


NRC FORM 314 (02-2017) 10 CFR 30.38(j)(1); 40.42(j)(1); 70.38(j)(1); and 72.04(k)(5)(1)(1)	 U.S. NUCLEAR REGULATORY COMMISSION CERTIFICATE OF DISPOSITION OF MATERIALS	APPROVED BY OMB: NO. 3150-0028 EXPIRES: 02/29/2020 <small>Optimized burden per response to comply with this mandatory collection request: 30 minutes. This material 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 FOIA, Privacy, and Information Collections Branch (7-6753), U.S. Nuclear Regulatory Commission, Washington, DC 20540-0001 or by e-mail to infocollections.Resource@nrc.gov and to the Desk Officer, Office of Information and Regulatory Affairs, NEOD-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.</small>
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LICENSEE NAME AND ADDRESS Mary Lou Caspers, PhD University of Detroit Mercy 4001 W. McNichols Rd Detroit, MI 48221	LICENSE NUMBER 21-00241-09	DOCKET NUMBER 030-14288
LICENSE EXPIRATION DATE June 30, 2018		

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:
 Mary Lou Caspers, PhD

2. By licensed disposal site:

3. By waste contractor.

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	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Mary Lou Caspers, PhD	Professor of Biochemistry	313-993-1196	casperml@udmercy.edu

Mail all future correspondence regarding this license to

Mary Lou Caspers

C. CERTIFYING OFFICIAL

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

PRINTED NAME AND TITLE	SIGNATURE	DATE
Pamela Zarkowski, PhD	<i>Pamela Zarkowski</i>	5/21/18

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.

RECEIVED MAY 22 2018

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HISTORICAL SITE ASSESSMENT – RADIONUCLITIDE PURCHASES**1984 – PRESENT**

Material	quantity	Purchase date	Areas of Use	Dates of Usage	Amount per experiment	Final disposal
¹⁴ C -Oxalic Acid	0.05 mCi	December 1976	Never opened	Never used	NA	May 15, 2018
³ H-ouabain	1.0 mCi	February 1992	Chemistry room 207	February 1992-2003	≤ 1.0 μCi per Experiment Approximately 700-900 experiments	May 15, 2018*
³ H Hemicholinium	250 μCi	March 1994	Chemistry room 207	March 1994-1996	≤ 2.5 μCi Approximately 40-50 experiments	May 15, 2018*
³² P-adenosine-5'-Triphosphate	250 μCi	September 1994	Chemistry room 207	Sept-Dec 1994	≤ 1 μCi per experiment. approximately 30 experiments	1997**
³ H-ouabain	1.0 mCi	June 2003	Chemistry room 207	June 2003-2014	≤ 1.0 μCi per Experiment Approximately 700-900 experiments	May 15, 2018*

* After each experiment, radioactive material was disposed of into the sanitary sewer based on the amount used (which was below the threshold for tritium disposal).

** Vials containing ³²P were stored in a cabinet for several years until the cpm of the vials equaled the background.

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FINAL LABORATORY INSPECTION ROOM 207

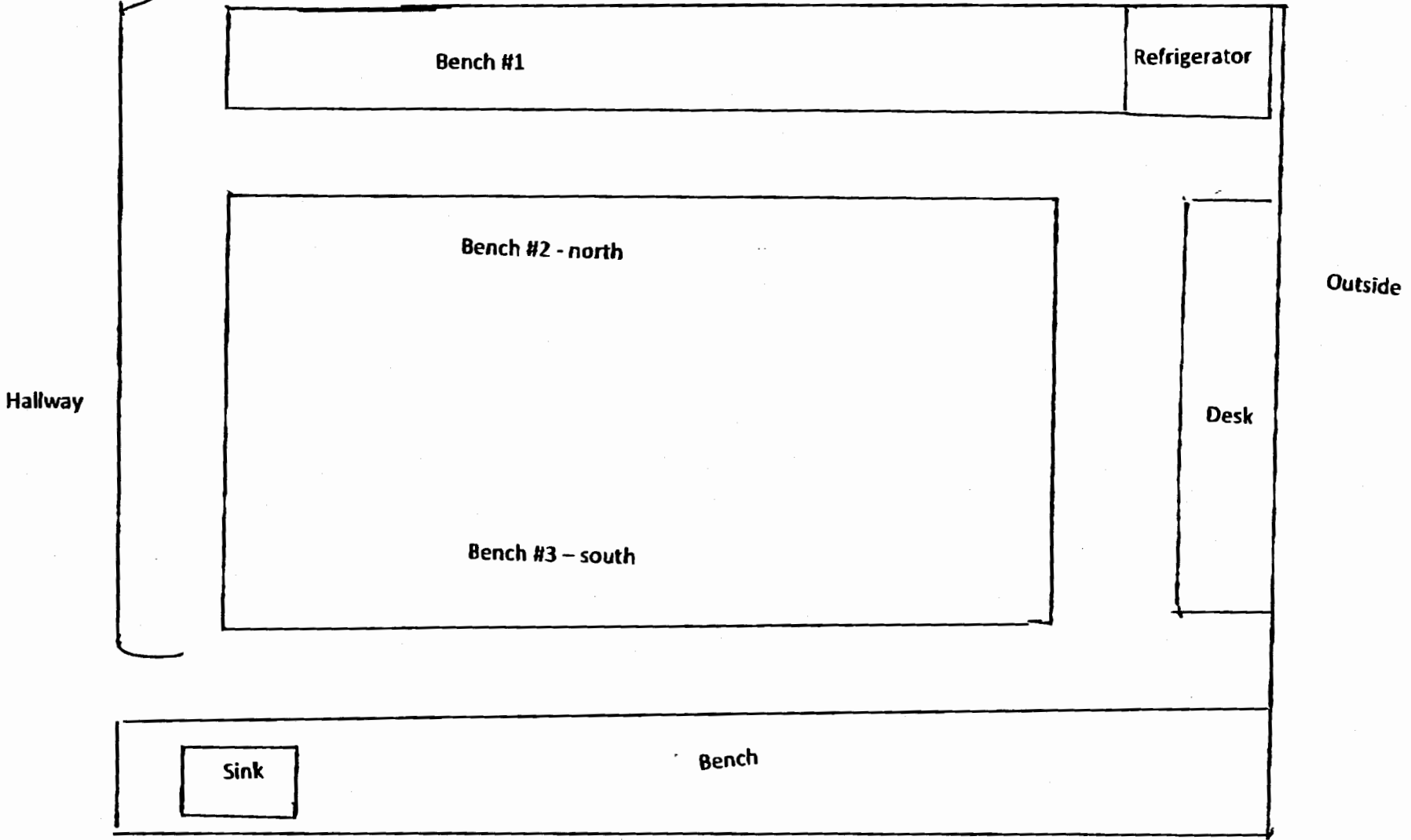
A final laboratory inspection was done on May 18, 2018. Areas in the lab were wiped with moist filter paper according to the table below. Scintillation fluid was added to vials containing the filter paper and the vials were placed in a scintillation counter to determine if ^3H or ^{14}C was present. **No swipes showed the presence of either of these isotopes.**

Test to Determine the Presence of ^3H or ^{14}C in Laboratory Room 207

<u>Wet Swipe #</u>	<u>Location</u>
1	Blank – filter paper moistened with water – no swipe performed
2	Refrigerator Bin where isotopes were stored
3	Lab Bench Top #1 – side bench north
4	Lab Bench Top #2 – center bench north
5	Lab Bench Top #3 – Center bench south
6	Floor at refrigerator
7	Floor at Bench #1
8	Floor at Bench #2
9	Floor at Bench #3
10	Sink where isotopes were disposed of on May 15, 2018
11	Floor at sink

LABORATORY ROOM 207 DIAGRAM

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RESULTS FROM SCINTILLATION COUNTER FOR LABORARY ROOM 207 INSPECTION
(Raw Data from Scintillation Counter Print-off is also Attached)

<u>Wet Swipe #</u>	<u>^3H (cpm)</u>	<u>^{14}C (cpm)</u>
1	45	62
2	30	64
3	28	71
4	25	48
5	21	54
6	27	53
7	33	57
8	19	64
9	25	48
10	25	60
11	18	41

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BIOCHIMICUM LABORATORIA S. INC.
 1100 UNIVERSITY AVE

18 MAY 2018 11:54

ADJUSTMENT CALIBRATION: 10.00 10.00 10.00
 ADJUSTMENT SUCCESSFUL
 PRESET TIME : 3.00
 DATA CALC : CPM H# : NO SAMPLE REPEATS : 1 PRINT
 COUNT BLANK : NO 10# : NO REPLICATES : 1 RESID
 TWO PHASE : NO AGC : NO CYCLE REPEATS : 1
 SCINTILLATOR : LIQUID LUMEX : NO LOW SAMPLE REQ : 0
 LOW LEVEL : NO HALF LIFE CORRECTION DATE : none

ISOTOPE 1: 3H WERROR: 0.00 FACTOR: 1.000000 BKG. SUB:

SAM NO	POS	TIME MIN	H#	CPM	%ERROR	LUMEX %	ELAPSED TIME
1	**1	3.00	395.8	44.67	17.28	3.16	3.55
2	**2	3.00	374.0	30.33	20.97	1.93	7.07
4	**4	3.00	342.6	28.08	24.99	3.18	19.02
5	**5	3.00	342.3	21.33	25.00	3.00	17.74
6	**6	3.00	342.2	27.00	22.22	3.20	21.30
7	**7	3.00	341.6	32.67	24.24	1.50	27.01
8	**8	3.00	341.4	19.33	26.26	2.80	28.39
9	**9	3.00	344.1	24.67	24.25	1.83	31.07
10	**10	3.00	331.0	24.67	24.25	5.08	30.61
11	**11	3.00	351.2	18.33	26.11	1.15	39.15

3 H

SAM NO	POS	TIME MIN	H#	WIDE CPM	%ERROR	LUMEX %	ELAPSED TIME
1	**1	1.00	392.1	62.00	25.40	4.02	3.55
2	**2	1.00	338.7	64.00	25.00	1.93	3.07
3	**3	1.00	331.4	71.00	21.24	1.50	4.01
4	**4	1.00	341.2	48.00	27.07	3.16	6.03
5	**5	1.00	344.0	54.00	27.22	1.70	7.85
6	**6	1.00	345.5	53.00	27.14	3.05	9.26
7	**7	1.00	347.2	57.00	26.49	1.77	10.75
8	**8	1.00	345.0	64.00	25.00	1.67	12.36
9	**9	1.00	345.7	48.00	28.87	2.50	13.40
10	**10	1.00	352.7	60.00	25.00	4.97	15.58
11	**11	1.00	350.8	41.00	31.23	1.44	17.17

14 C

Fax Cover Sheet

University of Detroit Mercy
Department of Chemistry and Biochemistry
University of Detroit Mercy
4001 W. McNichols Road
Detroit, MI 48221-3038

FAX: 313-993-1144

TO: Ms. CASANDRA FRAZIER
630-829-9830

FROM: MARY LOU CASPERS
LICENSE 21-00241-09
Docket # 030-14288
phone: 313-993-1196 e-mail: CASPERML@UDMERCY, EDU

MESSAGE: Attached please find Form 214 plus the historical Radionuclide purchases & disposal and the results of the final lab inspection results. We are requesting termination of this license. Please let me know if additional information is requested.

Thank you, M. X Caspers

Date: May 22, 2018

Total Pages: 1