MS-16
P7

Deborah
Cardiovascular
Research Institute

Trenton Road
Browns Mills, New Jersey U.S.A. 08015
(609) 893-1016

Carol Wilson
Administrator

September 24, 1986

Mr. Tom Thompson
USNRC
Nuclear Regulatory Center
631 Park Avenue
King of Prussia, PA 19406

Dear Mr. Thompson:

I understand that there is information missing pertaining to the termination of the nuclear material license at Deborah Research Institute. Enclosed please find a complete copy of the material you requested.

I do apologize for any inconvenience that this may have caused you. If you require additional information or if you have any questions, please give me a call.

Sincerely,

Carol Wilson

Carol Wilson,
Administrator

CW/rsb

Enclosures

RADIATION AND ENVIRONMENTAL HEALTH SERVICES

P.O. BOX 261, PEARL RIVER, N.Y. 10965

(914) 735-7717

April 15, 1985

Ms. Carol Wilson
Administrator
Deborah Cardiovascular Research Institute
Browns Mills, N.J. 08015

Re: Facility close-out survey
New Jersey License No., NJSL 70152-02, expiration date June 30, 1985
NRC License No. 29-20513-01, expiration date November 30, 1986

Dear Ms. Wilson:

The survey results and recommendations for the decommissioning of the laboratory area of the Research Institute is enclosed. This survey is to be sent to the State of New Jersey, Bureau of Radiation Protection and the Nuclear Regulatory Commission.

I have incluuded form DEQ-063, "Certificate-Disposition of Radioactive Material". This is to be sent to the New Jersey Bureau of Radiation Protection to satisfy their requirements for notification of proper disposition or transfer of radioactive materials. The Nuclear Regulatory Commission should also be informed of such disposition. A license amendment may be required by the licensee receiving any of these materials.

Please call me if you have any questions.

Sincerely,

Radiation and Environmental Health Services, Inc.

James R. Donlan,
Health Physicist

enclosure

RADIATION AND ENVIRONMENTAL HEALTH SERVICES

P.O. BOX 261, PEARL RIVER, N.Y. 10965 (914) 735-7717

April 15, 1985

Facility close-out survey
Deborah Cardiovascular Research Institute
Browns Mills, N.J. 08015

Survey performed for the release of restricted areas as non-restricted areas
New Jersey License No. NJSL 70152-02, expiration date June 30, 1985
NRC License No. 29-20513-01, expiration date November 30, 1986
Survey date: April 1, 1985

Survey performed by:

Radiation and Environmental Health Services, Inc
James R. Donlan, Health Physicist

Intrumentation:

1. Ludlum GM with an end window probe
   Window thickness: 1.4 to 2.0 mg/cm sq
   Background: Approximately 0.02 mR/hr
   Calibration date: August, 1984

2. Nuclear Chicago Automatic Gamma Spectrometer
   Window setting: open
   Efficiency: 50% for conservative approximation
   Background: 170 cpm

3. Beckman Liquid Scintillation Counter
   Window setting: open
   Efficiency: 40% for conservative approximation
   Background: 40 cpm

Contamination wipes tests collected using 2.3 cm filter paper wet with water

Recommendations:

The following recommendations are made based on survey results:

1. A small area of a workbench was found to be contaminated in room 115. This area is located on the diagram enclosed for the survey results.

   Removable contamination was on the order of 23,000 dpm per 100 sq cm. The exposure rate, measured at the surface with the GM survey instrument was approximately 1 mR/hr. Exposure rates at worker locations and under the counter were consistant with background. Exposre was reduced to significantly by introducing paper between tne contaminated area and the window of the GM.

   The removable contamination was identified, using liquid scintillation techniques, to be a beta emitter. The beta particles have an energy equivalent beta particles emitted from carbon-14.

   Decontamination using detergent and a mild abrasive should be performed in order to eliminate removable contamination. Decontaminattion efforts should be monitored using wipe test surveys. Decontamination should proceed untill significant levels of removable contamination are no longer present. The exposure rate at the counter surface (and worker locations) should be monitored. Any measured exposure from material remaining may be reduced to lower levels by the addition of a layer of paint, as this should be sufficient to stop low energy beta particles.

2. All other areas surveyed, including equipment, work areas, storage locations and waste receptacles used for radioactive materials were found to be free of gross removable contamination. Survey results using a CM survey instrument were on the order of background (0.02 mR/hr). Specific levels of contamination (except for the area described in item 1) were below 220 dpm/100 sq cm, beta or gamma emitters, for unrestricted areas as listed in table 2, Regulatory Guide 8.23.

3. General houskeeping and cleaning of the laboratory areas should consider the presence of other materials (chemicals, biological material, etc.) during any clean-up procedures. All necessary precautions should be observed.

Respectfully submitted,

Radiation and Environmental Health Services, Inc.

James R. Donlan

James, R. Donlan
Health Physicist

Survey results:

The following pages contain the results of this survey. Survey locations may be obtained by the number, description and drawings. GM survey results on the arder of background were recorded as background. Wipe test survey results are in net DPM per 100 sq cm. All instrumentation, including background results and efficiencies are listed on page one of this report.

LABORATORY ROOM NUMBERS

115 Biochemistry
116 Cold Room
117 Dark Room
119 Janitor Closet
120 Electron Microscope
121 Electron Microscope Prep
122 Tissue Prep
123 Histology
124 Mechanical
125 General Storage
126 Electronics
127 Chronic Instrumented
128 Preparation
129 Small Surgery
130 Recovery
131 Corridor
132 Locker Room (Men)
133 Locker Room (Ladies)
134 Toilet
135 Toilet
136 Fluoro X-Ray
137 Utility or Surgery Office
138 Radionuclide
139 Corridor
140 Small Animal Surgery
141 Main Surgery
142 Freezer and Outside Corridor to Freezer

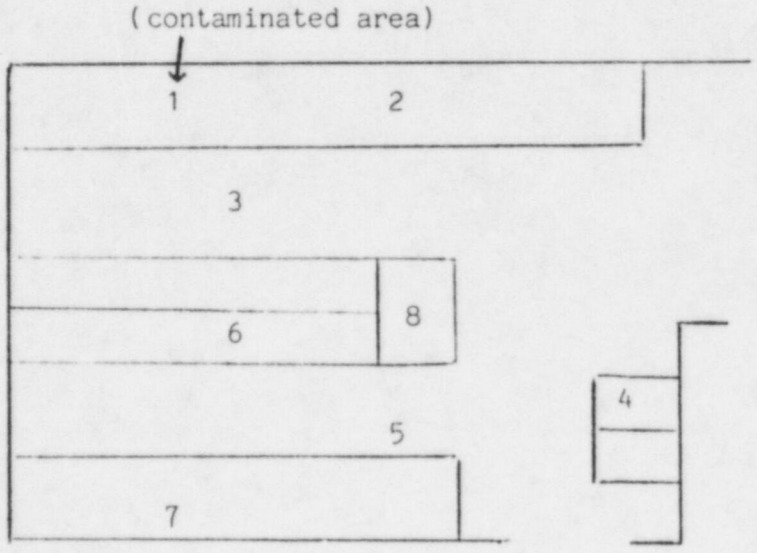
ANIMAL FACILITY

200 Acute Dog Room
201 Bird Room
202 Oppossum
203 Chronic Dog Room
204 Office
205 Cage Washing
206 Clean Room
207 Corridor
208 Feed Storage

Room 115
Biochemistry

Area Surveyed	GM Survey	NET DPM Gamma	NET DPM Beta
1. Workbench	1.Ø mR/hr (surface)	- 1Ø	+ 22,825
2. Workbench	Bkgd	+1ØØ	+ 12Ø
3. Floor	Bkgd	Ø	+ 5Ø
4. Centrifuge	Bkgd	+ 34	+ 1ØØ
5. Floor	Bkgd	+ 34	+ 95
6. Workbench	Bkgd	+ 8	+ 2Ø
7. Workbench	Bkgd	- 26	+ 85
8. Sink	Bkgd	- 18	+ 75

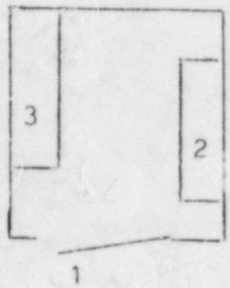
DIAGRAM(not to scale):



Room 116
Cold Room

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Door Handle	Bkgd	[illegible]	+ 75
2. Workbench	Bkgd	[illegible]	+ 75
3. Storage Shelves	Bkgd	+ 41	+ 35

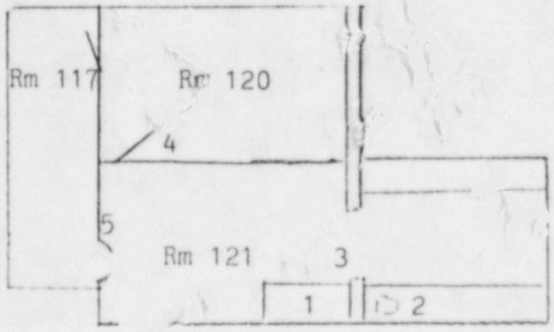
DIAGRAM(not to scale):



Rooms 117,120 and 121
Electron Microscope,Preparation and Dark Room

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Hood	Bkgd	- 44	+105
2. Counter, Sink	Bkgd	- 18	+ 20
3. Floor	Bkgd	- 10	+110
4. Door to Room 120	Bkgd	- 64	+ 25
5. Door to Dark Room	Bkgd	+ 12	+ 40

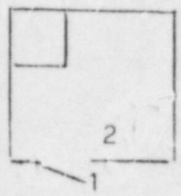
DIAGRAM (not to scale):



Room 118
Janitor Room

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Door Handle	Bkgd	+ 56	+ 5
2. Equipment	Bkgd	+ 56	+ 5

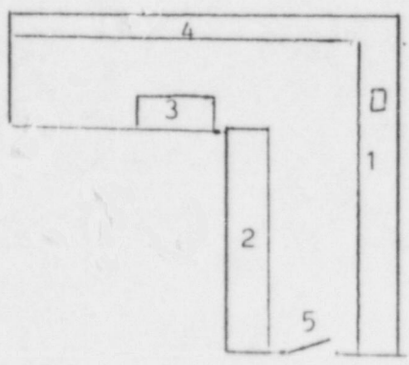
DIAGRAM(not to scale):



Room 122
Tissue Preparation

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Sink, Work Bench	Bkgd	- 24	+105
2. Work Bench	Bkgd	+ 98	+ 50
3. Hood	Bkgd	- 10	+ 90
4. Work Bench	Bkgd	+ 44	+ 25
5. Door Handle, Floor	Bkgd	- 42	+ 50

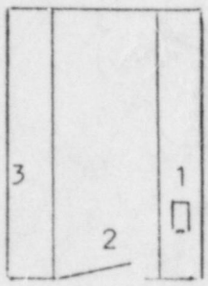
DIAGRAM(not to scale):



Room 123
Histology

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Sink, Work Bench	Bkgd	- 42	+ 85
2. Door Handle, Floor	Bkgd	+ 8	+ 85
3. Work Bench	Bkgd	- 40	+ 5

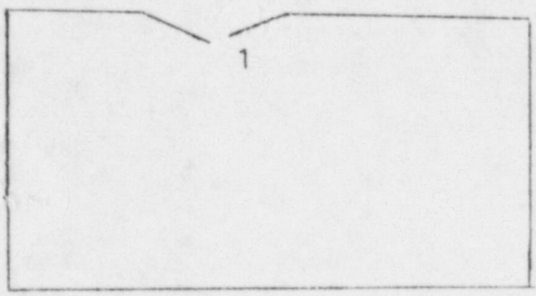
DIAGRAM(not to scale):



Room 124
Mechanical Room

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Door Handle, Floor	Bkgd	+ 46	+ 50

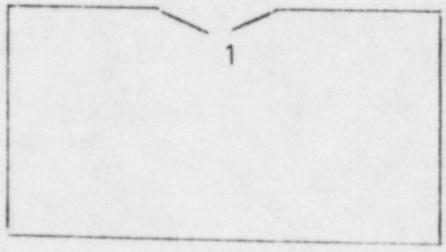
DIAGRAM(not to scale):



Room 125
General Storage

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Door Handle, Floor	Bkgd	- 40	+ 65

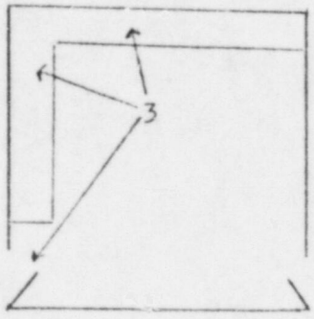
DIAGRAM(not to scale):



Room 126
Electronics

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Counters, Floor, Door Handle	Bkgd	- 78	+110

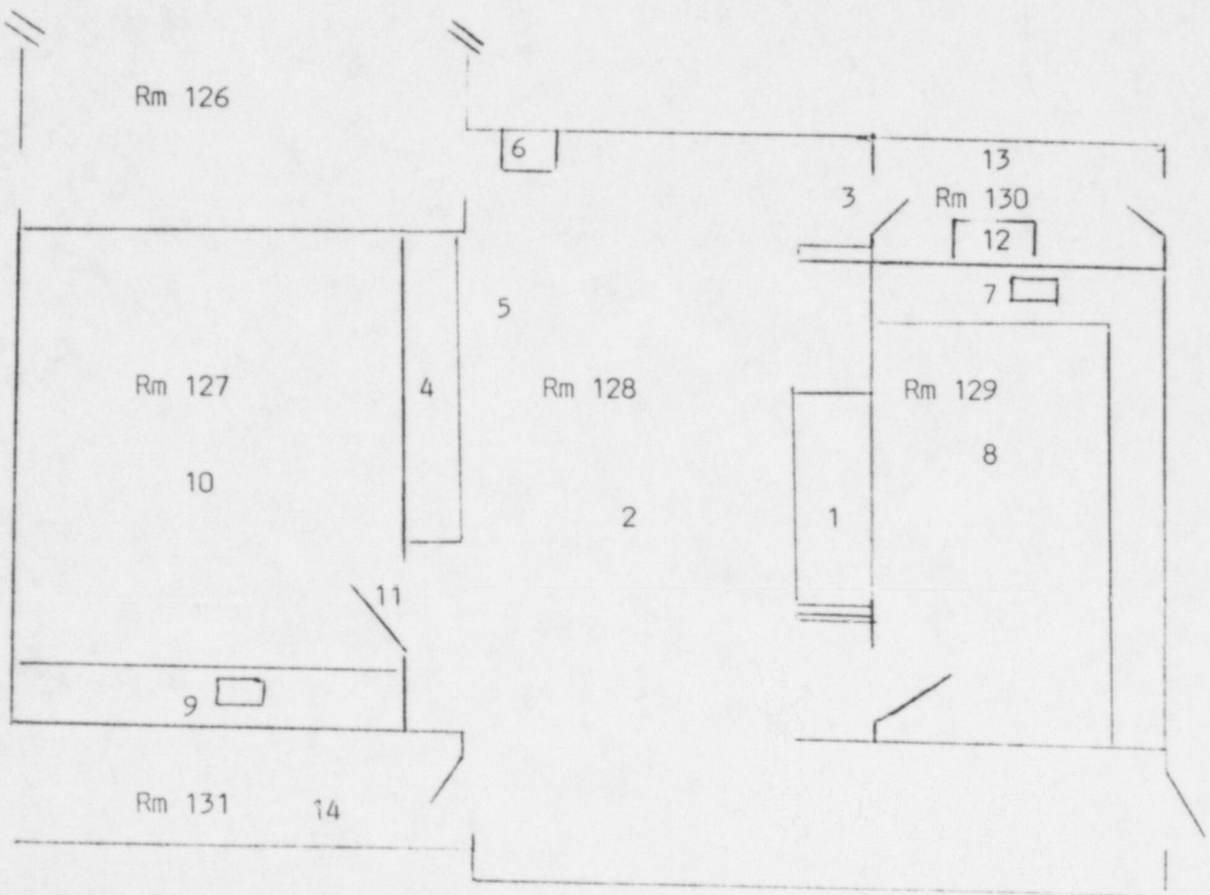
DIAGRAM(not to scale):



Rooms 127,128,129,130,131
Preparation,Small Surgery,Chronic Instrumented,Corridor and Recovery

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Work Bench, Sink	Bkgd	- 32	+ 30
2. Floor	Bkgd	- 8	+ 85
3. Door Handle	Bkgd	+ 28	+ 40
4. Work Bench	Bkgd	- 12	+ 5
5. Various Carts and Equipment	Bkgd	+ 14	- 5
6. Refrigerator	Bkgd	- 10	+ 60
7. Sink, Counter Area	Bkgd	- 40	+ 30
8. Floor	Bkgd	+ 94	+ 60
9. Bench, Sink	Bkgd	- 6	+ 45
10. Floor, Instrument Cart	Bkgd	- 10	+ 20
11. Door Handle	Bkgd	- 46	+ 20
12. Desk	Bkgd	- 21	+ 30
13. Floor	Bkgd	- 8	+ 15
14. Corridor	Bkgd	- 16	+ 20

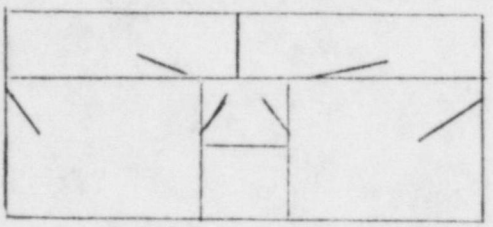
Diagram(not to scale):



Rooms 132,133,134 and 135
Men and Ladies Locker Rooms and Toilets

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Door Handles, Floor	Bkgd	+ 38	+ 5Ø

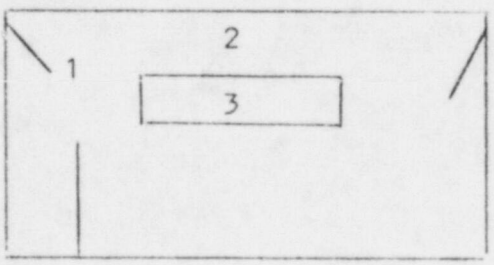
DIAGRAM(not to scale):



Room 136
Fluoro X-ray

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Door Handle	Bkgd	- 48	+ 2Ø
2. Floor	Bkgd	+ 16	+ 9Ø
3. Exam Table	Bkgd	- 84	+ 2Ø

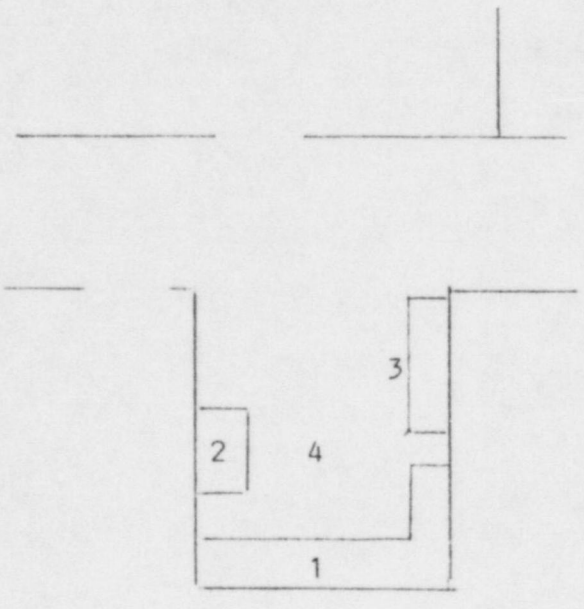
DIAGRAM(not to scale):



Room 137
Utility/Surgery Office

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Work Area, Sink	Bkgd	- 24	+ 25
2. Desk	Bkgd	+ 20	+ 35
3. Cabinets	Bkgd	- 6	+ 60
4. Floor	Bkgd	- 48	+ 45

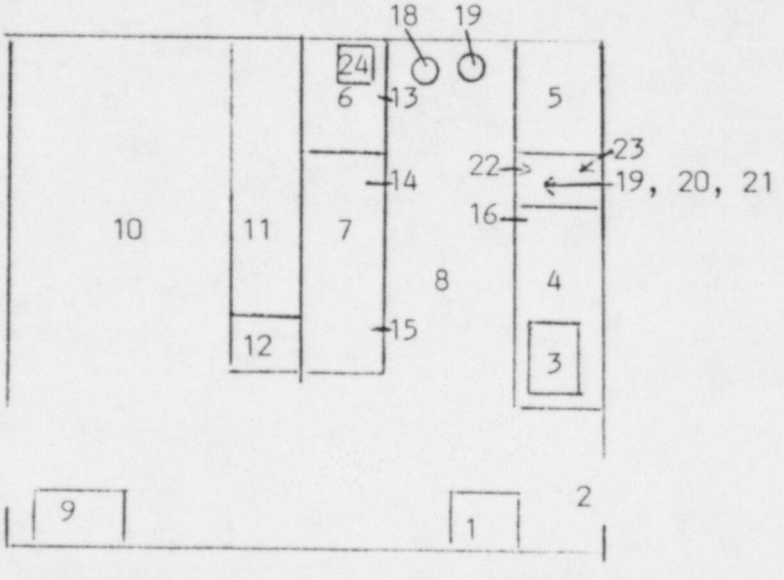
DIAGRAM(not to scale):



Room 138
Radionuclide

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Centrifuge	Bkgd	+ 48	+ 70
2. Door Handle	Bkgd	- 20	+ 5
3. Sink	Bkgd	- 12	+ 60
4. Work Bench	Bkgd	+ 16	+ 85
5. Hood	Bkgd	0	+ 40
6. Laminar Flow Hood	Bkgd	+156	- 5
7. Work Bench	Bkgd	+ 50	+ 70
8. Floor	Bkgd	+ 72	+ 90
9. Bio-Safety Hood	Bkgd	- 32	+ 55
10. Floor	Bkgd	- 74	+ 35
11. Work Bench	Bkgd	+ 46	+ 50
12. Temperature Controlled Storage	Bkgd	+ 90	+ 20
13. Refrigerator	Bkgd	+ 34	+ 40
14. Storage Cabinet	Bkgd	- 38	+ 65
15. Storage Cabinet	Bkgd	+ 10	+ 85
16. Syringe Shields	Bkgd	- 28	+ 95
17. Radioactive Waste Container (long-lived)	Bkgd	+ 6	+ 50
18. Radioactive Waste Container (short-lived)	Bkgd	+ 66	+ 70
19. Lead Pig	Bkgd	- 48	+ 10
20. Lead Pig	Bkgd	- 44	+ 40
21. Lead Pig	Bkgd	- 18	+ 25
22. Work Surface/L-Block	Bkgd	- 46	+ 75
23. L-Block	Bkgd	- 8	+140
24. Lead Storage Areas, Laminar Flow Hood	Bkgd	- 22	+ 25

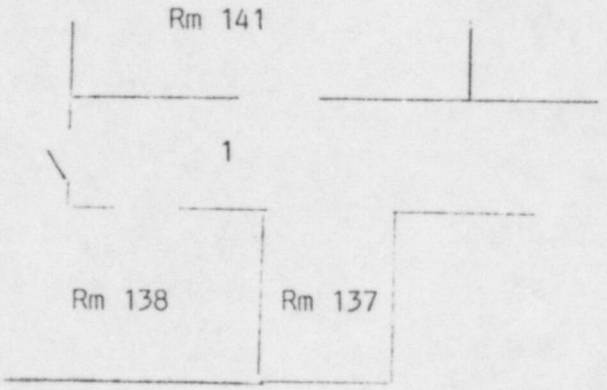
DIAGRAM(not to scale):



Room 139
Corridor

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Floor	Bkgd	- 38	+ 4Ø

DIAGRAM(not to scale):



Room 14Ø
Small Animal Surgery

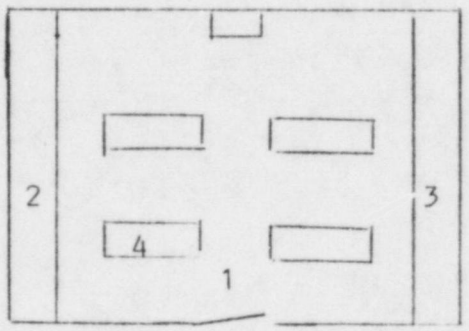
No isotopes used. (As reported by staff present during survey.)

Access not possible do to special lock on door

Room 141
Main Surgery

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Floor	Bkgd	- 84	+ 70
2. Sink, Work Surface	Bkgd	- 20	+ 40
3. Sink, Work Surface	Bkgd	- 14	+ 45
4. Operating Table	Bkgd	- 34	- 10

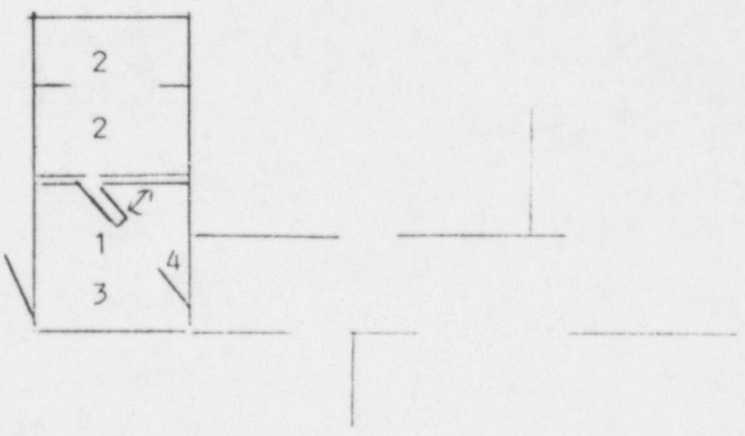
DIAGRAM (not to scale):



Room 142
Freezer and Room

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	NET DPM Beta
1. Freezer Handle	Bkgd	- 30	+ 80
2. Freezer Floor	Bkgd	- 61	+ 55
3. Floor	Bkgd	+ 10	+ 45
4. Door Handle	Bkgd	- 20	+ 30

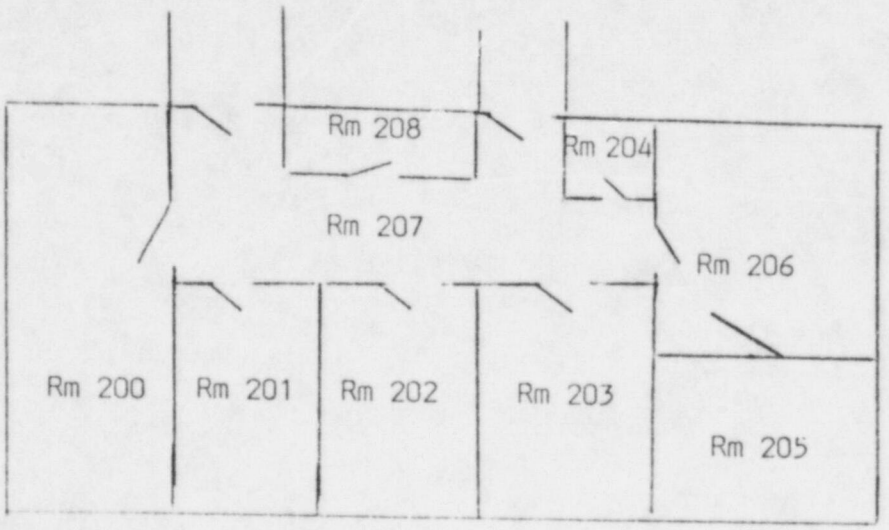
DIAGRAM(not to scale):



Rooms 200-208
Animal Facility

Area Surveyed	GM Survey (mR/hr)	NET DPM Gamma	Beta
1. Room 200			
Floor, Door Handles, Sink	Bkgd	- 56	- 10
2. Room 201			
Sink, Floor	Bkgd	- 16	+135
3. Room 202			
Floor, Sink, Door	Bkgd	- 12	+ 30
4. Room 203			
Floor	Bkgd	- 22	+ 75
5. Room 203			
Door Handles	Bkgd	+ 14	+ 25
6. Room 204			
Floor, Desk, Door Handle	Bkgd	+ 42	+ 55
7. Room 205			
Floor Drain Cover	Bkgd	- 36	+ 65
8. Room 206			
Floor Drain Cover	Bkgd	- 6	- 5
9. Room 207			
Floor	Bkgd	+ 16	+ 65
10. Room 208			
Floor, Door Handle	Bkgd	+ 26	+ 80

DIAGRAM(not to scale):



CONVERSATION RECORD

TIME 0945 | DATE 9/18/86

TYPE
☐ VISIT ☐ CONFERENCE ☑ TELEPHONE
☐ INCOMING ☑ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU	ORGANIZATION (Office, dept., bureau, etc.)	TELEPHONE NO.
~~Carol Wilson~~ Rebecca Bolton Bolton	030-19354 Deborah Cardiopulmonary Research Institute	(609) 893-1016

ROUTING	
NAME/SYMBOL	INT

SUBJECT
Survey results were not submitted with your termination Amendment request

SUMMARY
Asked Ms. Bolton to please have the survey results sent to us.

ACTION REQUIRED

NAME OF PERSON DOCUMENTING CONVERSATION	SIGNATURE	DATE
	Thomas L. Thompson	9/18/86

ACTION TAKEN

ML10

SIGNATURE	TITLE	DATE

"OFFICIAL RECORD COPY"

U.S. G.P.O. 1983-381-526/8346