment: Section B Item 2 c, there is no detectable fixed or removable radioactive contamination remaining in any of the former radioactive materials storage or use areas under this license

The following decommissioning attachments are enclosed in this report: The attachment labels are from NRC Form 314 and your instructions for filling out this Form

Attachment Section B, Item 2 a: Transfers to other licensees.

Attachment Section B, Item 2 b: Transfer to Waste Contractor.

Attachment Section B, Item 2 c: Survey of Residual Activity.
Attachment Section C Surveys Performed and Reported:

Radiation survey methodology for portable survey instruments, instrument calibration documentation, detection efficiency calculations for ambient gamma, GM instrument and liquid scintillation counter surveys, and a table of survey results

Again, thank you for the review of this license termination request. Please contact me at 507-457-1555 if you have questions or require additional information prior to termination of the license.

Sincerely,

Bro Jerome Rademacher

Brother Jerome Rademacher
Radiation Safety Officer
Chairman, Department of Physics

WINONA CAMPUS
700 Terrace Heights • Winona, MN 55987-1399 USA • 507-452-4430 • 800-635-5987 • www.smumn.edu

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
Saint Mary's University of Minnesota Physics Department, # 32 700 Terrace Heights, Winona, MN 55987	22-00027-06	030-11241
	LICENSE EXPIRATION DATE 12/31/04	

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

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

B. DISPOSAL OF RADIOACTIVE MATERIAL

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

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

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

☒ 2. All activities authorized by this license have ceased, and all radioactive mate rials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following ma nner.

☒ a. Transfer of radioactive materials to the licensee listed below: see Attachment Section B2a

☐ b. Disposal of radioactive materials:

☐ 1. Directly by the licensee:

☐ 2. By licensed disposal site:

☒ 3. By waste contractor: Philotechnics
See Attachment Section B2b

☒ c. All radioactive materials have been removed such that any remaining residua l radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA. See survey Attachment Section B2c

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 possess ed 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
Bro Jerome Rademacher	RSO	507-457-1555	jrademac@smumn.edu

Mail all future correspondence regarding this license to: Bro Jerome Rademacher, 700 Terrace Heights,#32, Winona, MN 55987 jrademac@smumn.edu

C. CERTIFYING OFFICIAL

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

PRINTED NAME AND TITLE	SIGNATURE	DATE
Bro Jerome Rademacher RSO	Bro Jerome Rademacher	1/10/05

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.

ATTACHMENT SECTION B 2a (NRC form 314)

TRANSFER OF RADIOACTIVE MATERIALS TO ANOTHER LICENSEE

1. **Item A Cs-137 sealed source.** NEN model NER-570 one source not to exceed 30 mCi. This source was transferred on 12/10/03. The wipe test was performed just before shipment and no leakage was found.

   Recipient : Overhoff Technology Corporation
   1160 US Rte. 50
   Milford, Ohio 45150

   Contact person: Myron Overhoff
   Phone: 513-248-2400

   License Number: #03213130401 Ohio Agreement State

2. **Item B Cs-137 sealed source:** Isotope Products model 193 capsule for Model HEG-137-100. 1 source not to exceed 103 mCi. This source was transferred on 11/09/04. The wipe test was performed just before shipping and no leakage was found.

   Recipient: University of Wisconsin at Madison
   Safety Dept.
   30 North Murray St.
   Madison, WI 53715

   Contact person: John Micka
   Phone: 608-262-4260

   License Number: 25-1323-01 Wisconsin Agreement State

ATTACHMENT SECTION B 2b(NRC Form 314)

DISPOSAL BY WASTE CONTRACTOR on 6/11/03

Company: Philotechnics

Contact person: Patty Seiber
Phone: 865-285-3006

See attached forms:

PHILOTECHNICS

July 15, 2003

Brother Jerome Rademacher
St. Mary's Univ. of Minnesota
700 Terrace Heights
#32 Science Bldg.
Winona, MN 55987-1399

Subject: Shipment Receipt Acknowledgement

Dear Brother Jerome:

In accordance with the requirements of 10 CFR 20, Appendix G, Section III, C.1., the attached letter is provided as your notice of receipt and acceptance of the radioactive waste materials specified on the manifest. Manifest No. 0412-061103RACE was received at RACE, LLC. on June 24, 2003.

This letter is acknowledgement of receipt only. Any manifest discrepancies found during unloading or processing will be reported at a later date.

Please contact me if you have any questions or require additional information. I can be reached at 888-RADWASTe or 865-285-3015 (direct), or via email at kdwolfe@philotechnics.com.

Sincerely,

Philotechnics, Ltd.

Kelli Wolfe
Customer Service Invoicing Assistant

kw
Enclosure

FORM 540 — Philotechnics

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1. EMERGENCY TELEPHONE NUMBER (Include Area Code): 865-806-7991

ORGANIZATION: Philotechnics

2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? [ ] YES [X] NO

3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==========> 1

4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [ ] YES [X] NO
If "Yes," provide Manifest Number ==========> EPA MANIFEST NUMBER: NA

5. SHIPPER - NAME AND FACILITY
Philotechnics @ St. Mary's Univ. of MN
700 Terrace Heights
32- Science Bldg.
Winona, MN 55987

SHIPMENT ID NUMBER: 0412-061103Race
[X] COLLECTOR [ ] PROCESSOR [ ] GENERATOR TYPE (Specify)

S C PERMIT #: NA
SHIPMENT NUMBER: 0412-061103Race

CONTACT: Brother Jerome Radenmacher
TELEPHONE NUMBER (Include Area Code): 507-457-1555

6. CARRIER - Name and Address
Hittman Transport
628 Gallaher Road
Kingston, TN 37763
Truck #
Trailer #

EPA ID NUMBER: TND987783065

SHIPPING DATE: 6/11/03

CONTACT: Stacy Brackett
TELEPHONE NUMBER (Include Area Code): 865-481-0222

SIGNATURE -- Authorized carrier acknowledging waste receipt: S. Brackett
DATE: 6-11-03

7. FORM 540 AND 540A PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A 1 PAGE(S)
FORM 542 AND 542A 1 PAGE(S)
ADDITIONAL INFORMATION None PAGE(S)

8. MANIFEST NUMBER (Use this number on all continuation pages): 0412-061103Race

9. CONSIGNEE - Name and Facility Address
Race, LLC
2550 Channel Avenue
Memphis, TN 38113-0143

CONTACT: Bob Applebaum
TELEPHONE NUMBER (Include Area Code): 901-775-0690

SIGNATURE -- Authorized consignee acknowledging waste receipt: Race Stanley
DATE: 6-11-03

10. CERTIFICATION

This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.

AUTHORIZED SIGNATURE: Race Stanley | TITLE: Sr. Broker | DATE: 6-11-03

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES	16. TOTAL PACKAGE ACTIVITY MBq	mCi	17. I SA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Radioactive material, n.o.s., 7, UN2982	Yellow II	.01	Solid Sources,Vials/Ecapsulate	Am-241 Ba-133 C-14 Co-60 Cs-137 H-3 Na-22 Pb-210 Ra-226 Tl-204	5.0190E+02	1.3565E+01	NA	15. LBS; 0.68 FT3	S-1

FOR CONSIGNEE USE ONLY

20. 20 GENERATOR CERTIFICATION STATEMENT

A) Radioactive Materials Certification is hereby made to Philotechnics, Ltd. that this shipment of low-level radioactive material/waste has been prepared in accordance with a radioactive waste management program which has been approved by the NRC or an Agreement State regulatory agency and with the current revision of the Philotechnics, Ltd. Waste Acceptance Criteria.

B) Data. Generator hereby represents and warrants that all data set forth in this UNIFORM RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and the above mentioned processors Radioactive Material Licenses.

C) Hazardous Materials. Generator hereby certifies that this material does not contain a hazardous waste as defined in 40 CFR 261. ( ) N/A

Jerome Radenmacher (Print Name) | Jerome Radenmacher (Signature) | 6/11/03 (Date)

FORM 540 (10-93)

RACE, LLC
Radiological Assistance, Consulting and Engineering

P.O. Box 13143
2550 Channel Ave.
Memphis, TN 38113-0143

Phone: (901) 775-0690
Fax: (901) 775-0629

Certification

Notice of Final Disposition

This is to certify that all materials received by RACE included on the specified manifest number(s) have been processed and disposed of in accordance with limits and restrictions specified in RACE permits and radioactive material license.

Manifest	Generator	
0412-061103RACE	St. Marys University of MN	Winona, MN

Shipment Number	Date	Cu Ft	Pounds Disposed	Disposal Site
0851-01-0092	11-24-03	.21	15	Envirocare

RACE, LLC Inc.
Authorized Signature

Bobby L. Newell

Bobby L. Newell, Project Manager

Date: 1-29-04

Philotechnics

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators.

1. WASTE COLLECTOR/PROCESSOR

NAME: Philotechnics @ St. Mary's Univ. of MN

IDENTIFICATION NUMBER: 0412

SHIPPING DATE: 6/11/03

SHIPPER USE ONLY

2. MANIFEST NUMBER: 0412-061103Race

3. PAGE 1 OF 1 PAGE(S)

4. GENERATOR IDENTIFICATION NUMBER	5. GENERATOR NAME PERMIT NUMBER (IF APPLICABLE) AND TELEPHONE NUMBER	6. GENERATOR FACILITY ADDRESS	7. PREPROCESSED WASTE (OR MATERIAL) VOLUME (m3)	(ft3)	8. MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9. WASTE CODE P = PROCESSED C = COLLECTED	10. ORIGINATING COMPACT REGION OR STATE	11. AS PROCESSED/COLLECTED TOTAL A. SOURCE MATERIAL (kg)	(lb)	B. SNM (g)	C. ACTIVITY (MBq)	(mCi)	D. VOLUME (m3)	(ft3)
0412 36	Philotechnics @ St. Mary's Univ. of MN 507-457-1555	700 Terrace Heights # 32- Science Bldg. Winona, MN 55987	0.0193	0.6816	0412-061103Race (06/11/2003)	C	MN	0.0000E+00	0.0000E+00	0.0000E+00	5.0191E+02	1.3565E+01	0.0193	0.6800
TOTALS OF ALL PAGES (FORMS 542 AND 542A)								0.0000E+00	0.0000E+00	0.0000E+00	5.0191E+02	1.3565E+01	0.0193	0.6800

Form 542 (10-96)

Philotechnics

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1. MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	Pu	TOTAL
1	m3 0.0193 / ft3 0.6800	kg 6.8039 / lb 15.0000	NP	NP	NP	NP

ACTIVITY	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE	
MBq	5.0190E+02	4.1625E+02	6.7710E+01	NP	NP	(kgs)	NA
mCi	1.3565E+01	1.1250E+01	1.8300E+00	NP	NP	(lbs)	NA

2. MANIFEST NUMBER: 0412-061103Race

3. PAGE 1 OF 1 PAGE(S)

4. SHIPPER NAME: Philotechnics @ St. Mary's Univ

SHIPMENT ID NUMBER: 0412-061103Race

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
							PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION	
5. CONTAINER IDENTIFICATION NUMBER / GENERATOR ID NUMBER	6. CONTAINER DESCRIPTION (See Note 1) PROCESS REQUESTED (See Note 1A) BURIAL/DISPOSITION (See Note 2A)	7. VOLUME (m3) (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) (lb)	9. SURFACE RADIATION LEVEL mSv/hr mrem/hr	10. SURFACE CONTAMINATION MBq/100 cm2 dpm/100 cm2 ALPHA	BETA-GAMMA	11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0 1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR TOTAL ACTIVITY AND RADIONUCLIDE PERCENT		
												RADIONUCLIDES	MBq	mCi
S-1/0412	4-OP	0.0193	6.8039	3.0E-2	<3.6740E-06	<3.6740E-05	36	0.0193	NA	Sources,Vials/Ecapsulate/NP	NP	Am-241 Ba-133 C-14 Co-60 Cs-137	4.4400E-03 4.4400E-01 6.7710E+01 7.8070E+00 7.8440E+00	1.2000E-04 1.2000E-02 1.8300E+00 2.1100E-01 2.1200E-01	AU
		0.6800	15.0000	3.0E+0	<2.200E+02	<2.200E+03		0.6800							
												H-3 Na-22 Pb-210 Ra-226 Tl-204	4.1625E+02 1.1100E-01 7.7830E-02 4.8100E-04 1.6502E+00	1.1250E+01 3.0000E-03 2.1035E-03 1.3000E-05 4.4600E-02	
												Subtotal Total	5.0190E+02 5.0190E+02	1.3565E+01 1.3565E+01	
Shipment Totals		0.0193 0.6800	6.8039 15.0000										5.0190E+02	1.3565E+01	

NOTE 1: Container Description Codes. For containers/ waste requiring disposal in approved structural overpacks the numerical code must be followed by "-OP."

1. Wooden Box or Crate
2. Metal Box
3. Plastic Drum or Pail
4. Metal Drum or Pail
5. Metal Tank or Liner
6. Concrete Tank or Liner
7. Polyethlene Tank or Liner
8. Fiberglass Tank or Liner
9. Demineralizer
10. Gas Cylinder
11. Bulk Unpackaged Waste
12. Unpackaged Components
13. High Integrity Container
19. Other. Describe in Item 6, or additional page.

Note 1A: Process Descriptors

NT/VR	Non Thermal / Volume Reduction
NT/SC	Non Thermal / Super Compaction
NT/DC	Non Thermal / Decontamination
NT/DCY	Non Thermal / Decay
NT/PT	Non Thermal / Pass THRU
NT/SR	Non Thermal / Survey & Release
NT/STB	Non Thermal / Stabilize
NT/FL	Non Thermal / Fill
NT/SAB	Non Thermal / Shred & Bail
T/SFG	Thermal / Saf-Glas
T/BPU	Thermal / Batch Processing Unit
T/VIT	Thermal / Vitrification Process

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal
21. Incinerator Ash
22. Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27. Mechanical Filter
28. EPA or State Hazardous
29. Demolition Rubble
30. Cation Ion-exchange Media
31. Anion Ion-exchange Media
32. Mixed Bed Ion-exchange Media
33. Contaminated Equipment
34. Organic Liquid (except oil)
35. Glassware or Labware
36. Sealed Source/Device
37. Paint or Plating
38. Evaporator Bottoms/Sludges/ Concentrates
39. Compactible Trash
40. Noncompactible Trash
41. Animal Carcass
42. Biological Material (except animal carcass)
43. Activated Material
59. Other. Describe in item 11, or additional page

Note 2A: End Disposition Descriptors

BSC	Barnwell, SC
ECU	Envirocare, UT
USE	US Ecology, Richland WA
DOE	DOE, Hanford WA
RTG	Return to Generator
O	Other
NDV	No Disposal Volume
TBD	To be Determined
WCS	Waste Control Specialists, Texas
FR	Free Release

Note 3: Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume. For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13. Code 100=NONE REQUIRED.

Solidification

90. Cement
91. Concrete (encapsulation)
92. Bitumen
93. Vinyl Chloride
94. Vinyl Ester Styrene
99. Other. Describe in item 13, or additional page
100. None Required

FORM 541 (10-96)

CC

FORM 540 Philotechnics

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1. EMERGENCY TELEPHONE NUMBER *(Include Area Code)*
865-806-7991

ORGANIZATION
Philotechnics

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[ ] YES
[X] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST =====> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?
[ ] YES
[X] NO
If "Yes," provide Manifest Number =====>

EPA MANIFEST NUMBER
NA

5 SHIPPER -- NAME AND FACILITY
Philotechnics @ St. Mary's Univ. of MN
700 Terrace Heights
32- Science Bldg.
Winona, MN 55987

S.C PERMIT #
NA

SHIPMENT NUMBER
0412-061103Race

CONTACT
Brother Jerome Radenmacher

TELEPHONE NUMBER (Include Area Code)
507-457-1555

6 CARRIER -- Name and Address
Hittman Transport
628 Gallaher Road
Kingston, TN 37763
Truck #
Trailer #:

CONTACT
Stacy Brackett

TELEPHONE NUMBER (Include Area Code)
865-481-0222

SIGNATURE -- *Authorized carrier acknowledging waste receipt*
Race Shipper

DATE
6-11-03

SHIPMENT I D NUMBER
0412-061103Race

[X] COLLECTOR
[ ] PROCESSOR
[ ] GENERATOR TYPE *(Specify)*

EPA I.D NUMBER
TND987783065

SHIPPING DATE
6/11/03

7. FORM 540 AND 540A PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A 1 PAGE(S)
FORM 542 AND 542A 1 PAGE(S)
ADDITIONAL INFORMATION None PAGE(S)

9. CONSIGNEE - Name and Facility Address
Race, LLC
2550 Channel Avenue
Memphis, TN 38113-0143

SIGNATURE - *Authorized consignee acknowledging waste receipt*

8. MANIFEST NUMBER
(Use this number on all continuation pages)
0412-061103Race

CONTACT
Bob Applebaum

TELEPHONE NUMBER (Include Area Code)
901-775-0690

DATE

10 CERTIFICATION

This is to certify that the herein-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.

AUTHORIZED SIGNATURE
Race Shipper

TITLE
Gr. Brother

DATE
6-11-03

11 U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
Radioactive material, n.o.s., 7, UN2982	Yellow II	.01	Solid Sources,Vials/Ecapsulate	Am-241 Ba-133 C-14 Co-60 Cs-137 H-3 Na-22 Pb-210 Ra-226 Tl-204	5.0190E+02	1.3565E+01	NA	15. LBS; 0.68 FT3	S-1

FOR CONSIGNEE USE ONLY

20. 20. GENERATOR CERTIFICATION STATEMENT

A) Radioactive Materials. Certification is hereby made to Philotechnics, Ltd. that this shipment of low-level radioactive material/waste has been prepared in accordance with a radioactive waste management program which has been approved by the NRC or an Agreement State regulatory agency and with the current revision of the Philotechnics, Ltd. Waste Acceptance Criteria.

B) Data. Generator hereby represents and warrants that all data set forth in this UNIFORM RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and the above mentioned processors Radioactive Material Liscenses.

C) Hazardous Materials. Generator hereby certifies that this material does not contain a hazardous waste as defined in 40 CFR 261. ( ) N/A

Jerome Radenmacher — Print Name
Jerome Radenmacher — Signature
6/11/03 — Date

FORM 540 (10-96)

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

ISOTOPES REPORT

For Manifest # 0412-061103Race
Philotechnics

Isotope	Total Activity (MBq)	(mCi)
Am-241	4.4400E-03	1.2000E-04
Ba-133	4.4400E-01	1.2000E-02
C-14	6.7710E+01	1.8300E+00
Co-60	7.8070E+00	2.1100E-01
Cs-137	7.8440E+00	2.1200E-01
H-3	4.1625E+02	1.1250E+01
Na-22	1.1100E-01	3.0000E-03
Pb-210	7.7830E-02	2.1035E-03
Ra-226	4.8100E-04	1.3000E-05
Tl-204	1.6502E+00	4.4600E-02

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4352

Please be advised that your facility cannot be released for unrestricted use or the license terminated until we receive and review a copy of the results of your close-out survey. The survey should consist of exposure rate measurements to show that all sources of radioactive material have been removed and contamination swipes of areas where radioactive materials were used and stored. Please submit the following information with your close-out survey:

1. A diagram of your facility with survey and wipe test results (in dpm) keyed to specific locations.
2. The name of the person performing the surveys.
3. The date the surveys were performed.
4. The instrument(s) used for exposure rate measurements and for analysis of the wipes.
5. Background readings.
6. The date the survey instruments were last calibrated.

Numbers in red correspond to this requested data

Bro Jerome

SURVEYS PERFORMED AND REPORTED

Survey Instruments and Equipment

1. GM and Beta Scintillation Survey Instruments.

(4) Ludlum Model 3 portable survey meter, Serial Number 24031, with 2 inch diameter pancake GM probe, Model 44-9-18, SN RN010451.

(6) The GM probe were also calibrated in February 2004 using a J.L. Shepherd calibration source (Model 78-1M, SN 9035) to the 3300 cpm per mR/hr Cs-137 specification.

2. Liquid Scintillation Analysis Instruments.

(4) Beckman Liquid Scintillation Counter Model LS6500, Serial Number 455752.

Beckman Standards For Liquid Scintillation Counting			
Serial Number CNP2512	C-14	100700 DPM	29OCT03
		100693 DPM	23MAR04
Serial Number HNP0408	H-3	105400 DPM	29OCT03
		102472 DPM	23MAR04

(6) Calibration

Efficiency Calibration For Liquid Scintillation Counters	
Beckman Model	LS6500
Serial Number	455752
Background (CPM)	50
H-3 CPM (HNP / HJG)	67451 / 48758
H-3 Efficiency	**66% / 65%**
C-14 CPM (CNP / CJG)	97759 / 102237
C-14 Efficiency	**97% / 96%**

Survey Methods

All surfaces including floors, bench tops, sinks, shelves, fume hoods,, and doors, were scanned with the portable instrument described above. The surfaces were scanned on contact using a scanning rate of one detector width per second while carefully listening to the audible signal from the meter. Using the following equation from section 5 of NUREG/CR-5849, applicable to surveys with discernment of contamination based on an audible signal,

$$MDA=(3B_R)/(E\ A/100)$$

where,

B_R = Background Rate
A = Area of Detector
E = Counting Efficiency

and assuming discernment of an audible count rate of three (3) times the background count rate, we obtain a minimum detectable activity for the portable instruments to be:

Model	Serial Number	BKG (CPM)	Efficiency	Area (cm^2)	MDA (DPM)
3	24031	50	0.40	20	1875

For removable contamination smear surveys, areas were divided into a grid of approximately one square meter. A dry smear was taken in each grid square using Whatman® filter paper. Each smear covered at least 100 square cm within the grid square (an S-shaped curve approximately two feet long).

In addition, smears were taken of all drain traps using cotton tipped applicators. Smears were also taken of all fume hood ducts that may have used with radioactive materials . All smears were counted for one minute in standard 20 ml glass vials in 10 ml of liquid scintillation counting fluid.

Minimum detectable activity for this method is calculated using the formula given in section 5 of NUREG/CR-5849

$$MDA = (2.71 + 4.65\ SQRT\ (B_R\ t_1))/(t_2\ E)$$

Where,

B_R = Background Rate
t_1 = Background count time (1 minute)
t_2 = Sample count time (1 minute)
E = Efficiency (0.25 for H-3, 0.60 for C-14 and 0.80 for P-32)

NOTE: due to the presence of paper smears or swabs, conservative counting efficiencies are used rather than the determined efficiencies obtained by counting the Beckman reference standards.

Minimum Detectable Activity (MDA) For Liquid Scintillation Counters					
Model	Serial Number	BKG (CPM)	Efficiency	Isotope	MDA(DPM)
Beckman LS6500	455752	50	0.25	H-3	142
		50	0.6	C-14	59
		50	0.8	P-32&33	44

Survey Results

Listed above are the instruments and methods used to conduct the scanning and smear surveys for the assessment of fixed and removable contamination in the former radioactive materials use/storage areas

The final survey measurements Given in the attached table show no results above the listed minimum detectable activities, and all survey results are within the Table B1 values of surface and removable contamination for unrestricted release taken from NRC Guidelines for the Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use.

(2) Surveys and analysis performed by: Brother Jerome Rademacher
Health Physicist

RESULTS OF SURVEY FOR POSSIBLE CONTAMINATION

The following surveys were performed on Jan 4th 2005 and the results are given below. The smears were counted at the University of MN on the indicated instruments on January 10th, 2005.

Room 232 Bro. Charles Hall.. Radioactive source room. In general most liquid radioactive sources were processed in this room. The following areas were surveyed and smeared .

Area	Survey Results in mR/hr (background 0.03 mR/hr)	Smear Results in Dpm (background 61 Dpm,,wide)
1. Hood	0.03	0
2. Counter North	0.04	8
3. Sink North	0.02	0
4. Sink East	0.03	0
5. Counter East	0.03	0
6. Counter South	0.02	0
7. Floor West	0.03	112
8. Floor North	0.03	0
9. Floor East	0.04	0
10. Floor South	0.02	40
11.Door knob	0.03	0
12. Refrigerator door shelves	0.03	0
13. Tray 1	0.04	0
14. Tray 2	0.02	12
15. Tray 3	0.02	0
16. Storage cab top shelf.	0.03	0
17. Storage cab middle shelf.	0.04	0
18.Storage cab bottom&door	0.03	32
19.North sink trap	0.03	24
20. South sink trap	0.03	0
24. Hood vent	0.02	0

Room 230 Brother Charles Hall.. Instrument room. The liquid scintillation counter was in this room but only samples in sealed vials were counted.

Area	Survey Results in mR/hr (background 0.03 mR/hr)	Smear Results in Dpm (background 50 Dpm,,wide)
21.Table counter was on	0.04	0
22. Floor by table	0.03	0
23. Door knob	0.03	0

Room 201 Hoffman Hall. Intro physics laboratory. Only Ba-137 sources were made on trays here and covered and counted in this lab. Since this has a half-life of only 2.5 min none should be found.

Area	Survey Results in mR/hr (background 0.03 mR/hr)	Smear Results in Dpm (background 50 Dpm,,wide)
25.Back table where sources were prepared on tray 1	0.03	0

Room 208 Hoffman Hall. Radiation Counting Laboratory . Only sealed sources and Ba-137 sources were allowed in this room.

Area	Survey Results in mR/hr (background 0.03 mR/hr)	Smear Results in Dpm (background 50 Dpm,,wide)
30. Back table where sources were prepared on tray 1	0.02	0

Room 140 Brother Charles Hall. Microbiology Lab. Some Tritium and Carbon-14 was formerly used for research projects in these two areas of room

Area	Survey Results in mR/hr (background 0.03 mR/hr)	Smear Results in Dpm (background 50 Dpm,,wide)
35. Hood	0.04	8
36. White prep table.	0.03	0
37. Hood vent	0.03	152

Room 139 Brother Charles Hall. Anatomy and Physiology Lab. Only I-131 was used in this lab and it was surveyed after each use. Since I-131 has a half-life 8.1 days none was expected or found. We have not done this experiment for the last two years.

Area	Survey results in cpm	Smear results in cpm
40. Side bench	0.03	N.A.
41. End tables	0.03	N.A.

ID:DECOM SURVEY

7 JAN 2005 20:50

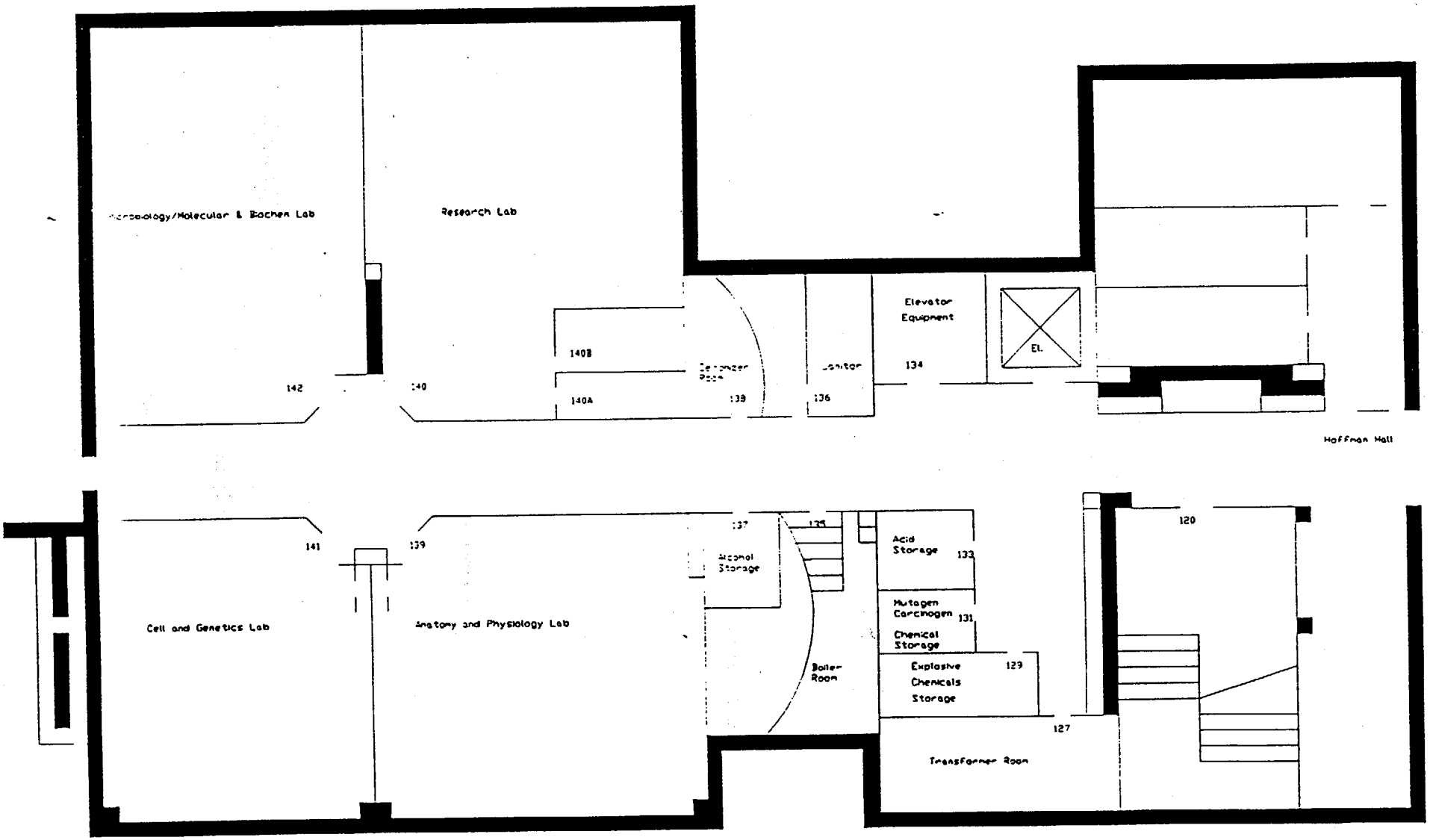
USER:16 COMMENT:DECOMMISSIONING SMEAR SURVEY

PRESET TIME :	1.00						
DATA CALC :	CPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC : NO	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1:	3H	%ERROR: 0.00	FACTOR: 4.000000	BKG. SUB:	28
WIDE OPEN WINDOW		%ERROR: 0.00	FACTOR: 4.000000	BKG. SUB:	61

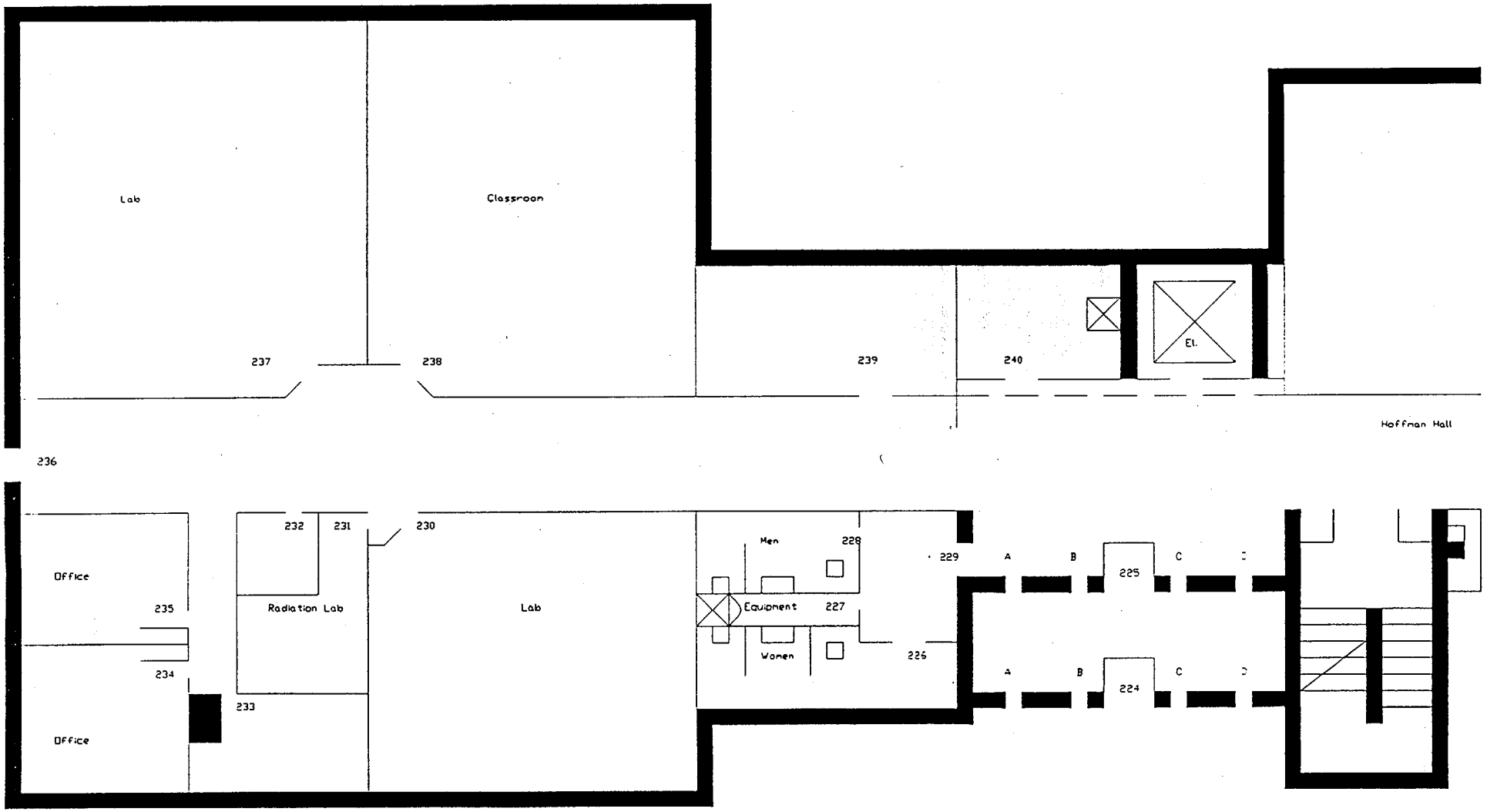
SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	WIDE CPM	WIDE %ERROR	LUMEX %	ELAPSED TIME
1	**-1	1.00	81.6	0.00	1.E+06	0.00	1.E+06	0.55	1.43
2	**-2	1.00	83.4	0.00	1.E+06	8.00	793.73	0.54	2.95
3	**-3	1.00	63.8	0.00	1.E+06	0.00	1.E+06	0.18	4.48
4	**-4	1.00	60.5	0.00	1.E+06	0.00	1.E+06	0.28	5.99
5	**-5	1.00	59.7	0.00	1.E+06	0.00	1.E+06	0.17	7.53
6	**-6	1.00	58.7	0.00	1.E+06	0.00	1.E+06	0.20	9.05
7	**-7	1.00	71.2	12.00	371.18	112.00	67.39	0.42	10.58
8	**-8	1.00	78.9	0.00	1.E+06	0.00	1.E+06	1.45	12.12
9	**-9	1.00	89.4	0.00	1.E+06	0.00	1.E+06	0.13	13.65
10	**-10	1.00	90.4	56.00	92.58	40.00	168.52	0.63	15.18
11	**-11	1.00	58.2	0.00	1.E+06	0.00	1.E+06	0.16	16.71
12	**-12	1.00	58.2	28.00	169.03	0.00	1.E+06	0.16	18.23
13	**-1	1.00	56.5	0.00	1.E+06	0.00	1.E+06	0.14	19.88
14	**-2	1.00	61.2	4.00	1077.0	12.00	533.33	0.16	21.41
15	**-3	1.00	66.2	16.00	282.84	0.00	1.E+06	1.46	22.95
16	**-4	1.00	66.2	0.00	1.E+06	0.00	1.E+06	0.15	24.48
17	**-5	1.00	61.6	0.00	1.E+06	0.00	1.E+06	0.16	26.03
18	**-6	1.00	75.7	8.00	547.72	32.00	207.67	0.39	27.55
19	**-7	1.00	112.7	72.00	75.36	24.00	272.85	0.23	29.12
20	**-8	1.00	97.6	56.00	92.58	0.00	1.E+06	0.24	30.63
21	**-9	1.00	105.3	0.00	1.E+06	0.00	1.E+06	0.74	32.18
22	**-10	1.00	72.4	0.00	1.E+06	0.00	1.E+06	0.40	33.72
23	**-11	1.00	57.0	0.00	1.E+06	0.00	1.E+06	0.21	35.27
24	**-12	1.00	85.3	0.00	1.E+06	0.00	1.E+06	1.08	36.79
25	**-1	1.00	85.2	0.00	1.E+06	0.00	1.E+06	15.47	38.46
26	**-2	1.00	56.3	0.00	1.E+06	0.00	1.E+06	0.16	39.98
27	**-3	1.00	55.3	0.00	1.E+06	0.00	1.E+06	0.10	41.52
28	**-4	1.00	54.7	0.00	1.E+06	0.00	1.E+06	0.10	43.05
29	**-5	1.00	57.5	0.00	1.E+06	0.00	1.E+06	0.11	44.59
30	**-6	1.00	65.7	0.00	1.E+06	0.00	1.E+06	1.53	46.11
31	**-7	1.00	54.9	0.00	1.E+06	0.00	1.E+06	0.13	47.66
32	**-8	1.00	56.2	8.00	547.72	0.00	1.E+06	0.12	49.18
33	**-9	1.00	56.5	0.00	1.E+06	0.00	1.E+06	0.12	50.73
34	**-10	1.00	56.4	0.00	1.E+06	8.00	793.73	0.09	52.26
35	**-11	1.00	504.4	0.00	1.E+06	0.00	1.E+06	0.08	54.03
36	**-12	1.00	86.2	0.00	1.E+06	0.00	1.E+06	2.90	55.55
37	**-1	1.00	70.1	140.00	45.36	152.00	52.37	26.47	57.24

Brother Charles Hall-1st Floor

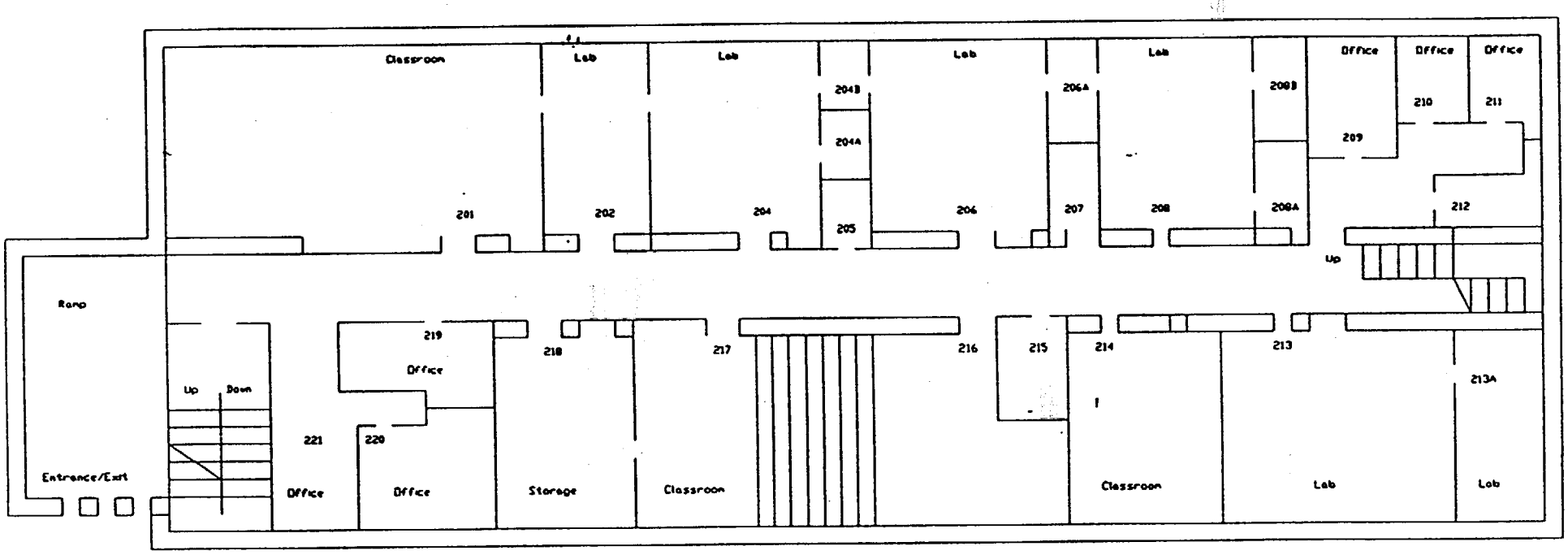


Revised 1993

Brother Charles Hall-2nd Floor



Hoffman Hall-2nd Floor



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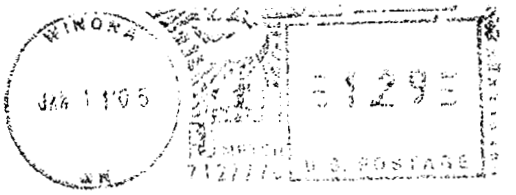

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