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EDUCATION *Ph.D. Supervised*
EXPERIENCE *Serving since 1970*
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November 13, 2003

MS 16

P-3

Kathy Dolce Modes
Health Physicist
Nuclear Materials Safety Branch 2
Division of Nuclear Materials
Region 1
475 Allendale Road
King of Prussia, PA 19406-1415
Phone: (610) 337-5251
Fax: (610) 337-5269
Re: License No: 29-30516-01

03034998

Dear Ms. Dolce Modes,

Please review our response on your letter dated September 11, 2003.

1. Email: alewandowski@gibraltarlabsinc.com
2. See Appendix A.
3. A. Main Laboratory area is approximately 4000,00 ft³.
B. Testing area for radioactive materials was 150 ft³.
C. Building is located in Industrial area.
4. See Appendix B.
5. See Appendix C.
6. We did not perform survey for air ventilation system, however we did all of the testing for radioactive material using control room and control air system – HEPA system. Room was monitored every month for detection of radioactive contamination, with negative results.

Sincerely,

Artur Lewandowski
Senior Microbiologist

122 Fairfield Rd.
Fairfield, NJ
07004-2405
(973) 227-6882
Fax: (973) 227-0812

www.gibraltarlabsinc.com
e-mail: info@gibraltarlabsinc.com

Enclosures: Appendix A, B, and C.

133587

NMSS/RGNI MATERIALS-002

FAX RECEIVED 11/13/2003

APPENDIX A

(7-2001)
10 CFR 30.36(f)(1); 40.42(f)(1);
70.38(f)(1); and 72.54(f)(1)

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

CERTIFICATE OF DISPOSITION OF MATERIALS

LICENSEE NAME AND ADDRESS

GIBALTAR LABORATORIES INC.
122 FAIRFIELD RD.
FAIRFIELD, NJ 07004

LICENSE NUMBER

29 - 30516-01

DOCKET NUMBER

03034998

LICENSE EXPIRATION DATE

MARCH 31, 2009

A. LICENSE STATUS (Check the appropriate box)

- This license has expired. This license has not yet expired; please terminate it.

B. DISPOSAL OF RADIOACTIVE MATERIAL

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

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

- 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner.
 - a. Transfer of radioactive materials to the licensee listed below:
 - b. Disposal of radioactive materials:
 - 1. Directly by the licensee:
 - 2. By licensed disposal site:
 - 3. By waste contractor: *RADIATION SCIENCE INC.
10 SOUTH RIVER RD.
CRANBURY, NJ 08512*
- c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

C. SURVEYS PERFORMED AND REPORTED

- 1. A radiation survey was conducted by the licensee. The survey confirms:
 - a. the absence of licensed radioactive materials
 - b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- 2. A copy of the radiation survey results:
 - a. is attached; or b. is not attached (Provide explanation); or c. was forwarded to NRC on: _____ Date
- 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
 - a. The results of the latest leak test are attached; and/or
 - b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME <i>ARTUR LEWANDOWSKI</i>	TITLE <i>MICROBIOLOGY MANAGER</i>	TELEPHONE (Include Area Code) <i>973-227 6882</i>	E-MAIL ADDRESS <i>alewandowski@ gibraltarlabsinc.c</i>
Mail all future correspondence regarding this license to: <i>122 FAIRFIELD RD, FAIRFIELD NJ 07004</i>			

C. CERTIFYING OFFICIAL
I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

133587

PRINTED NAME AND TITLE

DAN PAWCE, PRES.

SIGNATURE

Dan Pawce

DATE

11/13/03

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.



**Radiological Survey
for
Gibraltar Laboratories, Inc.**

February 2003

Prepared by



NRC License # 29-30310-01



**Radiological Survey
for
Gibraltar Laboratories, Inc.**

February 2003

Survey Date: February 25, 2003

Survey performed by:

Robert Mahoney

Report prepared by:

Joel Antkowiak

Reviewed and Approved by:

Robert Mahoney

Date: 3/7/03

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I. Introduction

This report has been prepared by Radiation Science, Inc. for Gibraltar Laboratories, Inc. to summarize the results of the monthly radiation safety surveys performed in the radioactive materials use areas at your facility in Fairfield, New Jersey. The purpose of the survey was to identify and define the extent of fixed and removable radioactive contamination in the rooms where radioactive materials are used so that the researchers will be able to decontaminate the areas as soon as possible.

The survey was performed on February 25, 2003 by Robert Mahoney.

II. Survey Instrumentation

Table 2-1 provides a description of the instrumentation used to perform the routine monthly surveys.

Instrument	Use	Serial Number	Calibration Date
Ludlum Model 12 W/Model 43-68 probe	Direct measurements for beta and gamma radiation.	105685 PR110377	02/14/03
Packard 1900CA Liquid Scintillation Analyzer	Liquid scintillation counting of samples for removable radioactive contamination	102312	At time of use.

All meters and instrumentation used for this survey have been calibrated within the past twelve months to standards traceable to the National Institute of Standards and Testing (NIST). The hand held meters response to a dedicated check source was verified prior to use. The liquid scintillation counter was calibrated prior to use by running the manufacturer's calibration protocol, allowing the machine to adjust the gain.

Minimum Detectable Activity Calculations*

Equation

$$MDA = \frac{2.71 + 4.65 \sqrt{Br \times t}}{t \times E \times A / 100}$$

where:

- MDA = activity in dpm/100 cm²
- Br = background rate in counts per minute
- t = counting time in minutes
- E = detector efficiency in counts per disintegration (4π)
- A = probe area or area wiped in cm²

II. Survey Instrumentation (cont)

Table 2-2 provides the lower limits of detection for the instrumentation used to perform the surveys. The MDA for the Ludlum survey meter uses a background count rate of 280 cpm and an efficiency of 8 % for carbon-14.

Instrument	Serial Number	Minimum Detectable Activity
Ludlum Model 12 W/Model 43-68 probe	105685	1,006 dpm/100 cm ²
	PR110377	
Packard Model 1900CA Liquid Scintillation Analyzer	102312	Channel 1: 33 dpm/sample Channel 2: 28 dpm/sample Channel 3: 29 dpm/sample

III. Survey Methodology

Wipe samples were obtained by wiping at least 100 cm² with a 4.25 cm diameter, dry filter paper. The samples were placed directly into plastic 7 milliliter vials in an LSC rack labeled with a unique identification number. Upon returning to the Emerson laboratory, 5 milliliters of an ecologically safe liquid scintillation cocktail were added to each vial. The vial was then capped, shaken, and returned to the rack. All vials were allowed to sit for at least 15 minutes before counting was initiated so that any chemical reactions that may occur will progress to completion. Wipes exhibiting activity above the MDA were recounted for two minutes, three times, and the results reported herein as the best estimate of removable radioactivity.

Locations of the wipe samples are indicated on the room diagrams contained in this report. Analytical results are presented with each diagram. Results are reported as less than the Minimum Detectable Activity (MDA) of the instruments where appropriate. The method used to calculate these values is included in the report.

The results of the liquid scintillation analyses are presented by channel number. Channel 1 is set for optimum tritium efficiency (0-19 kev); channel 2 is set for optimum carbon-14 efficiency (19-156 kev) and channel 3 is set for all other higher energy beta emitters (156-1000 kev).

Benchtops, sinks, equipment, and hood sashes were scanned with a 100 cm² gas proportional detector using the audio output to identify areas of elevated radioactivity. Contaminated areas are identified as areas greater than twice background. Each contaminated area is identified on the corresponding room diagram along with the results of an integral measurement. The reported results have been corrected for background, and are based on the meters efficiency to Carbon-14.

IV. Summary of Survey Results

The following summary includes all removable and fixed contamination found to be greater than the MDA.

Removable Activity

Room	Wipe #	Channel 1 (dpm/100 cm ²)	Channel 2 (dpm/100 cm ²)	Channel 3 (dpm/100 cm ²)
None	N/A	N/A	N/A	N/A

Direct Activity

Room	Location	(cpm/100 cm ²)
None	N/A	N/A

V. List of Rooms Surveyed

Radioisotope Receiving Area	Inc./Ref. Room
Rad Bench	Sterility Room

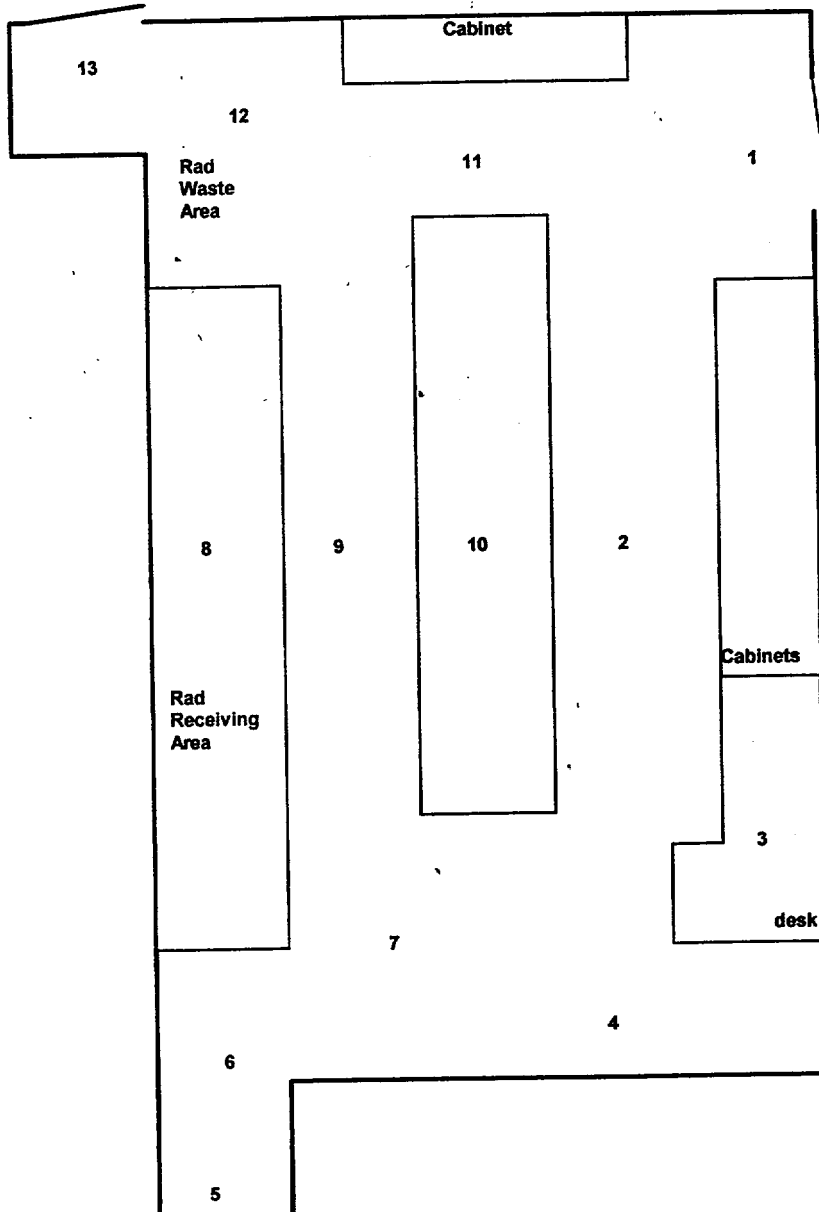
Appendix

Diagrams of Areas Surveyed and Smear Results

Room: Radioisotope Receiving Room

Name:

Notes:



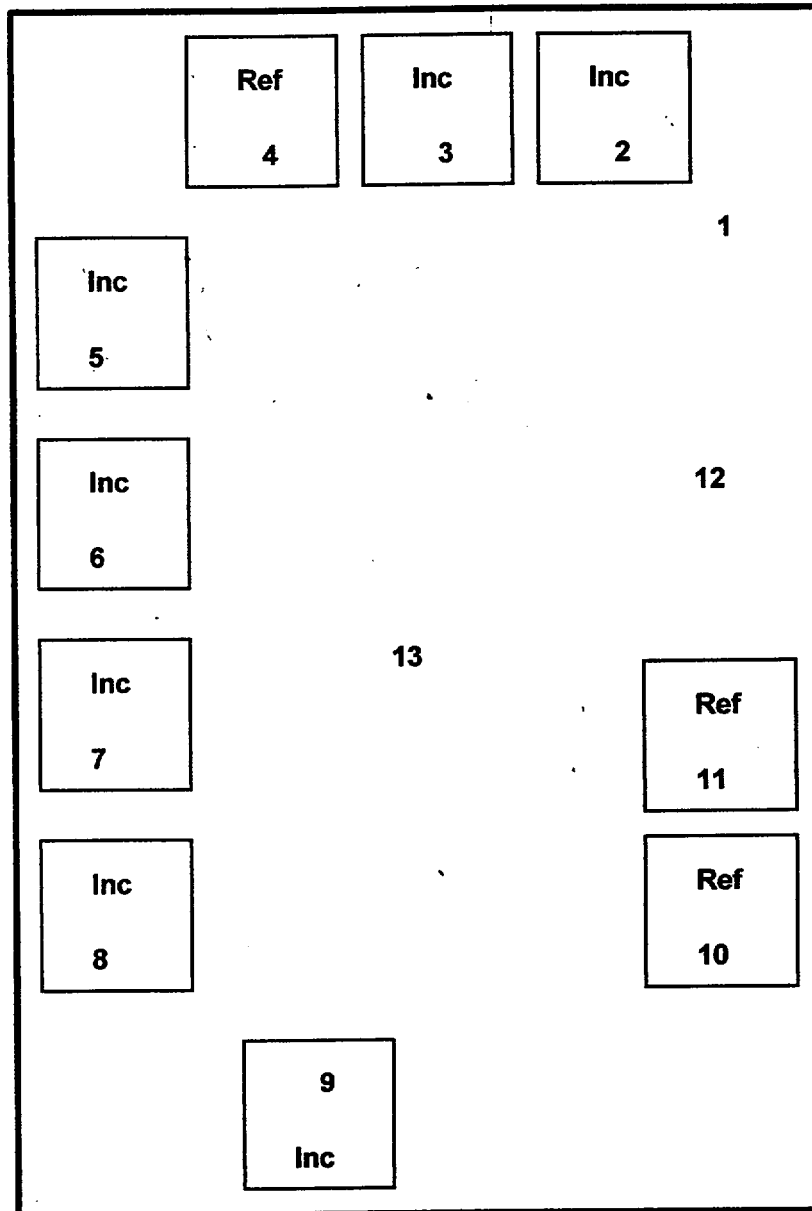
Smear Analysis Results - Analysis by Liquid Scintillation Counting

Smear ID	Channel 1	Channel 2	Channel 3	Smear ID	Channel 1	Channel 2	Channel 3
1	<MDA	<MDA	<MDA	11	<MDA	<MDA	<MDA
2	<MDA	<MDA	<MDA	12	<MDA	<MDA	<MDA
3	<MDA	<MDA	<MDA	13	<MDA	<MDA	<MDA
4	<MDA	<MDA	<MDA				
5	<MDA	<MDA	<MDA				
6	<MDA	<MDA	<MDA				
7	<MDA	<MDA	<MDA				
8	<MDA	<MDA	<MDA				
9	<MDA	<MDA	<MDA				
10	<MDA	<MDA	<MDA				

Room: Incubator & Refrigerator Room

Name:

Notes:



Smear Analysis Results - Analysis by Liquid Scintillation Counting

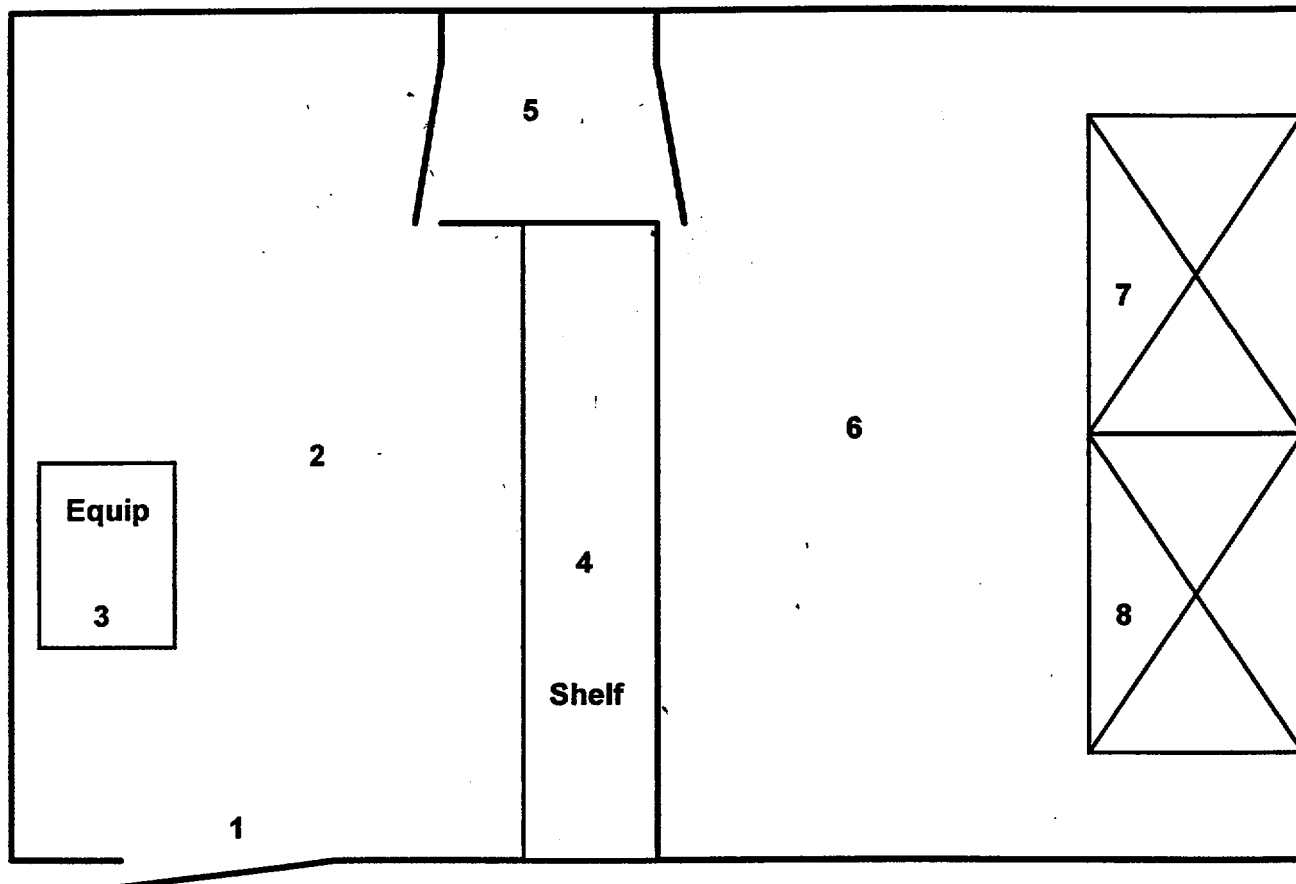
Smear ID	Channel 1	Channel 2	Channel 3	Smear ID	Channel 1	Channel 2	Channel 3
1	<MDA	<MDA	<MDA	11	<MDA	<MDA	<MDA
2	<MDA	<MDA	<MDA	12	<MDA	<MDA	<MDA
3	<MDA	<MDA	<MDA	13	<MDA	<MDA	<MDA
4	<MDA	<MDA	<MDA				
5	<MDA	<MDA	<MDA				
6	<MDA	<MDA	<MDA				
7	<MDA	<MDA	<MDA				
8	<MDA	<MDA	<MDA				
9	<MDA	<MDA	<MDA				
10	<MDA	<MDA	<MDA				

Room: Sterility Room



Name:

Notes:



Smear Analysis Results - Analysis by Liquid Scintillation Counting

Smear ID	Channel 1	Channel 2	Channel 3	Smear ID	Channel 1	Channel 2	Channel 3
1	<MDA	<MDA	<MDA				
2	<MDA	<MDA	<MDA				
3	<MDA	<MDA	<MDA				
4	<MDA	<MDA	<MDA				
5	<MDA	<MDA	<MDA				
6	<MDA	<MDA	<MDA				
7	<MDA	<MDA	<MDA				
8	<MDA	<MDA	<MDA				

APPENDIX B



II. Survey Instrumentation (cont)

Table 2-2 provides the lower limits of detection for the instrumentation used to perform the surveys. The MDA for the Ludlum survey meter uses a background count rate of 280 cpm and an efficiency of 8 % for carbon-14.

Instrument	Serial Number	Minimum Detectable Activity
Ludlum Model 12 W/Model 43-68 probe	105685	1,006 dpm/100 cm ²
	PR110377	
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Benchtops, sinks, equipment, and hood sashes were scanned with a 100 cm² gas proportional detector using the audio output to identify areas of elevated radioactivity. Contaminated areas are identified as areas greater than twice background. Each contaminated area is identified on the corresponding room diagram along with the results of an integral measurement. The reported results have been corrected for background, and are based on the meters efficiency to Carbon-14.

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The survey was performed on January 30, 2003 by Robert Mahoney.

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Table 2-1 provides a description of the instrumentation used to perform the routine monthly surveys.

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All meters and instrumentation used for this survey have been calibrated within the past twelve months to standards traceable to the National Institute of Standards and Testing (NIST). The hand held meters response to a dedicated check source was verified prior to use. The liquid scintillation counter was calibrated prior to use by running the manufacturer's calibration protocol, allowing the machine to adjust the gain.

**Minimum Detectable Activity
Calculations ***

Equation

$$MDA = \frac{2.71 + 4.65 \sqrt{Br \times t}}{t \times E \times A / 100}$$

where:

- MDA = activity in dpm/100 cm²
- Br = background rate in counts per minute
- t = counting time in minutes
- E = detector efficiency in counts per disintegration (4π)
- A = probe area or area wiped in cm²

APPENDIX C



Emerson RSI

Certificate of Calibration

Certificate Number: 1170

Type of Calibration:

Linearity & Efficiency Test

Dose Rate Calibration

Meter: Ludlum 3

Serial #: 155944 Detector: 44-9

Serial #: 159352

Calibrated for: Gibraltar Laboratories

Battery check: pass fail High voltage: meter pulser 900 v int.

Meter tested as: scaler or ratemeter

Meter Multiplier or Scale	Reference Calibration Point		Meter Reading	Reference Calibration Point		Meter Reading
	mR/hr <input type="checkbox"/>	cpm <input checked="" type="checkbox"/>		mR/hr <input type="checkbox"/>	cpm <input checked="" type="checkbox"/>	
x100	200,000		200,000	400,000		400,000
x10	20,000		20,000	40,000		39,000
x1	2,000		2,000	4,000		3,900
x0.1	200		200	400		400

Meter is: within 10% within 20% (graph attached)

NIST referenced instruments and sources used with this calibration:

Isotope / β_{avg}	Net Cts.	Eff.	Isotope / γ_{avg}	Net Cts.	Eff.
C-14, s.n. K786, 3.752 kBq, 49.5 keV	8,000	0.036			
Tc-99, s.n. D713, 385.9 Bq, 85 keV	3,000	0.130			

Ludlum Model 500 Pulse Generator, s.n. 114518

NIST Traceable Calibration date: March 25, 2002

Calibrated by: D. McFarlane Date: 6/12/02

Approved by: *Ralph ...* Date: 6/14/02

Comments: Replaced 2-D batteries.



Emerson RSI

Certificate of Calibration

Certificate Number: 1198

Type of Calibration: Linearity & Efficiency Test Dose Rate Calibration

Meter: Ludlum 3 Serial #: 157157 Detector: 44-9 Serial #: 158037

Calibrated for: Gibraltar Laboratories

Battery check: pass fail High voltage: meter pulser 900 v int.

Meter tested as: scaler or ratemeter

Meter Multiplier or Scale	Reference Calibration Point mR/hr <input type="checkbox"/> cpm <input checked="" type="checkbox"/>	Meter Reading	Reference Calibration Point mR/hr <input type="checkbox"/> cpm <input checked="" type="checkbox"/>	Meter Reading
x100	170,000	170,000	340,000	350,000 -
x10	17,000	17,000	34,000	34,000
x1	1,700	1,700	3,400	3,400
x0.1	170	170	340	340

Meter is: within 10% within 20% (graph attached)

NIST referenced instruments and sources used with this calibration:

Isotope / β_{avg}	Net Cts.	Eff.	Isotope / γ_{avg}	Net Cts.	Eff.
C-14, s.n. K786, 3.752 kBq, 49.5 keV	8,000	0.036			
Tc-99, s.n. D713, 385.9 Bq, 85 keV	2,750	0.119			

Ludlum Model 500 Pulse Generator, s.n. 114518

NIST Traceable Calibration date: March 25, 2002

Calibrated by: D. McFarlane Date: 6/26/02

Approved by: *[Signature]* Date: 6/28/02

Comments:



**Radiological Survey
for
Gibraltar Laboratories, Inc.**

January 2003

Prepared by



NRC License # 29-30310-01



**Radiological Survey
for
Gibraltar Laboratories, Inc.**

January 2003

Survey Date: January 30, 2003

Survey performed by:

Robert Mahoney

Report prepared by:

Robert Mahoney

Reviewed and Approved by:



Date:

2/4/03

II. Survey Instrumentation (cont)

Table 2-2 provides the lower limits of detection for the instrumentation used to perform the surveys. The MDA for the Ludlum survey meter uses a background count rate of 280 cpm and an efficiency of 8 % for carbon-14.

Instrument	Serial Number	Minimum Detectable Activity
Ludlum Model 12 W/Model 43-68 probe	105685 PR110377	1,006 dpm/100 cm ²
Packard Model 1900CA Liquid Scintillation Analyzer	102312	Channel 1: 33 dpm/sample Channel 2: 28 dpm/sample Channel 3: 29 dpm/sample

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IV. Summary of Survey Results

The following summary includes all removable and fixed contamination found to be greater than the MDA.

Removable Activity

Room	Wipe #	Channel 1 (dpm/100 cm ²)	Channel 2 (dpm/100 cm ²)	Channel 3 (dpm/100 cm ²)
None	N/A	N/A	N/A	N/A

Direct Activity

Room	Location	(cpm/100 cm ²)
None	N/A	N/A

V. List of Rooms Surveyed

Radioisotope Receiving
Area

Inc./Ref. Room

Rad Bench

Sterility Room

Appendix

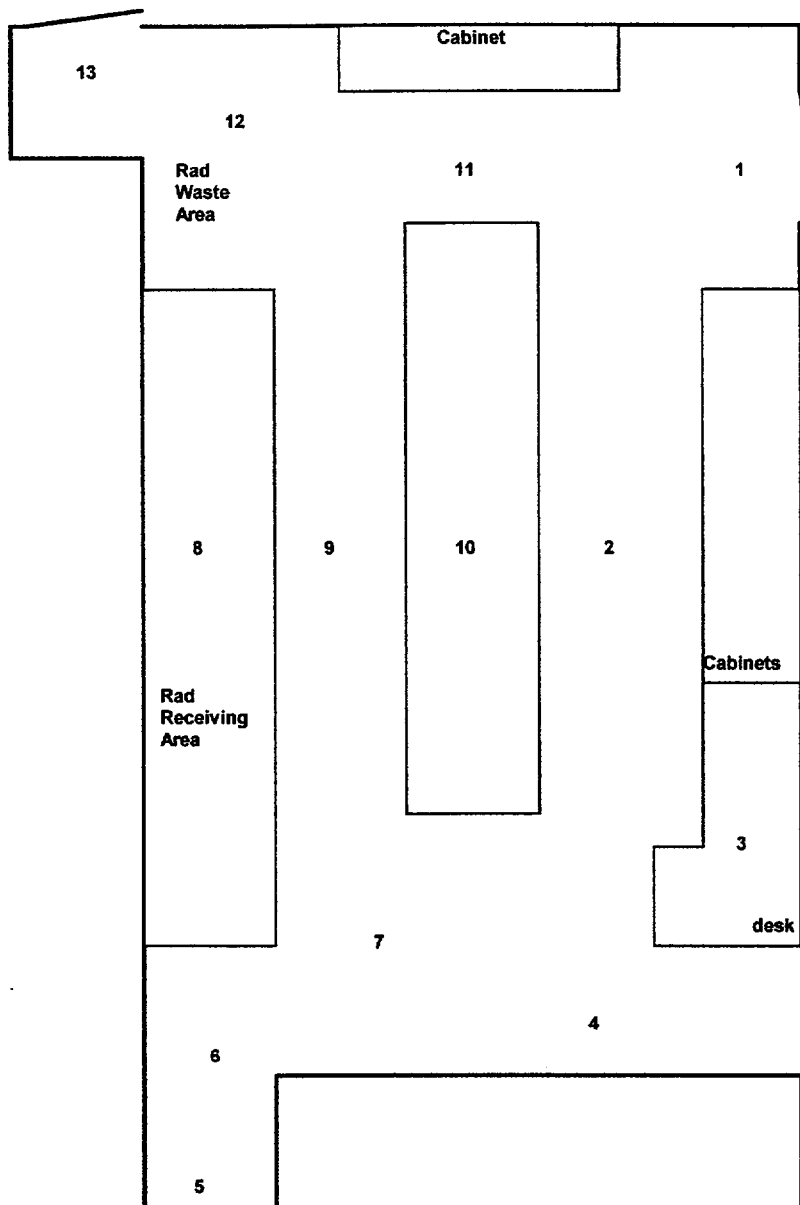
Diagrams of Areas Surveyed and Smear Results

Room: Radioisotope Receiving Room



Name:

Notes:



Smear Analysis Results - Analysis by Liquid Scintillation Counting

Smear ID	Channel 1	Channel 2	Channel 3	Smear ID	Channel 1	Channel 2	Channel 3
1	<MDA	<MDA	<MDA	11	<MDA	<MDA	<MDA
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Calculations***

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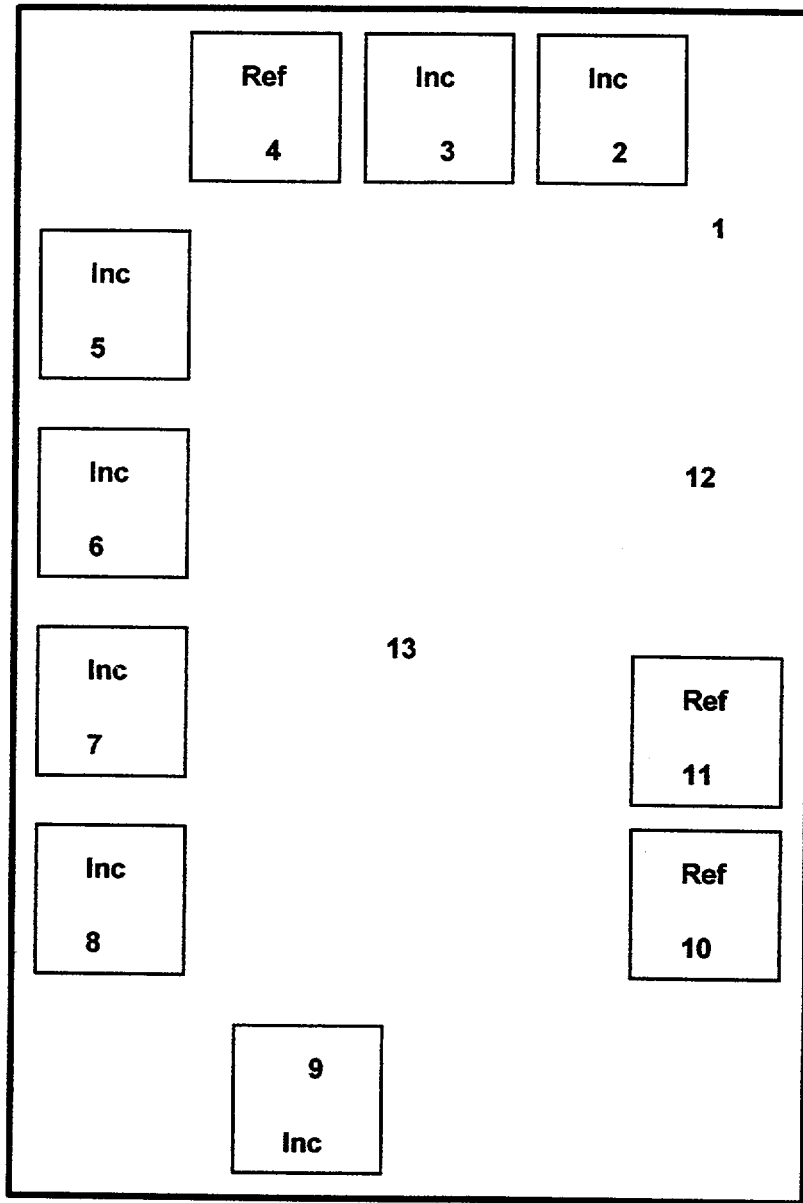
- MDA = activity in dpm/100 cm²
- Br = background rate in counts per minute
- t = counting time in minutes
- E = detector efficiency in counts per disintegration (4π)
- A = probe area or area wiped in cm²

Room: Incubator & Refrigerator Room



Name:

Notes:



Smear Analysis Results - Analysis by Liquid Scintillation Counting

Smear ID	Channel 1	Channel 2	Channel 3	Smear ID	Channel 1	Channel 2	Channel 3
1	<MDA	<MDA	<MDA	11	<MDA	<MDA	<MDA
2	<MDA	<MDA	<MDA	12	<MDA	<MDA	<MDA
3	<MDA	<MDA	<MDA	13	<MDA	<MDA	<MDA
4	<MDA	<MDA	<MDA				
5	<MDA	<MDA	<MDA				
6	<MDA	<MDA	<MDA				
7	<MDA	<MDA	<MDA				
8	<MDA	<MDA	<MDA				
9	<MDA	<MDA	<MDA				
10	<MDA	<MDA	<MDA				

: (FOR LFMS USE)
 : INFORMATION FROM LTS
 : -----
 :
 :
 : Program Code: 03620
 : Status Code: 0
 : Fee Category: 3M
 : Exp. Date: 20090331
 : Fee Comments: _____
 : Decom Fin Assur Reqd: N
 :

BETWEEN:

License Fee Management Branch, ARM
 and
 Regional Licensing Sections

LICENSE FEE TRANSMITTAL

A. REGION **I**

1. APPLICATION ATTACHED

Applicant/Licensee: GIBRALTAR LABORATORIES, INC.
 Received Date: 20030902
 Docket No: 3034998
 Control No.: 133587
 License No.: 29-30516-01
 Action Type: Termination

2. FEE ATTACHED

Amount: _____
 Check No.: _____

3. COMMENTS

*CHANGE FROM AMENDMENT 7
 TO TERMINATIONS.*

Signed M. A. Perkins
 Date 11/2/2003

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /_/)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:

Amendment _____
 Renewal _____
 License _____

3. OTHER _____

Signed _____
 Date . _____