# DIANON *Systems*

A **LabCorp** Company

DIANON *Systems*
1 Forest Parkway
Shelton, CT 06484
Telephone: 800-328-2666

March 28, 2011

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

Br 2

RECEIVED
REGION 1
2011 MAR 30 AM 10: 51

ATTN: Licensing Section

RE: Request Termination of Current License
License 06-23655-01 (Current Amendment No. 16)
Docket No. 030-29575

Dear Sir or Madame:

We would like to terminate the license listed above for Dianon Systems, One Forest Parkway, Shelton, CT 06484

As of December 1, 2010 all testing performed using I-125 ceased.
As of March 21, 2011 all I-125 materials and waste being held for decay was removed from this address.

Enclosed are the following documents

Final Decommissioning / Survey report for One Forest Parkway, Shelton, CT 06484

Transfer records for sealed I-125 source, and equipment.

Copy of the waste manifest for removal of I-125 waste which was being stored for decay.

If there is any other information that is required please contact the Radiation Safety Officer, Donna Purgatore MT(ASCP)SLS at the address listed above, by telephone at 203-926-7222 or via email, purgatd@labcorp.com

Sincerely,

Thomas Schofield
Associate Vice President
DIANON Systems, A LabCorp Company
One Forest Parkway
Shelton, CT 06484
Office: 1-203-926-7280
schofit@labcorp.com

dp32811

574783

NMSS/RGN1 MATERIALS-002

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

Surveys performed
3, 19 January 2011

*Prepared for*
Dianon Systems, LabCorp of America

Report date
24 February 2011

## 1.0 INTRODUCTION

Dianon Systems is a medical laboratory. As one of their services they perform radioimmuno-assays 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 closing its RIA laboratory and terminating it's Radioactive Materials License. Dianon will continue to occupy the laboratory facilities at their present location.

## 2.0 SITE DESCRIPTION

The Dianon facility is located at One Forrest Parkway, 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 | RIA Laboratory, including bench, shelves, sink instruments and decay-in-storage. | 3 | 15 $m^2$ |
| A | Radioactive materials storage shelf in a walk-in cooler | 3 | 10 $m^2$ |

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. The laboratory has been in operation at this location since January 2009 and routine survey records were available and examined as part of this survey. There was no evidence of loose contamination or spills. The active laboratory is a 13ft X 13 ft room with laboratory benches, a sink and analytical instrumentation. Within this room is a smaller 4ft X 6ft room used for decay in storage of radioactive waste. The test kits containing I-125 were stored on three shelves of a storage rack inside a 13ft X 13 ft walk-in refrigerator. The storage shelves were clearly marked for radioactive materials only. The test I-125 was transported from this storage area through other areas of the facility to the RIA lab in the form of unopened RIA Test kits with no potential for spillage or contamination. At the time of the survey all unopened test kits had been removed from the Dianon facility. All other material had been placed in sealed containers for decay-in-storage.

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 3 January and 19 January 2011. Based upon the history of radioactive materials use and advice from the RSO, the areas surveyed were classified as MARSSIM Class 3. The total surface area of the class 3 survey unit was 273 $ft^2$ (25.36 $m^3$). 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 6.9E5 dpm/100$cm^2$ total beta/gamma due to I-125 and 6.9E4 dpm/100 $cm^2$ removable beta/gamma due to I-125. These were calculated using DandD ver.2. These DCGLs represent a annual dose to the affected population of 25 mrem per year. The state of Connecticut requires an annual dose of no more that 19 mrem per year so the site secific DCGLs were reduced by 19/25 to 5.24E5 dpm/100$cm^2$ and 5.24E4 dpm/100$cm^2$ for total and removable contamination. 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, $\Delta$, 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.

| | DCGL (dpm/100 $cm^2$)Calc-ulated using D & D ver 2 | Site Specific DCGL (dpm/100 $cm^2$) | $\Delta$ (dpm/100 $cm^2$) | $\sigma$ (dpm/100 $cm^2$) | $\Delta/\sigma$ | Number of Samples required per survey unit as per WRS Test |
|---|---|---|---|---|---|---|
| $^{125}I$ Wipe | 6.9E4 | 5.24E4 | 2.62E4 | 229 | 114.41 | 14 |
| $^{125}I$ Direct | 6.9E5 | 5.24E5 | 2.62E5 | 724 | 361.88 | 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 5 minutes and a sample time of 1 minute were used to achieve the required detection limit. A general scan was performed with the same instrument. The floor of the facility was linoleum over concrete so a separate background was obtained for floors and countertops.

Wipes were counted on an Packard 2000CA Tricarb liquid scintillation counter calibrated with an I-125 quench set. Samples were counted for 1 minute and background was counted for 10 minutes. Each wipe was taken over an area of 100$cm^2$ in order to achieve the desired detection limit.

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

## 7.0 Conclusions

Results for the analysis of total contamination (DCGL 5.24E5 dpm/100$cm^2$) and removable contamination (DCGL 5.24E4 dpm/ 100$cm^2$) 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 unaffected areas between the lab and storage rooms revealed no 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 and 2 areas

D Survey results

# ATTACHMENT A

# Instrumentation

# 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 2200** | Inst. Type **Scaler Ratemeter** | Inst. s/n **112636** |
| Det. Mfr. & Model **Ludlum 44-17** | Det. Type **Gamma Scintillator** | Det. s/n **111522** |
| Cal. Date **29 December 2010** | Due Date **29 December 2011** | Cal. Interval **1 year** |

Environmental conditions: Temperature: **70°F** Relative Humidity **34%** Atmospheric Pressure **29.62** inches Hg
Pre-calibration Checks:

| | | | |
|---|---|---|---|
| ☒ Contamination survey | ☒ Battery check | ☒ Slow response check | |
| ☒ Mechanical check | ☐ Audio check | ☒ Window operation | ☒ Det. volts **875** Vdc |
| ☒ Meter zero | ☒ Reset check | ☒ Plateau check | |
| ☐ Geotropism check | ☒ Fast response check | ☐ Alarm set | ☒ Input sens. **10** mV |

☒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. **1000 V/ 1000 V**

Comments: **Threshold setting = 110, HV setting = 330. Calibration performed with Window OFF, using AC line power.**

S/N of source used for precision check **#186S** Isotope **I-129** Dedicated Source? ☐Yes ☒No
Reading #1 **28,680 cpm** Reading #2 **29,067 cpm** Reading #3 **28,338 cpm** Mean **28,695 cpm**
Precision: ☒± < 10% ☐± 10-20% ☐Out of tolerance

| Range Multiplier | Reference Calibration Point | Instrument Indication |
|---|---|---|
| x 1K | 400,000 cpm | 400,000 cpm |
| x 1K | 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. x 0.1 | 5,000 cpm (500 counts) | 500 counts |
| 1 min. x 1 | 5,000 cpm (5,000 counts) | 5,000 counts |

All ranges calibrated electronically.

Local background (cpm) ≈ 2,745

| Range Multiplier | Cal. Source Used (isotope and S/N) | Source Activity (dpm) | Instrument Reading (cpm) | 4π Instrument Efficiency (%) |
|---|---|---|---|---|
| 1 min. count | Cs-137 #2886 | 15,425 | 3,977 | 7.99 |
| 1 min. count | I-125 NES-186S-081693 (mock) | 129,870 | 28,695 | 19.98 |
| 1 min. count | I-125 NES-186S-081693 (mock) on contact | 129,870 | 44,112 | 31.85 |
| | | | | |

RSA Laboratories ID# **13900**. Instrument indicates within ±10% of calibration points unless otherwise indicated. Source-to-detector entry window All 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: **29 December 2010**

*Table 1. Instrumentation for Radiological Surveys*

| Type of Measurement | Instrumentation | | Gamma Bkgd.[a] | 4π Eff. (%) | Detection Sensitivity |
|---|---|---|---|---|---|
| | Detector | Instrument | | | |
| Surface contamination on contact, low energy gamma | Ludlum, Model 44-17<br>Low Energy gamma scintillator | Scaler/Count-rate meter[b], Ludlum, Model 2220 | 1405 cpm countertop<br>1504 cpm floor<br>1504 cpm floor | 31.856% ($^{125}I$) | 2436 dpm/100 $cm^2$ (activity)<br>2518 dpm/100 $cm^2$ (activity)<br>2322 dpm/100 $cm^2$ (activity) |
| General gamma scan 1 cm off surface | Ludlum, Model 44-3<br>Low Energy gamma scintillator | Scaler/Count-rate meter[b], Ludlum, Model 2220 | 1504 cpm countertop | 19.98% ($^{125}I$) | 63434 dpm/100 $cm^2$ |

[a]Nominal Values

# ATTACHMENT B

# MINIMUM DETECTABLE ACTIVITY

## ATTACHMENT B

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

For Ludlum Model 2220 with a 44-17 probe:

DETECTION LIMITS--SURFACE CONTAMINATION FLOORS

INPUT DATA:
Background Count = 1504 cpm
Background Counting Time = 5 minutes
Sample Counting Time = 1 minutes
Detector Efficiency = 31.85 (I-125) %
Detector Area = 17.8 $cm^2$

RESULTS:
Critical Level (Lc) = 69.88 cpm above bkgd.
Detection Limit (Ld)) = 142.77 cpm above bkgd.
Minimum Detectable Activity (MDA) = 448.25 dpm/100 $cm^2$
Minimum Detectable Activity (MDA) = 201.92 pCi/detector
Minimum Detectable Activity (MDA) = 11.344 pCi/1.0 $cm^2$

All values calculated to 95% CL via MARSSIM methods

DETECTION LIMITS--SURFACE CONTAMINATION COUNTERTOPS

INPUT DATA:
Background Count = 1405 cpm
Background Counting Time = 5 minutes
Sample Counting Time = 1 minutes
Detector Efficiency = 31.85 (I-125) %
Detector Area = 17.8 $cm^2$

RESULTS:
Critical Level (Lc) = 69.88 cpm above bkgd.
Detection Limit (Ld)) = 138.09 cpm above bkgd.
Minimum Detectable Activity (MDA) = 433.57 dpm/100 $cm^2$
Minimum Detectable Activity (MDA) = 195.3 pCi/detector
Minimum Detectable Activity (MDA) = 10.972 pCi/1.0 $cm^2$

All values calculated to 95% CL via MARSSIM methods

DETECTION LIMITS--SURFACE CONTAMINATION STAINLESS STEEL

INPUT DATA:
Background Count = 1274 cpm
Background Counting Time = 5 minutes
Sample Counting Time = 1 minutes
Detector Efficiency = 31.85 (I-125) %
Detector Area = 17.8 cm²

RESULTS:
Critical Level (Lc) = 64.319 cpm above bkgd.
Detection Limit (Ld)) = 131.64 cpm above bkgd.
Minimum Detectable Activity (MDA) = 413.31 dpm/100 cm²
Minimum Detectable Activity (MDA) = 186.17 pCi/detector
Minimum Detectable Activity (MDA) = 10.459 pCi/1.0 cm²

All values calculated to 95% CL via MARSSIM methods

## Minimum Detectable Activity Calculation for Wipes

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

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 $cm^2$)

C = conversion factor from dpm to other desired activity unit, if applicable.
In this case, C = 1. Answer is in dpm/100 $cm^2$.

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

$$\frac{3+3.29\sqrt{(31.7)\,(1)\left(1+\left(\frac{1}{10}\right)\right)}}{(1)\ (.5938)\ (1)}$$

$$\frac{3+3.29\ \sqrt{34.87}}{0.5938}=\frac{19.43}{0.5938}=32.72$$

**Minimum Detectable Activity Calculation for Surface ScansWipes**

$$\text{MDAscan} = \frac{D_i \times R_b}{\mathrm{E} \times \frac{A}{100}}$$

where:

Di = audibly or visually discernable increase in instrument count rate (multiples of Rb).
$R_b$ = background count rate in cpm (= varied by detector)
E = detector efficiency in counts per disintegration (= 19.98% or 0.1998 in this case)
A = active detector area

Shown here is the specific calculation for one of the Surface scans reported in Item 7 (below).

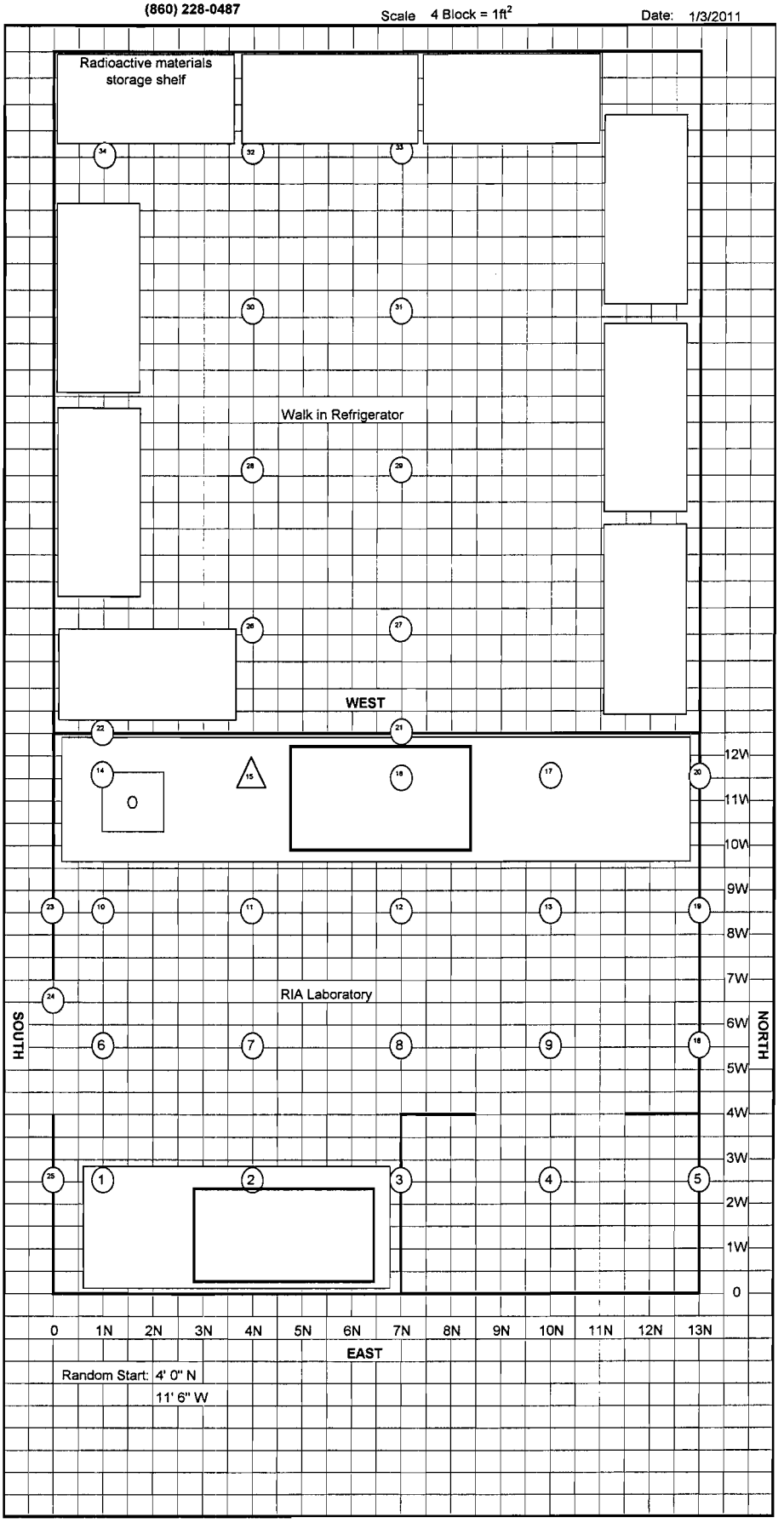
$$\frac{1.5\times 1504}{.1998\times\frac{17.8}{100}}=63434 dpm/100^2$$

# ATTACHMENT C

# Survey Area Maps

**RADIATION SAFETY ASSOCIATES**
19 Pendleton Drive
Hebron, CT 06248
**(860) 228-0487**

Job: Dianon Systems Lab Decommissioning
Location: Radio Immuno Assay Laboratory FS Survey Points
1Forrest Parkway
Shelton, CT 06484
Scale 4 Block = 1ft$^2$ Date: 1/3/2011

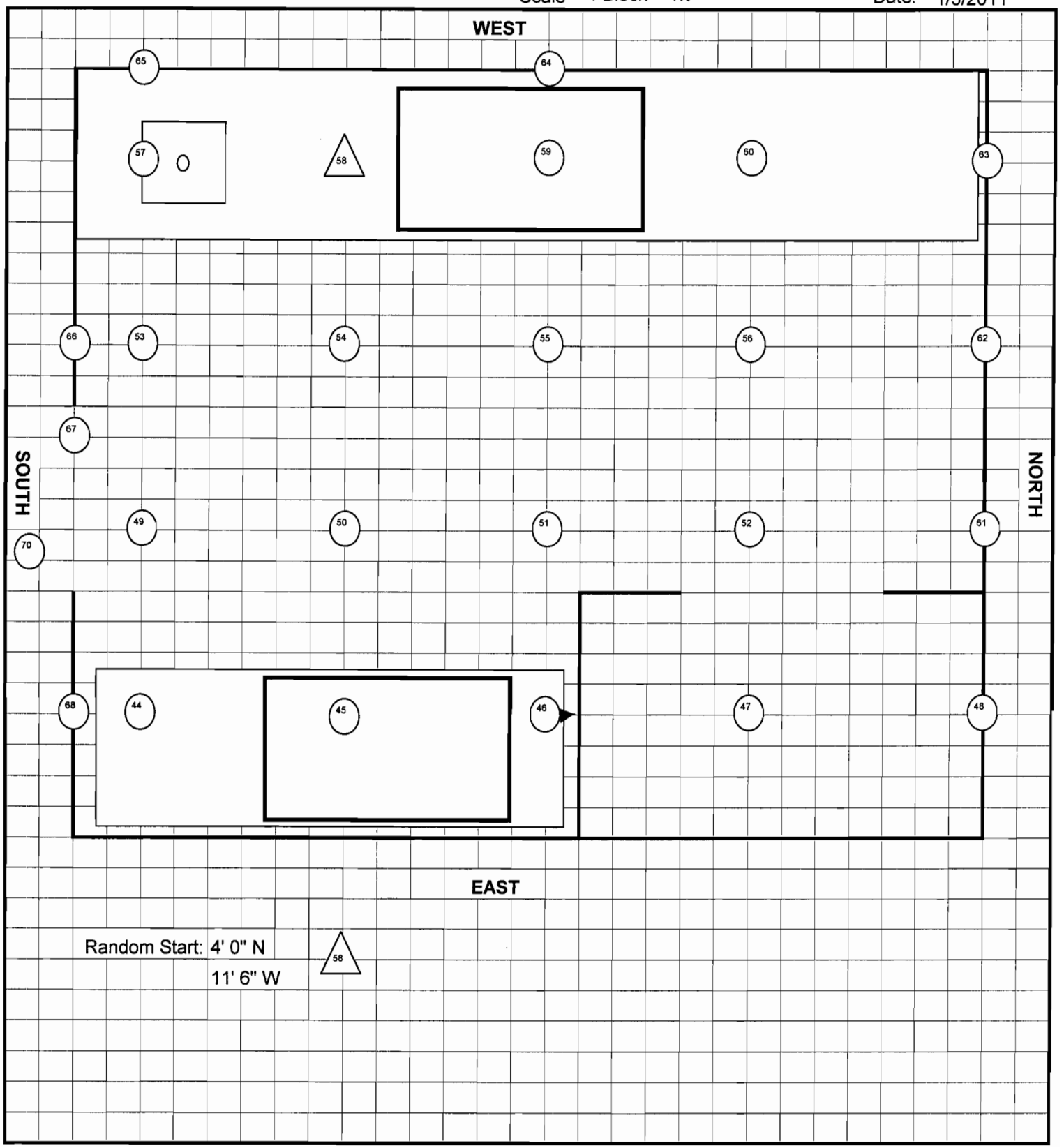


**RADIATION SAFETY ASSOCIATES**
19 Pendleton Drive
Hebron, CT 06248
**(860) 228-0487**

Job: Dianon Systems Lab Decommissioning

Location: Radio Immuno Assay Laboratory Survey Points
1Forrest Parkway
Shelton, CT 06484

Scale 4 Block = 1ft$^2$ Date: 1/3/2011



**RADIATION SAFETY ASSOCIATES**
19 Pendleton Drive
Hebron, CT 06248
**(860) 228-0487**

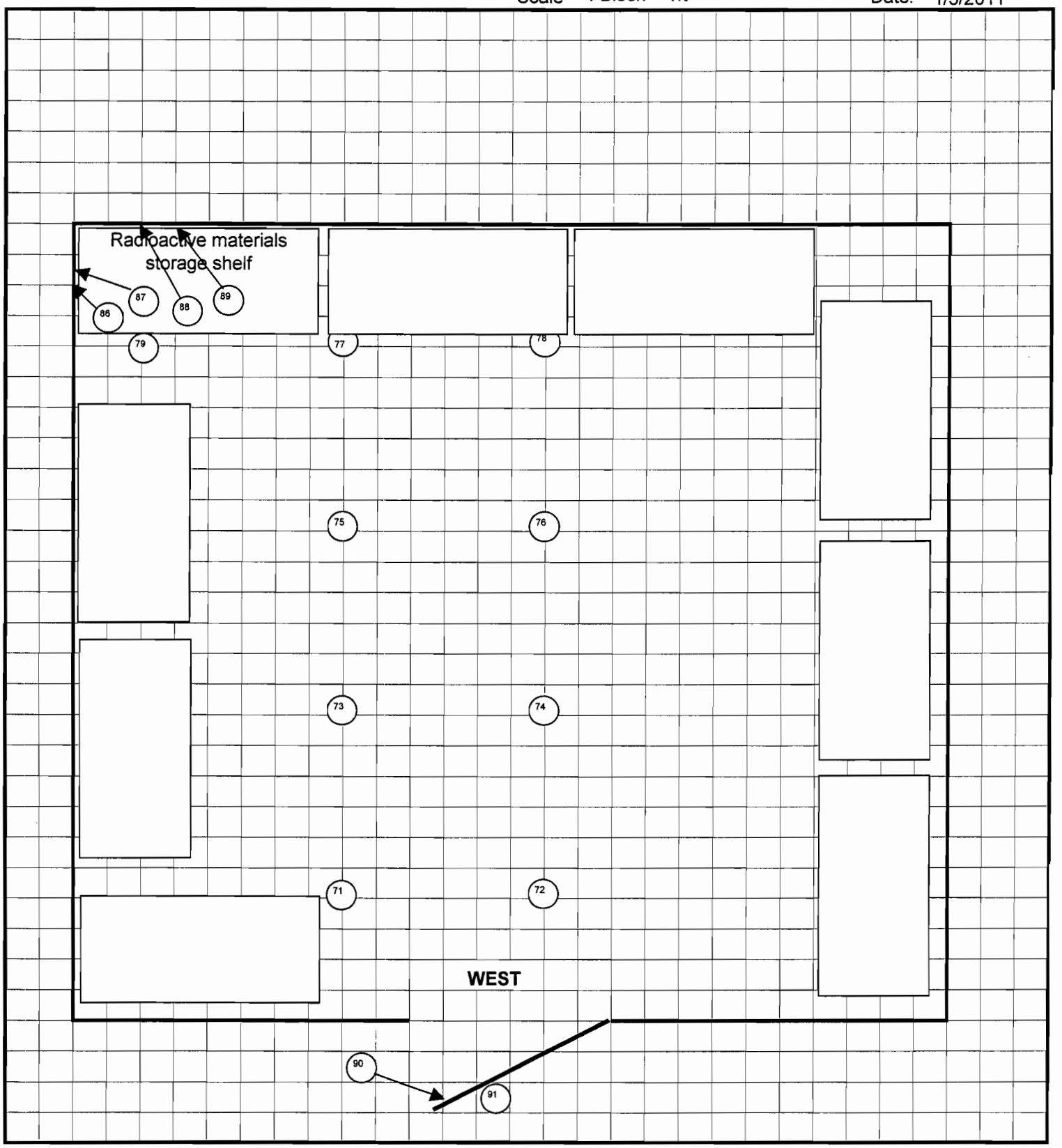
Job: Dianon Systems Lab Decommissioning

Location: Radio Immuno Assay Laboratory Survey Points

1Forrest Parkway

Shelton, CT 06484

Scale 4 Block = 1ft$^2$ Date: 1/3/2011



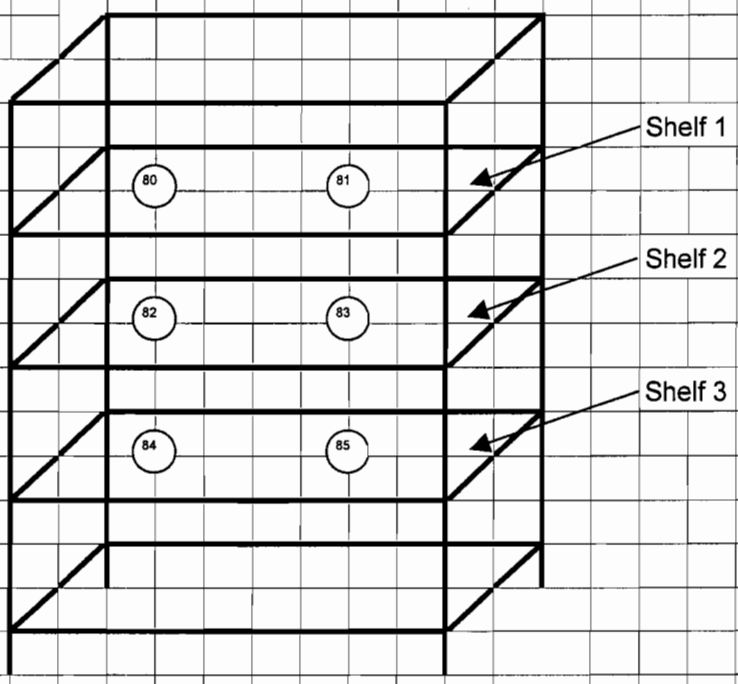
**RADIATION SAFETY ASSOCIATES**
19 Pendleton Drive
Hebron, CT 06248
**(860) 228-0487**

Job: Dianon Systems Lab Decommissioning

Location: Rad Materials Storage Rack - Refrigerator
1Forrest Parkway
Shelton, CT 06484

Scale N/A

Date: 1/3/2011



# ATTACHMENT D

# Survey Results

# RSA Laboratories

**A Division of Radiation Safety Associates**

## Radiochemistry Analysis Data Sheet



Report No. **29309RSA**

Customer: **Dianon Systems, Inc.**

Customer Samp No. **W-1 - W-70**

Location: **RIA Lab 1 Forrest Pkwy Shelton, CT 06484**

RSA Lab Sample No. **29309**

Project: **License Termination**

Date Collected: **1/3/2011**

Samp. Description: **Wipes**

Date Counted: **1/4/2011**

Matrix: **Wipes**

**I-125 LLD dpm= 37.27**

| RSA ID# | CUST. ID# | Location | I-125 CPM | I-125 DPM | | | | |
|---|---|---|---|---|---|---|---|---|
| BACKGROUND | | BLANK | 31.70 | | | | | |
| 29309-1 | W-1 | Off Line Gamma counter Top | 0.00 | 0.00 | | | | |
| 29309-2 | W-2 | Off Line Gamma counter L Side | 0.00 | 0.00 | | | | |
| 29309-3 | W-3 | Off Line Gamma counter R Side | 0.00 | 0.00 | | | | |
| 29309-4 | W-4 | Off Line Gamma counter Front | 0.00 | 0.00 | | | | |
| 29309-5 | W-5 | Plexiglass Shield | 0.00 | 0.00 | | | | |
| 29309-6 | W-6 | Unused Printer | 0.00 | 0.00 | | | | |
| 29309-7 | W-7 | CRT Monitor | 0.00 | 0.00 | | | | |
| 29309-8 | W-8 | Parts in box | 0.00 | 0.00 | | | | |
| 29309-9 | W-9 | Keyboard | 0.00 | 0.00 | | | | |
| 29309-10 | W-10 | Flat Screen Monitor | 0.00 | 0.00 | | | | |
| 29309-11 | W-11 | Working Printer | 0.00 | 0.00 | | | | |
| 29309-12 | W-12 | Cart- Top shelf | 0.00 | 0.00 | | | | |
| 29309-13 | W-13 | Cart- Middle Shelf | 0.00 | 0.00 | | | | |
| 29309-14 | W-14 | Cart- Bottom Shelf | 0.00 | 0.00 | | | | |
| 29309-15 | W-15 | Computer | 0.00 | 0.00 | | | | |
| 29309-16 | W-16 | Lead Apron | 0.00 | 0.00 | | | | |
| 29309-17 | W-17 | Water Bath | 0.00 | 0.00 | | | | |
| 29309-18 | W-18 | On Line Gamma counter Top | 0.00 | 0.00 | | | | |
| 29309-19 | W-19 | On Line Gamma counter L Side | 0.00 | 0.00 | | | | |
| 29309-20 | W-20 | On Line Gamma counter R Side | 0.00 | 0.00 | | | | |
| 29309-21 | W-21 | On Line Gamma counter Front | 0.00 | 0.00 | | | | |
| 29309-22 | W-22 | Old sink pump - Outside | 0.00 | 0.00 | | | | |
| 29309-23 | W-23 | Old sink pump - Inside | 0.00 | 0.00 | | | | |
| 29309-24 | W-24 | Rad Waste Box # 13 | 0.00 | 0.00 | | | | |
| 29309-25 | W-25 | Rad Waste Box # 14 | 0.00 | 0.00 | | | | |
| 29309-26 | W-26 | Rad Waste Box # 15 | 0.00 | 0.00 | | | | |
| 29309-27 | W-27 | Rad Waste Box # 16 | 0.00 | 0.00 | | | | |
| 29309-28 | W-28 | Rad Waste Box # 17 | 0.00 | 0.00 | | | | |
| 29309-29 | W-29 | Rad Waste Box # 18 | 0.00 | 0.00 | | | | |
| 29309-30 | W-30 | Rad Waste Box # 19 | 0.00 | 0.00 | | | | |
| 29309-31 | W-31 | Rad Waste Box # 20 | 0.00 | 0.00 | | | | |
| 29309-32 | W-32 | Rad Waste Box # 21 | 0.00 | 0.00 | | | | |
| 29309-33 | W-33 | Rad Waste Box # 22 | 0.00 | 0.00 | | | | |
| 29309-34 | W-34 | Rad Waste Box # 23 | 0.00 | 0.00 | | | | |
| 29309-35 | W-35 | Parts Box | 0.00 | 0.00 | | | | |

Jay R. Dockendorff
Laboratory Director

# RSA Laboratories

**A Division of Radiation Safety Associates**

## Radiochemistry Analysis Data Sheet



| RSA ID# | CUST. ID# | LOCATION | I-125 CPM | I-125 DPM | | | | |
|---|---|---|---|---|---|---|---|---|
| 29309-36 | W-36 | Line Conditioner | 0.00 | 0.00 | | | | |
| 29309-37 | W-37 | Electronic part | 0.00 | 0.00 | | | | |
| 29309-38 | W-38 | Upper Shelf Right | 0.00 | 0.00 | | | | |
| 29309-39 | W-39 | Upper Shelf Left | 0.00 | 0.00 | | | | |
| 29309-40 | W-40 | Bottom Shelf West | 0.00 | 0.00 | | | | |
| 29309-41 | W-41 | Bottom Shelf East | 0.00 | 0.00 | | | | |
| 29309-42 | W-42 | Sink Bowl | 0.00 | 0.00 | | | | |
| 29309-43 | W-43 | Sink Throat | 0.00 | 0.00 | | | | |
| 29309-44 | W-44 | FS Wipe 1 Countertop | 0.00 | 0.00 | | | | |
| 29309-45 | W-45 | FS Wipe 2 Countertop | 0.00 | 0.00 | | | | |
| 29309-46 | W-46 | FS Wipe 3 Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29309-47 | W-47 | FS Wipe 4 Floor | 0.00 | 0.00 | | | | |
| 29309-48 | W-48 | FS Wipe 5 Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29309-49 | W-49 | FS Wipe 6 Floor | 0.00 | 0.00 | | | | |
| 29309-50 | W-50 | FS Wipe 7 Floor | 0.00 | 0.00 | | | | |
| 29309-51 | W-51 | FS Wipe 8 Floor | 0.00 | 0.00 | | | | |
| 29309-52 | W-52 | FS Wipe 9 Floor | 0.00 | 0.00 | | | | |
| 29309-53 | W-53 | FS Wipe 10 Floor | 0.00 | 0.00 | | | | |
| 29309-54 | W-54 | FS Wipe 11 Floor | 0.00 | 0.00 | | | | |
| 29309-55 | W-55 | FS Wipe 12 Floor | 0.00 | 0.00 | | | | |
| 29309-56 | W-56 | FS Wipe 13 Floor | 0.00 | 0.00 | | | | |
| 29309-57 | W-57 | FS Wipe 14 Countertop | 0.00 | 0.00 | | | | |
| 29309-58 | W-58 | FS Wipe 15 Countertop | 0.00 | 0.00 | | | | |
| 29309-59 | W-59 | FS Wipe 16 Countertop | 0.00 | 0.00 | | | | |
| 29309-60 | W-60 | FS Wipe 17 Countertop | 0.00 | 0.00 | | | | |
| 29309-61 | W-61 | FS Wipe 18 Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29309-62 | W-62 | FS Wipe 19 Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29309-63 | W-63 | FS Wipe 20 Wall 2 Meter | 0.00 | 0.00 | | | | |
| 29309-64 | W-64 | FS Wipe 21 Wall 2 Meter | 0.00 | 0.00 | | | | |
| 29309-65 | W-65 | FS Wipe 22 Wall 2 Meter | 0.00 | 0.00 | | | | |
| 29309-66 | W-66 | FS Wipe 23 Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29309-67 | W-67 | FS Wipe 24 Door Handle | 0.00 | 0.00 | | | | |
| 29309-68 | W-68 | FS Wipe 25 Wall 2 Meter | 0.00 | 0.00 | | | | |
| 29309-69 | W-69 | Stain outside of drain under sink | 0.00 | 0.00 | | | | |
| 29309-70 | W-70 | Floor outside of lab | 0.00 | 0.00 | | | | |

Jay R. Dockendorff
Laboratory Director

# RSA Laboratories

**A Division of Radiation Safety Associates**

## Radiochemistry Analysis Data Sheet



Report No. **29443RSA**

Customer: **Dianon Systems, Inc.**

Customer Samp No. **W-1 - W-21**

Location: **Walk in Fridge, Dianon Syst. Shelton, CT 06484**

RSA Lab Sample No. **29443**

Project: **License Termination**

Date Collected: **1/19/2011**

Samp. Description: **Wipes**

Date Counted: **1/21/2011**

Matrix: **Wipes**

**I-125 LLD dpm= 37.53**

| RSA ID# | CUST. ID# | Location | I-125 CPM | I-125 DPM | | | | |
|---|---|---|---|---|---|---|---|---|
| BACKGROUND | | BACKGROUND | 32.20 | | | | | |
| 29443-1 | W-71 | FS Wipe 26 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-2 | W-72 | FS Wipe 27 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-3 | W-73 | FS Wipe 28 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-4 | W-74 | FS Wipe 29 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-5 | W-75 | FS Wipe 30 Refrigerator Floor | 2.27 | 3.85 | | | | |
| 29443-6 | W-76 | FS Wipe 31 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-7 | W-77 | FS Wipe 32 Refrigerator Floor | 36.38 | 31.97 | | | | |
| 29443-8 | W-78 | FS Wipe 33 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-9 | W-79 | FS Wipe 34 Refrigerator Floor | 0.00 | 0.00 | | | | |
| 29443-10 | W-80 | Storage unit shelf 1 Left | 0.00 | 0.00 | | | | |
| 29443-11 | W-81 | Storage unit shelf 1 Right | 0.00 | 0.00 | | | | |
| 29443-12 | W-82 | Storage unit shelf 2 Left | 0.00 | 0.00 | | | | |
| 29443-13 | W-83 | Storage unit shelf 2 Right | 0.00 | 0.00 | | | | |
| 29443-14 | W-84 | Storage unit shelf 3 Left | 0.00 | 0.00 | | | | |
| 29443-15 | W-85 | Storage unit shelf 3 Right | 0.00 | 0.00 | | | | |
| 29443-16 | W-86 | Left Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29443-17 | W-87 | Left Wall 2 Meters | 36.39 | 32.09 | | | | |
| 29443-18 | W-88 | Back Wall 1 Meter | 0.00 | 0.00 | | | | |
| 29443-19 | W-89 | Back Wall 2 Meters | 36.39 | 32.09 | | | | |
| 29443-20 | W-90 | Door Inside handle | 0.00 | 0.00 | | | | |
| 29443-21 | W-91 | Floor outside of fridge | 36.39 | 32.20 | | | | |

Jay R. Dockendorff
Laboratory Director

# Radiological Survey Logsheet

Radiation Safety Associates, Inc.
19 Pendleton Drive, PO Box 107
Hebron, CT 06248

Job Location: **Dianon Systems**
Survey Purpose: **Final Status Survey**
Performed By: **Jay R. Dockendorff** Signature:


Date: 1/3/2011, 1/19/2011

| | | | |
|---|---|---|---|
| Inst (1) (Model/SN) | Ludlum Model 2200 112636 | Inst (2) (Model/SN) | Inst (3) (Model/SN) |
| Det. (Model/SN) | 44-17 111522 | Det. (Model/SN) | Det. (Model/SN) |
| Eff. | 19.98% @ 1 cm 31.85% On Contact | Eff. | Eff. |
| Type Rad. | Low EnergyGamma | Type Rad. | Type Rad. |
| Bkgd. | 1405 Counter 1504 Floor | Bkgd. | Bkgd. |
| CalDue | 29-Dec-11 | CalDue | CalDue |

| No. | Location | Gross cpm | BG | Net cpm | dpm | MDA |
|---|---|---|---|---|---|---|
| 1 | FS Direct 1 Countertop | 1307 | 1405 | -98 | -1729 | 2436 |
| 2 | FS Direct 2 Countertop | 1297 | 1405 | -108 | -1905 | 2436 |
| 3 | FS Direct 3 Wall 1 Meter | 1247 | 1405 | -158 | -2787 | 2436 |
| 4 | FS Direct 4 Floor | 1646 | 1504 | 142 | 2505 | 2518 |
| 5 | FS Direct 5 Wall 1 Meter | 1327 | 1405 | -78 | -1376 | 2436 |
| 6 | FS Direct 6 Floor | 1539 | 1504 | 35 | 617 | 2518 |
| 7 | FS Direct 7 Floor | 1542 | 1504 | 38 | 670 | 2518 |
| 8 | FS Direct 8 Floor | 1245 | 1504 | -259 | -4568 | 2518 |
| 9 | FS Direct 9 Floor | 1387 | 1504 | -117 | -2064 | 2518 |
| 10 | FS Direct 10 Floor | 1653 | 1504 | 149 | 2628 | 2518 |
| 11 | FS Direct 11 Floor | 1548 | 1504 | 44 | 776 | 2518 |
| 12 | FS Direct 12 Floor | 1301 | 1504 | -203 | -3581 | 2518 |
| 13 | FS Direct 13 Floor | 1284 | 1504 | -220 | -3881 | 2518 |
| 14 | FS Direct 14 Countertop | 1010 | 1405 | -395 | -6967 | 2436 |
| 15 | FS Direct 15 Countertop | 1295 | 1405 | -110 | -1940 | 2436 |
| 16 | FS Direct 16 gamma counter | 827 | 1405 | -578 | -10195 | 2436 |
| 17 | FS Direct 17 Countertop | 1178 | 1405 | -227 | -4004 | 2436 |
| 18 | FS Direct 18 Wall 1 Meter | 1279 | 1405 | -126 | -2222 | 2436 |

## Radiological Survey Logsheet Continuation


Date: 1/3/2011, 1/19/2011

| No. | Location | Gross cpm | BG | Net cpm | dpm | MDA |
|---|---|---|---|---|---|---|
| 19 | FS Direct 19 Wall 1 Meter | 1088 | 1405 | -317 | -5592 | 2436 |
| 20 | FS Direct 20 Wall 2 Meter | 1082 | 1405 | -323 | -5697 | 2436 |
| 21 | FS Direct 21 Wall 2 Meter | 1045 | 1405 | -360 | -6350 | 2436 |
| 22 | FS Direct 22 Wall 2 Meter | 1112 | 1405 | -293 | -5168 | 2436 |
| 23 | FS Direct 23 Wall 1 Meter | 1295 | 1405 | -110 | -1940 | 2436 |
| 24 | FS Direct 24 Door Handle | 1069 | 1405 | -336 | -5927 | 2436 |
| 25 | FS Direct 25 Wall 2 Meter | 1167 | 1405 | -238 | -4198 | 2436 |
| 26 | Floor outside of Lab | 1517 | 1504 | 13 | 229 | 2518 |
| 27 | Sink Trap | 1549 | 1405 | 144 | 2540 | 2436 |
| 28 | Sink trap to pump pipe @ elbow | 1484 | 1405 | 79 | 1393 | 2436 |
| 29 | Pump to drain pipe Proximal | 1271 | 1405 | -134 | -2364 | 2436 |
| 30 | Pump to drain pipe distal | 1214 | 1405 | -191 | -3369 | 2436 |
| 31 | Pump tank 1 1/2 inches from floor | 1555 | 1405 | 150 | 2646 | 2436 |
| 32 | Old pump tank front | 1383 | 1405 | -22 | -388 | 2436 |
| 33 | Old pump tank left | 1333 | 1405 | -72 | -1270 | 2436 |
| 34 | Old pump tank right | 1336 | 1405 | -69 | -1217 | 2436 |
| 35 | Old pump tank back | 1341 | 1405 | -64 | -1129 | 2436 |
| 36 | Old pump tank bottom | 1298 | 1405 | -107 | -1887 | 2436 |
| 37 | Refrigerator Floor FS 26 | 1035 | 1274 | -239 | -4216 | 2322 |
| 38 | Refrigerator Floor FS 27 | 1381 | 1274 | 107 | 1887 | 2322 |
| 39 | Refrigerator Floor FS 28 | 1289 | 1274 | 15 | 265 | 2322 |
| 40 | Refrigerator Floor FS 29 | 1261 | 1274 | -13 | -229 | 2322 |
| 41 | Refrigerator Floor FS 30 | 1172 | 1274 | -102 | -1799 | 2322 |
| 42 | Refrigerator Floor FS 31 | 1084 | 1274 | -190 | -3351 | 2322 |
| 43 | Refrigerator Floor FS 32 | 1117 | 1274 | -157 | -2769 | 2322 |
| 44 | Refrigerator Floor FS 33 | 1061 | 1274 | -213 | -3757 | 2322 |
| 45 | Refrigerator Floor FS 34 | 1125 | 1274 | -149 | -2628 | 2322 |
| 46 | Left Wall | 1100 | 1274 | -174 | -3069 | 2322 |
| 47 | Back Wall | 1013 | 1274 | -261 | -4604 | 2322 |
| 47 | Floor outside of Refrigerator | 1513 | 1504 | 9 | 159 | 2322 |

# FIELD SERVICE REPORT

**ROYAL SERVICE COMPANY**
P.O. Box 592 • New Monmouth, NJ 07748
Tel: (718) 282-9074 • Fax: (732) 671-3043

**Service Request No.** 11012401

**Date Call Received** Jan. 24, 2011

**Type of Report:**
- Billable
- Contract Repair
- Contract PMC
- Manufacturer Warranty
- Service Warranty
- Customer Assistance ✓
- Other

| SERVICE ADDRESS (or Ship From) | | | | BILLING (or Shipping Address) | |
|---|---|---|---|---|---|
| Customer: Dranoff Systems | Cust. Account # | | | Bill To ☐ Send Service Contract Information to ☐ Parts ☐ | |
| | | | | Send Product Information Listed in Remarks to ☐ | |
| User: RIA | Dept | Floor | Room | Customer | Attention |
| Street: 1 Forest Park Drive | | | | Street | |
| City: Shelton | State: CT | Zip | | City | State / Zip |
| Telephone No. | | | | Purchase Order No. | |

| Manufacturer | Model No. | Serial No. |
|---|---|---|
| Macromedia System | 25027 | 503 & 507 |

| Discrepancy | Corrective Action |
|---|---|
| Removed 2 Stamps Counters from Lab | 2 Counters, 1 PC, 20 Racks |

| Direct Labor Code | S.T. | O.T. |
|---|---|---|
| P.M.C. Time | | |
| On Call Repair Time | | |
| Travel Time | | |
| Adjusted Travel Time | | |
| Unbillable Travel Time | | |
| Total Hours | | |
| X $ / Hr | $ /Hr | $ / Hr |
| Sub-Total Labor Cost | $ | $ |

| Parts | | | | |
|---|---|---|---|---|
| Qt. | Part No. | Description | | Parts Cost |
| 2 | | 20 Rack Counters | | $ |
| | | Rack | | $ |
| 1 | | PC/software | | $ |
| 1 | | I-128 source | | $ |
| | | | | $ |
| | | | | $ |
| | | | Subtotal Parts Cost | $ |

| Time Chart Date | Travel Dep | Travel Arr | Work Start | Work Stop | Total Hrs Travel | Total Hrs Work | O/T Auth O/T | Air-Rail | Auto or Taxis - Miles | Tolls & Parking | Meals | Lodging | Other | Travel Expenses |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | $ |
| | | | | | | | | | | | | | | $ |
| | | | | | | | | | | | | | | $ |
| | | | | | | | | Subtotal Travel Expense Cost | | | | | | $ |
| | | | | | | | | Unbillable Travel Expense Cost | | | | | | $ |

TYPE OF FAILURE(S)
- A Electronic - Adjustment
- B Electronic - Parts
- C Mechanical - Adjustment
- D Mechanical - Parts
- E Other - Specify in Remarks

REMARKS: I-128 Source —

| | |
|---|---|
| Subtotal Labor Cost | $ |
| Subtotal Parts Cost | $ |
| Subtotal Travel Cost | $ |
| Sales Tax | $ |
| TOTAL | $ |

PAYMENT DUE ON COMPLETION

**CUSTOMER APPROVAL: SERVICE RENDERED BY R.S.C. HAS BEEN COMPLETED SATISFACTORILY.**

Signature: [signature] Title: EHS Manager / RSC Date: 01/24/11

FIELD SERVICE PERSON: [signature] Date Completed: 1-24-2011

TYPE OF FOLLOW-UP REQUIRED: ☐ Ship Parts ☐ Tel. Call ☐ Letter ☐ Sales Visit ☐ Tech. Serv. Visit ☐ Field Serv. Visit

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0164), 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.

CC

**NRC FORM 540 (8-2010)** **U.S. NUCLEAR REGULATORY COMMISSION**

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## SHIPPING PAPER

**5. SHIPPER - NAME AND FACILITY**
Philotechnics @ Dianon Systems Inc.
One Forest Parkway
Shelton, CT 06484

**SHIPMENT ID NUMBER**
1330-032111TX

**7. FORM 540 AND 540A** PAGE 1 OF 3 PAGE(S)
**FORM 541 AND 541A** 5 PAGE(S)
**FORM 542 AND 542A** 1 PAGE(S)
**ADDITIONAL INFORMATION** NONE PAGE(S)

**8. MANIFEST NUMBER** (Use this number on all continuation pages)
1330-032111TX

**1. EMERGENCY TELEPHONE NUMBER (Include Area Code)**
800-424-9300

**ORGANIZATION**
CHEMTREC

**USER PERMIT NUMBER** T-TN024-D11
**SHIPMENT NUMBER** 1330-032111TX

**COLLECTOR**
**PROCESSOR**
**GENERATOR TYPE (Specify)**

**CONTACT**
Donna Purgatore

**TELEPHONE NUMBER (Include Area Code)**
(203) 926-7222

**9. CONSIGNEE - Name and Facility Address**
ToxCo Material Management
Operated By ToxCo Material Management
109 Flint Road
Oak Ridge, TN 37830

**CONTACT**
Rick Low

**TELEPHONE NUMBER (Include Area Code)**
(865) 482-5532 x22

**2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?**
[ ] YES
[X] NO

**3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST** ==========> 18

**6. CARRIER - Name and Address**
Tri State Motor Transit
8141 East 7th Street
Joplin, MO 64801

**Truck #:**
**Trailer #:**

**EPA I.D. NUMBER**
MOD095038998

**SHIPPING DATE**
03/21/2011

**SIGNATURE - Authorized consignee acknowledging waste receipt**

**DATE**

**4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?** [ ] YES [X] NO
**If "Yes", provide Manifest Number ====>**

**EPA MANIFEST NUMBER**
N/A

**CONTACT**
Cassie Gardner

**TELEPHONE NUMBER (Include Area Code)**
800-234-8768

**SIGNATURE - Authorized carrier acknowledging waste receipt** Trent Hoff
**DATE** 3-21-11

**10. CERTIFICATION**
This is to certify that the herein-named 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 in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulation

**AUTHORIZED SIGNATURE** **TITLE** Broker **DATE** 3-21-11

| 11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information) | 12. DOT LABEL "RADIOACTIVE" | 13. TRANSPORT INDEX | 14. PHYSICAL AND CHEMICAL FORM | 15. INDIVIDUAL RADIONUCLIDES | 16. TOTAL PACKAGE ACTIVITY MBq | mCi | 17. LSA/SCO CLASS | 18. TOTAL WEIGHT OR VOLUME (Use appropriate units) | 19. IDENTIFICATION NUMBER OF PACKAGE |
|---|---|---|---|---|---|---|---|---|---|
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000517<br>~~(1)~~ 19 |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000518<br>~~(2)~~ 20 |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000519<br>~~(3)~~ 21 |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000520<br>~~(4)~~ 22 |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000521<br>~~(5)~~ 23 |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000522<br>(6) |

**FOR CONSIGNEE USE ONLY**

**20. Generator Certification Statement**

A) Radioactive Materials. Certification is hereby made that this shipment of low-level radioactive waste has been prepared in accordance with a 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 site Material Acceptance Criteria.
B) Hazardous Materials. Generator hereby certifies that this material __ does (or) ✓ does not contain a hazardous waste as defined in 40 CFR 261.
C) Data. 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 site Radioactive Material Licenses.
D) INFECTIOUS SUBSTANCE: Generator hereby certifies that this material does not contain an infectious substance as defined in 49CFR 173.134

Martin Phillips — Print Name
Martin Phillips — Signature
3/21/11 — Date


Modified Date: 03/18/2011 15:09

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0164), 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.

NRC FORM 540A
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## SHIPPING PAPER (CONTINUATION)

8. MANIFEST NUMBER
(Use this number on all continuation pages)
1330-032111TX



| 11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information) | 12. DOT LABEL "RADIOACTIVE" | 13. TRANSPORT INDEX | 14. PHYSICAL AND CHEMICAL FORM | 15. INDIVIDUAL RADIONUCLIDES | 16. TOTAL PACKAGE ACTIVITY MBq | mCi | 17. LSA/SCO CLASS | 18. TOTAL WEIGHT OR VOLUME (Use appropriate units) | 19. IDENTIFICATION NUMBER OF PACKAGE |
|---|---|---|---|---|---|---|---|---|---|
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000523<br>(7) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000524<br>(8) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000525<br>(9) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000526<br>(10) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000527<br>(11) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000528<br>(12) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000529<br>(13) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000530<br>(14) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000531<br>(15) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000532<br>(16) |

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0164), 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.

NRC FORM 540A
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## SHIPPING PAPER (CONTINUATION)

8. MANIFEST NUMBER
(Use this number on all continuation pages)
1330-032111TX



| 11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information) | 12. DOT LABEL "RADIOACTIVE" | 13. TRANSPORT INDEX | 14. PHYSICAL AND CHEMICAL FORM | 15. INDIVIDUAL RADIONUCLIDES | 16. TOTAL PACKAGE ACTIVITY MBq | mCi | 17. LSA/SCO CLASS | 18. TOTAL WEIGHT OR VOLUME (Use appropriate units) | 19. IDENTIFICATION NUMBER OF PACKAGE |
|---|---|---|---|---|---|---|---|---|---|
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000533<br>(17) |
| Non-Radioactive per DOT<br>DAW/BSFR<br>1 - 30 GAL FIBER DRUM | NA | NA | SOLID/METAL OXIDES | I-125 | 0.2960000000 | (0.0080000000) | NA | 4.10 $ft^3$<br>15.00000 lb | 11-000534<br>(18) |

Estimated burden per responce to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0166), 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.

**NRC FORM 541 (8-2010)** **U.S. NUCLEAR REGULATORY COMMISSION**

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## CONTAINER AND WASTE DESCRIPTION

**Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste**

### 1. MANIFEST TOTALS

| NUMBER OF PACKAGES/ DISPOSAL CONTAINERS | NET WASTE VOLUME | NET WASTE WEIGHT | SPECIAL NUCLEAR MATERIAL (grams) U-233 | U-235 | Pu | TOTAL |
|---|---|---|---|---|---|---|
| 18 | $m^3$ 2.08980<br>$ft^3$ 73.80000 | kg 16.32924<br>lb 36.00000 | NP | NP | NP | NP |

| ACTIVITY (MBq/mCi) (LLD UNITS IN uCi/cc) | ALL NUCLIDES | TRITIUM | C-14 | Tc-99 | I-129 | SOURCE |
|---|---|---|---|---|---|---|
| MBq | 5.3280000000 | NP | NP | NP | NP | NP |
| mCi | 0.1440000000 | NP | NP | NP | NP | NP |

**2. MANIFEST NUMBER** 1330-032111TX

**3.** PAGE 1 OF 5 PAGE(S)

**4. SHIPPER NAME** Philotechnics @ Dianon Systems Inc.

**SHIPMENT ID NUMBER** 1330-032111TX

### DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

| 5. CONTAINER IDENTIFICATION NUMBER/ TRANSPORT PERMIT NUMBER (# - Innerpack Container) | 6. CONTAINER DESCRIPTION (See Note 1) | 7. VOLUME $m^3$ / $ft^3$ | 8. WASTE AND CONTAINER WEIGHT kg / lb | 9. SURFACE RADIATION LEVEL mSv/hr / mrem/hr | 10. SURFACE CONTAMINATION MBq/100 cm² / dpm/100 cm² ALPHA | BETA-GAMMA | 11. WASTE DESCRIPTOR (See Note 2) | 12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER $m^3$ / $ft^3$ | 13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3) | 14. CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT | WEIGHT % CHELATING AGENT IF > 0.1% | 15. RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES | MBq | mCi | 16. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-000517 (1)<br>Origin: CT<br>Dianon Systems Inc.<br>One Forest Parkway<br>Shelton, CT 06484 | 30 GAL FIBER DRUM | 0.11610<br>4.10000 | 6.80385<br>15.00000 | < 0<br>< 0 | < 0.000003674<br>< 220 | < 0.00003674<br>< 2200 | 39 | 0.11610<br>4.10000 | 100 | SOLID METAL OXIDES / NP | NP | I-125<br>Sub Total | 0.2960000000<br>0.2960000000 | 0.0080000000<br>0.0080000000 | AU |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000518 (2)<br>Origin: CT<br>Dianon Systems Inc.<br>One Forest Parkway<br>Shelton, CT 06484 | 30 GAL FIBER DRUM | 0.11610<br>4.10000 | 6.80385<br>15.00000 | < 0<br>< 0 | < 0.000003674<br>< 220 | < 0.00003674<br>< 2200 | 39 | 0.11610<br>4.10000 | 100 | SOLID METAL OXIDES / NP | NP | I-125<br>Sub Total | 0.2960000000<br>0.2960000000 | 0.0080000000<br>0.0080000000 | AU |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000519 (3)<br>Origin: CT<br>Dianon Systems Inc.<br>One Forest Parkway<br>Shelton, CT 06484 | 30 GAL FIBER DRUM | 0.11610<br>4.10000 | 6.80385<br>15.00000 | < 0<br>< 0 | < 0.000003674<br>< 220 | < 0.00003674<br>< 2200 | 39 | 0.11610<br>4.10000 | 100 | SOLID METAL OXIDES / NP | NP | I-125<br>Sub Total | 0.2960000000<br>0.2960000000 | 0.0080000000<br>0.0080000000 | AU |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |

**NOTE 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP."**

1. Wooden Box or Crate
2. Metal Box
3. Plastic Drum or Pail
4. Metal Drum or Pail
5. Metal Tank or Liner
6. Concrete Tank or Liner
7. Polyethylene Tank or Liner
8. Fiberglass Tank or Liner
9. Demineralizer
10. Gas Cylinder
11. Bulk, Unpacked Waste
12. Unpackaged Components
13. High Integrity Container
19. Other. Describe in item 6, or additional page

**NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)**

20. Charcoal
21. Incinerator Ash
22. Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27. Mechanical Filter
28. EPA or State Hazardous
29. Demolition Rubble
30. Cation Ion-exchange Media
31. Anion Ion-exchange Media
32. Mixed Bed Ion-exchange Media
33. Contaminated Equipment
34. Organic Liquid (except oil)
35. Glassware or Labware
36. Sealed Source/Device
37. Paint or Plating
38. Evaporator Bottoms/Sludges/ Concentrates
39. Compactible Trash
40. Noncompactible Trash
41. Animal Carcass
42. Biological Material (except animal carcass)
43. Activated Material
59. Other. Describe in item 11, or additional page

**NOTE 3: Sorption, Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume). For media meeting disposal site structral stability requirements, the numerical code must be followed by "-S". For all solidification media, the vendor and brand name must also be identified in item 13. Code 100=None Required**

Sorption

60. Speedi Dri
61. Celeton
62. Floor Dry/ Superfine
63. Hi Dri
64. Safe T Sorb
65. Safe N Dri
66. Florco
67. Florco X
68. Solid A Sorb
69. Chemsil 30
70. Chemsil 50
71. Chemsil 3030
72 Dicaperl HP 200
73. Dicaperl HP500
74. Petroset
75. Petroset II
76. Aquaset
77. Aquaset II
89. Other. Describe in item 13 or additional page.

Solidification

90. Cement
91. Concrete (encapsulation)
92. Bitumen
93. Vinyl Chloride
94. Vinyl Ester Styrene
99. Other. Describe in item 13, or additional page
100. None Required

Estimated burden per responce to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0166), 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.

NRC FORM 541A
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

2. MANIFEST NUMBER: 1330-032111TX

3. PAGE 2 OF 5 PAGE(S)

| DISPOSAL CONTAINER DESCRIPTION | | | | | | | WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | PHYSICAL DESCRIPTION | | | 14. CHEMICAL DESCRIPTION | | 15. RADIOLOGICAL DESCRIPTION | | | 16. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C |
| 5. CONTAINER IDENTIFICATION NUMBER/ TRANSPORT PERMIT NUMBER | 6. CONTAINER DESCRIPTION (See Note 1) | 7. VOLUME m³ / ft³ | 8. WASTE AND CONTAINER WEIGHT kg / lb | 9. SURFACE RADIATION LEVEL mSv/hr / mrem/hr | 10. SURFACE CONTAMINATION MBq/100 cm² / dpm/100 cm² ALPHA | BETA-GAMMA | 11. WASTE DESCRIPTOR (See Note 2) | 12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ / ft³ | 13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3) | CHEMICAL FORM/ CHELATING AGENT | WEIGHT % CHELATING AGENT IF > 0.1% | INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES | MBq | mCi | |
| # - Innerpack Container | | | | | | | | | | | | | | | |
| 11-000520 (4) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000521 (5) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000522 (6) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000523 (7) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |

Estimated burden per responce to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0166), 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.

NRC FORM 541A
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

2. MANIFEST NUMBER: 1330-032111TX

3. PAGE 3 OF 5 PAGE(S)

| DISPOSAL CONTAINER DESCRIPTION | | | | | | | WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER | | | | | | | | 16. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | PHYSICAL DESCRIPTION | | | 14. CHEMICAL DESCRIPTION | | 15. RADIOLOGICAL DESCRIPTION | | | |
| 5. CONTAINER IDENTIFICATION NUMBER/ TRANSPORT PERMIT NUMBER | 6. CONTAINER DESCRIPTION (See Note 1) | 7. VOLUME m³ / ft³ | 8. WASTE AND CONTAINER WEIGHT kg / lb | 9. SURFACE RADIATION LEVEL mSv/hr / mrem/hr | 10. SURFACE CONTAMINATION MBq/100 cm² / dpm/100 cm² ALPHA | BETA-GAMMA | 11. WASTE DESCRIPTOR (See Note 2) | 12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ / ft³ | 13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3) | CHEMICAL FORM/ CHELATING AGENT | WEIGHT % CHELATING AGENT IF > 0.1% | INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT | | | |
| # - Innerpack Container | | | | | | | | | | | | RADIONUCLIDES | MBq | mCi | |
| 11-000524 (8) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000525 (9) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000526 (10) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000527 (11) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |

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Estimated burden per responce to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0166), 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.

NRC FORM 541A
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

2. MANIFEST NUMBER: 1330-032111TX

3. 

| DISPOSAL CONTAINER DESCRIPTION | | | | | | | WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | PHYSICAL DESCRIPTION | | | 14. CHEMICAL DESCRIPTION | | 15. RADIOLOGICAL DESCRIPTION | | | 16. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C |
| 5. CONTAINER IDENTIFICATION NUMBER/ TRANSPORT PERMIT NUMBER | 6. CONTAINER DESCRIPTION (See Note 1) | 7. VOLUME m³ / ft³ | 8. WASTE AND CONTAINER WEIGHT kg / lb | 9. SURFACE RADIATION LEVEL mSv/hr / mrem/hr | 10. SURFACE CONTAMINATION MBq/100 cm² / dpm/100 cm² ALPHA | BETA-GAMMA | 11. WASTE DESCRIPTOR (See Note 2) | 12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ / ft³ | 13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3) | CHEMICAL FORM/ CHELATING AGENT | WEIGHT % CHELATING AGENT IF > 0.1% | INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES | MBq | mCi | |
| # - Innerpack Container | | | | | | | | | | | | | | | |
| 11-000528 (12) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000529 (13) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000530 (14) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000531 (15) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |

NRC Form 541A (8-2010) * - Indicates Cross Contamination

Estimated burden per responce to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0166), 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.

NRC FORM 541A
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

2. MANIFEST NUMBER: 1330-032111TX

3. PAGE 5 OF 5 PAGE(S)

| DISPOSAL CONTAINER DESCRIPTION | | | | | | | WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | PHYSICAL DESCRIPTION | | | 14. CHEMICAL DESCRIPTION | | 15. RADIOLOGICAL DESCRIPTION | | | 16. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C |
| 5. CONTAINER IDENTIFICATION NUMBER/ TRANSPORT PERMIT NUMBER (# - Innerpack Container) | 6. CONTAINER DESCRIPTION (See Note 1) | 7. VOLUME m³ / ft³ | 8. WASTE AND CONTAINER WEIGHT kg / lb | 9. SURFACE RADIATION LEVEL mSv/hr / mrem/hr | 10. SURFACE CONTAMINATION MBq/100 cm² / dpm/100 cm² ALPHA | BETA-GAMMA | 11. WASTE DESCRIPTOR (See Note 2) | 12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ / ft³ | 13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3) | CHEMICAL FORM/ CHELATING AGENT | WEIGHT % CHELATING AGENT IF > 0.1% | INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES | MBq | mCi | |
| 11-000532 (16) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | | | | |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | | | | | | | | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000533 (17) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | | | | |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | | | | | | | | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| 11-000534 (18) | 30 GAL FIBER DRUM | 0.11610 | 6.80385 | < 0 | < 0.000003674 | < 0.00003674 | 39 | 0.11610 | 100 | SOLID METAL OXIDES / NP | NP | I-125 | 0.2960000000 | 0.0080000000 | AU |
| | | 4.10000 | 15.00000 | < 0 | < 220 | < 2200 | | 4.10000 | | | | | | | |
| Origin: CT Dianon Systems Inc. One Forest Parkway Shelton, CT 06484 | | | | | | | | | | | | Sub Total | 0.2960000000 | 0.0080000000 | |
| Package Total | | | | | | | | | | | | | 0.2960000000 | 0.0080000000 | |
| Shipment Total | | 2.08980 | 122.46930 | | | | | | | | | | 5.3280000000 | 0.1440000000 | |
| | | 73.80000 | 270.00000 | | | | | | | | | | | | |

NRC Form 541A (8-2010) * - Indicates Cross Contamination

Estimated burden per responce to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0165), 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.

NRC FORM 542
(8-2010)

U.S. NUCLEAR REGULATORY COMMISSION

# UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

## MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators

1. WASTE COLLECTOR/PROCESSOR

NAME: Philotechnics @ Dianon Systems Inc.

IDENTIFICATION NUMBER: T-TN024-D11

SHIPPING DATE: 03/21/2011

SHIPPER USE ONLY

2. MANIFEST NUMBER: 1330-032111TX

3. PAGE 1 OF 1 PAGE(S)

| 4. S.C. TRANSPORT PERMIT NUMBER | 5. GENERATOR NAME AND TELEPHONE NUMBER | 6. GENERATOR FACILITY ADDRESS | 6A. WASTE DESCRIPTION (NOMENCLATURE) | 7. PREPROCESSED WASTE (OR MATERIAL) VOLUME m³ | ft³ | 8. MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT | 9. WASTE CODE P=PROCESSED C=COLLECTED | 10. ORIGINATING COMPACT REGION OR STATE | 11. AS PROCESSED/COLLECTED TOTAL A. SOURCE MATERIAL (kg) | (lb) | B. SNM (g) | C. ACTIVITY MBq | mCi | D. VOLUME m³ | ft³ | E. WEIGHT (lb) | F. MAXIMUM PACKAGE RADIATION LEVEL (mrem/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dianon Systems Inc. (203) 926-7222 | One Forest Parkway Shelton, CT 06484 | Compactible Trash | 2.08980 | 73.80000 | Onsite Generation 03/17/2011 | C | CT | NP | NP | NP | 5.328 | .144 | 2.08980 | 73.80000 | 36.00000 | <0.0 |
| TOTALS OF ALL PAGES (FORMS 542 AND 542A) | | | | | | | | | NP | NP | NP | 5.3280000000 | 0.1440000000 | 2.08980 | 73.80000 | 36.00000 | N/A |

EXP

RT 314 1 E
6300
03.30

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ORIGIN ID: OXCA (203) 926-7100
MARTY PHILLIPS
DIANON SYSTEMS INC
1 FOREST PARKWAY

SHELTON, CT 06484
UNITED STATES US

SHIP DATE: 29MAR11
ACTWGT: 0.1 LB MAN
CAD: 479583/CAFE2472

BILL SENDER

TO US NUCLEAR REGULATORY COMM. REG.1
LICENSING SECTION
475 ALLENDALE ROAD

KING OF PRUSSIA PA 19406

REF:
INV:
PO:
DEPT:

FedEx
Express

E

WED - 30 MAR A2
PRIORITY OVERNIGHT

TRK# 0201 9928 7601 6300

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