

NRC FORM 314  
(02-2014)  
10 CFR 30.36(i)(1);  
40.42(i)(1); 70.38(i)(1);  
and 72.54(k)(5)(1)(1)



U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0028

EXPIRES: 02/28/2017

### CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submission 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 (7-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [InfoCollects.Resource@nrc.gov](mailto:InfoCollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-10202, (3160-0028), 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

Smiths Detection, Inc.  
21 Commerce Drive  
Danbury, Connecticut 06810-4131

LICENSE NUMBER

06-31431-01

DOCKET NUMBER

030-38416

LICENSE EXPIRATION DATE

March 31, 2021

#### 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:  
MD-25-044-01
  - 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: 03/19/2015  
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
Gary Shelton	Radiation Safety Officer	(865) 230-5574	<a href="mailto:gary.shelton@smithsdetection.com">gary.shelton@smithsdetection.com</a>

Mail all future correspondence regarding this license to:

Smiths Detection Edgewood, 2202 Lakeside Blvd., Edgewood, Md, 21040

#### C. CERTIFYING OFFICIAL

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

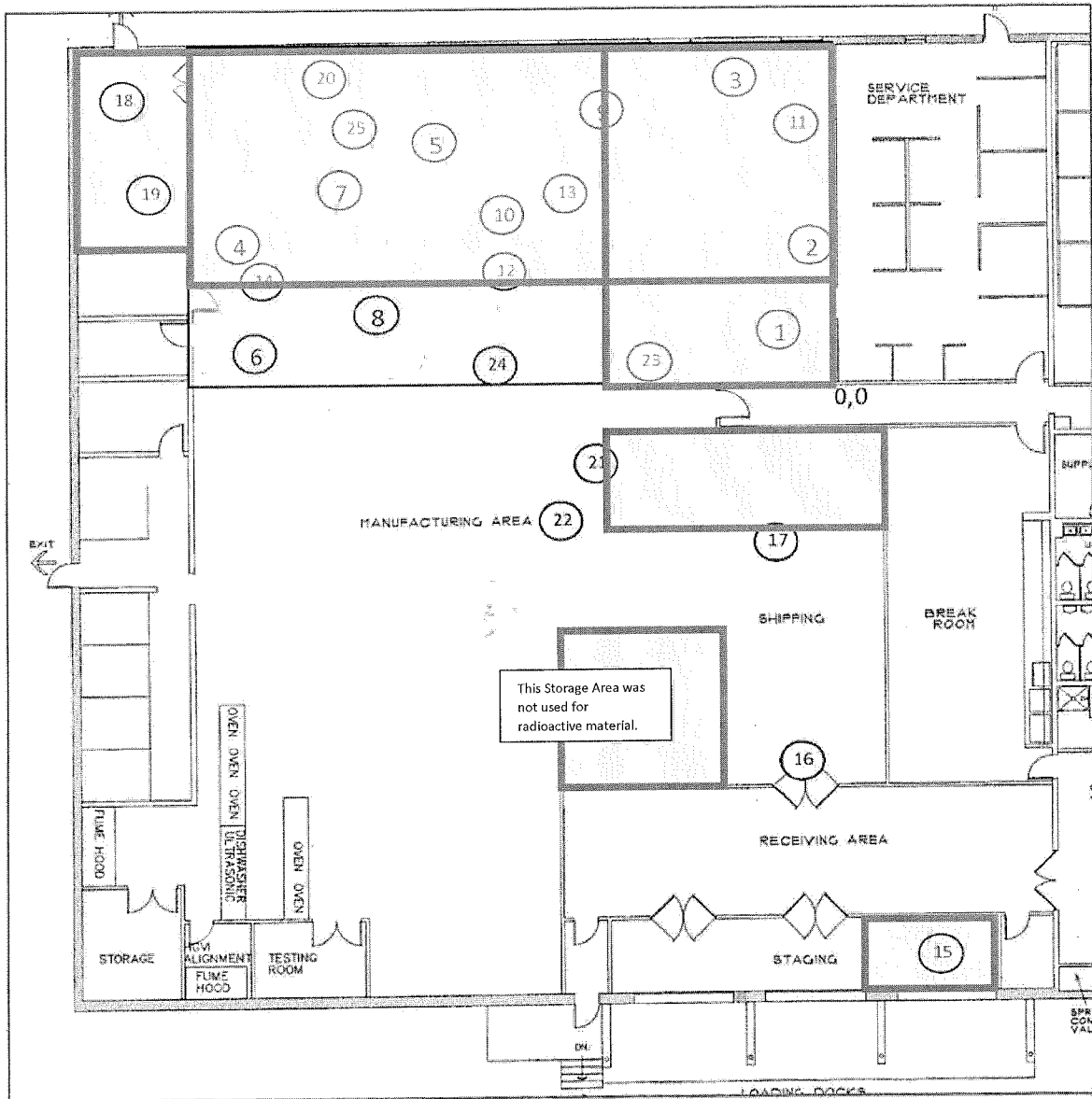
PRINTED NAME AND TITLE	SIGNATURE	DATE
Gary Shelton/ Radiation Safety Officer		05/20/2015

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.

NRC FORM 314 (02-2014)

REC'D IN LAT 05/22/2015

586495  
NMSS/RGNI MATERIALS-002  
ML15760A437



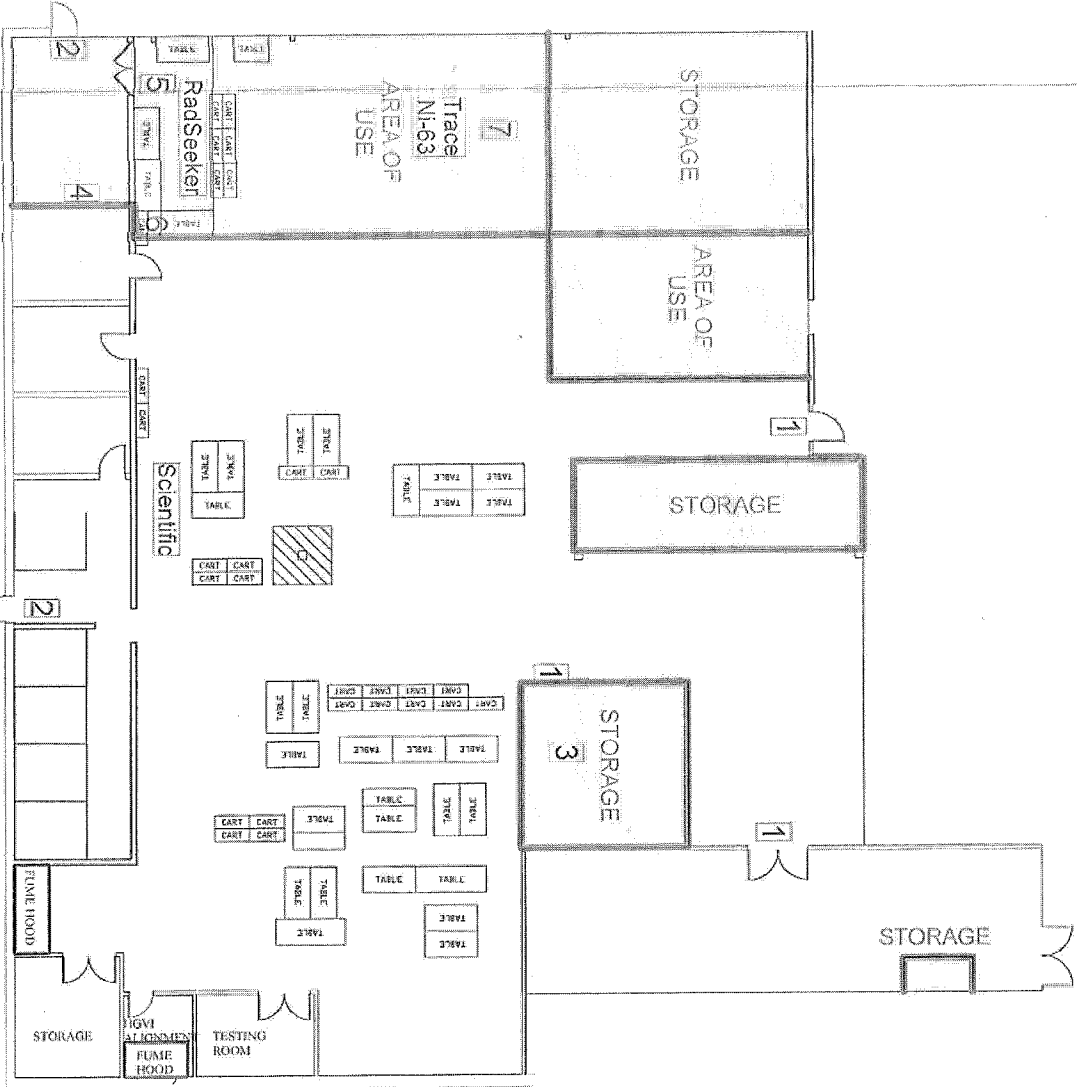
Survey Map of Direct Measurements and Wipe Test Locations

Service Area

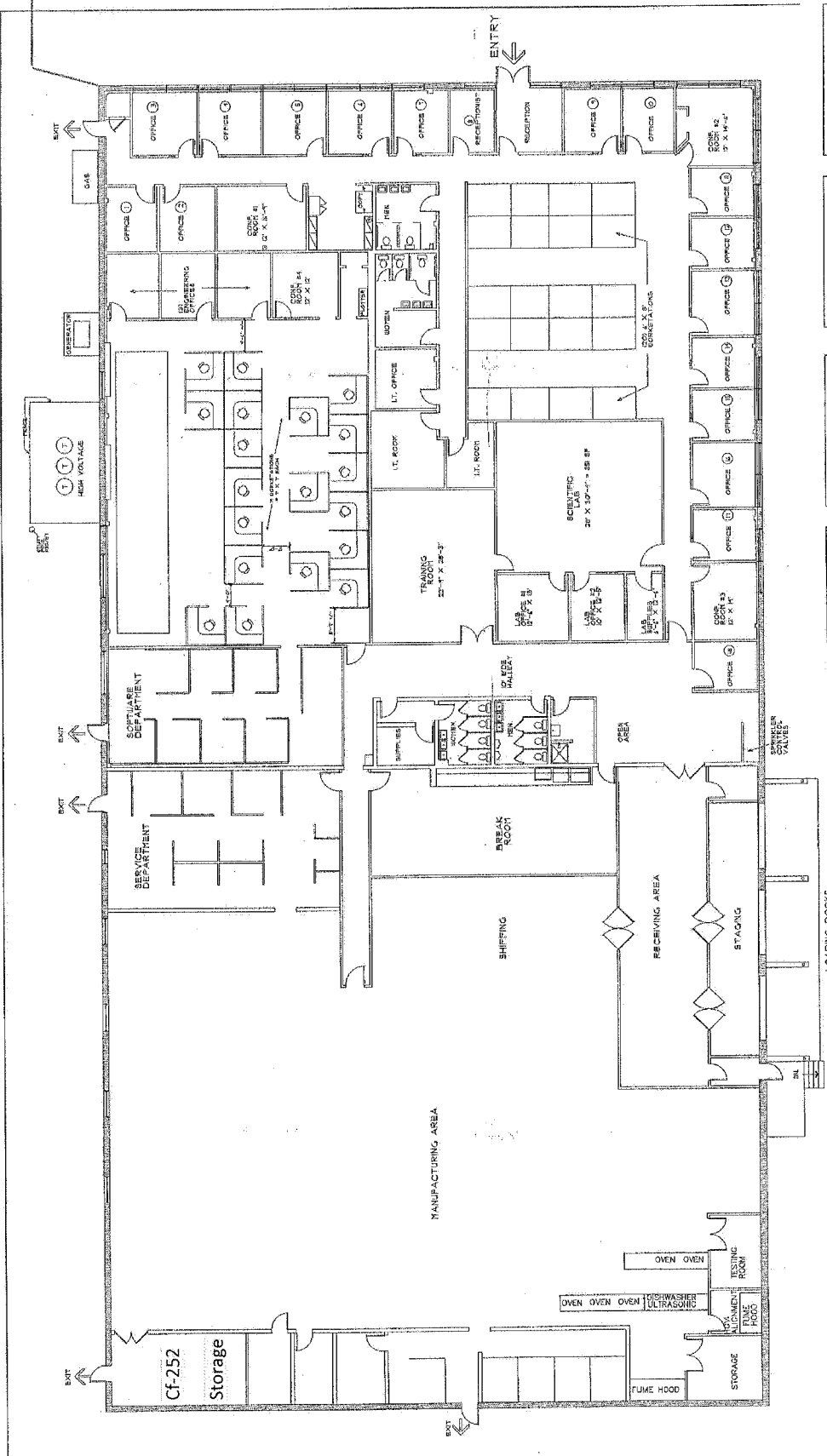
This is the map used for the Service Area Survey.

Highlighted areas are the same highlighted areas on the map below that was submitted to the NRC On April 10, 2012.

Map supplied to the NRC on April 10, 2012



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Drawing Title  
**EXISTING FLOOR PLAN**

Drawn By  
 Date  
 Scale  
 Project No.  
 Sheet No.

Drawing Number  
**EX-1**

ARTH PHILIPS

**smiths detection**  
 21  
 COMMENCE DRIVE  
 DANBURY, CT.

**LA**  
 LANCASTER ASSOCIATES  
 ARCHITECTURE & PLANNING  
 BRIDGEPORT, CT. 06605  
 TEL: (203) 932-1580  
 FAX: (203) 932-1580  
 EMAIL: lanlan@lanla.net

NO.	REVISION	DATE	BY



**EXISTING FLOOR PLAN**  
 10/20/10/10/10

# smiths detection

bringing technology to life

DACI-CIS

Dear Mr. Lawyer,

This is in reference to your letter dated March 19, 2015, requesting for amendment to Nuclear Regulatory Commission License No. 06-31431-01, Docket No. 03038416. In order to continue our review, we need the following additional information:

1. You have requested for termination of the license and release of the site. Please complete a NRC Form 314 for the termination action. Completing this form will provide additional information needed for termination of the site. Please ensure a senior manager signs the form, requesting the termination of the license.
  - a. Please find the enclosed NRC Form 314.
  - b. Please Note- This survey is for information only. It is not a requirement for the termination of this License.
2. As stated in NUREG-1757, Volume 1, please provide the last leak test of the sealed sources possessed at the facility. If you do not have leak tests for all of the sealed sources, please provide the leak tests that you have and a statement that no source has ever leaked at the facility.
  - a. No source has ever leaked at this facility.
    - i. Please see the attached leak test report with the Cf-252 source from this facility highlighted.
    - ii. Ni-63 modules were leak tested every 6 months or when being replaced within detectors, with the leak test records on file. The number of records prohibits sending each document.
    - iii. The activity of the Na-22 sources used at this facility were a maximum of 1.622 nCi each and are therefore, not required to be leak tested.
3. You have submitted a final status survey for the facility. Random beta measurements were taken along with 100% scans. The MDC for the static reading are based on measurement of nickel 63. The survey does not correlate the measurements of the beta readings with the MDC for the other isotope of concern, sodium 22. Please determine the efficiency of the detector and the MDC for sodium 22 or perform surveys using appropriate instruments that demonstrate the derived concentration guidance level for sodium 22 was not exceeded. The

survey states a second detector was chosen for data collection of Na-22, but it did not appear that the data was presented for the direct measurement points.

- a. Na-22 emits a positron with an energy of 545 keV maximum and 215 keV average with 90% probability. The response for Na-22 for a Ludlum model 43-68 probe can be conservatively estimated at 18% ( $4\pi$ ) using the calibration for Tc-99 (Max 294 keV; Avg 85 keV). This would give a Direct MDA of approximately 550 dpm/100 cm<sup>2</sup> using a background of 3000 counts per 10 minutes, and source efficiency of 0.25.

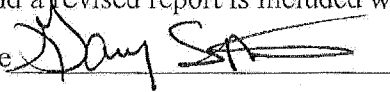
None of the direct beta measurements exceeded 200 dpm/100 cm<sup>2</sup> using the counting statistics for Ni-63. The efficiency for Na-22 exceeds the efficiency for Ni-63 (4-5%); and therefore, it can be determined that no direct reading was above 200 dpm/100 cm<sup>2</sup> or the DCGL for Na-22 (9500 dpm/100 cm<sup>2</sup>).

4. In the final status survey, 45 direct measurement points are shown. It did not appear to be stated which measurement points were based on random points as specified in the survey plan and which were judgmental. Please specify the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) survey points the areas of survey units.
  - a. The MARSSIM random points have coordinates listed on the survey data (x, y in meters from the origin; which is noted on the survey maps as 0, 0). All other measurements were judgmental.
5. The data sheets display dose rate values. The final survey plan does not describe the procedure of how the measurement is taken. Also there appears to be inconsistency in that one map appears to be correlated to the direct survey points, another correlates to beta and gamma scan locations, and the last one has one more point result than the location of wipe tests. Please describe the correct procedure for this survey data and submit corrected data.
  - a. Dose rates were meant to be taken at a minimum of one per scanned zone for each survey unit. The surveyor exceeded the minimum measurement total in two of the areas by taking one measurement per wipe test location. The dose rates for the Service Area and the Adjacent Areas were taken at each wipe test. The dose rates for the Laboratory were taken one per scan zone.
  - b. I was unable to locate an instance of dose rate point results above the number of wipes, so no revision was made.
6. The gamma scan survey states that all accessible floors, bench tops, and work surfaces were scanned. The value for scan MDC (meter six) was given as 8066

dpm/100 cm<sup>2</sup>. However, the calculation was based on a 2 pi efficiency of 26%, a scan time of 0.5 seconds and a source efficiency of 100%. The gamma scan method stated that the detector is held 30 centimeters from the surface at 0.5 meters per second. The calibration data shows that the meter has an efficiency for cesium 137 on contact of 13% (Assume 4 pi). The source geometry does not appear to enable a 100% source efficiency. Please explain how the scan MDC may be calculated in this manner or determine a corrected value.

- a. A corrected value of 0.5 for the source efficiency was entered into the data sheets, and a revised report is included with this response.

Signature



Gary Shelton

Sr. Radiation Safety Officer

Smiths Detection Inc.

RSO, INC. • LAUREL, MARYLAND

Maryland Office - Box 1450  
Laurel, Maryland 20725-1450

Washington Exchange (301) 953-2482  
Baltimore Exchange (401) 792-7444

# Leak Test Report

Return Certificate To: Smiths Detection Edgewood  
 Contact Name: John Volz  
 Company: Smiths Detection  
 Address: 2202 Lakeside Blvd  
 City, State and Zip: Edgewood, MD 21040  
 Phone: 410-612-2535

PO #: \_\_\_\_\_  
 Bill To: Smiths Detection Edgewood  
 Company: \_\_\_\_\_  
 Address: 2202 Lakeside Blvd  
 City State and Zip: Edgewood, MD 21040  
 Phone: 410-612-2535

**INSTRUCTIONS:**

1. Contact your Radiation Safety Officer or RSO, Inc. if there are any questions.
2. Collect the leak test according to the manufacturer's instructions when applicable. For ECDs use Wipe#1 for the Inlet, Wipe #2 for the Outlet and Wipe #3 for the Housing.
3. Record the information requested below. Use 1 kit per device or source.
4. Staple the sample bags to this form. Place this form with the samples in the return envelope.
5. Mail the kit to RSO, Inc. There must be a payment method with RSO, Inc. established.
6. Do you want to be notified prior to when next leak test is due?  Yes  No  
 Provide type of notification  e-mail \_\_\_\_\_  Mail  Other

**SOURCE/DEVICE INFORMATION:**

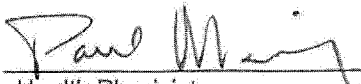
Kit #	Device Type or Source Type Make, Model or Description	Device Serial #	Radio- nuclide	Activity (mCi)	Source Serial #	Date Sample Collected	Sample Collected By:
1	Sealed Source		Am-241	1	1436/11	03/11/15	PM
2	Sealed Source		Ba-133	1	I6-443	03/11/15	PM
3	Sealed Source		Co-57	1	I6-441	03/11/15	PM
4	Sealed Source		Cf-252	.005	X1167	03/11/15	PM
5	Sealed Source		Cf-252	.054	Lab	03/11/15	PM
6	Sealed Source		Cf-252	.005	Line	03/11/15	PM
7	Sealed Source		Co-60	1	I6-442	03/11/15	PM
8	Sealed Source		Cs-137	1	0541/11	03/11/15	PM

*Shaded areas are for use by RSO, Inc.*

## Certificate of Leak Test

RSO, Inc. certifies that the leak test sample described above was analyzed by RSO, Inc. with appropriate instruments and compared to known standards for determination of removable radioactive contamination.

Analysis Results

  
 Health Physicist

< 0.005 microCuries (µCi)

Radioactive Materials License No. MD 33-021-01