



DELAWARE STATE UNIVERSITY

DEPARTMENT OF CHEMISTRY

July 23, 2013

U.S. Nuclear Regulatory Commission, Region 1
Attn: Dennis Lawyer, Health Physicist
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

Dear Mr. Lawyer:

I am responding to items listed in email sent July 16, 2013, Mail Control No. 581231.

Item 1. The cesium sealed source listed on License No. 07-11871-06 is an exempt 5 microCurie Oxford source used as a check source for survey purposes. Attached is an image of the source stating "Exempt from USNRC and State licensing requirements"

Item 2. The survey document attached to Form 314 sent June 17, 2013 had a diagram of the room surveyed indicating relevant survey points on the reverse side. This may have been overlooked or had been omitted during copying. I am attaching the survey with the room diagram to this letter.

Item 3. A simplified survey following the procedures listed in NUREG-1757, Volume 1, Figure 8.1, was conducted on July 22, 2013 for SC 305 and SC 103, the two laboratories which utilized radioactive materials under the license. No contamination was found above background for both laboratories. Attached is the current certificate of calibration for the Geiger meter used for the survey.

Item 4. Attached is the Quarterly Radioisotope Inventory taken on July 5, 2010 for the last receipt of radioactive materials for 250 microCurie of ^{32}P -labeled ATP on April 2, 2010. Also, attached is the waste disposal form showing sink disposal of licensed material on August 16, 2010.

Sincerely,

Todd M. Campbell
Radiation Safety Officer
Delaware State University

REC RG 1 07 26 13 AM 07:11

NMSS/RGNI MATERIALS-002

Cs-137

5.0 μ Ci T $\frac{1}{2}$ 30.2 y

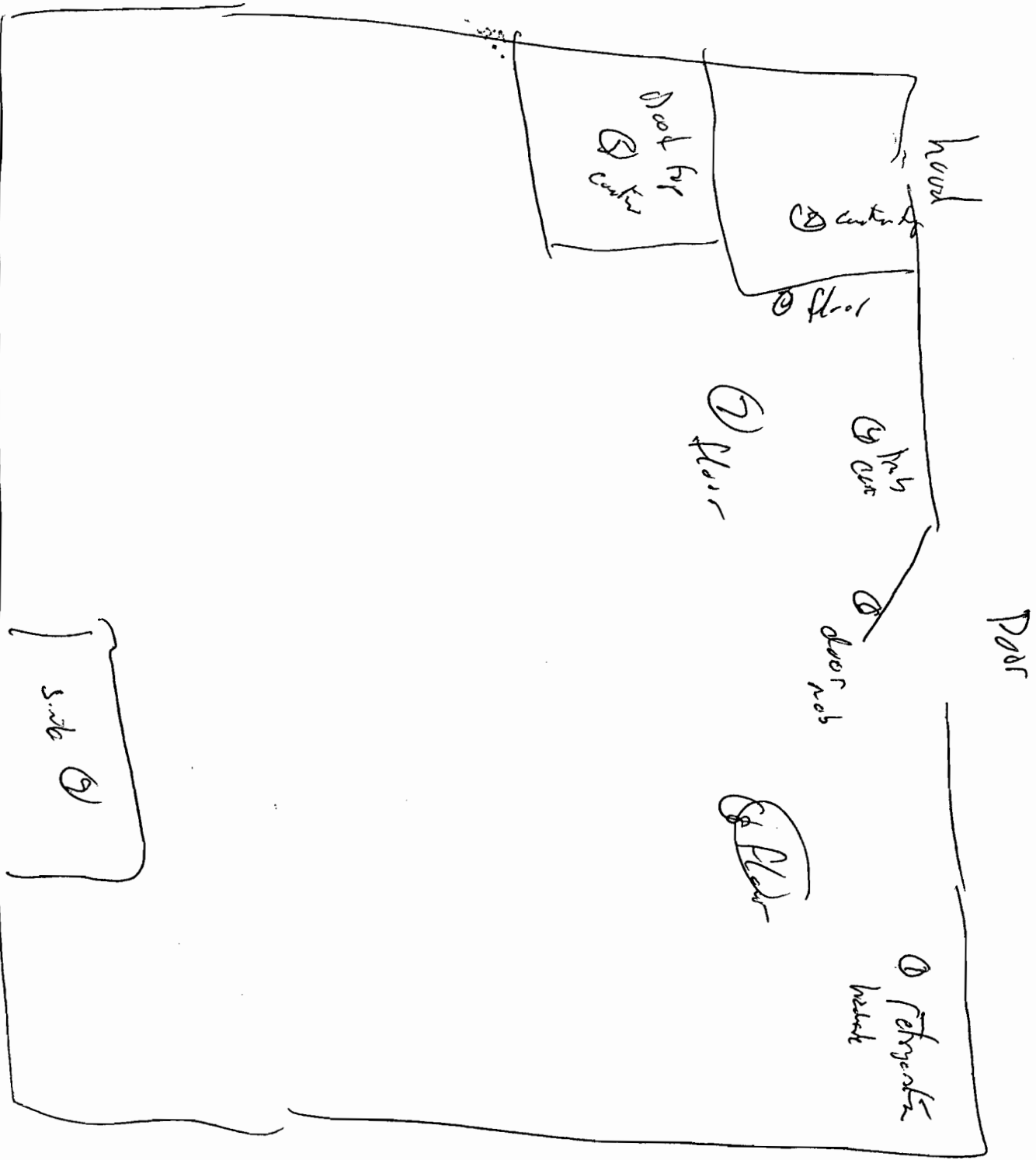
Beroma

▲▲ CAUTION ▲▲
▲▲ Radioactive Material ▲▲

Do not touch UNSIC and
do not breathe vapors

OXFORD

Item 1





Designer and Manufacturer
of
Scientific and Industrial
Instruments

Item 3
CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.

501 Oak Street 231 Sam Rayburn Parkway
325-235-5494 865-270-8962
Sweetwater, TX 79556, U.S.A. Lenoir City, TN 37771, U.S.A.

CUSTOMER DELAWARE STATE UNIV ORDER NO. 20217082/388487

Mfg. Ludlum Measurements, Inc. Model 2 Serial No. 52111

Mfg. Ludlum Measurements, Inc. Model 44-9 Serial No. PR039901

Cal. Date 26-Feb-13 Cal Due Date 26-Feb-14 Cal. Interval 1 Year Meterface 202-243

Check mark applies to applicable instr. and/or detector IAW mfg. spec. T. 72 °F RH 20 % Alt 698.8 mm Hg

New Instrument Instrument Received Within Toler. +-10% 10-20% Out of Tol. Requiring Repair Other-See comments

Mechanical ck. Meter Zeroed Background Subtract Input Sens. Linearity

F/S Resp. ck. Reset ck. Window Operation Geotropism

Audio ck. Alarm Setting ck. Batt. ck. (Min. Volt) 2.2 VDC

Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. Calibrated in accordance with LMI SOP 14.9 rev 02/07/97.

Instrument Volt Set 900 V Input Sens. 29 mV Det. Oper. 900 V at 29 mV Threshold Dial Ratio = mV

HV Readout (2 points) Ref./Inst. / V Ref./Inst. / V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
X 10	15 mR/Hr	<u>1.5</u>	<u>1.5</u>
X 10	5 mR/Hr	<u>0.5</u>	<u>0.5</u>
X 1	1.5 mR/Hr = <u>4560 cpm</u>	<u>1.5</u>	<u>1.5</u>
X 1	1.0 mR/Hr	<u>1.0</u>	<u>1.0</u>
X 0.1	<u>456</u> cpm	<u>1.5</u>	<u>1.5</u>
X 0.1	<u>152</u> cpm	<u>1.0</u>	<u>1.0</u>

*Uncertainty within ± 10% C.F. within ± 20% X 0.1 Range(s) Calibrated Electronically

REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	Log Scale	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout						

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCCL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources: 059 280 720 734 781 1131 1616 1696 5105 5717CO 5719CO
 60646 70897 73410 E551 E552 G112 M565 S-394 S-1054 T-304 T879 T10081 T10082 Y982

Alpha S/N Beta S/N Other

m 500 S/N 81084 Oscilloscope S/N Multimeter S/N 69101832

Calibrated By: Donald E. Brennan Date 26-FEB-13

Reviewed By: Mark H. Date 26 Feb 13

AC Inst. Passed Dielectric (Hi-Pot) and Continuity Test
Only Failed:

