

# DIANON Systems

A LabCorp Company

One Forest Parkway  
Shelton, CT 06484  
Telephone: 800-328-2666

February 24, 2009

Br Z

U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Pmssia, PA 19406-1415

ATTN: Licensing Section

RE: Request for Amendment  
License 06-23655-01 (Current Amendment No. 14)  
Docket No. 030-~~33023~~

29575 *map*

Dear Sir or Madame:

This is an application for amendment of the above license.

## Change #1

Please discontinue use of licensed material at 200 Watson Blvd. Stratford CT.

This facility has been closed. Attached is the Decommissioning report for 200 Watson Blvd. Stratford, CT.

The address of the licensee is now 1 Forest Parkway Shelton, CT

## Change #2

Please remove the use of Phosphorus 32; this isotope is no longer used in any of our testing.

## Change #3

Please increase the millicuries of Iodine 125, which can be on site to 100 millicuries.

## Change #4

Please remove the Following users: Melanie Ordner; Valerie Palmierie; Mathews Plamkoodan and Mark Rabin.

Please add the following users:

Patrick Carpenter; Danny Jean Lavoie; William Kindley; Michele Christides;

Please contact me immediately if you need clarification or additional information.

Sincerely,



Donna Purgatore - RSO  
800- 328-2666 ext. 7222  
fax: 203-926-7489  
Purgatd@labcorp.com

RECEIVED  
REGULATORY  
2009 FEB 25 AM 10:48

143445

NUREG-1500-002

**FINAL RADIOLOGICAL STATUS REPORT  
DIANON SYSTEMS,  
LABCORP OF AMERICA (PORTIONS)  
RADIOIMMUNOASSAY LAB**

Surveys performed  
12 December 2008

*Prepared for*  
Dianon Systems, LabCorp of America

Report date  
23 January 2009

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2009 FEB 25 AM 10:48



## 1.0 INTRODUCTION

Dianon Systems is a medical laboratory. As one of their services they perform radio-immunoassays utilizing the isotope Iodine 125. The area to be surveyed was used for sample preparation, analysis, storage of unopened tests kits, storage of radioactive waste and down-sink disposal of liquid sources. No other licensed radioactive materials were used at this facility. The company is moving its laboratories to another location and this survey is being performed to close out its present location.

## 2.0 SITE DESCRIPTION

The Dianon facility is located at 200 Watson Blvd., Stratford, CT. The affected areas represent only a small portion of the current facility. A radioactive materials survey is being carried out to verify the absence of residual radioactive materials from licensed activities.

Survey Unit	Location	MARSSIM Class	Area
A	Laboratory bench, shelves, cabinets and sink	1	30m <sup>2</sup>
A	Radioactive materials waste storage room	1	7 m <sup>2</sup>
A	Radioactive materials storage shelf in a walk-in cooler	1	1 m <sup>2</sup>

Dianon is only licensed for the possession and use of I-125 in the form of RIA test kits and liquid sources. The isotopes of interest were used and stored only in the affected areas. No routine survey records were available at the time of the survey. The RSO did state that there was no history of reported spills. I-125 was transported through other areas of the lab in the form of unopened RIA Test kits with no potential for spillage or contamination.

This final status survey is being conducted under the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) guidance for final status radiological surveys for demonstrating compliance with dose or risk-based regulations or standards.

## 3.0 SUMMARY OF INVESTIGATIONS

A radiological survey of the facility was performed on 12 December 2008. Based upon the history of radioactive materials use and advice from the RSO, the areas surveyed were classified as MARSSIM Class 1. The total surface area of the class 1 survey unit was 40 m<sup>3</sup>. This survey unit encompassed the laboratory bench and instrumentation where RIA analyses were performed and down-sink disposal was carried out, the radioactive waste room and the radioactive materials storage shelf in the cooler.

## 4.0 OBJECTIVES

The objective of the final status survey plan is to detail the survey and sampling methodologies that will be used in the final radiological status survey to demonstrate the effectiveness of decontamination efforts and that residual radioactivity levels meet the release criteria.

## 5.0 DERIVED CONCENTRATION GUIDELINE LEVELS (DCGLs)

Remediation goals for the final status survey will be to achieve the derived concentration guidelines (DCGLs) established for the area. The DCGLs established for this survey are 5000 dpm/100cm<sup>2</sup> total beta/gamma due to I-125 and 100 dpm/100 cm<sup>2</sup> removable beta/gamma due to I-125. All beta/gamma emissions will be considered to be due to I-125.

## 6.0 DATA QUALITY OBJECTIVES

As part of the DQO process the objective of the survey and the null and alternate hypotheses should be clearly stated. In demonstrating that this objective is met, the null hypothesis,  $H_0$ , tested is that residual contamination exceeds the release criterion; the alternative hypothesis,  $H_a$ , is that residual contamination meets the release criterion.

Since the beta/gamma emitting contaminants that are present in the facility are not presumed present in background, the Sign test is used to determine the number of data points needed for statistical tests. The acceptable decision error rates were determined during the DQO process to reflect the anticipated difficulty of measuring residual thorium alpha radioactivity at near-background levels. The Type I error ( $\alpha$ ) was specified as 0.05 and Type II decision error ( $\beta$ ) was set at 0.05.

The shift,  $A$ , also referred to as the lower bound of the gray region (LBGR), was set as 50% of the DCGL

The square roots of the DCGLs were taken as the standard deviation values used for calculation of the sample sizes. These data are summarized in the following table.

	NRC DCGL (dpm/100 cm <sup>2</sup> )	Site Specific DCGL (dpm/100 cm <sup>2</sup> )	A (dpm/100 cm <sup>2</sup> )	$\sigma$ (dpm/100 cm <sup>2</sup> )	$\Delta/\sigma$	Number of Samples required per survey unit as per WRS Test
<sup>125</sup> I Wipe	NIA	500	250	22	11.36	14
<sup>125</sup> I Direct	N/A	5000	2500	71	35.21	14



Direct surveys for total contamination were performed using a Ludlum model 2224 counter/scaler with a Ludlum model 44-17 low-energy gamma scintillator. A background time of 10 minutes and a sample time of 2 minutes were used to achieve the required detection limit. See Attachment B. A general scan was performed with a Ludlum model 3 with a 44-3 low-energy gamma scintillator. See Attachment A. The floor of the facility was linoleum over concrete so a separate background was obtained for floors and countertops.

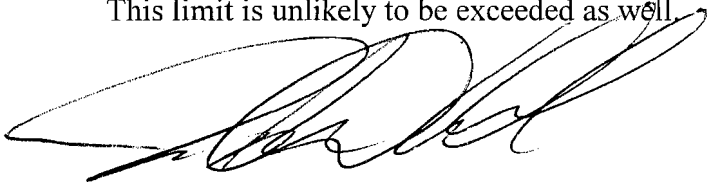
Wipes were counted on an ICN Apex Series 10/600+, Model 28119 using a background count time of 10 minutes and a sample count time of 1 minute. Each wipe was taken over an area of  $100\text{cm}^2$  in order to achieve the desired detection limit (Attachment B).

Calculations of the LLD and MDA are shown in Attachment C.

## 7.0 Conclusions

Results for the analysis of total contamination (DCGL  $5000\text{ dpm}/100\text{cm}^2$ ) and removable contamination (DCGL  $500\text{ dpm}/100\text{cm}^2$ ) are presented in Attachment D. No single measurement exceeds either the DCGL for total or removable contamination. In addition, a gamma scan of the affected area and the un-affected areas between the lab and storage rooms revealed no audible evidence of contamination.

Based upon the results of this final status survey, the average member of the critical group is unlikely to receive an annual dose of more than 25 mrem resulting from licensed radioactive material remaining at this facility. The State of Connecticut annual dose limit is 19 mrem/yr. This limit is unlikely to be exceeded as well.



Jay R. Dockendorff  
Health Physicist

## **LIST OF ATTACHMENTS**

- A** Instrumentation used during radiological surveys, and calibration certificates for these instruments
- B** MDA Calculations
- C** Maps of the Class 1 areas
- D** Survey results



# **ATTACHMENT A**

## **Instrumentation**



**Table 1. Instrumentation for Radiological Surveys**

Type of Measurement	Instrumentation		Gamma Bkgd. <sup>a</sup>	4 $\pi$ Eff. (%)	Detection Sensitivity
	Detector	Instrument			
Surface scans and activity; alpha	Ludlum, Model 44-17 Low Energy gamma scintillator	Scaler/Count-rate meter <sup>b</sup> , Ludlum, Model 2224	2845 cpm countertop 3459 cpm floor	18.6% ( <sup>125</sup> I)	4151 dpm/100 cm <sup>2</sup> (activity) 4572 dpm/100 cm <sup>2</sup> (activity)
General gamma scan	Ludlum, Model 44-3 Low Energy gamma scintillator	Count-rate meter <sup>b</sup> , Ludlum, Model 3	500 cpm countertop	15.02% ( <sup>125</sup> I)	7078 dpm/detector

<sup>a</sup>Nominal Values





# CERTIFICATE OF CALIBRATION (COUNT-RATE INSTRUMENT)



**RSA Laboratories, Inc.**

21 Pendleton Drive, P.O. Box 61  
Hebron, Connecticut 06248  
(860) 228-0721 Fax (860) 228-4402

Customer and Contact: **Radiation Safety Associates, Inc., Attn: K. Paul Steinmeyer (860) 228-0487**

Customer Address: **19 Pendleton Drive, Hebron, CT 06248**

Inst. Mfr. & Model **Ludlum Model 3**

Inst. Type **Survey Meter**

Inst. s/n **62978**

Det. Mfr. & Model **Ludlum 44-3**

Det. Type **Low-Energy Gamma**

Det. s/n **017111**

Cal. Date **20 December 2007**

Due Date **20 December 2008**

Cal. Interval **1 year**

Environmental conditions: Temperature: **70°F** Relative Humidity **31%** Atmospheric Pressure **29.76** inches Hg

Pre-calibration Checks:

☒ Contamination survey

☐ Banery check

☒ Slow response check

☒ Mechanical check

☐ Audio check

☐ Window operation

☐ Det. volts **800** Vdc

☒ Meter zero

☒ Reset check

☐ Plateau check

☒ Geotropism check

☒ Fast response check

☐ Alami set

☒ Input sens. **32** mV

☒ Pulse generator s/n 94926

☐ Oscilloscope s/n 171-04928

☐ Voltmeter s/n 57410002

☐ HV Readout

Comments:

SIN of source used for precision check **NES-186S** Isotope **I-129** Dedicated Source? ☐ Yes ☒ No

Reading #1 **20,000 cpm**

Reading #2 **20,000 cpm**

Reading #3 **20,000 cpm**

Mean **20,000 cpm**

Precision: ☒  $\pm 10\%$  ☐  $\pm 10-20\%$  ☐ Out of tolerance

Range Multiplier	Reference Calibration Point	Instrument Indication
x 100	400,000 cpm	400,000 cpm
x 100	100,000 cpm	100,000 cpm
x 10	40,000 cpm	40,000 cpm
x 10	10,000 cpm	10,000 cpm
x 1	4,000 cpm	4,000 cpm
x 1	1,000 cpm	1,000 cpm
x 0.1	400 cpm	400 cpm
x 0.1	100 cpm	100 cpm

All ranges calibrated electronically

Local background (cpm)  $\approx$  **500**

Range Multiplier	Cal. Source Used (isotope and SIN)	Source Activity (dpm)	Instrument Reading (cpm)	4 $\pi$ Instrument Efficiency (%)
x 10	I-129 NES-186S-081693	166,500	20,000	11.71
x 10	I-125 NES-186S-081693	129,870	20,000	15.02
x 1	I-129 NES-211S-031893 in Neck Phantom	175,380	4,000	2.00
x 1	I-125 NES-211S-031893 in Neck Phantom	130,980	4,000	2.67

RSA Laboratories ID# **11600**. Instrument indicates within  $\pm 10\%$  of calibration points unless otherwise indicated. Source-to-detector entry window distance for efficiency determinations is 1 cm unless otherwise specified. RSA Laboratories, Inc. certifies that the above instrument has been calibrated with standards traceable to the National Institute of Standards and Technology, or have been derived from accepted values of natural physical constants, or have been derived by the ratio-type of calibration techniques.

Calibrated by: **Kurt D. Newton**

Date: **20 December 2007**

# CERTIFICATE OF CALIBRATION (COUNTER/SCALER)



**RSA Laboratories, Inc.**

19 Pendleton Drive, P.O. Box 61  
Hebron, Connecticut 06248  
(860) 228-0721 Fax (860) 228-4402

Customer and Contact: **Radiation Safety Associates, Inc. Attn: K. Paul Steinmeyer (860) 228-0487**

Customer Address: **P.O. Box 107, 19 Pendleton Drive, Hebron, CT 06248**

Inst. Mfr. & Model **Ludlum Model 2224**

Inst. Type **Scaler Ratemeter**

Inst. s/n **119815**

Det. Mfr. & Model **Ludlum Model 44-17**

Det. Type **Low-energy gamma**

Det. s/n **165826**

Cal. Date **11 December 2008**

Due Date **11 December 2009**

Cal. Interval **1 year**

Environmental conditions: Temperature: **68°F** Relative Humidity **37%** Atmospheric Pressure **29.64** inches Hg

Pre-calibration Checks:

☐ Contamination survey

☐ Battery check

☐ Slow response check

☐ Det. volts **740 Vdc**

☐ Mechanical check

☐ Audio check

☐ Window operation

☐ Meter zero

☐ Reset check

☒ Plateau check

☐ Geotropism check

☐ Fast response check

☐ Alarm set

☐ Input sens. 'See comments

☒ Pulse generator s/n 94926

☐ Oscilloscope s/n 171-04928

☒ Voltmeter s/n 57410002

☒ HV Readout (2 points) Ref./Inst. **500 V/500 V** Ref./Inst. **1500 V/ 1500 V**

Comments: 'Alpha threshold = 130 mV; Beta threshold = 4 mV; Beta window = 4 mV to 130 mV. Local background  $\approx$  3040 cpm  $\beta$ .

Instrument used in beta mode only.

SIN of source used for precision check **186S-081693** Isotope **I-129**

Dedicated Source? ☐ Yes ☒ No

Reading #1 **27,279 cpm**

Reading #2 **27,156 cpm**

Reading #3 **27,165 cpm**

Mean **27,200 cpm**

Precision: ☒  $\pm 10\%$  ☐  $\pm 10-20\%$  ☐ Out of tolerance

Range Multiplier	Reference Calibration Point	Instrument Indication
x 1000	400,000 cpm	400,000 cpm
x 1000	100,000 cpm	100,000 cpm
x 100	40,000 cpm	40,000 cpm
x 100	10,000 cpm	10,000 cpm
x 10	4,000 cpm	4,000 cpm
x 10	1,000 cpm	1,000 cpm
x 1	400 cpm	400 cpm
x 1	100 cpm	100 cpm
1 min. count	400,000 cpm	400,005 counts

All ranges calibrated electronically.

Range Multiplier	Cal. Source Used (isotope and S/N)	Source Activity (dpm)	Instrument Reading (cpm)	Instrument Efficiency (%)
1 min. count	I-129 #NES-186S-081693	166,500	27,200	14.5%
1 min. count	I-125 (mock) #NES-186S-081693	129,870	27,200	18.6%

RSA Laboratories ID# **12373**. Instrument indicates within  $\pm 10\%$  of calibration points unless otherwise indicated. Source-to-detector entry window distance for efficiency determinations is 1 cm unless otherwise specified. RSA Laboratories, Inc. certifies that the above instrument has been calibrated with standards traceable to the National Institute of Standards and Technology, or have been derived from accepted values of natural physical constants or have been derived by the ratio-type of calibration techniques.

Calibrated by: **Kurt D. Newton**

Date: **11 December 2008**

# **ATTACHMENT B**

## **MINIMUM DETECTABLE ACTIVITY**



## ATTACHMENT B

*Minimum Detectable Activities have been calculated using RadCalc Version 1.1.*

For Ludlum Model 2224 with a 44-17 probe:

### DETECTION LIMITS--SURFACE CONTAMINATION FLOORS

#### INPUT DATA:

Background Count = 3459 cpm

Background Counting Time = 20 minutes

Sample Counting Time = 2 minutes

Detector Efficiency = 18.6 (1-125) %

Detector Area = 17.8 cm<sup>2</sup>

#### RESULTS:

Critical Level (Lc) = 71.75 cpm above bkgd.

Detection Limit (Ld) = 145 cpm above bkgd.

Minimum Detectable Activity (MDA) = 4380 dpm/100 cm<sup>2</sup>

Minimum Detectable Activity (MDA) = 12.99 Bq/detector

Minimum Detectable Activity (MDA) = 0.7299 Bq/1.0 cm<sup>2</sup>

All values calculated to 95% CL via MARSSIM methods



*Minimum Detectable Activities have been calculated using RadCalc Version 1.1*

For Ludlum Model 2224 with a 44-17 probe:

DETECTION LIMITS--SURFACE CONTAMINATION COUNTERTOPS

INPUT DATA:

Background Count = 2845 cpm

Background Counting Time = 20 minutes

Sample Counting Time = 2 minutes

Detector Efficiency = 18.6 (1-125) %

Detector Area = 17.8 cm<sup>2</sup>

RESULTS:

Critical Level (Lc) = 65.07 cpm above bkgd.

Detection Limit (Ld) = 131.6 pm above bkgd.

Minimum Detectable Activity (MDA) = 3976 dpm/100 cm<sup>2</sup>

Minimum Detectable Activity (MDA) = 11.8 Bq/detector

Minimum Detectable Activity (MDA) = 0.6627 Bq/1.0 cm<sup>2</sup>

All values calculated to 95% CL via MARSSIM methods



# Minimum Detectable Activity Calculation for Wipes

$$\text{MDA}_{\text{wipe}} = \frac{k_1^2 + 2 k_1 \sqrt{R_b t_s \left(1 + \frac{t_s}{t_b}\right)}}{(t_s) (E) \left(\frac{A}{100}\right) (C)}$$

where:

$k_1$  = one-sided confidence level factor for the chosen confidence level (95% = 1.645).

(The MARSSIM method sets the  $k_1^2$  term = 3.)

$R_b$  = background count rate in cpm (= varied by detector)

$t_s$  = sample count time in minutes (= 1 minute in this case)

$t_b$  = background count time in minutes (= 10 minutes in this case)

$E$  = detector efficiency in counts per disintegration (= 50% or 0.5 in this case)

$\frac{A}{100}$  accounts for the area covered by the wipe sample. ( $A = 100 \text{ cm}^2$ )

$C$  = conversion factor from dpm to other desired activity unit, if applicable.

In this case,  $C = 1$ . Answer is in dpm/100  $\text{cm}^2$ .

Shown here is the specific MARSSIM MDA calculation for one of the wipe samples reported in Item 7 (below).

$$\frac{3 + 3.29 \sqrt{(29) (1) \left(1 + \left(\frac{1}{10}\right)\right)}}{(1) (.5) (1)}$$

$$\frac{3 + 3.29 \sqrt{31.9}}{0.5} = \frac{21.58}{0.5} = 43$$



# **ATTACHMENT C**

## **Survey Area Maps**



# RADIATION SAFETY ASSOCIATES

19 Pendleton Drive

Hebron, CT 06248

(860) 228-0487

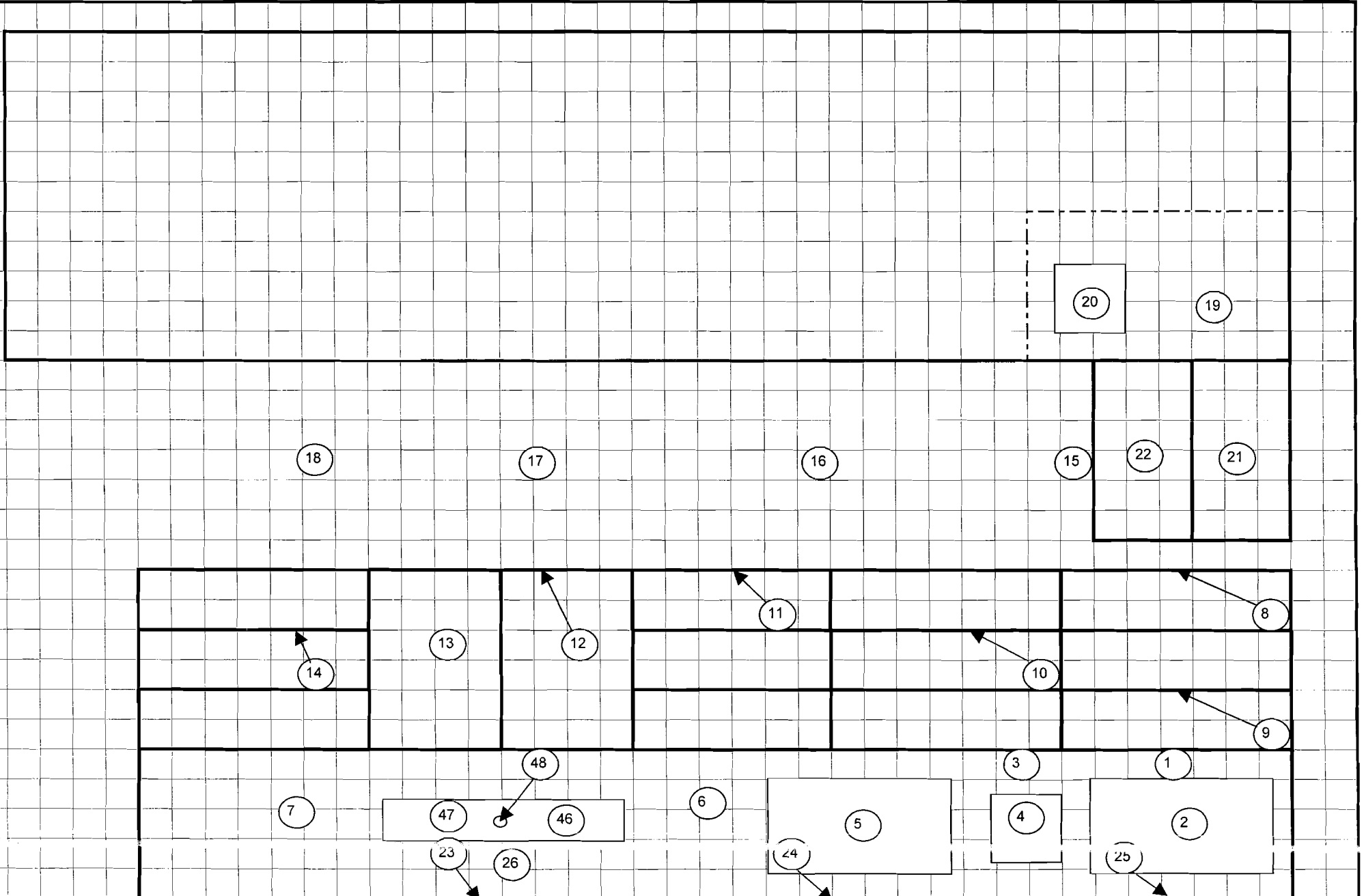
Job Dianon Systems, LabCorp of America Final Status Survey

Sheet No. \_\_\_\_\_ of \_\_\_\_\_

Calculated by \_\_\_\_\_ Date 12-Dec-08

Checked By \_\_\_\_\_ Date \_\_\_\_\_

Scale \_\_\_\_\_ Wipe Survey





# RADIATION SAFETY ASSOCIATES

19 Pendleton Drive

Hebron, CT 06248

(860) 228-0487

Job Dianon Systems, LabCorp of America Final Status Survey

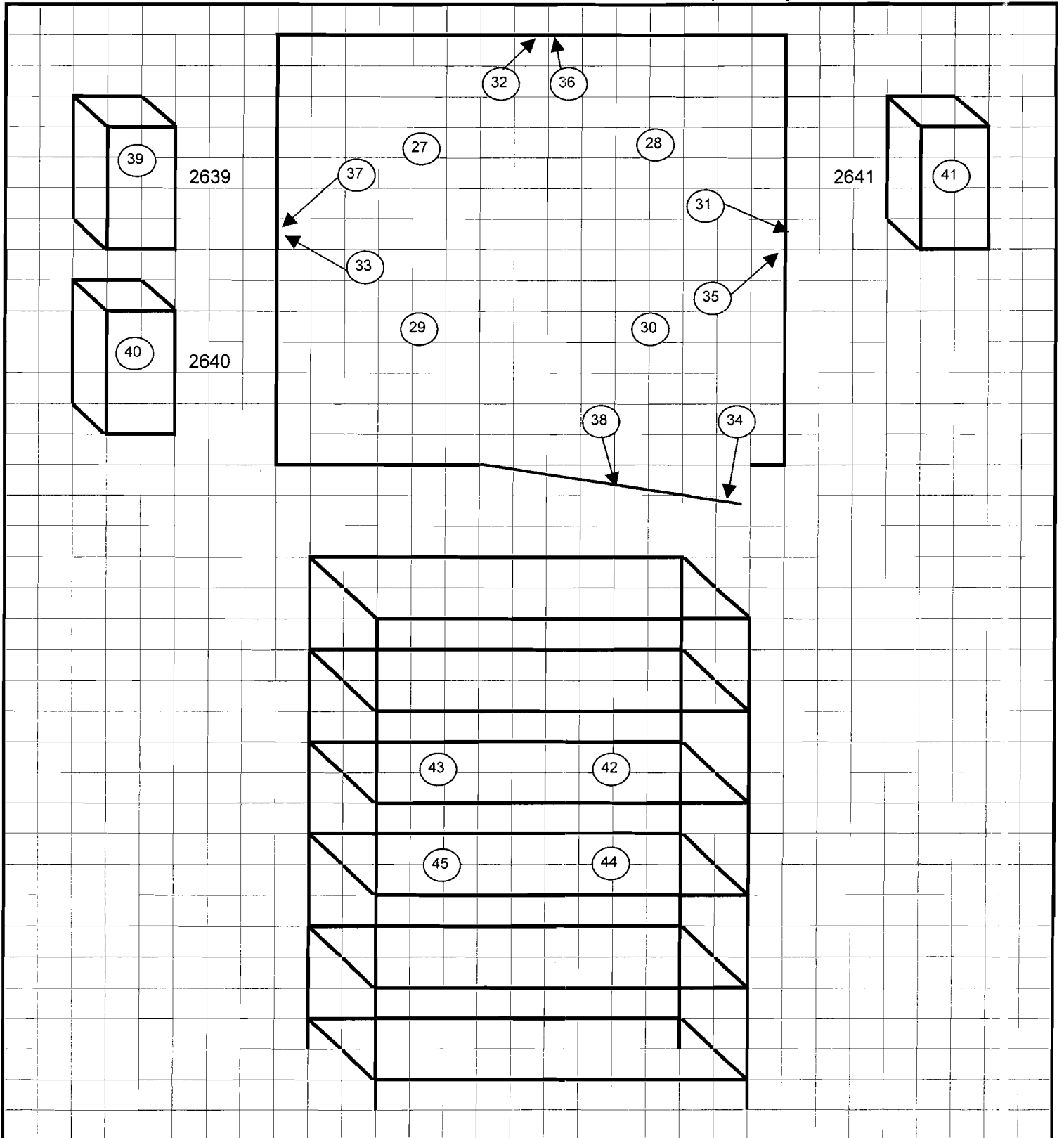
Sheet No. \_\_\_\_\_ of \_\_\_\_\_

Calculated by \_\_\_\_\_ Date 12-Dec-08

Checked By \_\_\_\_\_ Date \_\_\_\_\_

Scale \_\_\_\_\_

Wipe Survey



# RADIATION SAFETY ASSOCIATES

19 Pendleton Drive

Hebron, CT 06248

(860) 228-0487

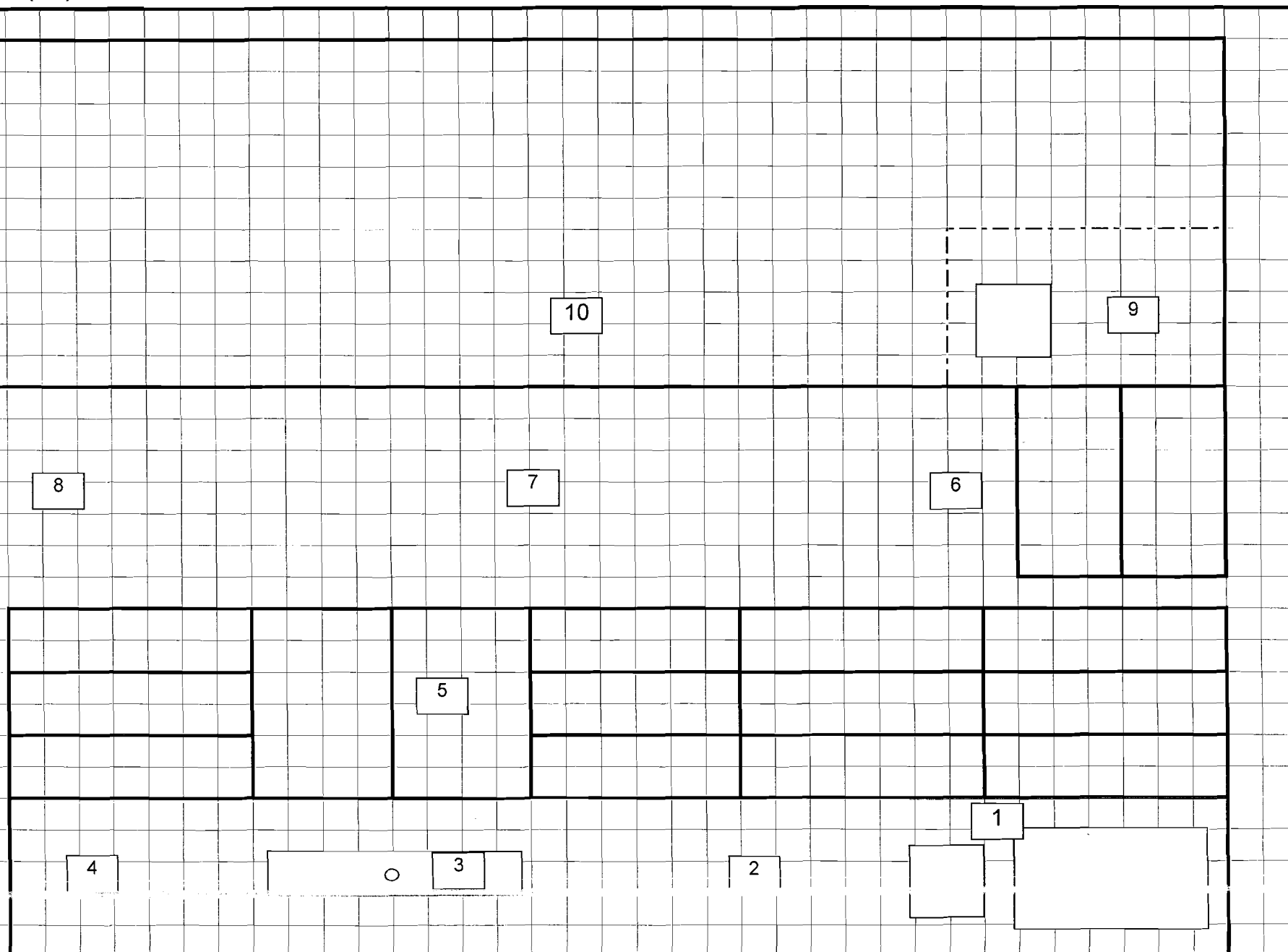
Job Dianon Systems, LabCorp of America Final Status Survey

Sheet No. \_\_\_\_\_ of \_\_\_\_\_

Calculated by \_\_\_\_\_ Date 12-Dec-08

Checked By \_\_\_\_\_ Date \_\_\_\_\_

Scale \_\_\_\_\_ Direct Measurements



# RADIATION SAFETY ASSOCIATES

19 Pendleton Drive

Hebron, CT 06248

(860) 228-0487

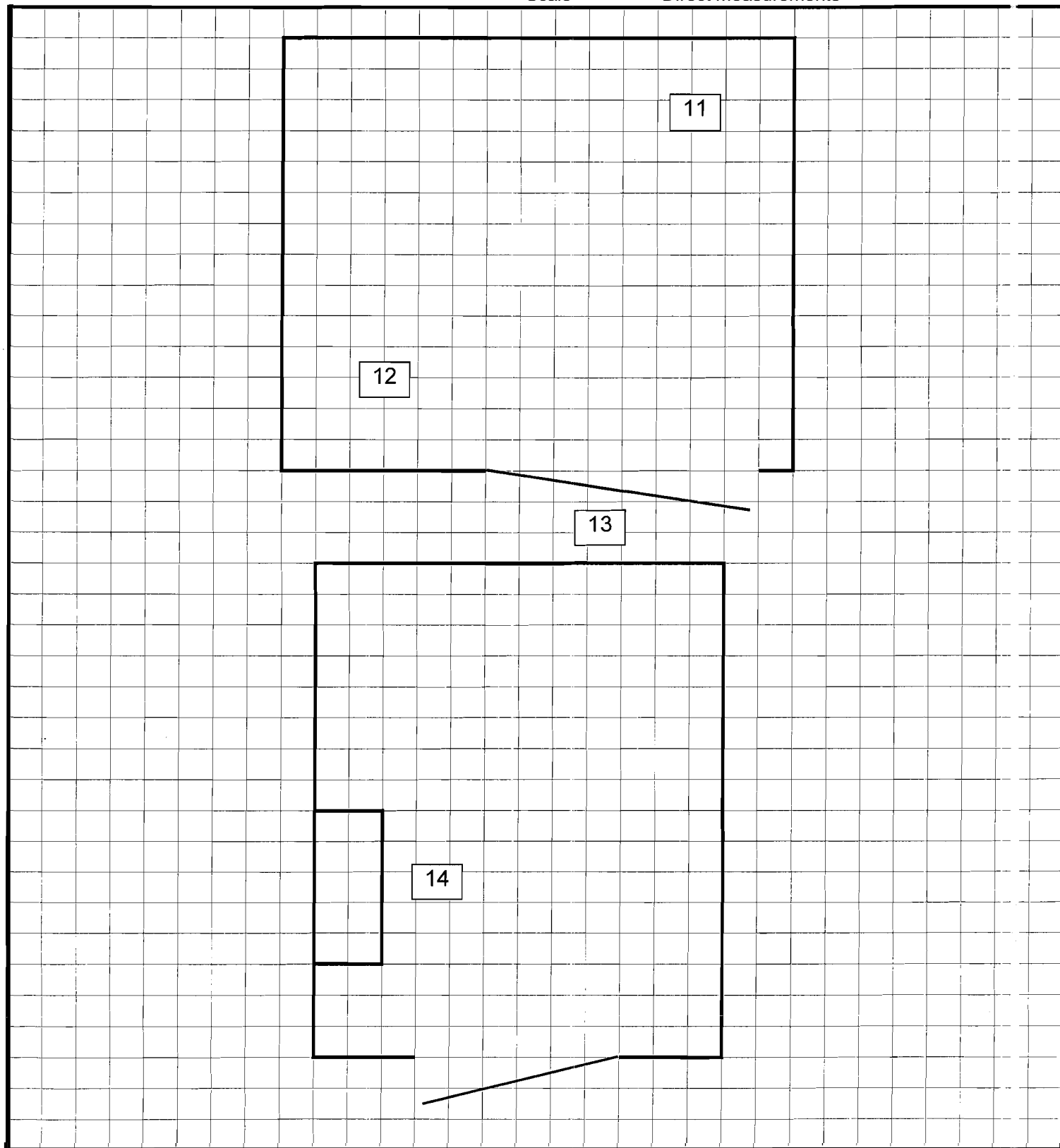
Job Dianon Systems, LabCorp of America Final Status Survey

Sheet No. \_\_\_\_\_ of \_\_\_\_\_

Calculated by \_\_\_\_\_ Date 12-Dec-03

Checked By \_\_\_\_\_ Date \_\_\_\_\_

Scale \_\_\_\_\_ Direct Measurements



# **ATTACHMENT D**

## **Survey Results**



Samp #	Wipe #	Location	Gross cpm	BG cpm	Net cpm	Eff	Activity dpm/100 cm2	LLD
1	QC-1	Blank	62	55	7	0.5	14 +/- 31	57
2	W-1	Counter top	38	40	0	0.5	0 +/- 25	50
3	W-2	Gamma Counter	33	36	0	0.5	0 +/- 23	48
4	W-3	Counter top	29	29	0	0.5	0 +/- 22	43
5	W-4	Computer	47	45	2	0.5	4 +/- 27	52
6	W-5	Gamma Counter	31	37	0	0.5	0 +/- 22	48
7	W-6	Counter top	40	38	2	0.5	4 +/- 25	49
8	W-7	Counter top	55	52	3	0.5	6 +/- 30	56
9	W-8	Shelf	40	43	0	0.5	0 +/- 25	51
10	W-9	Shelf	35	36	0	0.5	0 +/- 24	48
11	W-10	Shelf	62	55	7	0.5	14 +/- 31	57
12	W-11	Shelf	36	40	0	0.5	0 +/- 24	50
13	W-12	Inside Cabinet	49	36	13	0.5	26 +/- 28	48
14	W-13	Cabinet Door	41	29	12	0.5	24 +/- 26	43
15	W-14	Shelf	50	45	5	0.5	10 +/- 28	52
16	W-15	Floor	48	37	11	0.5	22 +/- 28	48
17	W-16	Floor	38	38	0	0.5	0 +/- 25	49
18	W-17	Floor	48	52	0	0.5	0 +/- 28	56
19	W-18	Floor	40	43	0	0.5	0 +/- 25	51
20	W-19	Counter top	38	36	2	0.5	4 +/- 25	48
21	W-20	Computer	59	55	4	0.5	8 +/- 31	57
22	W-21	Inside Cabinet	48	40	8	0.5	16 +/- 28	50
23	W-22	Cabinet Door	49	36	13	0.5	26 +/- 28	48
24	W-23	Wall	34	29	5	0.5	10 +/- 23	43
25	W-24	Wall	4	45	0	0.5	0 +/- 8	52
26	W-25	Wall	32	37	0	0.5	0 +/- 23	48
27	W-26	Behind Sink	40	38	2	0.5	4 +/- 25	49
28	W-27	Rad Room Floor	53	52	1	0.5	2 +/- 29	56
29	W-28	Rad Room Floor	38	43	0	0.5	0 +/- 25	51
30	W-29	Rad Room Floor	35	36	0	0.5	0 +/- 24	48
31	W-30	Rad Room Floor	55	55	0	0.5	0 +/- 30	57
32	W-31	Rad Room Wall 1 m	42	40	2	0.5	4 +/- 26	50
33	W-32	Rad Room Wall 1 m	44	36	8	0.5	16 +/- 27	48

Samp #	Wipe #	Location	Gross cpm	BG cpm	Net cpm	Eff	Activity dpm/100 cm2	LLD
34	W-33	Rad Room Wall 1 m	31	29	2	0.5	4 +/- 22	43
35	W-34	Rad Room Door hand	41	45	0	0.5	0 +/- 26	52
36	W-35	Rad Room Wall 2 m	36	37	0	0.5	0 +/- 24	48
37	W-36	Rad Room Wall 2 m	33	38	0	0.5	0 +/- 23	49
38	W-37	Rad Room Wall 2 m	53	52	1	0.5	2 +/- 29	56
39	W-38	Rad Room Door 2 m	48	43	5	0.5	10 +/- 28	51
40	W-39	Rad Waste Box 2639	41	36	5	0.5	10 +/- 26	48
41	W-40	Rad Waste Box 2640	61	55	6	0.5	12 +/- 31	57
42	W-41	Rad Waste Box 2641	40	40	0	0.5	0 +/- 25	50
43	W-42	Cold Room Shelf 4	35	36	0	0.5	0 +/- 24	48
44	W-43	Cold Room Shelf 4	29	29	0	0.5	0 +/- 22	43
45	W-44	Cold Room Shelf 5	40	45	0	0.5	0 +/- 25	52
46	W-45	Cold Room Shelf 5	36	37	0	0.5	0 +/- 24	48
47	W-46	Sink L	41	38	3	0.5	6 +/- 26	49
48	W-47	Sink R	53	52	1	0.5	2 +/- 29	56
49	W-48	Drain	69	43	26	0.5	52 +/- 33	51
50	W-49	Plexiglass Shield	72	36	36	0.5	72 +/- 34	48
51	W-50	Check Source	127760	55	127705	0.5	255410 +/- 1430	57

Samp #	Direct #	Location	Gross Counts	BG Counts	Net Counts	dpm/100 cm2	LLD dpm/100 cm2
1	D-1	Counter Top	2921	2845	76	2322	3976
2	D-2	Counter Top	2957	2845	112	3421	3976
3	D-3	Counter Top	2881	2845	36	1100	3976
4	D-4	Sink	2794	2845	-51	-1558	3976
5	D-5	Counter Top	2976	2845	131	4002	3976
6	D-6	Lab Floor	3542	3459	83	2535	4380
7	D-7	Lab Floor	3611	3459	152	4643	4380
8	D-8	Lab Floor	3597	3459	138	4216	4380
9	D-9	Counter Top	2902	2845	57	1741	3976
10	D-10	Counter Top	2856	2845	11	336	3976
11	D-11	Floor Decay in Storag	3466	3459	7	214	4380
12	D-12	Floor Decay in Storag	3319	3459	-140	-4277	4380
13	D-13	Floor, Hallway	3479	3459	20	611	4380
14	D-14	Floor, Cold room	3502	3459	43	1314	4380

<b>FORM 540</b> Duratek, Inc. - Commercial Processing <b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER</b>			<b>5. SHIPPER - NAME AND FACILITY</b> Deacon Systems 289 Walton Blvd. Stratford, CT 06615		<b>SHIPPER ID NUMBER</b> NA COLLECTOR <input type="checkbox"/> PROCESSOR		<b>7. FORM 540 AND 540A</b> PAGE 1 OF 1 PAGE(S) FORM 541 AND 541A      1 PAGE(S) FORM 542 AND 542A      None PAGE(S) ADDITIONAL INFORMATION		<b>8. MANIFEST NUMBER</b> (Use this number on all continuation pages) <b>DS 081229-01</b>		
<b>1. EMERGENCY TELEPHONE NUMBER</b> (Include Area Code) (410) 377-3742			<b>USER PERMIT NUMBER</b> NA		<b>SHIPMENT NUMBER</b> 081229		<input checked="" type="checkbox"/> <b>GENERATOR TYPE</b> (Specify) 0		<b>9. CONSIGNEE - Name and Facility</b> Radiation Service Organization 5204 Minnick Road Laurel, MD 20707		
<b>ORGANIZATION</b> ECOLOGY SERVICES, INC.			<b>CONTACT</b> Dunne Purgatore		<b>TELEPHONE NUMBER</b> (Include Area Code) 263-381-4022		<b>SIGNATURE - Authority of consignor acknowledging waste receipt</b> <i>[Signature]</i>		<b>CONTACT</b> David Wellner <b>TELEPHONE</b> (Include Area Code) 410-792-7444 x306 <b>DATE</b> 1-6-08		
<b>2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			<b>3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST</b> 4		<b>6. CARRIER - Name and Address</b> Ecology Services, Inc. 10226 DM Columbia Road Columbia, MD 21046 Truck # Trailer #		<b>EPA ID NUMBER</b> NA		<b>10. CERTIFICATION</b> This is to certify that the hereinaught materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.		
<b>4. DOES EPA REGULATE THIS SHIPMENT?</b> If "Yes" provide Manifest Number as follows:			<b>EPA MANIFEST NUMBER</b>		<b>CONTACT</b> Greg Keck		<b>TELEPHONE</b> (Include Area Code) 410-381-3500		<b>DATE</b> 12/31/08		
<b>11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION</b> (Including proper shipping name, hazard class, UN ID number, and any additional information)			<b>12. DOT LABEL "RADIOACTIVE"</b>		<b>13. TRANSPORT INDEX</b>		<b>14. PHYSICAL AND CHEMICAL FORM</b>		<b>15. INDIVIDUAL RADIONUCLIDES</b>		
UN 2910, Radioactive material, excepted package-limited quantity of material, 7			NA		NA		SOLID: Salts & Proteins I DAW INCIN		I-125		
UN 2910, Radioactive material, excepted package-limited quantity of material, 7			NA		NA		SOLID: Salts & Proteins / DAW INCIN		I-125		
UN 2910, Radioactive material, excepted package-limited quantity of material, 7			NA		NA		SOLID: Salts & Proteins / DAW INCIN		I-125		
UN 2910, Radioactive material, excepted package-limited quantity of material, 7			NA		NA		SOLID: Salt, & Proteins / DAW INCIN		I-125		
<b>FOR CONSIGNEE USE ONLY</b> TENNESSEE "LICENSE FOR DELIVERY" NO _____ SOUTH CAROLINA TRANSPORT PERMIT NO _____ US ECOLOGY GENERATOR NO _____ US ECOLOGY PERMIT NO _____						<b>20. GENERATOR CERTIFICATION STATEMENT</b> A) <b>Radioactive Materials:</b> Certification is hereby made by Duratek, Inc. that this shipment of low-level radioactive material/waste has been prepared in accordance with radioactive waste management program which has been approved by the Nuclear Regulatory Commission or an Agreement State regulatory agency and with the current revision of the Duratek Material Acceptance Criteria. B) <b>Hazardous Materials:</b> Generator hereby certifies that this material does not contain a hazardous waste as defined in 40 CFR 261. C) <b>Data:</b> Generator hereby represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Duratek, Inc. State of Tennessee Radioactive Material Licenses. <div style="text-align: right;">           _____            Print Name      Signature      Date         </div>					

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

2/24/2009, and to inform you that the initial processing which includes an administrative review has been performed.

☒ Answer. 06-23655-01 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

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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** 143445.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.