#8070

Radiation Lab Summary Report

Room: GW04 **Building:** 503, WRAIR/NMRC

Authorization: 221 / Mr. David Burton, Principal Investigator

Department: Health Physics Office

Frequency: 90 days

Radionuclides: All

HPO Surveyor: M. Cox

Inspection Date: 7/9/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Initial Checks

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

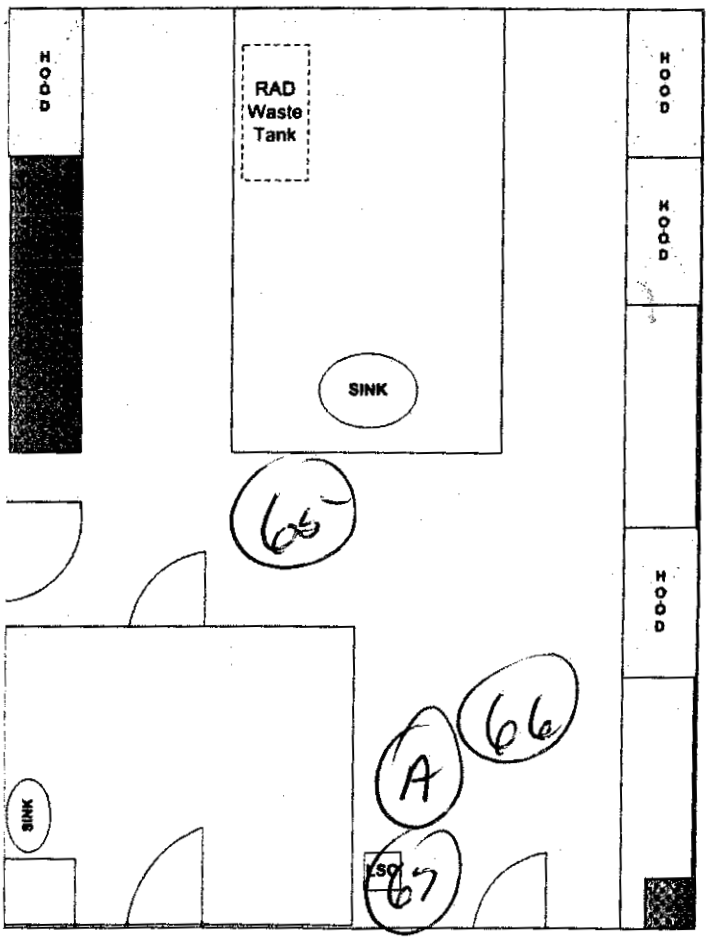
Date Of Last User Survey: N/A

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

Lab Survey Meter:
Meter Model: SAME
Serial Number
Calibration Due Date:

Meter Readings

BKG	288	cpm mR/hr
A	288	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



503_GW04

Laboratory Analysis

Technician: MS. Cox

Auto-gamma: 1 35-37

LSC

Date: 7/10/08

Swipe Numbers

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 10-Jul-2008 07:42:51

Protocol id 1 ROUTINE2
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 28-Mar-2008 09:32:23
Run id. 78

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	290	5.8	779.42	45	-3.4	109.42
2	1	2	120	279	-0.4	213.63	46	-2.9	129.44
3	1	3	120	257	-12.7	57.98	48	-1.9	201.03
4	1	4	120	255	-19.8	54.21	57	2.6	157.83
5	1	5	120	306	5.7	103.66	57	2.6	157.83
6	1	6	120	282	-0.2	328.55	48	-1.9	201.04
7	1	7	120	270	-9.6	102.90	53	0.6	663.34
8	1	8	120	253	-20.8	50.92	57	2.6	157.83
9	1	9	120	288	6.1	4747.60	43	-4.4	83.01
10	1	10	120	286	-5.7	1152.41	59	3.6	115.67
11	2	11	120	285	1.3	715.24	48	-1.9	201.03
12	2	12	120	253	-14.1	50.92	47	-2.4	157.78
13	2	13	120	310	13.8	85.54	48	-1.9	201.04
14	2	14	120	303	8.2	123.36	51	-0.4	979.16
15	2	15	120	295	2.2	254.01	54	1.1	364.65
16	2	16	120	303	4.9	123.36	56	2.1	193.95
17	2	17	120	256	-18.0	56.06	55	1.6	252.65
18	2	18	120	294	1.7	293.33	54	1.1	364.65
19	2	19	120	266	-10.9	83.24	52	0.1	3948.60
20	2	20	120	252	-14.6	49.41	47	-2.4	157.78
21	3	21	120	286	-6.3	1167.81	60	4.1	102.29
22	3	22	120	278	-4.3	190.64	51	-0.4	979.20
23	3	23	120	240	-20.6	36.23	47	-2.4	158.50
24	3	24	120	286	-11.1	1152.68	67	7.6	57.86
25	3	25	120	277	-2.1	172.75	47	-2.4	157.78
26	3	26	120	283	0.3	400.42	48	-1.9	199.90
27	3	27	120	265	-20.9	79.44	66	7.1	61.62
28	3	28	120	263	-11.8	72.75	51	-0.4	1005.47
29	3	29	120	282	-5.0	328.58	55	1.6	252.64
30	3	30	120	292	1.4	425.71	53	0.6	663.33
31	4	31	120	285	-5.5	709.56	58	3.1	133.35
32	4	32	120	252	-15.9	49.41	49	-1.4	275.16
33	4	33	120	271	-3.7	109.13	45	-3.4	109.42
34	4	34	120	284	-6.7	512.14	59	3.6	115.67
35	4	35	120	262	-14.3	69.80	54	1.1	364.67
36	4	36	120	332	16.7	44.46	60	4.1	102.54
37	4	37	120	250	-15.6	46.63	47	-2.4	157.78

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801\20080711_0801.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	6	4	0	0	48.13	411.82	B
2	2.00	0	5	0	0	6	107.75	403.86	
3	2.00	0	0	2	0	0	0.00	390.11	
4	2.00	0	1	0	0	2	749.94	416.00	
5	2.00	0	5	3	0	6	87.05	409.35	
6	2.00	3	1	0	7	1	0.00	406.99	
7	2.00	0	0	0	0	1	0.00	421.10	
8	2.00	0	1	0	0	1	0.00	407.02	
9	2.00	0	1	0	0	1	117.08	403.20	

10	2.00	0	0	0	0	0	0.00	409.08
11	2.00	3	1	0	6	1	0.00	393.34
12	2.00	0	0	2	1	0	0.00	398.27
13	2.00	1	3	0	0	4	63.44	417.66
14	2.00	0	0	0	0	0	0.00	398.66
15	2.00	2	0	1	4	0	55.46	402.56
16	2.00	0	0	0	0	0	0.00	400.55
17	2.00	0	4	0	0	5	81.55	414.71
18	2.00	1	0	1	3	0	0.00	395.79
19	2.00	0	1	0	0	1	0.00	402.75
20	2.00	0	1	1	0	1	27.02	398.93
21	2.00	3	2	0	6	3	48.27	412.44
22	2.00	0	0	2	0	0	0.00	436.64
23	2.00	1	0	1	3	0	0.00	400.97
24	2.00	1	0	0	2	0	245.48	423.72
25	2.00	0	3	0	0	4	68.97	403.82
26	2.00	2	0	1	3	0	107.83	393.31
27	2.00	0	5	1	0	6	160.86	408.71
28	2.00	0	1	0	0	2	386.80	397.34
29	2.00	1	0	0	2	0	121.98	407.76
30	2.00	0	0	0	1	0	0.00	393.46
31	2.00	0	0	1	0	0	0.00	429.02
32	2.00	1	3	3	1	4	39.78	399.35
33	2.00	0	5	0	0	6	152.18	409.83
34	2.00	0	0	0	0	0	0.00	409.41
35	2.00	0	0	0	0	0	0.00	393.16
36	2.00	0	2	1	0	2	105.48	401.46
37	2.00	0	4	0	0	6	103.98	403.52

#8102

Radiation Lab Summary Report

Room: GW05B **Building:** 503, WRAIR/NMRC

Authorization: 221 / Mr. David Burton, Principal Investigator

Department: Health Physics Office

Frequency: 7 days

Radionuclide: All

HPO Surveyor: Ms. Cox

Inspection Date: 7/23/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Initial Checks

	Yes	No	NA
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment posted?	X		
Have user performed surveys?	X		

Date Of Last User Survey: N/A

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use: N/A

Lab Survey Meter:

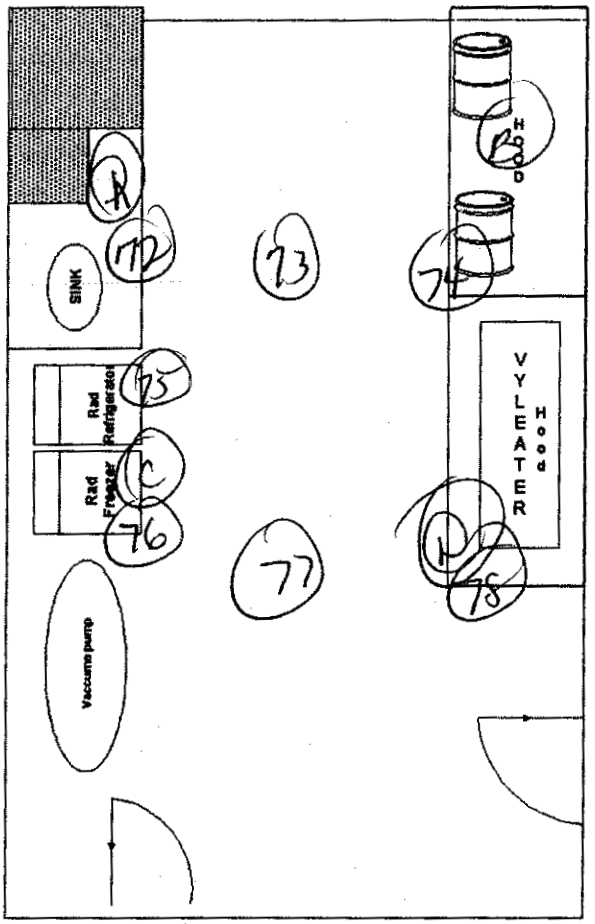
Meter Model: SAME

Meter Serial Number: SAME

Calibration Due Date: SAME

Meter Readings

BKG	2100	cpm
A	2100	cpm
B	"	cpm
C	"	cpm
D	2100	cpm
E		cpm
F		cpm
G		cpm



503_GW05B

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 2-8

LSC: 2-8

Date: 7/24/08

Swipe Numbers: 72-78

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 24-Jul-2008 08:18:53

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 92

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	262	-12.9	69.80	52	0.1	3950.85
2	1	2	120	263	-19.2	72.75	62	5.1	83.40
3	1	3	120	281	-3.4	278.43	52	0.1	3947.28
4	1	4	120	275	-5.1	144.63	50	-0.9	431.62
5	1	5	120	287	0.2	3052.80	51	-0.4	979.23
6	1	6	120	300	9.4	152.59	47	-2.4	157.79
7	1	7	120	297	2.5	200.48	55	1.6	252.64
8	1	8	120	268	0.9	92.01	36	-7.9	43.03

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080724_0926
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080724_0926\20080724_0926.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	6	5	0	0	50.16	406.47	B
2	2.00	0	2	1	0	3	5.62	423.87	
3	2.00	1	0	0	5	0	0.00	400.24	
4	2.00	1	0	0	4	0	0.00	431.49	
5	2.00	0	0	0	1	0	0.00	416.28	
6	2.00	5	1	0	11	1	37.29	409.86	
7	2.00	2	0	0	5	0	14.57	403.04	
8	2.00	1	0	0	2	0	0.51	415.97	

#7987

Radiation Lab Summary Report

Room: GW72 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 454 / Dr. Qugui Li **Inspection Date:** 6/17/08

Department: Experimental Therapeutics **Meter Model:** N/A

Frequency: 90 Days **Meter Serial Number:** N/A

Radionuclides: C-14, H-3, and Cs-137 **Calibration Due Date:** N/A

CALL DR. LI at 319-9351 BEFORE ENTERING THE ROOM

H-3 Use Only

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?		X	
Is the room posted?	X		
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 10/8/04

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use:

Lab Survey Meter:

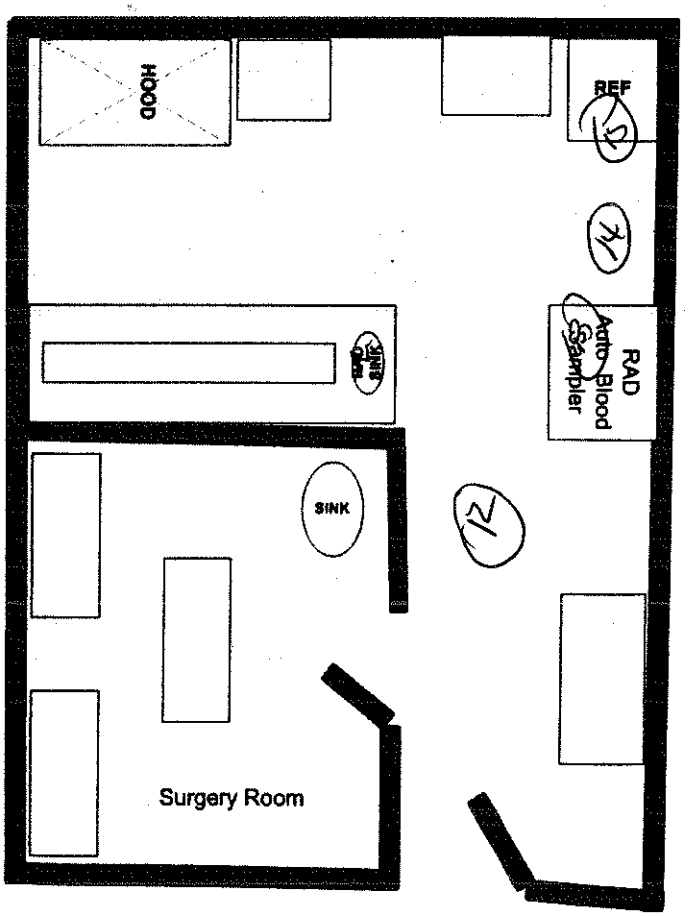
Meter Model : N/A

Serial Number:

Calibration Due Date:

Meter Readings

BKG	N/A	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



503_GW72

Date 6/18/08

Swipe Numbers 12-15

Laboratory Analysis

Technician Ms. Cox

Auto-gamma 12-5

LSC 3 2-5

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	[illegible] (dpm)	DPM

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 18-Jun-2008 08:19:37

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 79

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	0.0	152.33	61	4.6	91.82
2	1	2	120	255	-14.4	54.21	49	-1.4	275.15
3	1	3	120	268	-12.6	92.01	56	2.1	193.96
4	1	4	120	267	-9.8	87.41	51	-0.4	954.07
5	1	5	120	284	-1.9	512.19	52	0.1	3947.55
6	1	6	120	294	9.1	292.36	43	-4.4	83.01
7	1	7	120	290	-1.0	772.73	55	1.6	252.64
8	1	8	120	280	-2.6	241.46	50	-0.9	431.61
9	1	9	120	286	4.5	1152.42	44	-3.9	94.52
10	1	10	120	286	-2.3	1167.76	54	1.1	364.65
11	2	11	120	290	-7.0	779.35	64	6.1	70.79
12	2	12	120	284	-6.7	512.18	59	3.6	115.67
13	2	13	120	314	7.7	73.03	60	4.1	102.29

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080618_1125
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080618_1125\20080618_1125.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	6	5	0	0	55.23	427.00	B
2	2.00	1	0	2	4	0	0.00	406.61	
3	2.00	3	1	2	5	1	50.05	415.87	
4	2.00	0	1	1	0	1	0.00	410.25	
5	2.00	0	0	1	0	0	0.00	417.14	
6	2.00	0	0	0	0	0	0.00	405.39	
7	2.00	0	2	0	0	3	371.24	405.02	
8	2.00	3	0	0	6	0	26.74	418.98	
9	2.00	1	1	0	1	1	134.45	408.86	

8092

Radiation Lab Summary Report

Room: 2E12 **Building:** 503, WRAIR/NMRC

Authorization: 454, Dr. Qigui Li

Department: Experimental Therapeutics

Frequency: 90 days

Radionuclides: C-14, H-3 & Cs-137

HPO Surveyor: Ms. Cole

Inspection Date: 7/16/08

Meter Model Number: N/A

Meter Serial Number: N/A

Calibration Due Date:

Initial Checks

	Yes	No	NA
Are all radioactive material secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment used for rad use posted?	X		
Have user performed surveys ?	X		

Date Of Last User Survey: 6/24/08

User Inventory Log:

Isotope / Activity Used: C14 0.025mC

Maximum Daily Use: 0.025mC

Lab Survey Meter:

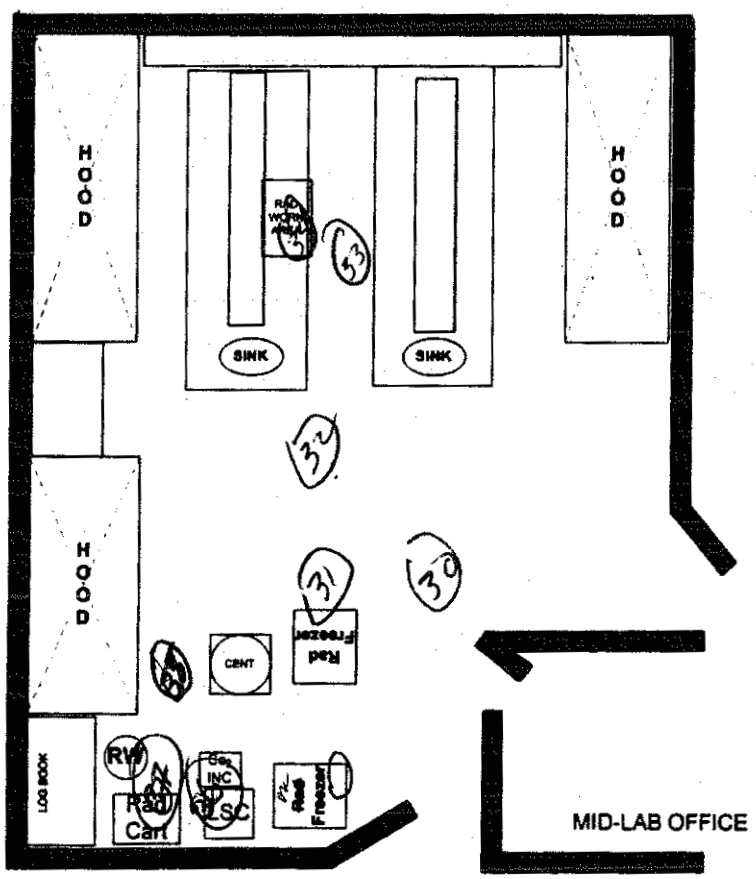
Model Meter Number: N/A

Serial Number:

Calibration Due Date:

Meter Readings

BKG		cpm mR/hr
A	N/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: Ms. Cole

Auto-gamma: 30-37

LSC: 31-38

Date: 7/17/08

Swipe Numbers: 26-37

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	

#8064

Radiation Lab Summary Report

Room: 1N40 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 600, Mrs. Irene Gist-Black **Inspection Date:** 7/9/08

Department: Cellular Injury **Meter Model:** Geiger

Frequency: 30 Days **Meter Serial Number:** 11976

Radionuclides: C-14, H-3,P-32, and S-35 **Calibration Due Date:** 10/12/08

Initial Checks

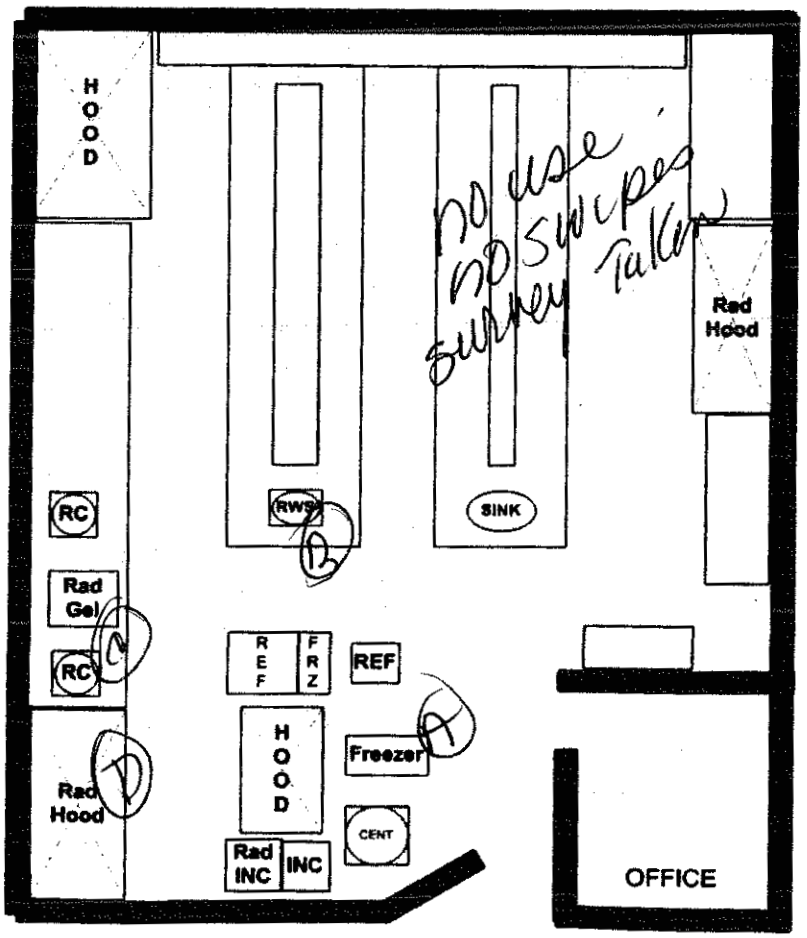
	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 6/6/06

User Inventory Log:
Isotope / Activity Used: N/A
Max Daily Use:
Lab Survey Meter:
Model Number : SAME
Serial Number:
Calibration Due Date:

Meter Readings

BKG	200	cpm mR/hr
A	200	cpm mR/hr
B	200	cpm mR/hr
C	200	cpm mR/hr
D	200	cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



503/1N40

Laboratory Analysis

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

Date	Swipe Numbers	Technician	Auto-gamma	LSC	Swipe	Isotope	DPM	MDA (dpm)	Efficiency	Swipe	Isotope	DPM	MDA (dpm)	Efficiency	Comments

Surveyor Comments

MCHL-HP (11-9d) September 19, 2007

MEMORANDUM FOR Dr. Marti Jett, Radioactive Materials Authorization Number 636

SUBJECT: Radiological Safety Certification for Building 503 Room 2S18

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
503, WRAIR/NMRC	2S18

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.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Whirlpool Refrigerator	N/A	N/A	Q4568
Sink	N/A	N/A	N/A

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

VANESSA COX
Health Physicist
Health Physics Office

Radiation Final Laboratory Summary Report

Room: 2S18 **Building:** 503, WRAIR/NMRC

Authorization: 636, Jett

Department: Molecular Pathology

Radionuclides: H-3, I-125, P-32 & P-33

Surveyor: Ms. Cox

Inspection Date: 8/29/07

Meter Model: Geiger

Meter SN: 11833

Cal Due: 9/17/07

Room Checks

	Initials
All RAM removed from the room	K
Radioactive waste was removed	K
All RAM use equipment cleared	K
All radiation labels removed	K
Entrance un-posted	K

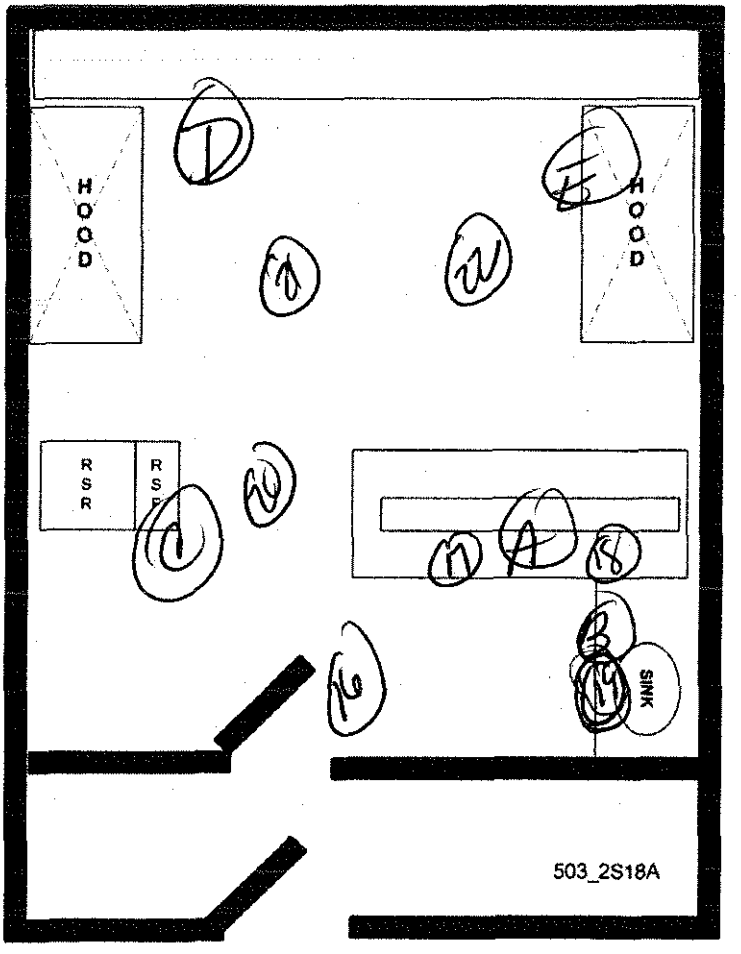
Administrative Checks

	Initials
Equipment / Room Final Forms Completed	K

Additional Information:

Meter Readings

BKG	4103	cpm mR/hr
A	2100	cpm mR/hr
B	"	cpm mR/hr
C	"	cpm mR/hr
D	"	cpm mR/hr
E	2100	cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



503_2S18

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 7 12-18

LSC: 7 13-19

Date: 8/30/07

Swipe Numbers: 14-22

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM	Swipe	Isotope	Efficiency	MDA (dpm)	DPM
19									

Completed 9/19/07 VCox

After Resurvey

All swipes < 200 dpm

Resurvey

Swipe(s) > 200 dpm

Surveyor Comments

Resurvey done 9/19/07

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20070830_1158
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20070830_1158\20070830_1158.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	7	5	0	0	61.20	388.87	B
2	2.00	1	3	0	1	4	15.60	390.62	
3	2.00	0	0	0	2	0	0.00	412.18	
4	2.00	0	0	1	0	0	0.00	389.03	
5	2.00	0	0	0	1	0	0.00	397.38	
6	2.00	1	0	0	3	0	18.66	400.67	
7	2.00	0	2	0	0	3	43.74	359.89	
8	2.00	1	3	3	0	4	52.65	384.70	
9	2.00	0	0	0	0	0	0.00	409.04	

30 Aug 2007 08:24 Packard Instrument Company Page #1

Protocol #: 7 Swipes User : Lab Staff

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:	96.4		116		48.0	
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			

F#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
7	1	0.6	61.2	0.0		0.0		2.00
7	2	0.0		0.0		0.0		2.00
7	3	1.1	67.4	0.0		2.0	50.0	2.00
7	4	3.1	71.2	4.3	34.0	0.0		2.00
7	5	0.0		21.8	15.1	7.0	27.6	2.00
7	6	5.6	24.1	0.0		0.0		2.00
7	7	0.0		0.0		2.0	50.0	2.00
7	8	0.0		0.0		1.0	70.7	2.00
7	9	5.6	29.9	0.0		1.5	57.7	2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		8.5	23.2	2.0	50.0	2.00
7	12	0.0		14.2	18.7	0.0		2.00
7	13	0.0		11.8	20.6	0.0		2.00
7	14	3.1	40.9	0.0		7.0	40.8	2.00
7	15	0.0		7.3	26.1	0.0		2.00
7	16	0.1	224	0.0		7.0	26.7	2.00
7	17	0.0		0.0		0.0		2.00
7	18	0.0		6.8	27.1	0.0		2.00
7	19	0.0		0.0		2.0	50.0	2.00
7	20	2.6	43.9	5.2	29.1	1.5	57.8	2.00
7	21	0.0		0.0		1.5	57.7	2.00
7	22	1.6	35.9	0.0		0.0		2.00
7	23	0.0		0.8	72.1	1.5		2.00
7	24	6.6	27.5	0.0		6.0	28.9	2.00
7	25	4.1	34.9	7.7	34.1	2.0	50.0	2.00
7	26	0.0		1.0		0.0		2.00
7	27	1.0		1.0		0.0		2.00
7	28	5.6	27.9	0.0		0.0		2.00
7	29	0.0		1.7	58.1	0.0		2.00
7	30	0.0	91.7	1.0		0.0		2.00
7	31	0.0		0.0		0.0		2.00
7	32	0.0		0.8	72.1	5.5	30.2	2.00
7	33	1.1	47.4	0.0		6.5	27.2	2.00
7	34	0.0		0.0		1.0	70.7	2.00

Resurvey

Radiation Equipment Survey Report

Room: 2518

Building: 503

HPO Surveyor: MS. Cox

Authorization: 6361, Jette

Inspection Date: 9/19/07

Department: Pathology

Meter Model:

Meter Serial Number: N/A

Radionuclides:

Calibration Due Date:

Equipment Information

Nomenclature: Sink

Manufacturer:

Model Number:

Serial Number:

MMCN:

Reason for Survey

Mark a X for appropriate reason.

On/off-Site Repair:

Turn-in/ Transfer:

Administrative Hold:

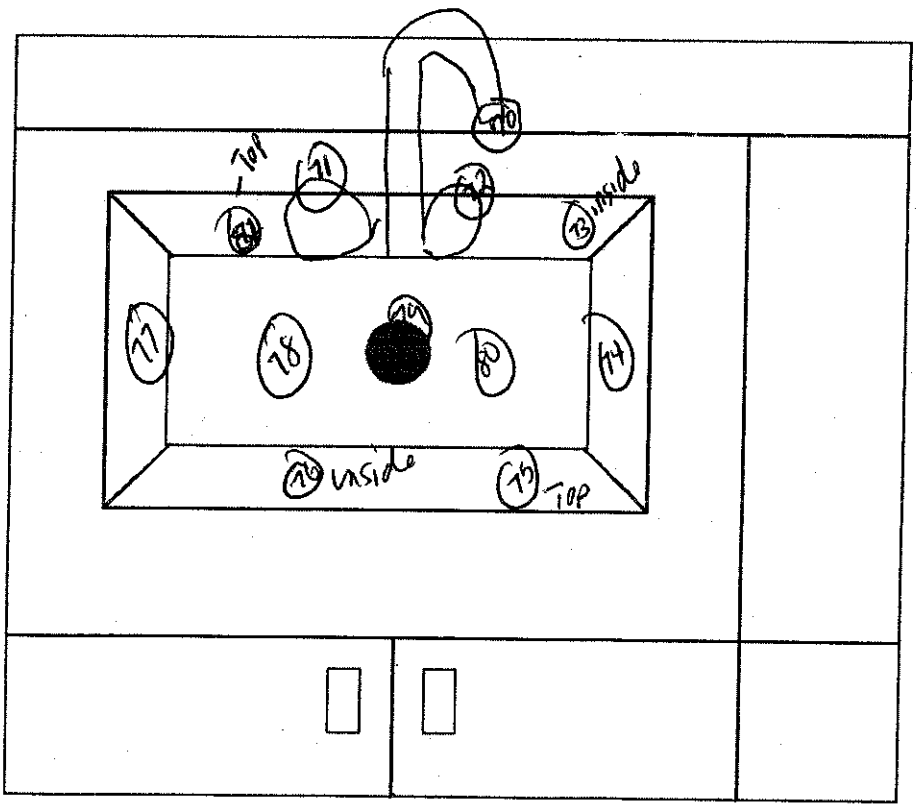
Non RAM use only:

Other:

Meter Readings

BKG	N/A	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

Rad Sink



Date: 9/20/07

Swipe Numbers: 70-81

Laboratory Analysis

Technician: MS. Cox

Auto-gamma: 67-18

LSC: 78-79

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070920_1217
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070920_1217\20070920_1217.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	9	4	0	0	52.20	390.82	B
2	2.00	1	3	1	0	3	94.14	385.25	
3	2.00	2	0	1	7	0	0.00	368.05	
4	2.00	1	2	2	2	2	63.80	384.52	
5	2.00	0	0	0	0	1	0.00	387.41	
6	2.00	4	0	1	12	0	0.00	370.88	
7	2.00	3	1	0	6	1	25.93	385.95	
8	2.00	0	0	2	2	0	0.00	384.76	
9	2.00	0	0	1	0	0	0.00	403.23	

20 Sep 2007 09:48 Packard Instrument Company Page #1
Protocol #: 7 Swipes User : Lab Staff

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 50 keV
Bkg:	95.3	114	47.8
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
7	1	3.7	36.7	10.3	22.0	1.7	54.9	2.00
7	2	0.0		1.3	62.0	0.0		2.00
7	3	3.3	39.4	0.0		5.2	31.1	2.00
7	4	0.7	83.3	0.0		4.7	32.8	2.00
7	5	5.2	30.9	5.3	29.4	3.7	43.4	2.00
7	6	1.7	58.9	1.3	62.0	0.0		2.00
7	7	0.0		0.0		7.7	26.5	2.00
7	8	0.0		0.0		0.3	177	2.00
7	9	0.0		5.3	30.7	0.0		2.00
7	10	0.0		0.0		4.7	32.8	2.00
7	11	0.0		2.3	36.8	0.0		2.00
7	12	0.0		16.3	17.3	0.0		2.00
7	13	0.0		5.3	30.7	3.7	27.4	2.00
7	14	0.0		0.3	123	0.0		2.00
7	15	10.7	21.6	11.3	21.0	4.7	32.8	2.00
7	16	8.3	28.4	0.0		0.0		2.00
7	17	0.3	181	0.0		0.3		2.00
7	18	10.3	22.1	10.3	22.0	1.3	65.7	2.00

MCHL-HP (11-9d) April 23, 2007

MEMORANDUM FOR Dr. Prabhati Ray, Department of Experimental Therapeutic,
Radioactive Materials Authorization Number 659

SUBJECT: Radiological Safety Certification for Building 503 Room 2N22

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
503, WRAIR/NMRC	2N22

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
Radioactive Wash Sink	N/A	N/A	N/A
Thermo Forma Incubator	3110	45376-15447	P2810
Hamilton Fume Hood	N/A	N/A	EH-264

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

VANESSA COX
Health Physicist
Health Physics Office

Radiation Final Laboratory Summary Report

Room: 2N22 **Building:** 503, WRAIR

Authorization: 659 / Dr. Prabhati Ray

Department: Experimental Therapeutics

Radionuclides: C-14, Ca-45, H-3, P-32, I-125, and Cs-137

H-3 Use Only

HPO Surveyor: Ms. Cox

Inspection Date: 4/18/07

Meter Model: N/A

Meter Serial Number:

Calibration Due Date:

Room Checks

	Initials
All RAM removed from the room	✓
Radioactive waste removed	
All RAM use equipment cleared	
All radiation labels removed	
Entrance un-posted	

Administrative Checks

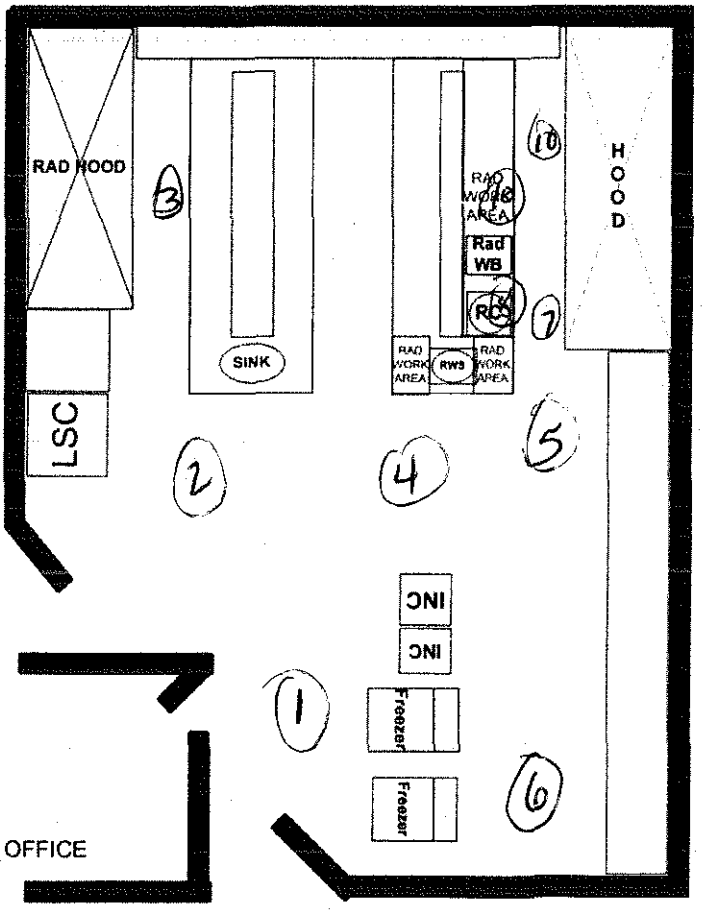
	Initials
Equipment / Room Final Forms Completed	

Additional Information:

Meter Readings

BKG		cpm
A		cpm
B		cpm
C		cpm
D		cpm
E		cpm
F		cpm
G		cpm

N/A



503/2N22

Date 4/15/07

Swipe Numbers 1-10

Laboratory Analysis

Technician DLG

Auto-gamma 01-10

LSC 02-11

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Last used 5/25/01 5mCi of H-3

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812\20070420_0812.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	7	5	0	0	38.27	401.46	B
2	2.00	0	1	0	0	1	0.00	378.79	
3	2.00	0	1	0	0	1	42.59	377.73	
4	2.00	0	1	0	0	2	535.27	392.03	
5	2.00	0	3	0	0	4	48.07	382.99	
6	2.00	0	0	0	0	0	0.00	373.01	
7	2.00	0	1	1	0	1	0.00	373.98	
8	2.00	0	0	0	0	0	0.00	386.07	
9	2.00	0	0	0	0	0	491.13	392.81	

10	2.00	0	0	0	0	0	0.00	393.92
11	2.00	0	3	0	0	4	31.42	376.46
12	2.00	0	0	0	0	0	0.00	385.82
13	2.00	0	2	0	0	3	100.39	390.00
14	2.00	0	1	0	0	1	0.00	409.50
15	2.00	0	2	0	0	2	15.55	389.40
16	2.00	0	0	0	0	0	0.00	386.01
17	2.00	0	0	0	0	0	28.23	387.80
18	2.00	0	1	0	0	1	215.61	389.12
19	2.00	0	0	0	0	0	0.00	373.71
20	2.00	0	3	0	0	4	15.83	431.47
21	2.00	0	2	0	0	3	47.30	380.34
22	2.00	0	0	0	0	0	0.00	412.21
23	2.00	0	0	0	0	0	5.12	391.29
24	2.00	0	0	0	0	0	0.00	384.63
25	2.00	0	2	0	0	3	0.00	388.79
26	2.00	0	0	0	0	0	0.00	384.40
27	2.00	0	0	0	0	0	0.00	382.31
28	2.00	0	0	0	0	0	0.00	422.49
29	2.00	0	1	0	0	1	0.00	385.37
30	2.00	0	1	0	0	2	0.00	380.98
31	2.00	0	0	0	0	0	0.00	383.50
32	2.00	0	2	0	0	2	42.59	387.25
33	2.00	0	0	0	0	0	0.00	383.72
34	2.00	0	0	0	0	0	503.17	396.66
35	2.00	0	2	0	0	3	10.63	394.65
36	2.00	0	0	0	0	0	0.00	359.65
37	2.00	0	0	0	0	0	20.94	387.94
38	2.00	0	1	1	0	2	1674.82	384.88
39	2.00	0	0	0	0	0	0.00	383.69
40	2.00	0	1	0	0	2	30.42	390.66
41	2.00	0	0	0	0	0	24.34	389.01
42	2.00	0	0	0	0	0	30.99	377.79
43	2.00	0	0	0	0	0	85.87	386.59
44	2.00	0	0	0	0	0	0.00	372.35

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Blg
Outlier: 3.0 FLAG
%Spillover: 0.00
%Spillback: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	17 - 350 keV	MAN	350 - 550 keV	MAN	550 - 2000 keV
Bkg:	34.7		113		47.3	
Sigma:	0.00		0.00		0.00	
LCS:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
KDV Flag Limit:	0.00		0.00			

Pg#	Sp#	A:CPM	A:%Eff	B:CPM	B:%Eff	C:CPM	C:%Eff	TIME
7	1	3.7	38.8	1.4	55.1	1.7	54.5	2.00
7	2	0.5	93.1	0.0		0.0		2.00
7	3	1.0		0.0		0.0		2.00
7	4	0.7	27.2	2.1	-8.5	0.0		2.00
7	5	1.6		1.3	26.3	0.0		2.00
7	6	1.0	74.1	0.0		0.0		2.00
7	7	0.0		0.0		2.3	48.1	2.00
7	8	7.3	26.2	0.0		0.7	67.0	2.00
7	9	0.0		3.1	40.0	5.7	25.7	2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		10.6	21.7	0.0		2.00
7	12	4.7	74.0	0.0		2.3	48.1	2.00
7	13	0.0		0.0		0.3	177	2.00
7	14	7.3	25.7	0.0		1.3	45.7	2.00
7	15	21.3	10.9	0.0		3.7	24.0	2.00
7	16	11.3	22.1	0.0		3.7	19.1	2.00
7	17	0.0		4.0	32.9	0.0		2.00
7	18	0.0		7.1	40.0	0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	8.7	21.9	6.1	38.6	0.0		2.00
7	21	2.0	42.1	3.6	32.2	0.0		2.00
7	22	0.0		0.0		0.0		2.00
7	23	4.3	12.1	0.0		5.3	31.1	2.00
7	24	10.3	21.5	0.6	89.5	4.7	72.2	2.00
7	25	2.3	45.4	16.1	17.2	0.0		2.00
7	26	7.3	27.3	0.0		0.0		2.00
7	27	0.0		1.1	66.5	0.0		2.00
7	28	0.0		3.6	27.9	0.0		2.00
7	29	11.3	21.4	0.0		0.0		2.00
7	30	7.3	26.7	0.0		0.0		2.00
7	31	4.3	72.0	3.1	17.1	0.0		2.00
7	32	0.0		0.1	274	0.0		2.00
7	33	0.0		0.0		4.3	21.4	2.00
7	34	0.0		0.0		0.0		2.00

P#	S#	A:CPM	A:DPS	B:CPM	B:DPS	C:CPM	C:DPS	TIME
7	25	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
7	26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
7	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
7	28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
7	30	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
7	31	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]
7	32	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]		[illegible]		[illegible]		[illegible]

Radiation Equipment Survey Report

Room: 2N22 **Building:** 503 **HPO Surveyor:** Ms. Cox

Authorization: 659 **Inspection Date:** 4/18/07

Department: Experimental Therapeutics **Meter Model:** N/A

Radionuclides: H-3 Use Only **Meter Serial Number:** N/A

Calibration Due Date: N/A

Equipment Information

Nomenclature: N/A
Manufacturer:
Model Number:
Serial Number:
MMCN:

Reason for Survey

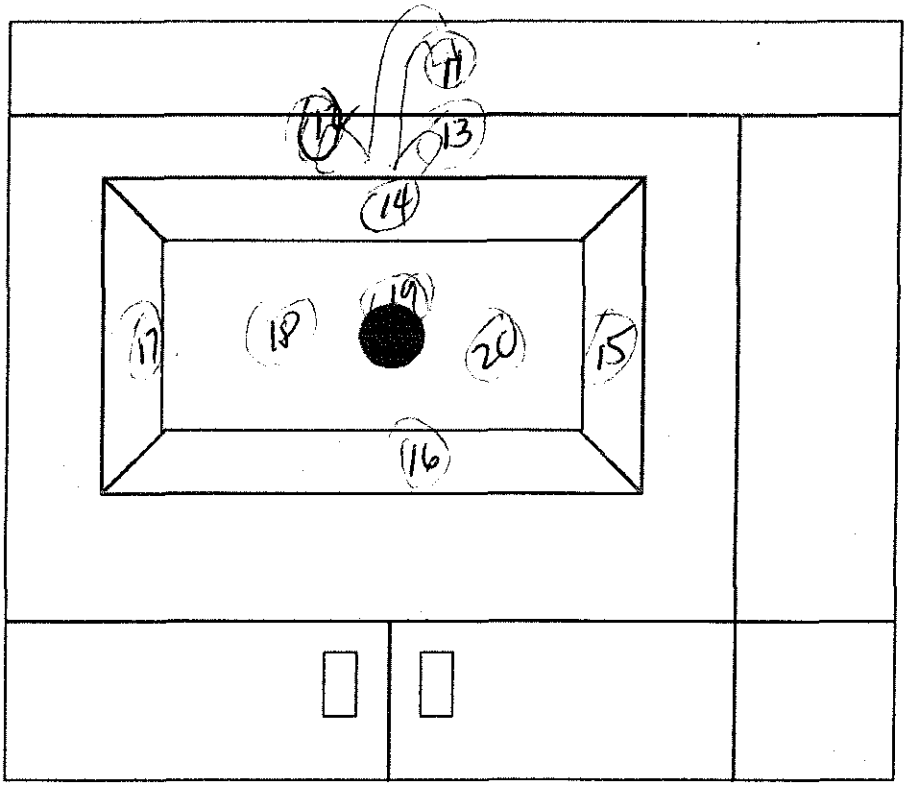
Mark a X for appropriate reason.

On/off-Site Repair:
Turn-in/ Transfer:
Administrative Hold:
Non RAM use only: X
Other:

Meter Readings

BKG	N/A	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

Rad Sink



Laboratory Analysis

Technician: Ms. Cox
Auto-gamma: 11-20
LSC: 12-21
Date: 4/19/07
Swipe Numbers: 11-20

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812\20070420_0812.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	7	5	0	0	38.27	401.46	B
2	2.00	0	1	0	0	1	0.00	378.79	
3	2.00	0	1	0	0	1	42.59	377.73	
4	2.00	0	1	0	0	2	535.27	392.03	
5	2.00	0	3	0	0	4	48.07	382.99	
6	2.00	0	0	0	0	0	0.00	373.01	
7	2.00	0	1	1	0	1	0.00	373.98	
8	2.00	0	0	0	0	0	0.00	386.07	
9	2.00	0	0	0	0	0	491.13	392.81	

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:	94.7		118		47.8	
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
7	1	3.3	38.8	1.6	55.6	1.7	54.9	2.00
7	2	0.8	78.1	0.0		0.0		2.00
7	3	0.0		0.0		0.0		2.00
7	4	9.3	23.2	2.1	48.6	0.0		2.00
7	5	0.0		7.1	26.5	0.0		2.00
7	6	7.3	26.1	0.0		0.0		2.00
7	7	0.0		0.0		2.2	48.1	2.00
7	8	3.8	36.2	0.0		0.7	87.0	2.00
7	9	0.0		3.1	40.0	5.7	29.7	2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		10.6	21.7	0.0		2.00
7	12	4.3	34.0	0.0		2.2	48.1	2.00
7	13	0.0		0.0		0.2	177	2.00
7	14	7.8	25.3	0.0		1.2	65.7	2.00
7	15	20.8	15.5	0.0		8.7	24.0	2.00
7	16	11.8	20.6	0.0		2.2	48.1	2.00
7	17	0.0		4.6	32.9	0.0		2.00
7	18	0.0		3.1	40.0	0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	8.3	24.5	6.1	28.6	0.0		2.00
7	21	2.8	42.1	9.6	22.8	0.0		2.00
7	22	0.0		0.0		0.0		2.00
7	23	4.8	32.2	0.0		5.2	31.1	2.00
7	24	10.8	21.5	0.6	89.8	4.7	32.8	2.00
7	25	2.3	46.4	16.1	17.6	0.0		2.00
7	26	7.8	25.3	0.0		0.0		2.00
7	27	0.0		1.1	66.8	0.0		2.00
7	28	0.0		9.6	22.8	0.0		2.00
7	29	11.3	21.0	0.0		0.0		2.00
7	30	3.8	36.2	0.0		0.0		2.00
7	31	4.3	34.0	17.1	17.1	0.0		2.00
7	32	0.0		0.1	204	0.0		2.00
7	33	0.0		0.0		6.7	27.4	2.00
7	34	0.0		0.0		0.0		2.00

Radiation Equipment Survey Report

Room: 2N22 **Building:** 503

Authorization: 659

Department: Experimental Therapeutics

Radionuclides: H-3 Only

HPO Surveyor: Ms. Cox

Inspection Date: 4/18/07

Meter Model: N/A

Meter Serial Number: N/A

Calibration Due Date: N/A

Equipment Information

Nomenclature: Incubator
Manufacturer: Thermo Forma
Model Number: 3110
Serial Number: 45376-5447
MMCN: P2810

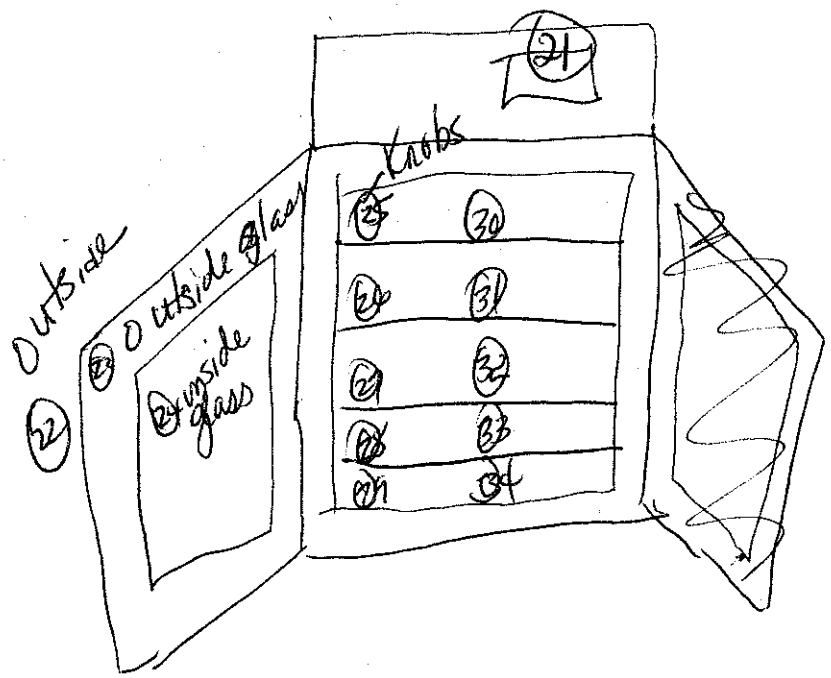
Reason for Survey

Mark a X for appropriate reason.

On/off-Site Repair: ___
Turn-in/ Transfer: ___
Administrative Hold: ___
Non RAM use only: ___
Other: ___

Meter Readings

BKG	N/A	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: MS. Cox

Auto-gamma: 7-21-34

LSC: 22-35

Date: 4/19/07

Swipe Numbers: 21-34

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

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

Completed

All swipes < 200 dpm

Comments

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812\20070420_0812.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	7	5	0	0	38.27	401.46	B
2	2.00	0	1	0	0	1	0.00	378.79	
3	2.00	0	1	0	0	1	42.59	377.73	
4	2.00	0	1	0	0	2	535.27	392.03	
5	2.00	0	3	0	0	4	48.07	382.99	
6	2.00	0	0	0	0	0	0.00	373.01	
7	2.00	0	1	1	0	1	0.00	373.98	
8	2.00	0	0	0	0	0	0.00	386.07	
9	2.00	0	0	0	0	0	491.13	392.81	

19 Apr 2007 09:56 Packard Instrument Company Page #1
Protocol #: 7 Swipes User : Lab Staff

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:	94.7		118		47.8	
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
7	1	3.3	38.8	1.6	55.6	1.7	54.9	2.00
7	2	0.8	78.1	0.0		0.0		2.00
7	3	0.0		0.0		0.0		2.00
7	4	9.3	23.2	2.1	48.6	0.0		2.00
7	5	0.0		7.1	26.5	0.0		2.00
7	6	7.3	26.1	0.0		0.0		2.00
7	7	0.0		0.0		2.2	48.1	2.00
7	8	3.8	36.2	0.0		0.7	87.0	2.00
7	9	0.0		3.1	40.0	5.7	29.7	2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		10.6	21.7	0.0		2.00
7	12	4.3	34.0	0.0		2.2	48.1	2.00
7	13	0.0		0.0		0.2	177	2.00
7	14	7.8	25.3	0.0		1.2	65.7	2.00
7	15	20.8	15.5	0.0		8.7	24.0	2.00
7	16	11.8	20.6	0.0		2.2	48.1	2.00
7	17	0.0		4.6	32.9	0.0		2.00
7	18	0.0		3.1	40.0	0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	8.3	24.5	6.1	28.6	0.0		2.00
7	21	2.8	42.1	9.6	22.8	0.0		2.00
7	22	0.0		0.0		0.0		2.00
7	23	4.8	32.2	0.0		5.2	31.1	2.00
7	24	10.8	21.5	0.6	89.8	4.7	32.8	2.00
7	25	2.3	46.4	16.1	17.6	0.0		2.00
7	26	7.8	25.3	0.0		0.0		2.00
7	27	0.0		1.1	66.8	0.0		2.00
7	28	0.0		9.6	22.8	0.0		2.00
7	29	11.3	21.0	0.0		0.0		2.00
7	30	3.8	36.2	0.0		0.0		2.00
7	31	4.3	34.0	17.1	17.1	0.0		2.00
7	32	0.0		0.1	204	0.0		2.00
7	33	0.0		0.0		6.7	27.4	2.00
7	34	0.0		0.0		0.0		2.00

Radiation Equipment Survey Report

Room: 2N22 **Building:** 503 **HPO Surveyor:** Ms Cox

Authorization: 659 **Inspection Date:** 4/18/07

Department: Experimental Therapeutics **Meter Model:** N/A

Radionuclides: H-3 Only **Meter Serial Number:** N/A

Calibration Due Date: N/A

Equipment Information

Nomenclature: Fume Hood
Manufacturer: Hamilton
Model Number: N/A
Serial Number: ~~EH-264~~ N/A
MMCN: ~~EH~~ EH-264

Reason for Survey

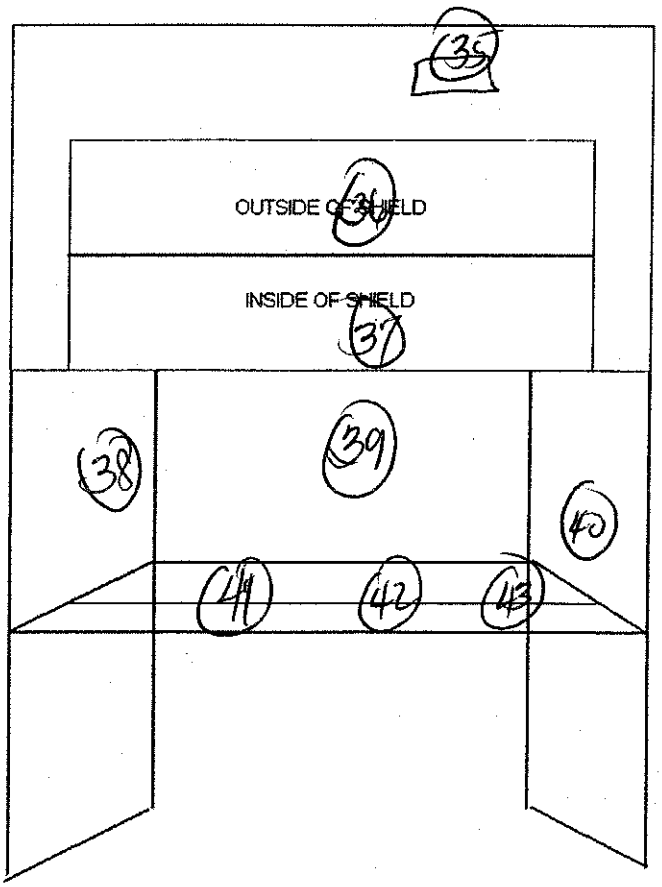
Mark a X for appropriate reason.

On/off-Site Repair: ___
Turn-in/ Transfer: ___
Administrative Hold: ___
Non RAM use only: X
Other: ___

Meter Readings

BKG	N/A	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

Fume Hood



Laboratory Analysis

Technician: MS. Cox
Date: 4/19/07
Auto-gamma: 35-43
LSC: 36-44
Swipe Numbers: 35-43

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

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

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20070420_0812\20070420_0812.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	7	5	0	0	38.27	401.46	B
2	2.00	0	1	0	0	1	0.00	378.79	
3	2.00	0	1	0	0	1	42.59	377.73	
4	2.00	0	1	0	0	2	535.27	392.03	
5	2.00	0	3	0	0	4	48.07	382.99	
6	2.00	0	0	0	0	0	0.00	373.01	
7	2.00	0	1	1	0	1	0.00	373.98	
8	2.00	0	0	0	0	0	0.00	386.07	
9	2.00	0	0	0	0	0	491.13	392.81	

Count Time(minutes): 2.00
Display 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:	94.7		118		47.8	
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
7	1	3.3	38.8	1.6	55.6	1.7	54.9	2.00
7	2	0.8	78.1	0.0		0.0		2.00
7	3	0.0		0.0		0.0		2.00
7	4	9.3	23.2	2.1	48.6	0.0		2.00
7	5	0.0		7.1	26.5	0.0		2.00
7	6	7.3	26.1	0.0		0.0		2.00
7	7	0.0		0.0		2.2	48.1	2.00
7	8	3.8	36.2	0.0		0.7	87.0	2.00
7	9	0.0		3.1	40.0	5.7	29.7	2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		10.6	21.7	0.0		2.00
7	12	4.3	34.0	0.0		2.2	48.1	2.00
7	13	0.0		0.0		0.2	177	2.00
7	14	7.8	25.3	0.0		1.2	65.7	2.00
7	15	20.8	15.5	0.0		8.7	24.0	2.00
7	16	11.8	20.6	0.0		2.2	48.1	2.00
7	17	0.0		4.6	32.9	0.0		2.00
7	18	0.0		3.1	40.0	0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	8.3	24.5	6.1	28.6	0.0		2.00
7	21	2.8	42.1	9.6	22.8	0.0		2.00
7	22	0.0		0.0		0.0		2.00
7	23	4.8	32.2	0.0		5.2	31.1	2.00
7	24	10.8	21.5	0.6	89.8	4.7	32.8	2.00
7	25	2.3	46.4	16.1	17.6	0.0		2.00
7	26	7.8	25.3	0.0		0.0		2.00
7	27	0.0		1.1	66.8	0.0		2.00
7	28	0.0		9.6	22.8	0.0		2.00
7	29	11.3	21.0	0.0		0.0		2.00
7	30	3.8	36.2	0.0		0.0		2.00
7	31	4.3	34.0	17.1	17.1	0.0		2.00
7	32	0.0		0.1	204	0.0		2.00
7	33	0.0		0.0		6.7	27.4	2.00
7	34	0.0		0.0		0.0		2.00

#8094

Radiation Lab Summary Report

Room: 2N47 **Building:** 503, WRAIR/NMRC

Authorization: 659, Dr. Prabhati Ray

Department: Experimental Therapeutics

Frequency: 90 Days

Radionuclides: C-14, Ca-45, H-3, P-32, I-125, and Cs-137

HPO Surveyor: Ms. Cox

Inspection Date: 7/16/08

Meter Model: N/A

Meter Serial Number:

Calibration Due Date:

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?		X	
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: N/A

User Inventory Log:

Isotope / Activity Used:

Max Daily Use: N/A

Lab Survey Meter:

Meter Model:

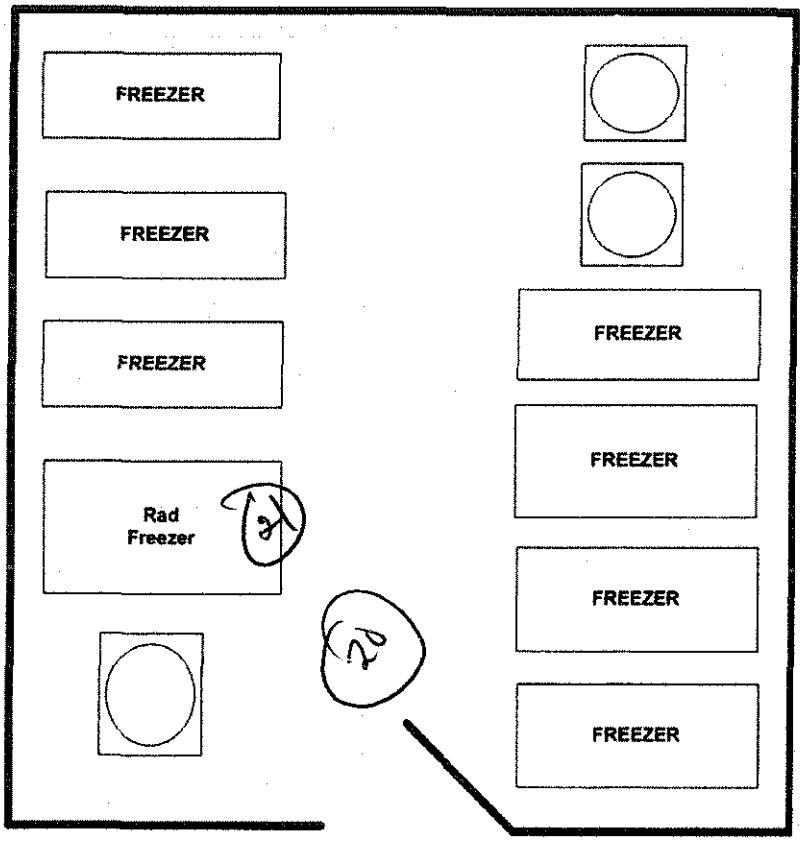
Serial Number: N/A

Calibration Due Date:

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

N/A



503_2N47

Laboratory Analysis

Date: 7/18/08

Swipe Numbers: 26-21

Technician: Ms. Cox

Auto-gamma: 20-21

LSC: 22-21

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	

8068

Radiation Lab Summary Report

Room: 1E26 **Building:** 503, WRAIR/NMRC

Authorization: 659, Dr. Prabhati Ray

Department: Experimental Therapeutics

Frequency: 90 Days

Radionuclides: C-14, Ca-45, Cs-137, H-3, I-125 and P-32

H-3 Use Only

HPO Surveyor: Ms. Cox

Inspection Date: 7/9/08

Meter Model: N/A

Meter Serial Number: N/A

Calibration Due Date:

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 5/24/07

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use:

Lab Survey Meter:

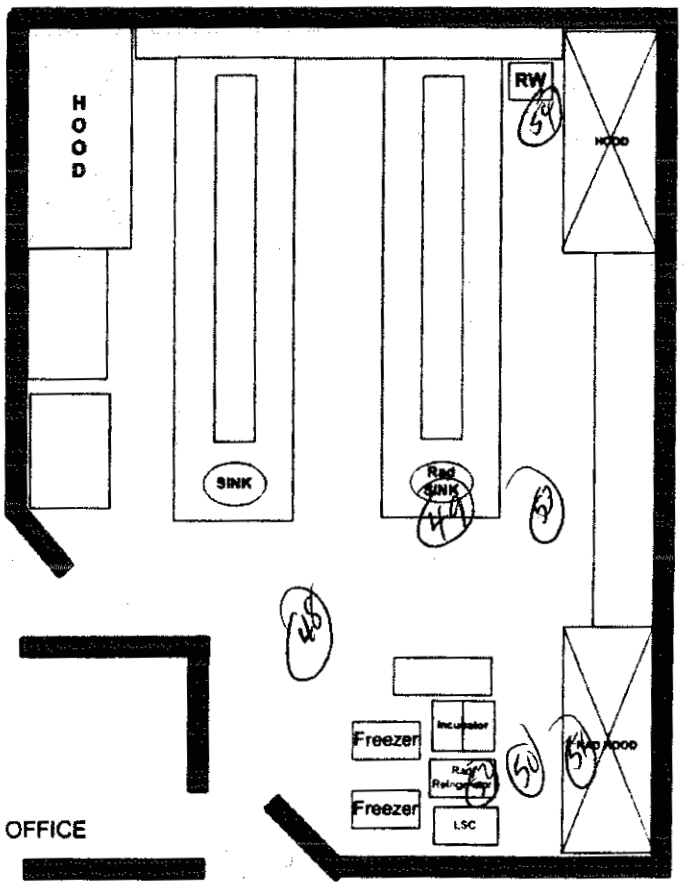
Model Number : N/A

Serial Number:

Calibration Due Date:

Meter Readings

BKG	N/A	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



503_1E26

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 1018-24

Date: 7/10/08

Swipe Numbers: 48-54

LSC: 1018-24

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801\20080711_0801.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	6	4	0	0	48.13	411.82	B
2	2.00	0	5	0	0	6	107.75	403.86	
3	2.00	0	0	2	0	0	0.00	390.11	
4	2.00	0	1	0	0	2	749.94	416.00	
5	2.00	0	5	3	0	6	87.05	409.35	
6	2.00	3	1	0	7	1	0.00	406.99	
7	2.00	0	0	0	0	1	0.00	421.10	
8	2.00	0	1	0	0	1	0.00	407.02	
9	2.00	0	1	0	0	1	117.08	403.20	

10	2.00	0	0	0	0	0	0.00	409.08
11	2.00	3	1	0	6	1	0.00	393.34
12	2.00	0	0	2	1	0	0.00	398.27
13	2.00	1	3	0	0	4	63.44	417.66
14	2.00	0	0	0	0	0	0.00	398.66
15	2.00	2	0	1	4	0	55.46	402.56
16	2.00	0	0	0	0	0	0.00	400.55
17	2.00	0	4	0	0	5	81.55	414.71
18	2.00	1	0	1	3	0	0.00	395.79
19	2.00	0	1	0	0	1	0.00	402.75
20	2.00	0	1	1	0	1	27.02	398.93
21	2.00	3	2	0	6	3	48.27	412.44
22	2.00	0	0	2	0	0	0.00	436.64
23	2.00	1	0	1	3	0	0.00	400.97
24	2.00	1	0	0	2	0	245.48	423.72
25	2.00	0	3	0	0	4	68.97	403.82
26	2.00	2	0	1	3	0	107.83	393.31
27	2.00	0	5	1	0	6	160.86	408.71
28	2.00	0	1	0	0	2	386.80	397.34
29	2.00	1	0	0	2	0	121.98	407.76
30	2.00	0	0	0	1	0	0.00	393.46
31	2.00	0	0	1	0	0	0.00	429.02
32	2.00	1	3	3	1	4	39.78	399.35
33	2.00	0	5	0	0	6	152.18	409.83
34	2.00	0	0	0	0	0	0.00	409.41
35	2.00	0	0	0	0	0	0.00	393.16
36	2.00	0	2	1	0	2	105.48	401.46
37	2.00	0	4	0	0	6	103.98	403.52

#8063

Radiation Lab Summary Report

Room: 2N34 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** M. Cox

Authorization: 659, Dr. Prabhati Ray **Inspection Date:** 7/9/08

Department: Experimental Therapeutics **Meter Model:** N/A

Frequency: 30 days **Meter Serial Number:** N/A

Radionuclide: H-3 use Only **Calibration Due Date:** N/A

Initial Checks

	Yes	No	NA
Is radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment used for rad use posted?	X		
Have the user performed surveys?	X		

Date Of Last User Survey: 5/18/08

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use:

Lab Survey Meter:

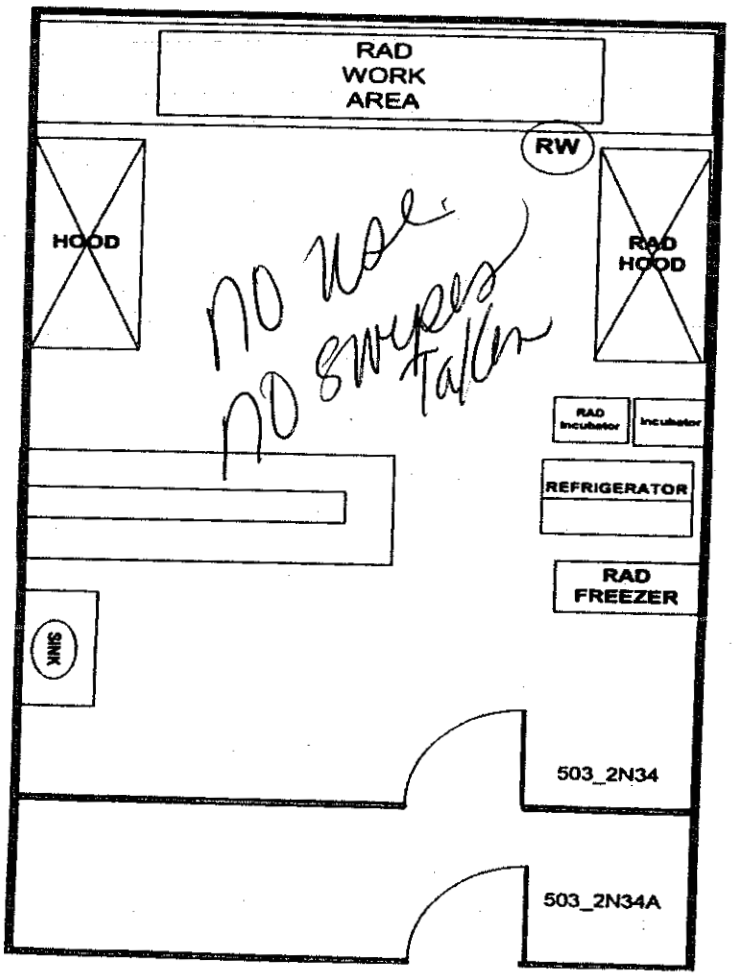
Meter Model: N/A

Meter Serial Number:

Calibration Due Date:

Meter Readings

BKG	N/A	cpm
A		cpm
B		cpm
C		cpm
D		cpm
E		cpm
F		cpm
G		cpm



Laboratory Analysis

Technician

Auto-gamma

LSC

Date

Swipe Numbers

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

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

Comments

Surveyor Comments

Radiation Lab Summary Report

Room: 3W50 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** [illegible]

Authorization: 671, Dr. Urszula Kryzch **Inspection Date:** 10/3/07

Department: Immunology **Meter Model:** N/A

Frequency: 90 Days **Meter Serial Number:** N/A

Radionuclides: Cr-51 and H-3 **Calibration Due Date:**

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

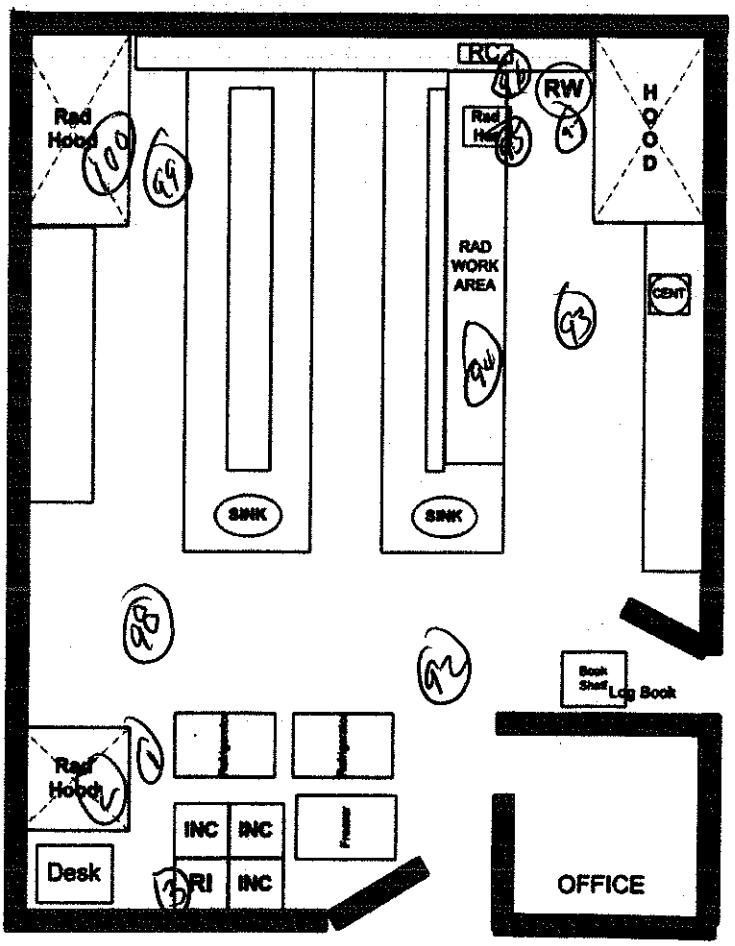
Date Of Last User Survey: 7/15/03

User Inventory Log:
Isotope / Activity Used: H-3 0.102mCi
Max Daily Use: 0.102 mCi

Lab Survey Meter:
Model Number : N/A
Serial Number:
Calibration Due Date:

Meter Readings

BKG	N/A	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



503_3W50

Laboratory Analysis

Technician: [illegible]
Auto-gamma: 11-22
LSC: 12-23
Date: 10/4/07
Swipe Numbers: 92-3

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

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

Comments:

Completed

All swipes < 200 dpm

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20071005_1004
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20071005_1004\20071005_1004.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	8	4	0	0	42.95	376.05	B
2	2.00	2	0	3	6	0	0.00	367.42	
3	2.00	0	0	0	0	0	0.00	361.70	
4	2.00	1	0	0	5	0	0.00	376.32	
5	2.00	0	0	0	0	0	0.00	375.06	
6	2.00	2	0	0	7	0	0.00	363.90	
7	2.00	0	0	0	0	0	0.00	375.27	
8	2.00	1	2	0	2	2	53.35	375.17	
9	2.00	0	0	0	1	0	0.00	363.44	

04 Oct 2007 09:36 Packard Instrument Company Page #1

Protocol #: 7 Swipes User : Lab Sta

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

	Window C	Window A		Window B	
Nuclide:	MAN	MAN	15 - 250 keV	MAN	250 -
	50 keV	950 - 2000 keV			
Bkg:	48.3	97.0		117	
Sigma:	0.00	0.00		0.00	
LCP:	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
7	1	0.0		0.0		5.2	31.1	2.00
7	2	0.0		9.8	22.5	0.0		2.00
7	3	0.0		0.3	121	0.0		2.00
7	4	0.0		0.3	121	2.7	43.4	2.00
7	5	0.0		4.8	72.1	5.2	31.1	2.00
7	6	2.5	44.9	8.3	24.5	0.0		2.00
7	7	5.0	31.7	0.0		2.2	48.1	2.00
7	8	0.0		10.8	21.5	0.0		2.00
7	9	0.0		10.3	22.0	0.0		2.00
7	10	8.5	24.3	0.0		6.2	28.5	2.00
7	11	1.5	58.1	0.0		0.0		2.00
7	12	0.0		4.3	33.9	4.2	34.7	2.00
7	13	0.0		9.8	22.8	0.0		2.00
7	14	4.5	33.4	0.0		0.0		2.00
7	15	3.0	41.0	0.0		7.2	26.4	2.00
7	16	1.0	71.4	9.3	23.1	4.2	34.7	2.00
7	17	0.0		5.8	27.2	2.2	48.1	2.00
7	18	0.0		0.3	121	1.7	54.9	2.00
7	19	1.0	71.4	0.0		14.7	18.5	2.00
7	20	1.0	71.4	0.0		0.0		2.00
7	21	0.0		0.0		1.2	65.7	2.00
7	22	4.5	33.4	1.7	61.1	0.0		2.00
7	23	8.5	24.7	0.0		4.7	32.8	2.00
7	24	0.0		0.0		4.7	32.8	2.00
7	25	10.0	22.4	0.0		3.7	37.0	2.00
7	26	0.0		9.3	23.1	1.7	54.9	2.00
7	27	1.0	71.4	0.8	77.2	8.3	23.4	2.00
7	28	0.0		0.0		4.2	34.7	2.00
7	29	0.0		11.8	20.5	2.7	43.4	2.00
7	30	0.0		0.0		0.7	87.0	2.00
7	31	0.0		10.3	22.0	3.7	37.0	2.00
7	32	1.5	58.1	0.0		1.7	54.9	2.00
7	33	0.0		0.0		0.0		2.00
7	34	0.0		0.0		2.7	43.4	2.00

#7931

Radiation Lab Summary Report

Room: 3W71 **Building:** 503, WRAIR/NMRC

Authorization: 671, Dr. Urszula Krzych

Department: Immunology

Frequency: 90 days

Radionuclides: Cr-51 and H-3

HPO Surveyor: Ms. Cox

Inspection Date: 6/4/08

Meter Model Number: N/A

Meter Serial Number:

Calibration Due Date:

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

Maximum Daily Use:

Lab Survey Meter:

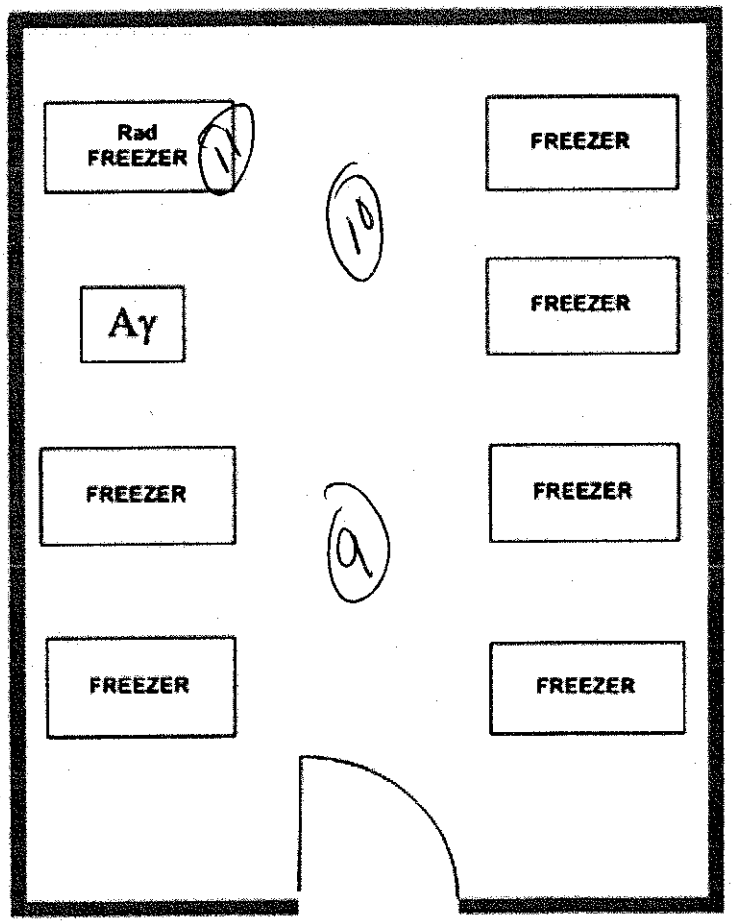
Model Meter Number: N/A

Serial Number:

Calibration Due Date:

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



503_3W71

Date 6/5/08

Swipe Numbers 9-11

Laboratory Analysis

Technician Ms. Cox

Auto-gamma 10-12

LSC 10-12

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 05-Jun-2008 09:53:34

Protocol id 1 ROUTINE2
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 28-Mar-2008 09:32:23
Run id. 66

				15-1024			1k-2k		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	309	18.0	89.49	41	-5.4	66.36
2	1	2	120	296	0.0	224.05	58	3.1	133.35
3	1	3	120	294	3.8	293.31	51	-0.4	907.82
4	1	4	120	278	-6.3	190.64	54	1.1	364.66
5	1	5	120	269	-12.1	97.11	56	2.1	193.96
6	1	6	120	255	-17.8	54.21	54	1.1	368.09
7	1	7	120	265	-16.8	79.43	60	4.1	102.29
8	1	8	120	299	2.2	165.75	57	2.6	158.44
9	1	9	120	274	-10.3	133.80	57	2.6	157.83
10	1	10	120	269	-6.7	97.11	48	-1.9	201.04
11	2	11	120	305	18.0	109.48	38	-6.9	50.39
12	2	12	120	301	14.7	141.39	40	-5.9	60.02
13	2	13	120	300	5.4	152.58	53	0.6	674.87
14	2	14	120	287	-0.4	3050.48	52	0.1	3948.87
15	2	15	120	280	-1.2	242.13	48	-1.9	199.90

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080605_1058
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080605_1058\20080605_1058.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	5	4	0	0	48.86	429.66	B
2	2.00	0	1	0	0	1	1607.41	470.89	
3	2.00	0	2	1	0	3	77.14	424.77	
4	2.00	3	1	0	6	1	21.78	436.51	
5	2.00	2	0	1	5	0	0.95	431.92	
6	2.00	0	0	0	0	0	0.00	422.38	
7	2.00	0	3	0	0	4	133.66	437.02	
8	2.00	2	2	0	2	2	55.48	436.21	
9	2.00	4	1	0	8	1	34.22	420.39	

#7930

Radiation Lab Summary Report

Room: 3W50 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 671, Dr. Urszula Kryzch **Inspection Date:** 6/4/08

Department: Immunology **Meter Model:** N/A

Frequency: 90 Days

Radionuclides: Cr-51 and H-3 **Meter Serial Number:** N/A

Calibration Due Date:

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 7/15/03

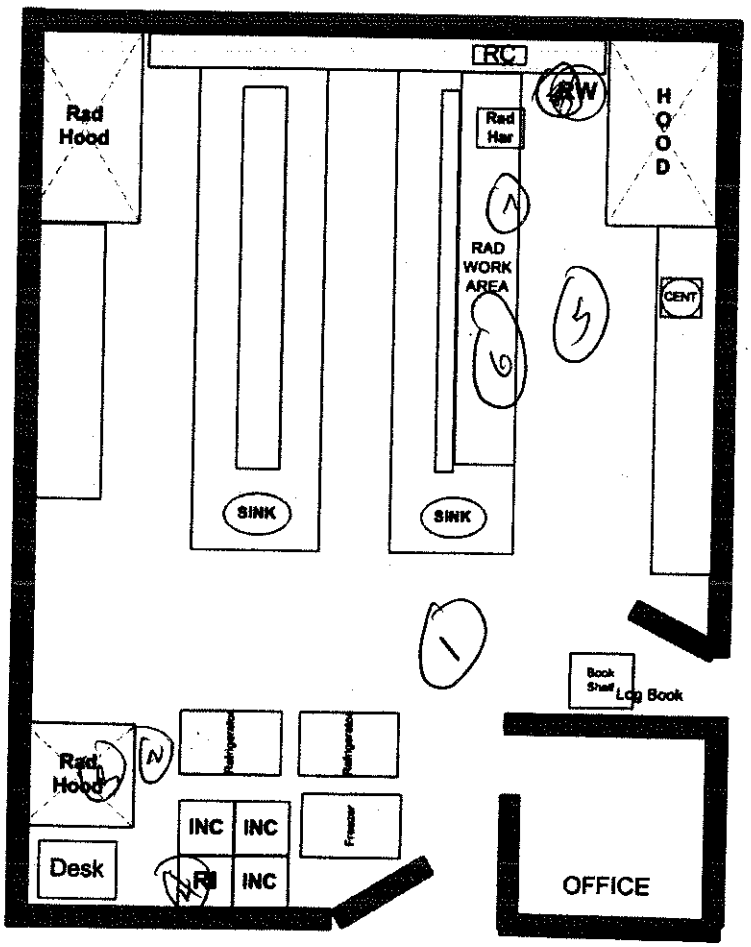
User Inventory Log:
Isotope / Activity Used: N/A
Max Daily Use:

Lab Survey Meter:
Model Number :
Serial Number: N/A
Calibration Due Date:

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

N/A



503_3W50

Laboratory Analysis Ms. Cox

Date 6/5/08

Swipe Numbers 1-8

Technician

Auto-gamma 1-4

LSC 5-8

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 05-Jun-2008 09:53:34

Protocol id	1 ROUTINE2
Time limit	120
Count limit	99999999
Dual isotopes	15-1024 + 1k-2k
Protocol date	28-Mar-2008 09:32:23
Run id.	66

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	309	18.0	89.49	41	-5.4	66.36
2	1	2	120	296	0.0	224.05	58	3.1	133.35
3	1	3	120	294	3.8	293.31	51	-0.4	907.82
4	1	4	120	278	-6.3	190.64	54	1.1	364.66
5	1	5	120	269	-12.1	97.11	56	2.1	193.96
6	1	6	120	255	-17.8	54.21	54	1.1	368.09
7	1	7	120	265	-16.8	79.43	60	4.1	102.29
8	1	8	120	299	2.2	165.75	57	2.6	158.44
9	1	9	120	274	-10.3	133.80	57	2.6	157.83
10	1	10	120	269	-6.7	97.11	48	-1.9	201.04
11	2	11	120	305	18.0	109.48	38	-6.9	50.39
12	2	12	120	301	14.7	141.39	40	-5.9	60.02
13	2	13	120	300	5.4	152.58	53	0.6	674.87
14	2	14	120	287	-0.4	3050.48	52	0.1	3948.87
15	2	15	120	280	-1.2	242.13	48	-1.9	199.90

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080605_1058
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080605_1058\20080605_1058.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	5	4	0	0	48.86	429.66	B
2	2.00	0	1	0	0	1	1607.41	470.89	
3	2.00	0	2	1	0	3	77.14	424.77	
4	2.00	3	1	0	6	1	21.78	436.51	
5	2.00	2	0	1	5	0	0.95	431.92	
6	2.00	0	0	0	0	0	0.00	422.38	
7	2.00	0	3	0	0	4	133.66	437.02	
8	2.00	2	2	0	2	2	55.48	436.21	
9	2.00	4	1	0	8	1	34.22	420.39	

10	2.00	1	1	1	2	1	27.49	417.34
11	2.00	1	1	0	2	2	23.09	412.45
12	2.00	0	0	1	1	0	0.00	424.57
13	2.00	3	1	0	5	2	4.36	419.31
14	2.00	1	2	1	0	2	64.31	413.46
15	2.00	0	5	0	0	6	67.94	426.37

#7929

Radiation Lab Summary Report

Room: 3W110 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Coy

Authorization: 671, Dr. Urszula Kryzch **Inspection Date:** 6/4/08

Department: Immunology

Frequency: 90 Days **Meter Model:** N/A

Radionuclides: Cr-51 and H-3 **Meter Serial Number:** N/A

Read H-3 Plates Only **Calibration Due Date:** N/A

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?			X
Is the room posted?	X		
Is the work area posted?			X
Is equipment use for rad use posted?			X
Have user performed surveys ?			X

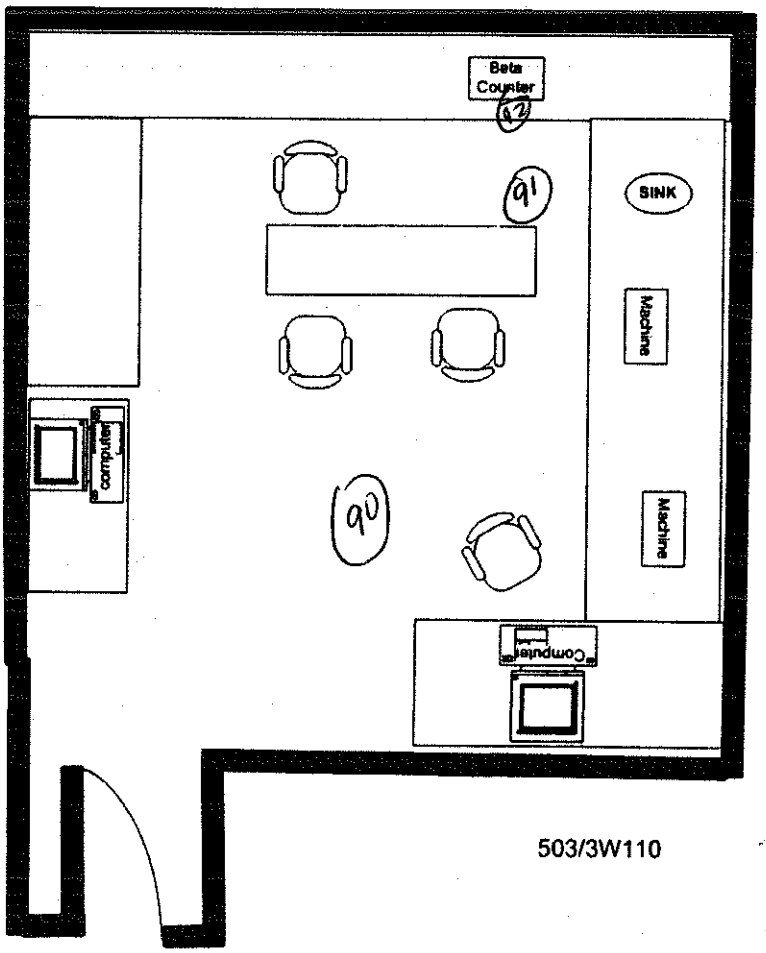
Date Of Last User Survey: N/A

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

Lab Survey Meter:
Model Number : N/A
Serial Number: N/A
Calibration Due Date: N/A

Meter Readings

BKG	N/A	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



503/3W110

Date 6/5/08

Swipe Numbers 90-92

Laboratory Analysis

Technician Ms. Coy

Auto-gamma 13-15

LSC 13-15

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 05-Jun-2008 09:53:34

Protocol id 1 ROUTINE2
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 28-Mar-2008 09:32:23
Run id. 66

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	309	18.0	89.49	41	-5.4	66.36
2	1	2	120	296	0.0	224.05	58	3.1	133.35
3	1	3	120	294	3.8	293.31	51	-0.4	907.82
4	1	4	120	278	-6.3	190.64	54	1.1	364.66
5	1	5	120	269	-12.1	97.11	56	2.1	193.96
6	1	6	120	255	-17.8	54.21	54	1.1	368.09
7	1	7	120	265	-16.8	79.43	60	4.1	102.29
8	1	8	120	299	2.2	165.75	57	2.6	158.44
9	1	9	120	274	-10.3	133.80	57	2.6	157.83
10	1	10	120	269	-6.7	97.11	48	-1.9	201.04
11	2	11	120	305	18.0	109.48	38	-6.9	50.39
12	2	12	120	301	14.7	141.39	40	-5.9	60.02
13	2	13	120	300	5.4	152.58	53	0.6	674.87
14	2	14	120	287	-0.4	3050.48	52	0.1	3948.87
15	2	15	120	280	-1.2	242.13	48	-1.9	199.90

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080605_1058
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080605_1058\20080605_1058.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	5	4	0	0	48.86	429.66	B
2	2.00	0	1	0	0	1	1607.41	470.89	
3	2.00	0	2	1	0	3	77.14	424.77	
4	2.00	3	1	0	6	1	21.78	436.51	
5	2.00	2	0	1	5	0	0.95	431.92	
6	2.00	0	0	0	0	0	0.00	422.38	
7	2.00	0	3	0	0	4	133.66	437.02	
8	2.00	2	2	0	2	2	55.48	436.21	
9	2.00	4	1	0	8	1	34.22	420.39	

Radiation Equipment Survey Report

Room: 2N42
Building: 503
HPO Surveyor: MS-Cox
Authorization: 703
Inspection Date: 5/17/07
Department: Biochemistry
Meter Model: N/A
Frequency: N/A
Meter Serial Number: N/A
Radionuclides: H-3
Calibration Due Date: N/A

Equipment Information

Nomenclature: N/A
Manufacturer: N/A
Model Number: N/A
Serial Number: N/A
MMCN: N/A

Reason for Survey

Mark a X for appropriate reason.

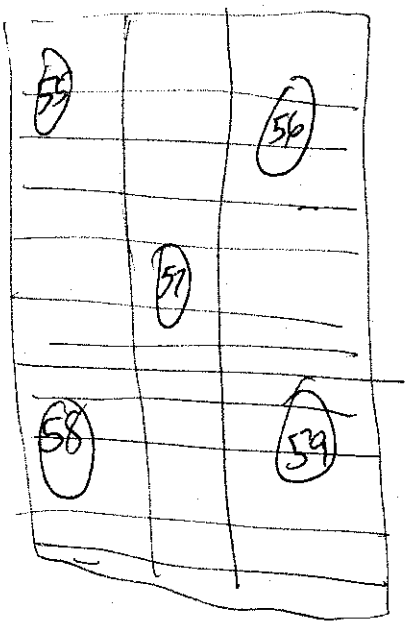
On/off-Site Repair: ___
Turn-in/ Transfer: X
Administrative Hold: ___
Non RAM use only: ___
Other: ___

Meter Readings

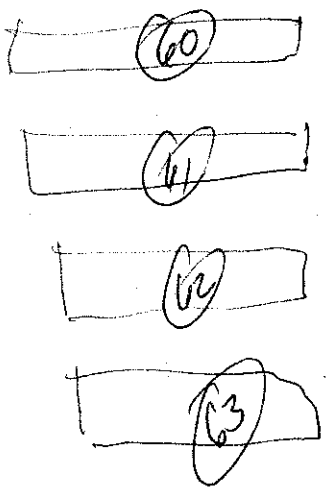
BKG	N/A	cpm mR/hr
A		cpm mR/hr
B		cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr

Equipment

LSC Racks



LSC Racks



Laboratory Analysis

Technician: MS. Cox
Auto-gamma: 8-16
LSC: 9-17
Date: 5/15/07
Swipe Numbers:

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20070518_1050
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20070518_1050\20070518_1050.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	8	5	0	0	50.44	459.11	B
2	2.00	3	2	1	6	3	31.76	389.01	
3	2.00	0	2	0	0	3	0.00	348.33	
4	2.00	0	0	0	0	0	0.00	388.82	
5	2.00	0	0	0	0	0	0.00	385.57	
6	2.00	0	0	0	0	0	0.00	362.87	
7	2.00	0	0	0	0	0	0.00	385.41	
8	2.00	0	0	0	0	0	0.00	365.21	
9	2.00	0	1	0	0	1	0.00	378.93	

18 May 2007 08:47 Packard Instrument Company Page #1

Protocol #: 8 Swipes User : Hist

Count Time minutes: 3.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window C	Window A		Window B	
Nuclide:	MAN	MAN	15 - 250 keV	MAN	250 -
	50 keV	850 - 1000 keV			
Bkg:	48.6	94.7		111	
Sigma:	0.00	0.00		0.00	
LCB:	0	0		0	
Half Life hours:		1.00		0.00	
Multiplier:		1.0000			
MCV Flag Limit:		0.10		0.00	

F#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
8	1	12.8	19.2	3.0		3.8	74.5	1.00
8	2	12.8	19.8	0.0		7.4	28.1	1.00
8	3	8.8	22.8	1.0		[illegible]	[illegible]	1.00
8	4	13.5	18.2	3.0		1.4	48.8	1.00
8	5	12.8	19.2	3.0		[illegible]	[illegible]	1.00
8	6	6.8	22.1	[illegible]		7.4	45.8	1.00
8	7	14.8	18.4	0.0		[illegible]	[illegible]	1.00
8	8	[illegible]	28.1	4.8	35.6	[illegible]	[illegible]	1.00
8	9	[illegible]		15.5	17.7	1.4	54.5	1.00
8	10	[illegible]	138	[illegible]	[illegible]	[illegible]	[illegible]	1.00
8	11	1.8	47.0	0.0	4[illegible].7	0.4	111	1.00
8	12	8.8	28.1	[illegible]	[illegible]	[illegible]	[illegible]	1.00
8	13	3.0		1.5	57.4	[illegible]	[illegible]	1.00
8	14	0.0		2.5	[illegible]	0.9	74.5	1.00
8	15	0.0		10.0	[illegible]	[illegible]	[illegible]	1.00
8	16	[illegible]		4.[illegible]	38.7	1.8	41.8	1.00

8096

Radiation Lab Summary Report

Room: 2N24 **Building:** 503, WRAIR/NMRC

Authorization: 703, Dr. Richard Gordon

Department: Biochemistry

Frequency: 90 Days

Radionuclides: C-14, Ca-45, H-3, P-32, I-125, and Cs-137

HPO Surveyor: MS. COX

Inspection Date: 7/18/08

Meter Model: Geiger

Meter Serial Number: 11974

Calibration Due Date: 10/12/08

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 07/5/01

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use:

Lab Survey Meter:

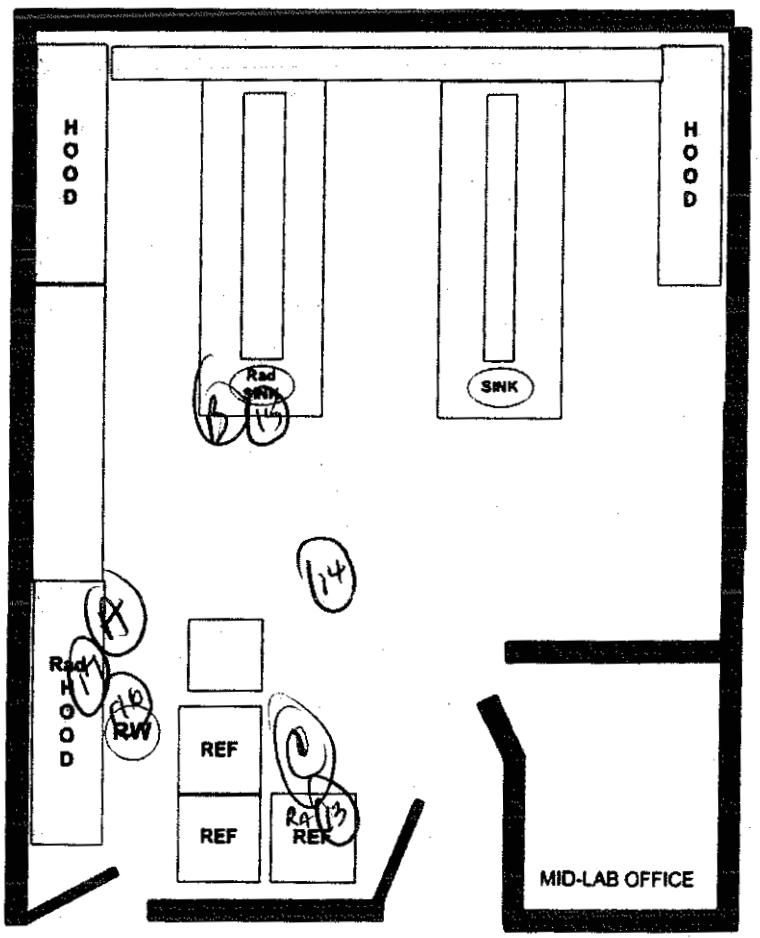
Meter Model : SAME

Serial Number:

Calibration Due Date:

Meter Readings

BKG	200	cpm mR/hr
A	200	cpm mR/hr
B	200	cpm mR/hr
C	200	cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr



503_2N24

Laboratory Analysis

Technician: MS. Cox

Auto-gamma: 13-17

LSC: 14-19

Date: 7/17/08

Swipe Numbers: 13-17

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

#8097

Radiation Lab Summary Report

Room: 2N42 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 703, Dr. Richard Gordon **Inspection Date:** 7/16/08

Department: Experimental Therapeutics

Frequency: 90 Days **Meter Model:** N/A

Radionuclides: C-14, Ca-45, H-3, P-32, I-125, and Cs-137 **Meter Serial Number:** N/A

H-3 Use Only **Calibration Due Date:**

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?	X		

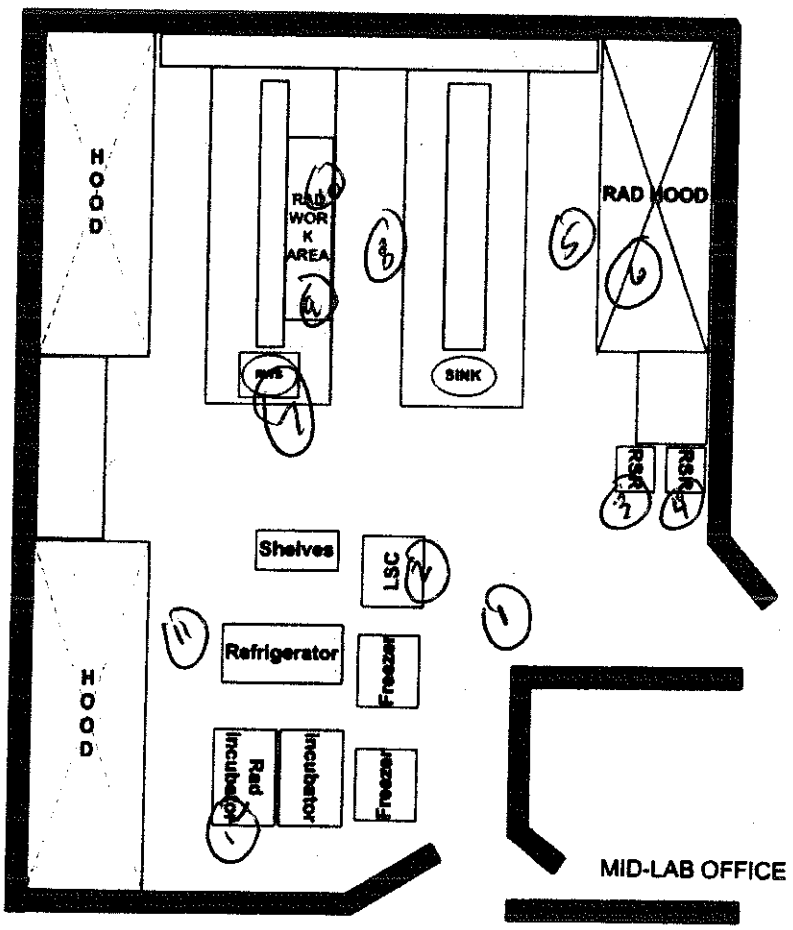
Date Of Last User Survey: 6/12/08

User Inventory Log:
Isotope / Activity Used: H-3 / 0.005 mCi
Max Daily Use: 0.0076 mCi

Lab Survey Meter:
Model Number : N/A
Serial Number:
Calibration Due Date:

Meter Readings

BKG	N/A	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



503_2N42

Laboratory Analysis

Technician: Ms. Cox
Auto-gamma: 1-12
LSC: 2-13
Date: 7/17/08
Swipe Numbers: 1-12

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	

#8061

Radiation Lab Summary Report

Room: 2N58
Building: 503, WRAIR/NMRC
HPO Surveyor: Ms. Cox
Authorization: 705, Dr. Thomas Hudson
Department: Experimental Therapeutics
Inspection Date: 7/9/08
Frequency: 30 Days
Meter Model: N/A
Radionuclides: C-14, H-3, P-32, P-33, Ra-226 and S-35
Meter Serial Number: N/A
H-3 Use Only
Calibration Due Date: N/A

Initial Checks

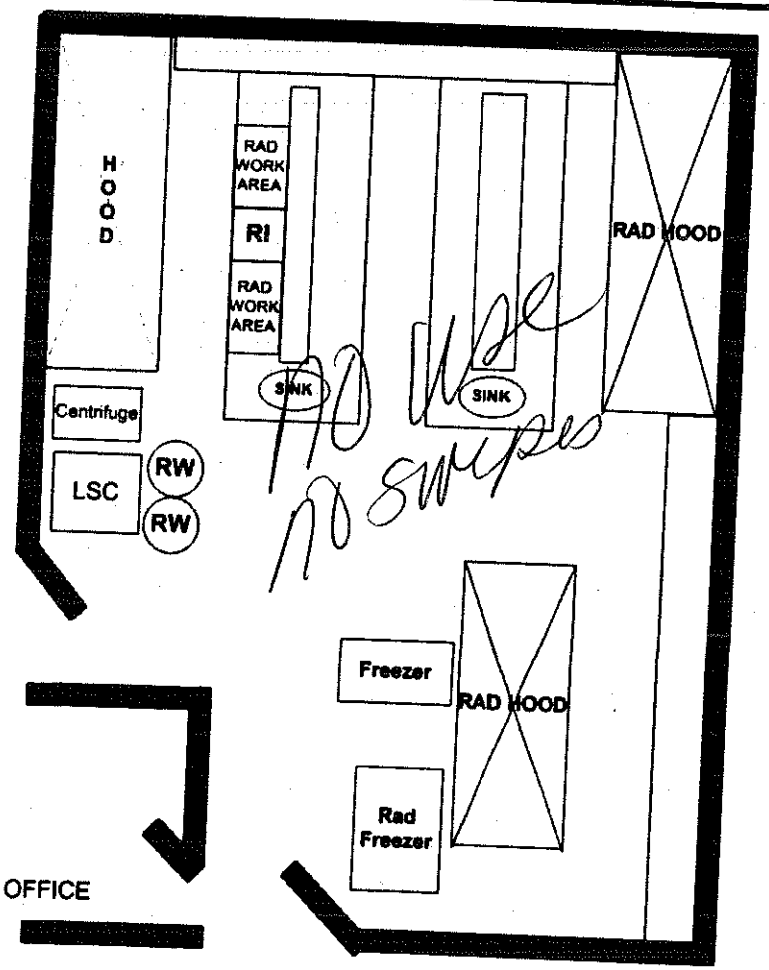
	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?	X		

Date Of Last User Survey: 5/30/08

User Inventory Log:
Isotope / Activity Used: N/A
Max Daily Use:
Lab Survey Meter:
Model Number : N/A
Serial Number:
Calibration Due Date:

Meter Readings

BKG	N/A	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



503_2N58

Laboratory Analysis

Date
Swipe Numbers
LSC
Technician
Auto-gamma

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

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

Comments

Surveyor Comments

#8123

Radiation Lab Summary Report

Room: 2N48 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 705, Dr. Thomas Hudson **Inspection Date:** 7/25/08

Department: Experimental Therapeutics

Frequency: Weekly **Meter Model:** Geiger

Radionuclides: H-3 **Meter Serial Number:** 11976

Calibration Due Date: 10/12/08

Survey Checks

	Yes	No	NA
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment posted?	X		
Have the user performing surveys ?			X

Date Of Last User Survey: 2/22/07

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use:

Lab Survey Meter:

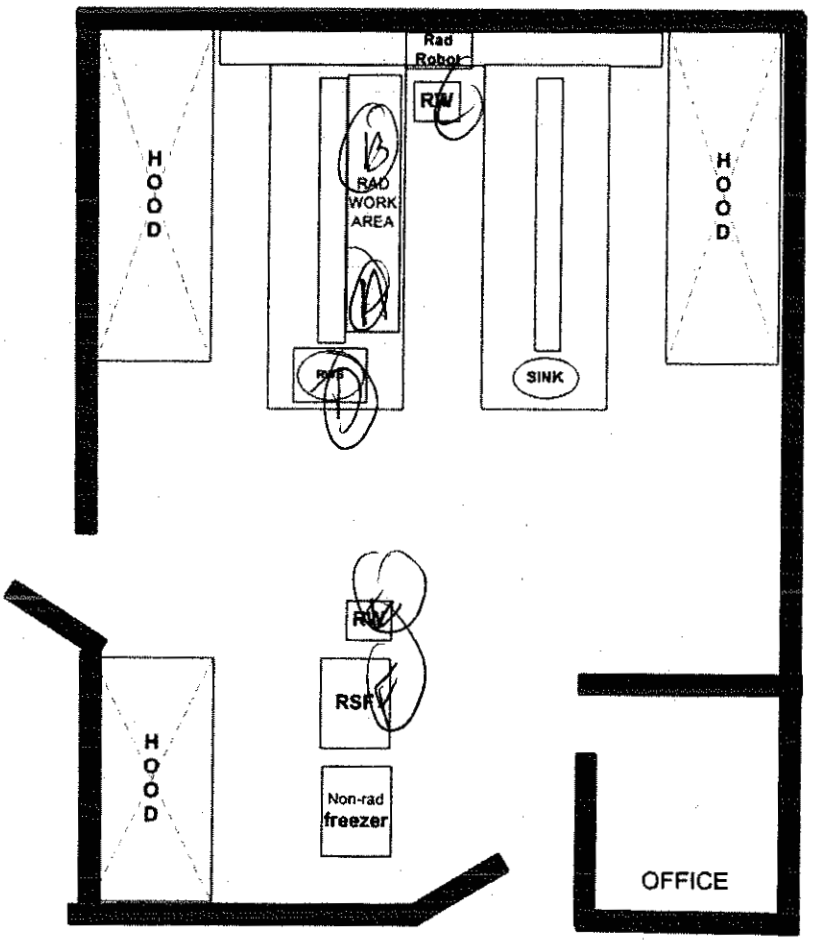
Model Number : Same

Serial Number: Same

Calibration Due Date: Same

Meter Readings

BKG	<100	cpm
A	<100	cpm
B	"	cpm
C	"	cpm
D	"	cpm
E	"	cpm
F	<100	cpm
G		cpm



503/2N48

Laboratory Analysis

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

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

Technician

Auto-gamma

LSC

Swipe Numbers

Date

Comments

Surveyor Comments

Radiation Lab Summary Report

Room: 3E12 **Building:** 503, WRAIR/NMRC

Authorization: 706, Dr. Patricia Guerry-Kopecko

Department: NMRC / Enteric Diseases

Frequency: 90 Days

Radionuclides: H-3, P-32, and S-35

HPO Surveyor: M. Cox

Inspection Date: 10/3/07

Meter Model: Geiger

Meter Serial Number: 18176

Calibration Due Date: 11/13/07

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?		X	
Is the room posted?	X		
Is the work area posted?	X		
Is equipment used for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 11/2/04

User Inventory Log:

Isotope / Activity Used: P32/0.5mCi

Max Daily Use: 0.5mCi

Lab Survey Meter:

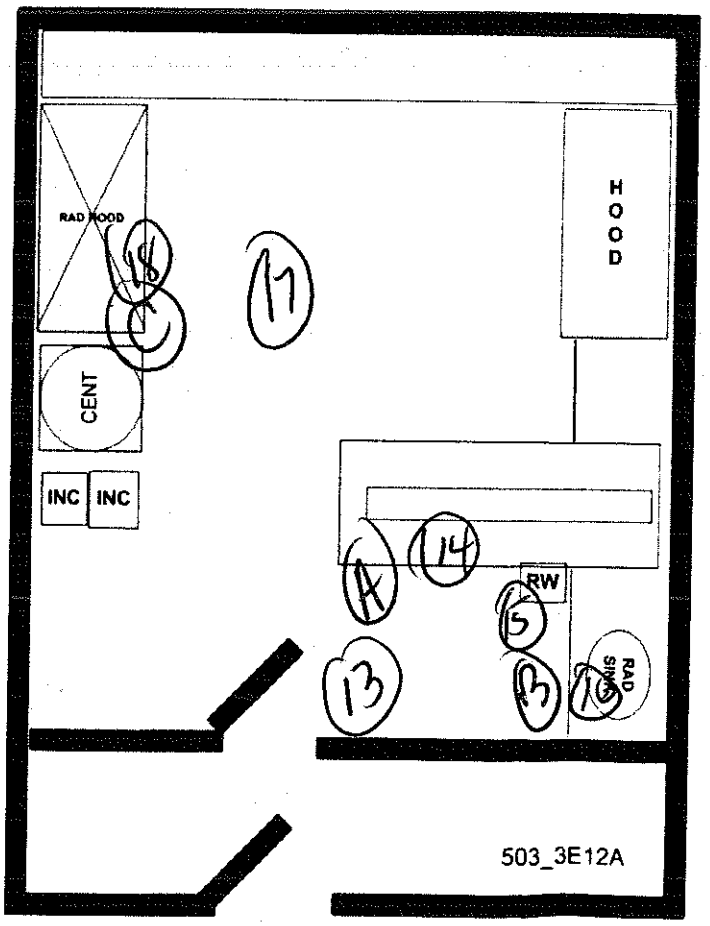
Meter Model : SAME

Serial Number

Calibration Due Date:

Meter Readings

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



503_3E12

Date 10/4/07

Swipe Numbers 13 - 18

Laboratory Analysis

Technician MS. Cx

Auto-gamma 32 - 37

LSC 33-38

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20071005_1004
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20071005_1004\20071005_1004.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	8	4	0	0	42.95	376.05	B
2	2.00	2	0	3	6	0	0.00	367.42	
3	2.00	0	0	0	0	0	0.00	361.70	
4	2.00	1	0	0	5	0	0.00	376.32	
5	2.00	0	0	0	0	0	0.00	375.06	
6	2.00	2	0	0	7	0	0.00	363.90	
7	2.00	0	0	0	0	0	0.00	375.27	
8	2.00	1	2	0	2	2	53.35	375.17	
9	2.00	0	0	0	1	0	0.00	363.44	

04 Oct 2007 09:36 Packard Instrument Company Page #1

Protocol #: 7 Swipes User : Lab Sta

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	MAN	MAN
	950 - 2000 keV	15 - 250 keV	50 keV - 250 -
Bkg:	97.0	117	48.3
Sigma:	0.00	0.00	0.00
LCP:	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
7	1	0.0		0.0		5.2	31.1	2.00
7	2	0.0		9.8	22.5	0.0		2.00
7	3	0.0		0.3	121	0.0		2.00
7	4	0.0		0.3	121	2.7	43.4	2.00
7	5	0.0		4.8	32.1	5.2	31.1	2.00
7	6	2.5	44.9	8.3	24.5	0.0		2.00
7	7	5.0	31.7	0.0		2.2	48.1	2.00
7	8	0.0		10.8	21.5	0.0		2.00
7	9	0.0		10.3	22.0	0.0		2.00
7	10	8.5	24.3	0.0		6.2	28.5	2.00
7	11	1.5	58.1	0.0		0.0		2.00
7	12	0.0		4.3	33.9	4.2	34.7	2.00
7	13	0.0		8.8	23.8	0.0		2.00
7	14	4.5	33.4	0.0		0.0		2.00
7	15	3.0	41.0	0.0		7.2	26.4	2.00
7	16	1.0	71.4	9.3	23.1	4.2	34.7	2.00
7	17	0.0		5.8	28.3	2.2	48.1	2.00
7	18	0.0		0.3	121	1.7	54.9	2.00
7	19	1.0	71.4	0.0		14.7	18.5	2.00
7	20	1.0	71.4	0.0		0.0		2.00
7	21	0.0		0.0		1.2	65.7	2.00
7	22	4.5	32.4	1.2	61.1	0.0		2.00
7	23	8.5	24.7	0.0		4.7	32.8	2.00
7	24	0.0		0.0		4.7	32.8	2.00
7	25	10.0	22.4	0.0		3.7	37.0	2.00
7	26	0.0		9.3	23.1	1.7	54.9	2.00
7	27	1.0	71.4	0.8	77.2	9.2	23.4	2.00
7	28	0.0		0.0		4.2	34.7	2.00
7	29	0.0		11.8	20.5	2.7	43.4	2.00
7	30	0.0		0.0		0.7	87.0	2.00
7	31	0.0		10.3	22.0	3.7	37.0	2.00
7	32	1.5	58.1	0.0		1.7	54.9	2.00
7	33	0.0		0.0		0.0		2.00
7	34	0.0		0.0		2.7	43.4	2.00

#7965

Radiation Lab Summary Report

Room: 3E14 **Building:** 503, WRAIR/NMRC

Authorization: 706, Dr. Patricia Guerry-Kopecko

Department: NMRC / Enteric Diseases

Frequency: 90 Days

Radionuclides: H-3, P-32, and S-35

HPO Surveyor: Ms. Cox

Inspection Date: 6/11/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: N/A

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use:

Lab Survey Meter:

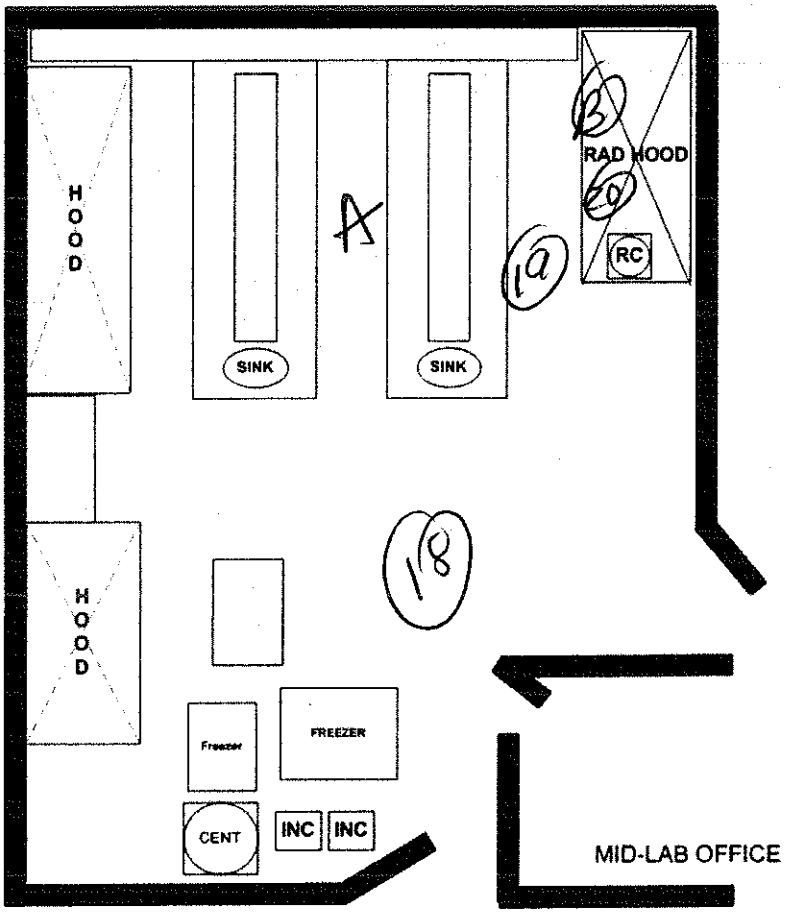
Meter Model : SAME

Serial Number:

Calibration Due Date:

Meter Readings

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



503_3E14

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 14-16

LSC: 14-16

Date: 6/12/08

Swipe Numbers: 18-20

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 12-Jun-2008 07:29:17

Protocol id	2 ROUTINE3
Time limit	120
Count limit	99999999
Dual isotopes	15-1024 + 1k-2k
Protocol date	09-Feb-2006 10:59:54
Run id.	76

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	249	-24.1	45.37	59	3.6	115.67
2	1	2	120	266	-17.0	83.32	61	4.6	91.82
3	1	3	120	289	4.6	1317.88	46	-2.9	129.44
4	1	4	120	271	1.0	109.13	38	-6.9	50.39
5	1	5	120	257	-19.5	57.94	58	3.1	133.36
6	1	6	120	292	4.8	423.66	48	-1.9	201.04
7	1	7	120	283	1.6	400.43	46	-2.9	129.44
8	1	8	120	278	-14.4	190.63	66	7.1	61.54
9	1	9	120	252	-15.2	49.41	48	-1.9	201.03
10	1	10	120	274	-7.6	134.01	53	0.6	663.32
11	2	11	120	275	-11.2	144.63	59	3.6	115.67
12	2	12	120	265	-10.8	79.43	51	-0.4	979.16
13	2	13	120	267	-7.7	87.41	48	-1.9	199.90
14	2	14	120	296	-4.0	224.05	64	6.1	70.68
15	2	15	120	279	-1.1	213.10	47	-2.4	157.07
16	2	16	120	286	-9.0	1152.73	64	6.1	70.68
17	2	17	120	224	-23.2	26.38	39	-6.4	54.89
18	2	18	120	274	-13.0	133.80	61	4.6	91.82
19	2	19	120	281	2.0	279.30	44	-3.9	94.25
20	2	20	120	271	-6.4	109.13	49	-1.4	275.16
21	3	21	120	307	4.8	98.46	59	3.6	115.67
22	3	22	120	287	0.2	3159.80	51	-0.4	979.17
23	3	23	120	273	-6.1	124.45	50	-0.9	431.62
24	3	24	120	269	-22.2	97.33	71	9.6	46.98
25	3	25	120	271	-7.1	109.13	50	-0.9	431.63
26	3	26	120	269	-13.5	97.11	58	3.1	133.36
27	3	27	120	250	-15.6	46.63	47	-2.4	157.78
28	3	28	120	284	-3.3	512.19	54	1.1	364.65
29	3	29	120	276	-8.6	157.32	56	2.1	193.96
30	3	30	120	275	-5.8	144.63	51	-0.4	979.22
31	4	31	120	299	9.6	165.75	46	-2.9	128.95
32	4	32	120	307	5.5	98.46	58	3.1	133.35
33	4	33	120	236	-17.8	33.20	40	-5.9	60.14
34	4	34	120	283	-1.8	400.44	51	-0.4	979.18
35	4	35	120	284	6.8	512.17	39	-6.4	54.89
36	4	36	120	286	-3.0	1167.75	55	1.6	252.64
37	4	37	120	290	-0.3	779.38	54	1.1	361.29
38	4	38	120	289	1.9	1337.25	50	-0.9	431.64
39	4	39	120	273	-4.7	124.45	48	-1.9	201.03
40	4	40	120	278	-2.2	190.64	48	-1.9	201.04
41	5	41	120	288	-4.6	4286.17	59	3.6	115.67
42	5	42	120	282	-2.9	328.54	52	0.1	3948.76

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080612_0948
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080612_0948\20080612_0948.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	7	4	0	0	53.26	414.80	B
2	2.00	0	0	1	2	0	0.00	412.96	
3	2.00	0	1	4	0	2	0.00	429.36	
4	2.00	0	0	0	0	0	0.00	430.46	
5	2.00	0	0	0	0	0	0.00	431.09	
6	2.00	1	0	0	2	0	0.00	427.59	
7	2.00	1	3	0	1	3	39.11	417.84	
8	2.00	0	1	1	0	1	0.00	420.79	
9	2.00	0	0	0	0	0	0.00	413.89	

#7966

Radiation Lab Summary Report

Room: 3E18 **Building:** 503, WRAIR/NMRC

Authorization: 706, Dr. Patricia Guerry-Kopecko

Department: NMRC / Enteric Diseases

Frequency: 90 Days

Radionuclides: H-3, P-32, and S-35

HPO Surveyor: Ms. Cox

Inspection Date: 6/11/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?		X	
Is equipment use for rad use posted?		X	
Have user performed surveys ?		X	

Date Of Last User Survey: Never Used

User Inventory Log:

Isotope / Activity Used: N/A

Max Daily Use: N/A

Lab Survey Meter:

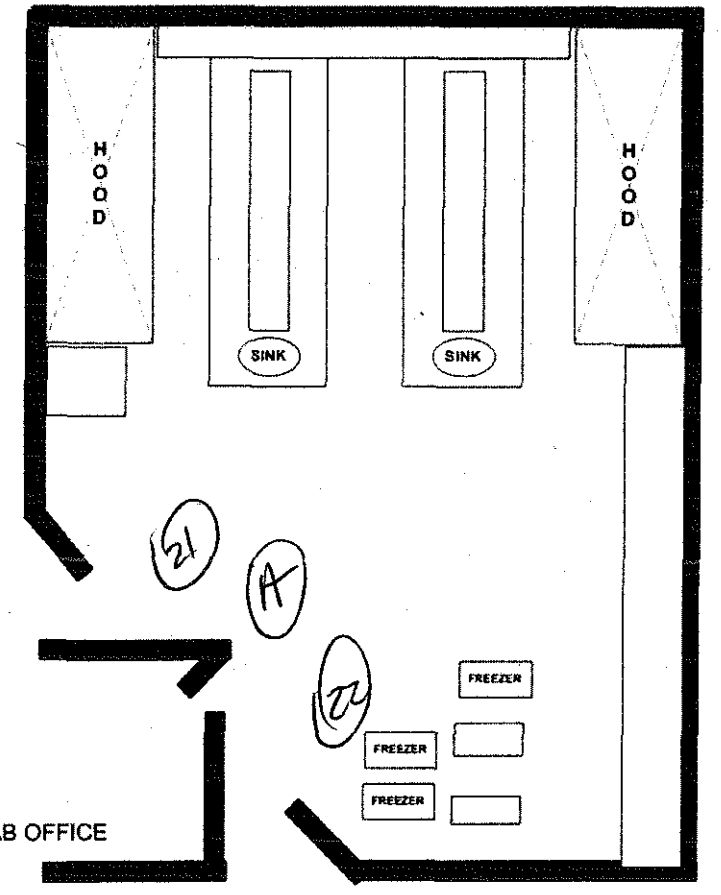
Meter Model : Same

Serial Number:

Calibration Due Date:

Meter Readings

BKG	2100	cpm mR/hr
A	2100	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



503_3E18

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 17-18

LSC: 17-18

Date: 6/12/08

Swipe Numbers: 21-22

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 12-Jun-2008 07:29:17

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 76

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	249	-24.1	45.37	59	3.6	115.67
2	1	2	120	266	-17.0	83.32	61	4.6	91.82
3	1	3	120	289	4.6	1317.88	46	-2.9	129.44
4	1	4	120	271	1.0	109.13	38	-6.9	50.39
5	1	5	120	257	-19.5	57.94	58	3.1	133.36
6	1	6	120	292	4.8	423.66	48	-1.9	201.04
7	1	7	120	283	1.6	400.43	46	-2.9	129.44
8	1	8	120	278	-14.4	190.63	66	7.1	61.54
9	1	9	120	252	-15.2	49.41	48	-1.9	201.03
10	1	10	120	274	-7.6	134.01	53	0.6	663.32
11	2	11	120	275	-11.2	144.63	59	3.6	115.67
12	2	12	120	265	-10.8	79.43	51	-0.4	979.16
13	2	13	120	267	-7.7	87.41	48	-1.9	199.90
14	2	14	120	296	-4.0	224.05	64	6.1	70.68
15	2	15	120	279	-1.1	213.10	47	-2.4	157.07
16	2	16	120	286	-9.0	1152.73	64	6.1	70.68
17	2	17	120	224	-23.2	26.38	39	-6.4	54.89
18	2	18	120	274	-13.0	133.80	61	4.6	91.82
19	2	19	120	281	2.0	279.30	44	-3.9	94.25
20	2	20	120	271	-6.4	109.13	49	-1.4	275.16
21	3	21	120	307	4.8	98.46	59	3.6	115.67
22	3	22	120	287	0.2	3159.80	51	-0.4	979.17
23	3	23	120	273	-6.1	124.45	50	-0.9	431.62
24	3	24	120	269	-22.2	97.33	71	9.6	46.98
25	3	25	120	271	-7.1	109.13	50	-0.9	431.63
26	3	26	120	269	-13.5	97.11	58	3.1	133.36
27	3	27	120	250	-15.6	46.63	47	-2.4	157.78
28	3	28	120	284	-3.3	512.19	54	1.1	364.65
29	3	29	120	276	-8.6	157.32	56	2.1	193.96
30	3	30	120	275	-5.8	144.63	51	-0.4	979.22
31	4	31	120	299	9.6	165.75	46	-2.9	128.95
32	4	32	120	307	5.5	98.46	58	3.1	133.35
33	4	33	120	236	-17.8	33.20	40	-5.9	60.14
34	4	34	120	283	-1.8	400.44	51	-0.4	979.18
35	4	35	120	284	6.8	512.17	39	-6.4	54.89
36	4	36	120	286	-3.0	1167.75	55	1.6	252.64
37	4	37	120	290	-0.3	779.38	54	1.1	361.29
38	4	38	120	289	1.9	1337.25	50	-0.9	431.64
39	4	39	120	273	-4.7	124.45	48	-1.9	201.03
40	4	40	120	278	-2.2	190.64	48	-1.9	201.04
41	5	41	120	288	-4.6	4286.17	59	3.6	115.67
42	5	42	120	282	-2.9	328.54	52	0.1	3948.76

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080612_0948
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080612_0948\20080612_0948.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	7	4	0	0	53.26	414.80	B
2	2.00	0	0	1	2	0	0.00	412.96	
3	2.00	0	1	4	0	2	0.00	429.36	
4	2.00	0	0	0	0	0	0.00	430.46	
5	2.00	0	0	0	0	0	0.00	431.09	
6	2.00	1	0	0	2	0	0.00	427.59	
7	2.00	1	3	0	1	3	39.11	417.84	
8	2.00	0	1	1	0	1	0.00	420.79	
9	2.00	0	0	0	0	0	0.00	413.89	

#8062

Radiation Lab Summary Report

Room: 3E24 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** M. Cox

Authorization: 707, Dr. Shahida Baqar **Inspection Date:** 7/9/08

Department: NMRC / Enteric Diseases **Meter Model:** N/A

Frequency: 30 Days **Meter Serial Number:** N/A

Radionuclides: Cr-51, H-3, P-32, I-125, and P-33 **Calibration Due Date:** N/A

Initial Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?	X		

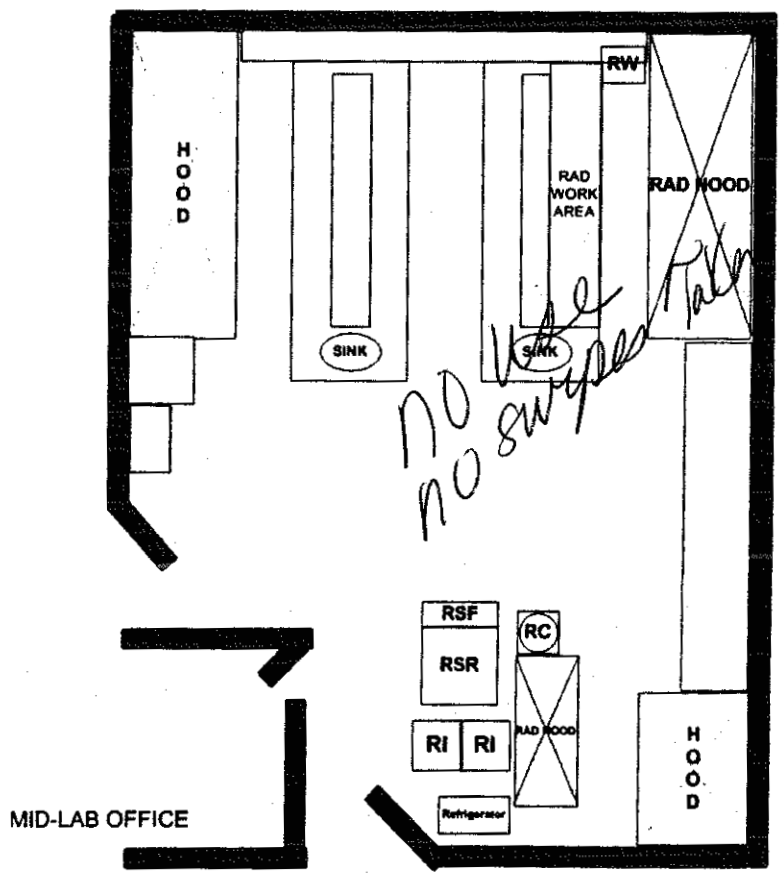
Date Of Last User Survey: 6/5/08

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

Lab Survey Meter:
Model Number : N/A
Serial Number:
Calibration Due Date:

Meter Readings

BKG	N/A	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



503_3e24

Laboratory Analysis

Technician | Date
Auto-gamma | Swipe Numbers
LSC

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

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

Comments

Surveyor Comments

#7840

Radiation Lab Summary Report

Room: 3E24 **Building:** 503, WRAIR/NMRC

Authorization: 707, Dr. Shahida Baqar

Department: NMRC / Enteric Diseases

Frequency: 30 Days

Radionuclides: Cr-51, H-3, P-32, I-125, and P-33

H-3 Use Only

HPO Surveyor: Ms. Cox

Inspection Date: 5/7/08

Meter Model: N/A

Meter Serial Number: N/A

Calibration Due Date:

Initial Checks

	Yes	NA	No
Are all radiactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?	X		

Date Of Last User Survey: 5/1/08

User Inventory Log:

Isotope / Activity Used: H-3 / 0.145mCi

Max Daily Use: 0.145 mCi

Lab Survey Meter:

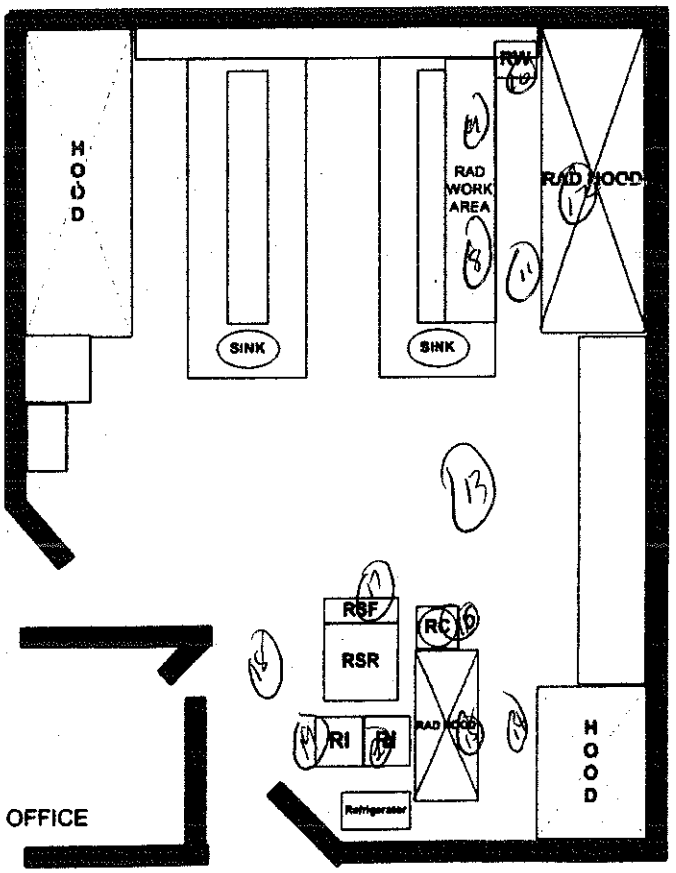
Model Number : N/A

Serial Number:

Calibration Due Date:

Meter Readings

BKG		cpm mR/hr
A	N/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



503_3e24

Date 5/5/08

Swipe Numbers 8-20

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Laboratory Analysis

Technician Ms. Cox

Auto-gamma 12-14

LSC 12-14

Completed

All swipes < 200 dpm

Comments

Surveyor Comments

09 May 2008 08:38 Packard Instrument Company Page #1
Protocol #: 7 Swipes User : Lab St

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:	94.2	116	45.9
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
7	1	0.0		0.0		0.0		2.00
7	2	0.0		4.0	35.4	8.1	24.8	2.00
7	3	11.3	21.1	0.0		0.6	91.3	2.00
7	4	0.0		0.0		10.1	22.2	2.00
7	5	7.8	25.4	0.0		2.6	43.9	2.00
7	6	0.0		7.5	25.8	0.0		2.00
7	7	7.3	26.2	4.0	35.4	10.6	21.7	2.00
7	8	0.0		4.5	33.3	6.6	27.5	2.00
7	9	0.0		0.0		0.0		2.00
7	10	1.3	62.5	13.0	19.6	0.0		2.00
7	11	0.0		7.5	25.8	2.1	48.8	2.00
7	12	5.3	30.8	9.0	23.6	0.1	224	2.00
7	13	2.3	46.8	4.0	35.4	1.1	67.4	2.00
7	14	0.0		5.0	31.6	0.0		2.00

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080509_1023
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080509_1023\20080509_1023.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	6	5	0	0	44.45	415.47	B
2	2.00	0	0	1	1	0	0.00	417.58	
3	2.00	0	0	0	0	0	0.00	429.70	
4	2.00	1	1	0	2	1	83.35	411.40	
5	2.00	0	2	1	0	3	0.00	408.88	
6	2.00	0	3	2	0	3	0.00	428.23	
7	2.00	0	0	0	0	0	0.00	412.62	
8	2.00	0	0	1	1	0	0.00	418.53	
9	2.00	0	0	3	0	0	0.00	420.04	

10	2.00	0	4	1	0	5	205.44	415.15
11	2.00	0	1	2	0	1	955.78	425.15
12	2.00	0	0	1	0	0	0.00	404.04
13	2.00	0	2	0	0	2	1116.28	420.59
14	2.00	0	0	0	0	0	0.00	412.35

MCHL-HP (11-9d) February 23, 2007

MEMORANDUM FOR CAPT Thomas Richie, NMRC/Malaria,
Radioactive Materials Authorization Number 709

SUBJECT: Radiological Safety Certification for Building 503 Room 3W08

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
503, WRAIR/NMRC	3W08

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.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Forma Scientific Co2 Water Jacketed Incubator	3110	28305-7151	3239803070
Naire Biological Safety Cabinet	NU425-600	84965	3239803071
Naire Biological Safety Cabinet	NU425-400	77978	3239806052

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

VANESSA COX
Health Physicist
Health Physics Office

Radiation Final Laboratory Summary Report

Room: 3W08 **Building:** 503, WRAIR

Authorization: 709 / CAPT Thomas Richie

Department: NMRC / Malaria

Radionuclides: C-14, Cr-51, H-3, I-125, P-32, and S-35

HPO Surveyor: Ms. Cox

Inspection Date: 2/21/07

Meter Model: Geiger

Meter Serial Number: 11833

Calibration Due Date: 9/17/07

Room Checks

	Initials
All RAM removed from the room	KC
Radioactive waste removed	KC
All RAM use equipment cleared	KC
All radiation labels removed	KC
Entrance un-posted	KC

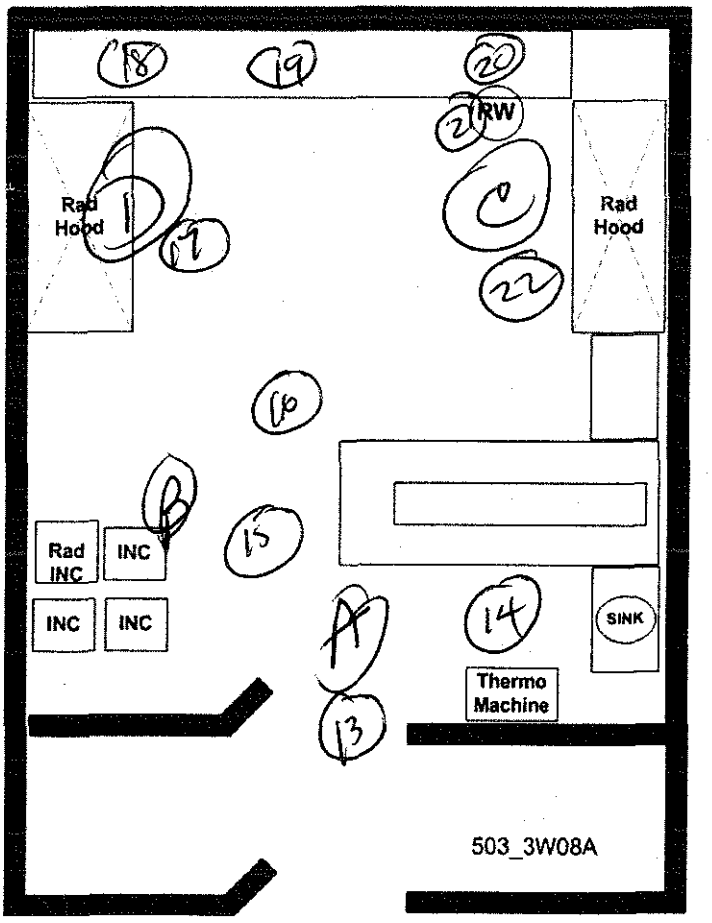
Administrative Checks

	Initials
Equipment / Room Final Forms Completed	KC

Additional Information:

Meter Readings

BKG	<100	cpm
A	108	cpm
B	"	cpm
C	"	cpm
D	<100	cpm
E		cpm
F		cpm
G		cpm



503_3W08

Laboratory Analysis

Technician: MS. Cox

Auto-gamma: 1-10

LSC: 2-11

Date: 2/22/07

Swipe Numbers: 13-22

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

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

Comments

Completed

All swipes < 200 dpm

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:	94.8		120		51.9	
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
7	1	0.0		0.0		2.4	47.5	2.00
7	2	11.2	21.1	0.0		3.5	37.1	2.00
7	3	1.7	54.2	5.5	73.0	0.1	189	2.00
7	4	12.2	21.2	0.0		0.0		2.00
7	5	9.7	22.7	17.0	17.2	0.6	85.4	2.00
7	6	0.2	158	10.5	31.3	0.1	189	2.00
7	7	0.0		3.5	37.5	2.1	42.3	2.00
7	8	5.7	37.0	0.0		0.1	189	2.00
7	9	3.7	54.8	4.0	35.9	0.0		2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		6.5	27.6	0.0		2.00
7	12	6.2	28.4	0.0		0.0		2.00
7	13	1.2	64.5	15.0	16.2	0.0		2.00
7	14	6.7	27.7	0.0		0.4	88.4	2.00
7	15	14.2	18.5	0.0		0.0		2.00
7	16	5.7	29.2	0.0		0.0		2.00
7	17	13.2	20.2	2.5	44.7	0.1	189	2.00
7	18	0.0		0.0		0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	12.7	17.8	14.0	18.9	0.0		2.00
7	21	8.2	24.7	0.0		0.0		2.00
7	22	0.0		2.5	44.9	5.4	29.8	2.00
7	23	5.2	31.0	0.0		0.0		2.00
7	24	16.7	17.3	14.0	18.9	1.1	66.2	2.00
7	25	10.2	22.1	15.0	18.3	11.1	21.2	2.00
7	26	3.7	36.8	0.0		0.0		2.00
7	27	0.0		13.5	19.2	7.1	26.5	2.00
7	28	0.0		8.3	24.3	0.0		2.00
7	29	0.0		8.5	24.3	0.0		2.00
7	30	2.2	77.5	2.5	44.9	0.0		2.00
7	31	16.7	17.3	2.5	44.9	2.2	43.5	2.00
7	32	10.2	22.1	0.0		4.1	74.0	2.00
7	33	0.2		0.0		3.4	37.1	2.00
7	34	14.7	18.4	1.5	27.9	0.0		2.00

22 Feb 2007 12:19 Packard Instrument Company Page #2

Protocol #: 7 Swipes User : Lab Staff

Pg	Sa	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
7	35	0.0		1.5	58.1	0.0		2.00

3 Feb 2007 08:20 ALPHA/BETA - 1.09 Page #1

rotocol #: 1 Routine A User : CPL Whicker

ime: 2.00
ata Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
ackground Subtract: 1st Vial High Energy: 14C-UG

	LL	UL	LCR	2S%	BKG
gion A:	0.0	- 18.6	0	0.0	4.71
gion B:	18.6	- 156	0	0.0	7.19
gion C:	156	- 2000	0	0.0	4.50

ench Indicator: tSIE/AEC
Ext Std Terminator: Count
incidence Time(ns): 18
lay Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	4.71	29.13	7.19	23.59	4.50			422.18	B
2	2.00	2.29	174.4	3.31	147.4	0.00	4.15	4.52	411.38	
3	2.00	4.62	98.16	5.48	96.89	0.00	9.37	7.47	407.63	
4	2.00	1.83	211.2	0.00	0.00	0.00	5.42	0.00	403.84	
5	2.00	0.29	1206	0.00	0.00	0.50	0.83	0.00	413.04	
6	2.00	1.29	289.8	0.00	0.00	0.00	3.54	0.00	445.03	
7	2.00	1.93	202.1	0.00	0.00	3.50	5.64	0.00	409.42	
8	2.00	2.79	147.5	0.00	0.00	0.00	8.01	0.00	419.63	
9	2.00	1.29	289.8	0.00	0.00	0.00	3.43	0.00	463.97	
10	2.00	0.29	1206	0.00	0.00	0.50	0.84	0.00	409.47	
11	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	403.89	
12	2.00	0.57	618.3	0.00	0.00	0.00	1.65	0.00	417.93	
13	2.00	0.00	0.00	0.81	533.6	0.00	0.00	1.12	411.12	
14	2.00	2.29	174.4	0.00	0.00	1.00	6.65	0.00	413.05	
15	2.00	1.29	289.8	0.00	0.00	2.00	3.76	0.00	410.78	
16	2.00	3.79	114.8	0.00	0.00	0.00	10.99	0.00	414.50	
17	2.00	0.35	998.9	0.00	0.00	0.00	0.97	0.00	434.24	
18	2.00	4.04	109.1	0.00	0.00	0.50	11.10	0.00	445.38	
19	2.00	0.79	456.8	0.00	0.00	0.00	2.22	0.00	430.90	
20	2.00	0.43	802.9	0.00	0.00	3.50	1.27	0.00	409.89	
21	2.00	0.53	667.8	0.00	0.00	0.00	1.53	0.00	415.32	
22	2.00	2.15	183.9	0.00	0.00	0.00	6.15	0.00	422.50	
23	2.00	0.48	732.7	0.00	0.00	0.00	1.37	0.00	421.54	
24	2.00	0.29	1206	0.00	0.00	0.00	0.83	0.00	411.83	
25	2.00	2.79	147.5	0.31	1345	0.00	7.91	0.38	409.76	
26	2.00	3.09	135.5	0.00	0.00	1.50	8.89	0.00	418.79	
27	2.00	0.29	1206	0.00	0.00	0.00	0.84	0.00	409.21	
28	2.00	0.00	0.00	0.37	1137	0.00	0.00	0.51	427.16	
29	2.00	0.29	1204	0.00	0.00	0.00	0.81	0.00	430.67	
30	2.00	0.96	379.2	0.00	0.00	0.00	2.75	0.00	420.98	
31	2.00	0.29	1206	1.31	339.2	1.00	0.00	1.80	417.09	
32	2.00	0.79	456.8	0.00	0.00	0.00	2.27	0.00	416.45	
33	2.00	0.79	456.8	0.00	0.00	1.50	2.23	0.00	428.03	
34	2.00	0.29	1206	0.00	0.00	0.00	0.78	0.00	448.37	
35	2.00	0.29	1206	0.00	0.00	0.00	0.82	0.00	422.73	
36	2.00	0.96	378.2	0.00	0.00	0.00	2.81	0.00	411.50	

Radiation Equipment Survey Report

Room: 3W08 **Building:** 503 **HPO Surveyor:** M.S. Cox

Authorization: 709/Richie **Inspection Date:** 2/21/07

Department: NMRC/Malaria **Meter Model:** Geiger

Radionuclides: C14, Cr51, H3, I125, P32 + S35 **Meter Serial Number:** 11833 **Calibration Due Date:** 9/17/07

Equipment Information

Nomenclature: Co Water Jacketed Incubator
Manufacturer: Forma Scientific
Model Number: 3110
Serial Number: 28305-7151
MMCN: 3239803070

Reason for Survey

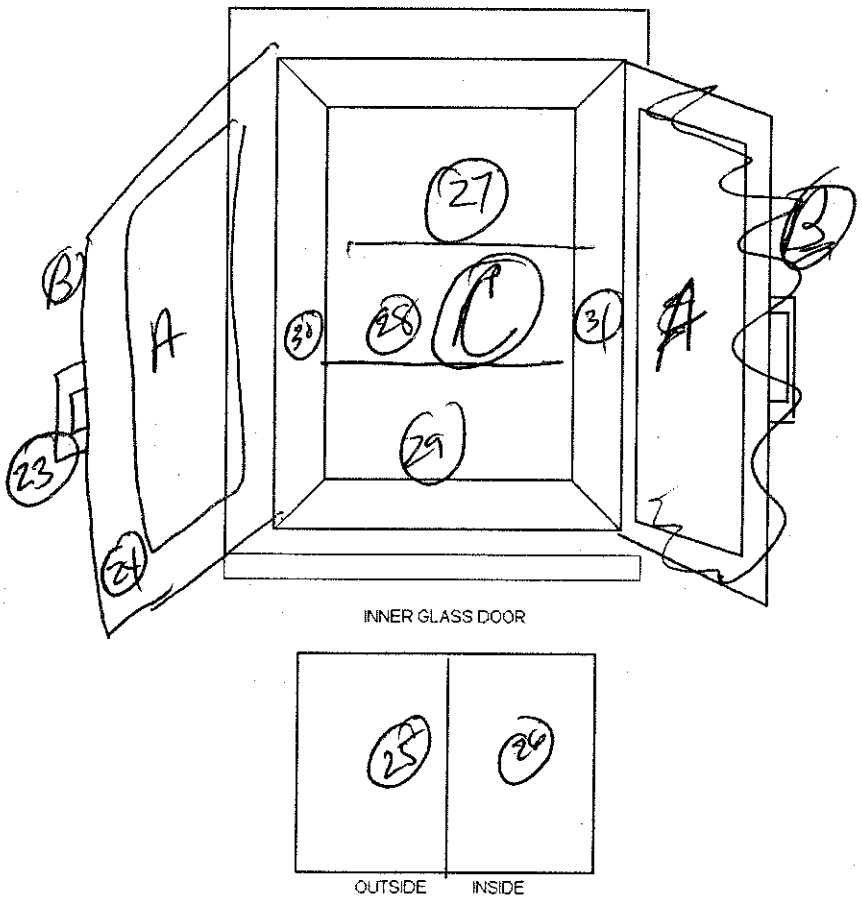
Mark a X for appropriate reason.

On/off-Site Repair: ___
Turn-in/ Transfer: ___
Administrative Hold: ___
Non RAM use only: X
Other: ___

Meter Readings

BKG	400	cpm mR/hr
A	400	cpm mR/hr
B	400	cpm mR/hr
C	400	cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr

Incubator



Laboratory Analysis

Technician: M.S. Cox
Auto-gamma: 11-19
LSC: 12-20
Date: 2/23/07
Swipe Numbers: 23-31

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

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

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

Protocol #: 7 Swipes User : Lab Staff

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:	94.8		120		51.9	
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
7	1	0.0		0.0		2.6	43.5	2.00
7	2	11.2	21.1	0.0		3.6	37.1	2.00
7	3	1.7	54.2	9.5	23.0	0.1	189	2.00
7	4	12.2	20.2	0.0		0.0		2.00
7	5	9.7	22.7	17.0	17.2	0.6	88.4	2.00
7	6	0.2	158	10.5	21.8	0.1	189	2.00
7	7	0.0		3.5	37.9	2.1	48.3	2.00
7	8	5.7	29.6	0.0		0.1	189	2.00
7	9	3.7	36.8	6.0	28.9	0.0		2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		6.5	27.8	0.0		2.00
7	12	6.2	28.4	0.0		0.0		2.00
7	13	1.2	64.5	19.0	16.2	0.0		2.00
7	14	6.7	27.3	0.0		0.6	88.4	2.00
7	15	14.2	18.8	0.0		0.0		2.00
7	16	5.7	29.6	0.0		0.0		2.00
7	17	12.2	20.2	2.5	44.9	0.1	189	2.00
7	18	0.0		0.0		0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	12.7	19.8	14.0	18.9	0.0		2.00
7	21	8.2	24.7	0.0		0.0		2.00
7	22	0.0		2.5	44.9	5.6	29.8	2.00
7	23	5.2	31.0	0.0		0.0		2.00
7	24	16.7	17.3	14.0	18.9	1.1	66.2	2.00
7	25	10.2	22.1	15.0	18.3	11.1	21.2	2.00
7	26	3.7	36.8	0.0		0.0		2.00
7	27	0.0		13.5	19.3	7.1	26.5	2.00
7	28	0.0		8.5	24.3	0.0		2.00
7	29	0.0		8.5	24.3	0.0		2.00
7	30	3.2	39.5	2.5	44.9	0.0		2.00
7	31	16.7	17.3	2.5	44.9	2.6	43.5	2.00
7	32	10.2	22.1	0.0		4.1	34.8	2.00
7	33	0.0		0.0		3.6	37.1	2.00
7	34	14.7	18.4	6.5	27.8	0.0		2.00

otocol #: 1 Routine A User : CPL Whicker

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

	LL	UL	LCR	2S%	BKG
on A:	0.0 -	18.6	0	0.0	4.71
on B:	18.6 -	156	0	0.0	7.19
on C:	156 -	2000	0	0.0	4.50

ch Indicator: tSIE/AEC
xt Std Terminator: Count
cidence Time(ns): 18
y Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	4.71	29.13	7.19	23.59	4.50			422.18	B
2	2.00	2.29	174.4	3.31	147.4	0.00	4.15	4.52	411.38	
3	2.00	4.62	98.16	5.48	96.89	0.00	9.37	7.47	407.63	
4	2.00	1.83	211.2	0.00	0.00	0.00	5.42	0.00	403.84	
5	2.00	0.29	1206	0.00	0.00	0.50	0.83	0.00	413.04	
6	2.00	1.29	289.8	0.00	0.00	0.00	3.54	0.00	445.03	
7	2.00	1.93	202.1	0.00	0.00	3.50	5.64	0.00	409.42	
8	2.00	2.79	147.5	0.00	0.00	0.00	8.01	0.00	419.63	
9	2.00	1.29	289.8	0.00	0.00	0.00	3.43	0.00	463.97	
0	2.00	0.29	1206	0.00	0.00	0.50	0.84	0.00	409.47	
1	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	403.89	
2	2.00	0.57	618.3	0.00	0.00	0.00	1.65	0.00	417.93	
3	2.00	0.00	0.00	0.81	533.6	0.00	0.00	1.12	411.12	
4	2.00	2.29	174.4	0.00	0.00	1.00	6.65	0.00	413.05	
5	2.00	1.29	289.8	0.00	0.00	2.00	3.76	0.00	410.78	
6	2.00	3.79	114.8	0.00	0.00	0.00	10.99	0.00	414.50	
7	2.00	0.35	998.9	0.00	0.00	0.00	0.97	0.00	434.24	
8	2.00	4.04	109.1	0.00	0.00	0.50	11.10	0.00	445.38	
9	2.00	0.79	456.8	0.00	0.00	0.00	2.22	0.00	430.90	
0	2.00	0.43	802.9	0.00	0.00	3.50	1.27	0.00	409.89	
1	2.00	0.53	667.8	0.00	0.00	0.00	1.53	0.00	415.32	
2	2.00	2.15	183.9	0.00	0.00	0.00	6.15	0.00	422.50	
3	2.00	0.48	732.7	0.00	0.00	0.00	1.37	0.00	421.54	
4	2.00	0.29	1206	0.00	0.00	0.00	0.83	0.00	411.83	
5	2.00	2.79	147.5	0.31	1345	0.00	7.91	0.38	409.76	
6	2.00	3.09	135.5	0.00	0.00	1.50	8.89	0.00	418.79	
7	2.00	0.29	1206	0.00	0.00	0.00	0.84	0.00	409.21	
8	2.00	0.00	0.00	0.37	1137	0.00	0.00	0.51	427.16	
9	2.00	0.29	1204	0.00	0.00	0.00	0.81	0.00	430.67	
0	2.00	0.96	379.2	0.00	0.00	0.00	2.75	0.00	420.98	
1	2.00	0.29	1206	1.31	339.2	1.00	0.00	1.80	417.09	
2	2.00	0.79	456.8	0.00	0.00	0.00	2.27	0.00	416.45	
3	2.00	0.79	456.8	0.00	0.00	1.50	2.23	0.00	428.03	
4	2.00	0.29	1206	0.00	0.00	0.00	0.78	0.00	448.37	
5	2.00	0.29	1206	0.00	0.00	0.00	0.82	0.00	422.73	
6	2.00	0.96	378.2	0.00	0.00	0.00	2.81	0.00	411.50	

Radiation Equipment Survey Report

Room: 3W08 **Building:** 503

Authorization: 709

Department: Malaria

Radionuclides: C14, Cr51, H3, I125 P32 S35

HPO Surveyor: MS. Cx

Inspection Date: 3/21/07

Meter Model: Geiger

Meter Serial Number: 11833

Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: Biological Safety Cabinets

Manufacturer: Nuaire

Model Number: NU 425-600

Serial Number: 84965

MMCN: 323950307 1

Reason for Survey

Mark a X for appropriate reason.

On/off-Site Repair: ___

Turn-in/ Transfer: ___

Administrative Hold: ___

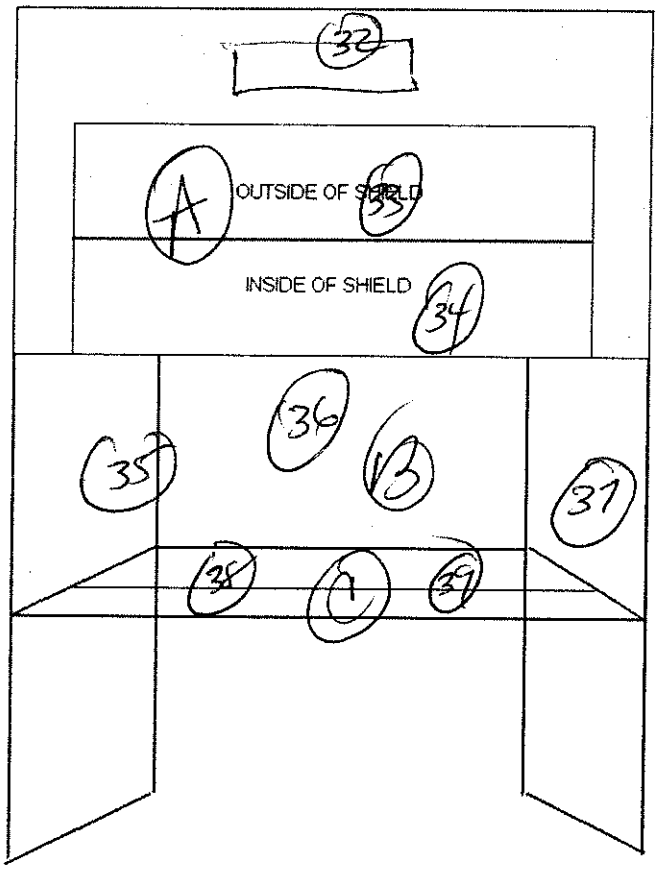
Non RAM use only: X

Other: ___

Meter Readings

BKG	400	cpm mR/hr
A	400	cpm mR/hr
B	400	cpm mR/hr
C	400	cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr

Fume Hood



Laboratory Analysis

Technician: MS. Cx

Date: 3/22/07

Swipe Numbers: 32-39

Auto-gamma: 20-27

LSC: 21-28

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

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

Completed

All swipes < 200 dpm

Comments

Surveyor Comments

22 Feb 2007 11:02 Packard Instrument Company Page #1
Protocol #: 7 Swipes User : Lab Staff

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:	94.8		120		51.9	
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
7	1	0.0		0.0		2.6	43.5	2.00
7	2	11.2	21.1	0.0		3.6	37.1	2.00
7	3	1.7	54.2	9.5	23.0	0.1	189	2.00
7	4	12.2	20.2	0.0		0.0		2.00
7	5	9.7	22.7	17.0	17.2	0.6	88.4	2.00
7	6	0.2	158	10.5	21.8	0.1	189	2.00
7	7	0.0		3.5	37.9	2.1	48.3	2.00
7	8	5.7	29.6	0.0		0.1	189	2.00
7	9	3.7	36.8	6.0	28.9	0.0		2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		6.5	27.8	0.0		2.00
7	12	6.2	28.4	0.0		0.0		2.00
7	13	1.2	64.5	19.0	16.2	0.0		2.00
7	14	6.7	27.3	0.0		0.6	88.4	2.00
7	15	14.2	18.8	0.0		0.0		2.00
7	16	5.7	29.6	0.0		0.0		2.00
7	17	12.2	20.2	2.5	44.9	0.1	189	2.00
7	18	0.0		0.0		0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	12.7	19.8	14.0	18.9	0.0		2.00
7	21	8.2	24.7	0.0		0.0		2.00
7	22	0.0		2.5	44.9	5.6	29.8	2.00
7	23	5.2	31.0	0.0		0.0		2.00
7	24	16.7	17.3	14.0	18.9	1.1	66.2	2.00
7	25	10.2	22.1	15.0	18.3	11.1	21.2	2.00
7	26	3.7	36.8	0.0		0.0		2.00
7	27	0.0		13.5	19.3	7.1	26.5	2.00
7	28	0.0		8.5	24.3	0.0		2.00
7	29	0.0		8.5	24.3	0.0		2.00
7	30	3.2	39.5	2.5	44.9	0.0		2.00
7	31	16.7	17.3	2.5	44.9	2.6	43.5	2.00
7	32	10.2	22.1	0.0		4.1	34.8	2.00
7	33	0.0		0.0		3.6	37.1	2.00
7	34	14.7	18.4	6.5	27.8	0.0		2.00

otocol #: 1 Routine A User : CPL Whicker

e: 2.00
a Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
kground Subtract: 1st Vial High Energy: 14C-UG

	LL	UL	LCR	2S%	BKG
ion A:	0.0	- 18.6	0	0.0	4.71
ion B:	18.6	- 156	0	0.0	7.19
on C:	156	- 2000	0	0.0	4.50

ch Indicator: tSIE/AEC
xt Std Terminator: Count
cidence Time(ns): 18
y Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	4.71	29.13	7.19	23.59	4.50			422.18	B
2	2.00	2.29	174.4	3.31	147.4	0.00	4.15	4.52	411.38	
3	2.00	4.62	98.16	5.48	96.89	0.00	9.37	7.47	407.63	
4	2.00	1.83	211.2	0.00	0.00	0.00	5.42	0.00	403.84	
5	2.00	0.29	1206	0.00	0.00	0.50	0.83	0.00	413.04	
6	2.00	1.29	289.8	0.00	0.00	0.00	3.54	0.00	445.03	
7	2.00	1.93	202.1	0.00	0.00	3.50	5.64	0.00	409.42	
8	2.00	2.79	147.5	0.00	0.00	0.00	8.01	0.00	419.63	
9	2.00	1.29	289.8	0.00	0.00	0.00	3.43	0.00	463.97	
0	2.00	0.29	1206	0.00	0.00	0.50	0.84	0.00	409.47	
1	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	403.89	
2	2.00	0.57	618.3	0.00	0.00	0.00	1.65	0.00	417.93	
3	2.00	0.00	0.00	0.81	533.6	0.00	0.00	1.12	411.12	
4	2.00	2.29	174.4	0.00	0.00	1.00	6.65	0.00	413.05	
5	2.00	1.29	289.8	0.00	0.00	2.00	3.76	0.00	410.78	
6	2.00	3.79	114.8	0.00	0.00	0.00	10.99	0.00	414.50	
7	2.00	0.35	998.9	0.00	0.00	0.00	0.97	0.00	434.24	
8	2.00	4.04	109.1	0.00	0.00	0.50	11.10	0.00	445.38	
9	2.00	0.79	456.8	0.00	0.00	0.00	2.22	0.00	430.90	
0	2.00	0.43	802.9	0.00	0.00	3.50	1.27	0.00	409.89	
1	2.00	0.53	667.8	0.00	0.00	0.00	1.53	0.00	415.32	
2	2.00	2.15	183.9	0.00	0.00	0.00	6.15	0.00	422.50	
3	2.00	0.48	732.7	0.00	0.00	0.00	1.37	0.00	421.54	
4	2.00	0.29	1206	0.00	0.00	0.00	0.83	0.00	411.83	
5	2.00	2.79	147.5	0.31	1345	0.00	7.91	0.38	409.76	
6	2.00	3.09	135.5	0.00	0.00	1.50	8.89	0.00	418.79	
7	2.00	0.29	1206	0.00	0.00	0.00	0.84	0.00	409.21	
8	2.00	0.00	0.00	0.37	1137	0.00	0.00	0.51	427.16	
9	2.00	0.29	1204	0.00	0.00	0.00	0.81	0.00	430.67	
0	2.00	0.96	379.2	0.00	0.00	0.00	2.75	0.00	420.98	
1	2.00	0.29	1206	1.31	339.2	1.00	0.00	1.80	417.09	
2	2.00	0.79	456.8	0.00	0.00	0.00	2.27	0.00	416.45	
3	2.00	0.79	456.8	0.00	0.00	1.50	2.23	0.00	428.03	
4	2.00	0.29	1206	0.00	0.00	0.00	0.78	0.00	448.37	
5	2.00	0.29	1206	0.00	0.00	0.00	0.82	0.00	422.73	
6	2.00	0.96	378.2	0.00	0.00	0.00	2.81	0.00	411.50	

Radiation Equipment Survey Report

Room: 3W08
Building:
HPO Surveyor: M. Cox
Authorization: 799
Inspection Date: 2/21/07
Department: Malaria
Meter Model: Geiger
Radionuclides: C14, H3, CR51, I125, P32 + S35
Meter Serial Number: 11833
Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: Biological Safety Cabinet
Manufacturer: Nuaire
Model Number: Nu425400
Serial Number: 77978
MMCN: 323980605 2

Reason for Survey

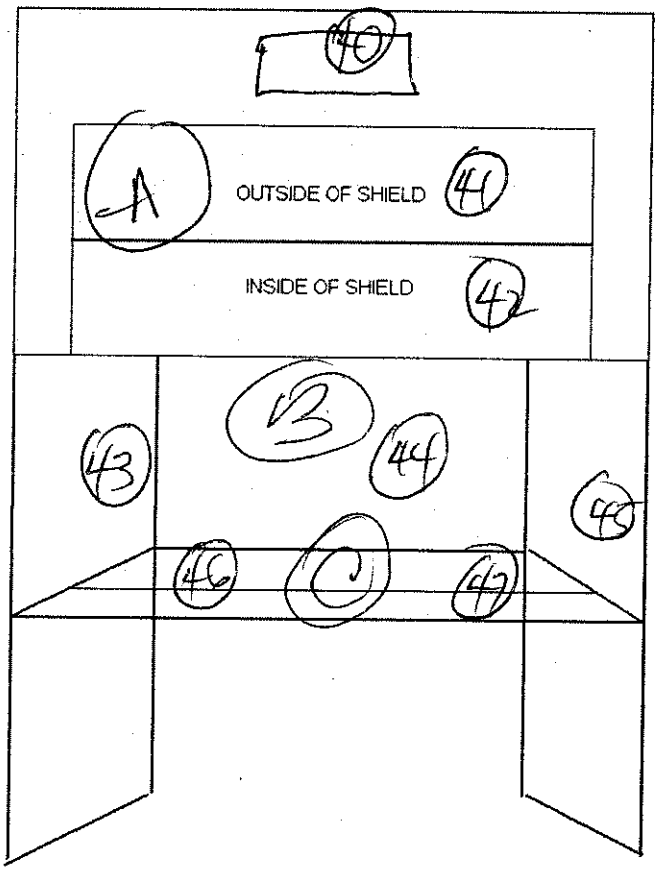
Mark a X for appropriate reason.

On/off-Site Repair: ___
Turn-in/ Transfer: ___
Administrative Hold: ___
Non RAM use only: X
Other: ___

Meter Readings

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

Fume Hood



Laboratory Analysis

Technician: MS. Cox
Date: 2/22/07
Swipe Numbers: 40-47
Auto-gamma: 1 28-35
LSC: 1 29-36

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

22 Feb 2007 11:02 Packard Instrument Company Page #1
Protocol #: 7 Swipes User : Lab Staff

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:	94.8		120		51.9	
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
7	1	0.0		0.0		2.6	43.5	2.00
7	2	11.2	21.1	0.0		3.6	37.1	2.00
7	3	1.7	54.2	9.5	23.0	0.1	189	2.00
7	4	12.2	20.2	0.0		0.0		2.00
7	5	9.7	22.7	17.0	17.2	0.6	88.4	2.00
7	6	0.2	158	10.5	21.8	0.1	189	2.00
7	7	0.0		3.5	37.9	2.1	48.3	2.00
7	8	5.7	29.6	0.0		0.1	189	2.00
7	9	3.7	36.8	6.0	28.9	0.0		2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		6.5	27.8	0.0		2.00
7	12	6.2	28.4	0.0		0.0		2.00
7	13	1.2	64.5	19.0	16.2	0.0		2.00
7	14	6.7	27.3	0.0		0.6	88.4	2.00
7	15	14.2	18.8	0.0		0.0		2.00
7	16	5.7	29.6	0.0		0.0		2.00
7	17	12.2	20.2	2.5	44.9	0.1	189	2.00
7	18	0.0		0.0		0.0		2.00
7	19	0.0		0.0		0.0		2.00
7	20	12.7	19.8	14.0	18.9	0.0		2.00
7	21	8.2	24.7	0.0		0.0		2.00
7	22	0.0		2.5	44.9	5.6	29.8	2.00
7	23	5.2	31.0	0.0		0.0		2.00
7	24	16.7	17.3	14.0	18.9	1.1	66.2	2.00
7	25	10.2	22.1	15.0	18.3	11.1	21.2	2.00
7	26	3.7	36.8	0.0		0.0		2.00
7	27	0.0		13.5	19.3	7.1	26.5	2.00
7	28	0.0		8.5	24.3	0.0		2.00
7	29	0.0		8.5	24.3	0.0		2.00
7	30	3.2	39.5	2.5	44.9	0.0		2.00
7	31	16.7	17.3	2.5	44.9	2.6	43.5	2.00
7	32	10.2	22.1	0.0		4.1	34.8	2.00
7	33	0.0		0.0		3.6	37.1	2.00
7	34	14.7	18.4	6.5	27.8	0.0		2.00

eb 2007 08:20 ALPHA/BETA - 1.09 Page #1
rotocol #: 1 Routine A User : CPL Whicker

e: 2.00
a Mode: Dual DPM Nuclides: 3H-14C-UG Quench Sets
Low Energy: 3H-UG
kgroundSubtract: 1st Vial High Energy: 14C-UG

	LL	UL	LCR	2S%	BKG
ion A:	0.0 -	18.6	0	0.0	4.71
ion B:	18.6 -	156	0	0.0	7.19
ion C:	156 -	2000	0	0.0	4.50

nch Indicator: tSIE/AEC
nt Std Terminator: Count
eidence Time(ns): 18
y Before Burst(ns): Normal

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
1	10.00	4.71	29.13	7.19	23.59	4.50			422.18	B
2	2.00	2.29	174.4	3.31	147.4	0.00	4.15	4.52	411.38	
3	2.00	4.62	98.16	5.48	96.89	0.00	9.37	7.47	407.63	
4	2.00	1.83	211.2	0.00	0.00	0.00	5.42	0.00	403.84	
5	2.00	0.29	1206	0.00	0.00	0.50	0.83	0.00	413.04	
6	2.00	1.29	289.8	0.00	0.00	0.00	3.54	0.00	445.03	
7	2.00	1.93	202.1	0.00	0.00	3.50	5.64	0.00	409.42	
8	2.00	2.79	147.5	0.00	0.00	0.00	8.01	0.00	419.63	
9	2.00	1.29	289.8	0.00	0.00	0.00	3.43	0.00	463.97	
10	2.00	0.29	1206	0.00	0.00	0.50	0.84	0.00	409.47	
11	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	403.89	
12	2.00	0.57	618.3	0.00	0.00	0.00	1.65	0.00	417.93	
13	2.00	0.00	0.00	0.81	533.6	0.00	0.00	1.12	411.12	
14	2.00	2.29	174.4	0.00	0.00	1.00	6.65	0.00	413.05	
15	2.00	1.29	289.8	0.00	0.00	2.00	3.76	0.00	410.78	
16	2.00	3.79	114.8	0.00	0.00	0.00	10.99	0.00	414.50	
17	2.00	0.35	998.9	0.00	0.00	0.00	0.97	0.00	434.24	
18	2.00	4.04	109.1	0.00	0.00	0.50	11.10	0.00	445.38	
19	2.00	0.79	456.8	0.00	0.00	0.00	2.22	0.00	430.90	
20	2.00	0.43	802.9	0.00	0.00	3.50	1.27	0.00	409.89	
21	2.00	0.53	667.8	0.00	0.00	0.00	1.53	0.00	415.32	
22	2.00	2.15	183.9	0.00	0.00	0.00	6.15	0.00	422.50	
23	2.00	0.48	732.7	0.00	0.00	0.00	1.37	0.00	421.54	
24	2.00	0.29	1206	0.00	0.00	0.00	0.83	0.00	411.83	
25	2.00	2.79	147.5	0.31	1345	0.00	7.91	0.38	409.76	
26	2.00	3.09	135.5	0.00	0.00	1.50	8.89	0.00	418.79	
27	2.00	0.29	1206	0.00	0.00	0.00	0.84	0.00	409.21	
28	2.00	0.00	0.00	0.37	1137	0.00	0.00	0.51	427.16	
29	2.00	0.29	1204	0.00	0.00	0.00	0.81	0.00	430.67	
30	2.00	0.96	379.2	0.00	0.00	0.00	2.75	0.00	420.98	
31	2.00	0.29	1206	1.31	339.2	1.00	0.00	1.80	417.09	
32	2.00	0.79	456.8	0.00	0.00	0.00	2.27	0.00	416.45	
33	2.00	0.79	456.8	0.00	0.00	1.50	2.23	0.00	428.03	
34	2.00	0.29	1206	0.00	0.00	0.00	0.78	0.00	448.37	
35	2.00	0.29	1206	0.00	0.00	0.00	0.82	0.00	422.73	
36	2.00	0.96	378.2	0.00	0.00	0.00	2.81	0.00	411.50	

MCHL-HP (11-9d) February 12, 2007

MEMORANDUM FOR CAPT Thomas Richie, NMRC/Malaria,
Radioactive Materials Authorization Number 709

SUBJECT: Radiological Safety Certification for Building 503 Room 3W10

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
503, WRAIR/NMRC	3W10

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.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Forma Scientific Co2 Water Jacketed Incubator	3110	28304-7132	3234800841
Forma Scientific Co2 Water Jacketed Incubator	3110	28304-7121	3239800892
FilterMate Harvester	N/A	N/A	N/A

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

VANESSA COX
Health Physicist
Health Physics Office

Radiation Final Laboratory Summary Report

Room: 3W10 **Building:** 503, WRAIR

Authorization: 709 / CAPT Thomas Richie

Department: NMRC / Malaria

Radionuclides: C-14, Cr-51, H-3, I-125, P-32, and S-35

HPO Surveyor: Ms. Cox

Inspection Date: 2/7/07

Meter Model: Geiger

Meter Serial Number: 11833

Calibration Due Date: 9/17/07

Room Checks

	Initials
All RAM removed from the room	K
Radioactive waste removed	K
All RAM use equipment cleared	K
All radiation labels removed	K
Entrance un-posted	K

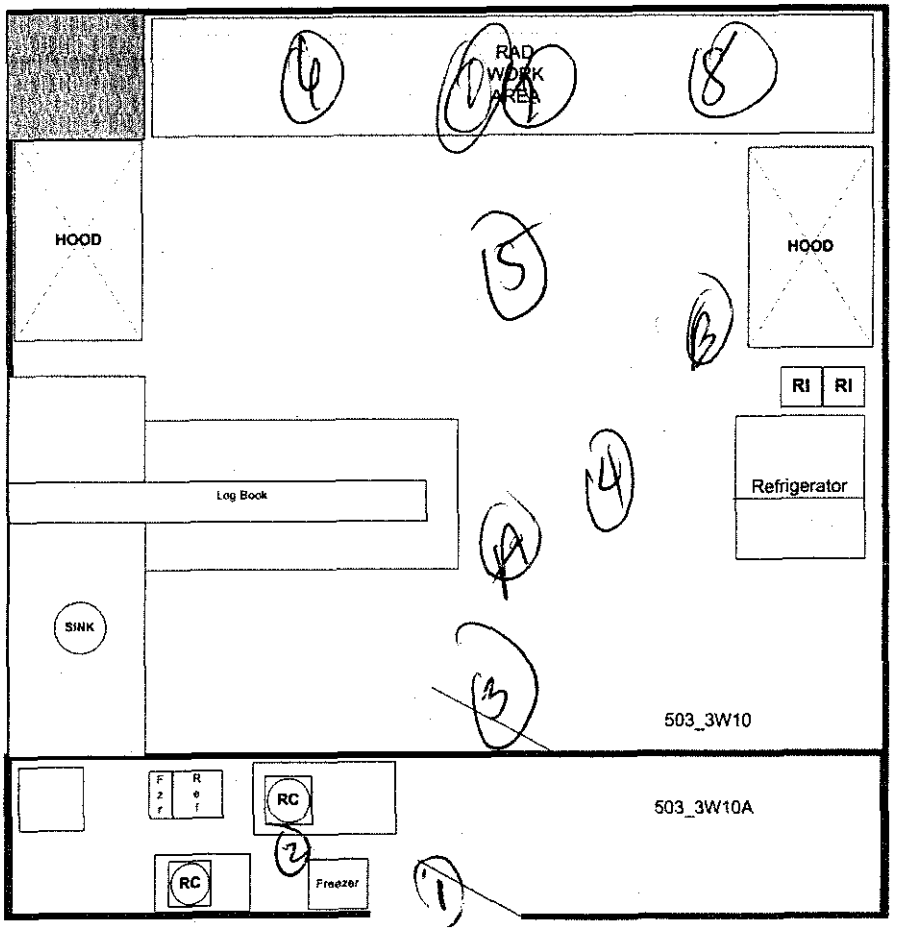
Administrative Checks

	Initials
Equipment / Room Final Forms Completed	K

Additional Information:

Meter Readings

BKG	<100	cpm
A	<100	cpm
B	<100	cpm
C	<100	cpm
D		cpm
E		cpm
F		cpm
G		cpm



Laboratory Analysis

Technician: Ms. Cox

Date: 2/8/07

Auto-gamma: 1-8

LSC: 2-9

Swipe Numbers: 1-8

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Protocol #: 6 Swipes User : H

Count Time(minutes): 2.00
Assay Type: DPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillup: 0.00
%Spilldown: 0.10
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 251 keV	MAN	251 - 550 keV	MAN	550 - 2000 keV
Bkg:	34.8		114		46.7	
Sigma:	0.00		0.00		0.00	
LOR:	1		0		0	
Half Life(years):	1.00		0.00			
Multiplier:	1.000					
MDA Flag Limit:	0.00		0.00			

PN	SM	A:CPM	A:MSIG	B:CPM	B:MSIG	C:CPM	C:MSIG	TIME
6	1	3.0	41.0	0.5	21.4	3.7	34.4	2.00
6	2	0.0		2.0		2.7	42.7	2.00
6	3	1.0		3.4	38.2	5.7	39.5	2.00
6	4	0.0		7.4	39.2	0.0		2.00
6	5	0.0		0.0		5.3	19.5	2.00
6	6	0.0		0.0		0.0		2.00
6	7	2.5	44.9	0.4	109	3.7	23.5	2.00
6	8	0.0		0.0		0.7	92.2	2.00
6	9	3.5	30.3	0.0		3.2	35.3	2.00
6	10	9.0	27.1	0.0		2.7	42.7	2.00
6	11	0.0		0.0		0.0		2.00
6	12	0.0		6.4	27.9	7.2	79.7	2.00
6	13	5.0	25.0	11.4	20.0	3.2	47.3	2.00
6	14	9.0	23.6	0.4	109	0.0		2.00
6	15	3.0	41.0	0.0		0.0		2.00
6	16	17.5	16.0	19.4	16.0	0.7	92.2	2.00
6	17	0.0		9.4	23.0	0.7	85.2	2.00
6	18	4.5	77.4	5.4	30.4	1.7	114	2.00
6	19	10.0	22.4	4.4	33.6	4.7	22.5	2.00
6	20	1.0	71.6	10.4	21.7	4.2	28.3	2.00
6	21	0.0		7.7	25.1	0.0		2.00
6	22	0.0		0.0		3.7	27.9	2.00
6	23	7.0	31.5	0.0		0.0		2.00
6	24	0.5	102	11.9	20.5	0.0		2.00
6	25	5.0	25.0	1.5	51.0	0.0		2.00
6	26	7.5	25.9	10.9	21.4	0.0		2.00
6	27	5.0	22.6	7.4	26.0	1.0		2.00
6	28	2.5	44.9	7.4	26.0	5.2	30.9	2.00
6	29	0.0		6.4	27.9	0.0		2.00
6	30	1.0	71.6	8.4	23.0	4.7	32.5	2.00
6	31	0.0		7.4	26.0	0.0		2.00
6	32	14.0	17.7	17.4	19.3	1.7	53.6	2.00
6	33	0.0		0.0		0.0		2.00
6	34	0.0		0.0		2.7	42.7	2.00

Protocol #: 6 Swipes User : H

P#	S#	A:CPM	A:%SIG	S:CPM	B:%SIG	C:CPM	C:%SIG	TIME
4	35	0.0		0.9	73.7	1.2	47.7	2.00
5	36	0.0		17.9	15.7	0.0		2.00
4	37	17.5	14.9	4.4	33.3	0.0		2.00
5	38	2.0	75.0	6.5	24.9	4.2	28.7	2.00
4	39	0.0		12.4	14.9	1.7	53.1	2.00
4	40	0.0		0.0		0.0		2.00
4	41	0.0		5.4	30.4	0.0	144	2.00
5	42	2.5	27.0	1.4	19.0	4.2	28.3	2.00
4	43	2.5	77.5	1.0		0.0		2.00
4	44	0.0		0.4	100	1.7	92.2	2.00
4	45	7.0	14.3	3.4	38.2	0.0		2.00
5	46	12.5	21.0	5.9	25.7	1.0		2.00

Protocol #: 5 ROUTINE A User : CPL Whicke

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

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	3.92
Region B:	18.6	156	0	0.0	6.31
Region C:	156	2000	0	0.0	2.97

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	3.92	31.96	6.31	25.17	2.97			431.75	B
2	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	433.01	
3	2.00	2.58	147.7	0.69	592.1	1.03	7.04	0.90	409.66	
4	2.00	2.08	176.7	0.00	0.00	1.03	5.98	0.00	421.31	
5	2.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	423.17	
6	2.00	2.90	134.3	1.37	309.4	0.00	7.32	1.83	419.98	
7	2.00	2.08	176.7	0.00	0.00	2.53	6.00	0.00	418.85	
8	2.00	2.08	176.7	0.00	0.00	0.03	5.95	0.00	423.75	
9	2.00	3.08	127.9	1.19	352.5	0.03	7.82	1.58	430.55	
10	2.00	0.50	639.6	2.77	164.4	3.03	0.00	3.79	425.88	
11	2.00	1.85	195.4	1.42	299.0	0.53	4.28	1.92	416.91	
12	2.00	3.08	127.9	0.00	0.00	0.00	8.68	0.00	431.65	
13	2.00	1.58	223.7	0.00	0.00	0.00	4.54	0.00	421.43	
14	2.00	0.58	555.9	0.69	592.1	2.53	1.13	0.93	437.57	
15	2.00	3.58	113.5	0.00	0.00	0.53	9.92	0.00	441.47	
16	2.00	0.58	555.9	0.00	0.00	0.53	1.66	0.00	426.33	
17	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.46	
18	2.00	1.08	313.5	0.69	592.1	2.53	2.62	0.93	416.86	
19	2.00	1.58	223.7	0.00	0.00	0.00	4.60	0.00	413.82	
20	2.00	3.08	127.9	0.00	0.00	1.03	8.99	0.00	412.22	
21	2.00	0.08	3649	0.00	0.00	0.53	0.24	0.00	423.27	
22	2.00	4.89	89.58	0.00	0.00	0.00	14.07	0.00	418.98	
23	2.00	1.58	223.7	0.19	2113	0.53	4.38	0.23	424.63	
24	2.00	0.41	773.8	0.36	1113	0.00	0.92	0.49	420.49	
25	2.00	0.57	573.9	0.00	0.00	1.53	1.60	0.00	429.48	
26	2.00	2.58	147.7	0.00	0.00	0.03	7.40	0.00	422.19	
27	2.00	2.58	147.7	0.00	0.00	0.00	7.43	0.00	419.96	
28	2.00	0.58	555.9	0.00	0.00	1.53	1.67	0.00	423.64	
29	2.00	0.00	0.00	0.00	0.00	5.03	0.00	0.00	437.12	
30	2.00	1.08	313.5	3.19	145.6	1.53	0.73	4.36	417.50	
31	2.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	424.50	
32	2.00	2.08	176.7	0.00	0.00	1.03	5.97	0.00	421.61	
33	2.00	4.58	93.98	0.00	0.00	1.53	12.88	0.00	433.07	
34	2.00	1.90	191.5	0.00	0.00	2.03	5.45	0.00	419.48	
35	2.00	0.08	3649	0.00	0.00	0.00	0.24	0.00	425.57	
36	2.00	0.00	0.00	1.69	255.2	2.03	0.00	2.32	424.10	
37	2.00	1.58	223.7	0.00	0.00	1.03	4.51	0.00	424.93	
38	2.00	0.58	555.9	0.00	0.00	0.03	1.66	0.00	428.08	
39	2.00	0.08	3649	0.00	0.00	4.03	0.25	0.00	416.74	
40	2.00	1.08	313.5	1.19	352.8	0.00	2.26	1.61	411.44	

Protocol #: 5 ROUTINE A User : CPL Whicke

S#	TIME	CPMA	A:2S%	CPMB	B:2S%	CPMC	DPM1	DPM2	tSIE	FLAG
41	2.00	0.00	0.00	0.69	592.1	0.53	0.00	0.95	392.03	
42	2.00	0.24	1328	0.00	0.00	2.03	0.69	0.00	410.05	
43	2.00	3.26	122.5	1.89	230.5	0.16	8.32	2.54	394.62	
44	2.00	0.68	481.2	0.00	0.00	0.53	1.90	0.00	436.35	
45	2.00	0.00	0.00	0.00	0.00	1.53	0.00	0.00	424.29	
46	2.00	3.94	105.6	1.84	236.3	2.53	9.63	2.45	437.53	
47	2.00	2.08	176.7	0.00	0.00	0.00	6.12	0.00	407.93	

Radiation Equipment Survey Report

Room: 3W10 **Building:** 503 **HPO Surveyor:** Ms. Cox

Authorization: 709 **Inspection Date:** 2/7/07

Department: NMRC **Meter Model:** Geiger

Radionuclides: C14, Cr51, H-3, I-125, P-32, S-35 **Meter Serial Number:** 11833

Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: CO_2 Water Jacketed Incubator
Manufacturer: Forma Scientific
Model Number: 3149
Serial Number: 28304-7138
MMCN: NMRC 323480841

Reason for Survey

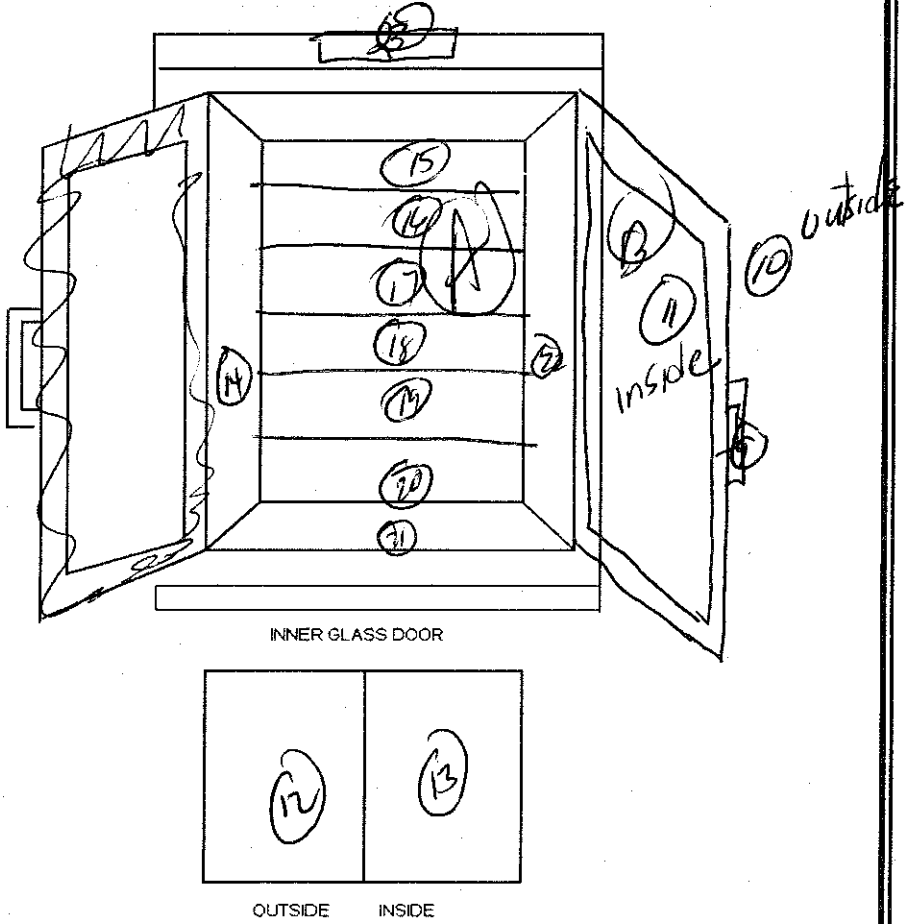
Mark a X for appropriate reason.

On/off-Site Repair: __
Turn-in/ Transfer: __
Administrative Hold: __
Non RAM use only: X
Other: _____

Meter Readings

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

Incubator



Laboratory Analysis

Technician: MS. Cox
Auto-gamma: 9-23
LSC: 10-24
Date: 2/8/07
Swipe Numbers: 9-23

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

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

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

_____

Protocol #: 6 Swipes User : H

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Blg
Outlier: 3.0 FLAG
%Spillup: 0.00
%Spilldown: 0.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 150 keV	MAN	150 - 950 keV	MAN	950 - 2000 keV
Bkgd:	74.5		114		46.7	
Sigma:	0.70		0.00		0.00	
LOD:	1		0		0	
Half Life(hours):	0.00		0.00			
MCA Gain:	1.000					
%DV Flag Limit:	0.00		0.00			

Sh	CM	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
6	1	3.0	41.9	10.9	21.4	3.7	34.4	2.00
6	2	0.0		0.0		2.7	40.7	2.00
6	3	1.0		3.4	58.2	5.7	29.9	2.00
6	4	0.0		7.4	58.2	0.0		2.00
6	5	0.0		0.0		8.7	34.9	2.00
6	6	0.0		0.0		0.0		2.00
6	7	2.5	44.9	0.4	107	5.7	33.3	2.00
6	8	0.0		0.0		0.7	82.2	2.00
6	9	5.5	30.7	0.0		3.1	39.3	2.00
6	10	9.0	27.6	0.0		2.7	42.7	2.00
6	11	3.0		0.0		0.0		2.00
6	12	0.0		6.4	27.7	1.2	33.7	2.00
6	13	6.0	32.0	11.4	20.9	2.0	47.2	2.00
6	14	9.0	27.6	0.4	100	0.0		2.00
6	15	3.0	41.0	0.0		0.0		2.00
6	16	19.9	16.0	15.4	16.0	1.7	32.2	2.00
6	17	0.0		18.4	23.2	0.7	57.2	2.00
6	18	4.9	70.4	5.4	30.8	1.0	100	2.00
6	19	10.0	20.4	4.4	37.4	3.7	33.7	2.00
6	20	1.0	71.8	10.4	21.9	1.2	28.3	2.00
6	21	0.0		7.7	25.4	0.0		2.00
6	22	0.0		0.0		3.7	27.9	2.00
6	23	2.0	70.8	0.0		0.0		2.00
6	24	4.0	100	11.8	20.8	0.0		2.00
6	25	3.0	57.0	1.5	81.0	0.0		2.00
6	26	7.9	28.9	10.9	21.4	0.0		2.00
6	27	1.0	57.4	7.4	31.1	0.0		2.00
6	28	2.9	44.9	7.4	26.0	3.2	70.9	2.00
6	29	0.0		6.4	27.5	0.0		2.00
6	30	1.0	71.8	5.1	37.0	4.7	32.5	2.00
6	31	0.0		7.4	24.3	0.0		2.00
6	32	10.0	47.7	17.4	19.3	1.7	33.1	2.00
6	33	0.0		0.0		0.0		2.00
6	34	0.0		0.0		2.7	57.7	2.00

Protocol #: 5 ROUTINE A User : CPL Whicke

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

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	18.6	0	0.0	3.92
Region B:	18.6 -	156	0	0.0	6.31
Region C:	156 -	2000	0	0.0	2.97

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	3.92	31.96	6.31	25.17	2.97			431.75	B
2	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	433.01	
3	2.00	2.58	147.7	0.69	592.1	1.03	7.04	0.90	409.66	
4	2.00	2.08	176.7	0.00	0.00	1.03	5.98	0.00	421.31	
5	2.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	423.17	
6	2.00	2.90	134.3	1.37	309.4	0.00	7.32	1.83	419.98	
7	2.00	2.08	176.7	0.00	0.00	2.53	6.00	0.00	418.85	
8	2.00	2.08	176.7	0.00	0.00	0.03	5.95	0.00	423.75	
9	2.00	3.08	127.9	1.19	352.5	0.03	7.82	1.58	430.55	
10	2.00	0.50	639.6	2.77	164.4	3.03	0.00	3.79	425.88	
11	2.00	1.85	195.4	1.42	299.0	0.53	4.28	1.92	416.91	
12	2.00	3.08	127.9	0.00	0.00	0.00	8.68	0.00	431.65	
13	2.00	1.58	223.7	0.00	0.00	0.00	4.54	0.00	421.43	
14	2.00	0.58	555.9	0.69	592.1	2.53	1.13	0.93	437.57	
15	2.00	3.58	113.5	0.00	0.00	0.53	9.92	0.00	441.47	
16	2.00	0.58	555.9	0.00	0.00	0.53	1.66	0.00	426.33	
17	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.46	
18	2.00	1.08	313.5	0.69	592.1	2.53	2.62	0.93	416.86	
19	2.00	1.58	223.7	0.00	0.00	0.00	4.60	0.00	413.82	
20	2.00	3.08	127.9	0.00	0.00	1.03	8.99	0.00	412.22	
21	2.00	0.08	3649	0.00	0.00	0.53	0.24	0.00	423.27	
22	2.00	4.89	89.58	0.00	0.00	0.00	14.07	0.00	418.98	
23	2.00	1.58	223.7	0.19	2113	0.53	4.38	0.23	424.63	
24	2.00	0.41	773.8	0.36	1113	0.00	0.92	0.49	420.49	
25	2.00	0.57	573.9	0.00	0.00	1.53	1.60	0.00	429.48	
26	2.00	2.58	147.7	0.00	0.00	0.03	7.40	0.00	422.19	
27	2.00	2.58	147.7	0.00	0.00	0.00	7.43	0.00	419.96	
28	2.00	0.58	555.9	0.00	0.00	1.53	1.67	0.00	423.64	
29	2.00	0.00	0.00	0.00	0.00	5.03	0.00	0.00	437.12	
30	2.00	1.08	313.5	3.19	145.6	1.53	0.73	4.36	417.50	
31	2.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	424.50	
32	2.00	2.08	176.7	0.00	0.00	1.03	5.97	0.00	421.61	
33	2.00	4.58	93.98	0.00	0.00	1.53	12.88	0.00	433.07	
34	2.00	1.90	191.5	0.00	0.00	2.03	5.45	0.00	419.48	
35	2.00	0.08	3649	0.00	0.00	0.00	0.24	0.00	425.57	
36	2.00	0.00	0.00	1.69	255.2	2.03	0.00	2.32	424.10	
37	2.00	1.58	223.7	0.00	0.00	1.03	4.51	0.00	424.93	
38	2.00	0.58	555.9	0.00	0.00	0.03	1.66	0.00	428.08	
39	2.00	0.08	3649	0.00	0.00	4.03	0.25	0.00	416.74	
40	2.00	1.08	313.5	1.19	352.8	0.00	2.26	1.61	411.44	

Radiation Equipment Survey Report

Room: 3W10 **Building:** 503 **HPO Surveyor:** MS Cox

Authorization: 709 **Inspection Date:** 2/7/07

Department: NMRC **Meter Model:** Gieger

Radionuclides: C14/Cr51/H-3/I125/P32/S35 **Meter Serial Number:** 11833

Calibration Due Date: 01/17/07

Equipment Information

Nomenclature: Co2 Water Jacketed Incubator
Manufacturer: Forma Scientific
Model Number: 3110
Serial Number: 28304-7121
MMCN: NMRC 3239800892

Reason for Survey

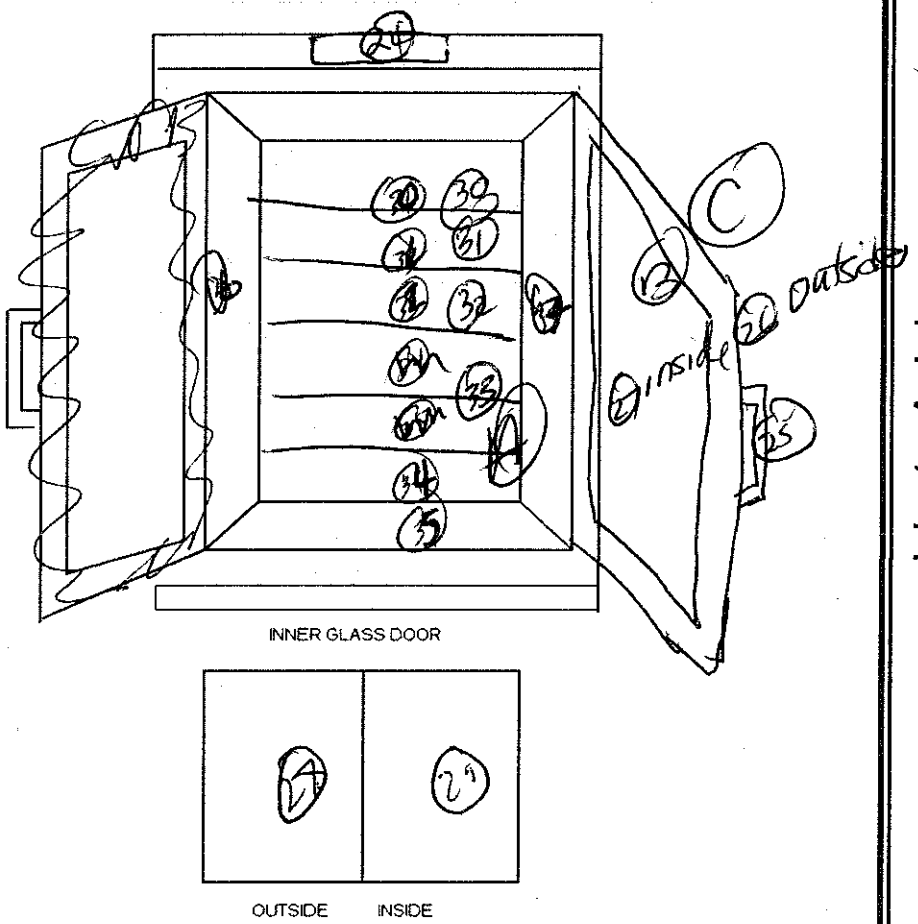
Mark a X for appropriate reason.

On/off-Site Repair: __
Turn-in/ Transfer: __
Administrative Hold: __
Non RAM use only: X
Other: _____

Meter Readings

BKG	<100	cpm mR/hr
A	"	cpm mR/hr
B	"	cpm mR/hr
C	<400	cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr

Incubator



Laboratory Analysis

Technician: MS Cox
Auto-gamma: 34 - 37
LSC: 25 - 35
Date: 2/8/07
Swipe Numbers: 24-37

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

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

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

Protocol #: 6 Swipes User: [illegible]

Count Time(minutes): 2.00
Assay Type: IPM
Background Subtract : IPB Bkg
Outlier: [illegible] TIAS
%Spillin: 0.00
%Spilldown: 1.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	MAN	250 - 750 keV	MAN	850 - 2000 keV
Bkg:	75.5		114		46.7	
Sigma:	3.13		1.11		3.11	
LTP:	1		1		9	
Half Life(hours):	1.0		1.00			
Multiplier:	1.0000					
MDA Flag Limit:	3.0		3.0			

Sm	DM	A:DPM	A:%ERR	B:CPM	B:%ERR	C:CPM	C:%ERR	TIME
A	1	13.0	41.0	10.9	21.4	3.7	36.4	2.00
A	2	0.0		0.0		2.7	42.7	2.00
A	3	1.0		3.4	38.2	5.7	29.8	2.00
A	4	0.0		7.4	58.2	0.0		2.00
A	5	0.0		4.0		5.7	37.5	2.00
A	6	0.0		0.0		0.0		2.00
A	7	3.3	44.0	0.4	100	8.7	33.6	2.00
A	8	0.0		0.0		0.7	80.2	2.00
A	9	5.5	30.7	0.0		1.2	79.2	2.00
A	10	9.0	27.4	0.0		2.7	43.7	2.00
A	11	0.0		0.0		0.0		2.00
A	12	0.0		6.4	27.7	7.2	33.7	2.00
A	13	5.0	37.0	11.4	20.5	2.0	47.2	2.00
A	14	9.0	27.6	0.4	100	0.0		2.00
A	17	3.0	41.0	0.0		0.0		2.00
A	16	15.9	16.0	15.4	16.0	0.7	72.2	2.00
A	17	0.0		8.4	27.0	0.7	87.2	2.00
A	18	4.3	73.4	2.4	70.4	0.0	100	2.00
A	19	10.0	25.4	4.7	77.6	4.3	37.7	2.00
A	20	1.0	71.6	10.4	21.3	4.2	28.7	2.00
A	21	0.0		0.0	25.2	0.0		2.00
A	22	0.0		0.0		3.7	27.5	2.00
A	23	3.0	34.9	0.0		0.0		2.00
A	24	4.7	100	11.3	30.3	0.0		2.00
A	25	3.0	38.2	1.7	32.0	0.0		2.00
A	26	7.7	28.5	11.9	21.4	0.0		2.00
A	27	3.0	37.6	7.4	25.0	0.0		2.00
A	28	2.3	44.5	7.4	26.0	3.3	70.9	2.00
A	29	0.0		6.4	27.7	0.0		2.00
A	30	1.0	71.6	5.4	27.0	4.7	32.5	2.00
A	31	0.0		2.0	26.1	0.0		2.00
A	32	11.0	17.7	17.4	19.1	1.7	70.1	2.00
A	33	0.0		0.0		0.0		2.00
A	34	0.0		0.0		2.7	42.7	2.00

Radiation Equipment Survey Report

Room: 3W 10
Building:
HPO Surveyor: Ms. Cox
Authorization: 709
Inspection Date: 2/7/07
Department: NMRC / Malaria
Meter Model: Geiger
Radionuclides: C14, Cr51, H-3, I125, P32 + S35
Meter Serial Number: 1183B
Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: Harvester
Manufacturer: Filter Mate
Model Number: N/A
Serial Number:
MMCN:

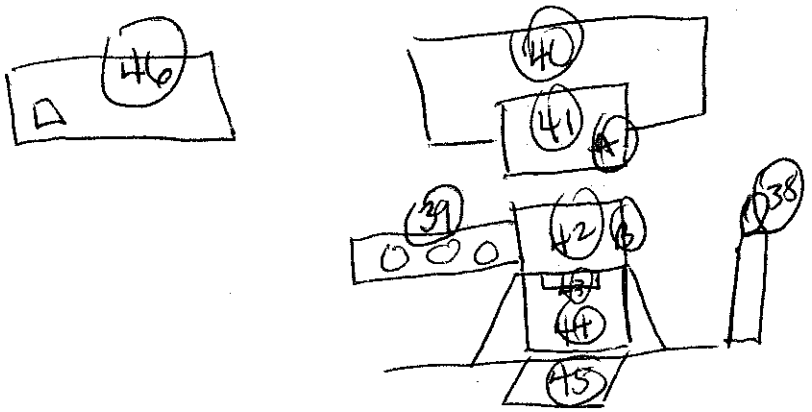
Reason for Survey

Mark a X for appropriate reason.

On/off-Site Repair:
Turn-in/ Transfer:
Administrative Hold:
Non RAM use only: X
Other:

Meter Readings

BKG	<100	cpm mR/hr
A	<100	cpm mR/hr
B	<100	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: Ms. C
Auto-gamma: 38-46
LSC: 39-47
Date: 2/8/07
Swipe Numbers: 38-46

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

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

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

Protocol #: 6 Swipes User: H

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IPA Bkg
Outlier: 5.0 FLAG
%Spillin: 3.00
%Spilldown: 3.00
Screening: OFF

	Window A		Window B		Window C	
Nuclide:	MAN	15 - 250 keV	KPN	250 - 550 keV	MAN	550 - 3000 keV
Bkg:	34.5		114		46.7	
Sigma:	0.00		0.00		0.00	
DPS:	0		0		0	
Half Life(years):	0.00		0.00			
Multiplier:	1.000					
%DV Flag Limit:	0.00		0.00			

SN	DN	A:CPM	A:DNSTY	B:CPM	B:DNSTY	C:CPM	C:DNSTY	TIME
6	1	2.0	41.0	10.9	71.4	2.7	36.4	2.00
6	2	0.0		0.0		2.7	42.7	2.00
6	3	1.0		3.4	38.1	5.7	29.3	2.00
6	4	0.0		7.4	38.2	0.0		2.00
6	5	0.0		0.0		5.7	39.5	2.00
6	6	0.0		0.0		0.0		2.00
6	7	2.0	44.5	0.4	105	8.7	23.9	2.00
6	8	0.0		0.0		0.7	22.8	2.00
6	9	5.0	30.7	0.0		3.2	35.3	2.00
6	10	9.0	27.6	0.0		2.7	42.7	2.00
6	11	0.0		0.0		0.0		2.00
6	12	0.0		6.4	27.9	7.2	33.1	2.00
6	13	8.0	25.6	11.0	30.4	3.2	47.3	2.00
6	14	8.0	27.5	0.4	104	0.0		2.00
6	15	3.0	41.0	0.0		0.0		2.00
6	16	15.7	16.1	15.4	16.0	0.7	72.3	2.00
6	17	0.0		9.4	23.0	0.7	87.2	2.00
6	18	4.7	32.4	8.4	31.4	2.2	110	2.00
6	19	10.0	20.4	4.7	22.6	4.7	27.1	2.00
6	20	1.0	71.2	10.4	21.9	4.2	28.3	2.00
6	21	0.0		7.7	25.1	0.0		2.00
6	22	0.0		0.0		2.7	27.9	2.00
6	23	7.0	34.8	0.0		0.0		2.00
6	24	0.0	172	11.9	20.8	0.0		2.00
6	25	5.0	27.2	6.9	31.1	0.0		2.00
6	26	7.9	24.7	11.9	21.4	0.0		2.00
6	27	5.0	28.6	7.4	26.1	0.0		2.00
6	28	2.9	41.9	7.4	26.0	3.2	70.9	2.00
6	29	0.0		6.4	27.9	0.0		2.00
6	30	1.0	71.2	5.4	37.0	3.7	72.6	2.00
6	31	0.0		7.4	26.0	0.0		2.00
6	32	14.0	17.7	17.4	15.1	1.7	32.6	2.00
6	33	0.0		0.0		0.0		2.00
6	34	0.0		0.0		2.7	42.7	2.00

Protocol #: 5 ROUTINE A User : CPL Whicke

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

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	18.6	0	0.0	3.92
Region B:	18.6 -	156	0	0.0	6.31
Region C:	156 -	2000	0	0.0	2.97

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	3.92	31.96	6.31	25.17	2.97			431.75	B
2	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	433.01	
3	2.00	2.58	147.7	0.69	592.1	1.03	7.04	0.90	409.66	
4	2.00	2.08	176.7	0.00	0.00	1.03	5.98	0.00	421.31	
5	2.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	423.17	
6	2.00	2.90	134.3	1.37	309.4	0.00	7.32	1.83	419.98	
7	2.00	2.08	176.7	0.00	0.00	2.53	6.00	0.00	418.85	
8	2.00	2.08	176.7	0.00	0.00	0.03	5.95	0.00	423.75	
9	2.00	3.08	127.9	1.19	352.5	0.03	7.82	1.58	430.55	
10	2.00	0.50	639.6	2.77	164.4	3.03	0.00	3.79	425.88	
11	2.00	1.85	195.4	1.42	299.0	0.53	4.28	1.92	416.91	
12	2.00	3.08	127.9	0.00	0.00	0.00	8.68	0.00	431.65	
13	2.00	1.58	223.7	0.00	0.00	0.00	4.54	0.00	421.43	
14	2.00	0.58	555.9	0.69	592.1	2.53	1.13	0.93	437.57	
15	2.00	3.58	113.5	0.00	0.00	0.53	9.92	0.00	441.47	
16	2.00	0.58	555.9	0.00	0.00	0.53	1.66	0.00	426.33	
17	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	427.46	
18	2.00	1.08	313.5	0.69	592.1	2.53	2.62	0.93	416.86	
19	2.00	1.58	223.7	0.00	0.00	0.00	4.60	0.00	413.82	
20	2.00	3.08	127.9	0.00	0.00	1.03	8.99	0.00	412.22	
21	2.00	0.08	3649	0.00	0.00	0.53	0.24	0.00	423.27	
22	2.00	4.89	89.58	0.00	0.00	0.00	14.07	0.00	418.98	
23	2.00	1.58	223.7	0.19	2113	0.53	4.38	0.23	424.63	
24	2.00	0.41	773.8	0.36	1113	0.00	0.92	0.49	420.49	
25	2.00	0.57	573.9	0.00	0.00	1.53	1.60	0.00	429.48	
26	2.00	2.58	147.7	0.00	0.00	0.03	7.40	0.00	422.19	
27	2.00	2.58	147.7	0.00	0.00	0.00	7.43	0.00	419.96	
28	2.00	0.58	555.9	0.00	0.00	1.53	1.67	0.00	423.64	
29	2.00	0.00	0.00	0.00	0.00	5.03	0.00	0.00	437.12	
30	2.00	1.08	313.5	3.19	145.6	1.53	0.73	4.36	417.50	
31	2.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	424.50	
32	2.00	2.08	176.7	0.00	0.00	1.03	5.97	0.00	421.61	
33	2.00	4.58	93.98	0.00	0.00	1.53	12.88	0.00	433.07	
34	2.00	1.90	191.5	0.00	0.00	2.03	5.45	0.00	419.48	
35	2.00	0.08	3649	0.00	0.00	0.00	0.24	0.00	425.57	
36	2.00	0.00	0.00	1.69	255.2	2.03	0.00	2.32	424.10	
37	2.00	1.58	223.7	0.00	0.00	1.03	4.51	0.00	424.93	
38	2.00	0.58	555.9	0.00	0.00	0.03	1.66	0.00	428.08	
39	2.00	0.08	3649	0.00	0.00	4.03	0.25	0.00	416.74	
40	2.00	1.08	313.5	1.19	352.8	0.00	2.26	1.61	411.44	

MCHL-HP (11-9d) February 12, 2007

MEMORANDUM FOR CAPT Thomas Richie, NMRC/Malaria,
Radioactive Materials Authorization Number 709

SUBJECT: Radiological Safety Certification for Building 503 Room 3W40

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
503, WRAIR/NMRC	3W40

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.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Forma Scientific Co2 Water Jacketed Incubator	3110	28304-7082	HMJ F14712

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

Vanessa Cox

VANESSA COX
Health Physicist
Health Physics Office

Radiation Final Laboratory Summary Report

Room: 3W40 **Building:** 503, WRAIR

Authorization: 709 / CAPT Thomas Richie

Department: NMRC / Malaria

Radionuclides: C-14, Cr-51, H-3, I-125, P-32, and S-35

HPO Surveyor: Ms. Cox

Inspection Date: 2/7/07

Meter Model: Geiger

Meter Serial Number: 11833

Calibration Due Date: 9/17/07

Room Checks

	Initials
All RAM removed from the room	RC
Radioactive waste removed	RC
All RAM use equipment cleared	RC
All radiation labels removed	RC
Entrance un-posted	RC

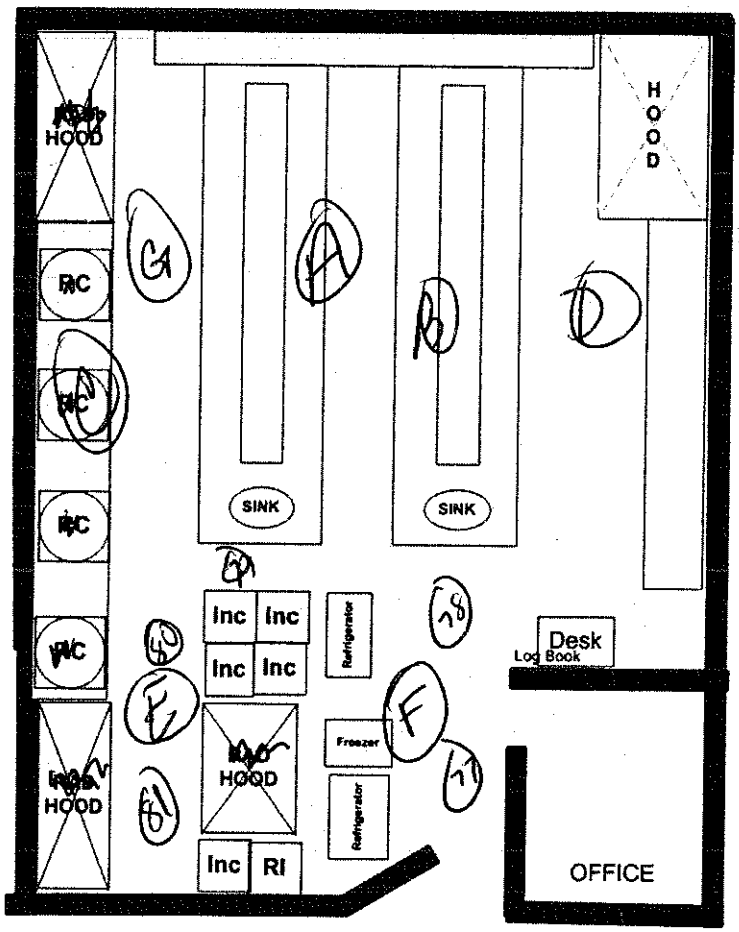
Administrative Checks

	Initials
Equipment / Room Final Forms Completed	RC

Additional Information:

Meter Readings

BKG	<100	cpm
A	<100	cpm
B	"	cpm
C	"	cpm
D	"	cpm
E	"	cpm
F	<100	cpm
G	<100	cpm



503_3W40

Laboratory Analysis

Date: 2/8/07

Swipe Numbers: 77-81

Technician: MASON

Auto-gamma: 10-14

LSC: 11-15

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Swipe	Isotope	Efficiency	DPM

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Protocol #: 8 Swipes User : H.

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:	94.5		114		46.7	
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:%BIG	B:CPM	B:%BIG	C:CPM	C:%BIG	TIME
8	1	0.0		12.4	20.1	0.0		2.00
8	2	0.0		0.0		0.0		2.00
8	3	5.5	30.2	0.0		5.2	33.3	2.00
8	4	2.5	44.9	3.4	28.2	0.0		2.00
8	5	0.0		0.0		5.2	37.3	2.00
8	6	0.0		7.9	25.1	0.7	22.1	2.00
8	7	0.0		0.0		8.3	74.4	2.00
8	8	4.7	33.4	7.2	28.2	3.2	44	2.00
8	9	0.0		0.0		0.0		2.00
8	10	10.0	20.4	17.9	17.0	0.0		2.00
8	11	4.0	28.4	6.9	26.4	2.7	42.7	2.00
8	12	0.0		7.4	23.2	3.2	39.3	2.00
8	13	0.0		0.0		0.7	22.3	2.00
8	14	4.5	37.8	5.4	30.8	3.2	23.7	2.00
8	15	1.0	71.4	6.4	27.9	1.7	53.6	2.00
8	16	0.0		0.0		0.0		2.00
8	17	0.0		0.0		0.0		2.00
8	18	0.0		7.9	35.7	3.2	47.2	2.00
8	19	5.0	71.7	0.0		0.0		2.00
8	20	7.0	56.8	5.9	41.4	0.0		2.00
8	21	0.0		1.5	71.9	0.0		2.00
8	22	4.0	29.8	1.4	39.7	0.2	144	2.00
8	23	0.0		5.9	25.1	0.0		2.00

Protocol #: 7 ROUTINE A User : CPL Whicke

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

	LL	UL	LCR	2S%	BKG
Region A:	0.0 -	18.6	0	0.0	5.03
Region B:	18.6 -	156	0	0.0	4.77
Region C:	156 -	2000	0	0.0	4.10

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	5.03	28.19	4.77	28.97	4.10			470.04	B
2	2.00	0.00	0.00	4.44	101.5	0.00	0.00	6.10	424.54	
3	2.00	0.97	387.4	0.73	489.7	1.40	2.24	0.99	417.94	
4	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.60	
5	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.63	
6	2.00	0.47	773.5	0.00	0.00	0.40	1.36	0.00	410.01	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	419.01	
8	2.00	2.38	172.1	0.00	0.00	0.40	6.78	0.00	425.80	
9	2.00	0.00	0.00	2.98	139.8	0.00	0.00	4.10	425.69	
10	2.00	0.00	0.00	1.73	222.7	0.00	0.00	2.38	421.01	
11	2.00	0.00	0.00	3.13	134.5	0.90	0.00	4.31	407.38	
12	2.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00	406.01	
13	2.00	0.06	6326	3.14	133.9	0.90	0.00	4.33	406.34	
14	2.00	1.55	250.9	0.00	0.00	0.00	4.58	0.00	406.21	
15	2.00	6.97	73.21	3.73	116.5	0.00	17.69	5.02	405.27	
16	2.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	418.80	
17	2.00	1.47	264.2	0.23	1477	0.00	3.95	0.30	432.12	
18	2.00	0.44	819.8	0.76	473.1	0.00	0.68	1.04	429.02	
19	2.00	0.82	452.4	5.88	81.90	0.40	0.00	8.07	421.90	
20	2.00	0.00	0.00	1.23	302.3	0.00	0.00	1.70	418.34	
21	2.00	1.20	317.2	0.00	0.00	0.00	3.48	0.00	415.53	
22	2.00	0.00	0.00	1.23	302.3	0.00	0.00	1.70	420.33	
23	2.00	1.47	264.2	0.23	1477	0.00	4.04	0.30	419.77	
24	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	416.34	

Radiation Equipment Survey Report

Room: 3W40
Building:
HPO Surveyor: Ms. Cox
Authorization: 709
Inspection Date: 2/7/07
Department: NMRC / Malaria
Meter Model: Geiger
Meter Serial Number: 11833
Radionuclides: C14, Cr51, H-3, I125, P3+ S35
Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: CO_2 Water Jacketed Incubator
Manufacturer: Forma Scientific
Model Number: 3110
Serial Number: 28304-7082
MMCN: NMRC HMJ E14712

Reason for Survey

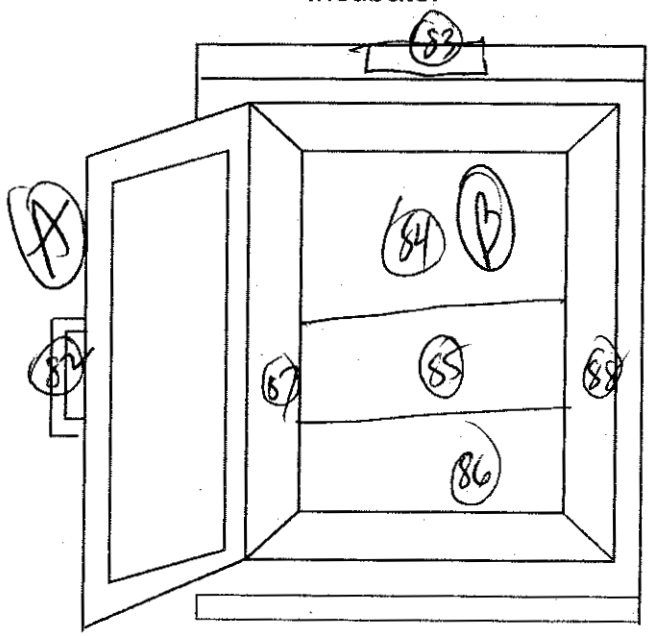
Mark a X for appropriate reason.

On/off-Site Repair: __
Turn-in/ Transfer: __
Administrative Hold: __
Non RAM use only: X
Other: _____

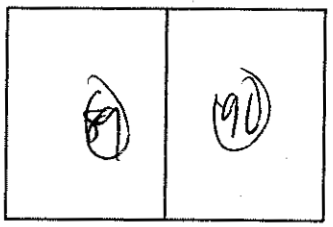
Meter Readings

BKG	400	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

Incubator



INNER GLASS DOOR



OUTSIDE INSIDE

Laboratory Analysis

Technician: Ms. Cox
Auto-gamma: 15-23
LSC: 16-24
Date: 2/8/07
Swipe Numbers: 82-90

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

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

Comments

Completed
All swipes < 200 dpm

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:	94.5		114		46.3	
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
8	1	0.0		12.4	20.1	0.0		2.00
8	2	0.0		0.0		0.0		2.00
8	3	5.5	30.2	0.0		9.2	23.3	2.00
8	4	2.5	44.9	3.4	38.2	0.0		2.00
8	5	0.0		0.0		9.2	23.3	2.00
8	6	0.0		7.9	25.1	0.7	82.2	2.00
8	7	0.0		0.0		8.2	24.6	2.00
8	8	4.5	33.4	3.4	38.2	0.2	144	2.00
8	9	0.0		0.0		0.0		2.00
8	10	10.0	22.4	13.9	19.0	0.0		2.00
8	11	4.0	35.4	6.9	26.5	2.7	42.7	2.00
8	12	0.0		3.4	38.2	3.2	39.3	2.00
8	13	0.0		0.0		0.7	82.2	2.00
8	14	4.5	27.8	3.4	30.4	9.2	23.3	2.00
8	15	1.0	71.4	6.4	27.9	1.7	53.6	2.00
8	16	0.0		0.0		0.0		2.00
8	17	0.0		0.0		0.0		2.00
8	18	0.0		2.9	35.7	2.2	47.2	2.00
8	19	5.0	31.7	0.0		0.0		2.00
8	20	7.0	26.8	2.9	41.4	0.0		2.00
8	21	0.0		4.9	31.9	0.0		2.00
8	22	6.0	28.9	1.4	59.2	0.2	144	2.00
8	23	0.0		5.9	29.1	0.0		2.00

MCHL-HP (11-9d) February 12, 2007

MEMORANDUM FOR CAPT Thomas Richie, NMRC/Malaria,
Radioactive Materials Authorization Number 709

SUBJECT: Radiological Safety Certification for Building 503 Room 3W22

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
503, WRAIR/NMRC	3W22

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.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Forma Scientific Co2 Water Jacketed Incubator	3110	28305-7137	3239803259
Freezer	3767	394-008	3239801037
Hamilton Hood	0156470522	N/A	3239806132

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

VANESSA COX
Health Physicist
Health Physics Office

Radiation Final Laboratory Summary Report

Room: 3W22 **Building:** 503, WRAIR

Authorization: 709 / CAPT Thomas Richie

Department: NMRC / Malaria

Radionuclides: C-14, Cr-51, H-3, I-125, P-32, and S-35

HPO Surveyor: Ms. Cox

Inspection Date: 2/7/07

Meter Model: Geiger

Meter Serial Number: 11833

Calibration Due Date: 9/17/07

Room Checks

	Initials
All RAM removed from the room	RC
Radioactive waste removed	RC
All RAM use equipment cleared	RC
All radiation labels removed	RC
Entrance un-posted	RC

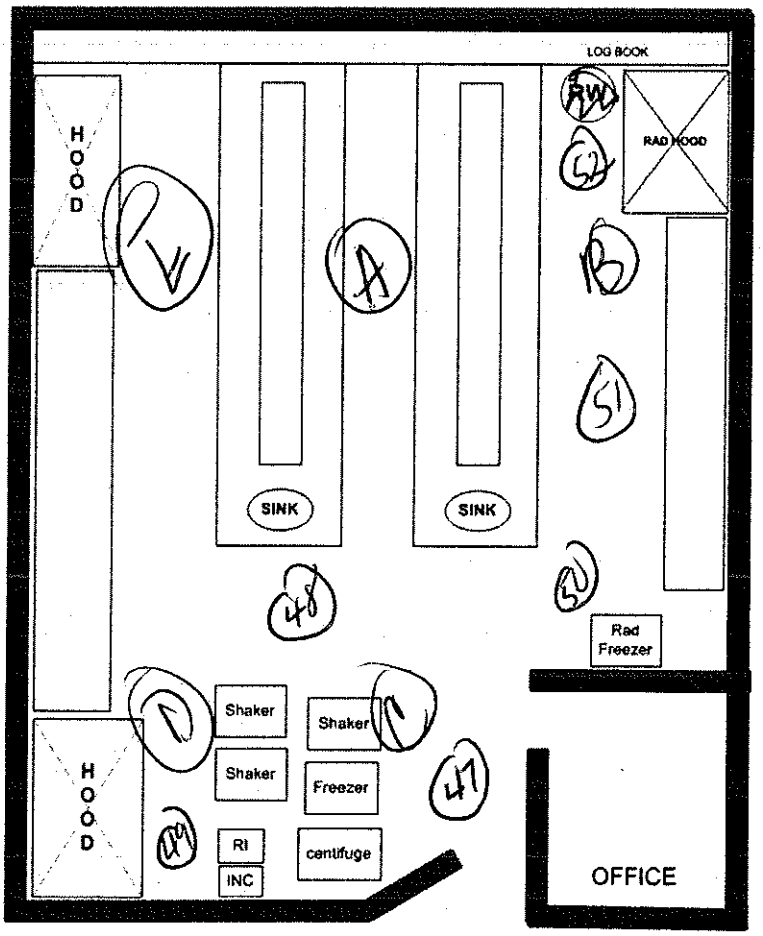
Administrative Checks

	Initials
Equipment / Room Final Forms Completed	RC

Additional Information:

Meter Readings

BKG	400	cpm
A	400	cpm
B	"	cpm
C	"	cpm
D	"	cpm
E	<100	cpm
F		cpm
G		cpm



503_3W22

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 1-8

LSC: 2-7

Date: 2/8/07

Swipe Numbers: 47-52

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Protocol #: 7 Swipes User : Lab S

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:	94.5		114		46.3	
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
7	1	0.0		0.0		14.7	18.4	2.00
7	2	2.0	50.3	5.9	28.1	0.0		2.00
7	3	4.0	35.4	4.4	33.6	0.0		2.00
7	4	0.0		0.4	109	6.2	28.3	2.00
7	5	5.5	30.3	7.4	24.0	2.2	47.2	2.00
7	6	7.5	25.9	9.9	22.5	1.2	63.5	2.00
7	7	11.5	20.9	15.4	18.0	0.0		2.00
7	8	5.5	30.2	4.9	31.9	5.7	29.5	2.00
7	9	5.5	30.3	0.0		0.7	82.2	2.00
7	10	6.0	28.9	15.4	18.0	10.7	21.6	2.00
7	11	6.5	27.8	5.4	30.4	9.2	23.3	2.00
7	12	3.5	37.9	3.4	38.2	0.0		2.00
7	13	0.0		5.4	30.4	0.0		2.00
7	14	2.5	44.9	0.0		8.7	23.9	2.00
7	15	0.0		0.4	109	0.0		2.00
7	16	0.0		8.9	22.7	0.0		2.00
7	17	8.5	24.3	10.9	21.4	0.0		2.00
7	18	0.0		0.4	109	0.0		2.00
7	19	0.0		0.0		1.7	53.6	2.00
7	20	0.0		0.0		0.0		2.00
7	21	0.0		0.0		0.0		2.00

Radiation Equipment Survey Report

Room: 3W22 **Building:** 503

Authorization: 709

Department: Malaria

Radionuclides:

HPO Surveyor: Ms. Cox

Inspection Date: 2/7/07

Meter Model: Geiger

Meter Serial Number: 11832

Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: Freezer

Manufacturer:

Model Number: 3767

Serial Number: 394-068

MMCN: NMRC 323980637

Reason for Survey

Mark a X for appropriate reason.

On/off-Site Repair: ___

Turn-in/ Transfer: ___

Administrative Hold: ___

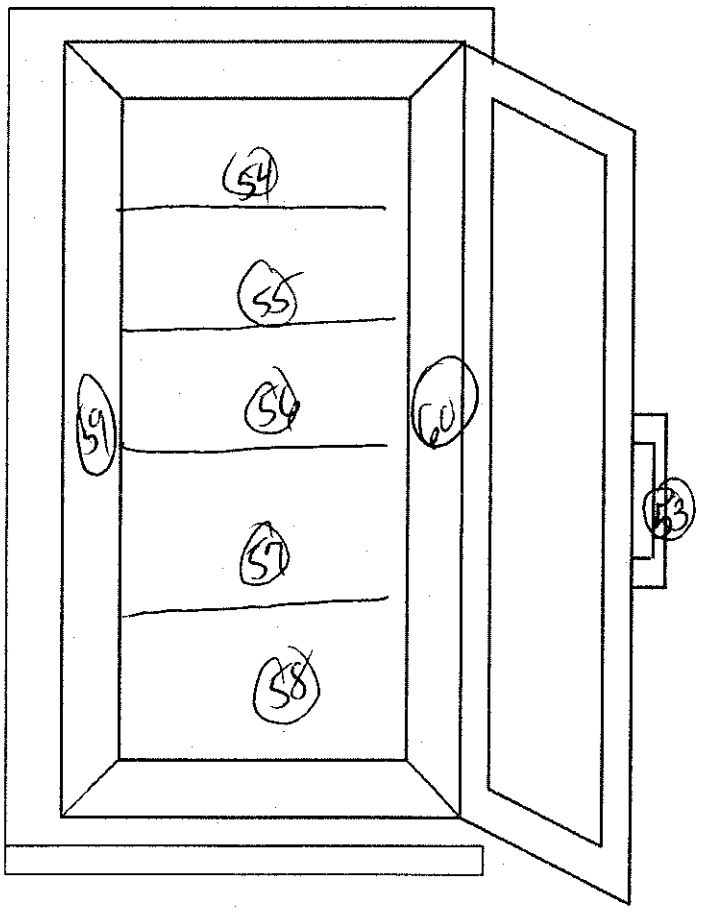
Non RAM use only: ___

Other: ___

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

Refrigerator or Freezer



Laboratory Analysis

Technician: Ms. Cox

Date: 2/8/07

Auto-gamma: 09-14

LSC: 10-15

Swipe Numbers: 53-60

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

Protocol #: 7 Swipes User : Lab S

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:	94.5		114		46.3	
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
7	1	0.0		0.0		14.7	18.4	2.00
7	2	2.0	50.3	5.5	29.1	0.0		2.00
7	3	4.0	35.4	4.4	33.6	0.0		2.00
7	4	0.0		0.4	109	6.2	28.3	2.00
7	5	5.5	30.2	7.4	26.0	2.2	47.1	2.00
7	6	7.5	25.9	9.9	22.5	1.2	63.5	2.00
7	7	11.5	20.9	15.4	18.0	0.0		2.00
7	8	5.5	30.2	4.9	31.9	5.7	29.5	2.00
7	9	5.5	30.2	0.0		0.7	82.2	2.00
7	10	6.0	28.9	15.4	18.0	10.7	21.6	2.00
7	11	6.5	27.8	5.4	30.4	9.2	23.3	2.00
7	12	3.5	37.9	3.4	38.2	0.0		2.00
7	13	0.0		5.4	30.4	0.0		2.00
7	14	2.5	44.9	0.0		8.7	23.9	2.00
7	15	0.0		0.4	109	0.0		2.00
7	16	0.0		8.9	23.7	0.0		2.00
7	17	8.5	24.3	10.9	21.4	0.0		2.00
7	18	0.0		0.4	109	0.0		2.00
7	19	0.0		0.0		1.7	53.6	2.00
7	20	0.0		0.0		0.0		2.00
7	21	0.0		0.0		0.0		2.00

Radiation Equipment Survey Report

Room: 3W22 **Building:** 503

Authorization: 709

Department: Malaria

Radionuclides:

HPO Surveyor: M.S. Cox

Inspection Date: 2/7/07

Meter Model: Geiger

Meter Serial Number: 11833

Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: Hood

Manufacturer: Hamilton

Model Number: 0164705 22

Serial Number: N/A

MMCN: NMRC 3239806132

Reason for Survey

Mark a X for appropriate reason.

On/off-Site Repair: ___

Turn-in/ Transfer: ___

Administrative Hold: ___

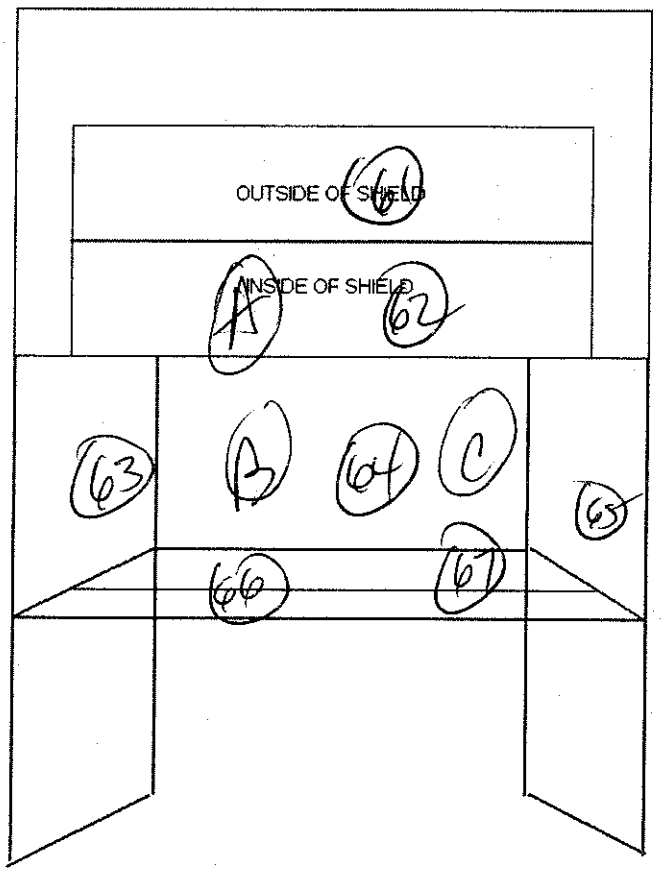
Non RAM use only: X

Other: ___

Meter Readings

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

Fume Hood



Laboratory Analysis

Technician: M.S. Cox

Date: 2/5/07

Auto-gamma: 15-27

LSC: 16-22

Swipe Numbers: 161-67

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

___

Protocol #: 7 Swipes User : Lab S

Count Time(minutes): 2.00
Assay Type: CPM
Background Subtract : IP4 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:	94.5		114		46.7	
Sigma:	0.00		0.00		0.00	
LCR:	0		0		0	
Half Life(hours):	0.00		0.00			
Multiplier:	1.0000					
%DV Flag Limit:	0.00		0.00			

P#	S#	A:CPM	A:%SIG	B:CPM	B:%SIG	C:CPM	C:%SIG	TIME
7	1	7.0		0.0		14.7	15.4	2.00
7	2	0.0	90.7	5.5	29.1	0.0		2.00
7	3	1.5	75.4	4.4	73.6	0.0		2.00
7	4	0.0		0.4	100	6.2	78.7	2.00
7	5	5.5	30.7	7.4	24.0	2.2	47.1	2.00
7	6	7.5	23.8	9.7	22.3	1.2	67.5	2.00
7	7	11.5	24.9	15.4	18.0	0.0		2.00
7	8	3.5	70.2	4.9	31.9	5.7	27.3	2.00
7	9	5.5	30.1	0.0		2.7	80.3	2.00
7	10	6.0	28.5	15.4	18.0	10.7	21.6	2.00
7	11	6.5	27.8	5.4	30.4	5.5	23.3	2.00
7	12	7.5	77.9	3.4	78.2	0.0		2.00
7	13	0.0		5.4	30.4	0.0		2.00
7	14	2.5	44.9	0.0		8.7	33.9	2.00
7	15	0.0		0.4	100	0.0		2.00
7	16	0.0		8.9	27.7	0.0		2.00
7	17	8.5	24.7	10.9	21.4	0.0		2.00
7	18	0.0		0.4	100	0.0		2.00
7	19	0.0		0.0		1.7	91.4	2.00
7	20	0.0		0.0		0.0		2.00
7	21	0.0		0.0		0.0		2.00

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

	LL	UL	LCR	2S%	BKG
Region A:	0.0	18.6	0	0.0	5.80
Region B:	18.6	156	0	0.0	5.60
Region C:	156	2000	0	0.0	3.20

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	5.80	26.26	5.60	26.73	3.20			436.29	B
2	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	405.97	
3	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	433.17	
4	2.00	0.00	0.00	2.02	206.6	1.30	0.00	2.78	423.30	
5	2.00	0.00	0.00	1.40	287.8	0.00	0.00	1.93	409.73	
6	2.00	0.00	0.00	1.72	239.2	0.00	0.00	2.35	470.96	
7	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	405.86	
8	2.00	0.00	0.00	1.98	210.3	0.00	0.00	2.73	425.64	
9	2.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	448.54	
10	2.00	0.00	0.00	0.49	779.7	0.30	0.00	0.67	425.49	
11	2.00	4.20	112.5	0.90	433.8	0.30	11.27	1.16	426.01	
12	2.00	0.00	0.00	0.00	0.00	2.30	0.00	0.00	440.75	
13	2.00	0.00	0.00	0.00	0.00	2.80	0.00	0.00	417.05	
14	2.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	415.69	
15	2.00	0.00	0.00	0.40	943.4	0.00	0.00	0.55	428.26	
16	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	410.47	
17	2.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	448.62	
18	2.00	0.00	0.00	0.40	943.4	2.80	0.00	0.55	442.07	
19	2.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00	455.71	
20	2.00	4.52	106.1	0.00	0.00	1.80	12.86	0.00	425.17	
21	2.00	0.67	584.7	2.93	149.9	0.30	0.00	4.00	458.28	
22	2.00	0.00	0.00	0.53	716.5	0.00	0.00	0.73	389.40	

Radiation Equipment Survey Report

Room: 3W22
Building: 503
HPO Surveyor: Ms. Cox
Authorization: 709
Inspection Date: 2/7/07
Department: NMRC / Malaria
Meter Model: Geiger
Meter Serial Number: 11833
Radionuclides: C14, Cr51, H-3, I125 P32 + S35
Calibration Due Date: 9/17/07

Equipment Information

Nomenclature: CO_2 Water Jacketed Incubator
Manufacturer: Forma Scientific
Model Number: 3110
Serial Number: 28305-7137
MMCN: NMRC323980359

Reason for Survey

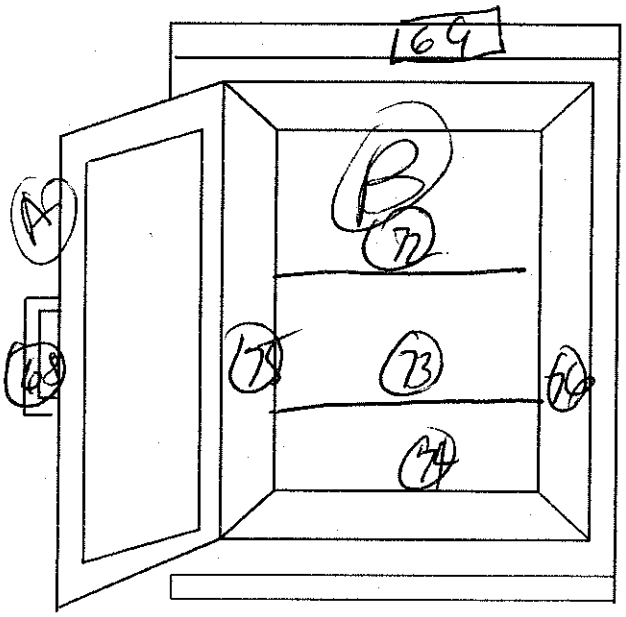
Mark a X for appropriate reason.

On/off-Site Repair: ___
Turn-in/ Transfer: ___
Administrative Hold: ___
Non RAM use only: X
Other: ___

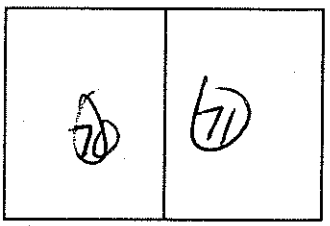
Meter Readings

BKG	40	cpm mR/hr
A	<100	cpm mR/hr
B	<100	cpm mR/hr
C		cpm mR/hr
D		cpm mR/hr
E		cpm mR/hr
F		cpm mR/hr
G		cpm mR/hr

Incubator



INNER GLASS DOOR



OUTSIDE INSIDE

Date: 2/8/07
Swipe Numbers: 65-76

Laboratory Analysis

Technician: Ms. Cox
Auto-gamma: 8 1-9
LSC: 7 2-10

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

Protocol #: 8 Swipes User : H.

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:	94.5		114		46.3	
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
8	1	0.0		12.4	20.1	0.0		2.00
8	2	0.0		0.0		0.0		2.00
8	3	5.5	30.2	0.0		9.2	23.3	2.00
8	4	2.5	44.9	3.4	38.2	0.0		2.00
8	5	0.0		0.0		9.2	23.3	2.00
8	6	0.0		7.9	25.1	0.7	82.2	2.00
8	7	0.0		0.0		8.2	24.6	2.00
8	8	4.5	33.4	3.4	38.2	0.2	144	2.00
8	9	0.0		0.0		0.0		2.00
8	10	10.0	22.4	13.9	17.0	0.0		2.00
8	11	4.0	35.4	6.9	26.9	2.7	42.7	2.00
8	12	0.0		3.4	38.2	3.2	39.3	2.00
8	13	0.0		0.0		0.7	82.2	2.00
8	14	6.5	27.8	5.4	30.4	9.2	23.3	2.00
8	15	1.0	71.4	6.4	27.9	1.7	53.6	2.00
8	16	0.0		0.0		0.0		2.00
8	17	0.0		0.0		0.0		2.00
8	18	0.0		3.9	35.7	2.2	47.2	2.00
8	19	5.0	31.7	0.0		0.0		2.00
8	20	7.0	26.8	2.9	41.4	0.0		2.00
8	21	0.0		4.9	31.9	0.0		2.00
8	22	6.0	28.9	1.4	59.3	0.2	144	2.00
8	23	0.0		5.9	29.1	0.0		2.00

#7647

Radiation Lab Summary Report

Room: 3W16 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** M. Cox

Authorization: 709, CAPT Thomas Richie **Inspection Date:** 3/11/08

Department: NMRC / Malaria **Meter Model:** Geiger

Frequency: 90 Days

Radionuclides: C-14, Cr-51, H-3, I-125, P-32 and S-35 **Meter Serial Number:** 11976

Calibration Due Date: 10/12/08

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

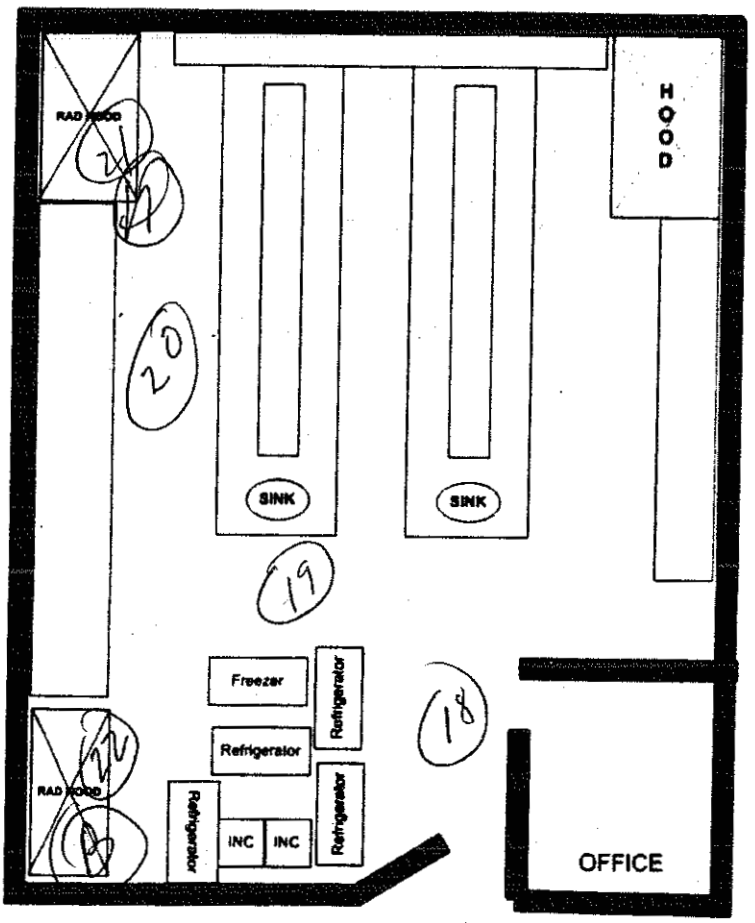
Date Of Last User Survey: 12/20/04

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

Lab Survey Meter:
Meter Model Number: SAME
Serial Number:
Calibration Due Date:

Meter Readings

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



503_3W16

Laboratory Analysis

Technician: MS. Cox
Auto-gamma: 18-22
LSC: 19-23
Date: 3/12/08
Swipe Numbers: 18-22

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

12 Mar 2008 07:54 Packard Instrument Company Page #1
Protocol #: 7 Swipes User : Lab Staff

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 50 keV - 2000 keV
Bkg:	98.4	118	48.3
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
7	1	1.1	66.8	0.0		0.7	87.0	2.00
7	2	0.0		2.9	41.4	0.0		2.00
7	3	0.0		4.9	31.9	6.7	27.4	2.00
7	4	0.0		1.4	59.3	0.0		2.00
7	5	0.0		0.0		1.7	54.9	2.00
7	6	0.0		0.0		3.7	37.0	2.00
7	7	14.6	18.5	0.0		3.7	37.0	2.00
7	8	5.1	31.2	0.9	73.7	0.0		2.00
7	9	0.0		0.0		0.0		2.00
7	10	0.0		0.0		0.0		2.00
7	11	0.0		9.4	23.0	5.7	29.7	2.00
7	12	8.6	24.1	7.9	25.1	12.2	20.3	2.00
7	13	0.0		0.0		5.7	29.7	2.00
7	14	0.1	204	2.4	45.5	0.0		2.00
7	15	0.0		8.9	23.7	0.0		2.00
7	16	2.1	48.6	4.4	33.6	0.0		2.00
7	17	0.0		0.0		0.0		2.00
7	18	1.6	55.6	9.9	22.5	3.7	37.0	2.00
7	19	0.0		0.0		1.2	65.7	2.00
7	20	0.0		0.0		4.7	32.8	2.00
7	21	0.0		0.0		0.0		2.00
7	22	0.0		0.0		2.7	43.4	2.00
7	23	8.1	24.8	14.4	18.6	0.0		2.00
7	24	0.0		0.0		0.0		2.00
7	25	1.1	66.8	0.9	73.7	1.2	65.7	2.00
7	26	6.1	28.6	0.0		0.0		2.00
7	27	3.1	40.0	13.4	19.3	1.7	54.9	2.00
7	28	0.0		0.0		0.0		2.00
7	29	4.6	32.9	0.0		5.2	31.1	2.00
7	30	0.0		0.0		2.2	48.1	2.00
7	31	0.0		0.0		7.7	25.5	2.00
7	32	0.0		4.9	31.9	0.0		2.00
7	33	0.0		4.4	33.6	0.0		2.00
7	34	13.1	19.5	0.9	73.7	6.2	28.5	2.00

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080312_1039
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080312_1039\20080312_1039.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	7	4	0	0	30.78	420.72	B
2	2.00	0	0	1	0	0	0.00	410.56	
3	2.00	0	0	2	0	0	0.00	454.07	
4	2.00	0	0	2	0	0	0.00	380.52	
5	2.00	0	2	3	0	3	0.00	403.59	
6	2.00	0	1	0	0	2	0.00	399.71	
7	2.00	0	0	0	0	0	0.00	424.05	
8	2.00	0	0	0	0	0	0.00	406.79	
9	2.00	0	0	2	0	0	0.00	413.83	

7969

Radiation Lab Summary Report

Room: 3W16 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 709, CAPT Thomas Richie **Inspection Date:** 6/11/08

Department: NMRC / Malaria **Meter Model:** Eigen

Frequency: 90 Days **Meter Serial Number:** 11976

Radionuclides: C-14, Cr-51, H-3, I-125, P-32 and S-35 **Calibration Due Date:** 10/16/08

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?			X
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

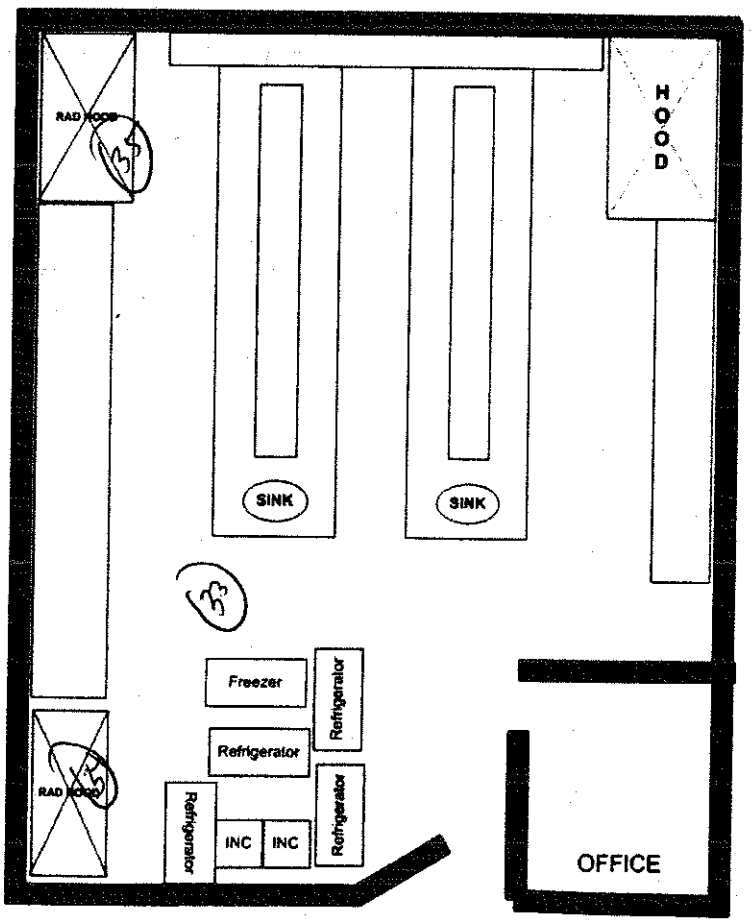
Date Of Last User Survey: 12/20/04

User Inventory Log:
Isotope / Activity Used: N/A
Max Daily Use:
Sign fellow

Lab Survey Meter:
Meter Model Number: SAME
Serial Number:
Calibration Due Date:

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



503_3W16

Laboratory Analysis

Technician: Ms. Cox
Auto-gamma: 29-31
LSC: 29-31
Date: 6/12/08
Swipe Numbers: 33-35

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

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

Comments

Completed
All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 12-Jun-2008 07:29:17

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 76

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	249	-24.1	45.37	59	3.6	115.67
2	1	2	120	266	-17.0	83.32	61	4.6	91.82
3	1	3	120	289	4.6	1317.88	46	-2.9	129.44
4	1	4	120	271	1.0	109.13	38	-6.9	50.39
5	1	5	120	257	-19.5	57.94	58	3.1	133.36
6	1	6	120	292	4.8	423.66	48	-1.9	201.04
7	1	7	120	283	1.6	400.43	46	-2.9	129.44
8	1	8	120	278	-14.4	190.63	66	7.1	61.54
9	1	9	120	252	-15.2	49.41	48	-1.9	201.03
10	1	10	120	274	-7.6	134.01	53	0.6	663.32
11	2	11	120	275	-11.2	144.63	59	3.6	115.67
12	2	12	120	265	-10.8	79.43	51	-0.4	979.16
13	2	13	120	267	-7.7	87.41	48	-1.9	199.90
14	2	14	120	296	-4.0	224.05	64	6.1	70.68
15	2	15	120	279	-1.1	213.10	47	-2.4	157.07
16	2	16	120	286	-9.0	1152.73	64	6.1	70.68
17	2	17	120	224	-23.2	26.38	39	-6.4	54.89
18	2	18	120	274	-13.0	133.80	61	4.6	91.82
19	2	19	120	281	2.0	279.30	44	-3.9	94.25
20	2	20	120	271	-6.4	109.13	49	-1.4	275.16
21	3	21	120	307	4.8	98.46	59	3.6	115.67
22	3	22	120	287	0.2	3159.80	51	-0.4	979.17
23	3	23	120	273	-6.1	124.45	50	-0.9	431.62
24	3	24	120	269	-22.2	97.33	71	9.6	46.98
25	3	25	120	271	-7.1	109.13	50	-0.9	431.63
26	3	26	120	269	-13.5	97.11	58	3.1	133.36
27	3	27	120	250	-15.6	46.63	47	-2.4	157.78
28	3	28	120	284	-3.3	512.19	54	1.1	364.65
29	3	29	120	276	-8.6	157.32	56	2.1	193.96
30	3	30	120	275	-5.8	144.63	51	-0.4	979.22
31	4	31	120	299	9.6	165.75	46	-2.9	128.95
32	4	32	120	307	5.5	98.46	58	3.1	133.35
33	4	33	120	236	-17.8	33.20	40	-5.9	60.14
34	4	34	120	283	-1.8	400.44	51	-0.4	979.18
35	4	35	120	284	6.8	512.17	39	-6.4	54.89
36	4	36	120	286	-3.0	1167.75	55	1.6	252.64
37	4	37	120	290	-0.3	779.38	54	1.1	361.29
38	4	38	120	289	1.9	1337.25	50	-0.9	431.64
39	4	39	120	273	-4.7	124.45	48	-1.9	201.03
40	4	40	120	278	-2.2	190.64	48	-1.9	201.04
41	5	41	120	288	-4.6	4286.17	59	3.6	115.67
42	5	42	120	282	-2.9	328.54	52	0.1	3948.76

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080612_0948
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080612_0948\20080612_0948.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	7	4	0	0	53.26	414.80	B
2	2.00	0	0	1	2	0	0.00	412.96	
3	2.00	0	1	4	0	2	0.00	429.36	
4	2.00	0	0	0	0	0	0.00	430.46	
5	2.00	0	0	0	0	0	0.00	431.09	
6	2.00	1	0	0	2	0	0.00	427.59	
7	2.00	1	3	0	1	3	39.11	417.84	
8	2.00	0	1	1	0	1	0.00	420.79	
9	2.00	0	0	0	0	0	0.00	413.89	

#7970

Radiation Lab Summary Report

Room: 3W26 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** MS. Cox

Authorization: 709, CAPT Thomas Richie **Inspection Date:** 6/11/08

Department: NMRC / Malaria **Meter Model:** N/A

Frequency: 90 Days **Meter Serial Number:** N/A

Radionuclides: C-14, Cr-51, H-3, I-125, P-32 and S-35 **Calibration Due Date:** N/A

Survey Checks

	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

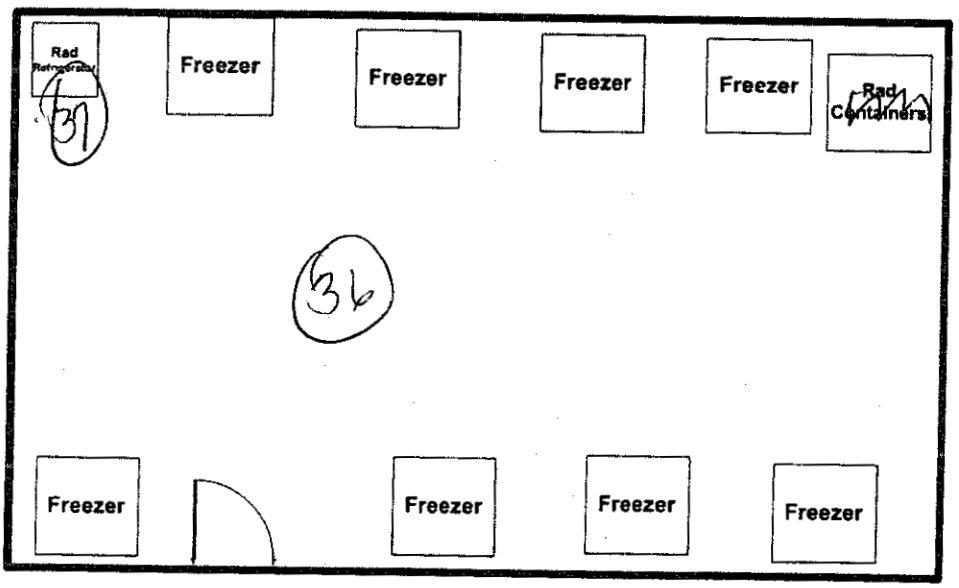
Date Of Last User Survey: N/A

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

Lab Survey Meter:
Model Number : N/A
Serial Number:
Calibration Due Date:

Meter Readings

BKG	N/A	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



503_3W26

Date 6/12/08

Swipe Numbers 36-37

Laboratory Analysis

Technician MS. Cox

Auto-gamma 32-37

LSC 32-33

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

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Swipe	Isotope	Efficiency	MDA (dpm)	DPM

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	

#8067

Radiation Lab Summary Report

Room: 2N80 **Building:** 503, WRAIR/NMRC

Authorization: 711, Dr. Richard McCarron

Department: NMRC

Frequency: 90 days

Radionuclides: H-3, & I-125

H-3 Use Only

HPO Surveyor: MS. Cox

Inspection Date: 7/9/08

Meter Model Number: N/A

Meter Serial Number: N/A

Calibration Due Date: N/A

Initial Checks

	Yes	No	NA
Is all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?	X		
Is equipment used for rad use posted?	X		
Have the user performed surveys ?			X

Date Of Last User Survey: 1/08/04

User Inventory Log:

Isotope / Activity Used: N/A

Maximum Daily Use:

Lab Survey Meter:

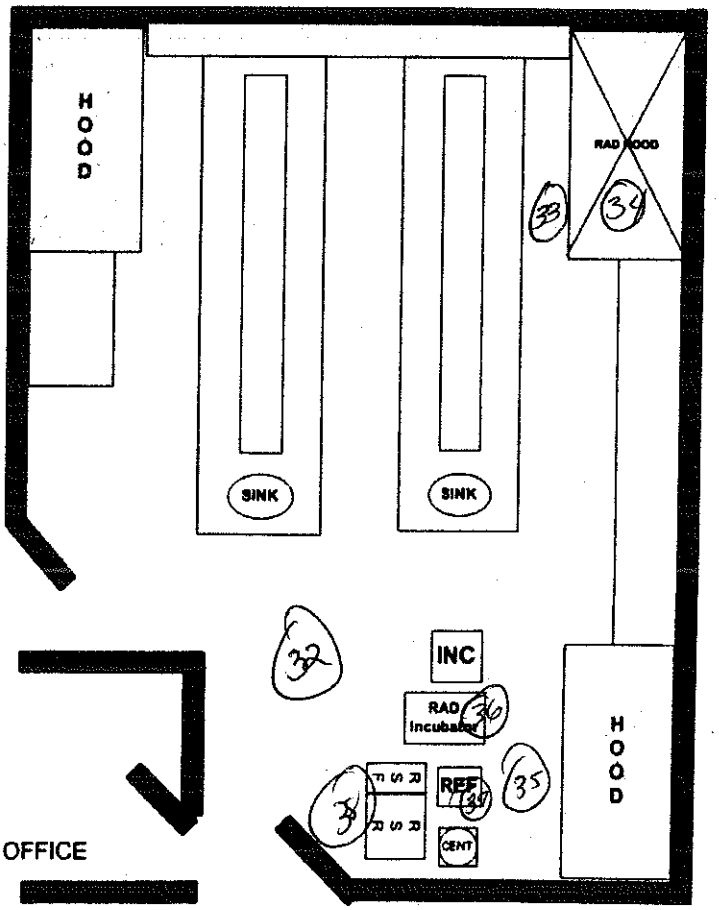
Model Meter Number: N/A

Serial Number:

Calibration Due Date:

Meter Readings

BKG	N/A	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: MS. Cox

Date: 7/10/08

Swipe Numbers: 32-38

Auto-gamma: 1 2-8

LSC: 1 2-4

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 10-Jul-2008 07:42:51

Protocol id	1 ROUTINE2
Time limit	120
Count limit	99999999
Dual isotopes	15-1024 + 1k-2k
Protocol date	28-Mar-2008 09:32:23
Run id.	78

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	290	5.8	779.42	45	-3.4	109.42
2	1	2	120	279	-0.4	213.63	46	-2.9	129.44
3	1	3	120	257	-12.7	57.98	48	-1.9	201.03
4	1	4	120	255	-19.8	54.21	57	2.6	157.83
5	1	5	120	306	5.7	103.66	57	2.6	157.83
6	1	6	120	282	-0.2	328.55	48	-1.9	201.04
7	1	7	120	270	-9.6	102.90	53	0.6	663.34
8	1	8	120	253	-20.8	50.92	57	2.6	157.83
9	1	9	120	288	6.1	4747.60	43	-4.4	83.01
10	1	10	120	286	-5.7	1152.41	59	3.6	115.67
11	2	11	120	285	1.3	715.24	48	-1.9	201.03
12	2	12	120	253	-14.1	50.92	47	-2.4	157.78
13	2	13	120	310	13.8	85.54	48	-1.9	201.04
14	2	14	120	303	8.2	123.36	51	-0.4	979.16
15	2	15	120	295	2.2	254.01	54	1.1	364.65
16	2	16	120	303	4.9	123.36	56	2.1	193.95
17	2	17	120	256	-18.0	56.06	55	1.6	252.65
18	2	18	120	294	1.7	293.33	54	1.1	364.65
19	2	19	120	266	-10.9	83.24	52	0.1	3948.60
20	2	20	120	252	-14.6	49.41	47	-2.4	157.78
21	3	21	120	286	-6.3	1167.81	60	4.1	102.29
22	3	22	120	278	-4.3	190.64	51	-0.4	979.20
23	3	23	120	240	-20.6	36.23	47	-2.4	158.50
24	3	24	120	286	-11.1	1152.68	67	7.6	57.86
25	3	25	120	277	-2.1	172.75	47	-2.4	157.78
26	3	26	120	283	0.3	400.42	48	-1.9	199.90
27	3	27	120	265	-20.9	79.44	66	7.1	61.62
28	3	28	120	263	-11.8	72.75	51	-0.4	1005.47
29	3	29	120	282	-5.0	328.58	55	1.6	252.64
30	3	30	120	292	1.4	425.71	53	0.6	663.33
31	4	31	120	285	-5.5	709.56	58	3.1	133.35
32	4	32	120	252	-15.9	49.41	49	-1.4	275.16
33	4	33	120	271	-3.7	109.13	45	-3.4	109.42
34	4	34	120	284	-6.7	512.14	59	3.6	115.67
35	4	35	120	262	-14.3	69.80	54	1.1	364.67
36	4	36	120	332	16.7	44.46	60	4.1	102.54
37	4	37	120	250	-15.6	46.63	47	-2.4	157.78

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801\20080711_0801.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	6	4	0	0	48.13	411.82	B
2	2.00	0	5	0	0	6	107.75	403.86	
3	2.00	0	0	2	0	0	0.00	390.11	
4	2.00	0	1	0	0	2	749.94	416.00	
5	2.00	0	5	3	0	6	87.05	409.35	
6	2.00	3	1	0	7	1	0.00	406.99	
7	2.00	0	0	0	0	1	0.00	421.10	
8	2.00	0	1	0	0	1	0.00	407.02	
9	2.00	0	1	0	0	1	117.08	403.20	

MCHL-HP (11-9d) March 27, 2006

MEMORANDUM FOR LCDR Allen Richards, Department of Rickett Diseases
Radioactive Materials Authorization Number 712

SUBJECT: Radiological Safety Certification for Building 503 Room 3N54

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
503, WRAIR/NMRC	3N54

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.

Equipment:

Nomenclature	Model	Serial Number	MMCN
Puffer Hubbard Freezer	Puffer H	N/A	NMRC 3239805983
Sink	N/A	N/A	N/A

3. If you have any questions, problems and/or concerns regarding this survey, please contact the undersigned at 356-0047/58.

VANESSA COX
Health Physicist
Health Physics Office

#5101

Radiation Final Laboratory Summary Report

HPO Surveyor: Ms. Cox

Room: 3N54 **Building:** 503, WRAIR

Inspection Date: 3/22/06

Authorization: 712, LCDR Allen Richards

Department: NMRC / Rickett Diseases

Meter Model: N/A

Radionuclides: Cr-51 and H-3

Meter Serial Number: N/A

Calibration Due Date: N/A

Room Checks

	Initials
All RAM removed from the room	C
Radioactive waste was removed	C
All RAM use equipment cleared	C
All radiation labels removed	C
Entrance un-posted	C

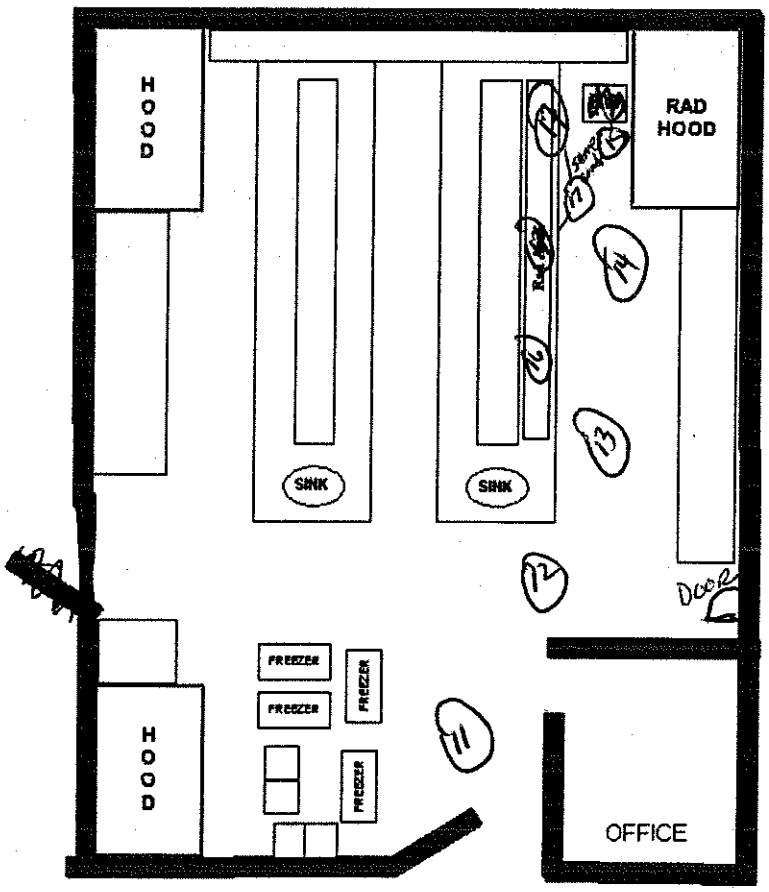
Administrative Checks

	Initials
Equipment / Room Final Forms Completed	C

Additional Information:

Meter Readings

BKG	N/A	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



503_3N54

Laboratory Analysis

Technician: Ms. Cox

Auto-gamma: 1-7

LSC: 1 2-8

Date: 3/23/06

Swipe Numbers: 11-17

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

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

Completed

All swipes < 200 dpm

Comments

Surveyor Comments

Protocol# 1 - routine surveys, 2 minute counts.lsa User: routine

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20060323_1033
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20060323_1033\20060323_1033.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	7	4	0	0	38.54	330.74	B
2	2.00	0	0	0	0	0	26.96	345.83	
3	2.00	0	0	0	0	0	0.00	380.03	

23 Mar 2006 09:54 Packard Instrument Company Pa
Protocol #: 7 Swipes

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:	98.0		117		47.0	
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
7	1	5.0	31.6	0.0		0.0		2.00
7	2	3.5	37.7	12.2	20.3	6.5	27.7	2.00
7	3	0.0		0.2	167	0.0		2.00
7	4	0.0		0.0		3.5	37.8	2.00
7	5	0.0		0.0		0.0		2.00
7	6	0.0		0.0		0.0		2.00
7	7	0.0		0.0		1.5	57.7	2.00
7	8	0.0		0.0		6.5	27.7	2.00
7	9	0.0		23.2	14.7	1.0	70.7	2.00
7	10	0.0		0.0		3.0	40.8	2.00
7	11	0.0		0.0		2.0	50.0	2.00
7	12	4.5	33.3	0.0		0.0		2.00
7	13	0.0		0.0		0.0		2.00
7	14	0.0		8.7	24.0	0.0		2.00
7	15	0.0		0.7	85.7	0.0		2.00
7	16	0.0		0.0		0.5	100	2.00
7	17	0.0		0.0		2.0	50.0	2.00
7	18	5.5	30.1	0.0		0.0		2.00
7	19	13.5	19.2	0.0		0.0		2.00
7	20	1.0	70.0	18.7	16.4	0.0		2.00
7	21	0.0		0.0		5.0	31.6	2.00
7	22	8.0	25.0	5.7	29.7	0.0		2.00
7	23	0.0		0.0		1.0	70.7	2.00
7	24	0.0		0.0		0.0		2.00
7	25	0.0		0.0		0.0		2.00
7	26	0.0		0.0		2.0	50.0	2.00
7	27	1.0	70.0	0.0		1.5	57.7	2.00
7	28	0.0		9.2	23.3	0.0		2.00
7	29	0.0		11.7	20.7	3.0	40.8	2.00
7	30	4.0	35.3	0.0		0.0		2.00
7	31	6.0	28.8	1.2	65.1	0.0		2.00
7	32	0.0		27.2	13.6	0.5	100	2.00
7	33	0.0		8.2	24.7	0.0		2.00
7	34	0.0		0.0		2.5	44.7	2.00

#7968

Radiation Lab Summary Report

Room: 3N66 **Building:** 503, WRAIR/NMRC **HPO Surveyor:** Ms. Cox

Authorization: 712, LSDR Allen Richards **Inspection Date:** 6/11/08

Department: NMRC / Rickett Diseases

Frequency: 90 Days **Meter Model:** N/A

Radionuclides: Cr-51 and H-3 **Meter Serial Number:** N/A

Calibration Due Date:

Survey Checks

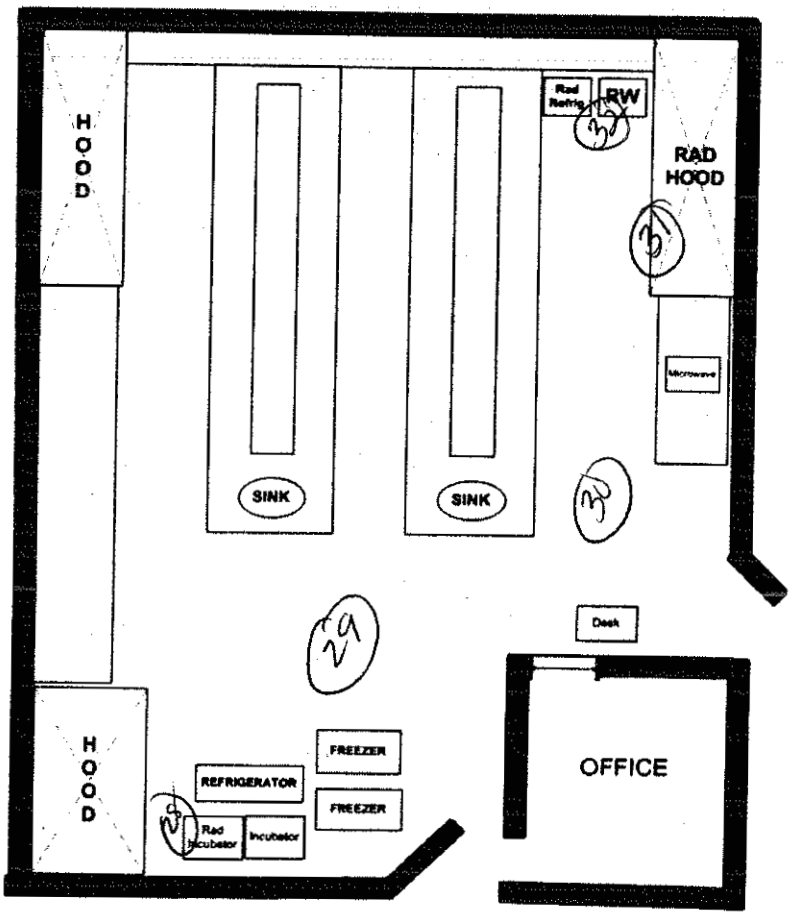
	Yes	NA	No
Are all radioactive materials secure?	X		
Is the room posted?	X		
Is the work area posted?		X	
Is equipment use for rad use posted?	X		
Have user performed surveys ?		X	

Date Of Last User Survey: 2005

User Inventory Log:
Isotope / Activity Used: N/A
Max Daily Use:
Lab Survey Meter:
Meter Model Number: N/A
Serial Number:
Calibration Due Date:

Meter Readings

BKG	N/A	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



503_3N66

Laboratory Analysis

Technician: Ms. Cox
Auto-gamma: 24-28
LSC: 24-28
Date: 6/12/08
Swipe Numbers: 29-32

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

Swipe	Isotope	Efficiency	M	MDA (dpm)	DPM

Completed
All swipes < 200 dpm

Comments

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 12-Jun-2008 07:29:17

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 76

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	249	-24.1	45.37	59	3.6	115.67
2	1	2	120	266	-17.0	83.32	61	4.6	91.82
3	1	3	120	289	4.6	1317.88	46	-2.9	129.44
4	1	4	120	271	1.0	109.13	38	-6.9	50.39
5	1	5	120	257	-19.5	57.94	58	3.1	133.36
6	1	6	120	292	4.8	423.66	48	-1.9	201.04
7	1	7	120	283	1.6	400.43	46	-2.9	129.44
8	1	8	120	278	-14.4	190.63	66	7.1	61.54
9	1	9	120	252	-15.2	49.41	48	-1.9	201.03
10	1	10	120	274	-7.6	134.01	53	0.6	663.32
11	2	11	120	275	-11.2	144.63	59	3.6	115.67
12	2	12	120	265	-10.8	79.43	51	-0.4	979.16
13	2	13	120	267	-7.7	87.41	48	-1.9	199.90
14	2	14	120	296	-4.0	224.05	64	6.1	70.68
15	2	15	120	279	-1.1	213.10	47	-2.4	157.07
16	2	16	120	286	-9.0	1152.73	64	6.1	70.68
17	2	17	120	224	-23.2	26.38	39	-6.4	54.89
18	2	18	120	274	-13.0	133.80	61	4.6	91.82
19	2	19	120	281	2.0	279.30	44	-3.9	94.25
20	2	20	120	271	-6.4	109.13	49	-1.4	275.16
21	3	21	120	307	4.8	98.46	59	3.6	115.67
22	3	22	120	287	0.2	3159.80	51	-0.4	979.17
23	3	23	120	273	-6.1	124.45	50	-0.9	431.62
24	3	24	120	269	-22.2	97.33	71	9.6	46.98
25	3	25	120	271	-7.1	109.13	50	-0.9	431.63
26	3	26	120	269	-13.5	97.11	58	3.1	133.36
27	3	27	120	250	-15.6	46.63	47	-2.4	157.78
28	3	28	120	284	-3.3	512.19	54	1.1	364.65
29	3	29	120	276	-8.6	157.32	56	2.1	193.96
30	3	30	120	275	-5.8	144.63	51	-0.4	979.22
31	4	31	120	299	9.6	165.75	46	-2.9	128.95
32	4	32	120	307	5.5	98.46	58	3.1	133.35
33	4	33	120	236	-17.8	33.20	40	-5.9	60.14
34	4	34	120	283	-1.8	400.44	51	-0.4	979.18
35	4	35	120	284	6.8	512.17	39	-6.4	54.89
36	4	36	120	286	-3.0	1167.75	55	1.6	252.64
37	4	37	120	290	-0.3	779.38	54	1.1	361.29
38	4	38	120	289	1.9	1337.25	50	-0.9	431.64
39	4	39	120	273	-4.7	124.45	48	-1.9	201.03
40	4	40	120	278	-2.2	190.64	48	-1.9	201.04
41	5	41	120	288	-4.6	4286.17	59	3.6	115.67
42	5	42	120	282	-2.9	328.54	52	0.1	3948.76

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080612_0948
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080612_0948\20080612_0948.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	7	4	0	0	53.26	414.80	B
2	2.00	0	0	1	2	0	0.00	412.96	
3	2.00	0	1	4	0	2	0.00	429.36	
4	2.00	0	0	0	0	0	0.00	430.46	
5	2.00	0	0	0	0	0	0.00	431.09	
6	2.00	1	0	0	2	0	0.00	427.59	
7	2.00	1	3	0	1	3	39.11	417.84	
8	2.00	0	1	1	0	1	0.00	420.79	
9	2.00	0	0	0	0	0	0.00	413.89	

#7971

Radiation Lab Summary Report

Room: FLOORS 3rd

Building: 503, WRAIR/NMRC

Frequency: 90 Days

HPO Surveyor: M. Cox

Inspection Date: 6/11/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Room	CPM	Swipe
Background	<100	
W	"	38
N	"	39
E	"	40
E	"	41

Laboratory Analysis

Technician: M. Cox

Date: 6/12/08

Auto-gamma: 34-37

LSC: 34-37

Swipe Numbers: 38-41

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 12-Jun-2008 07:29:17

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 76

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	249	-24.1	45.37	59	3.6	115.67
2	1	2	120	266	-17.0	83.32	61	4.6	91.82
3	1	3	120	289	4.6	1317.88	46	-2.9	129.44
4	1	4	120	271	1.0	109.13	38	-6.9	50.39
5	1	5	120	257	-19.5	57.94	58	3.1	133.36
6	1	6	120	292	4.8	423.66	48	-1.9	201.04
7	1	7	120	283	1.6	400.43	46	-2.9	129.44
8	1	8	120	278	-14.4	190.63	66	7.1	61.54
9	1	9	120	252	-15.2	49.41	48	-1.9	201.03
10	1	10	120	274	-7.6	134.01	53	0.6	663.32
11	2	11	120	275	-11.2	144.63	59	3.6	115.67
12	2	12	120	265	-10.8	79.43	51	-0.4	979.16
13	2	13	120	267	-7.7	87.41	48	-1.9	199.90
14	2	14	120	296	-4.0	224.05	64	6.1	70.68
15	2	15	120	279	-1.1	213.10	47	-2.4	157.07
16	2	16	120	286	-9.0	1152.73	64	6.1	70.68
17	2	17	120	224	-23.2	26.38	39	-6.4	54.89
18	2	18	120	274	-13.0	133.80	61	4.6	91.82
19	2	19	120	281	2.0	279.30	44	-3.9	94.25
20	2	20	120	271	-6.4	109.13	49	-1.4	275.16
21	3	21	120	307	4.8	98.46	59	3.6	115.67
22	3	22	120	287	0.2	3159.80	51	-0.4	979.17
23	3	23	120	273	-6.1	124.45	50	-0.9	431.62
24	3	24	120	269	-22.2	97.33	71	9.6	46.98
25	3	25	120	271	-7.1	109.13	50	-0.9	431.63
26	3	26	120	269	-13.5	97.11	58	3.1	133.36
27	3	27	120	250	-15.6	46.63	47	-2.4	157.78
28	3	28	120	284	-3.3	512.19	54	1.1	364.65
29	3	29	120	276	-8.6	157.32	56	2.1	193.96
30	3	30	120	275	-5.8	144.63	51	-0.4	979.22
31	4	31	120	299	9.6	165.75	46	-2.9	128.95
32	4	32	120	307	5.5	98.46	58	3.1	133.35
33	4	33	120	236	-17.8	33.20	40	-5.9	60.14
34	4	34	120	283	-1.8	400.44	51	-0.4	979.18
35	4	35	120	284	6.8	512.17	39	-6.4	54.89
36	4	36	120	286	-3.0	1167.75	55	1.6	252.64
37	4	37	120	290	-0.3	779.38	54	1.1	361.29
38	4	38	120	289	1.9	1337.25	50	-0.9	431.64
39	4	39	120	273	-4.7	124.45	48	-1.9	201.03
40	4	40	120	278	-2.2	190.64	48	-1.9	201.04
41	5	41	120	288	-4.6	4286.17	59	3.6	115.67
42	5	42	120	282	-2.9	328.54	52	0.1	3948.76

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080612_0948
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080612_0948\20080612_0948.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	7	4	0	0	53.26	414.80	B
2	2.00	0	0	1	2	0	0.00	412.96	
3	2.00	0	1	4	0	2	0.00	429.36	
4	2.00	0	0	0	0	0	0.00	430.46	
5	2.00	0	0	0	0	0	0.00	431.09	
6	2.00	1	0	0	2	0	0.00	427.59	
7	2.00	1	3	0	1	3	39.11	417.84	
8	2.00	0	1	1	0	1	0.00	420.79	
9	2.00	0	0	0	0	0	0.00	413.89	

#8100

Radiation Lab Summary Report

Room: FLOORS 2nd

Building: 503, WRAIR/NMRC

Frequency: 90 Days

HPO Surveyor: [illegible]

Inspection Date: 7/16/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Room	CPM	Swipe
Background	<100	
E	<100	38
N	<100	39
N	<100	40
W	<100	41

Laboratory Analysis

Technician: MS. Cox

Date: 7/17/08

Auto-gamma: 38-41

LSC: 38-42

Swipe Numbers: 38-41

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				15-1024			1k-2k		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

43	5	43	120	290	1.1	779.46	52	0.1	4406.88
44	5	44	120	281	-3.4	278.41	52	0.1	3949.09
45	5	45	120	283	-1.1	400.43	50	-0.9	426.61
46	5	46	120	289	2.6	1337.86	49	-1.4	275.16
47	5	47	120	312	12.1	78.81	52	0.1	3946.62
48	5	48	120	263	-12.4	72.75	52	0.1	4407.57
49	5	49	120	262	-12.9	69.80	52	0.1	3949.81
50	5	50	120	305	10.6	109.47	49	-1.4	275.17
51	6	51	120	273	-8.8	124.45	54	1.1	364.66
52	6	52	120	284	-6.6	515.16	59	3.6	115.99
53	6	53	120	292	-2.7	423.69	59	3.6	115.35

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	

10	2.00	2	0	0	4	0	20.13	413.10
11	2.00	1	2	0	1	3	53.63	405.12
12	2.00	2	0	0	4	0	0.00	382.20
13	2.00	0	3	0	0	4	193.67	415.92
14	2.00	3	1	0	6	2	5.14	409.24
15	2.00	2	2	0	4	2	39.86	402.69
16	2.00	0	2	1	0	2	0.00	403.89
17	2.00	0	0	0	0	0	0.00	397.52
18	2.00	0	0	0	0	0	0.00	407.43
19	2.00	1	1	0	1	1	70.62	397.31
20	2.00	0	0	0	1	0	0.00	387.01
21	2.00	1	2	0	0	3	7.42	400.52
22	2.00	10	0	0	23	0	0.00	408.57
23	2.00	5	0	0	10	0	0.00	400.95
24	2.00	1	5	0	0	7	51.26	395.60
25	2.00	0	0	0	1	0	0.00	394.70
26	2.00	2	0	0	4	0	22.02	399.97
27	2.00	1	0	0	2	0	0.00	409.47
28	2.00	0	0	0	1	0	0.00	404.63
29	2.00	0	0	0	0	0	0.00	392.36
30	2.00	0	2	0	0	3	99.55	403.94
31	2.00	0	1	0	0	1	0.00	446.31
32	2.00	4	1	0	9	1	22.22	407.54
33	2.00	2	4	0	2	6	58.71	401.77
34	2.00	2	0	0	4	0	35.35	393.96
35	2.00	1	3	0	0	4	104.14	464.59
36	2.00	2	0	0	5	0	0.00	393.70
37	2.00	0	3	0	0	4	174.61	395.79
38	2.00	2	1	0	3	2	2.96	410.35
39	2.00	3	1	1	6	2	31.83	441.61
40	2.00	0	0	0	0	0	0.00	405.82
41	2.00	5	0	0	10	0	35.65	405.95
42	2.00	3	2	0	5	2	25.02	403.26
43	2.00	2	1	0	3	2	111.71	419.07
44	2.00	0	2	0	0	3	27.06	430.00
45	2.00	2	0	1	5	1	0.00	394.50
46	2.00	4	4	0	5	6	23.74	402.66
47	2.00	2	0	0	5	0	0.00	391.05
48	2.00	0	0	0	1	0	162.02	396.29
49	2.00	0	3	0	0	5	79.89	397.29
50	2.00	4	3	0	6	4	37.11	460.94
51	2.00	2	0	0	3	0	65.76	384.29
52	2.00	0	0	0	0	1	0.00	413.58
53	2.00	0	2	0	0	2	197.68	409.58
54	2.00	1	0	0	4	0	0.00	402.23

#8069

Radiation Lab Summary Report

Room: FLOORS 1st

Building: 503, WRAIR/NMRC

Frequency: 90 Days

HPO Surveyor: Chris. Cox

Inspection Date: 7/9/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Room	CPM	Swipe
Background	<100	
E	<100	55
E	<100	56
N	<100	57
N	<100	58

Laboratory Analysis

Technician: MS. Cox

Date: 7/10/08

Auto-gamma: 1 25-28

LSC: 1 25-28

Swipe Numbers: 55-58

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 10-Jul-2008 07:42:51

Protocol id 1 ROUTINE2
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 28-Mar-2008 09:32:23
Run id. 78

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	290	5.8	779.42	45	-3.4	109.42
2	1	2	120	279	-0.4	213.63	46	-2.9	129.44
3	1	3	120	257	-12.7	57.98	48	-1.9	201.03
4	1	4	120	255	-19.8	54.21	57	2.6	157.83
5	1	5	120	306	5.7	103.66	57	2.6	157.83
6	1	6	120	282	-0.2	328.55	48	-1.9	201.04
7	1	7	120	270	-9.6	102.90	53	0.6	663.34
8	1	8	120	253	-20.8	50.92	57	2.6	157.83
9	1	9	120	288	6.1	4747.60	43	-4.4	83.01
10	1	10	120	286	-5.7	1152.41	59	3.6	115.67
11	2	11	120	285	1.3	715.24	48	-1.9	201.03
12	2	12	120	253	-14.1	50.92	47	-2.4	157.78
13	2	13	120	310	13.8	85.54	48	-1.9	201.04
14	2	14	120	303	8.2	123.36	51	-0.4	979.16
15	2	15	120	295	2.2	254.01	54	1.1	364.65
16	2	16	120	303	4.9	123.36	56	2.1	193.95
17	2	17	120	256	-18.0	56.06	55	1.6	252.65
18	2	18	120	294	1.7	293.33	54	1.1	364.65
19	2	19	120	266	-10.9	83.24	52	0.1	3948.60
20	2	20	120	252	-14.6	49.41	47	-2.4	157.78
21	3	21	120	286	-6.3	1167.81	60	4.1	102.29
22	3	22	120	278	-4.3	190.64	51	-0.4	979.20
23	3	23	120	240	-20.6	36.23	47	-2.4	158.50
24	3	24	120	286	-11.1	1152.68	67	7.6	57.86
25	3	25	120	277	-2.1	172.75	47	-2.4	157.78
26	3	26	120	283	0.3	400.42	48	-1.9	199.90
27	3	27	120	265	-20.9	79.44	66	7.1	61.62
28	3	28	120	263	-11.8	72.75	51	-0.4	1005.47
29	3	29	120	282	-5.0	328.58	55	1.6	252.64
30	3	30	120	292	1.4	425.71	53	0.6	663.33
31	4	31	120	285	-5.5	709.56	58	3.1	133.35
32	4	32	120	252	-15.9	49.41	49	-1.4	275.16
33	4	33	120	271	-3.7	109.13	45	-3.4	109.42
34	4	34	120	284	-6.7	512.14	59	3.6	115.67
35	4	35	120	262	-14.3	69.80	54	1.1	364.67
36	4	36	120	332	16.7	44.46	60	4.1	102.54
37	4	37	120	250	-15.6	46.63	47	-2.4	157.78

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080711_0801\20080711_0801.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	5	6	4	0	0	48.13	411.82	B
2	2.00	0	5	0	0	6	107.75	403.86	
3	2.00	0	0	2	0	0	0.00	390.11	
4	2.00	0	1	0	0	2	749.94	416.00	
5	2.00	0	5	3	0	6	87.05	409.35	
6	2.00	3	1	0	7	1	0.00	406.99	
7	2.00	0	0	0	0	1	0.00	421.10	
8	2.00	0	1	0	0	1	0.00	407.02	
9	2.00	0	1	0	0	1	117.08	403.20	

10	2.00	0	0	0	0	0	0.00	409.08
11	2.00	3	1	0	6	1	0.00	393.34
12	2.00	0	0	2	1	0	0.00	398.27
13	2.00	1	3	0	0	4	63.44	417.66
14	2.00	0	0	0	0	0	0.00	398.66
15	2.00	2	0	1	4	0	55.46	402.56
16	2.00	0	0	0	0	0	0.00	400.55
17	2.00	0	4	0	0	5	81.55	414.71
18	2.00	1	0	1	3	0	0.00	395.79
19	2.00	0	1	0	0	1	0.00	402.75
20	2.00	0	1	1	0	1	27.02	398.93
21	2.00	3	2	0	6	3	48.27	412.44
22	2.00	0	0	2	0	0	0.00	436.64
23	2.00	1	0	1	3	0	0.00	400.97
24	2.00	1	0	0	2	0	245.48	423.72
25	2.00	0	3	0	0	4	68.97	403.82
26	2.00	2	0	1	3	0	107.83	393.31
27	2.00	0	5	1	0	6	160.86	408.71
28	2.00	0	1	0	0	2	386.80	397.34
29	2.00	1	0	0	2	0	121.98	407.76
30	2.00	0	0	0	1	0	0.00	393.46
31	2.00	0	0	1	0	0	0.00	429.02
32	2.00	1	3	3	1	4	39.78	399.35
33	2.00	0	5	0	0	6	152.18	409.83
34	2.00	0	0	0	0	0	0.00	409.41
35	2.00	0	0	0	0	0	0.00	393.16
36	2.00	0	2	1	0	2	105.48	401.46
37	2.00	0	4	0	0	6	103.98	403.52

#71986

Radiation Lab Summary Report

Room: EXITS

Building: 503, WRAIR/NMRC

Frequency: 90 Days

HPO Surveyor: M. Cox

Inspection Date: 6/17/08

Meter Model: N/A

Meter Serial Number: N/A

Calibration Due Date: N/A

Location	CPM	Swipe
Background		
(Inside) Door to outside	1	16
Loading Dock ~~Outside Door~~		17

Laboratory Analysis

Technician: MS, CX

Date: 6/18/08

Auto-gamma: 2 6-7

LSC: 3 6-7

Swipe Numbers: 16-17

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 18-Jun-2008 08:19:37

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 79

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	0.0	152.33	61	4.6	91.82
2	1	2	120	255	-14.4	54.21	49	-1.4	275.15
3	1	3	120	268	-12.6	92.01	56	2.1	193.96
4	1	4	120	267	-9.8	87.41	51	-0.4	954.07
5	1	5	120	284	-1.9	512.19	52	0.1	3947.55
6	1	6	120	294	9.1	292.36	43	-4.4	83.01
7	1	7	120	290	-1.0	772.73	55	1.6	252.64
8	1	8	120	280	-2.6	241.46	50	-0.9	431.61
9	1	9	120	286	4.5	1152.42	44	-3.9	94.52
10	1	10	120	286	-2.3	1167.76	54	1.1	364.65
11	2	11	120	290	-7.0	779.35	64	6.1	70.79
12	2	12	120	284	-6.7	512.18	59	3.6	115.67
13	2	13	120	314	7.7	73.03	60	4.1	102.29

END OF ASSAY

END OF COUNTING

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080618_1125
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts \20080618_1125\20080618_1125.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	4	6	5	0	0	55.23	427.00	B
2	2.00	1	0	2	4	0	0.00	406.61	
3	2.00	3	1	2	5	1	50.05	415.87	
4	2.00	0	1	1	0	1	0.00	410.25	
5	2.00	0	0	1	0	0	0.00	417.14	
6	2.00	0	0	0	0	0	0.00	405.39	
7	2.00	0	2	0	0	3	371.24	405.02	
8	2.00	3	0	0	6	0	26.74	418.98	
9	2.00	1	1	0	1	1	134.45	408.86	

10	2.00	1	1	0	2	1	104.24	417.49
11	2.00	0	1	0	0	2	0.00	412.99
12	2.00	0	0	0	0	1	0.00	418.93
13	2.00	0	2	1	0	3	69.74	406.47

#8101

Radiation Lab Summary Report

Room: ELEVATORS

Building: 503, WRAIR/NMRC

Frequency: 90 Days

HPO Surveyor: Ms. Cox

Inspection Date: 7/16/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Elevator	Buttons		Floor		Floor	Buttons	
	CPM	Swipe	CPM	Swipe		CPM	Swipe
Background							
Elevator 1	400	42	<100	43	44	400	45

Laboratory Analysis

Technician: Ms. Cox

Date: 7/17/08

Auto-gamma: (3) 42-45

LSC: (2) 43-46

Swipe Numbers: 42-45

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	

#8098

Radiation Lab Summary Report

Room: FLOORS Ground

Building: 503, WRAIR/NMRC

Frequency: 90 Days

HPO Surveyor: Ms. Cx

Inspection Date: 7/16/08

Meter Model: Geiger

Meter Serial Number: 11976

Calibration Due Date: 10/12/08

Room	CPM	Swipe
Background	<100	
In front of elevator	<100	46
In front of GW02	<100	47

Laboratory Analysis

Technician: Ms. Cx

Date: 7/17/08

Auto-gamma: (2) 46-47

LSC: (2) 47-48

Swipe Numbers: 46-47

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

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

Comments

Completed

All swipes < 200 dpm

Surveyor Comments

COUNTING

1480, RiaCalc WIZ, program 3.6, serial #4800540

ASSAY 17-Jul-2008 08:05:27

Protocol id 2 ROUTINE3
Time limit 120
Count limit 99999999
Dual isotopes 15-1024 + 1k-2k
Protocol date 09-Feb-2006 10:59:54
Run id. 90

				---------15-1024---------			---------1k-2k----------		
POS	RACK	BATCH	TIME	COUNTS	CPM	ERROR %	COUNTS	CPM	ERROR %
1	1	1	120	300	10.1	152.58	46	-2.9	129.44
2	1	2	120	253	-26.2	50.92	65	6.6	65.77
3	1	3	120	263	-13.8	72.75	54	1.1	368.09
4	1	4	120	282	-11.7	328.56	65	6.6	65.77
5	1	5	120	294	8.5	293.32	44	-3.9	94.53
6	1	6	120	244	-26.0	39.82	58	3.1	133.36
7	1	7	120	279	-3.1	213.11	50	-0.9	431.63
8	1	8	120	249	-29.6	45.35	67	7.6	57.86
9	1	9	120	260	-7.9	64.54	43	-4.4	83.01
10	1	10	120	301	9.9	141.39	47	-2.4	157.78
11	2	11	120	316	12.0	68.07	55	1.6	252.63
12	2	12	120	278	-8.3	190.64	57	2.6	157.83
13	2	13	120	274	-8.3	133.80	54	1.1	364.65
14	2	14	120	285	-3.5	709.58	55	1.6	252.64
15	2	15	120	287	-5.2	3052.26	59	3.6	115.67
16	2	16	120	276	2.2	157.32	40	-5.9	60.14
17	2	17	120	283	-3.8	402.28	54	1.1	364.65
18	2	18	120	277	-10.8	172.41	60	4.1	102.29
19	2	19	120	277	-4.8	172.76	51	-0.4	979.17
20	2	20	120	300	1.4	152.58	59	3.6	116.31
21	3	21	120	275	-10.5	144.63	58	3.1	133.35
22	3	22	120	286	-7.0	1152.42	61	4.6	92.02
23	3	23	120	271	-13.2	109.13	59	3.6	115.67
24	3	24	120	301	9.3	141.39	48	-1.9	201.03
25	3	25	120	278	1.1	190.63	43	-4.4	83.01
26	3	26	120	259	-13.1	62.19	50	-0.9	431.61
27	3	27	120	279	-3.8	213.10	51	-0.4	954.10
28	3	28	120	280	-4.6	241.47	53	0.6	674.93
29	3	29	120	297	5.9	200.48	50	-0.9	431.63
30	3	30	120	285	-0.8	709.50	51	-0.4	979.12
31	4	31	120	277	-1.4	172.41	46	-2.9	129.44
32	4	32	120	276	-9.3	157.33	57	2.6	158.44
33	4	33	120	275	-1.0	144.62	44	-3.9	94.52
34	4	34	120	252	-15.2	49.41	48	-1.9	201.03
35	4	35	120	271	-3.0	109.13	44	-3.9	94.52
36	4	36	120	288	-1.3	4502.65	54	1.1	364.65
37	4	37	120	278	-9.0	190.63	58	3.1	133.36
38	4	38	120	303	13.0	123.36	44	-3.9	94.53
39	4	39	120	303	23.7	123.36	28	-11.9	26.02
40	4	40	120	275	-7.1	144.63	53	0.6	663.33
41	5	41	120	256	-11.9	56.02	46	-2.9	129.44
42	5	42	120	245	-24.8	40.84	57	2.6	158.45

Assay Definition-

Assay Description:
Routine survey, 2 minute counts

Assay Type: DPM (Dual)
Report Name: Contamination survey
Output Data Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080718_0854
Raw Results Path: C:\Packard\Tricarb\Results\routine\routine surveys, 2 minute counts\20080718_0854\20080718_0854.results
Assay File Name: C:\Packard\TriCarb\Assays\routine surveys, 2 minute counts.lsa

Count Conditions-

Nuclide: 3H-14C+P32
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Sets:
Low Energy: 3H
Mid Energy: 14C
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.0	18.6	1st Vial
B	18.6	156.0	1st Vial
C	156.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: On
Colored Samples: On Heterogeneity Monitor: n/a
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				
B				
C				

Cycle 1 Results

S#	Count Time	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	MESSAGES
1	10.00	3	6	6	0	0	55.58	397.88	B
2	2.00	0	3	0	0	5	238.00	414.08	
3	2.00	0	0	0	0	0	0.00	408.03	
4	2.00	3	0	0	5	0	22.61	413.17	
5	2.00	1	1	0	2	2	80.17	412.08	
6	2.00	3	1	0	6	1	3.23	408.95	
7	2.00	2	4	0	1	6	51.51	391.55	
8	2.00	0	5	0	0	7	75.29	409.94	
9	2.00	2	0	0	5	0	0.00	400.62	