



# CERTIFICATE OF DISPOSITION OF MATERIALS

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 FOIA, Privacy, and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [InfoCollect.Resource@nrc.gov](mailto:InfoCollect.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NE08-10202, (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.

LICENSEE NAME AND ADDRESS

Thyroid and Diabetes Management  
Center 8939 Broadway  
Merrillville, IN 46610

LICENSE NUMBER

13-32380-01

DOCKET NUMBER

030-35963

LICENSE EXPIRATION DATE

10-31-2022

### 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:
  - 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
Richard S. Longley	M.D. Radiology Director	1-219-736-5077	rslongley3@comcast.net

Mail all future correspondence regarding this license to:

### C. CERTIFYING OFFICIAL

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

PRINTED NAME AND TITLE	SIGNATURE	DATE
Richard S. Longley, M.D.	<i>Richard S. Longley M.D.</i>	9-22-22

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.

# CERTIFICATE OF DISPOSITION OF MATERIALS

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING NRC FORM 314.

Subpart E of 10 CFR Part 20 establishes the radiological criteria for license terminations/decommissioning of facilities licensed under 10 CFR Parts 30, 40, 50, 60, 61, 70, and 72, as well as other facilities subject to the Commission's jurisdiction under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

## INSTRUCTIONS

### Section B, Item 2.

Licensees should describe the specific radioactive material transfer actions. If radioactive wastes were generated in terminating this license, the licensee should describe the disposal actions taken, including the disposition of low-level radioactive waste, mixed waste, greater-than-Class-C waste, and sealed sources.

### Section B, Item 2.a.

The information provided concerning the transfer of radioactive material to another licensee should specify the date of the transfer, the name of the licensee recipient, an individual contact name and telephone number for the licensee recipient, and the recipient's NRC or Agreement State license number.

### Section B, Item 2.b.

For disposal of radioactive materials, licensees should describe the specific disposal method or procedure (e.g., decay-in-storage). For those cases when radioactive materials are disposed of by a licensed disposal site or by a waste contractor, the licensee should specify the name, address, and telephone number of the licensed disposal site operator or waste contractor.

### Section B, Item 2.c.

"Residual radioactivity," as defined in 10 CFR 20.1003, means radioactivity in 'areas' (structures, materials, soils, etc.) remaining as a result of activities (licensed and unlicensed) under the licensee's control from sources used by the licensee, excluding background radiation. ALARA is defined in 10 CFR 20.1003.

## FILE CERTIFICATES AS FOLLOWS:

### IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND CERTIFICATES TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND CERTIFICATES TO:

MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

### IF YOU ARE LOCATED IN:

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND CERTIFICATES TO:

MATERIAL RADIATION PROTECTION SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION IV  
1600 E. LAMAR BOULEVARD  
ARLINGTON, TX 76011-4511



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 1, 2022

ATTN: Mr. Richard Longley  
Thyroid and Diabetes Management Center  
8939 Broadway  
Merrillville, IN 46410

Re: License No. 13-32380-01

SUBJECT: NOTICE OF LICENSE EXPIRATION

Your U.S. Nuclear Regulatory Commission (NRC) license will expire within the next 2 months. If you wish to continue your licensed program, you should prepare and submit a renewal application on NRC Form 313, "Application for Materials License" (enclosed), following regulations in *Title 10 of the Code of Federal Regulations* (10 CFR) and licensing guidance NUREG 1556, "Consolidated Guidance About Materials Licenses."

You must submit an application for the renewal of your license at least 30 days before the expiration date on the license.

If you do not wish to renew your license, you must dispose of or transfer all licensed radioactive material in your possession in accordance with 10 CFR Parts 30, 40 and 70. Then complete the enclosed NRC Form 314, "A Certificate of Disposition of Materials" and return it before the expiration date of your license, with a request that your license be terminated. If you have already applied for timely renewal of your materials license, please disregard this letter."

Sincerely,

/RA/

Materials Safety and Tribal Liaison Branch  
Division of Material Safety, Security, State,  
and Tribal Program  
Office of Nuclear Material Safety  
and Safeguards

Enclosures:

1. NRC Form 313
2. NRC Form 314

A handwritten signature in blue ink, appearing to be "RA", located at the bottom right of the page.

Thyroid and Diabetes Management Center  
8939 Broadway  
Merrillville, IN 46410

September 2, 2022

U.S. Nuclear Regulatory Commission  
Radioisotopes Licensing Division  
Region III  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532-4352

RE: Radioactive Materials License #13-32380-01  
Request Release for Unrestricted Use and Termination of Radioactive Materials License

Dear Sir or Madam:

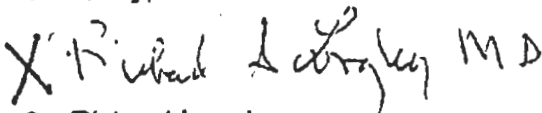
We are requesting that our restricted areas used for radioactive material use under our NRC radioactive materials license, #13-32380-01, at 8939 Broadway, Merrillville, IN 46410 be released for unrestricted use and our NRC radioactive materials license be terminated.

A closeout survey was performed by James Hatten, Stan A. Huber Consultants, Inc., on September 1, 2022. His survey confirmed that our area is cleared of fixed and removable radiation. A copy of the survey is attached. The survey provides the required data to confirm our conclusion and provides the required documentation for the disposition of the sealed sources that were still on site.


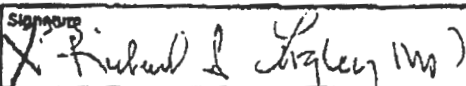
The completed NRC 314 form is attached.

Thank for your assistance with this request. If you have any questions concerning the survey, please contact James Hatten, [jhatten@sahci.com](mailto:jhatten@sahci.com) or at (815) 370-6538. If you have other questions, please contact me directly.

Sincerely,



Dr. Richard Longley  
RSO

NRC FORM 314 (08-25-2022) 70 CFR 30.390(k)(1), 40 CFR 191.70.390(k)(1), and 72.540(h)(6)(1)(i)	U.S. NUCLEAR REGULATORY COMMISSION  <b>CERTIFICATE OF DISPOSITION OF MATERIALS</b>	APPROVED BY OMB: NO. 3160-0028 <small>Estimated burden per response is comply with this mandatory provision required, 30 minutes. This material is used by NRC as part of the basis for its determination that this facility is licensed for unrestricted use. Dual comments regarding burden estimates to the FOIA Library and Information Collection Branch (7-0 A104), U.S. Nuclear Regulatory Commission, Washington, DC 20549-0001, or by e-mail to Information.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (202) 397-9023, Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oia_review@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.</small>	EXPIRES: 03/31/2023
Licensee Name and Address <b>Thyroid and Diabetes Management Center</b> 8939 Broadway Merrillville, IN 46410	License Number <b>13-32380-01</b>	Expiration Date <b>Oct 31, 2022</b>	
<b>A. LICENSE STATUS (Check the appropriate box)</b> <input type="checkbox"/> This license has expired. <input checked="" type="checkbox"/> This license has not yet expired; please terminate it.			
<b>B. DISPOSAL OF RADIOACTIVE MATERIAL</b> <small>(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)</small> The licensee, or any individual executing this certificate on behalf of the licensee, certifies that: <input type="checkbox"/> 1. No radioactive materials have ever been procured or possessed by the licensee. <input checked="" type="checkbox"/> 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: <input checked="" type="checkbox"/> a. Transfer of radioactive materials to the licensee listed below: <b>Stan A Huber Consultants, Inc. 200 N Cedar Rd, New Lenox, IL 60451 IL-010113-01</b> <input checked="" type="checkbox"/> b. Disposal of radioactive materials: <input checked="" type="checkbox"/> 1. Directly by the licensee: <b>Decay-In-Storage, Sep 1, 2022</b> <input type="checkbox"/> 2. By licensed disposal site: <input type="checkbox"/> 3. By waste contractor: <input checked="" type="checkbox"/> 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.			
<b>C. SURVEYS PERFORMED AND REPORTED</b> <input checked="" type="checkbox"/> 1. A radiation survey was conducted by the licensee. The survey confirms: <input checked="" type="checkbox"/> a. the absence of licensed radioactive materials <input checked="" type="checkbox"/> b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA. <input checked="" type="checkbox"/> 2. A copy of the radiation survey results: <input checked="" type="checkbox"/> a. is attached; or <input type="checkbox"/> b. is not attached (Provide explanation); or <input type="checkbox"/> c. was forwarded to the NRC on:      Date <u>09/01/2022</u> <input type="checkbox"/> 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and <input type="checkbox"/> a. The results of the latest leak test are attached; and/or <input type="checkbox"/> b. No leaking sources have ever been identified.			
The person to be contacted regarding the information provided on this form:			
Name <b>Dr. Richard Longley</b>	Title <b>M.D. &amp; RSO</b>	Telephone (include Area Code) <b>(219) 736-5076</b>	E-mail Address <b>riongley3@comcast.net</b>
Mail all future correspondence regarding this license to: <b>Current address</b>			
<b>C. CERTIFYING OFFICIAL</b> <b>I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT</b>			
Printed Name and Title <b>Dr. Richard Longley</b>	Signature 		Date <b>09/02/2022</b>
<small>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.</small>			

September 2, 2022

Richard Longley, M.D.  
Radiation Safety Officer  
Thyroid and Diabetes Management Center  
8939 Broadway  
Merrillville, IN 46410

Dear Dr. Longley:

The following is a summary of the closeout survey and NRC RML termination support provided to your facility on September 1, 2022:

This support was coordinated with you prior to the visit. Elizabeth Tindle-Engelmann, USNRC, was contacted during this visit to confirm the work being performed. The purpose of the visit was to assist with the closeout survey of the NRC restricted areas of use and assist with the paperwork for the termination of your radioactive materials license.

**Historical Review:** You have been in operation for more than 20 years. You only provided I-131 thyroid ablation treatments using amounts up to 1 Curie (RML limit). The ablation amounts for the procedures used capsules only with less than 200 mCi. These procedures were only performed in your laboratory room. This room contained your dose calibrator, well counter, dose preparation area, lead storage box, and injection chair. The patient exited the facility through the northwest exit following the procedure. The last patient was treated on July 23, 2020.

**Instrumentation:** Copies are attached of the current SAHCI calibration certificates for the two survey meters and the well counter used for this survey. This information should provide all health physics equipment quality assurance data required for this project.

**Survey Preparation:** To prepare the area for the closeout survey, I performed an inventory of the radioactive material onsite.

1. No unsealed radioactive material was present since the last patient was seen in July 2020. All I-131 residue would have decayed to background levels. I did process one container of residue material as decay-in-storage waste; please see the attached information included on the inventory document.
2. You had three sealed sources remaining on site. The attached inventory confirms the information for each source and the disposition of each.
  - a. Two of the sources, Ba-133 and Cs-137 rod, were UN2910 packaged and transported to the SAHCI facility for NRC to Illinois RML transfer.
  - b. The other source, Cs-137 exempt button, is being kept by you for personal use.
3. The sealed sources and DIS waste were processed out of the facility prior to the survey.

### Survey Performance:

1. The overall diagram and lab procedure room, with the exit vestibule identified, were developed. These diagrams are attached to this report.
  - a. The Lab Procedure room is 15 ft x 12 ft. I gridded the room into a 3-meter x 5-meter pattern. The grid pattern was also applied to 2-meters up each wall.
  - b. For the Exit Vestibule, I surveyed a 1-meter square just outside the LP room exit in the northwest corner of the room. I only surveyed the floor since this is just an adjacent area and not a restricted area.
  - c. Please reference the diagram information that is attached to this report for details.
2. Due to the location of equipment and countertops in the room, I surveyed all accessible areas in and around the countertops. The countertops survey is included within that applicable grid square as shown on the diagram.
3. The survey includes the two vents located in the room.
4. I also collected a background measurement and smear from the admin area to use a reference for the survey.
5. I used a Ludlum Model 19 uR/hr meter, Bkg = 8 uCi/hr, to survey each grid. The survey was performed with the meter in contact with the surface of the grid area. Each area was confirmed to be at background levels. The wall survey is documented using the lower and upper grids as one location.
6. I collected a smear from each location. Each smear covered a minimum of 100cm<sup>2</sup> within the surveyed area.
  - a. I collected a smear for each grid on the floor and countertop within that grid.
  - b. The smears collected for the walls was for the 2-meter grids identified on the diagram.

### Survey Smear Counting:

1. The smears were carried back to the SAHCI lab for counting. Each sample was counted on the SAHCI gamma counter for one minute. The counter QC information is provided on the provided certificate.
2. The analysis of the smears confirmed that there is no contamination above the release limits.

Conclusion: The review of the closeout survey information confirms that there is no fixed or removable radiation present at this facility.

5.

A copy of this report, a draft NRC amendment request for release of your restricted area for unrestricted use and termination of your radioactive material license, and a draft NRC 314 were provided to you for review and processing.

I conducted an exit interview with you, following the survey, outlining the requirements to complete this processing.

- a. The final report and draft information will be provided to you by September 2, 2022. You will provide the required signatures so SAHCI can assist with the NRC official submission. SAHCI will submit the final amendment request, NRC 314, and closeout report by e-mail to the NRC, Ms. Tindle-Engelmann (NRC), you as the RSO, James Hatten (SAHCI), and SAHCI (office e-mail). SAHCI will also mail a copy of the paperwork to you.
- b. I reviewed the requirements for you to initiate a new NRC RML if the situation arises.

SAHCI appreciates the opportunity to provide health physics consulting services to you. Please contact the SAHCI office at (800) 383-0468 with any questions or if any additional assistance is needed.

Sincerely,  
Stan A. Huber Consultants, Inc.

James C. Hatten  
Senior Health Physics Consultant





200 North Cedar Road - New Lenox, Illinois 60451-1751 - (800) 383-0468 or (815) 485-5161 - FAX (815) 485-4433 - Email sahci@sahci.com - Home Page www.sahci.com

### Certificate of Calibration

Facility: **SAHCI**  
City/State: **NEW LENOX IL** Calibration Date: 12/1/2021

Manufacturer: **LUDLUM** Model No.: **19** Serial No.: **111296**

Instrument Identification:  G-M  ION CHAMBER  POCKET DOSIMETER  \_\_\_\_\_

Probe Type:  PANCAKE  END WINDOW  SIDE WINDOW  Fixed

Window:  Open  Closed  Fixed

**Calibration Sources**

Co-57 #1 ( $\Gamma=0.33$ ) 0.1351 mCi  
 Cs-137 #2 ( $\Gamma=0.33$ ) 28.4620 mCi  
 Co-57 ( $\Gamma=0.9$ ) 0.6036 mCi  
 Tc-99 50216 DPM

Co-57 Efficiency Relative to Cs-137: 1 mR/hr = \_\_\_\_\_ cm  
 Observed mR/hr (Co-57) \_\_\_\_\_  
 Actual mR/hr (Co-57) \_\_\_\_\_ x 100 = N/A %

Tc-99 Efficiency (4 $\pi$ )  
 Observed CPM (Tc-99) \_\_\_\_\_  
 Actual DPM (Tc-99) \_\_\_\_\_ x 100 = N/A %

All Sources as of Date: 12/1/2021

Scale Ranges	Distances Source #1	Distances Source #2	Actual	Observed uR/hr	Within +/- 10%	Correction Factor
25	<del>1.5m</del>	1740	5	5	Yes	1
		5310	20	20		
50	<del>1.5m</del>	2260	10	10	Yes	1
		9270	40	40		
250	942m	13400	50	50	Yes	1
	47.4m	53800	200	200		
500	67.0m	22200	100	100	Yes	1
	33.5m	92700	400	400		
5000	21.2m		1000	1000	Yes	1
	10.6m		4000	4000		

Angle of the flux field to detector (internal or external) is 90 degrees (perpendicular) and the distance is from center of source to center of detector, unless stated otherwise. Sodium iodide front and detectors are calibrated parallel to the flux field. All Sources used for calibrations are traceable to the National Institute Of Standards and Technology

Source Set: B 25,50 Scales calibrated electronically with Pulser  #142038 or  #159107  
 Battery Check: OK 2.1hr (mR/hr) or \_\_\_\_\_ Operational Check: 50 2.1hr (mR/hr) using Source in handle

Notes: from 100 scale using, \*one 1TVL lead shield, \*\*two 1TVL lead shields Am = 300uV

Next Calibration Date: December 1, 2022 Calibrated by: [Signature]



200 North Cedar Road - New Lenox, Illinois 60451-1751 - (800) 383-0468 or (815) 485-6161 - FAX (815) 485-4433 - Email [sahci@sahci.com](mailto:sahci@sahci.com) - Home Page [www.sahci.com](http://www.sahci.com)

### Certificate of Calibration

Facility: **SAHCI**  
City/State: **NEW LENOX IL** Calibration Date: 7/7/2022

Manufacturer: **LUDLUM** Model No.: **14C** Serial No.: **173628**

Instrument Identification:  G-M  ION CHAMBER  POCKET DOSIMETER   
Probe Type:  PANCAKE  END WINDOW  SIDE WINDOW  12303166  
Window:  Open  Closed  Fixed

**Calibration Sources**

C-137 #1 ( $\Gamma=0.33$ ) 0.1341 mCi  
Cs-137 #2 ( $\Gamma=0.33$ ) 77.3427 mCi  
Co-57 ( $\Gamma=0.9$ ) 0.3462 mCi  
Tc-99 - DPM

Co-57 Efficiency Relative to Cs-137: 1 mR/hr = 17.7 cm  
Observed mR/hr (Co-57) 180 %  
Actual mR/hr (Co-57) x 100 =  
 Tc-99 Efficiency ( $4\pi$ )  
Observed CPM (Tc-99) N/A %  
Actual DPM (Tc-99) x 100 =

All Sources as of Date: 7/7/2022

Scale Ranges	Distances Source #1	Distances Source #2	Actual	Observed	Within +/- 10%	Correction Factor
0.1	94.1cm		0.05	0.05	Yes	1
	54.3cm		0.15	0.15		
1		714.7cm	0.5	0.9		
		412.6cm	1.5	1.5		
10		226.0cm	5	5		
		130.5cm	15	15		
100		71.5cm	50	50		
		41.3cm	150	150		
1000		22.6cm	500	500		
		13.0cm	1500	1500		

Angle of the flux field to detector (internal or external) is 90 degrees (perpendicular) and the distance is from center of source to center of detector, unless stated otherwise. Sodium iodide front end detectors are calibrated parallel to the flux field. All Sources used for calibrations are traceable to the National Institute of Standards and Technology.

Source Set: 0 N/A Scales calibrated electronically with Pulser          #142038 or          #159107

Battery Check: 1.7 (mR/hr) or          Operational Check: 2.5 (mR/hr) using side source door open

Notes: from 100 scale using, \*one 1TVL lead shield, \*\*two 1TVL lead shields

Next Calibration Date: July 7, 2023 Calibrated by: [Signature]

SAHCI  
Cobra II Auto-gamma  
Model #D5003, Serial #406282  
Efficiency Determination

Date: 7/7/2022

Using Protocol #1

Performed by: Mark Dewald

Low Energy Radionuclides

Medium Energy Radionuclides

High Energy Radionuclides

Window A				Window B				Window C	
<u>Isotope</u>	<u>kEv</u>	<u>Isotope</u>	<u>kEv</u>	<u>Isotope</u>	<u>kEv</u>	<u>Isotope</u>	<u>kEv</u>		
I-125	35	Tm-170	84	Ba-133	356	Ra-226	Several		
I-129	40	Cd-109	88	I-131	364	Cs-137	662		
AM-241	60	Au-195	99	Ir-192	296, 317, & 468	Co-60	1170 & 1330		
Gd-153	99	Co-57	122						
Eff I129=	0.638	Eff Co57=	0.944	Efficiency:	0.648	Efficiency:	0.267		

Counting Data					Source Information																											
	A	Co-57	B	C	<u>Chn</u>	<u>Isotope</u>	<u>Manf</u>	<u>Model/ID#</u>	<u>dpm</u>	<u>Ref Date</u>	<u>Current dpm</u>																					
Bkg	65	65	157	110	A	I-129	NEN	Rod/S505	275280	30-Dec-80	275279																					
Source	175613	126891	448887	65223	Co-57	Co-57	IPL	2000-51-5	2099676	1-Aug-19	134297																					
Eff	63.8%	94.4%	64.8%	26.7%	B	Ba-133	IPL	1801-42	1115994	15-Apr-15	692609																					
Source Counting Data	SCT= 1				C	Cs-137	Packard	Rod/085	555000	1-Dec-86	243697																					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>AVG</u>																										
A	175374	175613	175337	175738	176002	175613	A	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">LLD*</th> </tr> <tr> <th>Channel</th> <th>dpm</th> <th>uCi</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>63</td> <td>0.000029</td> </tr> <tr> <td>Co-57</td> <td>43</td> <td>0.000019</td> </tr> <tr> <td>B</td> <td>94</td> <td>0.000043</td> </tr> <tr> <td>C</td> <td>193</td> <td>0.000087</td> </tr> <tr> <td>SCT OR BCT=</td> <td colspan="2">1</td> </tr> </tbody> </table>				LLD*			Channel	dpm	uCi	A	63	0.000029	Co-57	43	0.000019	B	94	0.000043	C	193	0.000087	SCT OR BCT=	1	
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B	448552	449979	449537	448993	447375	448887	B																									
C	65181	65618	65344	65313	64659	65223	C																									
Background Data	BCT= 1				<u>AVG</u>																											
A	69	57	56	63	80	65	A																									
B	163	142	165	169	144	157	B																									
C	106	105	117	112	108	110	C																									

\*Reference DOE-HDBK-1122-2009 (revised 2013)

Variance	Daily Constancy Information		
	5%	Mean	+5%
I-129 (A)	166832	175613	184393
Ba-133 (B)	426443	448887	471332
Cs-137 (C)	61962	65223	68484

Effective Date: August 1, 2022

RSO:

**Thyroid and Diabetes Management Center**  
 Close Out Sealed Source Inventory and Decay-In-Storage Waste  
 13-32380-01

Date: Sep 1, 2022

**Decay-in-Storage disposal:** The last patient was seen on July 23, 2020. This date was used as the closed date. The lead shipping container and all residue was surveyed and confirmed to be at background. Survey meter: Ludlum 14C, SN: 173628, Probe 44-9, Cal: Jul 7, 2022. All materials were at background with no shielding present. All radiation labels were defaced. The material was discarded. This action was performed by James Hatten under the authority of this RML.

Inventory

Isotope	Manufacturer	Model	Serial Number	Ref Date	Activity	Location	Initials
Ba-133	IPL	RV-133-250U	956-10-3	11/1/02	261 µCi	Hot Lab	JCH
Cs-137	IPL	Rod	1140-82-24	1/1/06	500 nCi	Hot lab	JCH
Cs-137	Nucleus	Button	None	3/1/07	1 µCi	Survey Meter	JCH

Survey Meter: Bicon Surveyor 50 C508D

This source is an exempt radiation item. It is being retained by the individual. (It is attached to the survey meter identified above.)

Isotope	Manufacturer	Model	Serial Number	Ref Date	Activity	Location	Initials
Cs-137	Nucleus	Button	None	3/1/07	1 µCi	Survey Meter	JCH

These two sources were transferred to Stan A. Huber Consultants, Inc

Isotope	Manufacturer	Model	Serial Number	Ref Date	Activity	Location	Initials
Ba-133	IPL	RV-133-250U	956-10-3	11/1/02	261 µCi	Hot Lab	JCH
Cs-137	IPL	Rod	1140-82-24	1/1/06	500 nCi	Hot lab	JCH

I packaged these two sources as UN2910 and transported them to the SAHCI facility under the authority of Dr Longley's RML.

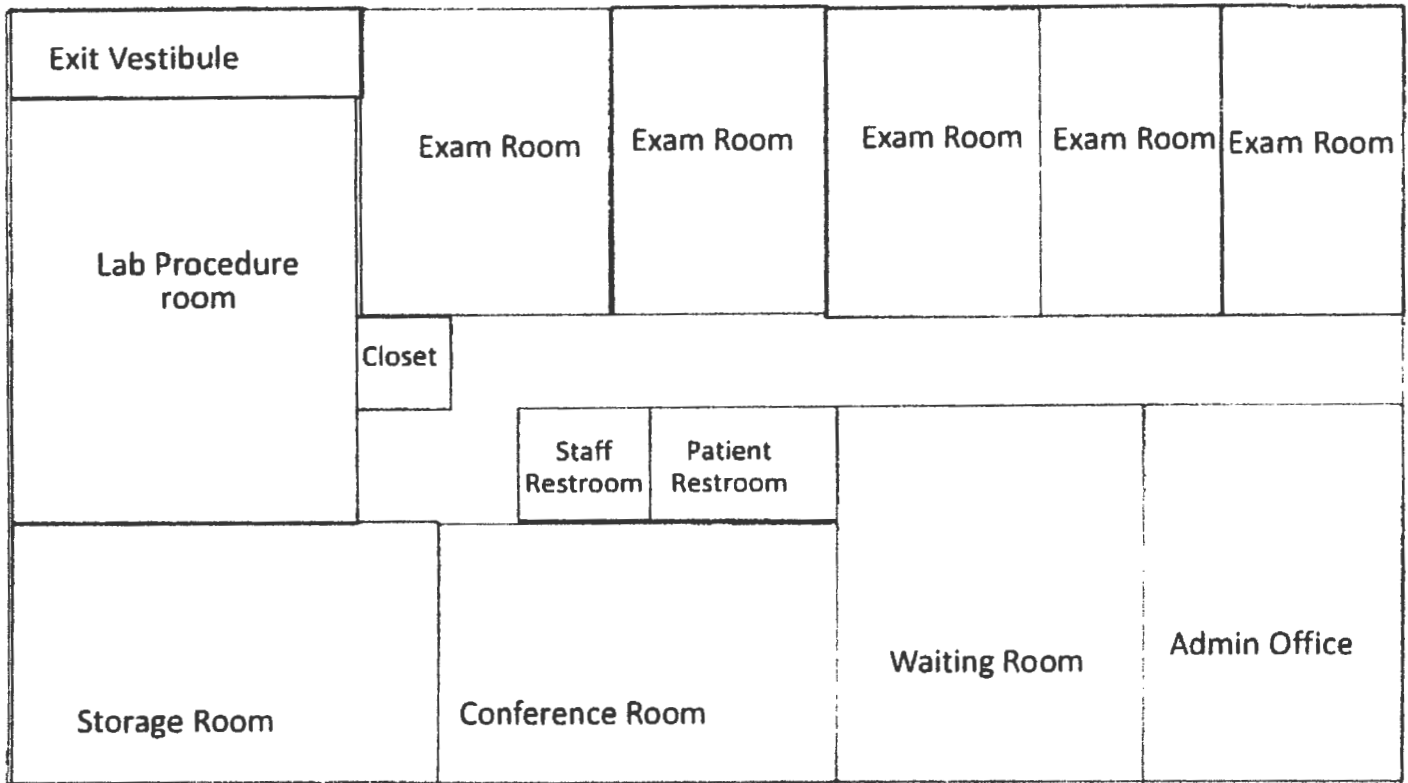
As the RSO for SAHCI, I took possession of these two sources upon receipt of them at our SAHCI facility in New Lenox, IL, IL-01013-01

James Hatten, SAHCI RSO,



Sep 1, 2022

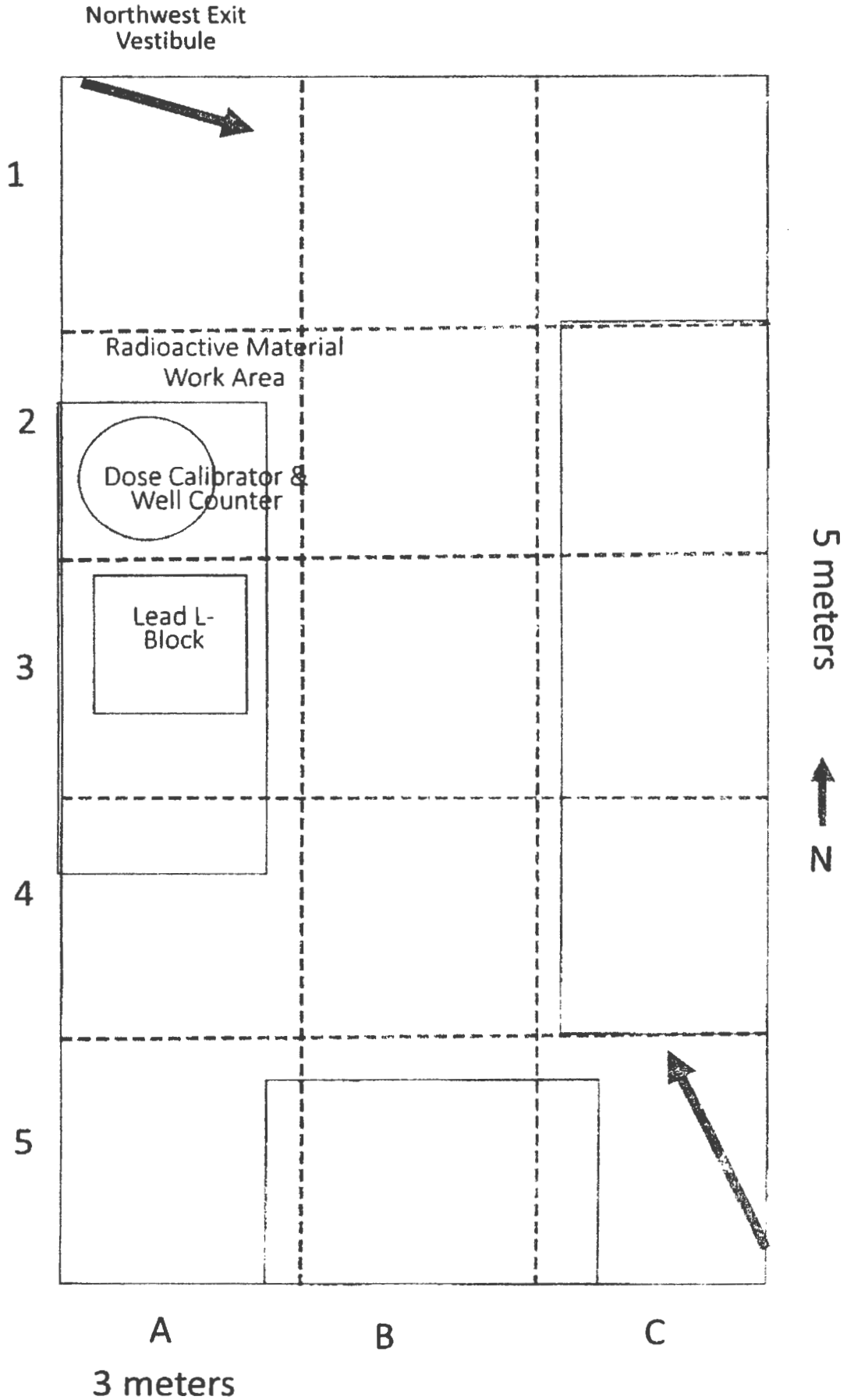
Thyroid & Diabetes Management Center  
13-32380-01



8939 Broadway, Merriville, IN 46410



Thyroid & Diabetes Management Center  
13-32380-01  
Lab Procedure Room



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Close Out Survey  
Thyroid Diabetes Management Center, 8939 Broadway, Merrville, IN 46410  
13-32380-01

Lab Procedure Room	Surveyor: James Hatten			1-Sep-22
Gamma Counter		Eff=	0.648	Survey Meter: Ludlum 19, SN: 111296
Cobra II SN: 406282		MDA=	87	Cal: Dec 1, 2021
Count time=1 minute	Bkg=	133	DPM	uR/hr
<u>Location</u>	<u>Sample #</u>	<u>CPM</u>	<u>DPM</u>	8
Floor A1	1	117	0	Bkg
Floor A2	2	132	0	Bkg
Floor A3	3	97	0	Bkg
Floor A4	4	123	0	Bkg
Floor A5	5	110	0	Bkg
Floor B1	6	121	0	Bkg
Floor B2	7	119	0	Bkg
Floor B3	8	129	0	Bkg
Floor B4	9	149	25	Bkg
Floor B5	10	122	0	Bkg
Floor C1	11	119	0	Bkg
Floor C2	12	122	0	Bkg
Floor C3	13	135	3	Bkg
Floor C4	14	137	6	Bkg
Floor C5	15	116	0	Bkg
Wall N U&L A1	16	107	0	Bkg
Wall N U&L B1	17	110	0	Bkg
Wall N U&L C1	18	130	0	Bkg
Wall E U&L C1	19	118	0	Bkg
Wall E U&L C2	20	125	0	Bkg
Wall E U&L C3	21	118	0	Bkg
Wall E U&L C4	22	119	0	Bkg
Wall E U&L C5	23	104	0	Bkg
Wall S U&L C5	24	101	0	Bkg
Wall S U&L B5	25	117	0	Bkg
Wall S U&L A5	26	134	2	Bkg
Wall W U&L A5	27	125	0	Bkg
Wall W U&L A4	28	116	0	Bkg
Wall W U&L A3	29	130	0	Bkg
Wall W U&L A2	30	127	0	Bkg
Wall W U&L A1	31	121	0	Bkg
Vent 1	32	125	0	Bkg
Vent 2	33	135	3	Bkg
Exit Vestibule	34	113	0	Bkg
Admin Background	35	112	0	Bkg