APPLICATION FOR AUTHORIZATION TO USE RADIOACTIVE MATERIAL -- NON-HUMAN USE

(TYPE OR PRINT LEGIBLY)

A. GENERAL INFORMATION

APPLICATION FOR: ___ NEW AUTHORIZATION NUMBER _____ __X_ RENEWAL OF AUTHORIZATION NUMBER 665__ ___ AMENDMENT TO AUTHORIZATION NUMBER _____

PRINCIPAL INVESTIGATOR'S NAME *(LAST, FIRST, MI)*	PRINCIPAL INVESTIGATOR'S MAILING ADDRESS *(INCLUDE ORGANIZATION, BUILDING AND ROOM NUMBER)*
Lo, Shyh-Ching	AFIP Bldg. 54, Rm. 3025 14th St. & Alaska Ave. NW, Washington, DC 20306-6000
TELEPHONE NUMBER: (202)782-1870	FAX NUMBER:

B. AUTHORIZED USERS (PLEASE LIST ON PAGE 2)

C. RADIOACTIVITY USAGE LOCATION

LOCATIONS WHERE MATERIALS WILL BE USED (*BUILDING AND ASSOCIATED ROOMS*):

AFIP Bldg. 45, Room 3032, 3034, 1040

LOCATIONS WHERE MATERIALS WILL BE STORED (*BUILDING AND ASSOCIATED ROOMS*):

AFIP Bldg. 45, Room 3032, 3034, 1040

APPROVED BY RCC
MAR 2 2005

LOCATIONS OF RADIOACTIVE WASH SINKS (*BUILDING AND ASSOCIATED ROOMS*):

AFIP Bldg. 45, Room 3032, 3034, 1040

On _____
DATE

D. RADIOACTIVE MATERIAL DATA

RADIOISOTOPE	CHEMICAL AND/OR PHYSICAL FORM *(SEALED AND/OR UNSEALED)*	POSSESSION LIMIT	USE
H-3	Unsealed: 1) Thymidine 2) Acetyl coenzyme A 3) Dexamethasone	20 mCi	Incorporation Assay CAT Assay Hormone Binding Assay
P-32	Unsealed: dATP, dCTP, UTP	20 mCi	Nuclear Acid Labeling
S-35	Unsealed: Methionine	10 mCi	Protein Incorporation Assay
C-14	Unsealed: Chloramphenicol	5 mCi	TLC CAT Assay
Ra-226	Sealed source	10 μCi	Scintillation Counter Standard

I CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH WRAMC REGULATIONS AND THAT ALL CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

I ACKNOWLEDGE MY RESPONSIBILITY AS **PRINCIPAL INVESTIGATOR** AS DEFINED IN WRAMC REGULATIONS.	**ADMINISTRATIVE APPROVAL** (CHIEF, DEPARTMENT. or DIVISION OF THE PRINCIPAL INVESTIGATOR)
S-H Lo CO 01-21-05	Florabel G Mullick 1/24/05
SIGNATURE OF PRINCIPAL INVESTIGATOR — DATE	SIGNATURE OF CHIEF, DEPT. or DIV. — DATE
	Florabel G. Mullick
	PRINT NAME OF CHIEF, DEPT. or DIV.

F. WRAMC RADIATION CONTROL COMMITTEE APPROVAL

APPROVED:	APPROVED:	AUTHORIZATION NO.:
FEB 15 2005	CO Pitcher	665
HEALTH PHYSICS OFFICER, WRAMC LTC JOHN R. MERCIER, Ph.D. Chief, WRAMC Health Physics 6900 Georgia Ave., NW BLDG 41, Room 38 Washington, DC 20307-5001	CHAIRPERSON SUBCOMMITTEE FOR NON-HUMAN USE: RADIATION CONTROL COMMITTEE, WRAMC	EXPIRATION DATE: MAR 08

APPROVED BY RCC
On MAR 2 2005
DATE

MEMORANDUM TO: David W Burton
Chief, Radioactive Material Control Branch
Health Physics Office

January 21, 2005

SUBJECT: Renewal of WRAMC Radioactive Material Authorization (#665)

1. All forms necessary for renewal of WRAMC radioactive material authorization have been completed and enclosed.

2. The attached forms are follows:

- A Completed and signed copy of the Application Form
- Three Updated Training and Experience Forms for individuals listed as Principal Investigator or Co-Investigator
- Six Research Protocol Forms
- A Updated Training Form

3. If there is any questions, please feel free to contact me (782-1870) or Dr. Shimin Zhang (782-1768).

Thank you.

Shyh-Ching Lo, Ph.D., M.D.
Chief, Molecular Pathobiology Division
Department of Infectious and Parasitic Diseases Pathology.
AFIP

[illegible] Physics Office is
[illegible] approval to this
application until the next
scheduled RCC Meeting on 3/2/05
Date

FEB 15 2005

[illegible]
Chief, WRAMC Health Physics
6900 Georgia Ave., NW
BLDG 41, Room 38
Washington, DC 20307-5001

APPROVED BY RCC
MAR 2 2005
On _____
DATE

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6900 GEORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • VOICE: 202-356-0058 • FAX: 202-356-0086

AUTHORIZATION AMENDMENT REVIEW

Date of Amendment Initiation: 1/27/05

Authorization Number: 6665

Description of the Amendment: Renewal wash sink in each room?

Mark appropriately.

Required Items	Item Needed	Item Not needed	Item Completed	Comments
Requested Authorization Information (signatures, etc.)			DMB	
Initial/Annual Training Form (WRAMC Form 538)	X		X	
Training & Experience Form (WRAMC Form 1643)	X		X	Received for Peng & Zhang
otocol Form (WRAMC Form 1644)	X		X	
adioisotope changes	X		DMB	all decreases
Pre-Room Survey conducted		X		
Admin Hold Survey conducted		X		
Final Survey conducted		X		
[illegible]		X		DD Form 1952 received? Y or N
Dosimetry Program removal		X		
Instrumentation affected		X		

ADDITIONAL INFORMATION

Change:
1. P-32 possession limit decrease from 25mCi to 20mCi
2. I-125 and Cr-51 was deleted
3. C14 possession limit decreased from 10mCi to 5mCi

APPROVAL

ense and Support Branch Chief: David W. Burke FEB 15 2005

Operations Branch Chief: CD Peters

LTC JOHN R. MERCIER, Ph.D.
Chief, WRAMC Health Physics
6900 Georgia Ave., NW
BLDG 41, Room 38
Washington, DC 20307-5001

DEPARTMENT OF DEFENSE
ARMED FORCES INSTITUTE OF PATHOLOGY
WASHINGTON, DC 20306-6000

REPLY TO
ATTENTION OF

MEMORANDUM TO: David W Burton
Chief, Radioactive Material Control Branch
Health Physics Office

March 8, 2006

SUBJECT: Changes in personnel of Authorization #665

Dr. Nianxiang Zou will leave our laboratory soon. Please remove his name from our authorization user list. If you have any questions, please feel free to contact me at (202)782-870.

Thank you

Shyh-Ching Lo, Ph.D., M.D.
Chief, Molecular Pathobiology Division
Department of Infectious and Parasitic Diseases Pathology.
AFIP

APR 11 2006

APPROVED BY RCC

The Health Physics Office is granting interim approval to this application until the next scheduled RCC Meeting on 5/06
Date

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HEALTH PHYSICS OFFICE
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AUTHORIZATION AMENDMENT REVIEW

Date of Amendment Initiation: March 15, 2006

Authorization Number: 0665

Description of the Amendment: Delete Dr. Xiaxiang Zou

Mark appropriately.

Required Items	Item Needed	Item Not needed	Item Completed	Comments
Requested Authorization Information (signatures, etc.)			2 PMB	
Initial/Annual Training Form (WRAMC Form 538)		X		
Training & Experience Form (WRAMC Form 1643)		X		
otocol Form (WRAMC Form 1644)		X		
adioisotope changes		X		
Pre-Room Survey conducted		X		
Admin Hold Survey conducted		X		
Final Survey conducted		X		
[illegible]				
Dosimetry Program removal		X		
Instrumentation affected		X		

ADDITIONAL INFORMATION

APPROVAL

ense and Support Branch Chief: David Burt

Operations Branch Chief: CD Peterson

APPLICATION FOR AUTHORIZATION TO USE RADIOACTIVE MATERIAL -- NON-HUMAN USE

(TYPE OR PRINT LEGIBLY)

A. GENERAL INFORMATION

APPLICATION FOR: ___ NEW AUTHORIZATION X RENEWAL OF AUTHORIZATION NUMBER 665 ___ AMENDMENT TO AUTHORIZATION NUMBER _____

APPLICANT'S NAME *(LAST, FIRST, MI)*	APPLICANT MAILING ADDRESS *(INCLUDE ORGANIZATION)*
Lo, Shyh-Ching	AFIP Bldg. 54 Rm. 4091 14th St. & Alaska Ave. NW Washington, DC 20306-6000
TELEPHONE NUMBER: (202)782-1870	FAX NUMBER: (202)782-7477

B. AUTHORIZED USERS (PLEASE LIST ON PAGE 2)

C. RADIOACTIVITY USAGE LOCATION

LOCATIONS WHERE MATERIALS WILL BE USED (*BUILDING AND ASSOCIATED ROOMS*):

AFIP Bldg. 54, RM. ~~4100~~ 8/2/04, ~~4064~~ 12/30/02, 4086 8/2/04, ~~3099~~ 3/18/03, 1040, 12/30/02, 3032/34 8/2/04

LOCATIONS WHERE MATERIALS WILL BE STORED (*BUILDING AND ASSOCIATED ROOMS*):

AFIP Bldg. 54, Rm. ~~4100~~ 8/2/04, ~~4064~~ 12/30/02, ~~4086~~ 8/2/04, ~~3099~~ 3/18/03, 1040, 12/30/02, 3032/34 8/2/04

APPROVED BY RCC
On FEB 28 2002
DATE

LOCATIONS OF WASTE DISPOSAL SINKS (*BUILDING AND ASSOCIATED ROOMS*):

AFIP Bldg. 54, Rm. ~~4100~~ 8/2/04, ~~4064~~ 12/30/02, ~~4086~~ 8/2/04, ~~3099~~ 3/18/03, 1040 12/30/02

D. RADIOACTIVE MATERIAL DATA

RADIOISOTOPE	CHEMICAL AND/OR PHYSICAL FORM (*SEALED AND/OR UNSEALED*)	POSSESSION LIMIT	USE
H-3	Unsealed: 1) Thymidine 2) Thymidine triphosphate 3) Acetyl coenzyme A	20mCi	Mitogen assay Reverse transcription assay CAT assay
S-35	Unsealed: dATP, dCTP	10 ~~4~~mCi	DNA labeling, PCR, sequencing, *in situ* hybridization
P-32	Unsealed: dATP, dCTP, ATP, UTP	25mCi	DNA & RNA labeling, Southern & Northern Blot
I-125	Unsealed: Protein A, antibody	1mCi	Western Blot
[illegible]	[illegible]	[illegible]	[illegible]

E. CERTIFICATE (*THIS SECTION MUST BE COMPLETED BY APPLICANT*)

I CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH WRAMC REGULATIONS AND THAT ALL CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

I ACKNOWLEDGE MY RESPONSIBILITY AS **PRINCIPAL INVESTIGATOR** AS DEFINED IN WRAMC REGULATIONS.	**ADMINISTRATIVE APPROVAL** - CHIEF, DEPT. OR DIVISION (THE IMMEDIATE SUPERVISOR) OF THE PRINCIPAL INVESTIGATOR.
SIGNATURE OF PRINCIPAL INVESTIGATOR	SIGNATURE OF CHIEF, DEPT. OR DIV.
12-05-01 DATE	12-10-01 DATE

F. WRAMC RADIATION CONTROL COMMITTEE APPROVAL

APPROVED:	APPROVED:	AUTHORIZATION NO. :
		665
ACTING PHYSICS OFFICER, WRAMC WILLIAM B. JOHNSON COL, MS CHIEF, HEALTH PHYSICS OFFICE	CHAIRPERSON SUBCOMMITTEE FOR NON-HUMAN USE: RADIATION CONTROL COMMITTEE, WRAMC DAVID W. BURTON Chief, Radioactive Material Control Health Physics, WRAMC	EXPIRATION DATE: Nov 05

The Health Physics Office is granting interim approval to this application until the next scheduled RCC Meeting on 2/2/02 (Date)

JAN 25 2002

WRAMC FORM 1662-R
1 Oct 98

AFIP, CPS-B

6 December 2001

MEMORANDUM TO: David W. Burton
Chief, Radioactive Material Control Branch
Health Physics Office

SUBJECT: Renewal of Authorization #665 to Use Radioactive Materials

1. A completed application for renewal of authorization to use radioactive materials, annual training signing sheet and November's radioactive material inventory are attached.
2. One new radioactive protocol is also attached. Other protocols are the same as submitted previously.
3. All radioactive material users remain the same. Therefore, no dosimetry application or new user application forms are enclosed.
4. If you have any questions, Please contact me immediately.

Shyh-Ching Lo, Ph.D., M.D.
Chief, Division of Molecular Pathobiology
Dept. of Infectious and Parasitic Disease Pathology
782-1870

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6900 GEORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • 202-356-0058/59

AUTHORIZATION REVIEW PROCESS

Authorization Number: 665 Date: Dec. 12, 2001

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538		DWB	Received
WRAMC Form 1643		DWB	on file
Authorization or Amendments		DWB	Renewal
Protocol		DWB	
Isotopes		DWB	Received

OPERATIONS BRANCH

Pre-Room Survey			
Admin Hold Survey			
[illegible]			
Bioassay Program			
Dosimetry Program			
Instrumentation			

GENERAL COMMENTS

Changes
1. New protocol for C-14
2. N. Zou changed from trainee to staff worker

Interoffice Memo

Date: 7/16/04

To: **David W Burton**, Chief, Radioactive Material Control Branch, HPO-WRAMC

Cc: Ms. Cox

From: **Shyh-Ching Lo**, M.D., Ph.D.; Division of Molecular Pathobiology, Department of Infectious & Parasitic Diseases Pathology, AFIP

Authorization number: 665

RE: Relocation of Radioactive Material Using Labs

Due to the renovation of our department, some of laboratories in our division Have been relocated from the forth floor to the third floor of the building. Therefore, please remove Room 4100 and Room 4086 from the radioactive material using lab list and activate Room 3032 and Room 3034 for radioactive material use.

The Health Physics Office is granting interim approval to this application until the next scheduled RCC Meeting on SEP 7 2004

9/9/04

LTC JOHN R. MERCIER, Ph.D.
Chief, WRAMC Health Physics
6900 Georgia Ave., NW
BLDG 41, Room 38
Washington, DC 20307-5001

APPROVED BY RCC
On SEP 1 9 2004
DATE

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6900 GEORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • VOICE: 202-356-0058 • FAX: 202-356-0086

AUTHORIZATION AMENDMENT REVIEW

Date of Amendment Initiation: 5/17/04

Authorization Number: 665

Description of the Amendment: Add Room 3032 + 3034

Mark appropriately.

Required Items	Item Needed	Item Not needed	Item Completed	Comments
Initial/Annual Training Form (WRAMC Form 538)		X		
Training & Experience Form (WRAMC Form 1643)		X		
Protocol Form (WRAMC Form 1644)		X		
Radioisotope changes		X		
-Room Survey conducted	X		X	
Admin Hold Survey conducted		X		
Final Survey conducted		X		
Bioassay Program enrollment		X		
[illegible]		[illegible]		DD Form 1952 received? Y or N

ADDITIONAL INFORMATION

8/15/04 email HP Tech concerning the completion of the pre-survey. Response - complete already

APPROVAL

License and Support Branch Chief: David Burtt

Dosimetry Coordinator: Thomas B. Gates Jr

HPO Representative: _____

Interoffice Memo

Date: 05/17/2004

To: **David W Burton**, Chief, Radioactive Material Control Branch, HPO-WRAMC

Cc: Ms. Cox

From: **Shyh-Ching Lo**, M.D., Ph.D.; Division of Molecular Pathobiology, Department of Infectious & Parasitic Diseases Pathology, AFIP

Authorization number: 665

RE: Relocation of Radioactive Material Using Labs

Due to the renovation of our department, some of laboratories in our division will be relocated from the forth floor to the third floor of the building (on June 1, 2004). Therefore, please remove Room 4100 and Room 4086 from the radioactive material using lab list and activate the Room 3032 for

Pre-Survey Radiation Lab Form

Room: 3032 Authorization: 465 Surveyor: Michelle

Building: 54 Department: Infectious & Parasitic Diseases Inspection Date: 19 MAY 04 3 AUG 04

STRUCTURAL CHECKS	YES	NO	N/A
1. Surfaces in the room are easily decontaminated.	X		
2. Work area is isolated from pedestrian traffic flow.	X		
3. Adequate shielding is available.	X		N/A
4. Hood used for RAM has current certification.	X		N/A
5. No acoustical tiles on walls.	X		
6. No carpeting in lab areas.	X		
7. Policy in effect to control access.	X		
8. Adequate storage available for RAM.	X		
9. Adequate storage available for radioactive waste.	X		

HPO TECHNICIAN CHECKS	INITIALS
1. Entrance, work areas, storage areas and waste storage areas are posted.	BPM
2. Equipment for use with Radioactive Material (RAM) is labeled.	BPM
3. NRC Form 3 and "Notice to Employees" posted.	
(File Copy, Technician Copy, User Copy)	NPM
5. Room added to survey database.	BPM
6. Copy of master and completed checklist returned to Survey Program Manager	BPM

COMMENTS:

Pre-Survey Radiation Lab Form

Room: 3034 Authorization: 665 Surveyor: Michelle

Building: 54 Department: Molecular Pathology Inspection Date: 3AD6 04

STRUCTURAL CHECKS	YES	NO	N/A
1. Surfaces in the room are easily decontaminated.	X		
2. Work area is isolated from pedestrian traffic flow.	X		
3. Adequate shielding is available.	X		
4. Hood used for RAM has current certification.	X		
5. No acoustical tiles on walls.	X		
6. No carpeting in lab areas.	X		
7. Policy in effect to control access.	X		
8. Adequate storage available for RAM.	X		
9. Adequate storage available for radioactive waste.	X		

HPO TECHNICIAN CHECKS	INITIALS
1. Entrance, work areas, storage areas and waste storage areas are posted.	BBM
2. Equipment for use with Radioactive Material (RAM) is labeled.	BM
3. NRC Form 3 and "Notice to Employees" posted.	BM
4. [illegible] (File Copy, Technician Copy, User Copy)	[illegible]
5. Room added to survey database.	BM
6. Copy of master and completed checklist returned to Survey Program Manager	BM

COMMENTS:

Interoffice Memo

Date: 05/17/2004

To: **David W Burton**, Chief, Radioactive Material Control Branch, HPO-WRAMC

Cc: Ms. Cox

From: **Shyh-Ching Lo**, M.D., Ph.D.; Division of Molecular Pathobiology, Department of Infectious & Parasitic Diseases Pathology, AFIP

Authorization number: 665

RE: Relocation of Radioactive Material Using Labs

Due to the renovation of our department, some of laboratories in our division will be relocated from the forth floor to the third floor of the building (on June 1, 2004). Therefore, please remove Room 4100 and Room 4086 from the radioactive material using lab list and activate the Room 3032 for radioactive material use.

The Health Physics Office is granting interim approval to this application until the next scheduled RCC Meeting on 9/2004 Date

LTC JOHN R. MERCIER, Ph.D.
Chief, WRAMC Health Physics
6900 Georgia Ave., NW
BLDG 41, Room 3E
Washington, DC 20307-5001

APPROVED BY RCC
On SEP 9 2004
DATE

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
ORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • VOICE: 202-356-0058 • FAX: 202-356-0086

AUTHORIZATION AMENDMENT REVIEW

Date of Amendment Initiation: May 17, 2004

uthorization Number: 665

escription of the Amendment: Delete Rooms 4100 And 4086

Required Items	Mark appropriately. Item Needed	Item Not needed	Item Completed	Comments
Initial/Annual Training Form (WRAMC Form 538)		X		
Training & Experience Form (WRAMC Form 1643)		X		
Protocol Form (WRAMC Form 1644)		X		
Radioisotope changes		X		
-Room Survey conducted		X		
Admin Hold Survey conducted		X		
Final Survey conducted	X		X	
[illegible]		X		[illegible] Form 1050 received? Y or N
[illegible]				
Dosimetry Program [illegible]				
Instrumentation affected	X		X	

ADDITIONAL INFORMATION

APPROVAL

License and Support Branch Chief: David W Burt

Dosimetry Coordinator: NA 2003

HPO Representative: VC

MCHL-HP (11-9d)

24 May 2004

MEMORANDUM FOR Shyh-Ching Lo
Authorization No. 665

SUBJECT: Radiological Safety Certification: Building 54 Room ~~4100~~ 4086

1. The following room has been inspected, tested, and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed.

Building	Room
54	4086

2. The following equipment has been inspected, tested and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed. Contamination surveys were performed in order to clear the equipment for non-radioactive material use. Prior to any isotope usage, the Health Physics Office must be notified so that the equipment may be labeled accordingly.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Walk-in- Refrigerator	N/A	N/A	N/A
Freezer	Freezer	498005	M2230
Rad Sink	N/A	N/A	N/A

David W. Burton

DAVID W. BURTON
Chief, Radioactive Material Control
WRAMC Health Physics Office

MCHL-HP (11-9d)

24 May 2004

MEMORANDUM FOR Shyh-Ching Lo
Authorization No. 665

SUBJECT: Radiological Safety Certification: Building 54 Room 4100

1. The following room has been inspected, tested, and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed.

Building	Room
54	4100

2. The following equipment has been inspected, tested and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed. Contamination surveys were performed in order to clear the equipment for non-radioactive material use. Prior to any isotope usage, the Health Physics Office must be notified so that the equipment may be labeled accordingly.

Equipment:			
Nomenclature	Model	Serial Number	MMCN
Centrifuge	MP4R	24-381553	L9150
Centrifuge	5417R	66863	2951
Freezer	Freezer	498005	142290
Rad Sink	N/A	N/A	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

3. If you have any questions regarding this survey, you may contact SPC Brian Michelli at 356-0058.

David W. Burton

DAVID W. BURTON
Chief, Radioactive Material Control
WRAMC Health Physics Office

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6900 GEORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • Office: 202 -356-0058 • Fax: 202-356-0086

RADIOACTIVE MATERIAL AUTHORIZATIONS AUDIT

Authorization Number 665

Name of Auditor: **Vanessa Cox** Date of Audit: March 15, 2004

Principal Investigator or Authorized Representative: Dr. Shimin Zhang
Building(s) and room(s) under the Authorization: Building 54, Room 1040, 4086 & 4100

COMPLIANCE ITEMS	YES	NO	N/A
Is the area secured (doors and radionuclides storage locked)?	X		
Are the radioactive signs and labels in place?	X		
Is there a Liquid Scintillation Counter with a sealed source? If so, what is the Sealed Source Number: **226-Ra-081** and where is it located: **Room 1040**	X		
Is an inventory logbook kept with the receipt id and the current activity in mCi for each radionuclides?	X		
Is the inventory within authorized limits?	X		
Are all the radionuclides present?	X		
Is the WRAMC Authorization on hand?	X		
Is the WRAMC Regulation 40-10 on hand?	X		
Is the WRAMC General Provisions on hand?	X		
Is there a survey logbook and is it updated?	X		
Is there a survey meter?	X		
Is the survey meter calibration due date current?	X		
Is the annual training current?	X		
[illegible]	[illegible]		
[illegible]	[illegible]		
Is there a radioactive wash sink with a logbook?	X		

Authorization Changes (Additions and/or deletions of personnel and/or rooms):
Delete S. Ditty and T. Hadfield

Comments along with any deficiencies discovered during the audit: APPROVED BY RCC on JUN 24 2004 DATE

The signature of the Principal Investigator or Authorized Representative below indicates their concurrence of the items discussed during the audit.

Health Physics Office is granting interim approval to this application until the next scheduled RCC Meeting on 5/2004 Date

3/15/04
SIGNATURE /DATE

JOHN R. MERCIER, Ph.D.
Chief, WRAMC Health Physics
6900 Georgia Ave., NW
BLDG 41, Room 38
Washington, DC 20307-5001 APR

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HEALTH PHYSICS OFFICE
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AUTHORIZATION AMENDMENT REVIEW

Date of Amendment Initiation: March 15, 200

Authorization Number: 6065

Description of the Amendment: Delete S. Ditty & T. Hadfield

Mark appropriately.

Required Items	Item Needed	Item Not needed	Item Completed	Comments
Initial/Annual Training Form (WRAMC Form 538)		X		
Training & Experience Form (WRAMC Form 1643)		X		
Protocol Form (WRAMC Form 1644)		X		
Radioisotope changes		X		
-Room Survey conducted		X		
Admin Hold Survey conducted		X		
Final Survey conducted		X		
Bioassay Program enrollment		X		
Dosimetry Program enrollment		X		DD Form 1952 received? Y or N
[illegible]				
[illegible]		X		

ADDITIONAL INFORMATION

APPROVAL

License and Support Branch Chief: David Brock

imetry Coordinator: [signature]

HPO Representative: _____

Interoffice Memo

Date: 12/16/2002

To: **David W Burton**, Chief, Radioactive Material Control Branch, HPO-WRAMC

Cc: Ms. Cox

From: **Shyh-Ching Lo**, M.D., Ph.D, Division of Molecular Pathobiology, Department of Infectionus & Parasitic Diseases Pathology, AFIP SC Lo

RE: Relocation of Radioactive Material Using Labs

We have moved radiomaterial lab Room 3099 to Room 1040. Please remove Room 3099 from radiomaterial using lab list. Add sink

If you have further questions, please contact me at (202)782-1870.

application until the next scheduled RCC Meeting on 5/03 Date

APPROVED BY RCC
On MAY 14 2003
DATE

LTC JOHN R. MERCIER, Ph.D.
Chief, WRAMC Health Physics
6900 Georgia Ave., NW
BLDG 41, Room 38
Washington, DC 20307-5001
MAR 11 2003

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6900 GEORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • 202-356-0058 • FAX: 356-0086

AUTHORIZATION REVIEW PROCESS

Authorization Number: 665 Date: 12/16/02

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538		DMB	NA
WRAMC Form 1643		DMB	NA
Authorization or Amendments		DMB	Add Room 1040 w/sink Delete 3099 w/sink
Protocol		DMB	NA
Isotopes		DMB	NA

OPERATIONS BRANCH

Pre-Room Survey		RC	Room 1040 w/sink - posted 12/17/02 previously added
Admin Cont'd Survey		RC	
[illegible]		[illegible]	
Bioassay Program		DMB	NA
Dosimetry Program		DMB	NA
Instrumentation		DMB	change 55 # locations

GENERAL COMMENTS

Final

Radiation Lab Summary Report

Room: 3099 **Building:** 54, AFIP

Authorization: Lo, Shyh-Ching (665), Fishbein, William (577)

Department: Auth. 665, Microbiology

Last Inspection: 12/13/2001 **Frequency:** 90 days

Radio-Nuclides: C-14, Cr-51, H-3, I-125, P-32, Ra-226, S-35, Ba-133

54_3099

Surveyor: PFC White

Inspection Date: 30 Dec 02

Meter Model: L3

Meter SN: 12579

Cal Due: 19 Sep 03

Initial Checks

	Yes	No	NA
RAM Secure?	X		
Room Posted?	X		
Work Area Posted?	X		
Equipment Posted?	X		
User Surveys Performed?			X

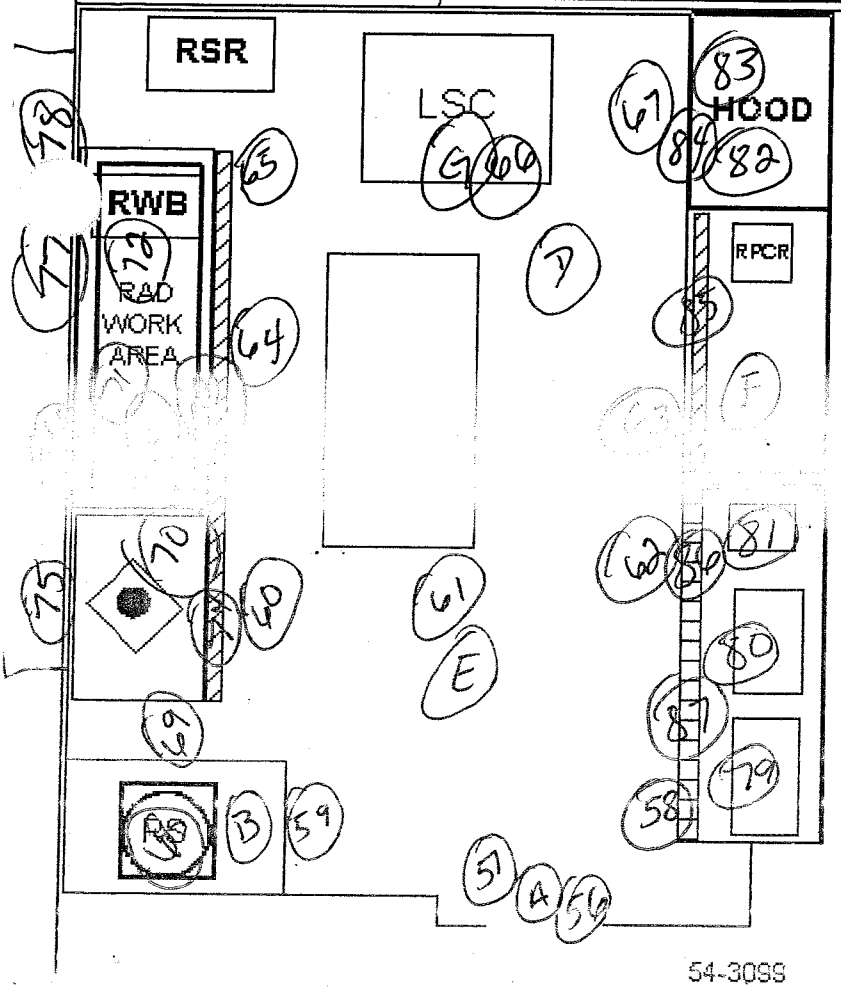
Date of Last User Survey: N/A

User Inventory Log: Isotope / Activity Used: N/A; Max Daily Use: ↓

Lab Survey Meter: Model: ~~L3~~; SN: ~~12579~~; Cal Due: ~~19 Sep 03~~

Meter Readings

BKG	100	cpm mR/hr
A	100	cpm mR/hr
B	100	cpm mR/hr
C	<100	cpm mR/hr
D	120	cpm mR/hr
E	<100	cpm mR/hr
F	<100	cpm mR/hr
G	<100	cpm mR/hr



Laboratory Analysis

Technician: Fuentes Date: 30 Dec 2002

Auto-gamma: L1-32 LSC: 8 Swipe Numbers: 36-87

Record any samples > 200 dpm of removable contamination

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Comments:

> 2000 dpm resurvey within 5 working days.

Isotope	Efficiency	MDA	DPM

Surveyor Comments

57- Door knob, 68- Sink, 73- Cabinet Doors, 74- Cabinet Doors, 75-78- Cabinet Doors, 83- Glass of Hood, 84- Cabinet Doors, 85-87- Cabinet Doors

Interoffice Memo

Date: 10/28/2002

To: **David W Burton**, Chief, Radioactive Material Control Branch, HPO-WRAMC

Cc: Ms. Cox

From: **Shyh-Ching Lo**, M.D., Ph.D, Division of Molecular Pathobiology, Department of Infectionus & Parasitic Diseases Pathology, AFIP

Shyh-Ching Lo

RE: Relocation of Radioactive Material Using Labs

Due to the renovation of our department, some of laboratories in our division will be relocated from the forth floor to the first floor of the building (in the middle of November, 2002). Therefore, please remove ~~Room 3099 and~~ Room 4064 from the radioactive material using lab list and activate the Room 1040 for radioactive material use. Along with a sink.

5 2.
10/28/02

If you have further questions, please contact me at (202)782-1870.

The Health Physics Office is granting interim approval to this application until the next scheduled RCC Meeting on 2/2003 Date DEC 20 2002

LTC JOHN R. MERCIER, Ph.D.
Radiation Safety Officer

APPROVED BY RCC
On FEB 6 2002
DATE

MCHL-HP (11-9d) 21 November 2002

MEMORANDUM FOR Dr. Shyh-Ching Lo, Microbiology
Authorization No. 665

SUBJECT: Radiological Safety Certification: Building 54, Room ~~4004~~ 4064A

1. The following room has been inspected, tested, and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed.

Building	Room
54	4064

2. The following equipment has been inspected, tested and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed. Contamination surveys were performed in order to clear the equipment for non-radioactive material use. Prior to any isotope usage, the Health Physics Office must be notified so that the equipment may be labeled accordingly.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Sink	N/A	N/A	N/A

3. If you have any questions regarding this survey, you may contact CPO Alexander at 356-0068.

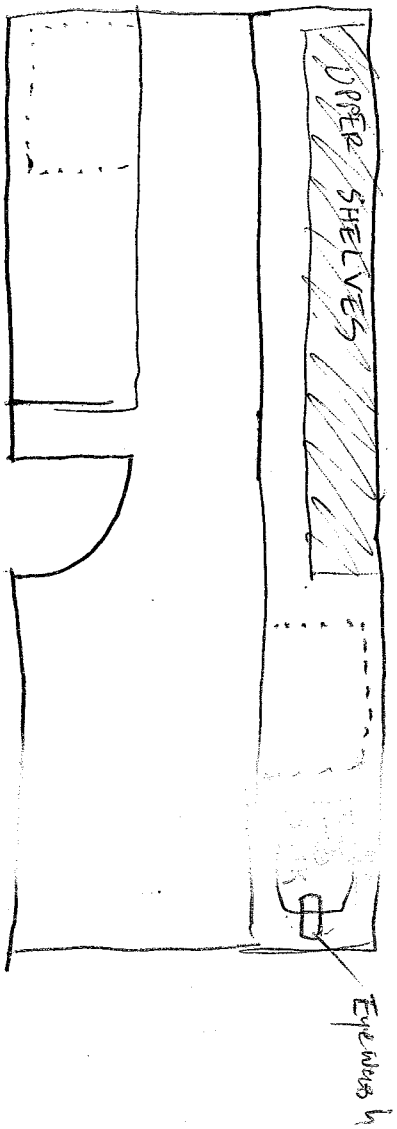
David Burton

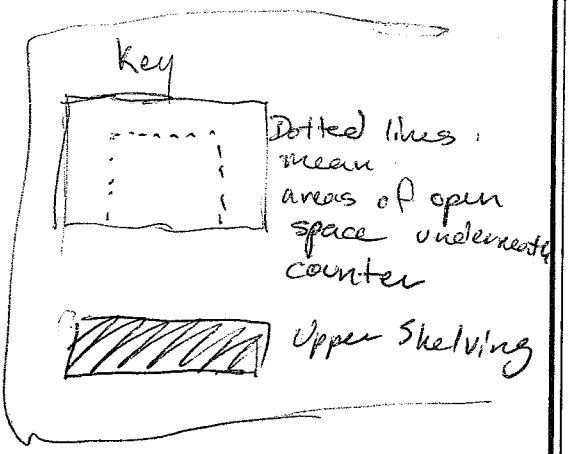
DAVID W. BURTON
Chief, Radioactive Material Control
Health Physics Office

Radiation Lab Sketch PRE-SURVEY

Room: 1040 Department: 665 Surveyor: PFC Flores

Building: 54 Authorization: Microbiology Inspection Date: 21 Nov 2002





Draw Picture Here

Pre-Survey Radiation Lab Form

Room: 1040 Authorization: 665 Surveyor: PFC Flores

Building: 54 Department: Microbiology Inspection Date: 21 Nov 2002

STRUCTURAL CHECKS	YES	NO	N/A
1. Surfaces in the room are easily decontaminated.	✓		
2. Work area is isolated from pedestrian traffic flow.	✓		
3. Adequate shielding is available.			✓
4. Hood used for RAM has current certification.			✓
5. No acoustical tiles on walls.	✓		
6. No carpeting in lab areas.	✓		
7. Policy in effect to control access.	✓		
8. Adequate storage available for RAM.	✓		
9. Adequate storage available for radioactive waste.	✓		

HPO TECHNICIAN CHECKS	INITIALS
1. Entrance, work areas, storage areas and waste storage areas are posted.	KC
2. Equipment for use with Radioactive Material (RAM) is labeled.	KC
3. NRC Form 3 and "Notice to Employees" posted.	KC
4. Survey kit supplied. (File Copy, Technician Copy, User Copy)	KC
5. Room added to survey database.	KC
6. Copy of master and completed checklist returned to Survey Program Manager	KC

COMMENTS:
Interior compartments should be cleaned & free of debris before use

Radiation Lab Summary Report

Room: 1040 **Building:** 54, AFIP

Authorization: 665, Dr. Shyh-Ching Lo

Department: Cardiovascular Pathology

Last Inspection: **Frequency:** 90 days

Radio-Nuclides: H-3, C-14, P-32, S-35, Cr-51, I-125, Ra-226

Surveyor: _____

Inspection Date: _____

Meter Model: _____

Meter SN: _____

Cal Due: _____

Initial Checks

	Yes	No	NA
RAM Secure?			
Room Posted?			
Work Area Posted?			
Equipment Posted?			
User Surveys Performed?			

Isotope / Activity Used: _____

User Inventory Log:

Max Daily Use: _____

Lab Survey Meter: Model: _____

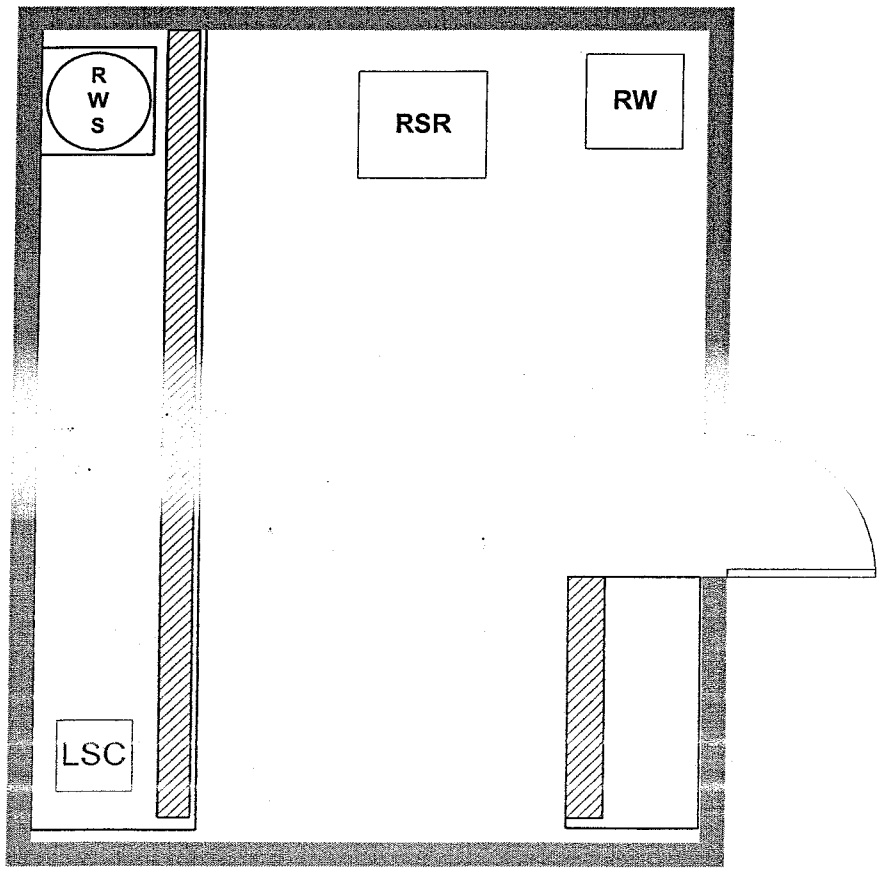
SN: _____

Cal Due: _____

Date of Last User Survey: _____

Meter Readings

BKG		cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Date

Swipe Numbers

Laboratory Analysis

Technician

Auto-gamma

LSC

Record any samples > 200dpm of removable contamination. If 2000 dpm, resurvey within 5 working days

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Isotope	Efficiency	MDA (dpm)	DPM

Comments

Surveyor Comments

_____

_____

_____

_____

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6900 GEORGIA AVENUE, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • 202-356-0058 • FAX: 356-0086

AUTHORIZATION REVIEW PROCESS

Authorization Number: 665 Date: Oct 29, 2002

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538		29MB	NA
WRAMC Form 1643		29MB	NA
Authorization or Amendments		29MB	Delete Room 4064 Completed 11/21/02 Add Room 1040
Protocol		29MB	NA
Isotopes		29MB	NA

OPERATIONS BRANCH

Pre-Room Survey		KSA	1040 posted 12/17/02
Admin Hold Survey		KSA	
Dosimetry Program		KSA	
Instrumentation		KSA	

GENERAL COMMENTS

Walter Reed Army Medical Center
Non Sealed Receipts in Inventory by Licensee

RAM Receipt Id	Radio-nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Fill In Current Activity	Decayed Inventory Activity (mCi)	Supplier's Name	Purchase Order Number
LO, SHYH-CHING				**Authorization Number:** 665				
665 C-14	**any**							
0052285	C-14	D-threo-[dichloroacetyl-1-14C]	07/25/2000	5.000E-02 mCi	20 uCi	4.998E-02	Amersham	5535
665 H-3	**any**							
0052874	H-3	Dexamethasone, [6,7-3H(N)]-(L)	02/01/2002	2.500E-01 mCi	0.1 mCi	2.112E-01	Perkin Elmer	024125JAN2802
53419	H-3	2x Acetyl Coenzyme	09/05/2003	5.000E-01 mCi	0.5 mCi	4.410E-01	Perkin Elmer	026339
53427	H-3	Net 290 /2Acetyl Coenzyme	09/30/2003	5.000E-01 mCi	0.5 mCi	4.298E-01	Perkin Elmer	2208216

The principal user's/authorized worker's signature on this form indicates that a physical inventory of the radionuclides listed above has been performed.

Principal User's/Authorized Worker's Signature: _____ Date: 6/7/06

MCHL-HP (11-9d) 24 May 2004

MEMORANDUM FOR Shyh-Ching Lo
Authorization No. 665

SUBJECT: Radiological Safety Certification: Building 54 Room 4100

1. The following room has been inspected, tested, and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed.

Building	Room
54	4100

2. The following equipment has been inspected, tested and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed. Contamination surveys were performed in order to clear the equipment for non-radioactive material use. Prior to any isotope usage, the Health Physics Office must be notified so that the equipment may be labeled accordingly.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Centrifuge	MP4R	24-381553	L9150
Centrifuge	5417R	66863	2951
Freezer	Freezer	498005	M2230
Rad Sink	N/A	N/A	N/A
Incubator	N/A	30149571	L6566

3. If you have any questions regarding this survey, you may contact SPC Brian Michelli at 356-0058.

David W. Burton

DAVID W. BURTON
Chief, Radioactive Material Control
WRAMC Health Physics Office

Radiation Lab Summary Report

Room: 4100 **Building:** 54, AFIP

Authorization: Lo, Shyh-Ching (665)

Department: Auth. 665, Microbiology

Last Inspection: 01/29/2002 **Frequency:** 30 days

Radio-Nuclides: C-14, Cr-51, H-3, I-125, P-32, Ra-226, S-35

54_4100 Room Final

Surveyor: Michelli

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 11863

Cal Due: 1 AUG 04

Initial Checks

	Yes	No	NA
RAM Secure?	X		
Room Posted?	X		
Work Area Posted?	X		
Equipment Posted?	X		
User Surveys Performed?	X		

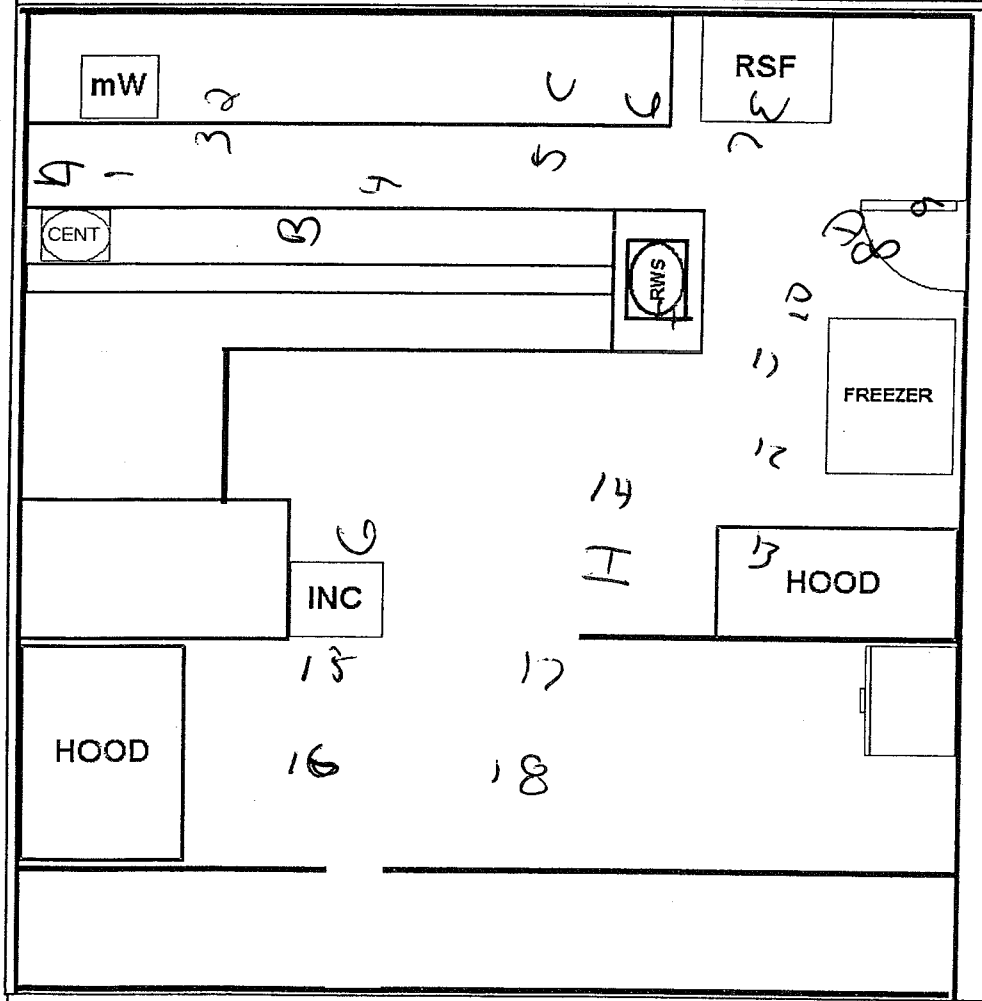
Date of Last User Survey: _____

User Inventory Log: Isotope / Activity Used: N/A; Max Daily Use: _____

Lab Survey Meter: Model: L3; SN: 12561; Cal Due: 17 Dec 04

Meter Readings

BKG	60	cpm mR/hr
A	100	cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Laboratory Analysis

Technician: Michelli

Auto-gamma

Date: 19 May 04

Swipe Numbers: 1-18

LSC: 1-18

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments

See Back

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : Per Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	16.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	6.0	28.9	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		3.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.9	2.00
5	36	0.5	100	3.8	32.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.9	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	6.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		3.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.9	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.3	0.0		2.00
5	82	4.5	33.3	1.8	72.7	2.4	34.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.8	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.2	14.8	17.8	2.9	35.2	2.00

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michell

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 1863

Cal Due: 1AUG04

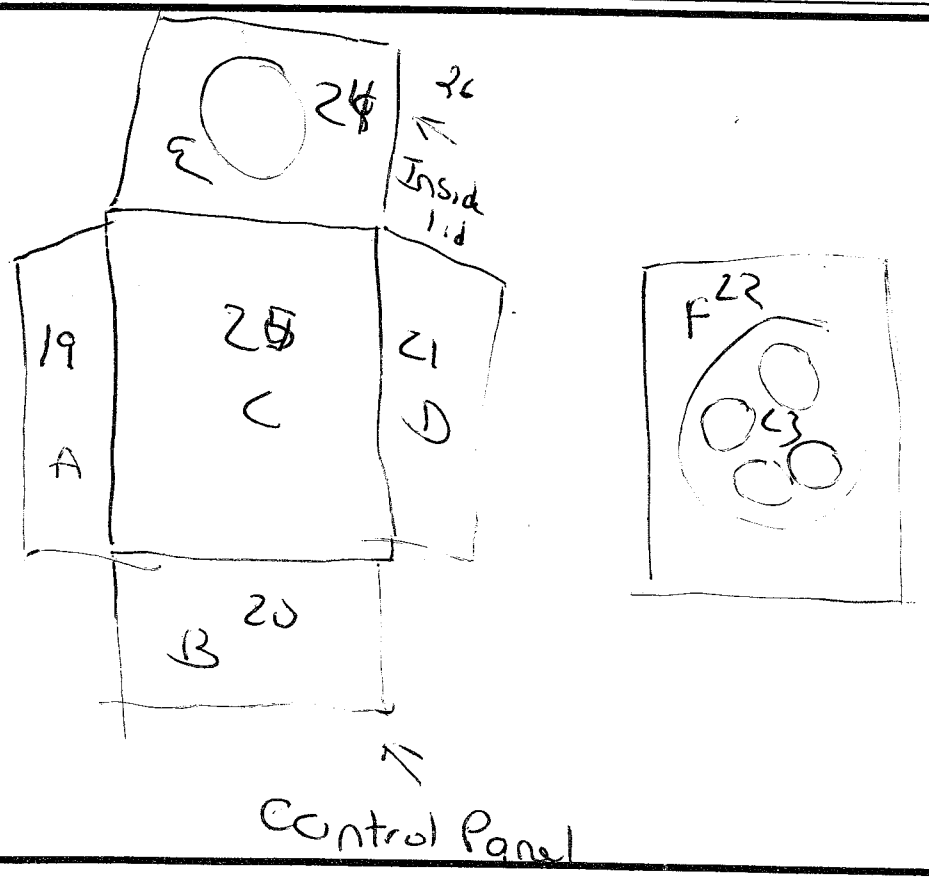
Equipment Information

Nomenclature: Centrifug
Manufacturer: IEC
Model: MP4R
Serial Number: 24-381553
MMCN: L3150

On / Off-Site Repair:
Turn-in / Transfer:
Admin Hold:
Non RAM Use Only:
Other Maint: X

Meter Readings

BKG	60	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Draw Picture Here

Laboratory Analysis

Technician: Michell
Auto-gamma: 19-26
Date: 19 May-04
LSC: 19-26
Swipe Numbers: 1-20

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.8	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.2	15.8	17.8	7.9	25.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-
High Energy: 14C-

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	0.00	0.00	413.14	
11	2.00	1.13	369.8	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	0.00	0.00	1.96	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.38	
14	2.00	0.00	0.00	2.56	169.7	0.50	0.00	3.33	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.98	
16	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	423.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2958	0.00	0.00	0.00	0.60	0.00	460.28	
20	2.00	0.00	0.00	2.27	182.6	0.00	0.00	3.21	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.65	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.88	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.60	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.88	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	408.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.38	
36	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	408.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.87	
38	2.00	0.00	0.00	1.81	398.5	1.50	0.00	1.30	426.32	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	148.2	2.00	0.00	4.21	418.29	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.62	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.82	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.63	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michell

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 11863

Cal Due: 1 AUG 04

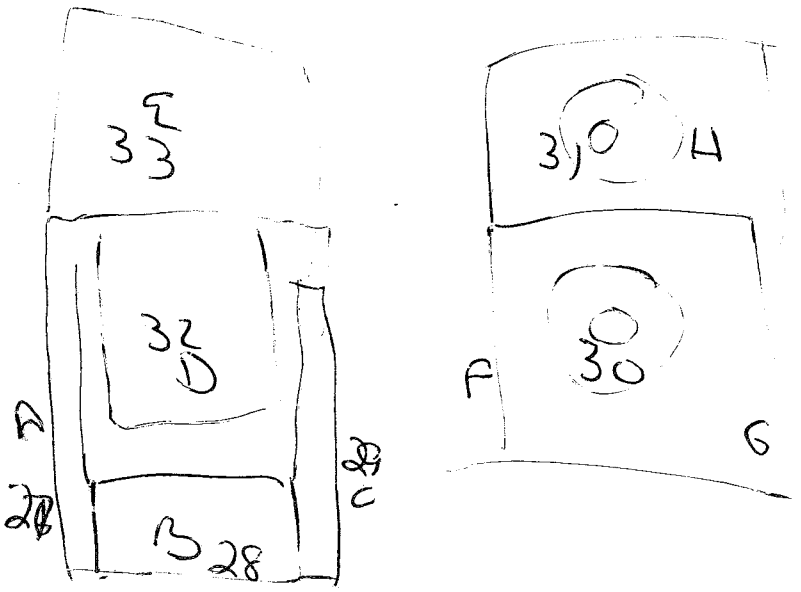
Equipment Information

Nomenclature: Centrifuge
Manufacturer: Eppendorf
Model: 5417R
Serial Number: 6686
MMCN: 2951

On / Off-Site Repair:
Turn-in / Transfer:
Admin Hold:
Non RAM Use Only:
Other Moving: X

Meter Readings

BKG	66	cpm	mR/hr
A		cpm	mR/hr
B		cpm	mR/hr
C		cpm	mR/hr
D		cpm	mR/hr
E		cpm	mR/hr
F		cpm	mR/hr
G		cpm	mR/hr



Draw Picture Here

Laboratory Analysis

Date: 19 May 04
Swipe Numbers: RD-33
LSC: (2) 5x5-34
Technician: Michell
Auto-gamma: 5x5-33

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

SAMPLE FILED

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.3	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.8	17.8	7.9	25.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclidea: 3H-14C-UG Quench Sets
Low Energy: 3H-(
Background Subtract: 1st Vial High Energy: 14C-

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	18.6	0	0.0	6.37
Region B:	18.6 -	156	0	0.0	5.73
Region C:	156 -	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.88	
10	2.00	1.25	338.5	0.00	0.00	0.00	8.09	0.00	413.14	
11	2.00	1.13	369.6	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	8.50	130.1	2.00	0.00	4.96	418.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.38	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	3.83	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	428.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.60	0.00	460.26	
20	2.00	0.00	0.00	2.27	188.6	0.00	0.00	3.21	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.65	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1184	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	287.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.68	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.80	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.86	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	408.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.38	
36	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.37	
38	2.00	0.00	0.00	1.91	208.5	1.50	0.00	1.90	426.32	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.39	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.62	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.62	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	418.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	418.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.83	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michelli

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 11863

Cal Due: 1 AUG 04

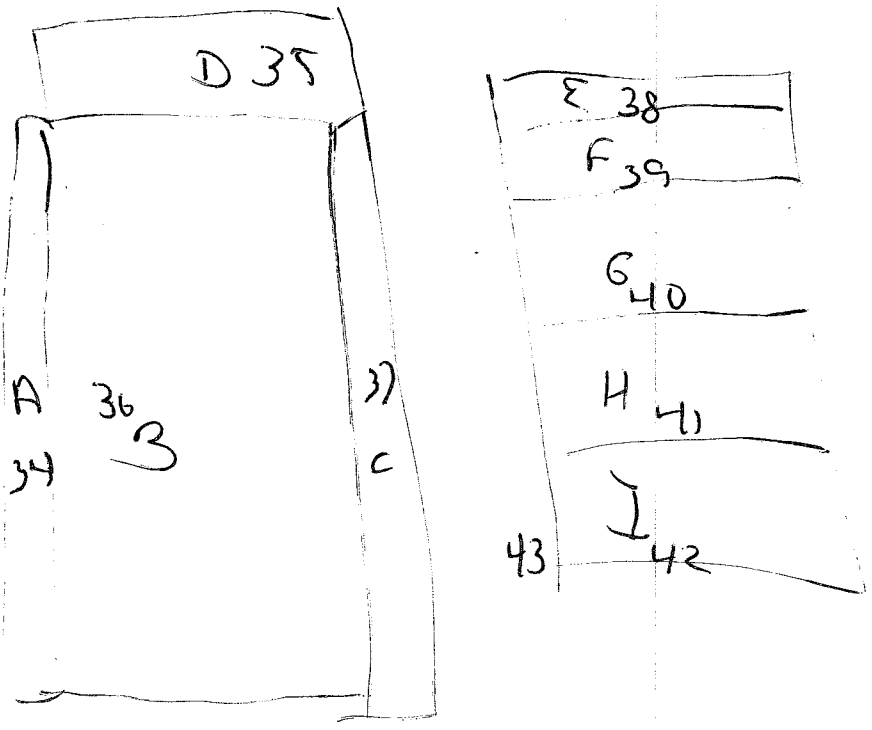
Equipment Information

Nomenclature: Freezer
Manufacturer: Equatherm
Model: Freezer
Serial Number: 498005
MMCN: M2230

On / Off-Site Repair:
Turn-in / Transfer:
Admin Hold:
Non RAM Use Only:
Other Moving: L

Meter Readings

BKG	4k	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Draw Picture Here

Laboratory Analysis

Date: 19 May 04
Swipe Numbers: 34-43
Technician: Michelli
Auto-gamma LSC: 35-42

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

COMPLETED

Comments

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.6	14.5	0.0		2.00
5	88	8.5	34.3	5.3	27.1	0.0		2.00
5	89	0.0		6.6	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.8	17.8	7.9	25.2	2.00

Time: 2.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-(
High Energy: 14C-

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	6.09	0.00	413.14	
11	2.00	1.13	369.6	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	2.00	3.30	4.36	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	408.38	
14	2.00	0.00	0.00	5.56	169.7	2.50	0.00	8.33	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	2.00	0.00	3.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	428.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.60	0.00	460.26	
20	2.00	0.00	0.00	2.27	182.6	0.00	0.00	3.21	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.85	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.88	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.60	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	408.80	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	408.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.36	
36	2.00	0.00	0.00	1.36	0.00	1.50	0.00	0.00	408.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.37	
38	2.00	0.00	0.00	1.36	302.5	1.50	0.00	1.99	422.32	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.82	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.29	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.62	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.62	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.63	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.78	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michell

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 11863

Cal Due: 1AUG04

Equipment Information

Nomenclature: SINK

Manufacturer:

Model:

Serial Number:

MMCN:

On / Off-Site Repair:

Turn-in / Transfer:

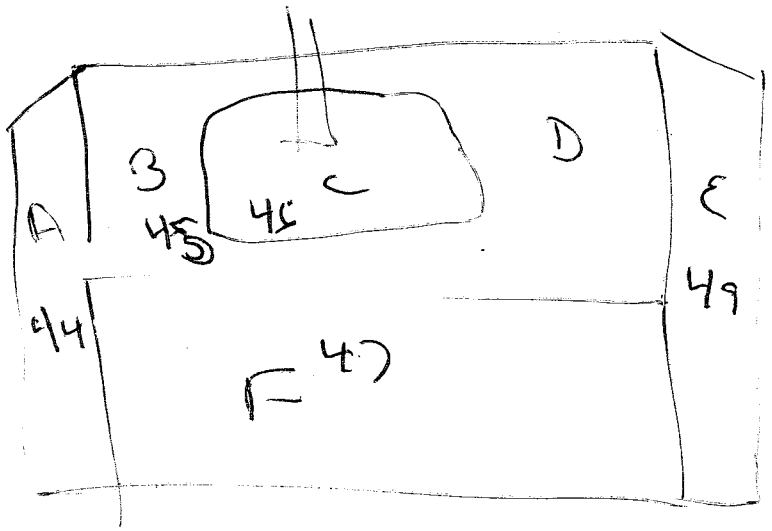
Admin Hold:

Non RAM Use Only:

Other mouy: X

Meter Readings

BKG	66	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Draw Picture Here

Laboratory Analysis

Technician: Michell

Auto-gamma LSC

Date: 19 May 04

Swipe Numbers: 44-47/49

Record any samples > 2000 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM
45				1984
47				
49				

Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments

48 missing

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.3	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.8	17.9	7.4	35.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclidee: 3H-14C-UG Quench Sets
Low Energy: 3H-(
High Energy: 14C-

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.65	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	6.09	0.00	413.14	
11	2.00	1.13	368.6	0.00	0.00	1.00	5.52	0.00	415.94	
12	2.00	0.00	0.00	3.50	130.1	0.00	0.00	1.99	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	408.38	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	6.33	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	428.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.60	0.00	460.28	
20	2.00	0.00	0.00	2.27	182.6	0.00	0.00	3.51	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.65	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.88	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.80	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.86	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	403.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.25	
36	2.00	0.00	0.00	0.00	0.00	1.51	0.00	0.00	423.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.37	
38	2.00	0.00	0.00	1.91	366.5	1.50	0.00	1.99	420.95	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.02	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.29	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.62	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.82	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	418.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.63	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michell

Inspection Date: 19 May 04

Meter Model: LI

Meter SN: 11863

Cal Due: 1 AUG 04

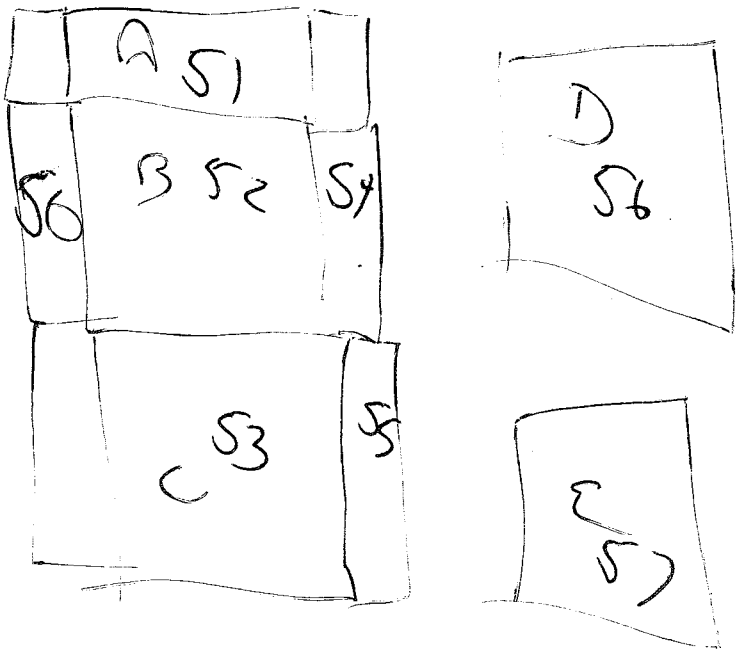
Equipment Information

Nomenclature: Incubator
Manufacturer: Forma Scientific
Model: N/A
Serial Number: 30149571
MMCN: 26566

On / Off-Site Repair:
Turn-in / Transfer:
Admin Hold:
Non RAM Use Only:
Other Movn: X

Meter Readings

BKG	#6	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Draw Picture Here

Laboratory Analysis

Technician: Michell
Auto-gamma: 55-57
Date: 19 May 04
Swipe Numbers: 50-57
LSC: D 51-56

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

COMPLETED

Comments

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.6	14.5	0.0		2.00
5	88	8.5	34.3	6.8	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.8	17.8	7.4	25.2	2.00

Protocol #: 2 Routine A User : CPL Whicl

Time: 2.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-(
Background Subtract: 1st Vial High Energy: 14C-

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	0.00	0.00	413.14	
11	2.00	1.13	369.8	0.00	0.00	1.00	0.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	1.00	0.00	4.98	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	408.38	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	3.33	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	423.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.59	
19	2.00	0.13	2958	0.00	0.00	0.00	0.60	0.00	460.23	
20	2.00	0.00	0.00	2.27	188.6	0.00	0.00	3.21	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.65	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.68	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.80	
32	2.00	0.13	2959	0.00	0.00	1.50	0.64	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.86	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	422.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.28	
36	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	423.85	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.87	
38	2.00	0.00	2.13	1.34	368.5	1.50	0.00	1.90	422.32	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.29	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.82	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.62	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	418.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.63	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

MCHL-HP (11-9d) 24 May 2004

MEMORANDUM FOR Shyh-Ching Lo
Authorization No. 665

SUBJECT: Radiological Safety Certification: Building 54 Room 4100

1. The following room has been inspected, tested, and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed.

Building	Room
54	4086

2. The following equipment has been inspected, tested and certified by the Health Physics Office to be free of any hazards associated with removable radioactive contamination. Any previous radiological safety restrictions are hereby removed. Contamination surveys were performed in order to clear the equipment for non-radioactive material use. Prior to any isotope usage, the Health Physics Office must be notified so that the equipment may be labeled accordingly.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Walk-in- Refrigerator	N/A	N/A	N/A
Freezer	Freezer	498005	M2230
Rad Sink	N/A	N/A	N/A

3. If you have any questions regarding this survey, you may contact SPC Brian Michelli at 356-0058.

David W. Burton

DAVID W. BURTON
Chief, Radioactive Material Control
WRAMC Health Physics Office

Room Final

Room: 4096 Building: 54

Authorization: 665

Department: Microbiology

Radio-Nuclides:

Surveyor: Michelle

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 11863

Cal Due: 1 AUG 04

Room Checks

	Initials
All RAM removed from the room	BPR
Radioactive waste removed	BPR
All RAM use equipment cleared	BPR
All radiation lables removed	

	Initials
Entrances un-posted	
Other _____	

Administrative Checks

Equipment / Room final forms completed: BPR

Meter Readings

BKG		cpm	mR/hr
A		cpm	mR/hr
B		cpm	mR/hr
C		cpm	mR/hr
D		cpm	mR/hr
E		cpm	mR/hr
F		cpm	mR/hr
G		cpm	mR/hr

See Back for Survey

Laboratory Analysis

Date

Swipe Numbers

Technician

Auto-gamma

LSC

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

	Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments

Radiation Lab Summary Report

Room: 4086 **Building:** 54, AFIP

Authorization: Lo, Shyh-Ching (665)

Department: Auth. 665, Microbiology

Last Inspection: 10/18/2001 **Frequency:** 90 days

Radio-Nuclides: C-14, Cr-51, H-3, I-125, P-32, Ra-226, S-35

Surveyor: Michell

Inspection Date: 19 May 04

Meter Model: L3

Meter SN: 11863

Cal Due: 10 Aug 04

54_4086

Initial Checks

	Yes	No	NA
RAM Secure?	X		
Room Posted?	X		
Work Area Posted?	X		
Equipment Posted?	X		
User Surveys Performed?	X		NA

Date of Last User Survey: NA

User Inventory Log: Isotope / Activity Used: N/A

Max Daily Use: N/A

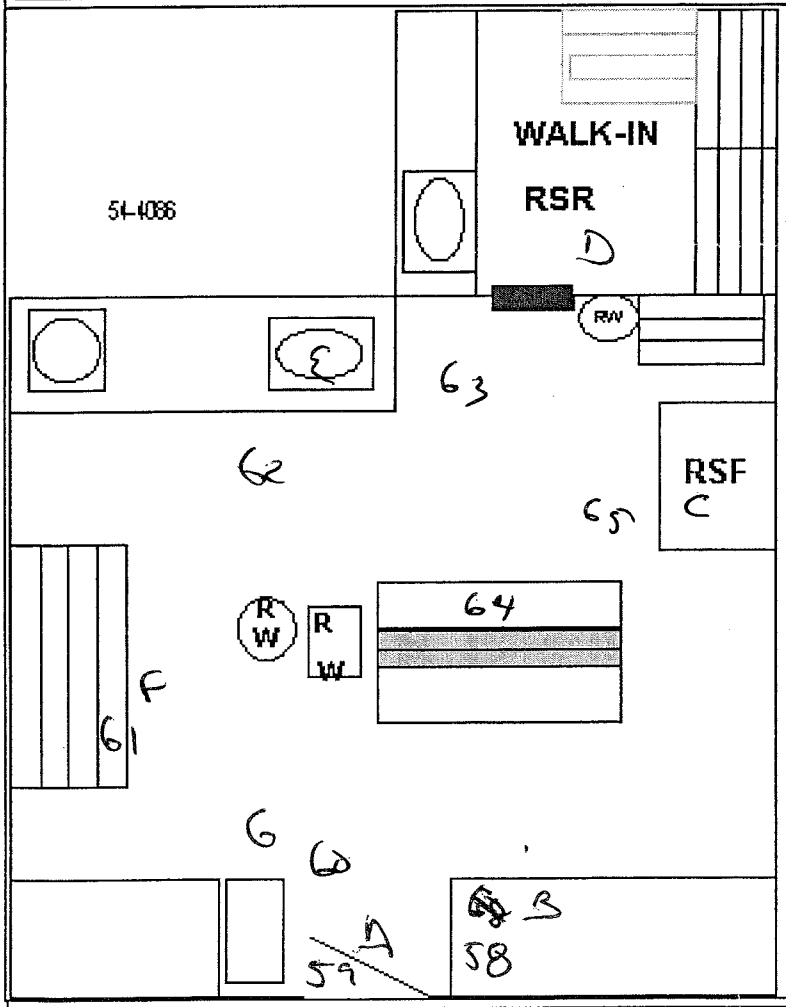
Lab Survey Meter: Model: L3

SN: 11904

Cal Due: RDec04

Meter Readings

BKG	60	cpm	mR/hr
A		cpm	mR/hr
B		cpm	mR/hr
C		cpm	mR/hr
D		cpm	mR/hr
E		cpm	mR/hr
F		cpm	mR/hr
G		cpm	mR/hr



Laboratory Analysis

Technician: Michell

Auto-gamma

Date: 19May04

Swipe Numbers

LSC

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM
65-65					53-66				

UNUSED

Comments

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.6	14.5	0.0		2.00
5	88	3.5	24.3	6.3	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.3	17.8	7.9	25.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclidee: 3H-14C-UG Quench Sets
Low Energy: 3H-(
High Energy: 14C-

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	6.09	0.00	413.11	
11	2.00	1.13	368.6	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	0.00	0.00	1.96	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.38	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	3.33	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	428.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.60	0.00	460.28	
20	2.00	0.00	0.00	2.27	182.6	0.00	0.00	3.51	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.85	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.88	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.80	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	418.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.86	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	422.15	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	419.33	
36	2.00	0.00	0.00	1.36	0.00	1.50	0.00	0.00	403.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.37	
38	2.00	0.00	0.13	1.81	368.5	1.50	0.00	1.93	426.82	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	428.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.39	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	687.0	3.50	0.00	0.78	410.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.82	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.62	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.63	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michelli

Inspection Date: 19May04

Meter Model: L3

Meter SN: 11863

Cal Due: 1AUG04

Equipment Information

Nomenclature: Sink

Manufacturer:

Model:

Serial Number:

MMCN:

On / Off-Site Repair:

Turn-in / Transfer:

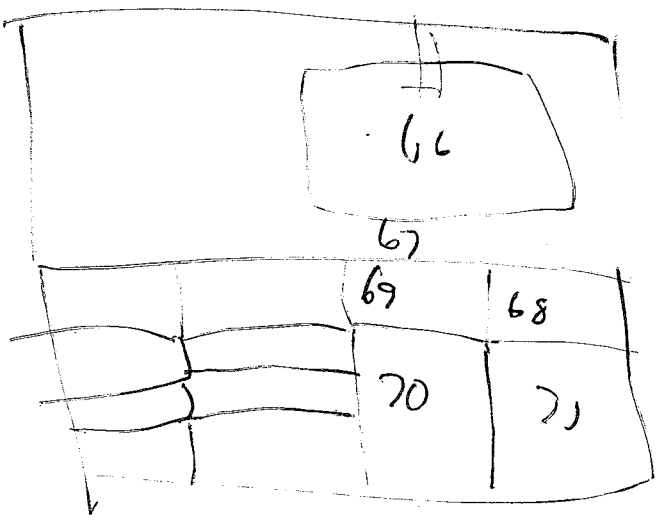
Admin Hold:

Non RAM Use Only:

Other many: X

Meter Readings

BKG	60	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Draw Picture Here

Laboratory Analysis

Technician: Michelli

Auto-gamma: (S 66-71)

Date: 19May04

Swipe Numbers: 66-71

LSC: (2) (S 66-71)

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.8	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.2	17.8	7.9	25.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-
Background Subtract: 1st Vial High Energy: 14C-

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	8.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	0.00	0.00	413.14	
11	2.00	1.13	368.6	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	0.00	0.00	4.96	416.61	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.88	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	8.88	418.53	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.98	
16	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	428.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.60	0.00	460.26	
20	2.00	0.00	0.00	2.27	182.6	0.00	0.00	3.21	421.24	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.85	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.98	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.88	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.60	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.86	
34	2.00	2.13	207.2	0.77	509.7	0.00	3.51	1.05	422.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.38	
36	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	408.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.87	
38	2.00	0.00	0.00	1.24	366.5	1.50	0.00	1.60	420.92	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.94	420.2	0.00	0.00	1.33	432.98	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.29	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.82	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	116.62	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.34	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.83	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
				0.0		4.4	33.8	2.00
5	35	0.0		9.8	22.6	0.9	75.4	2.00
5	36	0.5	100	0.0		0.0		2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		6.3	28.2	0.0		2.00
5	39	0.0		0.0		0.0		2.00
5	40	3.0	40.8	10.3	22.0	5.4	30.5	2.00
5	41	0.0		0.0		11.4	21.0	2.00
5	42	0.0		3.3	38.9	2.4	45.8	2.00
5	43	13.5	19.2	0.0		1.4	60.2	2.00
5	44	0.0		4.3	34.1	2.9	41.7	2.00
5	45	3.0	40.8	2.8	42.3	0.0		2.00
5	46	14.0	18.9	0.0		0.9	75.4	2.00
5	47	0.0		5.3	30.7	0.0		2.00
5	48	1.0	70.7	4.3	34.1	0.0		2.00
5	49	4.5	33.3	2.8	42.3	8.4	24.4	2.00
5	50	0.5	100	5.3	30.7	0.0		2.00
5	51	0.0		0.0		1.9	51.6	2.00
5	52	0.0		1.3	62.0	0.0		2.00
5	53	7.0	26.7	2.3	46.6	0.0		2.00
5	54	3.0	40.8	0.0		0.0		2.00
5	55	5.5	30.2	0.8	79.1	0.0		2.00
5	56	3.5	37.8	0.3	129	0.0		2.00
5	57	8.5	24.3	5.8	29.4	1.9	51.6	2.00
5	58	6.0	28.9	15.8	17.8	5.9	29.2	2.00
	59	2.0	50.0	0.0		0.0		2.00
	60	1.0	70.7	8.8	23.8	1.4	60.2	2.00
	61	3.5	37.8	7.3	26.2	0.0		2.00
	62	5.5	30.2	0.0		4.9	32.0	2.00
	63	6.0	28.9	3.3	38.9	0.0		2.00
	64	2.5	44.7	9.3	23.2	0.0		2.00
	65	5.0	31.6	21.3	15.3	5.4	30.5	2.00
	66	5.0	31.6	0.0		8.9	23.7	2.00
	67	1.0	70.7	7.8	25.3	0.0		2.00
5	68	0.0		0.0		0.0		2.00
5	69	0.5	100	0.0		6.9	27.0	2.00
5	70	0.0		3.3	38.9	0.0		2.00
5	71	0.0		0.0		1.4	60.2	2.00
5	72	0.0		11.3	21.0	0.4	115	2.00
5	73	0.0		0.0		1.4	60.2	2.00
5	74	0.0		0.0		3.4	38.5	2.00
5	75	3.5	37.8	10.3	22.0	7.9	25.2	2.00
5	76	2.5	44.7	8.3	24.5	2.4	45.8	2.00
5	77	0.0		9.8	22.6	1.9	51.6	2.00
5	78	11.5	20.9	0.0		4.4	33.8	2.00
5	79	0.0		0.0		0.4	115	2.00
5	80	0.0		17.8	16.8	0.0		2.00
5	81	0.0		1.8	52.7	8.4	24.4	2.00
5	82	4.5	33.3	4.3	34.1	0.0		2.00
5	83	13.5	19.2	11.8	20.6	0.0		2.00
5	84	0.0		0.0		0.0		2.00
5	85	0.0		16.8	17.3	0.0		2.00
5	86	0.0						

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	50.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.3	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.8	17.8	7.9	35.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-(
High Energy: 14C-

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	6.37
Region B:	18.6	156	0	0.0	5.73
Region C:	156	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	0.00	0.00	413.14	
11	2.00	1.13	369.6	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	0.00	0.00	4.96	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.38	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	3.33	418.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	428.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.60	0.00	460.26	
20	2.00	0.00	0.00	2.27	188.6	0.00	0.00	3.21	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.85	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.68	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.80	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	418.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.88	
34	2.00	2.13	207.2	0.77	509.7	0.00	3.51	1.05	402.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.26	
36	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	402.85	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.87	
38	2.00	0.00	0.00	1.81	398.5	1.50	0.00	1.20	426.32	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.02	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.39	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	697.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.82	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.82	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	428.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.83	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michelb

Inspection Date: 19May04

Meter Model: L3

Meter SN: 1863

Cal Due: 1AUG04

Equipment Information

Nomenclature: walk in frigs

Manufacturer: Bally

Model: N/A

Serial Number:

MMCN:

On / Off-Site Repair:

Turn-in / Transfer:

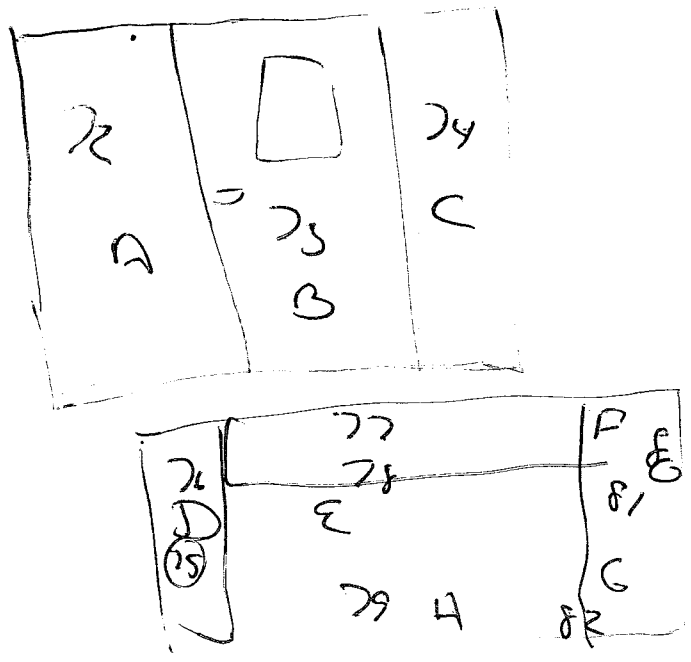
Admin Hold:

Non RAM Use Only:

Other mon: X

Meter Readings

BKG	66	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



Draw Picture Here

Laboratory Analysis

Date: 19May04

Swipe Numbers: 72-82

Technician: Michelb

Auto-gamma: (5) 72-82

LSC: (2) 73-83

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 950 keV	MAN	950 - 2000 keV
Bkg:	97.5		114		46.1	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%CV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	1	17.5	16.9	0.0		3.9	35.9	2.00
5	2	4.0	35.4	0.0		0.0		2.00
5	3	14.5	18.6	9.8	22.6	2.9	41.7	2.00
5	4	0.0		4.3	34.1	0.4	115	2.00
5	5	0.0		6.3	28.2	1.4	60.2	2.00
5	6	5.0	31.6	16.8	17.3	2.9	41.7	2.00
5	7	8.5	24.3	0.0		6.4	28.0	2.00
5	8	0.0		7.8	25.3	10.4	21.9	2.00
5	9	5.0	31.6	0.3	129	8.4	24.4	2.00
5	10	0.0		0.0		0.0		2.00
5	11	1.5	57.7	15.3	18.1	6.9	27.0	2.00
5	12	0.0		15.8	17.8	0.0		2.00
5	13	5.5	30.2	0.0		0.0		2.00
5	14	0.5	100	3.3	38.9	0.0		2.00
5	15	0.0		0.0		0.0		2.00
5	16	0.0		2.8	42.3	0.0		2.00
5	17	8.0	25.0	5.3	30.7	3.4	38.5	2.00
5	18	0.0		0.0		2.9	41.7	2.00
5	19	1.0	70.7	8.3	24.5	4.9	32.0	2.00
5	20	0.0		0.8	79.1	2.9	41.7	2.00
5	21	0.5	100	7.3	26.2	10.4	21.9	2.00
5	22	0.0		0.0		4.9	32.0	2.00
5	23	0.0		0.0		0.0		2.00
5	24	0.0		9.3	23.2	1.4	60.2	2.00
5	25	0.0		0.0		0.0		2.00
5	26	0.0		7.8	25.3	0.0		2.00
5	27	0.0		10.3	22.0	0.0		2.00
5	28	0.0		0.0		1.4	60.2	2.00
5	29	3.0	40.8	0.0		0.0		2.00
5	30	0.0		0.0		0.0		2.00
5	31	3.0	40.8	0.0		0.0		2.00
5	32	0.0		2.8	42.3	0.4	115	2.00
5	33	0.0		14.8	18.4	0.0		2.00
5	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	35	0.0		0.0		4.4	33.8	2.00
5	36	0.5	100	9.8	22.6	0.9	75.4	2.00
5	37	0.0		0.0		0.0		2.00
5	38	0.0		0.0		0.0		2.00
5	39	0.0		6.3	28.2	0.0		2.00
5	40	3.0	40.8	0.0		0.0		2.00
5	41	0.0		10.3	22.0	5.4	30.5	2.00
5	42	0.0		0.0		11.4	21.0	2.00
5	43	13.5	19.2	3.3	38.9	2.4	45.8	2.00
5	44	0.0		0.0		1.4	60.2	2.00
5	45	3.0	40.8	4.3	34.1	2.9	41.7	2.00
5	46	14.0	18.9	2.8	42.3	0.0		2.00
5	47	0.0		0.0		0.9	75.4	2.00
5	48	1.0	70.7	5.3	30.7	0.0		2.00
5	49	4.5	33.3	4.3	34.1	0.0		2.00
5	50	0.5	100	2.8	42.3	8.4	24.4	2.00
5	51	0.0		5.3	30.7	0.0		2.00
5	52	0.0		0.0		1.9	51.6	2.00
5	53	7.0	26.7	1.3	62.0	0.0		2.00
5	54	3.0	40.8	2.3	46.6	0.0		2.00
5	55	5.5	30.2	0.0		0.0		2.00
5	56	3.5	37.8	0.8	79.1	0.0		2.00
5	57	8.5	24.3	0.3	129	0.0		2.00
5	58	6.0	28.9	5.8	29.4	1.9	51.6	2.00
5	59	2.0	50.0	15.8	17.8	5.9	29.2	2.00
5	60	1.0	70.7	0.0		0.0		2.00
5	61	3.5	37.8	8.8	23.8	1.4	60.2	2.00
5	62	5.5	30.2	7.3	26.2	0.0		2.00
5	63	6.0	28.9	0.0		4.9	32.0	2.00
5	64	2.5	44.7	3.3	38.9	0.0		2.00
5	65	5.0	31.6	9.3	23.2	0.0		2.00
5	66	5.0	31.6	21.3	15.3	5.4	30.5	2.00
5	67	1.0	70.7	0.0		8.9	23.7	2.00
5	68	0.0		7.8	25.3	0.0		2.00
5	69	0.5	100	0.0		0.0		2.00
5	70	0.0		0.0		6.9	27.0	2.00
5	71	0.0		3.3	38.9	0.0		2.00
5	72	0.0		0.0		1.4	60.2	2.00
5	73	0.0		11.3	21.0	0.4	115	2.00
5	74	0.0		0.0		1.4	60.2	2.00
5	75	3.5	37.8	0.0		3.4	38.5	2.00
5	76	2.5	44.7	10.3	22.0	7.9	25.2	2.00
5	77	0.0		8.3	24.5	2.4	45.8	2.00
5	78	11.5	20.9	9.8	22.6	1.9	51.6	2.00
5	79	0.0		0.0		4.4	33.8	2.00
5	80	0.0		0.0		0.4	115	2.00
5	81	0.0		17.8	16.8	0.0		2.00
5	82	4.5	33.3	1.8	52.7	8.4	24.4	2.00
5	83	13.5	19.2	4.3	34.1	0.0		2.00
5	84	0.0		11.8	20.6	0.0		2.00
5	85	0.0		0.0		0.0		2.00
5	86	0.0		16.8	17.3	0.0		2.00

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
5	87	2.0	80.0	23.8	14.5	0.0		2.00
5	88	8.5	24.3	6.8	27.1	0.0		2.00
5	89	0.0		6.8	27.1	1.9	51.6	2.00
5	90	3.5	37.8	15.2	17.8	7.9	35.2	2.00

Protocol #: 2 Routine A User : CPL Whic

Time: 2.00
Data Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-(
High Energy: 14C-

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	18.6	0	0.0	6.37
Region B:	18.6 -	156	0	0.0	5.73
Region C:	156 -	2000	0	0.0	2.50

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	6.37	25.07	5.73	26.41	2.50			526.11	B
2	2.00	0.13	2959	0.00	0.00	0.00	0.65	0.00	412.99	
3	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.79	452.80	
4	2.00	0.00	0.00	4.51	105.9	1.50	0.00	6.38	416.57	
5	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.58	
6	2.00	0.00	0.00	3.05	145.9	1.74	0.00	4.33	414.93	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	
8	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	422.15	
9	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	418.68	
10	2.00	1.25	338.5	0.00	0.00	0.00	0.00	0.00	413.14	
11	2.00	1.13	389.6	0.00	0.00	1.00	5.52	0.00	415.34	
12	2.00	0.00	0.00	3.50	130.1	0.00	0.00	4.96	416.81	
13	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	403.98	
14	2.00	0.00	0.00	2.56	169.7	2.50	0.00	3.33	413.33	
15	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	424.93	
16	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	413.40	
17	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.79	429.71	
18	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.59	
19	2.00	0.13	2956	0.00	0.00	0.00	0.80	0.00	460.28	
20	2.00	0.00	0.00	2.27	188.6	0.00	0.00	3.21	421.84	
21	2.00	0.00	0.00	0.00	0.00	3.50	0.00	0.00	412.62	
22	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	412.47	
23	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	411.34	
24	2.00	0.00	0.00	3.98	117.2	0.00	0.00	5.63	416.65	
25	2.00	0.00	0.00	1.45	280.8	0.00	0.00	2.06	419.59	
26	2.00	0.00	0.00	0.70	558.3	0.50	0.00	0.99	405.22	
27	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	458.99	
28	2.00	0.00	0.00	0.32	1164	1.00	0.00	0.45	427.49	
29	2.00	0.00	0.00	1.36	297.5	1.00	0.00	1.93	412.98	
30	2.00	0.00	0.00	0.02	21966	1.50	0.00	0.02	415.68	
31	2.00	0.00	0.00	4.27	110.6	0.50	0.00	6.05	413.80	
32	2.00	0.13	2959	0.00	0.00	1.50	0.84	0.00	419.11	
33	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	406.86	
34	2.00	2.13	207.2	0.77	508.7	0.00	3.51	1.05	408.13	
35	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	410.32	
36	2.00	0.00	0.00	1.36	0.00	1.50	0.00	0.00	408.35	
37	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	420.87	
38	2.00	0.00	0.00	1.81	266.5	1.50	0.00	1.99	420.86	
39	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	424.71	
40	2.00	0.00	0.00	0.77	508.7	0.50	0.00	1.00	421.01	

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	421.72	
42	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	412.46	
43	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	414.54	
44	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	427.77	
45	2.00	0.00	0.00	0.84	420.2	0.00	0.00	1.33	432.38	
46	2.00	0.00	0.00	0.27	1415	2.00	0.00	0.38	404.38	
47	2.00	0.00	0.00	2.92	151.5	1.50	0.00	4.14	421.44	
48	2.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	350.64	
49	2.00	0.00	0.00	0.16	2414	0.11	0.00	0.22	426.43	
50	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	443.97	
51	2.00	0.00	0.00	1.65	250.9	0.00	0.00	2.34	408.26	
52	2.00	0.00	0.00	2.98	149.2	2.00	0.00	4.21	418.29	
53	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.08	
54	2.00	0.00	0.00	0.55	897.0	3.50	0.00	0.78	413.74	
55	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	426.82	
56	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.60	
57	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.19	
58	2.00	0.00	0.00	0.48	804.5	0.79	0.00	0.68	411.08	
59	2.00	2.13	207.2	0.77	509.7	0.00	9.39	1.05	411.47	
60	2.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	421.91	
61	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	424.33	
62	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.97	
63	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	426.50	
64	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	416.62	
65	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	408.77	
66	2.00	0.13	2959	0.00	0.00	3.00	0.62	0.00	439.02	
67	2.00	0.00	0.00	1.77	235.3	0.00	0.00	2.49	441.35	
68	2.00	0.00	0.00	0.77	509.7	0.50	0.00	1.09	410.17	
69	2.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	410.25	
70	2.00	0.13	2959	0.27	1415	0.00	0.27	0.38	420.47	
71	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	440.06	
72	2.00	1.13	369.6	0.00	0.00	1.50	5.55	0.00	412.31	
73	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	417.44	
74	2.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	425.59	
75	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	426.73	
76	2.00	0.00	0.00	1.77	235.3	1.00	0.00	2.50	419.83	
77	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	418.36	
78	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.84	
79	2.00	0.00	0.00	1.77	235.3	2.50	0.00	2.49	463.19	
80	2.00	0.63	642.4	0.00	0.00	0.00	3.06	0.00	419.49	
81	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.43	
82	2.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	409.60	
83	2.00	0.00	0.00	1.27	318.5	0.00	0.00	1.80	415.78	
84	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	384.93	
85	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.00	
86	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	426.86	
87	2.00	0.00	0.00	1.77	235.3	0.50	0.00	2.50	422.63	
88	2.00	0.00	0.00	0.27	1415	0.50	0.00	0.38	417.79	
89	2.00	0.00	0.00	1.27	318.5	1.50	0.00	1.80	406.79	
90	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.19	
91	2.00	0.00	0.00	0.27	1415	0.00	0.00	0.38	464.56	

Radiation Equipment Survey Report

Room: **Building:**

Authorization:

Department:

Radio-Nuclides:

Surveyor: Michell

Inspection Date: 19May04

Meter Model: L3

Meter SN: 11863

Cal Due: 1AUG04

Equipment Information

Nomenclature: ~~Refrig~~ freezer

Manufacturer: Whirlpool

Model: N/A

Serial Number: N/A

MMCN:

On / Off-Site Repair:

Turn-in / Transfer:

Admin Hold:

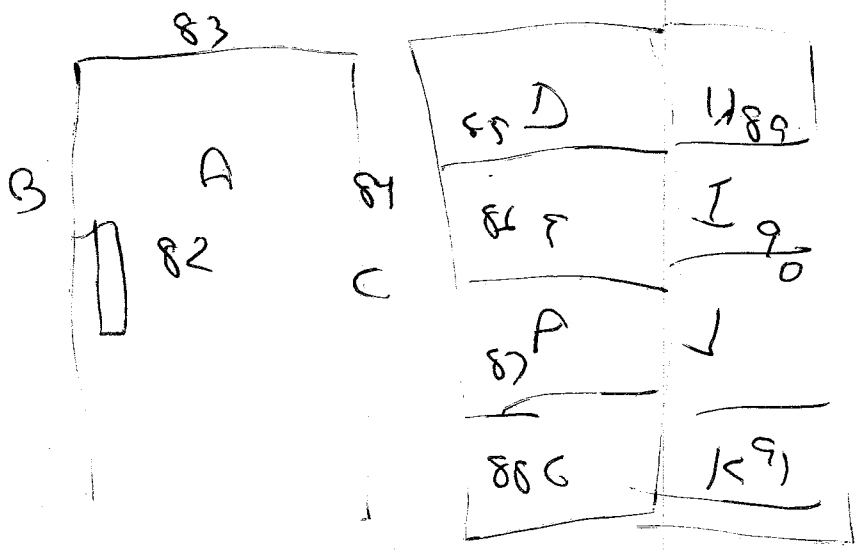
Non RAM Use Only:

Other Maury: X

Meter Readings

BKG	LO	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr

A-K



Draw Picture Here

Laboratory Analysis

Date: 19May04

Swipe Numbers: 83-94

Technician: Michell

Auto-gamma: 5 83-90

LSC: 2 84-94

Record any samples > 200 dpm of removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA	DPM

Comments

Surveyor Comments