



NMSB2

July 31, 2007

Licensing Assistant Section
Nuclear Materials Safety Branch
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

03036257

RE: License Termination (License No. 06-30667-02)

To Whom It May Concern:

I am writing request that NRC License Number for CuraGen Corporation (No. 06-30667-02) be terminated. We have not worked with licensed radioactive materials in some time and do not believe that we will have any need to do so in the near future.

Enclosed please find a decommissioning report from Radcor, LLC of Salem, Connecticut indicating that our Branford, Connecticut facility is free of radioactive contamination and that the facility meets the requirements to be released for unrestricted use.

Radioactive waste generated during the decommissioning process was disposed of through Radiac Research Corporation of Brooklyn, New York on 7/31/07. No licensed radioactive material or source equipment remains at the facility. If you have any questions or require any additional information, please contact me at (203)-871-4403.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Shannon'.

Timothy Shannon, M.D.
Chief Medical Officer

A handwritten signature in black ink, appearing to read 'William LaRochelle'.

William LaRochelle, Ph.D.
Radiation Safety Officer
Director of Oncology
322 East Main Street
Branford, CT 06405

Enclosure

RECEIVED
REGION 1

2007 AUG -6 PM 12:57

140908

NMSS/RGN1 MATERIALS-002

RADIOLOGICAL ASSESSMENT REPORT

CuraGen Corporation
322 East Main Street
Branford, CT 06405

July 16, 2007

Performed by
Radcor, LLC
345 Laurelwood Drive
Salem, CT 06420
(860) 887-1538

EXECUTIVE SUMMARY

On July 2 and July 3, 2007, a radiological assessment for the purpose of decommissioning was performed of the CuraGen Corporation facility located at 322 East Main Street, Branford, Connecticut. This assessment was conducted by Radcor, LLC of Salem, Connecticut.

After performing a radiological assessment and decontamination of the use and storage areas designated by the licensee, it is the opinion of Radcor, LLC that the areas assessed do not present any significant radiological hazard to facility personnel, the public, or the environment, and that these areas may be released for unrestricted use.

SCOPE

Radcor, LLC of Salem, Connecticut was contracted to perform a radiological assessment of selected areas of the CuraGen Corporation (hereinafter referred to as CuraGen) facility located at 322 East Main Street, Branford, Connecticut. This facility is licensed by the Nuclear Regulatory Commission (NRC) for the possession and use of radioactive materials for research and development under license No. 06-30667-02.

FACILITY DESCRIPTION

The facility at 322 East Main Street consists of a 52,000 square foot, steel-framed, brick, three-story medical research facility located on approximately 3.5 acres. CuraGen leases all but 400 square feet of this facility. Licensed material use and storage was limited to three (3) adjacent rooms of the facility, with a total area of approximately 300 square feet.

CuraGen had ceased working with licensed material prior to the assessment. Radioactive material had been removed from the facility for disposal by Radiac Research Corporation of Brooklyn, New York.

Since it is the intent of CuraGen to terminate their NRC license, the areas where licensed radioactive material had been used and/or stored were to be surveyed in order to allow the facility to be released for unrestricted use. Floor plans of the facility are provided in Appendix A to this report.

Site Conditions at Time of Final Survey

The areas that were assessed had been vacated prior to the radiological assessment.

Identity of Potential Contaminants

CuraGen is licensed for the possession and use of hydrogen-3, carbon-14, phosphorus-32, phosphorus-33, and sulphur-35. According to facility personnel, only H-3 and C-14 had been used at the facility. This work was limited to designated areas of the facility.

The last reported use of loose licensed material at the facility was in October of 2004.

RELEASE CRITERIA

The applicable release criteria were based upon Appendix Q of NUREG-1556, Vol. 7, "Consolidated Guidance about Materials Licenses: Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope." The criteria used are presented in Table 1 below.

Table 1. Acceptable Surface Contamination Levels

NUCLIDES	AVERAGE (dpm/100 cm ²)	MAXIMUM (dpm/100 cm ²)	REMOVABLE (dpm/100 cm ²)
H-3, C-14	5,000 $\beta\gamma$	15,000 $\beta\gamma$	1,000 $\beta\gamma$

These chosen values will ensure that the annual total effective dose equivalent (TEDE) to any individual after the site is released for unrestricted use will not exceed 25 millirem above background, in accordance with 10 CFR 20.1402.

ASSESSMENT PERSONNEL

A professional health physicist, Mr. David J. Durkee, performed the radiological assessment. Mr. Durkee's resume is included as Appendix B to this report.

INSTRUMENTATION

Table 2 lists the instruments used in the performance of the surveys, along with other parameters and detection sensitivities for the instrumentation, and survey techniques. All instruments used had been calibrated using NIST-traceable standards. The calibration isotopes used for these instruments included H-3, C-14, and/or Cs-137. Minimum detectable activities were calculated in accordance with the *Manual for Conducting Radiological Surveys in Support of License Termination*, NUREG/CR-5849 and the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*, NUREG-1575. These calculations are included as Appendix C.

Operational and background checks were performed at least once each day of instrument use.

Table 2. Instrumentation for Radiological Surveys

Type of Measurement	Instrumentation		Bkgd. ^a	2 π ^a Eff & Cal Isotope	Detection Sensitivity
	Detector	Meter			
Surface scans - β	Gas Prop. Det. Ludlum model 43-68	Count-rate meter ^b Ludlum mod. 2241-2	260 cpm	7.1% C-14	4,577 dpm/100 cm ²
Integrated meas. of surfaces - β	Gas Prop. Det. Ludlum model 43-68	Count-rate meter ^b Ludlum mod. 2241-2	260 cpm	7.1% C-14	1,094 dpm/100 cm ²
Smears, β/γ	Packard 1600TR	(same as detector)	9 cpm	40% H-3	42 dpm/100 cm ²
			8 cpm	75% C-14	21 dpm/100 cm ²
			20 cpm (wide)	75% (wide)	31 dpm/100 cm ²
Exposure rates	Scintillation	Bicron Microrem LE	3 – 6 μ rem/h	NA	1 μ rem/h

^aNominal Values

^bMonitoring audible signal

^dInstrument on slow response, positioned until steady reading obtained

SURVEY PROCEDURES

Survey planning and procedures were based upon the *Manual for Conducting Radiological Surveys in Support of License Termination*, NUREG/CR-5849 and the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*, NUREG-1575. Actual procedures are described below.

Area Classification

Areas in which licensed materials were used and/or stored, as determined by CuraGen personnel, were designated as Affected Areas for the purpose of this assessment. The rooms where licensed material were used/and stored were designated Area 311B. This area consisted of two (2) small laboratory areas and one (1) small radioactive waste storage closet.

All other areas were designated Unaffected Areas.

A facility floor plan clearly identifying the above referenced area has been included as Attachment A to this report.

Reference Grids

The Affected Areas were gridded at approximately 1-meter intervals, up to a height of 2 meters. Unaffected Areas were not gridded.

Dose-equivalent Measurements

A survey was performed within the designated areas for general area photon radiation levels. Photon dose-equivalent rates were measured at 1 m above the floor using the gamma scintillation instrument identified in Table 2. Recorded measurements in Affected Areas were spaced at approximately one measurement per 4 m².

Surface Activity Measurements

Removable Contamination Measurements

In the Affected Areas, wipe samples for removable contamination were taken in each grid area (every 1 m² of lower surfaces and walls up to a height of 2 meters). Samples were also obtained from areas where activity would have been likely to collect (i.e., sink drain, horizontal surfaces, inside cabinets, etc.).

In Unaffected Areas, wipe samples were obtained just outside the Affected Area. Samples were not obtained from other Unaffected Areas.

Surface Scans for Total Contamination

Scanning is an initial evaluation technique performed by moving the detection device over a surface at a constant speed and at a fixed distance above the surface to identify areas having elevated radiation levels. Areas thus identified are followed up by integrated measurements.

Instrumentation used for scanning is listed in Table 2. Scanning speeds did not exceed 1 detector-width per second. Audible indicators were used to help identify locations having elevated (>1.25 times ambient) levels of direct radiation.

Scanning of surfaces to identify locations of residual surface and near-surface activity was performed according to the following schedule:

- Affected Area Surfaces: 100% of accessible lower surfaces (all floors, countertops, cabinets and walls up to 2 meters above the floor);

- Unaffected Area Surfaces: Spot check of lower surfaces just outside Affected Area.

Background Level Determinations

Background count rates were determined initially for the building interior by taking measurements in different unaffected locations near the Affected Areas.

Sample Analysis

Wipe samples for removable contamination were analyzed for beta/gamma activity using the Liquid Scintillation Counter (LSC) specified in Table 2. The wide channel was used so that any potential radioactive contamination would be identified.

Data Interpretation

Data conversions and evaluations were performed following guidance specified in NUREG/CR-5849. Measurement data were converted to units of dpm/100 cm² (surface activity) for comparison with guidelines. Average values for survey levels were determined and compared with established release criteria.

Records

A copy of the survey documentation is enclosed as Appendix D to this report.

SURVEY FINDINGS AND RESULTS

Background Levels

Background count rates for the instrumentation used are listed in Table 2.

Dose-equivalent Measurements

No areas in excess of normal background levels were identified at the facility.

Surface Activity Measurements

Removable Contamination Measurements

A total of 155 wipes samples were obtained and analyzed. Wipe samples did not identify any area of activity in excess of the minimum detectable activity.

Surface Scans and Integrated Measurements

Surface scans of the Affected Areas identified one (1) area to be in excess of normal background levels. An area of approximately 100 cm² on the floor in front of the bio-safety cabinet was found to be contaminated to a level of 14,225 dpm/100 cm² (C-14). This area was decontaminated to a level indistinguishable from normal background levels.

No areas in excess of normal background levels were identified in Unaffected Areas.

SUMMARY

On July 2 and July 3, 2007, a radiological assessment for the purpose of decommissioning was performed of the CuraGen Corporation facility located at 322 East Main Street, Branford, Connecticut. This assessment was conducted by Radcor, LLC of Salem, Connecticut.

After performing a radiological assessment and decontamination of the use and storage areas designated by the licensee, it is the opinion of Radcor, LLC that the areas assessed do not present any significant radiological hazard to facility personnel, the public, or the environment, and that these areas may be released for unrestricted use.

A handwritten signature in black ink, appearing to read 'D. Durkee', with a horizontal line extending to the right.

David J. Durkee
Health Physicist, RRPT

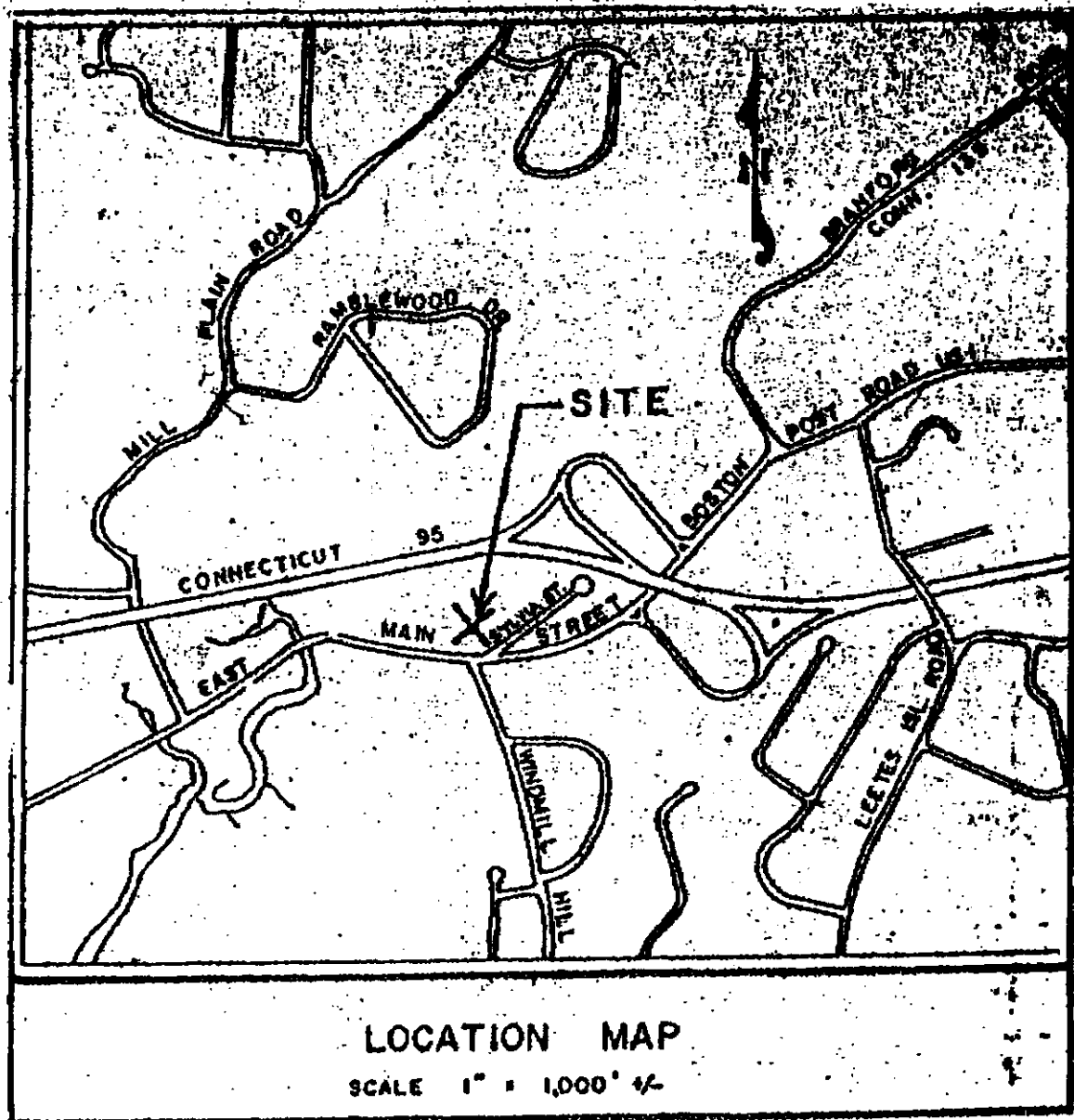
Appendix A

Floor Plans

Figure A-1

Figure A-2

Figure A-3



Appendix B

Resume

RADCOR, LLC
345 Laurelwood Drive
Salem, CT 06420
(860) 887-1538

David J. Durkee

EDUCATION:

Regents College, NY. - B.S. Technology (Nuclear/Health Physics)
University of Phoenix, AZ. - A.A. Nuclear Technology
Health Physics Technician Level I Basic - Radiation Safety Associates, Inc.
Health Physics Technician Level II - Radiation Safety Associates, Inc.
Respiratory Protection at Nuclear Facilities - Radiation Safety Associates, Inc.
Environmental Monitoring for Radioactivity - Oak Ridge Associated Universities.
Liquid Scintillation and Gamma Spectrum Analysis - Rutgers University
Health Physics Audits - Radiation Safety Associates, Inc.

Navy

Naval Nuclear Power School (24 wks)	Diesel Operator/Maint. School
Nuclear Prototype Training Unit (26 wks)	Scuba Diver School
Engineering Laboratory Technician School	Advanced Auxiliary Package Course
Machinist Mate "A" School	Quality Assurance Inspector School

EXPERIENCE:

December 1996 to Present

Radcor, LLC, Salem, Connecticut

Health Physicist/Owner. Responsible for providing radiological consulting services to general industry, academic institutions, and companies involved in research and development. These services include: development and presentation of professional training; performance of program audits; performance of radiological surveys, decontamination and decommissioning; development of license applications, amendments and safety procedures; radiation protection program oversight; and, regulatory compliance. Served as the Radiation Safety Officer for ExxonMobil Research and Eng. Co., Paulsboro, New Jersey.

March 1994 to December 1996

Radiation Safety Associates, Inc., Hebron Connecticut

Vice President-Technical Services. Responsible for the preparation of job proposals and operating budgets; making technical and manpower recommendations; supervising workers at job sites; performing technical evaluations as required; writing, editing, and developing course materials, working procedures and technical articles; and, performed duties as a health physicist.

Responsible for oversight of various site decontamination/decommissioning projects. These involved: the development of decommissioning plans; hiring and oversight of workers; hands-on performance of radiological surveys and site decontamination efforts; and the development and submittal of final reports.

Instructor for the following professional training courses: Fundamentals of Radiological Protection; Health Physics Technician Level I and II; Radiation Safety Officer; Radiation Safety Officer Refresher; and, Basic Radiation Worker.

Assistant Editor of *Radiation Protection Management*, the Journal of Applied Health Physics. Assistant RSO and Quality Control Officer for a radioanalytical laboratory.

October 1991 to March 1994

Radiation Safety Associates, Inc., Hebron, Connecticut

Health Physicist. Responsible for providing consulting services to the nuclear industry; general industry; local, state, and federal governments; and academic institutions. These services included performing audits, radiological surveys, instrument calibrations, site decontamination services, writing license applications and amendments, maintaining radiological safety programs, providing technical advice and performing training.

September 1983 to October 1991

United States Navy, Submarine Qualified. Served on-board two nuclear-powered submarines.

Qualified as Leading Engineering Laboratory Technician, Engineerroom Supervisor, Quality Assurance Inspector, Duty Section Leading Mechanic and Ship's Diver.

Supervised and performed chemistry and radiological controls on reactor plant primary and secondary systems. Sampled primary coolant and secondary water chemistry and analyzed results to detect abnormal trends and out of specification conditions. Established and certified radiologically controlled areas, conducted radiation and contamination surveys, evaluated man-rem exposure and processed radioactive waste. Calibrated and operated radiation detectors and chemistry analytical equipment.

Directed the day-to-day efforts of five junior Laboratory Technicians. Awarded a Navy Achievement Medal for being "the driving force behind a dramatic turnaround in the professionalism of the (Reactor Laboratory) division." Instituted a training program that significantly upgraded the level of knowledge of the division.

Drafted detailed work procedures and quality assurance work packages for nuclear and non-nuclear maintenance efforts. Performed in-process inspections to verify that materials and procedures met required specifications.

PROFESSIONAL ACTIVITIES:

Registered Radiation Protection Technologist (NRRPT)

Plenary Member, Health Physics Society

PUBLICATIONS

"NRC License Application, Renewal, or Amendment for Byproduct Material" *RSO Magazine*, 1:6: pp. 25-30; Nov/Dec, 1996.

"Personal Whole-Body Dosimetry" *RSO Magazine*, 1:4: pp. 26-28; Jul/Aug, 1996.

"Prenatal Radiation Exposure," *RSO Magazine*, 1:2: pp. 12-13; Mar/Apr, 1996.

"Loose Contamination Survey Methods," *RSO Magazine*, 1:1: pp. 19-20; Jan/Feb, 1996.

Steinmeyer, K. Paul, David J. Durkee and Paul R. Steinmeyer. *Mathematics Review for Health Physics Technicians*. Hebron, CT: RSA Publications, 1994. (393 pages).

Appendix C

Minimum Detectable Activity Calculations and Calibration Information

The equations used for determining the MDAs are as follows:

Variables: MDA = Minimum Detectable Activity in dpm/100 cm²
R_b = Background count rate in cpm
t = Counting time when t_b = t_s
τ = Detector time constant in minutes
E = Detector efficiency in cpm/dpm
A = Active detector area in cm²
X = Multiple of background audibly discernable to tech. as increase

MDA for surface scans using Ludlum Model 43-68:

$$\text{MDA} = (X)(R_b) \div (E)(A/100)$$

$$\text{MDA} = (1.25)(260 \text{ cpm}) \div (0.071)(100/100) = 4,577 \text{ dpm/100 cm}^2$$

MDA for integrated measurement using Ludlum Model 43-68:

$$\text{MDA} = [2.71 + 4.65\sqrt{(R_b)(t)}] \div (t)(E)(A/100)$$

$$\text{MDA} = [2.71 + 4.65\sqrt{(260 \text{ cpm})(1 \text{ min.})}] \div (1 \text{ min.})(0.071)(100/100) = 1,094 \text{ dpm/100 cm}^2$$

MDA for counting 100 cm² wipe samples on LSC:

$$\text{MDA} = [2.71 + 4.65\sqrt{(R_b)(t)}] \div (t)(E)$$

$$\text{MDA (For H-3)} = [2.71 + 4.65\sqrt{(9 \text{ cpm})(1 \text{ min.})}] \div (1 \text{ min.})(0.4) = 42 \text{ dpm/100 cm}^2$$

$$\text{MDA (For C-14)} = [2.71 + 4.65\sqrt{(8 \text{ cpm})(1 \text{ min.})}] \div (1 \text{ min.})(0.75) = 21 \text{ dpm/100 cm}^2$$

$$\text{MDA (Wide)} = [2.71 + 4.65\sqrt{(20 \text{ cpm})(1 \text{ min.})}] \div (1 \text{ min.})(0.75) = 31 \text{ dpm/100 cm}^2$$

Instrument Calibration Information

Bicron MicroRem. Calibrated by RSCS (CTI) of Stratham, NH on 1/2/07.

Ludlum Model 2241-2 with 43-68. Calibrated by RSCS (CTI) of Stratham, NH on 9/13/06.

Packard 1600TR. Calibrated using manufacturer's standards on 1/8/07.



A Division of RSCS, Inc.

Customer: David J Durkee
Radcor, LLC.
345 Laurelwood Drive
Salem, CT 06420-

Calibration Certificate **ID Number:** B466Y9319-0

Instrument
Bicron Model MicroRem

Serial Number
B466Y

Precision Check				
Test 1	Test 2	Test 3	Mean	Results
4.00 mrem/hr	4.00 mrem/hr	4.00 mrem/hr	4.00 mrem/hr	Satisfactory

Accuracy Check			
Range	Target Value	As Found	As Left
X1000	160 mrem/hr	150 mrem/hr	150 mrem/hr
X1000	40 mrem/hr	40 mrem/hr	40 mrem/hr
X100	16 mrem/hr	15 mrem/hr	15 mrem/hr
X100	4 mrem/hr	4 mrem/hr	4 mrem/hr
X10	1.6 mrem/hr	1.6 mrem/hr	1.6 mrem/hr
X10	0.4 mrem/hr	0.4 mrem/hr	0.40 mrem/hr
X1	160 μ rem/hr	150 μ rem/hr	150 μ rem/hr
X1	40 μ rem/hr	40 μ rem/hr #	40 μ rem/hr #
X0.1	16 μ rem/hr	15 μ rem/hr #	16.5 μ rem/hr #
X0.1	4 μ rem/hr	3 μ rem/hr # *	4 μ rem/hr #

Readings with * indicate ranges where As-Found readings are >20% of Target value. Readings with ** indicate As-left readings are >10% of Target value
Readings with # indicate ranges where pulser was used.

MTE Instrument Type	Model	CalDueDate
Pulser	Ludlum 500-4 SN: 66151	01/03/2007

Outer Physical Check: Pass Mechanical Zero: Pass
Internal Check: Pass Tap Test: Pass
Geotropism Check: Pass

Calibrated by:

CHL/MB

QA
Review:

[Signature]

Calibration Date: 01/02/2007
Expires: 01/02/2008

Atmospheric Conditions - Temperature: 76°F Humidity: 25% Barometric Pressure: 29.73"hg
This calibration was performed by RSCS Inc. using a NIST Traceable radiation source, in conformance to the following standards: ANSI N323A (1997), RSCS New Hampshire
Radioactive Material License Number: 381R. RSCS calibration services are performed in accordance with the RSCS Radiation Protection Program Manual and Standard Operating
Procedure 2.4. This calibration certificate shall not be reproduced except in full without the express written consent of RSCS, Inc



A Division of RSCS, Inc.

Customer: David J Durkee
Radcor, LLC.
345 Laurelwood Drive
Salem, CT 06420-

Calibration Certificate
ID Number: 1377517289-0

Instrument
Ludlum Model 2241-2

Serial Number
137751

Probe Model
Ludlum 43-68

Serial Number
140899

Precision Check				
Test 1	Test 2	Test 3	Mean	Results
15.90 Kcpm	16.00 Kcpm	15.90 Kcpm	15.93 Kcpm	Satisfactory

Accuracy Check			
Range	Target Value	As Found	As Left
X100	640 Kcpm	644 Kcpm #	644 Kcpm #
X100	160 Kcpm	165 Kcpm #	165 Kcpm #
X10	64 Kcpm	64 Kcpm #	64 Kcpm #
X10	16 Kcpm	15.9 Kcpm #	15.9 Kcpm #
X1	6.4 Kcpm	6.42 Kcpm #	6.42 Kcpm #
X1	1.6 Kcpm	1.6 Kcpm #	1.6 Kcpm #

Readings with * indicate ranges where As-Found readings are >20% of Target value. Readings with ** indicate As-left readings are >10% of Target value
Readings with # indicate ranges where pulser was used.

Probe Model & SN	Isotope	Efficiency	NIST Source ID	Geometry
43-68 140899	C-14	0.0707 C/D	C-14 (SN: 488-10-9)	On Flat Surface
43-68 140899	CI-36	0.1788 C/D	CI-36 (SN: 8933)	On Flat Surface

MTE Instrument Type	Model	CalDueDate
Pulser	Ludlum 500-4 SN: 66151	01/03/2007

Outer Physical Check: Pass	Tap Test: Pass
Internal Check: Pass	

Electronics Checks	As Found	As Left
High Voltage	1662 Volts	1662 Volts

Comments: Calibrated Using Det 2

Calibrated by:

QA
Review:

Calibration Date: 09/13/2006

Expires: 09/13/2007


Atmospheric Conditions - Temperature: 77°F Humidity: 36% Barometric Pressure: 25.70"hg

This calibration was performed by RSCS Inc. using a NIST Traceable radiation source, in conformance to the following standards: ANSI N323A (1997). RSCS New Hampshire
Radioactive Material License Number: 381R. RSCS calibration services are performed in accordance with the RSCS Radiation Protection Program Manual and Standard Operating
Procedure 2.4. This calibration certificate shall not be reproduced except in full without the express written consent of RSCS, Inc.

Appendix D

Survey Documentation

SURVEY FORM

Job Location: CORAGON CORPORATION Branford CT Page: 1 of 13
 Survey Purpose: DECOMMISSIONING 311 B Date: 7/2/07
 Performed By: DAVID BURKE 
 Print Signature

Inst. No. 1 (Model/SN) <u>PACKARD Hesse TR # 401915</u>	Inst. No. 2 (Model/SN) <u>LODUM model 2241-2 # 137757</u>	Inst. No. 3 (Model/SN) <u>BICRON yrem LE # 84664</u>
Detector (Model/SN) <u>INTERNAL</u>	Detector (Model/SN) <u>LODUM 43-68 # 140897</u>	Detector (Model/SN) <u>INTERNAL</u>
Efficiency: <u>40% 11-3/25% 0.770%</u>	Efficiency: <u>7.1 % C-14</u>	Efficiency: <u>100%</u>
Type Rad.: <u>B/g</u>	Type Rad.: <u>B</u>	Type Rad.: <u>g</u>
Bkgd.: <u>SEE #1 BELOW</u>	Bkgd.: <u>260 cpm</u>	Bkgd.: <u>4-5 yrem/L</u>
Cal. Due: <u>1/8/08</u>	Cal. Due: <u>9/13/07</u>	Cal. Due: <u>1/2/08</u>

Number	Time	Location	Inst. Used	Total Activity (dpm/100 cm ²)	Comments
1	0820	BACKGROUND	1	20cpm	
2		COUNTER	1	12	
3		COUNTER	1	20	
4		COUNTER	1	12	
5		SINK	1	0	
6		SINK DRAIN	1	0	
7		FAUCET	1	27	
8		UPPER WALL	1	1	
9		UPPER WALL	1	0	
10		UPPER WALL	1	6	
11		UPPER WALL	1	0	
12		UPPER WALL	1	0	
13		BOTTOM SHELF	1	5	
14		BOTTOM SHELF	1	4	
15		SHELF	1	3	
16		SHELF	1	0	
17		TOP SHELF	1	1	
18		TOP SHELF	1	0	
19		FRONT OF CABINET	1	13	
20		INSIDE CABINET	1	0	

Number	Time	Location	Inst. Used	Total Activity (dpm/100 cm ²)	Comments
21		FRONT OF CABINET	1	0	
22		INSIDE TOP SHELF	1	0	
23		INSIDE BOTTOM SHELF	1	7	
24		SIDE OF CABINET	1	0	
25		LOWER WALL	1	8	
26		LOWER WALL	1	5	
27		FLOOR	1	3	
28		FLOOR	1	0	
29		FLOOR	1	0	
30		FLOOR	1	0	
31		FLOOR	1	11	
32		FLOOR	1	11	
33		FLOOR	1	0	
34		FLOOR	1	1	
35		FLOOR	1	5	
36		FLOOR	1	0	
37		FLOOR	1	5	
38		FLOOR	1	0	
39		UPPER WALL	1	0	
40		LOWER WALL	1	9	
41		UPPER WALL	1	9	
42		LOWER WALL	1	0	
43		UPPER WALL	1	0	
44		LOWER WALL	1	0	
45		UPPER WALL	1	7	
46		LOWER WALL	1	3	
47		UPPER WALL	1	9	
48		LOWER WALL	1	0	

Number	Time	Location	Inst. Used	Total Activity (dpm/100 cm ²)	Comments
49		UPPER WALL	1	3	
50		LOWER WALL	1	0	
51		UPPER WALL	1	5	
52		LOWER WALL	1	0	
53		UPPER DOOR	1	0	
54		LOWER DOOR	1	15	
55		FLOOR	1	3	
56		FLOOR	1	5	
57		BIO SAFETY CABINET (BSC) Top Front	1	1	
58		BSC SLASH OUT	1	5	
59		BSC OUTSIDE RIGHT SIDE	1	0	
60		BSC OUTSIDE LEFT SIDE	1	1	
61		BSC OUTSIDE SIDES / BSC FRONT	1	4	
62		BSC COUNTER	1	0	
63		BSC LEFT SIDE	1	0	
64		BSC TOP	1	0	
65		BSC BACK	1	7	
66		BSC RIGHT SIDE	1	4	
67		BSC INSIDE SLASH	1	0	
68		WASTE HOSE	1	4	
69		COUNTER	1	4	
70		COUNTER	1	7	
71		COUNTER	1	11	
72		UPPER WALL	1	1	
73		UPPER WALL	1	0	
74		SIDE OF CABINET	1	7	
75		LOWER WALL	1	0	
76	↓	UPPER WALL	1	0	

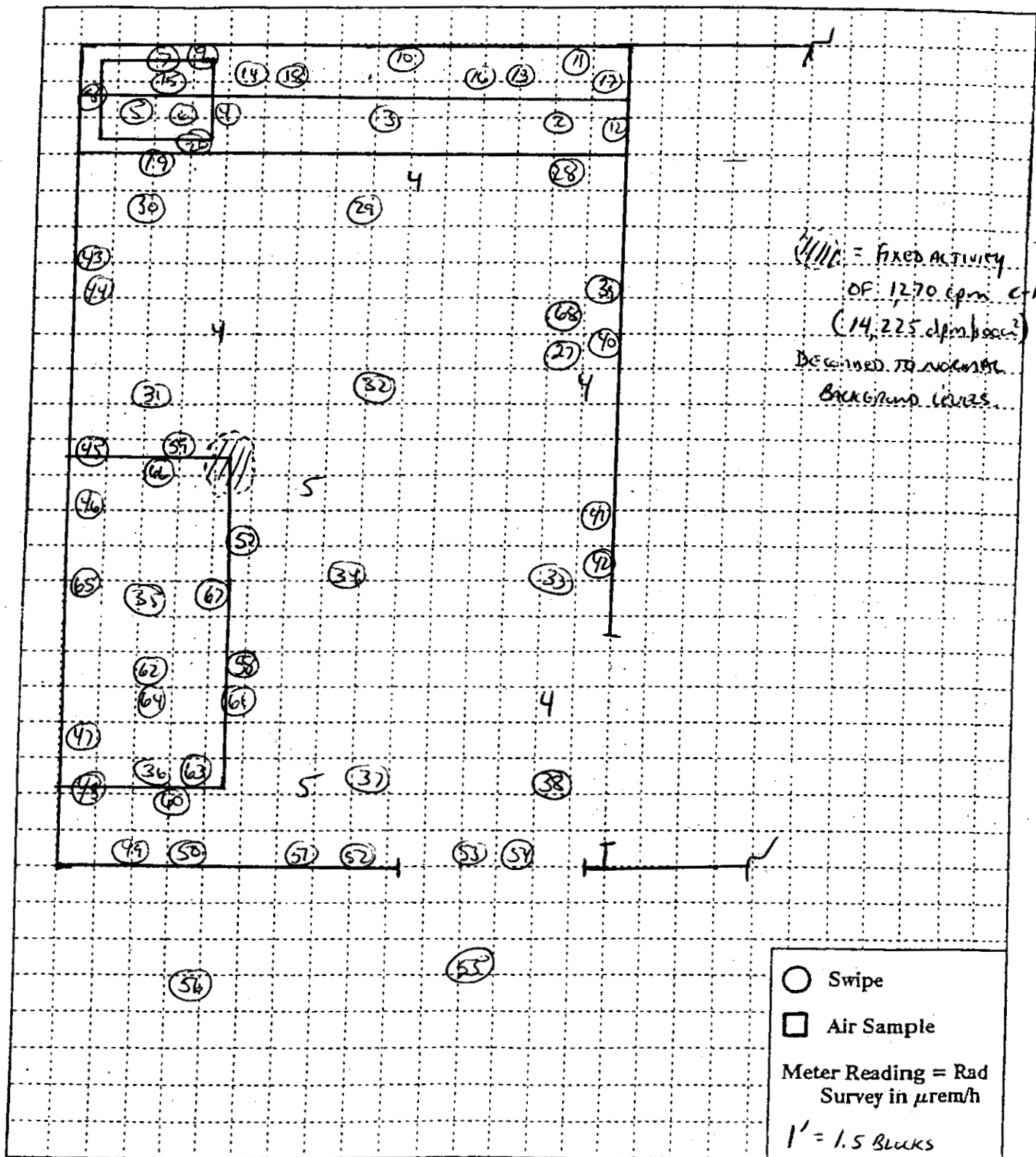
Number	Time	Location	Inst. Used	Total Activity (dpm/100 cm ²)	Comments
77		FRONT OF DRAWERS	1	0	
78		TOP DRAWER	1	0	
79		DRAWER	1	0	
80		DRAWER	1	0	
81		BOTTOM DRAWER	1	11	
82		SIDE OF CABINET	1	0	
83		LOWER WALL	1	1	
84		LOWER WALL	1	0	
85		LOWER WALL	1	9	
86		UPPER WALL	1	0	
87		UPPER WALL	1	5	
88		UPPER WALL	1	8	
89		LOWER WALL	1	5	
90		LOWER WALL	1	0	
91		FRONT OF DRAWERS	1	13	
92		TOP DRAWER	1	3	
93		DRAWER	1	15	
94		BOTTOM DRAWER	1	12	
95		SIDE OF CABINET	1	0	
96		SIDE OF CABINETS	1	1	
97		FRONT OF CABINET	1	7	
98		INSIDE CABINET TOP SHELF	1	0	
99		INSIDE CABINET BOT. SHELF	1	3	
100		UPPER FRONT HOOD	1	0	
101		SIDES FRONT HOOD	1	8	
102		OUTSIDE SASH	1	1	
103		HOOD LIP	1	5	
104	✓	OUTSIDE LEFT SIDE HOOD	1	9	

Number	Time	Location	Inst. Used	Total Activity (dpm/100 cm ²)	Comments
105		SIDE OF CABINET	1	4	
106		OUTSIDE HOOD RIGHT SIDE	1	0	
107		HOOD COUNTER	1	3	
108		INSIDE SASH	1	3	
109		LEFT SIDE (IN)	1	0	
110		BACK (IN)	1	4	
111		RIGHT SIDE (IN)	1	4	
112		HOOD FLOW PATH	1	0	
113		HOOD DUCT	1	0	
114		BOTTOM SHELF	1	5	
115		TOP SHELF	1	8	
116		UPPER WASH	1	5	
117		LOWER WASH	1	0	
118		UPPER WASH	1	0	
119		LOWER WASH	1	0	
120		UPPER WASH	1	11	
121		LOWER WASH	1	8	
122		UPPER DOOR	1	1	
123		LOWER DOOR	1	0	
124		UPPER WASH	1	0	
125		LOWER WASH	1	1	
126		TABLE TOP	1	0	
127		SHOE TABLE	1	0	
128		FLOOR	1	1	
129		FLOOR	1	9	
130		FLOOR	1	4	
131		FLOOR	1	1	
132	✓	FLOOR	1	0	

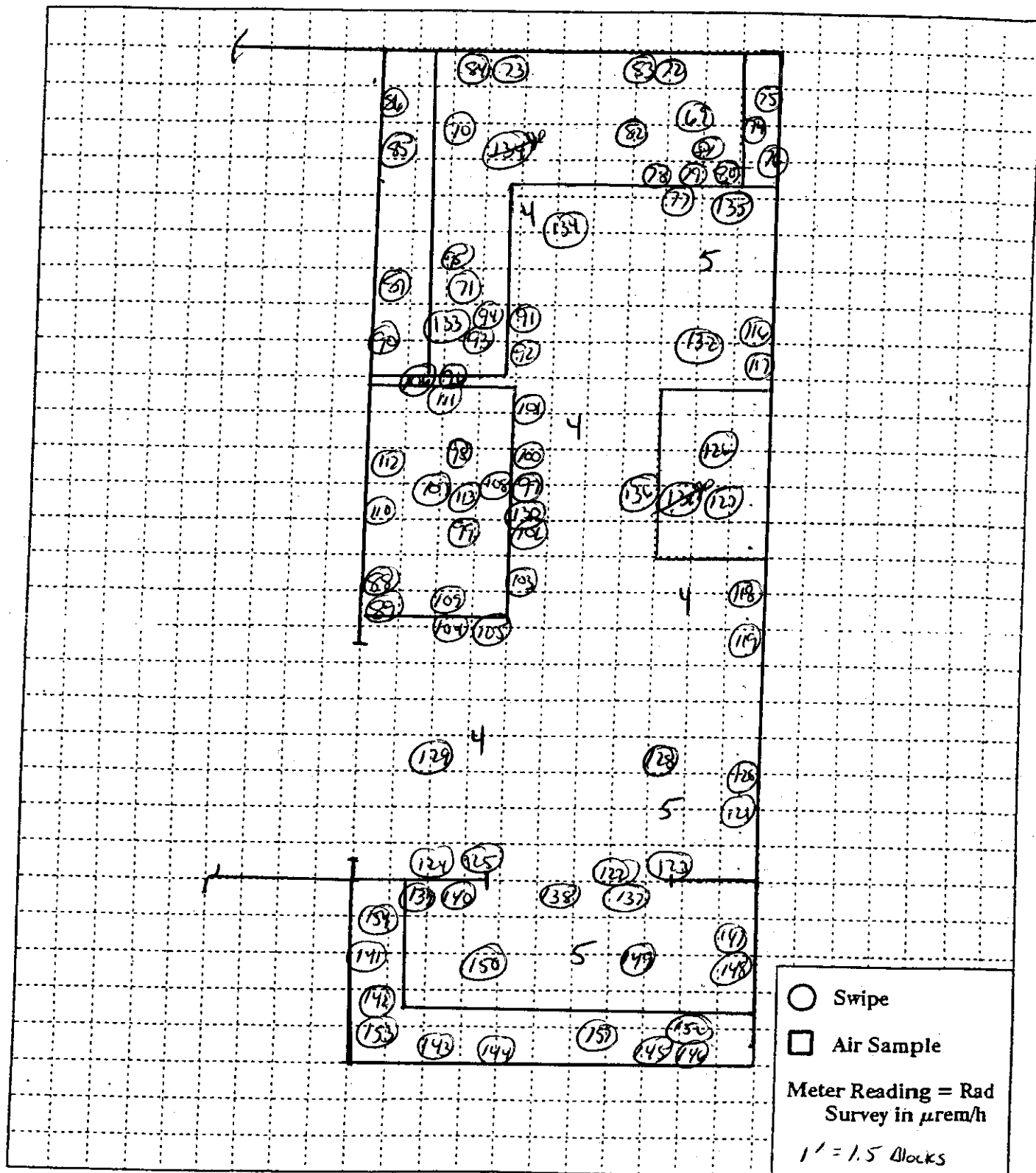
Number	Time	Location	Inst. Used	Total Activity (dpm/100 cm ²)	Comments
133		Floor	1	0	
134		Floor	1	4	
135		Floor	1	4	
136		Floor	1	5	
137		UPPER DOOR	1	7	
138		LOWER DOOR	1	7	
139		UPPER WALL	1	6	
140		LOWER WALL	1	0	
141		UPPER WALL	1	0	
142		LOWER WALL	1	0	
143		UPPER WALL	1	5	
144		LOWER WALL	1	7	
145		UPPER WALL	1	1	
146		LOWER WALL	1	0	
147		UPPER WALL	1	5	
148		LOWER WALL	1	5	
149		FLOOR	1	3	
150		FLOOR	1	0	
151		BOTTOM SHELF	1	0	
152		TOP SHELF	1	3	
153		TOP SHELF	1	1	
154		BOTTOM SHELF	1	0	
155	1000	POST DECNU FLOOR	1	4	
156			1		
157			1		
			1		
			1		
			1		

7/3/07

Job Location: CORAGEN CORPORATION Remford, CT Page: 7 of 13
 Survey Purpose: DECOMMISSIONING 311B Date: 7/2/07
 Performed By: DAVID DUKOE



Job Location: CORAGON CORPORATION BLANFORD, CT Page: 8 of 13
 Survey Purpose: DECOMMISSIONING 311 B Date: 7/2/07
 Performed By: DAVID DUKES



pr 1 of 13

Protocol #:10 Name:swipe 02-Jul-2007 15:19

Region A: LL-UL= 0.0-12.0 Lcr= 0 Bkg= 0.00 %2 Sigma=0.50

Region B: LL-UL=12.0-156. Lcr= 0 Bkg= 0.00 %2 Sigma=0.00

Region C: LL-UL= 0.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00

Time = 1.00 QIP = tSIE ES Terminator = Count

Conventional DPM

Nuclide 1 = 289524 Nuclide 2 = 129197

S#	TIME	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	FLAG
1	1.00	9	8.00	20.00	13.67	11.15	53.815	530.	
2	1.00	19	8.00	29.00	36.90	11.86	43.216	457.	
3	1.00	22	8.00	35.00	42.71	11.49	49.006	488.	
4	1.00	17	7.00	29.00	31.49	9.76	43.402	525.	
5	1.00	7	5.00	16.00	11.57	7.12	38.654	502.	
6	1.00	11	6.00	20.00	20.17	8.94	86.670	453.	
7	1.00	22	8.00	40.00	41.98	11.28	47.668	509.	
8	1.00	5	11.00	21.00	2.63	15.69	84.262	502.	
9	1.00	6	6.00	15.00	8.63	8.49	74.632	510.	
10	1.00	6	1.00	11.00	12.51	1.42	44.711	494.	
11	1.00	5	4.00	14.00	7.92	5.63	86.670	516.	
12	1.00	7	5.00	14.00	11.54	7.06	70.887	511.	
13	1.00	13	7.00	24.00	23.57	10.17	70.540	477.	
14	1.00	11	10.00	23.00	16.56	14.28	70.696	498.	
15	1.00	16	4.00	22.00	32.49	5.73	52.162	489.	
16	1.00	6	7.00	17.00	7.46	10.52	109.51	446.	
17	1.00	7	8.00	21.00	8.81	12.09	84.744	441.	
18	1.00	5	6.00	11.00	6.34	8.68	149.56	484.	
19	1.00	17	5.00	30.00	33.05	6.99	40.563	519.	
20	1.00	7	7.00	19.00	10.06	9.94	106.50	505.	
21	1.00	7	1.00	10.00	14.26	1.38	16.050	526.	
22	1.00	10	5.00	20.00	17.95	7.00	52.002	521.	
23	1.00	6	7.00	25.00	7.95	9.81	94.818	523.	
24	1.00	8	5.00	20.00	13.54	6.91	58.027	540.	
25	1.00	15	5.00	26.00	29.50	7.19	37.076	487.	
26	1.00	11	5.00	24.00	20.29	7.08	66.607	507.	
27	1.00	10	5.00	22.00	18.62	7.36	48.364	464.	
28	1.00	8	2.00	15.00	17.16	3.02	28.569	438.	
29	1.00	2	9.00	18.00	0.00	12.97	133.65	490.	
30	1.00	10	5.00	17.00	18.64	7.38	46.545	462.	
31	1.00	12	13.00	28.00	15.76	19.71	101.50	438.	
32	1.00	15	8.00	28.00	27.04	11.48	51.500	491.	
33	1.00	9	4.00	16.00	19.60	7.59	44.076	306.	
34	1.00	12	5.00	21.00	22.66	7.14	46.639	495.	
35	1.00	11	6.00	24.00	20.09	8.87	49.283	460.	
36	1.00	7	4.00	17.00	12.59	5.89	76.019	465.	
37	1.00	9	7.00	24.00	14.52	10.20	66.407	476.	
38	1.00	7	6.00	14.00	10.82	8.89	81.978	459.	
39	1.00	8	7.00	20.00	12.26	10.06	98.440	491.	
40	1.00	11	10.00	27.00	16.56	14.27	79.486	500.	
41	1.00	11	9.00	27.00	17.33	12.85	53.725	499.	
42	1.00	10	5.00	20.00	18.08	7.07	47.806	509.	
43	1.00	7	4.00	15.00	12.15	5.56	37.353	531.	
44	1.00	9	3.00	15.00	17.64	4.30	44.405	491.	
45	1.00	9	14.00	25.00	9.66	19.43	99.719	538.	
46	1.00	11	9.00	22.00	17.30	12.74	89.158	509.	
47	1.00	11	8.00	27.00	17.93	11.15	80.757	530.	
48	1.00	9	5.00	19.00	15.92	7.08	44.940	507.	

S#	TIME	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tsIE	FLAG
49	1.00	11	3.00	22.00	21.59	4.20	40.813	517.	
50	1.00	12	4.00	18.00	22.85	5.56	35.912	527.	
51	1.00	11	7.00	24.00	18.87	9.99	71.779	498.	
52	1.00	10	5.00	16.00	18.08	7.07	51.681	509.	
53	1.00	3	6.00	12.00	1.95	8.62	99.867	493.	
54	1.00	19	8.00	31.00	35.07	11.15	65.151	525.	
55	1.00	8	11.00	22.00	9.23	15.66	76.956	503.	
56	1.00	11	6.00	24.00	19.56	8.51	66.466	505.	
57	1.00	11	7.00	21.00	18.79	9.92	71.244	507.	
58	1.00	10	9.00	24.00	15.13	12.83	70.704	501.	
59	1.00	10	4.00	18.00	19.32	5.82	70.276	475.	
60	1.00	8	9.00	21.00	10.72	12.85	74.491	499.	
61	1.00	9	8.00	23.00	13.68	11.31	51.077	511.	
62	1.00	10	8.00	20.00	15.97	11.89	82.836	456.	
63	1.00	13	0.00	19.00	26.95	0.00	16.544	556.	
64	1.00	5	11.00	16.00	2.78	15.58	101.42	510.	
65	1.00	11	9.00	25.00	17.31	12.78	70.861	505.	
66	1.00	7	9.00	23.00	8.53	12.84	112.85	501.	
67	1.00	9	4.00	18.00	16.54	5.61	40.989	518.	
68	1.00	16	4.00	23.00	39.28	6.98	28.970	344.	
69	1.00	9	7.00	23.00	14.49	10.09	75.937	487.	
70	1.00	9	11.00	25.00	11.14	16.06	59.465	474.	
71	1.00	15	11.00	28.00	24.87	16.35	79.756	456.	
72	1.00	6	9.00	21.00	6.27	12.90	116.31	495.	
73	1.00	12	3.00	17.00	23.43	4.14	44.084	533.	
74	1.00	15	8.00	25.00	26.55	11.19	70.760	523.	
75	1.00	9	7.00	19.00	14.55	10.39	81.052	457.	
76	1.00	7	6.00	16.00	10.83	8.76	63.397	474.	
77	1.00	10	4.00	18.00	18.82	5.65	64.888	509.	
78	1.00	11	4.00	17.00	21.00	5.65	38.520	508.	
79	1.00	6	4.00	19.00	10.06	5.60	30.816	523.	
80	1.00	10	6.00	17.00	17.34	8.49	51.260	509.	
81	1.00	12	10.00	28.00	18.74	14.16	88.348	509.	
82	1.00	13	4.00	20.00	25.07	5.57	40.691	523.	
83	1.00	7	6.00	21.00	10.83	8.67	60.990	484.	
84	1.00	7	6.00	17.00	10.82	8.80	67.657	469.	
85	1.00	6	11.00	27.00	4.90	15.63	101.40	506.	
86	1.00	6	6.00	19.00	8.63	8.52	150.07	506.	
87	1.00	9	8.00	24.00	13.65	11.84	56.269	460.	
88	1.00	16	4.00	26.00	31.73	5.60	42.211	514.	
89	1.00	12	10.00	24.00	18.77	14.30	84.683	496.	
90	1.00	12	4.00	18.00	23.11	5.63	37.417	512.	
91	1.00	9	13.00	30.00	9.92	18.50	86.816	504.	
92	1.00	12	7.00	22.00	20.85	9.82	126.80	519.	
93	1.00	16	8.00	31.00	28.75	11.21	49.554	519.	
94	1.00	17	2.00	29.00	35.39	2.77	21.372	513.	
95	1.00	10	4.00	19.00	18.59	5.57	36.227	526.	
96	1.00	8	8.00	21.00	11.54	11.19	55.373	526.	
97	1.00	8	14.00	25.00	7.05	19.88	83.168	507.	
98	1.00	7	8.00	17.00	9.36	11.28	103.58	515.	
99	1.00	9	5.00	22.00	16.02	7.15	28.087	496.	
100	1.00	7	8.00	17.00	9.40	11.18	81.213	527.	
101	1.00	11	11.00	26.00	15.83	15.54	102.79	512.	
102	1.00	11	6.00	21.00	19.71	8.61	54.192	492.	
103	1.00	9	9.00	24.00	12.80	13.21	91.931	468.	
104	1.00	14	9.00	27.00	24.09	13.01	67.340	484.	

S#	TIME	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	FLAG
105	1.00	12	8.00	23.00	20.16	11.25	45.020	517.	
106	1.00	9	5.00	17.00	15.97	7.11	36.342	501.	
107	1.00	14	5.00	22.00	28.40	7.53	41.284	443.	
108	1.00	8	10.00	22.00	10.11	14.04	125.64	521.	
109	1.00	3	8.00	18.00	0.41	11.47	104.03	495.	
110	1.00	12	9.00	23.00	19.48	12.73	48.838	509.	
111	1.00	10	8.00	23.00	15.86	11.32	54.927	510.	
112	1.00	5	4.00	11.00	7.96	6.19	74.722	420.	
113	1.00	7	5.00	19.00	11.80	7.99	56.443	397.	
114	1.00	12	7.00	24.00	21.09	10.00	92.921	497.	
115	1.00	15	9.00	26.00	26.03	12.75	83.126	507.	
116	1.00	9	7.00	24.00	14.50	10.11	66.307	485.	
117	1.00	8	5.00	15.00	13.90	7.24	42.347	482.	
118	1.00	8	7.00	19.00	12.22	10.42	61.632	454.	
119	1.00	11	6.00	19.00	19.39	8.40	41.258	521.	
120	1.00	11	11.00	28.00	15.14	16.99	55.081	423.	
121	1.00	10	7.00	26.00	16.67	10.00	44.846	498.	
122	1.00	7	9.00	21.00	8.57	12.78	81.855	506.	
123	1.00	3	4.00	10.00	3.58	5.67	93.319	508.	
124	1.00	11	3.00	17.00	21.83	4.24	44.711	504.	
125	1.00	6	11.00	21.00	4.63	15.84	63.634	490.	
126	1.00	5	7.00	14.00	5.71	9.93	72.760	507.	
127	1.00	7	5.00	19.00	11.49	6.99	87.473	524.	
128	1.00	13	7.00	21.00	24.05	10.53	31.137	444.	
129	1.00	12	10.00	27.00	18.80	14.83	71.277	458.	
130	1.00	10	6.00	23.00	18.05	9.22	66.407	427.	
131	1.00	8	7.00	21.00	12.19	10.53	62.916	445.	
132	1.00	9	5.00	20.00	16.20	7.28	39.666	476.	
133	1.00	11	3.00	20.00	23.03	4.48	33.476	450.	
134	1.00	14	7.00	23.00	26.12	10.34	59.003	461.	
135	1.00	11	7.00	23.00	19.55	11.01	57.067	409.	
136	1.00	13	6.00	24.00	23.57	8.34	64.791	529.	
137	1.00	11	9.00	25.00	17.27	12.62	58.033	521.	
138	1.00	17	5.00	25.00	32.64	6.90	54.205	534.	
139	1.00	3	4.00	11.00	3.52	5.73	52.506	495.	
140	1.00	4	8.00	20.00	2.93	11.24	84.664	521.	
141	1.00	8	5.00	17.00	13.70	7.05	98.399	512.	
142	1.00	9	6.00	19.00	15.10	8.42	54.035	520.	
143	1.00	10	10.00	24.00	14.34	14.35	116.36	493.	
144	1.00	16	7.00	25.00	29.74	9.92	85.357	505.	
145	1.00	12	6.00	21.00	21.82	8.54	49.666	500.	
146	1.00	12	6.00	20.00	21.59	8.43	51.806	517.	
147	1.00	15	4.00	24.00	29.81	5.65	30.073	505.	
148	1.00	13	8.00	24.00	22.77	11.67	37.909	474.	
149	1.00	13	6.00	22.00	24.56	8.79	73.408	469.	
150	1.00	7	2.00	19.00	13.78	2.82	72.582	507.	
151	1.00	5	9.00	18.00	4.04	12.92	60.990	494.	
152	1.00	6	15.00	22.00	1.50	21.57	96.147	492.	
153	1.00	6	11.00	21.00	4.99	15.56	101.12	512.	
154	1.00	11	7.00	20.00	18.59	9.72	67.767	533.	

SYSTEM NORMALIZED

C14 IPA DATA PROCESSED - 03-Jul-2007 08:29

C14 Eff (0-156 keV) = 95.81 %

Protocol #:10 Name:swipe 03-Jul-2007 11:05
 Region A: LL-UL= 0.0-12.0 Lcr= 0 Bkg= 0.00 %2 Sigma=0.50
 Region B: LL-UL=12.0-156. Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
 Region C: LL-UL= 0.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
 Time = 1.00 QIP = tSIE ES Terminator = Count
 Conventional DPM
 Nuclide 1 = 289524 Nuclide 2 = 129187

S#	TIME	CPMA	CPMB	CPMC	DPM1	DPM2	SIS	tSIE	FLAG
155 <i>X</i>	1.00	4	10.00	23.00	4.08	11.81	90.453	915.	E

140908

Walden
Canaan
372
Brewster

0390 02.790 PB8546577
9233 MAILED FROM BRANFORD CT 06405
AUG 02 07

Licensing Assistant Section
Nuclear Materials Safety Branch
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

RE: License Termination (License No. 06-30667-02)

This is to acknowledge the receipt of your letter/application dated

7/31/2007, and to inform you that the initial processing which includes an administrative review has been performed.

☒ TERM. 06-30667-02
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 140908.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.