



*Cardiovascular Associates of Puerto Rico*  
CARDIOVASCULAR CONSULTANTS

Mr. Shawn W. Seeley  
Health Physicist  
U.S. Nuclear Regulatory Commission  
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Re: License No. 52-25033-01

03030966

REC-52-25033-01-17-06-58

Dear Mr. Seeley:

We hereby wish to provide official confirmation from Cardiovascular Associates of Puerto Rico that we received the radioactive sources from Cayey Nuclear Medicine Laboratory (License No 52-30841-01), sources they had in use, plus the sources they had in storage (outs of use).

Enclosed please find the last leak data for the sources that were transferred which were in use.

Please let us know if you require any additional information.

Yours truly,

Humberto O. Quintana Irazola, MD

Rene E. Perez Rios, MD

592822

NUCLEAR MATERIALS-002

## RE: Transfer of Sealed Sources Documentation

Seeley, Shawn <Shawn.Seeley@nrc.gov>

Wed 3/15/2017 11:24 AM

to: Maria Palacios <margiepalacios@hotmail.com>;

Just wondering if you received this and when the information will be submitted. Thanks. Shawn

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**From:** Seeley, Shawn

**Sent:** Monday, March 06, 2017 12:41 PM

**To:** 'Maria Palacios' <margiepalacios@hotmail.com>

**Subject:** Transfer of Sealed Sources Documentation

Margie,

I am working on the termination for Nuclear Medicine Inc. In order to terminate the license, please send me official confirmation from Cardiovascular Associates of Puerto Rico (License No. 52-25033-01) that they received the sources. Please have that letter signed by their management. In addition, please send me the last leak test data for the sealed sources that were transferred.

Let me know if you have any questions. Thank you.

Shawn

Shawn W. Seeley, Health Physicist

USNRC

2100 Renaissance Boulevard, Suite 100

King of Prussia, PA 19406-2713

610-337-5102 (o); 610-337-5269 (f)

Shawn.seeley@nrc.gov

## CERTIFICATE OF SOURCE LEAK TEST

Date: October 25/2016

### Sealed Source Description:

Radionuclide: Ba<sup>133</sup>  
Model No.: RV-133-250 U  
Serial No.: 1014-98-6

### Instrument Used:

Victoreen Deluxe Wipe Test  
Counter Model 05-578

### Isotope Conversion Factors:

Isotope	Conv. Factor
Co-57	1.2
Cs-137	0.087
Co-60	0.16
Ba-133	0.83

Threshold value:  $0.005\mu\text{Ci} = 11.1\text{kdpm}$

### Procedure:

1. Wipe all external surfaces of the source, including the source seal area, with a piece of water moistened filter paper provided with the counting instrument; place it in the corresponding glassine envelope.
2. Set the ACTIVITY to 0nCi, just as for Tc-99 m contamination.
3. Divide the desired THRESHOLD value (11.1kdpm) by the CONVERSION FACTOR for the isotope, and set the resulting product value as the THRESHOLD value by pressing the threshold key and entering the value by using the CHANGE DIGIT keys. Press the ACTIVITY key to complete the entry. The threshold light will go out.
4. Count the wipe, in its glassing envelope, in the usual manner.
5. A PASS means that the count is less than the THRESHOLD value. A FAIL displays a kdpm value, which must be multiplied by the CONVERSION FACTOR to get the actual kdpm value for the wipe.

RESULT: PASS ( $< 0.005\mu\text{Ci}$  of removable contamination)

MT Palacios

## CERTIFICATE OF SOURCE LEAK TEST

Date: October 25, 2016

### Sealed Source Description:

Radionuclide: <sup>137</sup>Cs  
Model No.: RV-137-200 U  
Serial No.: 1014-92-7

### Instrument Used:

Victoreen Deluxe Wipe Test  
Counter Model 05-578  
Isotope Conversion Factors:

Isotope	Conv. Factor
Co-57	1.2
Cs-137	0.087
Co-60	0.16
Ba-133	0.83

Threshold value:  $0.005\mu\text{Ci} = 11.1\text{kdpm}$

### Procedure:

1. Wipe all external surfaces of the source, including the source seal area, with a piece of water moistened filter paper provided with the counting instrument; place it in the corresponding glassine envelope.
2. Set the ACTIVITY to 0nCi, just as for Tc-99 m contamination.
3. Divide the desired THRESHOLD value (11.1kdpm) by the CONVERSION FACTOR for the isotope, and set the resulting product value as the THRESHOLD value by pressing the threshold key and entering the value by using the CHANGE DIGIT keys. Press the ACTIVITY key to complete the entry. The threshold light will go out.
4. Count the wipe, in its glassing envelope, in the usual manner.
5. A PASS means that the count is less than the THRESHOLD value. A FAIL displays a kdpm value, which must be multiplied by the CONVERSION FACTOR to get the actual kdpm value for the wipe.

RESULT: PASS ( $< 0.005\mu\text{Ci}$  of removable contamination)



## CERTIFICATE OF SOURCE LEAK TEST

Date: October 25, 2016

### Sealed Source Description:

Radionuclide: Co<sup>57</sup>  
Model No.: RV-057-10M  
Serial No.: 1756-16-2

### Instrument Used:

Victoreen Deluxe Wipe Test  
Counter Model 05-578  
Isotope Conversion Factors:

Isotope	Conv. Factor
Co-57	1.2
Cs-137	0.087
Co-60	0.16
Ba-133	0.83

Threshold value:  $0.005\mu\text{Ci} = 11.1\text{kdpm}$

### Procedure:

1. Wipe all external surfaces of the source, including the source seal area, with a piece of water moistened filter paper provided with the counting instrument; place it in the corresponding glassine envelope.
2. Set the ACTIVITY to 0nCi, just as for Tc-99 m contamination.
3. Divide the desired THRESHOLD value (11.1kdpm) by the CONVERSION FACTOR for the isotope, and set the resulting product value as the THRESHOLD value by pressing the threshold key and entering the value by using the CHANGE DIGIT keys. Press the ACTIVITY key to complete the entry. The threshold light will go out.
4. Count the wipe, in its glassing envelope, in the usual manner.
5. A PASS means that the count is less than the THRESHOLD value. A FAIL displays a kdpm value, which must be multiplied by the CONVERSION FACTOR to get the actual kdpm value for the wipe.

RESULT: PASS ( $< 0.005\mu\text{Ci}$  of removable contamination)



## CERTIFICATE OF SOURCE LEAK TEST

Date: October 25, 2016

### Sealed Source Description:

Radionuclide: Cs<sup>137</sup>  
Model No.: CAL 2602  
Serial No.: 32816-32865

### Instrument Used:

Victoreen Deluxe Wipe Test  
Counter Model 05-578  
Isotope Conversion Factors:

Isotope	Conv. Factor
Co-57	1.2
Cs-137	0.087
Co-60	0.16
Ba-133	0.83

Threshold value:  $0.005\mu\text{Ci} = 11.1\text{kdpm}$

### Procedure:

1. Wipe all external surfaces of the source, including the source seal area, with a piece of water moistened filter paper provided with the counting instrument; place it in the corresponding glassine envelope.
2. Set the ACTIVITY to 0nCi, just as for Tc-99 m contamination.
3. Divide the desired THRESHOLD value (11.1kdpm) by the CONVERSION FACTOR for the isotope, and set the resulting product value as the THRESHOLD value by pressing the threshold key and entering the value by using the CHANGE DIGIT keys. Press the ACTIVITY key to complete the entry. The threshold light will go out.
4. Count the wipe, in its glassing envelope, in the usual manner.
5. A PASS means that the count is less than the THRESHOLD value. A FAIL displays a kdpm value, which must be multiplied by the CONVERSION FACTOR to get the actual kdpm value for the wipe.

RESULT:

PASS (<0.005  $\mu\text{Ci}$  of removable contamination)

 M. Palacios

# CERTIFICATE OF SOURCE LEAK TEST

Flood

Date: Oct 25, 2016

## Sealed Source Description:

Radionuclide: Co<sup>57</sup>  
Model No.: MED 3722  
Serial No.: 1787-128

## Instrument Used:

Victoreen Deluxe Wipe Test  
Counter Model 05-578  
Isotope Conversion Factors:

Isotope	Conv. Factor
Co-57	1.2
Cs-137	0.087
Co-60	0.16
Ba-133	0.83

Threshold value:  $0.005\mu\text{Ci} = 11.1\text{kdpm}$

## Procedure:

1. Wipe all external surfaces of the source, including the source seal area, with a piece of water moistened filter paper provided with the counting instrument; place it in the corresponding glassine envelope.
2. Set the ACTIVITY to 0nCi, just as for Tc-99 m contamination.
3. Divide the desired THRESHOLD value (11.1kdpm) by the CONVERSION FACTOR for the isotope, and set the resulting product value as the THRESHOLD value by pressing the threshold key and entering the value by using the CHANGE DIGIT keys. Press the ACTIVITY key to complete the entry. The threshold light will go out.
4. Count the wipe, in its glassing envelope, in the usual manner.
5. A PASS means that the count is less than the THRESHOLD value. A FAIL displays a kdpm value, which must be multiplied by the CONVERSION FACTOR to get the actual kdpm value for the wipe.

RESULT: PASS (<0.005 $\mu\text{Ci}$  of removable contamination)

