



UNIVERSITY OF PUERTO RICO
 MAYAGUEZ CAMPUS
 COLLEGE OF AGRICULTURAL SCIENCES
 AGRICULTURAL EXPERIMENT STATION
 1193 GUAYACAN STREET, SOUTH BOTANICAL GARDEN
 SAN JUAN, PR 00926-1118
 PHONE(787)767-9705



September 28, 2004

NRC Region I
 475 Allandale Rd.
 King of Prussia PA 19406

Re: **Termination of NRC license 52-01986-01, Docket No. 30-01182**

Dear Sirs:

Enclosed please find a Certificate of Disposition of Materials, stating that all materials under the above license have been transferred to licensed recipients, and all related activities have been terminated. Also attached is our report detailing the disposition of radioactive materials, final radiation survey and efforts to eliminate any residual contamination.

We are hereby requesting that our NRC license be terminated.

Until further notification by NRC, the storage areas where the materials were formerly stored will be kept locked, with access restricted to the RSO Dr. Victor Snyder.

Sincerely,

Victor Snyder, Ph.D.
 Radiation Safety Officer

C: Dr. Alejandro Segarra
 Mr. Roberto Torres

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 REGION I

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135-758

NMSS/RGNI MATERIALS-002

(7-1998)
10 CFR 30.38(c)(1)(iv)
10 CFR 40.42(c)(1)(iv)
10 CFR 70.38(c)(1)(iv)

Estimated burden per response to comply with this mandatory information collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility has been cleared of radioactive material before the facility is released for unrestricted use. Forward comments regarding burden estimate to the Records Management Branch (T-8 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0028), Office of Management and Budget, Washington, DC 20503. If 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

INSTRUCTIONS: ALL ITEMS MUST BE COMPLETED - PRINT OR TYPE
SEND THE COMPLETED CERTIFICATE TO THE NRC OFFICE SPECIFIED ON THE REVERSE

LICENSEE NAME AND ADDRESS University of Puerto Rico Agricultural Experiment Station 1193 Guayacan St./Botanic Gardens San Juan PR 00926-1118	LICENSE NUMBER 52-01986-01
03001182	LICENSE EXPIRATION DATE 09/30/2004

A. MATERIALS DATA (Check one and complete as necessary)

THE LICENSEE OR ANY INDIVIDUAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE LICENSEE CERTIFIES THAT:
(Check and/or complete the appropriate item(s) below.)

1. NO MATERIALS HAVE EVER BEEN PROCURED OR POSSESSED BY THE LICENSEE UNDER THIS LICENSE.
- OR
2. ALL ACTIVITIES AUTHORIZED BY THE LICENSE HAVE CEASED AND ALL MATERIALS PROCURED AND/OR POSSESSED BY THE LICENSEE UNDER THE LICENSE NUMBER CITED ABOVE HAVE BEEN DISPOSED OF IN THE FOLLOWING MANNER. (If additional space is needed, use the reverse side or provide attachments.)

Describe specific material transfer actions and, if there were radioactive wastes generated in terminating this license, the disposal actions including the disposition of low-level radioactive waste, mixed waste, Greater-than-Class-C waste, and sealed sources, if applicable.

see report attached.

For transfers, specify the date of the transfer, the name of the licensed recipient, and the recipient's NRC license number or Agreement State name and license number.

see report attached.

If materials were disposed of directly by the licensee rather than transferred to another licensee, licensed disposal site or waste contractor, describe the specific disposal procedures (e.g., decay in storage).

B. OTHER DATA

1. OUR LICENSE HAS NOT YET EXPIRED; PLEASE TERMINATE IT.
2. A RADIATION SURVEY WAS CONDUCTED BY THE LICENSEE TO CONFIRM THE ABSENCE OF LICENSED RADIOACTIVE MATERIALS AND TO DETERMINE WHETHER ANY CONTAMINATION REMAINS ON THE PREMISES COVERED BY THE LICENSE.

- NO (Attach explanation)
- YES, THE RESULTS (Check one)
- ARE ATTACHED, or
- WERE FORWARDED TO NRC ON (Date)

3. THE PERSON TO BE CONTACTED REGARDING THE INFORMATION PROVIDED ON THIS FORM	NAME Dr. Victor Snyder - RSO Agricultural Experiment Station 1193 Guayacan St./Botanic Gardens San Juan PR 00926-1118	TELEPHONE NUMBER (Include Area Code) 787-767-9705
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4. MAIL ALL FUTURE CORRESPONDENCE REGARDING THIS LICENSE TO

Dr. Alejandro Segarra, Associate Dean and Deputy Director
Agricultural Experiment Station
1193 Guayacan St./Botanic Gardens
San Juan PR 00926-1118

Fax: (787) 832-4220

CERTIFYING OFFICIAL

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

PRINTED NAME AND TITLE Victor Snyder, Ph.D. Radiation Safety Officer	SIGNATURE Victor Snyder	DATE 22/Sept/04
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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 RESPECTS. 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 JURISDICTIONS.

135758

Report on Disposition of Radioactive Materials, Radiation Survey and Efforts to Eliminate Residual Contamination Pursuant to Decommissioning of Facilities and Equipment under NRC License No. 52-01986-01

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***Report on Disposition of Radioactive Materials, Radiation Survey and
Efforts to Eliminate Residual Contamination Pursuant to
Decommissioning of Facilities and Equipment under NRC License No.
52-01986-01***

Identification of the premises

Premises subject to the License are those at the Río Piedras Research Center of the University of Puerto Rico Agricultural Experiment Station, 1193 Guayacán St., Botanical Gardens, San Juan, Puerto Rico 00926-1118.

Within these premises, at time of initiation of decommissioning activities in December of 2002, all radioactive materials were stored at only two locations. Non-sealed sources, and sealed sources corresponding to discarded gas chromatograph foils of various types, were stored in a single locked cabinet in a room of the Pesticide Laboratory. Three nuclear gauges containing sealed sources of Cs137 and/or Am241/Be were stored in a locked room of an old Phytotron building on the southwest corner of the Río Piedras facility..

Disposal of radioactive materials

All materials had been transferred off the premises by the end of January 2003 (see copies of shipping papers and other supporting documentation in Appendix A). Items transferred, names of licensed recipients and corresponding license numbers are listed below:

1. Troxler Model 3321 depth gauge, serial no. 411, was transferred on 9 Jan 2003 to Troxler Electronic Laboratories, 3008 Corvallis Road, Research Triangle Park, NC (North Carolina License no. 032-0182-1).
2. CPN Model MC-S-24 Stratagauge, serial no. MS8018062, was transferred on 9 Jan 2003 to CPN, 2830 Howe Rd., Martinez CA 94553 (California License no. 1100-07).
3. CPN Model 503 depth gauge, serial no. H380104116, was transferred on 12 December 2002 to Mr. David Rhoe, who then transferred it to UPR-Mayaguez Campus, Mayaguez PR (NRC License no. 52-10510-04).
4. All other radioactive materials stored at the Río Piedras facility (see Table 1 for details), were transferred on 29 Jan 2003 to UPR-Mayaguez campus, Mayaguez, PR. (NRC license no. 52-10510-04).

Radiation survey and efforts to eliminate residual contamination

Radiation survey of facilities - procedure

After removal of materials, we conducted a systematic survey of the two main storage areas indicated above, and other areas known to have housed radioactive material during the past 30 years. The survey consisted of systematic wipe tests to assess removable surface contamination, and a final survey with a Ludlum Model 14 C Geiger Counter with Model 44-9 pancake probe calibrated for C14 efficiency.

Wipe tests

Diagrams of the rooms sampled (approximately to scale) and approximate locations of wipe samples are indicated in Figures 1 through 6. A total of 126 samples were taken.

The heaviest emphasis was placed on the storage room in the Pesticide Laboratory where non-sealed sources had been stored. Sampling in this room included walls, floor, counter tops, shelves and drawers, and equipment stored in the lab. Sample identification numbers and corresponding sampling location in this lab are indicated in Figs. 1a-e. In the specific case of drawer samples (see Figs 1b and 1c), each sample represented a composite wiping of 4 drawers, with each drawer contributing approximately the same amount of wiping area.

Sampling in other rooms of the Río Piedras research facility is indicated in Figures 2-6.

Additional samples, not included in any of the Figures, are described in Table 2.

Each wipe sample was made by moistening filter paper with toilet-cleaning detergent and wiping an area ranging between 200 - 300 cm², then storing the paper with a small amount of water in a properly identified plastic vial for scintillation counting at the RSO Office at UPR-Mayaguez. The scintillation counter used had efficiencies of > 58% and >95% for H3 and C14, respectively.

Geiger counter survey

A Ludlum Model 14 C Geiger Counter fitted with a Model 44-9 pancake probe was sent to the manufacturer for calibration and determining probe efficiency for C-14 (see calibration certificate in Appendix B). A survey was then made by passing the probe at < 1 cm elevation over the entire area that had been sampled for wipe tests.

Results of Survey

Wipe tests

Results for all wipe tests are given in Table 3. All except 6 samples yielded counts < 100 cpm. Of the six samples yielding greater than this amount, all except 1 sample yielded < 700 cpm, which, considering a sampling area of 200 cm² and a scintillation counter efficiency of > 58%, falls safely below the critical level of 1,000 dpm/100 cm². The highest reading (955 cpm) yielded 823 dpm/100 cm² based on the same criteria, which is also below the critical level. Nevertheless, we considered the reading as marginally critical and proceeded to re-sample the corresponding area, which consisted of a set of 4 drawers. Each drawer was sampled individually, yielding count values of 33, 35, 210 and 1,422 cpm, respectively. The drawer yielding the highest value was removed and transported to the UPR Mayaguez Campus together with its contents (old unused glassware) for storage and eventual disposal.

Geiger counter survey

Geiger counter readings, taken at <1cm from the surface, yielded less than 0.02 mR/hr at all locations, except in one case as described below.

Above-background readings were found within a small area of about 0.3 m² on the concrete floor of an old laboratory (see Fig. 3), which had not housed radioisotopes for the past 20-30 years and was currently used for storage and occasional grinding of soil samples. Within this 0.3 m² area, two very small areas, each on the order of 50-100 cm², gave readings of approximately 0.8 mR/hr at 1 cm from the surface. The remainder of the contaminated 0.3 m² area gave readings ranging between 0.1 – 0.3 mR/hr at 1 cm from the surface. Readings directly over the hottest spot decayed rapidly with elevation, yielding 0.25 mR/hr at 5 cm, 0.15 mR/hr at 10 cm, 0.05 mR/hr at 20 cm and < 0.03 mR/hr at 30 cm. Placing a piece of 1/8" thick corrugated cardboard on the surface reduced the maximum reading from 0.8 to 0.4 mR/hr at 1 cm elevation, and a 1/4" panel of wood reduced readings to background, indicating low energy radiation. Placing a thin lead (Pb) foil over the surface also completely absorbed the radiation (no fluorescence occurred). A wipe sample taken from this area prior to the Geiger counter survey (sample no. 107 in Table 3) had yielded no removable radioactive material, indicating that all activity corresponded to material embedded in the concrete floor. Four additional wipe samples were taken from the same area after the Geiger counter measurements. Scintillation counter readings for these samples were 34, 46, 16 and 16 cpm, respectively, confirming the absence of removable contamination.

Action to minimize residual contamination and exposure

The above contaminated area was vigorously scrubbed with a stiff steel brush and detergent. The suds resulting from scrubbing were wipe-sampled over an area of about 100 cm², and analyzed in a scintillation counter at UPR Medical Sciences Campus. Results indicated the presence of C14 and H3 (700 and 450 dpm, respectively), consistent with the previously observed low energy of the emitted radiation. All suds produced by scrubbing were removed from the floor with blotting paper. The area was blotted dry two additional times after re-wetting with detergent solution, and all wet blotting paper was transferred to the Mayaguez campus for storage and eventual disposal. A wipe sample taken from the scrubbed and blot-dried area indicated no removable surface radioactivity (43 cpm).

Geiger counter readings after scrubbing were < 0.4 mR/hr at 1 cm elevation at the "hottest" point. Assuming all this remaining activity was due to C14, the corresponding maximum counter reading of 1,300 cpm at 1 cm indicated about 14, 500 dpm after accounting for 9% probe efficiency. Readings of this order occurred only at two small points, decreasing rapidly if the probe was moved laterally only two or three inches. Readings over the remaining contaminated area after scrubbing were < 0.2 mR/hr at 1 cm elevation. Covering the floor with ceramic tile reduced Geiger counter measurements to < 0.02 mR/hr everywhere at 1 cm from the tile surface.

Table 1
Inventory of Radioisotopes Stored in Pesticide Laboratory,
Agricultural Experiment Station

<i>Radioisotope</i>	<i>Chemical and/or physical form</i>	<i>Container and actual amount contained</i>	<i>Maximum activity (initial)</i>	<i>Actual activity (approximate) at time of shipping (1/29/03)</i>	<i>Experiment Station I.D. number</i>
Carbon 14	Labeled Simazine (solid)	1 vial with 29.7 mg	0.15 mCi	0.15 mCi	C ¹⁴ # 1-4
		1 vial with 0.10 mg	0.10 mCi	0.10 mCi	
		1 vial with 19.8 mg	0.10 mCi	0.10 mCi	
		1 vial with 17.8 mg	0.098 mCi	0.098 mCi	
Carbon 14	Labeled 3-(p-chlorophenyl-1-C-14)-1,1-dimethylurea (solid)	1 vial with 10 mg	40 µCi	40 µCi	C ¹⁴ # 6
Carbon 14	Labeled Diuron (solid)	1 vial with trace amount (< 5 mg)	46 µCi	< 10 µCi	C ¹⁴ # 7
Carbon 14	Labeled Ametryn (solid)	1 vial with trace amount (< 5 mg)	43 µCi	< 10 µCi	C ¹⁴ # 8
Carbon 14	Labelled Terbacil (solid)	1 vial with trace amount (< 5 mg)	46 µCi	< 10 µCi	C ¹⁴ # 9
Carbon 14	Labelled Atrazine (solid)	1 vial with trace amount (< 5 mg)	50 µCi	< 10 µCi	C ¹⁴ # 10
Carbon 14	Labeled Prometryn (solid)	1 vial with trace amount (< 5 mg)	50 µCi	< 10 µCi	C ¹⁴ # 11
Carbon 14	Labeled Fluometuron (solid)	1 vial with trace amount (< 5 mg)	50 µCi	< 10 µCi	C ¹⁴ # 12
Hydrogen 3	H ³ on Sc detector foils	2 foils in vials	1 Ci each (2 Ci total)	0.88 Ci total	Varian 1, Varian 2

Table 1 (cont.)

<i>Radioisotope</i>	<i>Chemical and/or physical form</i>	<i>Container and actual amount contained</i>	<i>Maximum activity (initial)</i>	<i>Actual activity (approximate)</i>	<i>Experiment Station I.D. number</i>
Hydrogen 3	H ³ on Sc detector foils (solid)	3 foils in vials	1 Ci each (3 Ci total)	1.32 Ci total	Safety Light serial nos. 69400,69401,69402
Hydrogen 3	Labeled toluene (liquid)	1 vial with 25 ml	100,600 dpm (0.5 μCi) as of March 20, 1965	0.13 μCi	H ³ # 2
Nickel 63	Ni ⁶³ detector for Varian Model 2100 GC unit (solid)	1 unit	8 mCi	8 mCi	Ni ⁶³ #2
Nickel 63	Ni ⁶³ detector for Tracor Model 560 GC unit, in beaker	1 unit	15 mCi	15 mCi	Ni ⁶³ #1

Table 2. Description of wipe samples additional to those indicated in Figures 1 through 6.

<i>Sample identification no.</i>	<i>Description</i>
60	Electronic analytical balance located in non-sealed source storage room
77	Spectronic 20 colorimeter located in non-sealed source storage room
78	Outside of water bath located in non-sealed source storage room
79	Inside of water bath located in non-sealed source storage room
80	Outside of mechanical analytical balance located in non-sealed source storage room
81	Inside case of mechanical analytical balance located in non-sealed source storage room
82	Laboratory cart located in non-sealed source storage room
110	Freezer area in old Plant Physiology lab
123	Blank sample
125	Compound sample taken from bucket, broom and mop in custodian's closet in Agronomy building
126	Sample taken from floor of custodian's closet in Agronomy building

Table 3. Wipe sample identification numbers and scintillation counter results (cpm)*

Sample Number	CPM	Sample Number	CPM	Sample Number	CPM	Sample Number	CPM	Sample Number	CPM	Sample Number	CPM
1	30.00	22	38.50	43	38.50	64	41.00	85	36.50	106	26.50
2	38.00	23	36.50	44	34.50	65	37.50	86	32.00	107	36.50
3	30.50	24	39.50	45	32.00	66	31.50	87	42.50	108	29.50
4	39.50	25	41.50	46	31.00	67	34.00	88	51.50	109	29.50
5	32.00	26	36.00	47	676.00	68	40.50	89	45.50	110	35.00
6	29.50	27	38.00	48	57.50	69	50.00	90	34.50	111	42.00
7	28.50	28	104.00	49	328.50	70	31.50	91	32.00	112	32.50
8	40.50	29	70.50	50	36.50	71	43.00	92	90.50	113	40.00
9	31.00	30	34.50	51	38.50	72	33.00	93	48.50	114	34.00
10	32.50	31	32.00	52	28.00	73	38.50	94	497.50	115	28.50
11	42.00	32	36.50	53	45.50	74	32.00	95	64.00	116	89.50
12	34.00	33	40.00	54	22.00	75	32.00	96	50.00	117	29.50
13	39.00	34	36.50	55	36.50	76	27.50	97	34.50	118	44.00
14	43.50	35	34.50	56	32.00	77	30.00	98	23.00	119	36.00
15	31.00	36	548.50	57	955.00	78	38.50	99	25.00	120	34.50
16	30.00	37	67.50	58	49.00	79	41.00	100	27.50	121	36.50
17	33.50	38	35.00	59	31.00	80	37.50	101	37.50	122	38.50
18	30.00	39	40.00	60	33.50	81	35.50	102	36.50	123	32.00
19	36.00	40	37.50	61	40.00	82	38.50	103	23.50	124	25.00
20	39.50	41	39.00	62	58.00	83	43.00	104	24.50	125	24.50
21	34.50	42	38.00	63	27.50	84	40.00	105	25.50	126	26.50

* See lab report attached. Scintillation counter efficiencies were >95% for C14 and >58% for H3.

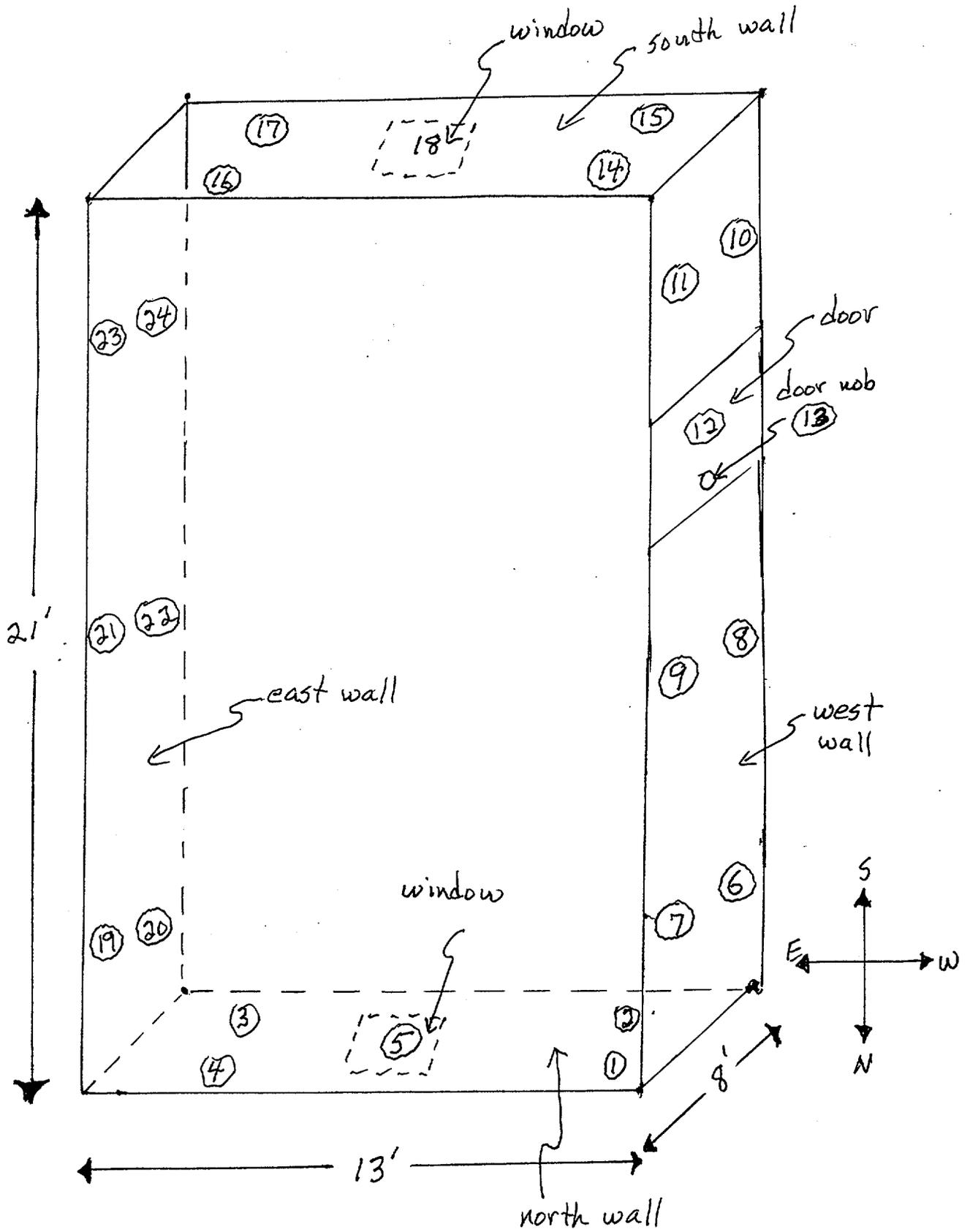


Fig. 1a. Sample location on walls of room in Central Analytical Laboratory where non-sealed sources were stored.

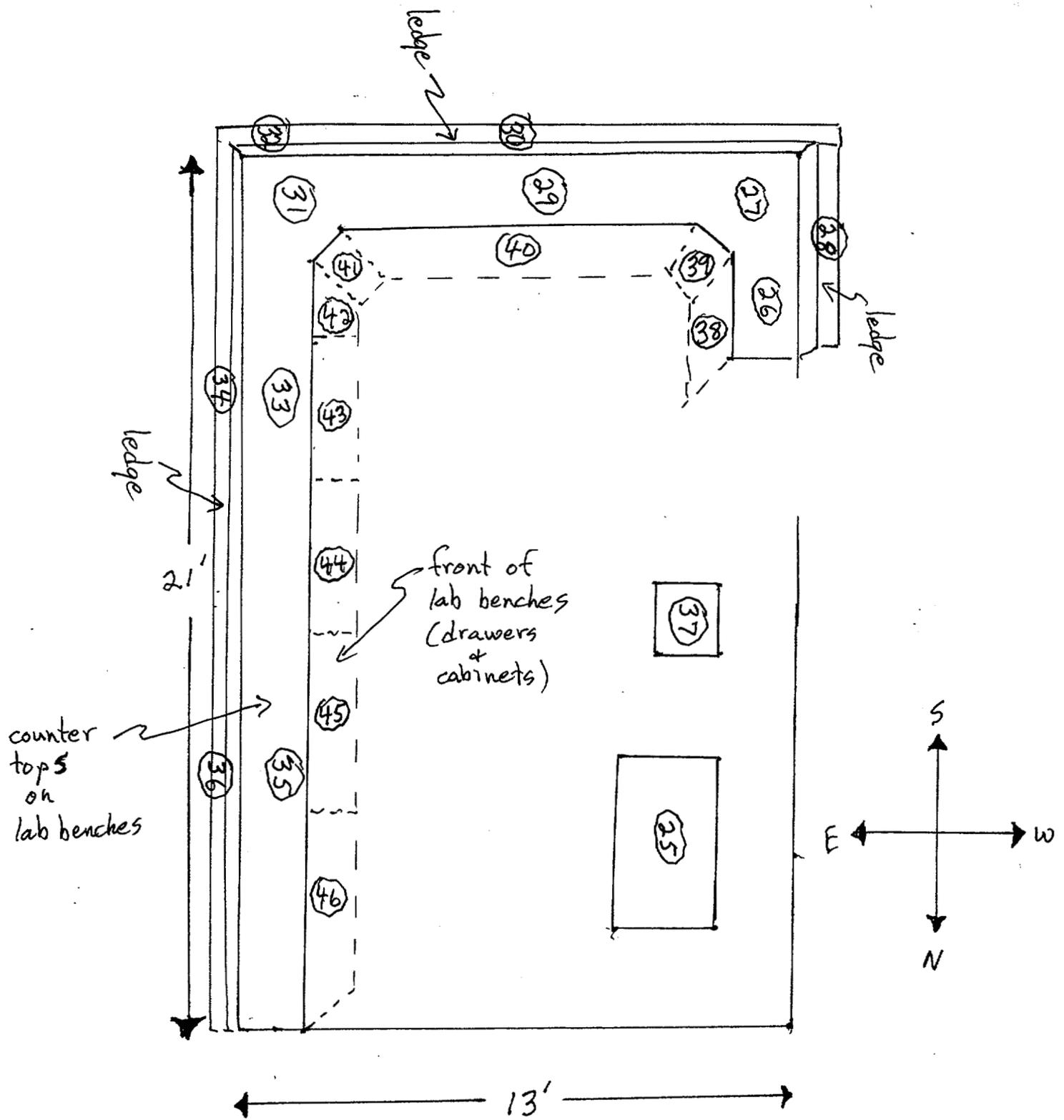


Fig. 1b. Location of wipe samples taken from counter tops and outside of drawers under counter tops, of room in Central Analytical Laboratory where non-sealed sources were stored.

cabinet where non-sealed sources were stored
 (see separate detailed sampling diagram)

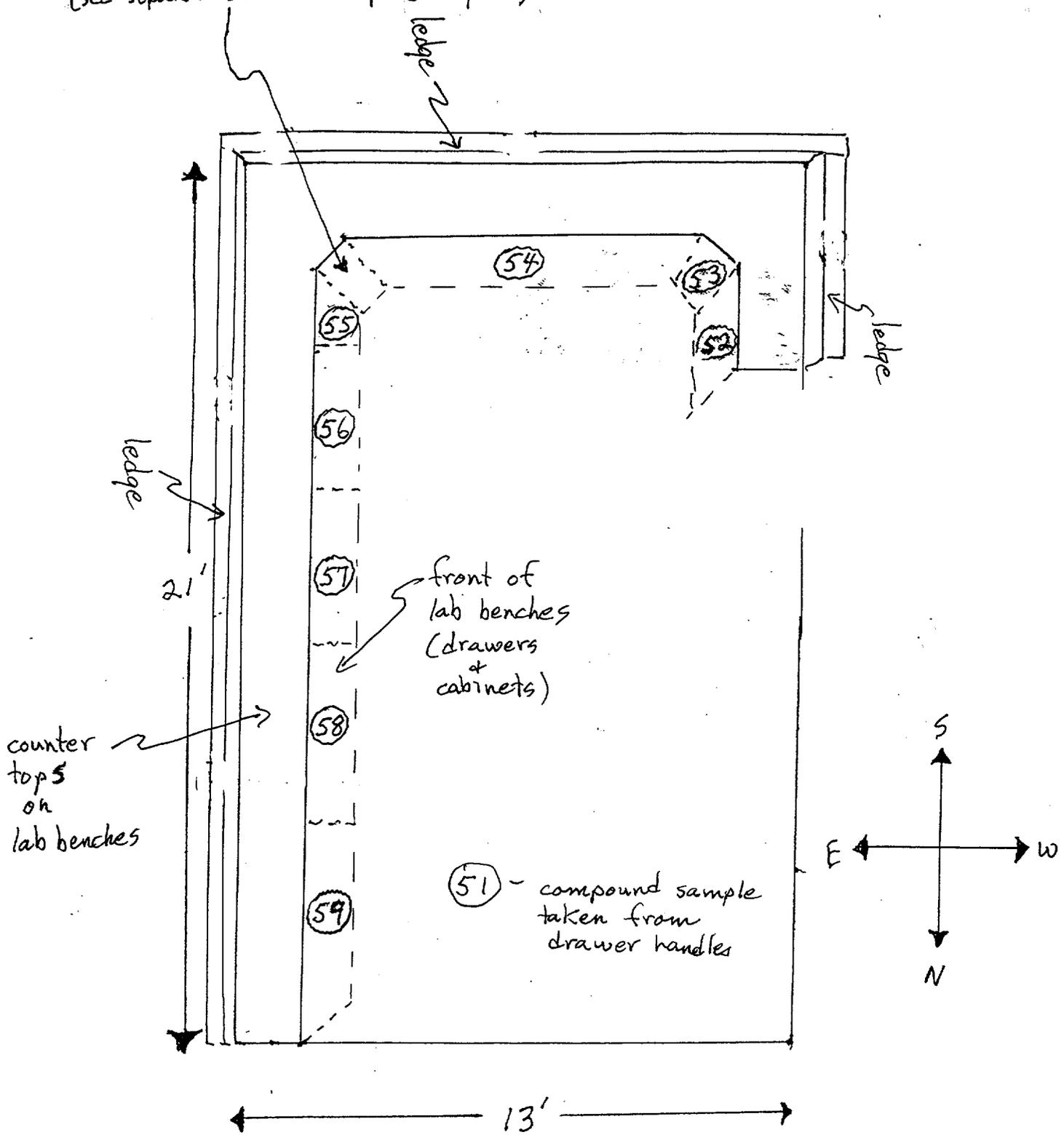
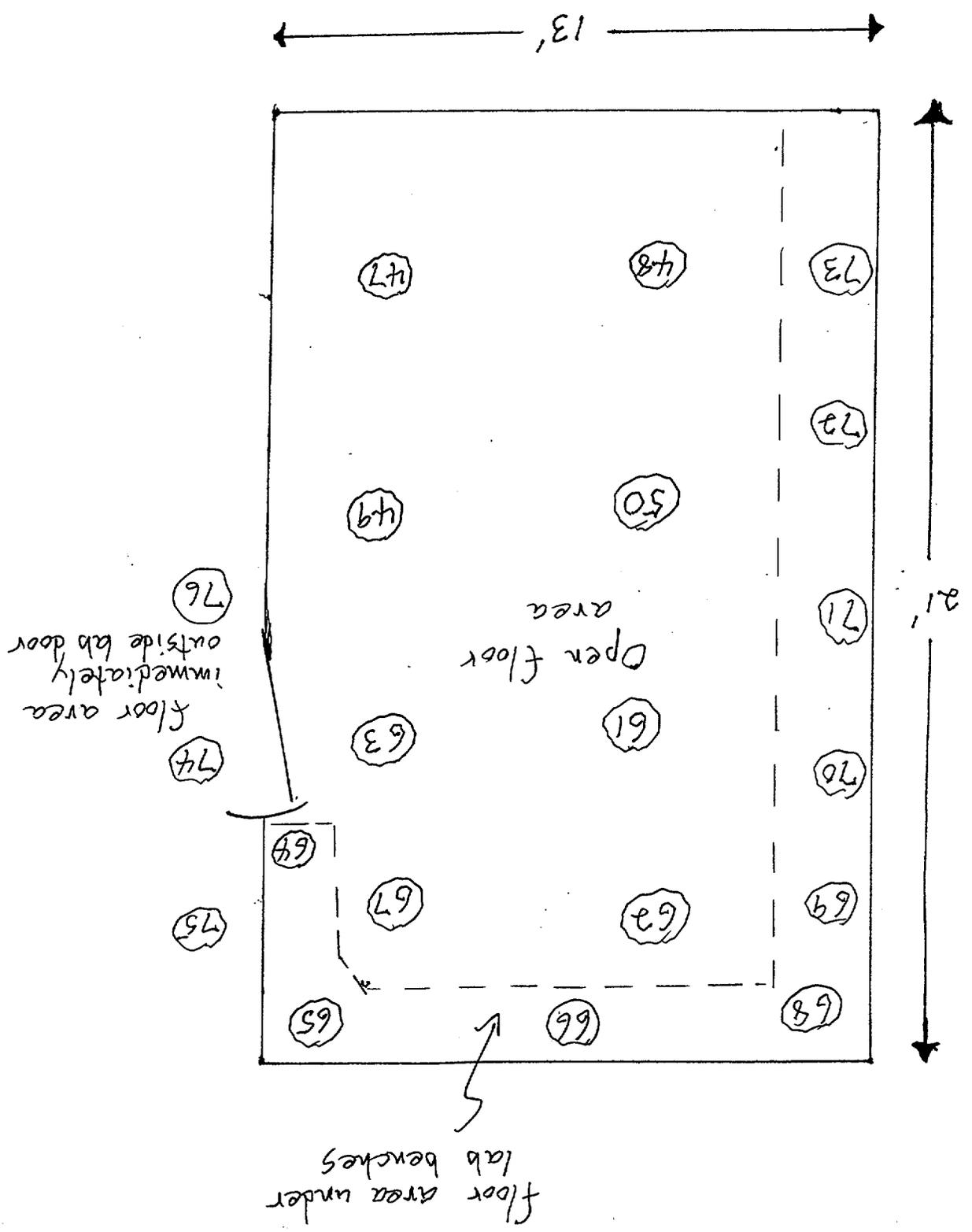
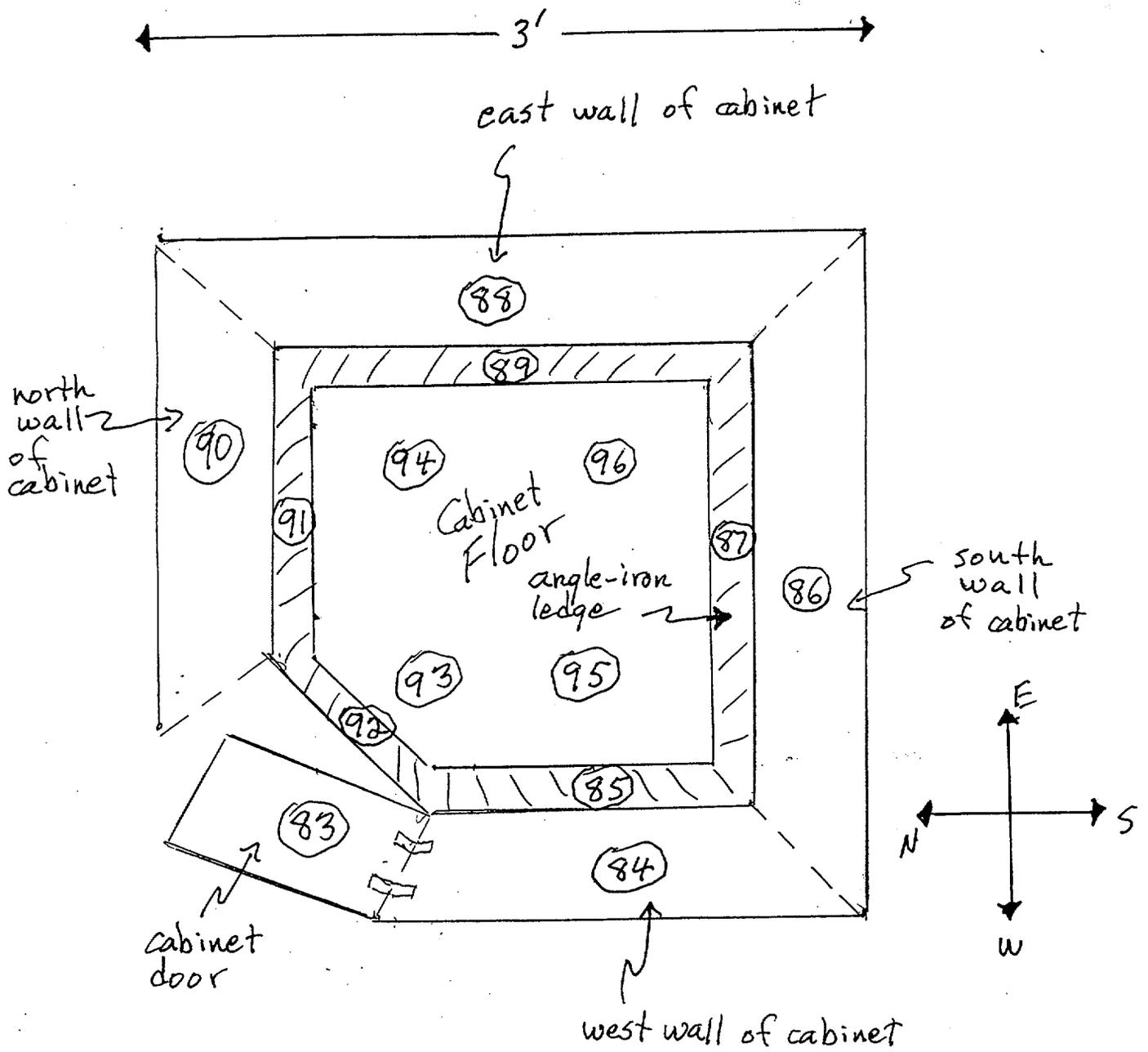


Fig. 1c. Location of wipe samples taken from inside of drawers and cabinets under counter tops, of room in Central Analytical Laboratory where non-sealed sources were stored.

Figure 1d. Sample locations on floor of room in Central Analytical Lab where non-sealed sources were stored.





sample (97) - taken from inside the roof of the cabinet

Fig. 1e. Top view of inside of cabinet used to store non-sealed sources, indicating location of wipe samples, by sample I.D. number.

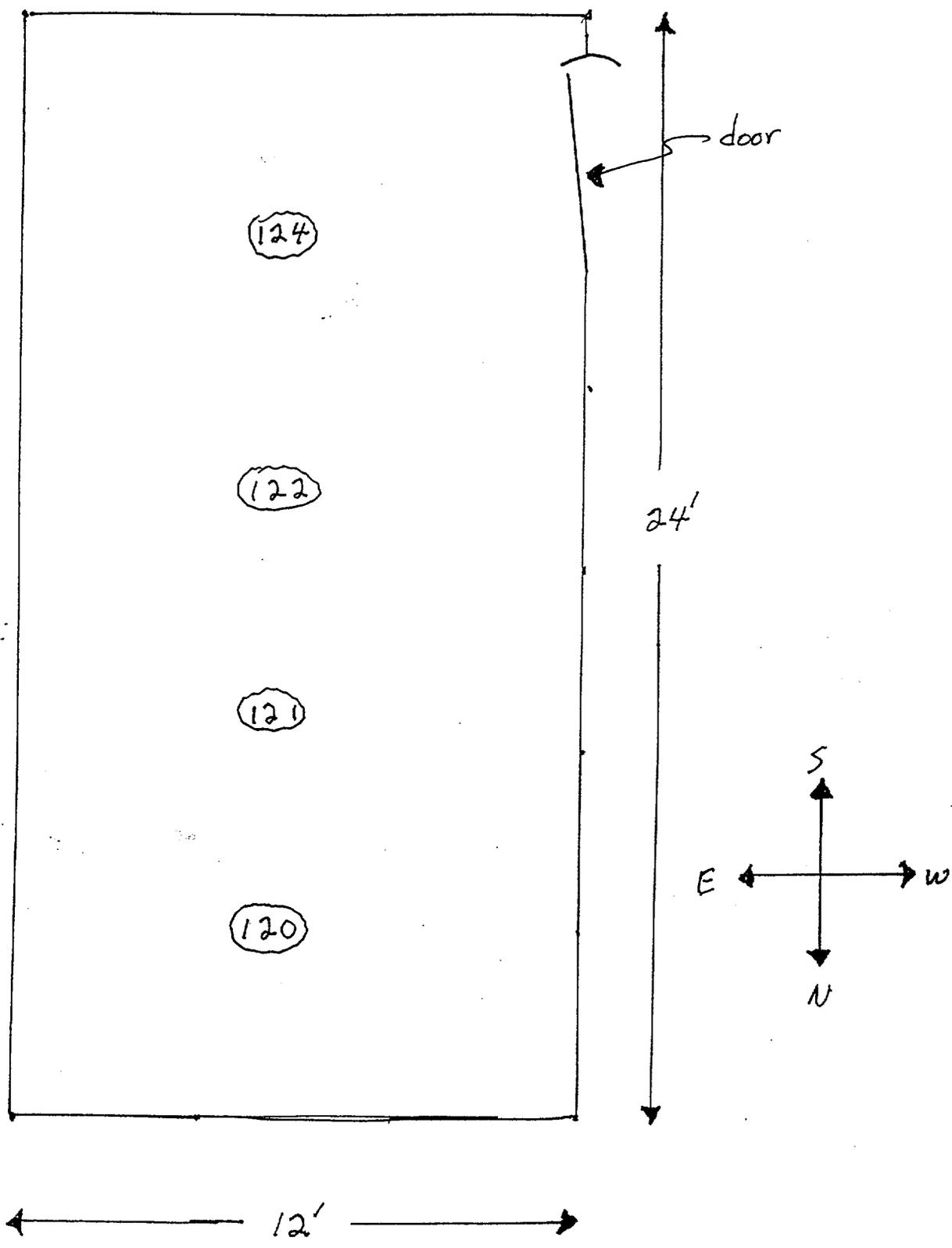


Fig. 2. Location of wipe-samples taken from the floor of room in old Phytotron building, where nuclear gauges with sealed sources were stored.

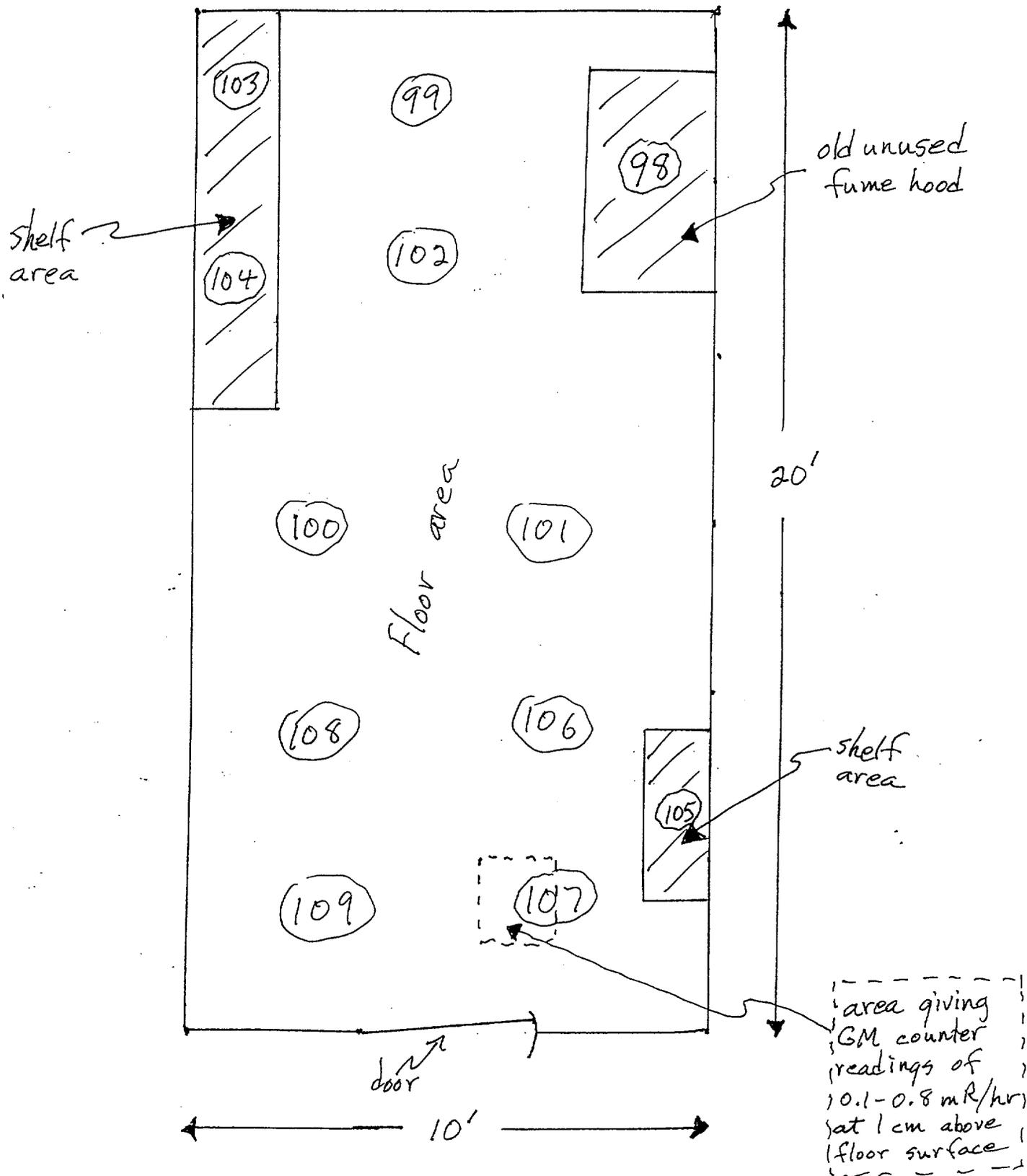
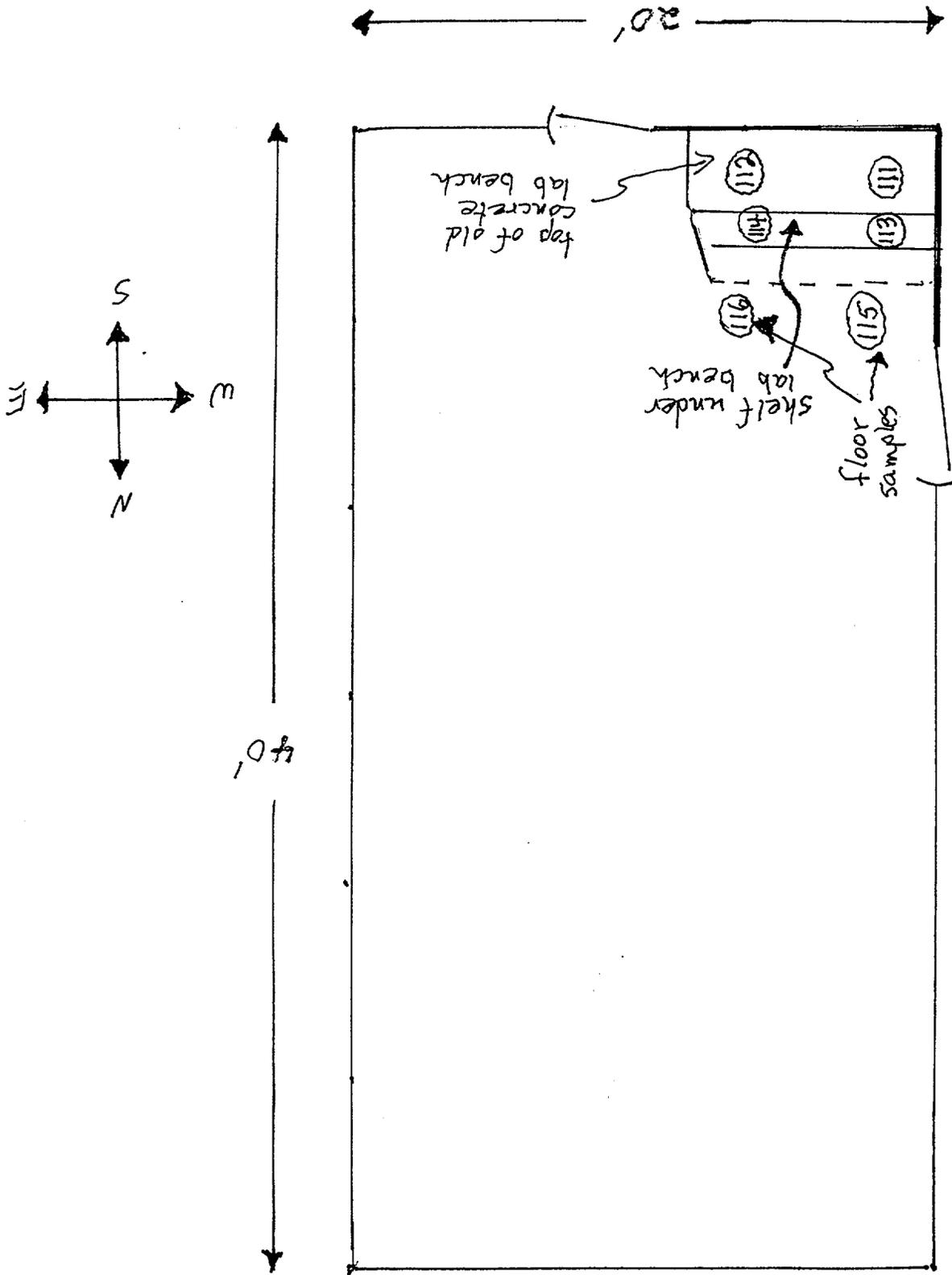


Fig. 3. Diagram of sample processing room in Agronomy Building, illustrating wipe-sample sites and small area yielding above-background GM counter readings.

Fig. 4. Diagram of old soils lab in the Agronomy Building, showing locations of wipe samples in area of the lab used for radio-isotope studies in the 1960's and 70's.



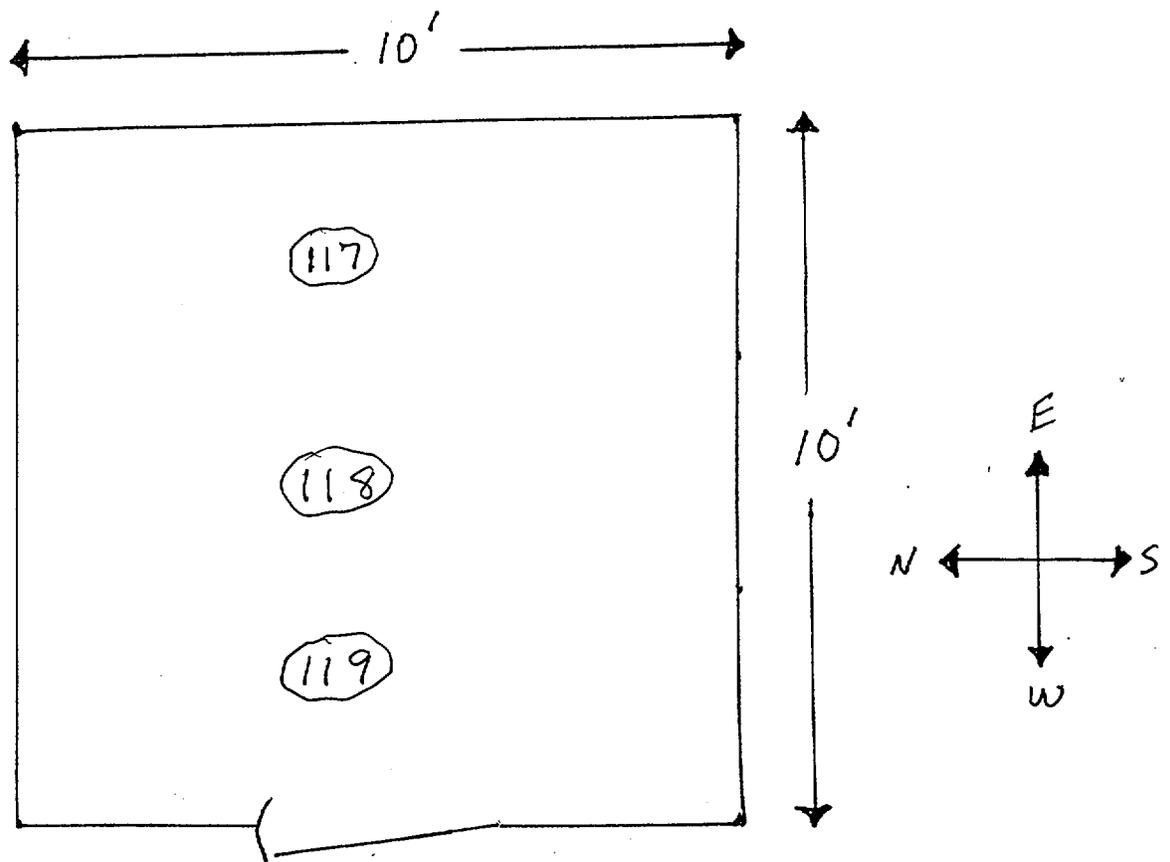


Fig. 5. Diagram of storage room in old Federal soils lab, showing locations of wipe samples. This storage room had been used to store sealed-source nuclear gauges. Samples were taken from the floor,

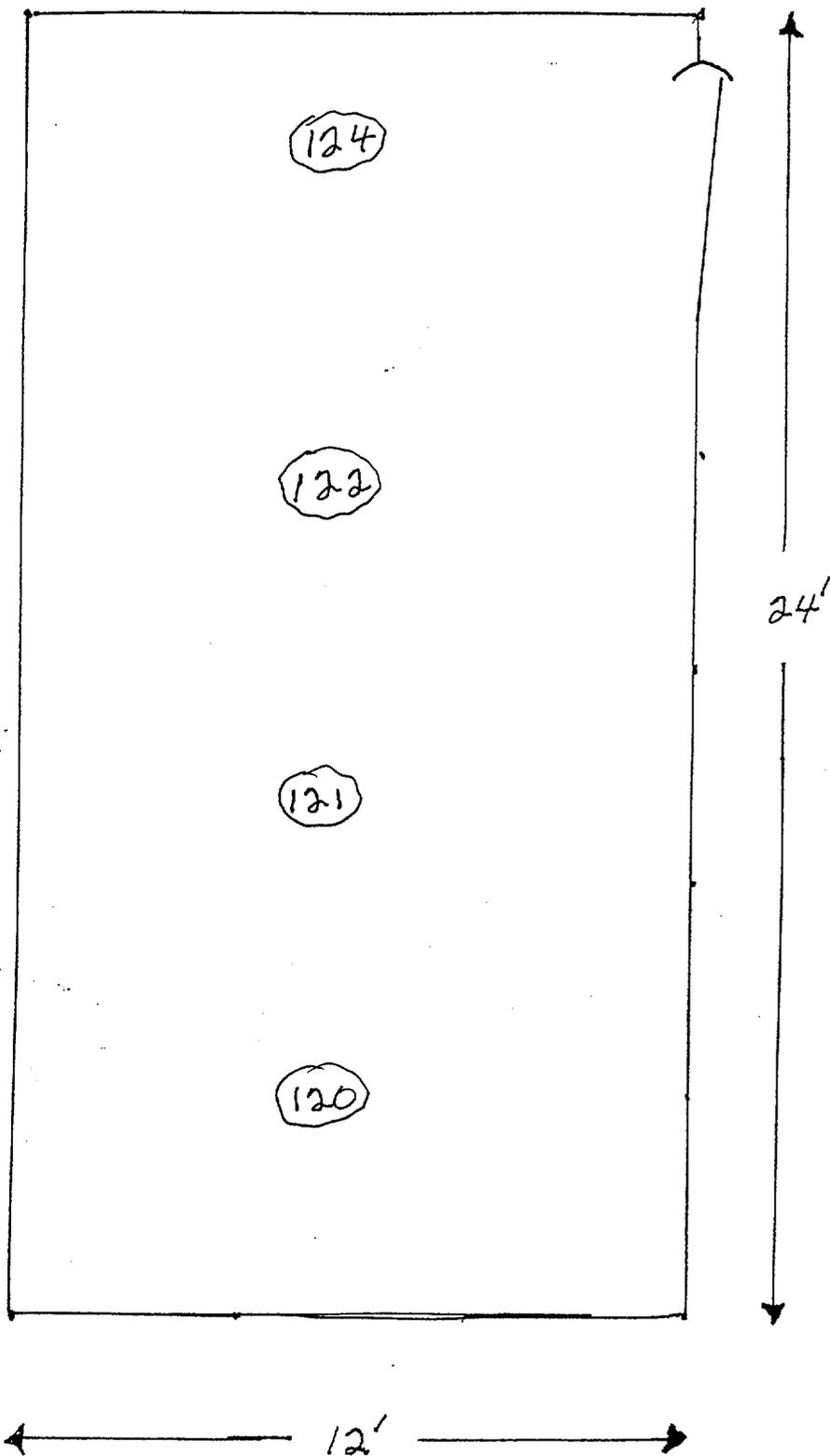


Fig. 6. Diagram of storage room in old Phytotron building, showing locations of wipe samples. This room had been used to store sealed-source nuclear gauges. Samples were taken from the floor.

APPENDIX A

**Shipping papers and other documentation related to disposition of
radioactive materials**



Expanded Service International Air Waybill

For FedEx services worldwide including Express Freight Services,
Dangerous Goods, Broker Select, and Letter of Credit

1 From *Please print and press hard*
 Date 01/24/03 Sender's FedEx Account Number 1208 97578
 Sender's Name Victor Snyder Phone (787) 767-8282
 Company UPK - Food Technology Lab
 Address Agricultural Experimental Station
 Address P.O. Box 21360
 City San Juan State/Province PR
 Country USA ZIP Postal Code 00928

2 To
 Recipient's Name _____ Phone _____
 Company Trexler Electronic Lab.
 Address 3008 Cornwallis Rd.
 Address _____
 City Research Triangle Park State/Province NC
 Country USA ZIP Postal Code 27709
 Recipient's Tax I.D. number for Customs purposes
 e.g., GST/RFCVAT/VAT/EIN, or as locally required

3 Shipment Information
 Total Packages 1 Total Weight 30 lbs. kg
 Shipper's Load and Count/SLAC 1 DIM 11 1 1 in. cm

Commodity Description REQUIRED	Harmonized Code	Country of Manufacture	Value for Customs REQUIRED
<u>Radioactive Material</u>		<u>USA</u>	<u>Ø</u>
<u>Exempted package - Limited quantity of material</u>			
<u>UN 2910</u>			
<input type="checkbox"/> No SED required per Exemption <input type="checkbox"/> For EU Only: Tick here if goods are not in free circulation and provide CI. <input type="checkbox"/> No SED required, value \$2500 or less per Schedule B Commodity number <input type="checkbox"/> SED attached (provide export license no. and exo. date or license exception symbol, w/ECCN if applicable)			Total Declared Value for Carriage <u>NON</u> Total Value for Customs (Specify Currency) <u>Ø</u>

For Completion Instructions, see back of fifth page.

Questions?
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 or
 In the U.S., call 800.247.4747
 Outside the U.S., call your local FedEx office

The terms and conditions of service may vary from country to country. Consult our local office for specific information.
Non-Negotiable International Air Waybill • ©1994-2001 Federal Express Corporation

The World On Time.

Not all services and options are available to all destinations.

4a Express Package Service Packages up to 150 lbs. / 68 kg
 FedEx Intl. Priority FedEx Intl. First Available to select locations
 _____ FedEx Intl. Economy FedEx Envelope and FedEx Pak rate not available

4b Express Freight Service Packages over 150 lbs. / 68 kg
 FedEx Intl. Priority Freight FedEx Intl. Economy Freight
 Booking Number _____
 Please call your local FedEx office to book shipments.

5 Packaging These unique brown boxes with special pricing are provided by FedEx for FedEx Intl. Priority only.
 FedEx Envelope FedEx Pak FedEx 10kg Box FedEx 25kg Box Other

6a Special Handling
 HOLD at FedEx Location SATURDAY Delivery Available to select locations Available for FedEx Intl. Priority only
 Does this shipment contain dangerous goods?
 No Yes As per attached Shipper's Declaration Yes Shipper's Declaration not required Cargo Aircraft Only
 Dry Ice Dry Ice, 9, UN 1845 _____ x _____ kg
 Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

6b Broker Selection Available for FedEx Intl. Priority and FedEx Intl. Economy only Intl. Broker Select To specify a broker other than FedEx
 Broker's Name _____
 City / State / Province / Country _____
 ZIP / Postal Code _____ Phone _____

7a Payment Bill transportation charges to:
 Sender Acct. No. in Section I will be billed. Recipient Third Party Credit Card Cash Check/ Cheque
 FedEx Acct. No. 1208-9757-8 FedEx Use Only
 Credit Card No. _____
 Credit Card Exp. Date _____

7b Payment Bill duties and taxes to: ALL shipments can be subject to Customs charges, which FedEx does not estimate prior to clearance.
 Sender Acct. No. in Section I will be billed. Recipient Third Party
 FedEx Acct. No. _____

8 Your Internal Billing Reference First 24 characters will appear on invoice.

9 Required Signature
 Use of this Air Waybill constitutes your agreement to the Conditions of Contract on the back of this Air Waybill, and you represent that this shipment does not require a U.S. State Department License. Certain international treaties, including the Warsaw Convention, may apply to this shipment and limit our liability for damage, loss, or delay, as described in the Conditions of Contract.
 WARNING: These commodities, technology, or software were exported from the United States in accordance with Export Administration Regulations, Division contrary to U.S. law prohibited.
 Sender's Signature: Victor Snyder Date Executed: 1-9-03
 This is not authorization to deliver this shipment without a recipient signature.
 FedEx Courier Receipt _____ Date: _____
 For Letter of Credit shipments only

FedEx Tracking Number **8343 6094 6169** Form I.D. No. **0425**

Rev. Date 10/01
 Part #151256
 ©1994-2001 FedEx
 PRINTED IN U.S.A.
 GBFE 2/02



Troxler Electronic Laboratories, Inc.-TroXler Int
3008 Cornwallis Road, P.O. Box 12057, Research Triangle Park
Telephone: 919/549-8661 Telefax: 919/549 0761

JANUARY, 28, 2003

UPR
C/O DAVE ROWE
p O BOX 21360
SAN JUAN PR.

ATTN: DAVE ROWE

This is to acknowledge receipt of the below-referenced nuclear gauge under North Carolina Radioactive Materials License #032-0182-1. You should retain this letter in your files to document transfer of the gauge.

The total amount of \$1,600.00 has been billed to you for the disposal of the radioactive source.

REC. 01/14/2003

MODEL 3321 S/N 411

SERVICE DEPT: FRANK CAMERON

FedEx Express

Expanded Service
International Air Waybill

For FedEx services worldwide including Express Freight Services, Dangerous Goods, Broker Select, and Letter of Credit

1 From Please print and sign here
 Date 01/22/03 Sender's FedEx Account Number 1208 97578
 Sender's Name Victor Snyder Phone (757) 767-9282
 Company UPK - Food Technology Lab.
 Address Agricultural Experimental Station
 Address P.O. Box 21360
 City San Juan State Province PR
 Country USA ZIP Postal Code 00928-1360

2 To
 Recipient's Name _____ Phone _____
 Company CPN
 Address 2830 Hawk Rd Dept/Floor _____
 Address _____
 City Martinez State Province CA
 Country USA ZIP Postal Code 94553
 Recipient's Tax I.D. number for Customs purposes
 e.g., GST/RFC/VAT/IN/EN, or as locally required

3 Shipment Information

Total Packages 1 Total Weight 1.1 lbs. 1.1 kg DIM 1.1 in. cm

Commodity Description REQUIRED	Harmonized Code	Country of Manufacture	Value for Customs REQUIRED
<u>Radioactive Material</u> <u>Type A Package</u> <u>UN 3332</u>		<u>USA</u>	<u>0</u>

No SED required per Exemption
 SED attached (provide export license no. and exp. date or license exception symbol w/ECCN if applicable)
 For EU Only: Tick here if goods are not in free circulation and provide CI.
 No SED required, value \$2500 or less per Schedule B Commodity number
 Total Declared Value for Carriage CPN
 Total Value for Customs (Specify Currency) 0

The World On Time.

Not all services and options are available to all destinations.

4a Express Package Service Packages up to 150 lbs. / 68 kg
 FedEx Intl. Priority FedEx Intl. First Available to select locations
 _____ FedEx Intl. Economy FedEx Envelope and FedEx Pak rate not available

4b Express Freight Service Packages over 150 lbs. / 68 kg
 FedEx Intl. Priority Freight FedEx Intl. Economy Freight
 Booking Number _____
 Please call your local FedEx office to book shipments.

5 Packaging These unique brown boxes with special pricing are provided by FedEx for FedEx Intl. Priority only.
 FedEx Envelope FedEx Pak FedEx 10kg Box FedEx 25kg Box Other

6a Special Handling
 HOLD at FedEx Location SATURDAY Delivery Available to select locations Available for FedEx Intl. Priority only
 Does this shipment contain dangerous goods?
 No Yes As per attached Shipper's Declaration Yes Shipper's Declaration not required Cargo Aircraft Only
 Dry Ice Dry Ice, 9 UN 1845 _____ x _____ kg
 Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

6b Broker Selection Available for FedEx Intl. Priority and FedEx Intl. Economy only Intl. Broker Select To specify a broker other than FedEx
 Broker's Name _____
 City / State / Province / Country _____
 ZIP / Postal Code _____ Phone _____

7a Payment Bill transportation charges to:
 Sender Acct. No. in Section 1 will be billed. Recipient Third Party Credit Card Cash Check/ Cheque
 FedEx Acct. No. 1208-9757-8 FedEx Use Only _____
 Credit Card No. _____
 Credit Card Exp. Date _____

7b Payment Bill duties and taxes to: ALL shipments can be subject to Customs charges, which FedEx does not estimate prior to clearance.
 Sender Acct. No. in Section 1 will be billed. Recipient Third Party
 FedEx Acct. No. _____

8 Your Internal Billing Reference First 24 characters will appear on invoice.

9 Required Signature
 Use of this Air Waybill constitutes your agreement to the Conditions of Contract on the back of this Air Waybill, and you represent that this shipment does not require a U.S. State Department License. Certain international treaties, including the Warsaw Convention, may apply to this shipment and limit our liability for damage, loss, or delay, as described in the Conditions of Contract.
WARNING: These commodities, technology, or software were exported from the United States in accordance with Export Administration Regulations. Diversion contrary to U.S. law prohibited.
 Sender's Signature: Victor Snyder Date Executed: 1-9-03
 This is not authorization to deliver this shipment without a recipient's signature.
 FedEx Courier Receipt _____ Date: _____
 For Letter of Credit shipments only

For Completion Instructions, see back of fifth page.

Questions?
 Visit our Web site at fedex.com
 or
 In the U.S., call 800.247.4747
 Outside the U.S., call your local FedEx office

The terms and conditions of service may vary from country to country. Consult our local office for specific information.
 Non-Negotiable International Air Waybill • ©1994-2001 Federal Express Corporation

FedEx Tracking Number **8343 6094 6170** Form I.D. No. **0425**

451
 Rev. Date 10/01
 Part #157256
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 PRINTED IN U.S.A.
 GBFE 2/02



Advanced Instrumentation for Density
& Moisture Testing of Soils & Pavements

CPN International, Inc. 2830
Howe Road Martinez, CA 94553
USA Phone: (925) 228-9770
Fax: (925) 228-3183
e-mail:cpn@cpn-intl.com

Return Authorization No. 0641

LETTER OF RECEIPT OF GAUGE/SEALED SOURCE

To Radioactive Material Licensing Agencies:

CPN International, Inc. has taken possession of the following nuclear gauge(s). A certificate of leak test is on file.

A disposal fee of \$1,900.00 has been charged against your account.

Date of Transfer of possession:	January 13, 2003
Model No.: MC-S-24	Serial No.: MS8018062
Nuclide: Am-241/Be	Activity: 50 mCi
Nuclide: Cs-137	Activity: 10 mCi

Licensee: CRMI
Attn: David Rhoe
Paseo de la Fuente
D-4 Calle Tivoli
San Juan, PR 00926

Tel: 787-316-7920
Fax: 787-292-7976

Douglas Carter
RSO/ Assistant RSO
CPN International, Inc.
(California License No. 1100-07)

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least two copies to the airline)

Shipper <i>Victor Snyder, RSO</i> <i>UPR Experimental Station</i>		Air Waybill No. Page <i>1</i> of <i>1</i> Pages Shipper's Reference Number <small>(optional)</small>			
Consignee <i>David Rhee</i> <i>Paseo de la Fuente</i> <i>D-4 Calle Tiuli</i> <i>San Juan, PR 00926</i>					
Two completed and signed copies of this Declaration must be handed to the operator.		WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder, or an IATA cargo agent.			
TRANSPORT DETAILS					
This shipment is within the limitations prescribed for: <small>(delete non-applicable)</small>		Airport of Departure <div style="text-align: center; font-size: 2em;">NA</div>			
<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">PASSENGER AND CARGO AIRCRAFT</td> <td style="text-align: center;">CARGO AIRCRAFT ONLY <input checked="" type="checkbox"/></td> </tr> </table>		PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY <input checked="" type="checkbox"/>	Airport of Destination:	
PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY <input checked="" type="checkbox"/>				
Shipment type: <small>(delete non-applicable)</small> <table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">NON-RADIOACTIVE</td> <td style="text-align: center;">RADIOACTIVE</td> </tr> </table>		NON-RADIOACTIVE	RADIOACTIVE		
NON-RADIOACTIVE	RADIOACTIVE				

Dangerous Goods Identification					Quantity and type of packaging	Packing Inst.	Authorization
Proper Shipping Name	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk			
Radioactive Material TYPE A Package Special Form RQ	7	UN 3332			3 units with Radioactive material (1) 10 mL Am-241/Be (2) 50 mL Am-241/Be MD: 503 DK (3) 10 mL Co-137 50 mL Am-241 MD: 503 DK TYPE A Package	II FI: 0.2	NA Pin: 12X30X12 Inches

Additional Handling Information

Emergency Telephone Number *Victor Snyder (787) 316-8329 or 756-8329*

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.	Name/Title of Signatory <i>Victor Snyder, RSO</i> Place and Date <i>Experimental Station UPR San Juan</i> <i>12/3/02</i> Signature <i>Victor Snyder</i> (see warning above)
--	---

IF ACCEPTABLE FOR PASSENGER AIRCRAFT, THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INCIDENT TO, RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.

NOTICE OF EQUIPMENT TRANSFER

This certifies that on December 23, 2002, the following nuclear gauges were transferred temporarily from the Agricultural Experiment Station at Rio Piedras, PR to the University of Puerto Rico Medical Sciences Campus, under custody of Mr. David Rhoe, Radiation Safety Officer (RSO) of that institution:

~~Trexler Model 3324 depth gauge~~
~~Serial no. 441~~

void *VS* ^{*DM*}

CPN Model 503DR depth gauge
Serial no. H380104116

~~CPN Model MC 6-24 Stratagauge~~
~~Serial no. M58018062~~

void *VS* ^{*DM*}

Signed: Victor Snyder, RSO, Agricultural Experiment Station

Victor Snyder

David Rhoe, RSO, UPR Medical Sciences Campus

DR

Shipping paper for CPN Model 503 depth gauge
 transferred by Mr. David Rhoe to UPR-Magpiez Campus
 (Lic. no. 52-10510-04)

SHIPPING PAPERS					
SHIPPER'S DECLARATION FOR DANGEROUS GOODS					
Consignee/Shipper Name: <i>David Rhoe</i> Address: <i>Paseo de la Fuente</i> <i>D-4 Calle Tivoli</i> <i>San Juan, P.R. 00926</i>			Page <u>1</u> of <u>2</u> Pages Daily Transport		
Two completed and signed copies of this declaration must be handed to the operator.			Shipment type: Radioactive		
TRANSPORT DETAILS This shipment is within the limitations prescribed for: Company Approved Vehicle Only			WARNING: Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.		
NATURE AND QUANTITY OF DANGEROUS GOODS					
Dangerous Goods Identification					
Proper Shipping Name	Class	UN No.	Quantity and type	Packing Inst	Auth.
Radioactive Material, Type A package Special Form, RQ	7	UN 3332	1 Unit with increased Radioactive Material One source: Am-241/Be 1.85 GBq (50 mCi) TYPE A	Yellow II T.I. = 0.2 Dimensions: 11 x 11 x 27 in inches	N/A
Additional Handling Information: In case the unit is damaged, contact the RSO for proper packaging instructions and container. In case of an accident, use the following ALARA procedures: 1. Time 2. Distance (greater than a 15 foot radius) 3. Shielding (Do not cover sources with dirt)					
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.			Name: David Rhoe Title: Health/Medical Physicist 24 Hr Emergency Phone Number (787) 292-8162 or (787) 246-6088 Signature: <i>David Rhoe</i>		

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least two copies to the airline)

Shipper: *Victor Snyder*
RSO, Agricultural Experiment
Station Rio Piedras PR

Air Waybill No. _____
 Page 1 of 1 Pages
 Shipper's Reference Number _____

Consignee: *Roberto Torres*
RSO, UPR Mayaguez, PR

Two completed and signed copies of this Declaration must be handed to the operator.

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder, or an IATA cargo agent.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for:

(delete non-applicable)

PASSENGER AIRCRAFT
 CARGO AIRCRAFT ONLY

Airport of Departure

NA

Airport of Destination:

NA

Shipment type: (delete non-applicable)

~~NON-RADIOACTIVE~~ **RADIOACTIVE**

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification					Quantity and type of packaging	Packing Inst.	Authorization
Proper Shipping Name	Class or Division	UN or ID No.	Pack-ing Group	Subsidiary Risk			
<i>Radioactive material, excepted package, limited quantity of material</i>	<i>7</i>	<i>UN 2910</i>			<i>3 solid sealed sources of H³ on Sc, 1.32 Ci total activity</i> <i>4 solid sealed sources of Ra²²⁶, 225 uCi each, all in metal drum-</i>		<i>NA</i> <i>18" diameter</i> <i>x</i> <i>30" height</i>

Additional Handling Information

Emergency Telephone Number *787-832-4040 ext 3506, 3221*

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name/Title of Signatory
Victor Snyder
 Place and Date
Rio Piedras PR - 2/11/03
 Signature
 (see warning above)

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least two copies to the airline)

Shipper
Victor Snyder
RSD, Agricultural Experiment Station, Rio Piedras PR

Air Waybill No.
Page *1* of *1* Pages
Shipper's Reference Number
[REDACTED]

Consignee
Roberto Torres
RSD, UPR Mayaguez Campus
Mayaguez PR

Two completed and signed copies of this Declaration must be handed to the operator.

WARNING

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder, or an IATA cargo agent.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for:
(delete non-applicable)

<input checked="" type="checkbox"/> PASSENGER AND CARGO AIRCRAFT	<input checked="" type="checkbox"/> CARGO AIRCRAFT ONLY
--	---

Airport of Departure

NA

Airport of Destination:

NA

Shipment type: (delete non-applicable)

~~Radioactive~~ **RADIOACTIVE**

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification

Proper Shipping Name	Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk			
<i>Radioactive Material, Excepted Package, Limited Quantity of material</i>	<i>7</i>	<i>UN 2910</i>			<i>Solid forms of Ni⁶³ and C¹⁴ (see pages attached) Solid and liquid forms of H³ (see pages attached) -all in metal drum</i>		<i>NA 18" diam. x 30" height</i>

Additional Handling Information

Emergency Telephone Number *787-832-4040 ext. 3506, 3221*

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name/Title of Signatory
Victor Snyder
Place and Date
Rio Piedras PR 09/01/03
Signature
(see warning above)

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.

APPENDIX B

Certificate of special calibration of Geiger counter for C14 efficiency



Designer and Manufacturer
of
Scientific and Industrial
Instruments

APPENDIX B

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER UNIVERSITY OF PUERTO RICO ORDER NO. 212871 / 280110

Mfg. Ludlum Measurements, Inc. Model 14C Serial No. 146298

Mfg. Ludlum Measurements, Inc. Model 44-9 Serial No. PR138198

Cal. Date 19-Mar-04 Cal Due Date 19-Mar-05 Cal. Interval 1 Year Meterface 202-608

Check mark applies to applicable instr. and/or detector IAW mfg. spec. T. 72 °F RH 40 % Alt 703.8 mm Hg

New Instrument Instrument Received Within Toler. +10% 10-20% Out of Tol. Requiring Repair Other-See comments

Mechanical ck. Meter Zeroed Background Subtract Input Sens. Linearity

F/S Resp. ck. Reset ck. Window Operation Geotropism

Audio ck. Alarm Setting ck. Batt. ck. (Min. Volt) 2.2 VDC

Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 900 V Input Sens. 31 mV Det. Oper. 900 V at 31 mV Threshold Dial Ratio = mV

HV Readout (2 points) Ref./Inst. / V Ref./Inst. / V

COMMENTS:

Cs-137 ≈ 1 µCi check source SN 1115 reads ≈ 0.25 mR/hr @ x 10 (2.5 mR/hr) with probe placed flat against check source with source door open.

*2 pi efficiency for C-14 as follows:
Background = 55 cpm
Source reading = 16,000 cpm
Source size = 182,719
Efficiency = 99% (net)*

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
X1000	1500mR/hr	1.5	1.5
X1000	500mR/hr	0.52	0.52
X100	150mR/hr	full scale	1.5
X100	50mR/hr	1.7	0.5
X 10	15mR/hr	full scale	1.5
X 10	5mR/hr	0.9	0.55
X 1	1.5mR/hr = 4950 cpm	1.9	1.5
X 1	1.0mR/hr	1.4	1.0
X0.1	495 cpm	1.75	1.5
X0.1	165 cpm	0.6	0.5

*Uncertainty within ± 10% C.F. within ± 20%

X0.1 Range(s) Calibrated Electronically

REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout			Log Scale		

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCCL Z540-1-1994 and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N 1162 G112 M565 5105 T1008 T879 E552 E551 Neutron Am-241 Be S/N T-304

Alpha S/N Beta S/N Other

m 500 S/N 189491 Oscilloscope S/N Multimeter S/N 82250292

Calibrated By: Donnie Miekos Date 19-Mar-04

Reviewed By: Rhonda Harnie Date 21 Mar 04

APPENDIX C

Copy of lab report pertaining to wipe samples of final radiation survey,
listed in Table 3

3 DEC 2003 13:24

ID: DATA

```

USER: 1
PRESET TIME : 2.00
DATA CALC : CPM
COUNT BLANK : NO
TWO PHASE : NO
SCINTILLATOR: LIQUID
LOW LEVEL : NO

```

CONCENT.

```

H# : YES
IC# : NO
ADD : NO
LUMEX: NO
HALF LIFE CORRECTION DATE: NONE
SAMPLE REPEATS: 1
REPLICATES : 1
CYCLE REPEATS : 1
LOW SAMPLE REJ: 0
PRINTER : STD
RS232 : OFF

```

WIDE OPEN WINDOW XERROR: 0.000000 BKG. SUB: 0

SAMPL NO	POS	TIME MIN	H#	COUNT		LUMEX	ELAPSED TIME
				CPM	STANDARD		
1	**1	2.00	3.5	42.00	21.82	7.44	2.49
2	**2	2.00	7.9	56573.50	0.59	0.01	5.07
3	**3	2.00	148.5	30.00	25.82	8.12	7.71
4	**4	2.00	139.9	38.00	22.94	7.37	10.36
5	**5	2.00	143.5	30.50	25.61	13.25	13.02
6	**6	2.00	149.1	39.50	22.50	7.25	15.68
7	**7	2.00	179.5	32.00	25.00	2.05	18.33
8	**8	2.00	151.6	29.50	26.04	7.42	20.88
9	**9	2.00	137.0	28.50	26.49	11.99	23.44
10	**10	2.00	143.4	40.50	22.22	10.12	25.99
11	**11	2.00	145.7	31.00	25.40	7.37	28.64
12	**12	SAMPLE TERMINATED:					

blank std sample #1

Page 1

12/9

ID = DAMARIS

USER: 1

COMMENT:

```

PRESET TIME : 2.00
DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD
COUNT BLANK : NO IC# : NO REPLICATES : 1 RES32 : OFF
TWO PHASE : NO ADD : NO CYCLE REPEATS : 1
SCINTILLATOR : LIQUID LUMEX: NO LOW SAMPLE REJ: 0
LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

```

WIDE OPEN WINDOW ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

SAM NO	POS	TIME MIN	H#	WIDE		LUMEX %	ELAPSED TIME	
				CPM	%ERROR			
10	1	**1	2.00	149.2	32.50	24.81	8.06	2.82
11	2	**2	2.00	135.4	42.00	21.82	10.19	3.48
12	3	**3	2.00	142.7	34.00	24.25	11.40	8.02
13	4	**4	2.00	170.1	39.00	22.65	2.72	10.55
14	5	**5	2.00	132.8	43.50	21.44	4.65	13.20
15	6	**6	2.00	138.8	31.00	25.40	10.09	15.76
MISSING SAMPLE								
16	13	**1	2.00	155.3	30.00	27.82	7.52	18.76
17	14	**2	2.00	146.8	33.30	24.43	6.93	21.30
18	15	**3	2.00	146.7	30.00	25.82	10.37	23.96
19	16	**4	2.00	143.3	36.00	23.87	9.36	26.62
20	17	**5	2.00	147.8	39.50	22.55	4.90	29.27
21	18	**6	2.00	142.0	34.50	24.08	6.14	31.93
MISSING SAMPLE								
22	25	**1	2.00	146.1	38.50	23.75	4.39	34.75
23	26	**2	2.00	143.8	36.50	23.41	3.27	37.30
24	27	**3	2.00	143.3	39.50	21.82	3.32	39.96
25	28	**4	2.00	134.9	41.50	21.95	2.34	42.74
26	29	**5	2.00	158.1	36.00	23.57	4.51	45.36
27	30	**6	2.00	149.4	38.00	22.94	6.36	48.03
MISSING SAMPLE								
28	37	**1	2.00	192.2	104.00	13.97	0.97	50.85
29	38	**2	2.00	188.9	70.50	16.84	2.02	53.38
30	39	**3	2.00	153.7	34.50	24.08	5.71	56.04
31	40	**4	2.00	153.3	32.00	25.00	9.10	58.69
32	41	**5	2.00	139.8	36.50	23.41	4.43	61.35
33	42	**6	2.00	157.8	40.00	22.24	3.22	64.01
MISSING SAMPLE								
34	49	**1	2.00	140.6	36.50	23.41	2.60	66.82
35	50	**2	2.00	159.0	34.50	24.08	5.15	69.48
36	51	**3	2.00	185.9	548.50	6.04	0.44	72.13
37	52	**4	2.00	174.9	67.50	17.21	1.35	74.79
38	53	**5	2.00	149.9	35.00	23.90	10.11	77.44
39	54	**6	2.00	147.7	40.00	22.24	4.12	80.10
MISSING SAMPLE								
40	61	**1	2.00	181.4	37.50	23.09	7.95	82.93
41	62	**2	2.00	146.6	39.00	22.65	5.82	85.60
42	63	**3	2.00	158.7	38.00	22.94	6.99	88.24
43	64	**4	2.00	146.1	38.50	22.79	7.19	90.90
44	65	**5	2.00	157.8	34.50	24.08	8.00	93.57
45	66	**6	2.00	147.7	32.00	25.00	9.19	96.10
MISSING SAMPLE								
46	73	**1	2.00	159.8	31.00	25.40	8.02	98.82
47	74	**2	2.00	157.6	676.00	5.44	0.09	101.47
48	75	**3	2.00	153.6	57.50	16.65	1.08	104.23
49	76	**4	2.00	154.6	328.50	7.80	0.31	106.88

Page 2

SAM NO	TIME MIN	CPM	% ERROR	%	TIME
50	77 **-5	2.00 193.3	38.50	23.74	1.80 199.52
51	78 **-6	2.00 149.0	36.50	22.79	6.28 112.07
MISSING SAMPLE					
52	83 **-1	2.00 167.3	28.00	26.78	4.75 114.91
53	86 **-2	2.00 143.3	45.50	26.97	2.18 117.56
54	87 **-3	2.00 152.6	22.00	28.19	6.19 120.22
55	88 **-4	2.00 129.3	56.50	27.41	2.77 121.89
56	89 **-5	2.00 177.7	32.00	26.65	5.49 125.54
57	90 **-6	2.00 158.4	955.00	4.58	0.33 128.09
MISSING SAMPLE					
58	97 **-1	2.00 145.3	49.00	20.20	5.04 130.92
59	98 **-2	2.00 139.9	31.00	25.40	4.67 133.47
60	99 **-3	2.00 150.2	33.50	24.43	10.57 136.11
61	100 **-4	2.00 139.0	40.00	22.34	2.15 138.67
62	101 **-5	2.00 152.3	58.00	18.57	2.92 141.20
63	102 **-6	2.00 158.6	27.50	25.97	5.00 143.75
MISSING SAMPLE					
64	109 **-1	2.00 154.1	41.00	22.09	3.92 146.55
65	110 **-2	2.00 153.1	37.50	23.09	6.21 149.12
66	111 **-3	2.00 141.9	31.50	25.20	4.03 151.67
67	112 **-4	2.00 152.2	34.00	24.25	6.17 154.32
68	113 **-5	2.00 139.7	40.50	22.22	7.72 156.87
69	114 **-6	2.00 145.6	50.00	20.00	4.33 159.41
MISSING SAMPLE					
70	121 **-1	2.00 158.6	134.50	25.30	3.04 162.13
71	122 **-2	2.00 154.5	43.00	21.57	3.18 164.78
72	123 **-3	2.00 159.9	33.00	24.52	3.68 167.42
73	124 **-4	2.00 146.2	38.50	22.79	3.79 169.97
74	125 **-5	2.00 160.2	32.00	25.00	3.40 172.52
75	126 **-6	2.00 171.5	32.00	25.00	5.11 175.16
MISSING SAMPLE					
76	133 **-1	2.00 191.7	27.50	26.97	2.87 177.99
77	134 **-2	2.00 128.3	30.00	23.82	6.57 180.75
78	135 **-3	2.00 133.6	38.50	22.79	5.41 183.29
79	136 **-4	2.00 145.7	41.00	22.09	5.74 185.94
80	137 **-5	2.00 133.8	37.50	23.09	5.82 188.60
81	138 **-6	2.00 152.8	35.50	23.74	7.46 191.26
MISSING SAMPLE					
82	145 **-1	2.00 159.2	38.50	22.79	7.49 193.99
83	146 **-2	2.00 152.2	43.00	21.57	16.58 196.55
84	147 **-3	2.00 178.8	40.00	22.36	10.15 199.10
85	148 **-4	2.00 147.4	36.50	23.41	24.47 201.65
86	149 **-5	2.00 151.6	32.00	25.00	17.04 204.43
87	150 **-6	2.00 194.6	42.50	21.69	22.25 207.10
MISSING SAMPLE					
88	157 **-1	2.00 162.5	51.50	19.71	22.27 209.95
89	158 **-2	2.00 177.0	45.50	20.97	34.51 212.64
90	159 **-3	2.00 170.3	339.50	24.02	12.69 215.19
91	160 **-4	2.00 152.5	32.00	25.00	13.02 217.85
92	161 **-5	2.00 175.5	90.50	14.87	7.99 220.51
93	162 **-6	2.00 184.8	48.50	20.31	15.23 223.17
MISSING SAMPLE					
94	169 **-1	2.00 156.6	497.50	6.34	2.37 226.03
95	170 **-2	2.00 174.7	64.00	17.66	9.50 228.69
96	171 **-3	2.00 155.4	50.00	20.00	16.57 231.37
97	172 **-4	2.00 155.6	34.50	24.05	15.13 234.04
98	173 **-5	2.00 209.1	23.00	29.48	9.36 236.90
99	174 **-6	2.00 209.9	25.00	28.23	5.60 239.65

SAM NO	POS	TIME MIN	H#	WIDE		LUMEX %	ELAPSED TIME	
				CPM	%ERROR			
MISSING SAMPLE								
100	181	** -1	2.00	178.4	27.50	26.97	5.64	242.59
101	182	** -2	2.00	207.3	37.50	33.09	3.43	245.35
102	183	** -3	2.00	155.5	36.50	23.41	1.57	248.11
103	184	** -4	2.00	176.3	23.50	29.17	6.74	250.76
104	185	** -5	2.00	236.5	24.50	28.57	3.75	253.51
105	186	** -6	2.00	202.3	25.50	28.01	8.73	256.16
MISSING SAMPLE								
106	193	** -1	2.00	185.8	26.50	27.47	2.26	259.09
107	194	** -2	2.00	201.1	36.50	23.41	3.82	261.74
108	195	** -3	2.00	220.7	29.50	26.04	2.03	264.49
109	196	** -4	2.00	209.3	29.50	26.04	9.88	267.15
110	197	** -5	2.00	223.1	35.00	23.90	26.87	269.82
111	198	** -6	2.00	184.6	42.00	21.82	12.78	272.48
112	199	** -7	2.00	266.1	32.50	24.81	14.77	275.24
MISSING SAMPLE								
113	205	** -1	2.00	286.2	40.00	22.34	39.29	278.09
114	206	** -2	2.00	222.0	34.00	24.25	12.78	280.85
115	207	** -3	2.00	181.3	28.50	25.49	19.29	283.52
116	208	** -4	2.00	147.2	89.50	14.95	68.49	286.25
117	209	** -5	2.00	188.2	29.50	26.04	13.74	288.90
118	210	** -6	2.00	207.2	44.00	21.32	44.22	291.60
119	211	** -7	2.00	277.0	36.00	23.57	20.59	294.36
MISSING SAMPLE								
120	217	** -1	2.00	187.5	34.50	24.08	18.62	297.29
121	218	** -2	2.00	212.1	36.50	23.41	15.37	300.06
122	219	** -3	2.00	197.2	38.50	22.79	13.21	302.74
123	220	** -4	2.00	175.5	32.00	25.00	23.72	305.51
124	221	** -5	2.00	250.9	25.00	28.28	10.78	308.17
125	222	** -6	2.00	221.7	24.50	28.57	6.77	310.82
126	223	** -7	2.00	229.5	26.50	27.47	10.44	313.79

Pag 4

PRESS

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Mo. Day Year

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Month Day Year

Scheduled Time of Delivery: Noon 3 PM

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Insurance Fee: \$

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Mo. Day Time Employee Signature

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9/22/00, and to inform you that the initial processing which includes an administrative review has been performed.

TEAM 52-01986-01 There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

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

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

Your action has been assigned Mail Control Number 135 752.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

BETWEEN: : (FOR LFMS USE)
 : INFORMATION FROM LTS
 : -----
 :
 License Fee Management Branch, ARM : Program Code: 03800
 and : Status Code: 0
 Regional Licensing Sections : Fee Category: EX 3M
 : Exp. Date: 20040930
 : Fee Comments: 170.11(A) (4)
 : Decom Fin Assur Reqd: N
 : ::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: PUERTO RICO, UNIVERSITY OF
 Received Date: 20040928
 Docket No: 3001182
 Control No.: 135758
 License No.: 52-01986-01
 Action Type: Termination

2. FEE ATTACHED

Amount:
 Check No.:

3. COMMENTS

Signed M. A. Perkins
 Date 10/31/04

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 _____