



# State of Connecticut

Department of Environmental Protection

Bureau of Air Management

Radiation Division

79 Elm Street

Hartford, CT 06106-5127

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06-06472-03  
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including this one: 20

Date: 1/6/05

Time: 13:40

To: KATHLEEN MODES

Company: NRC REGION 1

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From: DAREN STRICKLAND  
RADIATION CONTROL PHYSICIST

Telephone : 860-424-3029

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## MESSAGE

ADDITIONAL INFORMATION YOU  
REQUESTED FOR  
NRC LIC. 06-06472-03 AMD #24  
LICENSE TERMINATION.

136144

NMSS/RGNI MATERIALS-002



STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Docket #: 064-0857/0410-1417

Registration #: 00857

October 7, 2004

Dana Conover  
Office of Emergency Management  
360 Broad Street  
Hartford, CT 06105

**License Termination Survey**

Dear Mr. Conover,

Enclosed is the report for the License Termination Survey of the RMIC Facility located at Building 154 Bradley Field, Windsor Locks, CT.

Based on the information reviewed and the surveys performed, levels of radioactivity found in the RMIC Facility were less than the release limits established in the NRC Regulatory Guide 1.86 for unconditional release.

Stated in our last conversation, I will notify the personnel in the Division of Radiation to deactivate your file so that a registration renewal is not sent to you. A copy of this report and the copy of the transfer documentation to J.L. Shepherd will be placed in your file.

Please contact me at 1-860-424-3532 if you have any questions.

Thank you,

A handwritten signature in black ink, appearing to read "Daren Strickland".  
Daren Strickland  
Radiation Control Physicist

**License Termination Survey Report for**

**Office of Emergency Management  
RMIC Facility  
Bldg 154, Bradley Field  
Windsor Locks, CT.**

Prepared By: Daren E. Strickland  
Radiation Control Physicist  
Environmental Surveillance and Restoration Section  
Department of Environmental Protection  
State of Connecticut

### Site History and Description

The Office of Emergency Management Radiological Maintenance Instrumentation and Calibration Facility located at Building 154, Bradley Field located in Windsor Locks, CT, was used to service, repair and calibrate civil defense instruments used through out the state of Connecticut. The primary use of the instruments was to provide instrumentation to towns and state facilities in the 10-mile Emergency Plan Zone around the Millstone Nuclear Power Station. The facility had in it's possession and currently licensed under NRC 06-06472 amendment #24 to possess the following:

Source	Chemical/Physical Form	Amount	Purpose
CS-137	Sealed Source Model ORNL-2339A or ORNL-DSK-2384	143 Curies	Used in a FEMA CDV-794 Model 2 for calibration of instruments.
Depleted Uranium	Metal	82 kilograms	Shielding in CDV-794
CS-137	Sealed Source Nuclear Chicago PCD-S-104	16 millicuries	Used in a FEMA CDV-790 Model 1 for calibration of instruments.

Current activity of both sources is 85.38 Ci and 9.26 mCi respectively. Both sources are no longer located at the RMIC Facility and were transferred to JL Sheppard on 07/28/04.

Effective August 2004, the RMIC facility was closed down and operations were transferred to another location. At the time of survey, the RMIC facility had been cleared of equipment and sources.

Building 154, Bradley Field, Windsor Locks CT consisted of a warehouse with office area attached. Within this office is where the RMIC Facility was located. Listed below is description and use of each room.

Room Number	Designation	Use
Rm1	Storage	Storage of all Civil Defense Instrumentation
Rm2	Restroom	Lavatory Facilities
Rm3	Office	Office space
Rm4	Office	Office space
Rm5	Office	Office space
Rm6	Breakroom	Lunchroom
Rm7	Workshop	Used to repair and maintain civil defense instrumentation
Rm8	Calibration Room	Storage of all sealed sources and calibration equipment.

### **Project Organization and Responsibility.**

The purpose of the survey performed by the State of Connecticut Department of Environmental Protection was to perform a license termination survey of the building. The licensee requested that the State of Connecticut, Department of Environmental Protection, Division of Radiation perform this survey. The survey was performed in accordance with NUREG Guide 1.86 for unrestricted release of the building.

The DEP Division of Radiation assigned the Environmental Surveillance/ Restoration (ESR) section to perform the license termination survey of the RMIC Facility. The following personnel was assigned:

Ed Wilds, Jr. Director, Division of Radiation  
Mike Firsick, Supervisor of ESR Group, Radiation Control Physicist.  
Daren Strickland, Assigned Physicist, Radiation Control Physicist

## Objective

The objective of this survey was to determine if RMIC Facility met the guidelines established in Reg. 1.86 for release of the building. Surveys were performed by the DEP and licensee's documents were reviewed to ensure the decommissioning of the RMIC Facility was achieved correctly.

## Document Review

The following documents were reviewed:

Ionizing Registration, September 2003, State of Connecticut DEP  
Inspection Results, March 2001, State of Connecticut DEP  
NRC License # NRC 06-06472 amendment #24.  
J.L. Shepherd Shipping Documents, 07/28/04

## Building Surveys

### Surface Scans

Surface scans were performed on the floor using a sodium iodide detector Ludlum 14C with a 44-2 probe. The floor was scanned randomly using a serpentine motion covering approximately 10% - 15% of the floor.

### Surface Activity Measurements

21 surface activity measurements, chosen randomly, were performed on various interior structures of the RMIC Facility using a Ludlum 14C with a 44-2 probe. Areas included floors, walls, countertops and areas where the radioactive sources were previously located.

### Samples

21 smears were taken at the surface activity measurements locations inside the RMIC Facility.

### Sample Analysis and Data Interpretation

#### Fixed Surface Activity Measurements.

All of the surface activity measurements showed no significance in compared to background radiation.

#### Surface Scans

Surface scans showed all readings were less than or equal to background radiation.

#### Wipe Smears

Preliminary counting of wipe tests resulted in all readings, except for 2 areas, were less than or equal to background radiation. The two areas indicated both were less than the release criteria of 5000 dpm/100cm<sup>2</sup> established in Regulatory Guide 1.86.

### Findings and Results

SEE APPENDIX A for survey data results.

### Laboratory Results

Laboratory analysis of wipe tests showed no significant data reported and all results were less than or equal to background radiation resulting in no removable contamination present.

### Comparison of Results with Guidelines

The survey results were well below the release limits established in Regulatory Guide 1.86 of 5000dpm /100 cm<sup>2</sup>.

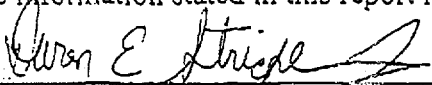
### Instrumentation

Manufacturer	Model	Serial	Type	Probe Model	Probe Serial	Calibration Due	Source checked
Ludlum	14C	103793	Scaler	442	PR147955	05/04	CS-137
Eberline	E140N	2165	Scaler			06/04	CS-137
Tennelec	5XLB	44011	Proportional				

### Conclusion

Based on the information reviewed and the surveys performed, levels of radioactivity found in the RMIC Facility, Building 154, Bradley Field, Windsor Locks, were less than the release limits established in NRC Regulatory Guide 1.86. for unconditional release.

The information stated in this report is true and correct to the best of my knowledge.



Daren E. Strickland

Radiation Control Physicist

Environmental Surveillance and Restoration Section

Department of Environmental Protection

State of Connecticut

10/7/04

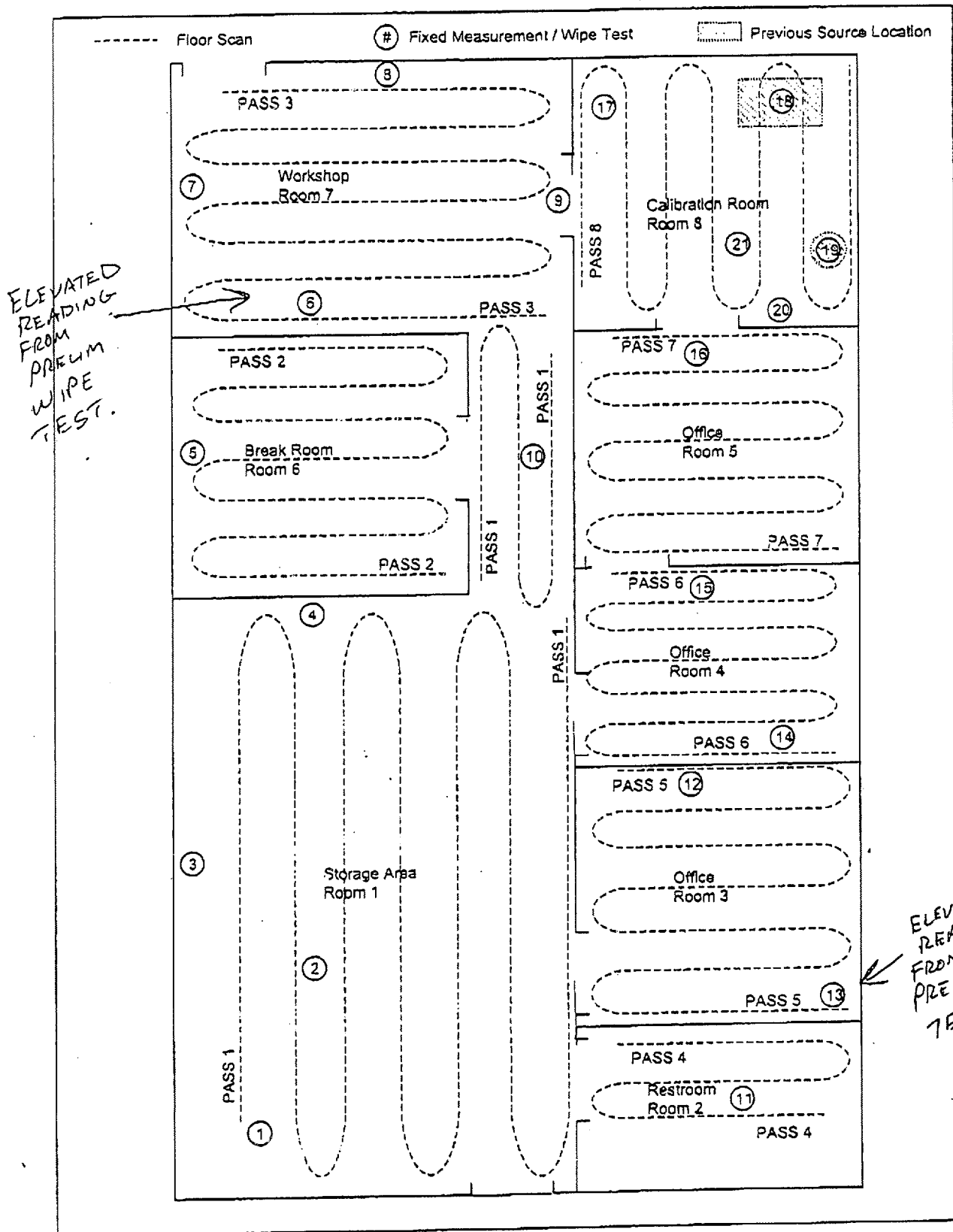
10/07/04



Appendix A.  
Survey Data Results.

OEM RMIC Facility Windsor Locks, CT  
License Termination Survey

VLS





Project: ST of CT OEM RMC Facility License Termination Survey Page 1 of 1

Survey Type:	Fixed
Location:	

Instrument Used:	Ludlum 14C sn#103793 w/ 44-2 Probe sn#103667	
Efficiency:	2.5%	
Static MDC:	59	kDPM/ 100 cm <sup>2</sup>
Scan MDC:	62	kDPM/ 100 cm <sup>2</sup>

Background Radiation			
BKG Reference	Surface Type	kCPM	+/- 2 Sigma
1	Air	1,1	0

[illegible]

\* t-test - Determination of the statistical significance of the difference between the reported CPM and Background based on a 95% confidence.  $t=1.26$

\* Result - N.S. = Not Significant

Project:	ST of CT OEM RMIC Facility License Termination Survey	Page 1 of 1
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Survey Type:	Scan
Location:	

Instrument Used:	Ludium 14C sn#1C3793 w/ 44-2 Probe sn# 03667	
Efficiency:	2.5%	
Static MDC:	59	kDPM/ 100 cm <sup>2</sup>
Scan MDC:	62	kDPM/ 100 cm <sup>2</sup>

Background Radiation			
BKG Reference	Surface Type	kCPM	+/- 2 Sigma
1	Air	1.1	0

[illegible]

\* Test - Determination of the statistical significance of the difference between the reported CPM and Background based on a 95% confidence.  $t=1.96$   
\* Result - N.S. = Not Significant

Project: ST of CT OEM RMIC Facility License Termination Survey Page 1 of 1

Survey Type:	Preliminary Wipe Test Results
Location:	

Instrument Used:	Eberline E140N SN#2165	
Efficiency:	10.0%	
MDA:	209	OPM

Background Radiation			
BKG Reference	Surface Type	CPM	+/- 2 Sigma
1	Chamber	24	10

\*ELEVATED READINGS.

[illegible]

\* t-test - Determination of the statistical significance of the difference between the reported CPM and Background based on a 95% confidence.  $t=1.96$   
 \*\* Result - N.S. = Not Significant





## STATE OF CONNECTICUT

Department of Public Health  
Division of Laboratory Services  
10 Clinton St., P.O. Box 1689  
Hartford, CT 06144

CONN. CLINICAL TESTING LICENSE # CL-0197  
TELEPHONE: (860) 509-8500

DEP RADIATION  
79 ELM STREET  
5th floor  
HARTFORD

CT 06106

TOWN NR: 000

ID	ACCESSION NO.	ACCOUNT NO.	AGE	S	PAGE
	26015241	A01070			
INFORMATION					
000NOT SPECIFIED					
NOT SPECIFIED					
COLLECTED		RECEIVED		REPORTED	
09/10/04 10:47		09/13/04 15:08		09/23/04 11:51	

REPORT

FINAL REPORT

COMMENT

NR:

BLANK1

TEST(S)	RESULT(S)
26015241 GROSS ALPHA WIPE GROSS BETA WIPE	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: BLANK1 COLLECTOR: DAREN STRICKLAND ----- 0.00 CPM 0.30 CPM
26015242 NR: 1	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.30 CPM
26015243 NR: 2	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 1.00 CPM
26015244 NR: 3	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: WALL COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.60 CPM
26015245 NR: 4	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: WALL

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79 ELM STREET  
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HARTFORD

CT 06106

TOWN NR: 000 10:47

LD.	ACCESSION NO.	ACCOUNT NO.	AGE	S	PAC
	26015241	A01070			
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REPORT

FINAL REPORT

COMMENT

NR:

4

TEST(S)	RESULT(S)
GROSS ALPHA WIPE GROSS BETA WIPE	COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.60 CPM
26015246 NR: 5	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: COUNTER COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.90 CPM
GROSS ALPHA WIPE GROSS BETA WIPE	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: WALL COLLECTOR: DAREN STRICKLAND 0.10 CPM 0.50 CPM
26015247 NR: 6	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.30 CPM
GROSS ALPHA WIPE GROSS BETA WIPE	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: TABLE COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.80 CPM
26015248 NR: 7	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.30 CPM
GROSS ALPHA WIPE GROSS BETA WIPE	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: TABLE COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.80 CPM
26015249 NR: 8	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: TABLE COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.80 CPM
GROSS ALPHA WIPE GROSS BETA WIPE	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: TABLE COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.80 CPM
26015250 NR: 9	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: TABLE COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.80 CPM

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79 ELM STREET  
5th floor  
HARTFORD

CT 06106

TOWN NR: 000

LD	ACCESSION NO.	ACCOUNT NO.	AGE	S	PAGE
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INFORMATION					
000NOT SPECIFIED					
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COLLECTED		RECEIVED		REPORTED	
09/10/04 10:47		09/13/04 15:08		09/23/04 11:51	

REPORT

FINAL REPORT

COMMENT

NR:

9

TEST(S)	RESULT(S)
GROSS ALPHA WIPE GROSS BETA WIPE 26015251 NR: 10	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: DOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.50 CPM
GROSS ALPHA WIPE GROSS BETA WIPE 26015252 NR: 11	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.80 CPM
GROSS ALPHA WIPE GROSS BETA WIPE 26015253 NR: 12	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.70 CPM
GROSS ALPHA WIPE GROSS BETA WIPE 26015254 NR: 13	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: WALL COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.40 CPM
GROSS ALPHA WIPE	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM

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79 ELM STREET  
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CT 06106

TOWN NR: 000

LT.	ACCESSION NO.	ACCOUNT NO.	AGE	S.	PAGE
	26015241	A01070		0	
INFORMATION					
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NOT SPECIFIED					
COLLECTED		RECEIVED		REPORTED	
09/10/04 10:47		09/13/04 15:08		09/23/04 11:51	

REPORT	FINAL REPORT	COMMENT	NR:	13
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TEST(S)	RESULT(S)
GROSS BETA WIPE	0.30 CPM
26015255 NR:	14
	NPDES NO: IND:
	SOURCE: SMEAR
	COLLECTED FROM: WALL
	COLLECTOR: DAREN STRICKLAND
GROSS ALPHA WIPE	0.00 CPM
GROSS BETA WIPE	0.40 CPM
26015256 NR:	15
	NPDES NO: IND:
	SOURCE: SMEAR
	COLLECTED FROM: WALL
	COLLECTOR: DAREN STRICKLAND
GROSS ALPHA WIPE	0.00 CPM
GROSS BETA WIPE	0.70 CPM
26015257 NR:	16
	NPDES NO: IND:
	SOURCE: SMEAR
	COLLECTED FROM: FLOOR
	COLLECTOR: DAREN STRICKLAND
GROSS ALPHA WIPE	0.00 CPM
GROSS BETA WIPE	1.00 CPM
26015258 NR:	17
	NPDES NO: IND:
	SOURCE: SMEAR
	COLLECTED FROM: WALL
	COLLECTOR: DAREN STRICKLAND
GROSS ALPHA WIPE	0.00 CPM
GROSS BETA WIPE	1.10 CPM
26015259 NR:	18
	NPDES NO: IND:
	SOURCE: SMEAR

\*\*\* CONTINUED \*\*\*



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DEP RADIATION  
79 ELM STREET  
5th floor  
HARTFORD

CT 06106

TOWN NR: 000

ID.	ACCESSION NO.	ACCOUNT NO.	AGE	S	PAGE
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INFORMATION					
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NOT SPECIFIED					
COLLECTED	RECEIVED	REPORTED			
09/10/04 10:48	09/13/04 15:18	09/23/04 11:51			

REPORT

FINAL REPORT

COMMENT

NR:

18

TEST(S)	RESULT(S)
GROSS ALPHA WIPE GROSS BETA WIPE  26015260 NR: 19	COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.00 CPM 1.30 CPM  NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: WALL COLLECTOR: DAREN STRICKLAND 0.00 CPM 0.50 CPM
GROSS ALPHA WIPE GROSS BETA WIPE  26015261 NR: 20	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.20 CPM 0.30 CPM
GROSS ALPHA WIPE GROSS BETA WIPE  26015262 NR: 21	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: FLOOR COLLECTOR: DAREN STRICKLAND 0.20 CPM 0.40 CPM
GROSS ALPHA WIPE GROSS BETA WIPE  26015263 NR: BLANK2	NPDES NO: IND: SOURCE: SMEAR COLLECTED FROM: BLANK2 COLLECTOR: DAREN STRICKLAND 0.10 CPM 0.80 CPM

\*\* END OF REPORT \*\*