

February 8, 2010

Materials Licensing Section  
U.S. Nuclear Regulatory Commission, Region III  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

Subject: Termination of License Nos. 21-26088-01 and 21-26088-02E, Supplemental information to NRC Form 314

Dear Sir/Madam,

On behalf of Pall Corporation – Gelman Sciences, Inc., I would like to submit the request for terminating Materials License Nos. 21-26088-01 and 21-26088-02E. As part of this request, Gelman Sciences would like to reclassify the research laboratories once used to work with materials listed on the above referenced materials license for unrestricted use, as well as the storage-for-decay area used to hold waste associated with the activities involving radioactive materials in the research laboratory.

The research laboratory that we have decommissioned used three isotopes for in-vitro research as defined in 10 CFR 30.4. A decommissioning survey was performed by Dade Moeller & Associates, and is attached to this letter (Attachment 1). This survey was performed in accordance with the USNRC NUREG 1757, Vol. 2, *Consolidated Decommissioning Guidance*. The scope of the survey included three areas: (1) R&D Laboratory Area which had been used to do work under our current materials license, (2) The radioactive storage area which was used to hold waste for decay-in-storage, and (3) a cafeteria space that was once used for lab work, and later re-classified for unrestricted use.

The following information is in support of this request to terminate the subject licenses.

1. The following isotopes were used at the facility: P-32, P-33, I-125. All of the isotopes used in research were in unsealed form. In the case of I-125, all material used in the lab was bound (non-volatile).
2. No major radiological spills had taken place in the R&D laboratory or decay-in-storage area.
3. A facility diagram is included in Attachment 5.
4. The results of the final survey activities are documented in the Decommissioning Survey Report issued by Dade Moeller & Associates, within Attachment 1.
5. Information concerning the survey instruments used is included on page 4 of Attachment 1. Information on pages 3 and 4 detail the methods used, quality assurance, and calibration of the equipment used in the performance of the decommissioning survey.
6. Maps of the swipe locations are included for review within the decommissioning report on pages 10-12 in Attachment 1.
7. No further decontamination was necessary after reviewing the final survey results.
8. As documented in the attached Decommissioning Survey Report, no radioactive contamination exists in any of the survey areas at the site.

9. No remediation efforts were needed, thus we incurred no additional radioactive waste other than those shown in the next item.
10. Radioactive wastes generated during routine operations were shipped for disposal to the following organizations. Copies of confirmation of receipt are provided in Attachment 2.
  - a. EnergySolutions, 1560 Bear Creek Road, Oak Ridge, TN 37831, Phone 865-220-1341.
  - b. Perma-Fix of Florida, 1940 N.W. 67th Place, Gainesville, FL 32653, Phone number 352-373-6066.
11. Radioactive waste shipping logs show one shipment of H-3, C-14, and Cs-137. The H-3 and C-14 were unused test kits shipped for disposal. The Cs-137 was a radioactive check source included with the other wastes.
12. Some radioactive waste that contained short-lived radioactive materials (half-lives less than 120 days) was disposed of through decay-in-storage. Records of this are maintained by Pall Corporation.
13. Certain generally licensed sources in our possession were returned to the suppliers. One source contained Kr-85 and the other contained Po-210. Copies of confirmation of receipt are provided in Attachment 3. Please note that the letters are addressed to or describe the client as IRWS Inc. with address of 28265 Beck Rd, Suite. C-6, Wixom, MI 48393. This is a company that Pall-Gelman Sciences has utilized for waste disposal. IRWS arranged for the disposal of the devices from the Ann Arbor facility.
14. A report showing the items transferred to persons exempt from licensing pursuant to Section 30.18, 10 CFR 30, or equivalent provisions of the regulations of any Agreement State is provided in Attachment 4.
15. Sewer disposal of radioactive material occurred. Copies of these records are provided in Attachment 6. The only radionuclides disposed to the sewer were P-32 and I-125.

If there are any questions concerning the decommissioning of the research laboratory and decay-in-storage area, or in the termination of Materials License No. 21-26088-01, please do not hesitate to contact me directly at 734-913-6144, or our Radiation Safety Officer, Mike Everett, at 850-316-3571. Thank you for your assistance in this matter.

Sincerely,



Chris Rowley  
Vice President and Site General Manager  
Pall Corporation – Gelman Sciences

(4-2008)  
10 CFR 30.36(j)(1); 40.42(j)(1);  
70.38(j)(1); and 72.54(k)(5)(1)(1)

# CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. 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](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), 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.

## LICENSEE NAME AND ADDRESS

Gelman Sciences, Inc.  
600 South Wagner Road, Ann Arbor, MI 48103-9019

## LICENSE NUMBER

21-26088-02

## DOCKET NUMBER

03036476

## LICENSE EXPIRATION DATE

02/28/2014

### A. LICENSE STATUS (Check the appropriate box)

- ☐ This license has expired. ☒ This license has not yet expired; please terminate it.

### B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- ☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- ☒ 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner:
- ☒ a. Transfer of radioactive materials to the licensee listed below:
- ☒ b. Disposal of radioactive materials:
- ☐ 1. Directly by the licensee:
- ☐ 2. By licensed disposal site:
- ☒ 3. By waste contractor:  
See attached letter for details.
- ☒ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

### C. SURVEYS PERFORMED AND REPORTED

- ☒ 1. A radiation survey was conducted by the licensee. The survey confirms:
- ☒ a. the absence of licensed radioactive materials
- ☒ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- ☒ 2. A copy of the radiation survey results:
- ☒ a. is attached; or ☐ b. is not attached (Provide explanation); or ☐ c. was forwarded to NRC on: \_\_\_\_\_ Date \_\_\_\_\_
- ☐ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
- ☐ a. The results of the latest leak test are attached; and/or ☐ b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Mike Everett	Radiation Safety Officer	(850) 316-3571	see below

Mail all future correspondence regarding this license to:

878- Ely Road, Pensacola, FL 32514

[mike.everett@pall.com](mailto:mike.everett@pall.com)

### C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE

SIGNATURE

DATE

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

## **CERTIFICATE OF DISPOSITION OF MATERIALS**

PLEASE READ THESE INSTRUCTIONS BEFORE COMPLETING NRC FORM 314.

Subpart E of 10 CFR Part 20 establishes the radiological criteria for license terminations/decommissioning of facilities licensed under 10 CFR Parts 30, 40, 50, 60, 61, 70, and 72, as well as other facilities subject to the Commission's jurisdiction under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

### **INSTRUCTIONS**

#### Section B, Item 2.

Licensees should describe the specific radioactive material transfer actions. If radioactive wastes were generated in terminating this license, the licensee should describe the disposal actions taken, including the disposition of low-level radioactive waste, mixed waste, greater-than-Class-C waste, and sealed sources.

#### Section B, Item 2.a.

The information provided concerning the transfer of radioactive material to another licensee should specify the date of the transfer, the name of the licensee recipient, an individual contact name and telephone number for the licensee recipient, and the recipient's NRC or Agreement State license number.

#### Section B, Item 2.b.

For disposal of radioactive materials, licensees should describe the specific disposal method or procedure (e.g., decay-in-storage). For those cases when radioactive materials are disposed of by a licensed disposal site or by a waste contractor, the licensee should specify the name, address, and telephone number of the licensed disposal site operator or waste contractor.

#### Section B, Item 2.c.

"Residual radioactivity," as defined in 10 CFR 20.1003, means radioactivity in 'areas' (structures, materials, soils, etc.) remaining as a result of activities (licensed and unlicensed) under the licensee's control from sources used by the licensee, excluding background radiation. ALARA is defined in 10 CFR 20.1003.

### **FILE CERTIFICATES AS FOLLOWS:**

#### **IF YOU ARE LOCATED IN:**

**ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND CERTIFICATES TO:**

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

**ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND CERTIFICATES TO:**

MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

#### **IF YOU ARE LOCATED IN:**

**ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND CERTIFICATES TO:**

MATERIAL RADIATION PROTECTION SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION IV  
612 E. LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TX 76011-4125

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## LICENSEE NAME AND ADDRESS

Gelman Sciences,  
600 South Wagner Road, Ann Arbor, MI 48103-9019

## LICENSE NUMBER

21-26088-01

## DOCKET NUMBER

030-31413

## LICENSE EXPIRATION DATE

03/31/2012

## A. LICENSE STATUS (Check the appropriate box)

- ☐ This license has expired. ☒ This license has not yet expired; please terminate it.

## B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- ☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- ☒ 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner:
- ☒ a. Transfer of radioactive materials to the licensee listed below:  
Transfer of generally licensed materials to licensees. See Attachment 3 to letter included with this form.
- ☒ b. Disposal of radioactive materials:
- ☒ 1. Directly by the licensee:  
Decay-in-Storage of wastes containing short-lived radionuclides; see letter included with this form for details.
- ☐ 2. By licensed disposal site:
- ☒ 3. By waste contractor:  
See letter included with this form for details.
- ☒ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

## C. SURVEYS PERFORMED AND REPORTED

- ☒ 1. A radiation survey was conducted by the licensee. The survey confirms:
- ☒ a. the absence of licensed radioactive materials
- ☒ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- ☒ 2. A copy of the radiation survey results:
- ☒ a. is attached; or ☐ b. is not attached (Provide explanation); or ☐ c. was forwarded to NRC on: \_\_\_\_\_ Date \_\_\_\_\_
- ☐ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
- ☐ a. The results of the latest leak test are attached; and/or ☐ b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Mike Everett	Radiation Safety Officer	(850) 316-3571	see below

Mail all future correspondence regarding this license to:

878- Elv Road, Pensacola, FL 32514

mike.everett@pall.com

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I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE

SIGNATURE

DATE

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**Attachment 1**

**Decommissioning Survey**

**Report**



# DECOMMISSIONING SURVEY REPORT

**Pall Life Sciences Corporation  
Ann Arbor, Michigan**

May 20, 2008



**RADIATION  
SAFETY ACADEMY**

A Division of Dade Moeller & Associates®

481 N. Frederick Avenue, Gaithersburg, MD 20877  
Phone 301-990-6006

*[www.RadiationSafetyAcademy.com](http://www.RadiationSafetyAcademy.com)*  
*[www.moellerinc.com](http://www.moellerinc.com)*

## Background

As described in the proposal dated October 16, 2007, Dade Moeller and Associates, Inc. (Dade Moeller) was retained to perform a decommissioning survey of the Pall Life Sciences Ann Arbor facility (Pall) located at 600 South Wagner Road in Ann Arbor, Michigan. The project involved surveying three areas formerly designated for radioactive material use, which included the following.

- Ligand R&D Laboratory Area - Approximately 110 m<sup>2</sup> in size consisting of the following:
  - Linoleum/epoxy floor
  - Drywall walls
  - 18 lab bench areas
  - Under bench cabinets and drawers
  - Over bench cabinets and shelves
  - 9 sinks (12 drains)
  - 2 chemical fume hoods
  - 2 floor drains
  - 1 eyewash station
- Cafeteria Area consisting of the following:
  - Area formerly laboratory space
  - Linoleum floor
  - Tile floor
  - Drywall walls
- Former Radioactive Waste Storage Area – Approximately 6 m<sup>2</sup> in size consisting of the following:
  - Concrete floor
  - Cinder block walls (2)
  - Drywall walls (2)





## Methods

Surveys of the areas above were completed on May 20, 2008 by Mr. Mike Jedlicka and Mr. Craig Harris, Health Physicist and Health Physics Technician, respectively. The radiation detection equipment listed in Table 1 was used to conduct all scans during the survey. Meter quality control (QC) data (background and check source response) are listed in Table 2. QC measurements were taken in areas of the facility where radioactive materials were not stored or utilized during historical operations.

Comprehensive scans were performed on the following:

- Lower Wall Scans – all accessible lower wall surfaces in the laboratory area, former radioactive waste storage area, and cafeteria were scanned with Meter #s 1 and 2 in Table 1. The lower wall surface is defined as the wall area from the floor up to two meters.
- Floor Scans – all accessible floor areas in the laboratory area, former radioactive waste storage area, and cafeteria were scanned with Meter #3 in Table 1.
- Bench tops and table tops in laboratory area.
- Under bench cabinets and drawers.
- Over bench cabinets and shelves.
- Sink surfaces and accessible drain areas in the laboratory area and cafeteria.
- Chemical fume hood surfaces and accessible duct work.
- Two step cans formerly dedicated for dry radioactive waste (empty) in laboratory area.

Smear samples were taken on the following:

- Floor – floor areas in the laboratory area, former radioactive waste storage area, and cafeteria.
- Bench tops in laboratory area.
- Lower walls in former radioactive waste storage area.
- Sink surfaces and drains in laboratory area and cafeteria (including eye wash station in laboratory area).
- Floor drains in laboratory area.
- Chemical fume hood surfaces and accessible duct work.
- Two step cans formerly dedicated for dry radioactive waste (empty) in laboratory area.

The following figures can be found at the end of this document:

- Figure 1 – Laboratory Area Survey Map
- Figure 2 – Former Radioactive Waste Area Survey Map



- Figure 3 – Cafeteria Area Survey Map

**Table 1 – Radiation Detection Equipment**

Meter Number	Description	Serial Number	Efficiency	Calibration Date
1	Ludlum Model 2224-1 equipped with a hand-held Ludlum Model 43-68 gas proportional probe.	187244	C-14 – 15% Sr-90 – 22% Tc-99 – 17%	02/01/2008
2	Ludlum Model 2224-1 equipped with a hand-held Ludlum Model 43-68 gas proportional probe.	187246	C-14 – 15% Sr-90 – 21% Tc-99 – 16%	02/01/2008
3	Ludlum Model 239-1F Floor Monitor equipped with a Ludlum Model 43-37 gas proportional probe and Ludlum Model 2224 ratemeter.	239-1F S/N: PR216900 2224 S/N: 162850	C-14 – 17% Sr-90 – 18% Tc-99 – 18%	02/01/2008

**Table 2 – QC Meter Information**

Meter Number	Serial Number	Background (cpm)	Check Source* (cpm)	Approx Efficiency* (%)
1	187244	221	4426	29.7
2	187246	156	3960	26.6
3	162850	526	4499	30.2

\* Check Source – Tc-99; 14,900 dpm (6.7 nCi); DNS-19 2219-90; 4/13/2006.



## **Results**

Surface scans of all floor and wall areas in the laboratory area, former radioactive waste room, and cafeteria yielded no evidence of radioactive contamination. Furthermore, no radioactive contamination was found during the scan of all benches, cabinets, drawers, shelves, sink surfaces, chemical fume hood surfaces.

Table 3 contains a description of the smear samples taken (location / item smeared) and a summary of the results. All smear samples taken exhibited results indicating normal background radiation rates. The original analytical data is maintained by Dade Moeller's Analytical Laboratory for regulatory purposes. Copies of raw data, analytical standard operating procedures, and QA/QC information are available upon request.

Dade Moeller and Associates found no evidence during the survey that radioactive contamination exists in any of the areas surveyed. The survey data supports the conclusion that the areas are suitable for free-release.



**Table 3 – Smear Location (Description) and Results**

Smear Number	Raw Data ID# (Gamma)	Raw Data ID# (LSC)	Location (Description)	Gamma Results (dpm)	LSC Results (dpm)
1	1	1	Bench	~ bkgd	~ bkgd
2	1	2	Bench	~ bkgd	~ bkgd
3	1	3	Bench	~ bkgd	~ bkgd
4	1	4	Bench	~ bkgd	~ bkgd
5	1	5	Bench	~ bkgd	~ bkgd
6	1	6	Bench	~ bkgd	~ bkgd
7	1	7	Bench	~ bkgd	~ bkgd
8	1	8	Bench	~ bkgd	~ bkgd
9	1	9	Bench	~ bkgd	~ bkgd
10	1	10	Bench	~ bkgd	~ bkgd
11	2	11	Bench	~ bkgd	~ bkgd
12	2	12	Bench	~ bkgd	~ bkgd
13	2	13	Bench	~ bkgd	~ bkgd
14	2	14	Bench	~ bkgd	~ bkgd
15	2	15	Bench	~ bkgd	~ bkgd
16	2	16	Bench	~ bkgd	~ bkgd
17	2	17	Bench	~ bkgd	~ bkgd
18	2	18	Bench	~ bkgd	~ bkgd
19	2	19	Bench	~ bkgd	~ bkgd
20	2	20	Bench	~ bkgd	~ bkgd
21	3	21	Bench	~ bkgd	~ bkgd
22	3	22	Bench	~ bkgd	~ bkgd
23	3	23	Bench	~ bkgd	~ bkgd
24	3	24	Hood Surface (right side)	~ bkgd	~ bkgd
25	3	25	Hood Surface (back side)	~ bkgd	~ bkgd
26	3	26	Hood Surface (left side)	~ bkgd	~ bkgd
27	3	27	Hood Surface (bottom surface)	~ bkgd	~ bkgd
28	3	28	Hood Surface (bottom surface)	~ bkgd	~ bkgd
29	3	29	Hood Surface (top and accessible duct work)	~ bkgd	~ bkgd
30	3	30	Hood Surface (top and accessible duct work)	~ bkgd	~ bkgd
31	4	31	Bench	~ bkgd	~ bkgd
32	4	32	Bench	~ bkgd	~ bkgd
33	4	33	Bench	~ bkgd	~ bkgd
34	4	34	Bench	~ bkgd	~ bkgd
35	4	35	Bench	~ bkgd	~ bkgd
36	4	36	Bench	~ bkgd	~ bkgd
37	4	37	Bench	~ bkgd	~ bkgd
38	4	38	Bench	~ bkgd	~ bkgd
39	4	39	Bench	~ bkgd	~ bkgd
40	4	40	Bench	~ bkgd	~ bkgd
41	5	41	Bench	~ bkgd	~ bkgd
42	5	42	Bench	~ bkgd	~ bkgd
43	5	43	Bench	~ bkgd	~ bkgd



Smear Number	Raw Data ID# (Gamma)	Raw Data ID# (LSC)	Location (Description)	Gamma Results (dpm)	LSC Results (dpm)
44	5	44	Hood Surface (left side)	~ bkgd	~ bkgd
45	5	45	Hood Surface (back side)	~ bkgd	~ bkgd
46	5	46	Hood Surface (right side)	~ bkgd	~ bkgd
47	5	47	Hood Surface (bottom surface)	~ bkgd	~ bkgd
48	5	48	Hood Surface (bottom surface)	~ bkgd	~ bkgd
49	5	49	Hood Surface (top and accessible duct work)	~ bkgd	~ bkgd
50	5	50	Hood Surface (top and accessible duct work)	~ bkgd	~ bkgd
51	6	51	Bench	~ bkgd	~ bkgd
52	6	52	Bench	~ bkgd	~ bkgd
53	6	53	Bench	~ bkgd	~ bkgd
54	6	54	Bench	~ bkgd	~ bkgd
55	6	55	Bench	~ bkgd	~ bkgd
56	6	56	Bench	~ bkgd	~ bkgd
57	6	57	Bench	~ bkgd	~ bkgd
58	6	58	Floor (Laboratory Area)	~ bkgd	~ bkgd
59	6	59	Floor (Laboratory Area)	~ bkgd	~ bkgd
60	6	60	Floor (Laboratory Area)	~ bkgd	~ bkgd
61	7	61	Floor (Laboratory Area)	~ bkgd	~ bkgd
62	7	62	Floor (Laboratory Area)	~ bkgd	~ bkgd
63	7	63	Floor (Laboratory Area)	~ bkgd	~ bkgd
64	7	64	Floor (Laboratory Area)	~ bkgd	~ bkgd
65	7	65	Floor (Laboratory Area)	~ bkgd	~ bkgd
66	7	66	Floor (Laboratory Area)	~ bkgd	~ bkgd
67	7	67	Floor (Laboratory Area)	~ bkgd	~ bkgd
68	7	68	Floor (Laboratory Area)	~ bkgd	~ bkgd
69	7	69	Floor (Laboratory Area)	~ bkgd	~ bkgd
70	7	70	Floor (Laboratory Area)	~ bkgd	~ bkgd
71	8	71	Floor (Laboratory Area)	~ bkgd	~ bkgd
72	8	72	Floor (Laboratory Area)	~ bkgd	~ bkgd
73	8	73	Floor (Laboratory Area)	~ bkgd	~ bkgd
74	8	74	Floor (Laboratory Area)	~ bkgd	~ bkgd
75	8	75	Floor (Laboratory Area)	~ bkgd	~ bkgd
76	8	76	Floor (Laboratory Area)	~ bkgd	~ bkgd
77	8	77	Floor (Laboratory Area)	~ bkgd	~ bkgd
78	8	78	Floor (Laboratory Area)	~ bkgd	~ bkgd
79	8	79	Floor (Laboratory Area)	~ bkgd	~ bkgd
80	8	80	Floor (Laboratory Area)	~ bkgd	~ bkgd
81	9	81	Floor (Laboratory Area)	~ bkgd	~ bkgd
82	9	82	Floor (Laboratory Area)	~ bkgd	~ bkgd
83	9	83	Floor (Laboratory Area)	~ bkgd	~ bkgd
84	9	84	Floor (Laboratory Area)	~ bkgd	~ bkgd
85	9	85	Floor (Laboratory Area)	~ bkgd	~ bkgd
86	9	86	Floor (Laboratory Area)	~ bkgd	~ bkgd
87	9	87	Floor (Laboratory Area)	~ bkgd	~ bkgd
88	9	88	Floor (Laboratory Area)	~ bkgd	~ bkgd





Smear Number	Raw Data ID# (Gamma)	Raw Data ID# (LSC)	Location (Description)	Gamma Results (dpm)	LSC Results (dpm)
89	9	89	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
90	9	90	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
91	10	91	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
92	10	92	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
93	10	93	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
94	10	94	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
95	10	95	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
96	10	96	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
97	10	97	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
98	10	98	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
99	10	99	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
100	10	100	Sink Surface (Laboratory Area)	~ bkgd	~ bkgd
81	12	102	Plexiglas rad waste container inside bottom	~ bkgd	~ bkgd
82	12	103	Plexiglas rad waste container inside top	~ bkgd	~ bkgd
83	12	104	Plexiglas rad waste container outside bottom	~ bkgd	~ bkgd
84	12	105	Plexiglas rad waste container outside top	~ bkgd	~ bkgd
3	13	106	Metal rad waste container outside top	~ bkgd	~ bkgd
4	13	107	Metal rad waste container outside bottom	~ bkgd	~ bkgd
5	13	108	Metal rad waste container inside top	~ bkgd	~ bkgd
6	13	109	Metal rad waste container inside bottom	~ bkgd	~ bkgd
85	15	111	Floor (Cafeteria Area)	~ bkgd	~ bkgd
86	15	112	Floor (Cafeteria Area)	~ bkgd	~ bkgd
87	15	113	Floor (Cafeteria Area)	~ bkgd	~ bkgd
88	15	114	Floor (Cafeteria Area)	~ bkgd	~ bkgd
89	15	115	Floor (Cafeteria Area)	~ bkgd	~ bkgd
90	15	116	Floor (Cafeteria Area)	~ bkgd	~ bkgd
91	15	117	Floor (Cafeteria Area)	~ bkgd	~ bkgd
92	15	118	Floor (Cafeteria Area)	~ bkgd	~ bkgd
93	15	119	Floor (Cafeteria Area)	~ bkgd	~ bkgd
94	15	120	Floor (Cafeteria Area)	~ bkgd	~ bkgd
95	16	121	Floor (Cafeteria Area)	~ bkgd	~ bkgd
96	16	122	Floor (Cafeteria Area)	~ bkgd	~ bkgd
97	16	123	Floor (Cafeteria Area)	~ bkgd	~ bkgd
98	16	124	Floor (Cafeteria Area)	~ bkgd	~ bkgd
99	16	125	Floor (Cafeteria Area)	~ bkgd	~ bkgd
100	16	126	Sink (Cafeteria Area)	~ bkgd	~ bkgd
7	18	128	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
8	18	129	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
9	18	130	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
10	18	131	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
11	18	132	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
12	18	133	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
13	18	134	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
14	18	135	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
15	18	136	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd



Smear Number	Raw Data ID# (Gamma)	Raw Data ID# (LSC)	Location (Description)	Gamma Results (dpm)	LSC Results (dpm)
16	18	137	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
17	19	138	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
18	19	139	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
19	19	140	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
20	19	141	Floor (Former Rad Waste Area)	~ bkgd	~ bkgd
21	19	142	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
22	19	143	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
23	19	144	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
24	19	145	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
25	19	146	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
26	20	147	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
27	20	148	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
28	20	149	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
29	20	150	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
30	20	151	Wall Surface (Former Rad Waste Area)	~ bkgd	~ bkgd
S1	22	153	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S2	22	154	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S3	22	155	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S4	22	156	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S5	22	157	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S6	23	158	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S7	23	159	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S8	23	160	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S9	23	161	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S10	23	162	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S11	24	163	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S12	24	164	Sink Drain (Laboratory Area)	~ bkgd	~ bkgd
S13	24	165	Eye Wash (Laboratory Area)	~ bkgd	~ bkgd
FD1	26	166	Floor Drain (Laboratory Area)	~ bkgd	~ bkgd
FD2	26	167	Floor Drain (Laboratory Area)	~ bkgd	~ bkgd

(See Figures 1-3 for exact locations)

(Analysis Number 08-0162; Analysis Date 05/31/2008)

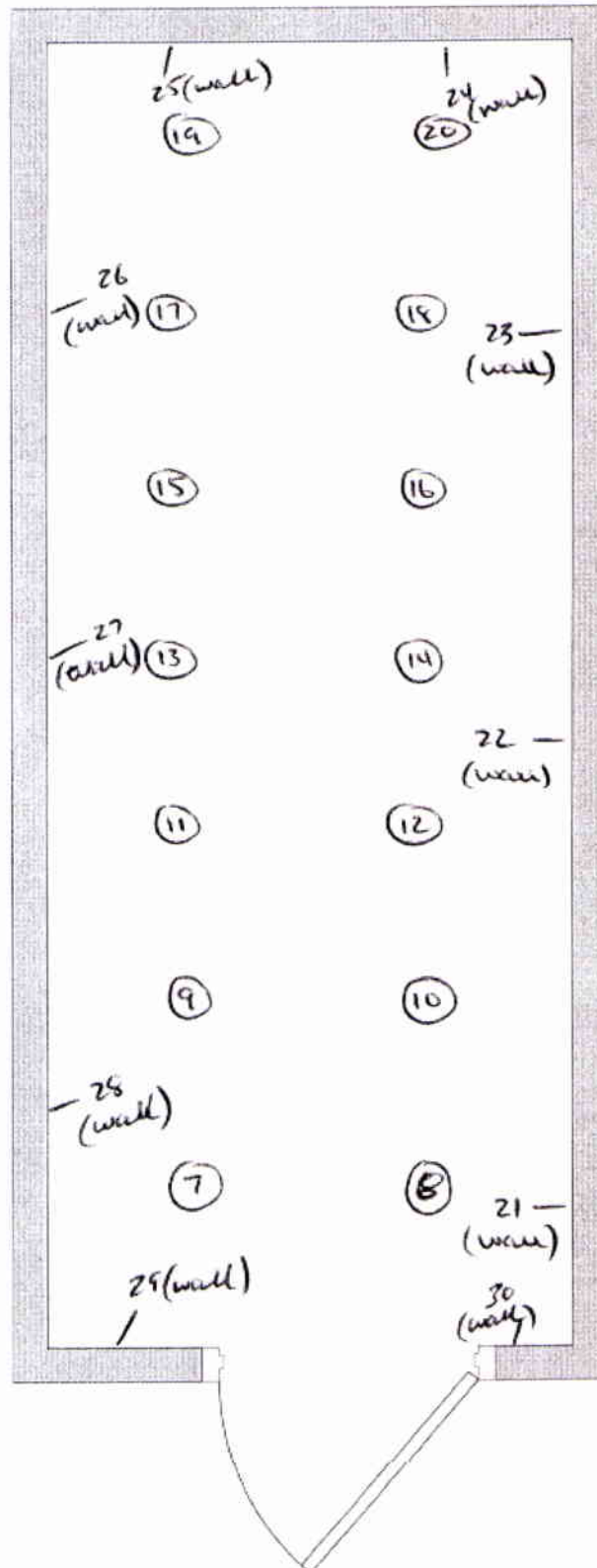
Background Values: {LSC: 0-18.6 keV (13.3 dpm); 0-156 keV (9.0 dpm); 0-2000 keV (21.4 dpm)}  
{Gamma: 260-410 keV (60 cpm); 0-2000 keV (503 cpm)}



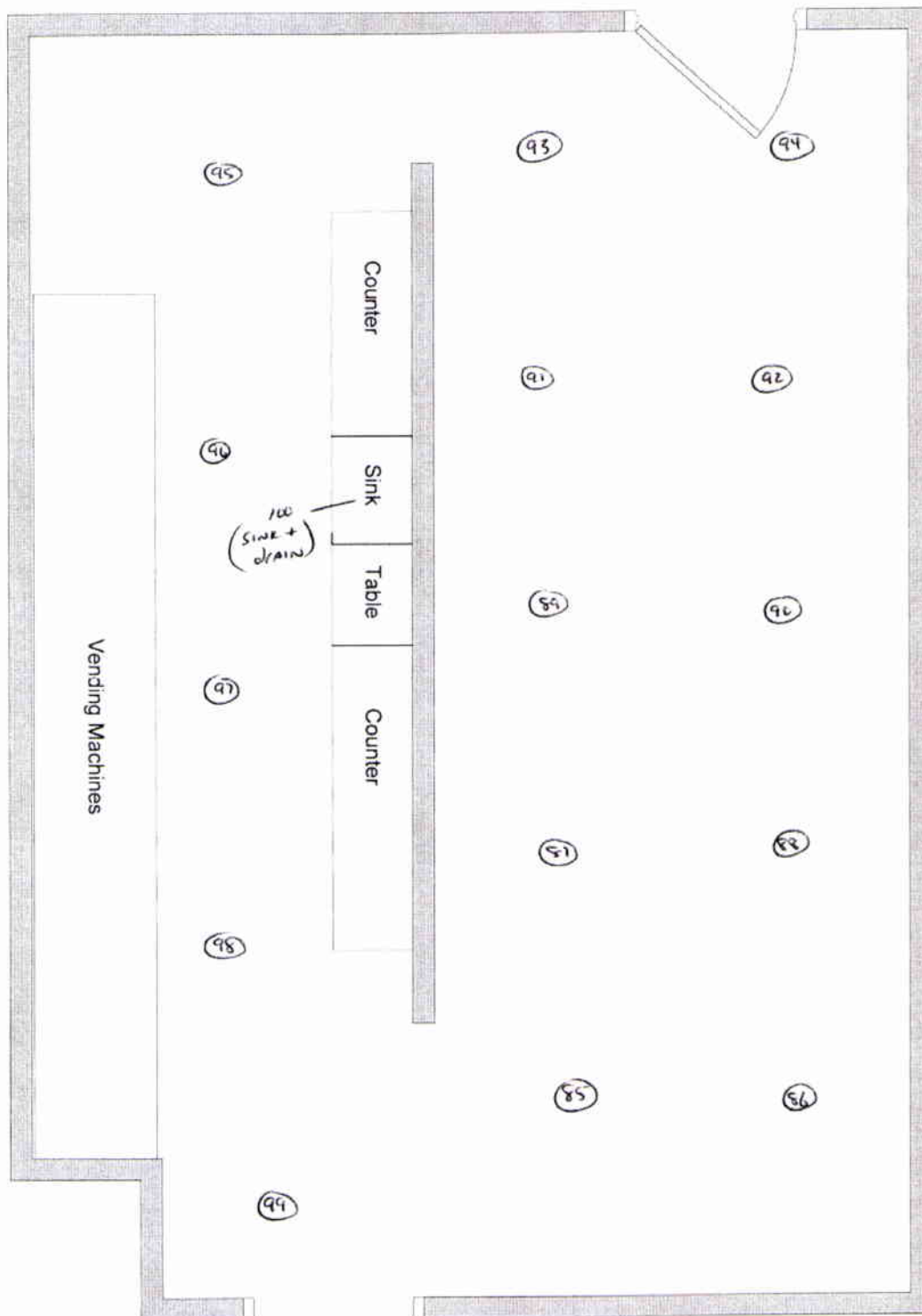


[illegible]

**Figure 2 – Former Radioactive Waste Area**



**Figure 3 – Cafeteria Area**



**Attachment 2**

**Radioactive Waste Shipping  
Records**



06-Oct-08

PALL CORP  
ROBERT ERPS  
ENVIRONMENTAL SAFETY  
600 S WAGNER ROAD  
ANN ARBOR MI 48103

REF: MANIFEST NUMBER: 28898  
SHIPMENT NUMBER: BIO-335-O

### CERTIFICATE OF DISPOSAL

THIS IS TO CERTIFY THAT THE WASTE MATERIALS RECEIVED FROM:

**PALL CORP**  
MANIFEST NUMBER: **28898**

HAVE BEEN DISPOSED OF IN FULL. IN ACCORDANCE WITH ALL  
APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

  
RAYMOND WHITTLE, FACILITY MANAGER



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number <b>MID005 3 41 8 13</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>865-220-8520</b>	4. Manifest Tracking Number <b>000328898 JJK</b>	
5. Generator's Name and Mailing Address <b>Pall Corp 800 S. Wagner Road Ann Arbor, MI 48103</b>		Generator's Site Address (if different than mailing address)				
Generator's Phone:						
6. Transporter 1 Company Name <b>Bionomics Inc.</b>		U.S. EPA ID Number <b>IND982 1 16 4 93</b>				
7. Transporter 2 Company Name		U.S. EPA ID Number				
8. Designated Facility Name and Site Address <b>Perma-Fix of Florida 1940 NW 67th. Place Gainesville, FL 32653</b>		U.S. EPA ID Number <b>FLD9807 11 0 7 1</b>				
Facility's Phone: <b>352-373-0088</b>						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
			No.	Type		
	1. Waste Flammable Liquid n.o.s., UN1993 (Contains - Toluene/EPA-D001)		001	DF	0001	P
				13. Waste Codes		
				D001		
				U220		
14. Special Handling Instructions and Additional Information 9b1. Lab Pack. See Radioactive Shipment Manifest. Profile# RS 6736 <b>SEE RADIOACTIVE SHIPMENT MANIFEST # 12808A</b>						
15. GENERATOR/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/accarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name <b>On behalf of German Sciences</b> Signature <b>Robert Erps.</b> Month <b>1</b> Day <b>12</b> Year <b>1908</b>						
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:						
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name <b>BRYAN KIRK</b> Signature <b>Bryan Kirk</b> Month <b>1</b> Day <b>12</b> Year <b>1908</b> Transporter 2 Printed/Typed Name Signature Month Day Year						
18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: U.S. EPA ID Number 18b. Alternate Facility (or Generator) U.S. EPA ID Number Facility's Phone: <b>COPY</b> Month Day Year 18c. Signature of Alternate Facility (or Generator) Month Day Year						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. 2. 3. 4.						
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a Printed/Typed Name Signature Month Day Year						

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)



## LAND DISPOSAL RESTRICTION &amp; CERTIFICATION FORM

DSSI • M&amp;EC • Perma-Fix of Florida

Generator Name: Pall Corp  
 Generator Address: 600 S. Wagner Road  
 State Manifest No.: N/A

Generator USEPA ID No.: MI-D005341813  
 City/ST/Zip: Ann Arbor, MI 48103  
 Manifest Doc. No.: 000328898JJK

## Instructions

1. In Column 1 identify all USEPA hazardous waste codes that apply to this waste shipment.
2. In Column 2, choose the appropriate treatability group: Non-Wastewater (NWW) or Wastewater (WW).
3. In Column 3, enter the appropriate Subcategory, if applicable, and also enter "Contaminated Soil" or "Debris" if the waste can be treated using one of the alternative treatment technologies provided by 268.49(c) (soil) or 268.45 (debris).
4. In Column 4, place an "x" in the block that corresponds to the appropriate LDR management category described at the bottom of this form.
5. In Column 5, enter the Reference Number(s) from the LDR-UHC Constituent Table for any constituents subject to treatment in your waste stream.

Go to LDR-UHC Constituent Table

Manifest Line Item #	1. USEPA HAZARDOUS WASTE CODES	2. NWW or WW	3. SUBCATEGORY	4. HOW MUST THE WASTE BE MANAGED (Check one)											5. REFERENCE NUMBER(s) of Hazardous Constituents contained in this waste			
				A	B	C	D	E	F	G	H	Soil Only						
11.A	DC01, U220	<input checked="" type="checkbox"/> NWW	High TOC	<input checked="" type="checkbox"/>											Does	<input type="checkbox"/>	is subject to	
		<input type="checkbox"/> WW													Does Not	<input type="checkbox"/>	complies with	
11.B		<input type="checkbox"/> NWW													Does	<input type="checkbox"/>	is subject to	
		<input type="checkbox"/> WW													Does Not	<input type="checkbox"/>	complies with	
11.C		<input type="checkbox"/> NWW													Does	<input type="checkbox"/>	is subject to	
		<input type="checkbox"/> WW													Does Not	<input type="checkbox"/>	complies with	
11.D		<input type="checkbox"/> NWW													Does	<input type="checkbox"/>	is subject to	
		<input type="checkbox"/> WW													Does Not	<input type="checkbox"/>	complies with	

I hereby certify that all information submitted on this and all associated documents is complete and accurate to the best of my knowledge and information.

Generator Name: [Signature] Title: [Signature] Date: 1-29-08

- A. THIS RESTRICTED WASTE REQUIRES TREATMENT TO THE APPLICABLE STANDARD. This waste must be treated to the applicable performance based treatment standard set forth in 40CFR Part 268 Subpart C, 268.32, Subpart D, 268.40 or RCRA Section 3004(d), prior to land d
- B. THIS HAZARDOUS DEBRIS MAY BE TREATED USING THE DEBRIS ALTERNATIVE TREATMENT STANDARDS OF 40 CFR 268.45. I certify under penalty of law that I personally have examined and am familiar with the waste and that the statement above is true and that this waste is
- C. THIS RESTRICTED WASTE HAS BEEN TREATED TO THE APPLICABLE TREATMENT STANDARD(S). I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this ce
- D. THIS RESTRICTED DEBRIS HAS BEEN TREATED IN ACCORDANCE WITH 40 CFR 268.45. I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for making fals
- E. THIS LAB PACK DOES NOT CONTAIN ANY WASTES IDENTIFIED AT APPENDIX IV TO PART 268. I certify under penalty of law that I personally have examined and am familiar with the waste and that the statement above is true and that this lab pack will be sent to a co
- F. THIS RESTRICTED WASTE HAS BEEN TREATED TO REMOVE THE HAZARDOUS CHARACTERISTIC. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterizec
- G. THIS RESTRICTED WASTE HAS BEEN TREATED TO REMOVE THE HAZARDOUS CHARACTERISTIC AND BEEN TREATED FOR UNDERLYING HAZARDOUS CONSTITUENTS. I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to re
- H. THIS RESTRICTED WASTE IS SUBJECT TO AN EXEMPTION FROM LAND DISPOSAL. (Please include the date the waste is subject to the prohibitions in Column 5) This waste is subject to an exemption from a prohibition on the type of land disposal method utilized for t
- S. THIS CONTAMINATED SOIL (DOES / DOES NOT) CONTAIN LISTED HAZARDOUS WASTE AND (DOES / DOES NOT) EXHIBIT A CHARACTERISTIC OF HAZARDOUS WASTE AND (IS SUBJECT TO / COMPLIES WITH) THE SOIL TREATMENT STANDARDS AS PROVIDED BY 268.49(c) OR THE UNIVERSAL TREATMENT





08-Feb-10

PALL CORPORATION  
DUANE RAUL  
ENVIRONMENTAL SAFETY  
600 S WAGNER RD  
ANN ARBOR MI 48103

REF: MANIFEST NUMBER: 000328782JJK  
SHIPMENT NUMBER: BIO-327-O


### **CERTIFICATE OF TREATMENT/DISPOSAL**

THIS IS TO CERTIFY THAT THE WASTE MATERIALS RECEIVED FROM:

**PALL CORPORATION**

MANIFEST NUMBER: **000328782JJK**

HAVE BEEN DISPOSED OF IN FULL. IN ACCORDANCE WITH ALL  
APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.

  
RAYMOND WHITTLE, FACILITY MANAGER



p.5

2484497217

Feb 17 09 11:49a

D FORM 540

UNIFORM LOW-LEVEL RADIOACTIVE  
WASTE MANIFEST  
SHIPPING PAPER

BIONOMICS, INC.

## 5. SHIPPER NAME AND FACILITY

Pall Corporation  
600 S Wagner Road  
Ann Arbor, MI 48103

## SHIPPER ID NUMBER

COLLECTOR

PROCESSOR

## 7. NRC FORM 540 AND 540A

NRC 541 AND 541A

NRC 542 AND 542A

ADDITIONAL INFORMATION

PAGE 1 OF 1

EMERGENCY TELEPHONE NUMBER (Include Area Code)

(866) 220-8520

GANIZATION

BIONOMICS, INC.

IS THIS AN "EXCLUSIVE USE" SHIPMENT?

☐ YES  
☒ NO3. TOTAL NUMBER OF  
PACKAGES IDENTIFIED  
ON THIS MANIFEST

1

DOES EPA REGULATE

☐ YES

WASTE REQUIRING A

☒ NO

MANIFEST ACCOMPANY

THIS SHIPMENT?

"Yes" provide Manifest Number =====&gt;

EPA MANIFEST NUMBER

000328E9855K

USER PERMIT NUMBER

SHIPMENT NUMBER

GENERATOR TYPE (Specify)

1

CONTACT

Robert Erps

TELEPHONE NUMBER

(Including Area Code)

(248) 449-48103

9. CONSIGNEE Name and Facility Address

Perma-Fix of Florida  
1940 NW 67th Place  
Gainesville, FL 32653

6. CARRIER Name and Address

Bionomics, Inc.  
1550 Bear Creek Road  
Oak Ridge, TN 37830

EPA I.D. NUMBER

TND982116493

SHIPPING DATE

1/29/08

TELEPHONE NUMBER

(Including Area Code)

(866) 220-8501

CONTACT

John McCormick

SIGNATURE - Authorized carrier acknowledging waste receipt

DATE

1/29/08

SIGNATURE - Authorized consignee acknowledging waste receipt

10. CERTIFICATION

This is to certify that the herein named materials are properly classified, described, and in proper condition for transportation according to the applicable regulations of the DOT. I certify that the materials are classified, packaged, marked, and labeled and are in disposal as described in accordance with the requirements of 10 CFR Part 20 and

AUTHORIZED SIGNATURE

TITLE

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION

(Including proper shipping name, hazard class, UN ID number, and any additional information)

Flammable Liquid, n.e.s., 3, UN1993, II (EPA-C001, U220)

12. DOT LABEL  
"RADIOACTIVE"

N/A

13. TRANSPORT  
INDEX

N/A

14. PHYSICAL AND  
CHEMICAL FORMLiquid / Organic  
Solvents15. INDIVIDUAL  
RADIOISOTOPES

H 3

16. TOTAL PACKAGE  
ACTIVITY IN MBq

0.37

17. LSAS/CO  
CLASS

N/A

BIONOMICS, INC.

COPY

02/17/2009 TUE 12:00

[ JOB NO. 5094 ]

0005

### TE DESCRIPTION

### Requirements for Control, Transfer, and and Waste

DTE 1A: Process Type Codes Are Specific To Biomass  
and Only Apply To How The Waste Will Be Processed /  
landed By The Client. Use up to two process codes and  
a land code.

- 1A. deprotest bill  
 1A. Supercompact  
 1A. Incineration  
 1A. Tranship  
 1A. Solidity  
 1A. Entrepreneurial  
 1A. Mental Health  
 1A. Sort  
 1A.  
 1A.  
 1A. Other. Specify in the block or on an attached page

Note 2. Waste Descriptor Codes: (Choose up to three predominants by volume.)

- |                           |                                 |  |
|---------------------------|---------------------------------|--|
| 20 Charcoal               | 29 Detrital Rubble              | 35 Evaporator Bottoms / Sludges / Concentrates   |
| 21 Micronized Ash         | 30 Gellion Ion-exchange Media   | 39 Compressible Trash                            |
| 22 Soil                   | 31 Gellan Ion-exchange Media    | 40 Noncompressible Trash                         |
| 23 Gas                    | 32 Mixed Bed Ion-exchange Media | 41 Animal Carcasses                              |
| 24 Oil                    | 33 Contaminated Equipment       | 42 Biological Material (except animal carcasses) |
| 25 Aqueous Liquid         | 34 Organic Liquid               | 43 Activated Material                            |
| 26 Filter Media           | 35 Outwash or Lignite           | 50 Other Describe on Item 1:                     |
| 27 Mechanical Filter      | 36 Sealed Source / Device       | or add extra page                                |
| 28 FPA or State Hazardous | 37 Paint or Painting            |  |

Note 3. For solidification media that meet disposable structural stability requirements, the numerical code must be followed by "S". For all solidification media, the vendor (trade name) and brand name must also be identified in Item 13. Code 100-WH-01 REQUIRED.

## 1. INTRODUCTION

- |    |             |    |               |    |                |     |                        |
|----|-------------|----|---------------|----|----------------|-----|------------------------|
| 60 | Speed Di    | 55 | Sold A Sord   | 77 | Assault II     | 21  | Concrete               |
| 61 | Calikin     | 56 | Character 35  | 80 | GPas           | 22  | Blumen                 |
| 62 | Floor Layr  | 70 | Chimel 50     |    | Describe in    | 23  | VPs                    |
|    | Superme     | 71 | Chimel 2039   |    | Item 12, or    | 24  | VPs, Childe            |
| 63 | Hi Fin      | 72 | Discap HP-200 |    | or additional  | 94  | Other, Describe in     |
| 64 | Sale T Sord | 73 | Discap HP-500 |    | page.          |     | Item 12, or additional |
| 65 | Sale In Di  | 74 | Dispen        |    |                |     | page.                  |
| 66 | Floor       | 75 | Pekase II     |    | SOLIDIFICATION | 100 | None Required          |
| 67 | Floor X     | 76 | Acquest       |    | 50, Gattin     |     |                        |

Sheet: 1100-1 of 1100-1

02/17/2009 TUE 12:00 [JOB NO. 5094] 004





P.O. Box 817 — Kingston, TN 37763 — (865) 220-8501

January 04, 2008

Mr. Mike Everett  
Pall Corporation  
600 S. Wagner Road  
Ann Arbor, MI 48103

RE: Barnwell Disposal Certificate

Dear Mr. Mike Everett:

This is to certify that the following radioactive material picked up at your facility on July 19, 2007, on manifest # 71907E, has been disposed of at the Chem-Nuclear Disposal Site in Barnwell, SC.

Please reference the following table for detailed disposal information of shipment.

Barnwell Manifest Number	Barnwell Container Number	Disposal Volume (ft <sup>3</sup> )	Barnwell Shipment Number	Barnwell Disposal Date
1207-13537	B307	0.100	1207-13537	12/20/2007

If you have any questions please feel free to contact me at (865) 220-8501.

Thank you,

Rene Guy  
Administrative Manager

Cc: File

CONSIGNEE ORIGINAL COPY (MUST ACCOMPANY WASTE IN TRANSIT)

APPROVED BY DMS: NO. 3150-0189  
EXPIRES: 06/30/2007

Estimates longer are required to comply with this information collection request. 30 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies by the 1974 (24 CFR 200.100) and 1980 (24 CFR 200.100) of the Federal Register. See comments regarding this uniform manifest to the Records and Policy Services Branch (7-5732) U.S. Nuclear Regulatory Commission, Washington, DC 20540-0001 or by internal email to: pld@nrc.gov and to the Data Officer, Office of Information and Regulatory Affairs, NRC-12002, (7-5732-0189) Office of Management and Budget, Washington, DC 20503. If a waste is used to produce a radioactive material, the NRC must have control number and a permit to use must be provided to respond to the information request.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION										1. MANIFEST TOTALS					2. WASTE NUMBER			
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste										ALL NUCLEIDES					TOTAL		PAGE 1 OF 1 PAGE(S)	
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					WASTE CLASSIFICATION			
3. CONTAINER IDENTIFICATION (MANUFACTURER OR OPERATOR ID NUMBER)	4. CONTAINER DESCRIPTION (See Note 1)	5. VOLUME (m <sup>3</sup> )	6. WASTE AND CONTAINER WEIGHT (kg)	7. SURFACE RADIATION LEVEL (mSv/hr) (See Note 2)	8. SURFACE CONTAMINATION (Bq/100cm <sup>2</sup> ) (See Note 2)	9. ALPHA	10. BETA-GAMMA	11. WASTE DESCRIPTION TOP	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER	13. SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION	15. RADIOLOGICAL DESCRIPTION	16. WEIGHT & CHEMICAL AGENT (See Note 3)	17. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (Bq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	18. WASTE CLASSIFICATION (See Note 4)			
PG-1	4	0.019	5163	2.25	10,000	3330	1160	36	9,000	100	OX 1055 / WY	WY	1129 = 9.62e-4	C				

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

- |                              |   |
|------------------------------|---|
| 1. Wooden Box or Crate       | 8. Drummer  |
| 2. Metal Box                 | 9. Gas Cylinder                                   |
| 3. Plastic Drum or Pail      | 10. Bulk Unpackaged Waste                         |
| 4. Metal Drum or Pail        | 11. Unpackaged Components                         |
| 5. Metal Tank or Line        | 12. High-Intensity Container                      |
| 6. Concrete Tank or Line     | 13. Other, Check box in item 1 or additional page |
| 7. Polyethylene Tank or Line |   |
| 8. Fiberglass Tank or Line   |   |

NRC FORM 541 (5-2004)

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

- |                            |                                  |   |
|----------------------------|----------------------------------|---|
| 20. Chemical               | 26. Demolition Debris            | 32. Proprietary Products/Byproducts/Contaminants  |
| 21. Inorganic Acid         | 27. Cellar (unexchangeable)      | 33. Compostable Trash                             |
| 22. Oil                    | 28. Anion Exchange Media         | 34. Noncompostable Trash                          |
| 23. Gas                    | 29. Mixed Bed Ion Exchange Media | 35. Animal Carcasses                              |
| 24. Oil                    | 30. Contaminated Equipment       | 36. Biological Material (except animal carcasses) |
| 25. Aqueous Liquid         | 31. Organic Liquid (except oil)  | 37. Asbestos Material                             |
| 26. Filter Media           | 32. Glassware or Labware         | 38. Other, Describe in item 1 or additional page  |
| 27. Mechanical Parts       | 33. Solid Source Cables          |   |
| 28. EPA or State Hazardous | 34. Date of Listing              |   |

NOTE 3: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "S". For all solidification media, the vendor (manufacturer) and brand name must also be identified in item 13. Code 100 means BULKY.

- | Sorption          | Solidification |
|-------------------|----------------|
| 39. Sorption      | 40. Cement     |
| 41. Carbon        | 41. Cement     |
| 42. Polypropylene | 42. Cement     |
| 43. Superfine     | 43. Cement     |
| 44. Dr            | 44. Cement     |
|                   | 45. Cement     |
|                   | 46. Cement     |
|                   | 47. Cement     |
|                   | 48. Cement     |
|                   | 49. Cement     |
|                   | 50. Cement     |
|                   | 51. Cement     |
|                   | 52. Cement     |
|                   | 53. Cement     |
|                   | 54. Cement     |
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|                   | 85. Cement     |
|                   | 86. Cement     |
|                   | 87. Cement     |
|                   | 88. Cement     |
|                   | 89. Cement     |
|                   | 90. Cement     |
|                   | 91. Cement     |
|                   | 92. Cement     |
|                   | 93. Cement     |
|                   | 94. Cement     |
|                   | 95. Cement     |
|                   | 96. Cement     |
|                   | 97. Cement     |
|                   | 98. Cement     |
|                   | 99. Cement     |
|                   | 100. Cement    |

CONSIGNEE ORIGINAL COPY



*Bionomics,  
Inc.*

P.O. Box 817 — Kingston, TN 37763 — (865) 220-8501

July 23, 2007

Mr. Mike Everett  
Pall Corporation  
600 S. Wagner Road  
Ann Arbor, MI 48103

Dear Mr. Mike Everett,

As required by 10 CFR Part 20 (Appendix G), this letter is notification that Bionomics, Inc. has received the shipment recently picked up at your facility on July 19, 2007. Attached you will find a copy of your NRC Form 540, the only change from the original is in Item No. 9 "signature" which identifies that Bionomics, Inc. is acknowledging receipt of waste from your facility.

Please keep this with your original, as well as future disposal certifications.

If you have any questions please feel free to contact me at (865) 220-8501.

Sincerely,

  
Rene Guy  
Administrative Manager

Cc: File BIO-20-07

Please print or type. (Form designed for use on eight (12-pitch) typewriter.)

Form Approved. DMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>MI00053 41813</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>865-220-8520</b>	4. Manifest Tracking Number <b>000328782 JJK</b>
5. Generator's Name and Mailing Address <b>Pall Corp</b> <b>800 S. Wagner Road</b> <b>Ann Arbor, MI 48103</b>		Generator's Site Address (if different than mailing address)			
Generator's Phone <b>(734) 913-6333</b>					
6. Transporter 1 Company Name <b>Bionomics Inc.</b>		U.S. EPA ID Number <b>TND982 1 16 4 93</b>			
7. Transporter 2 Company Name		U.S. EPA ID Number			
8. Designated Facility Name and Site Address <b>Perma-Fix of Florida</b> <b>1940 NW 87th. Place</b> <b>Gainesville, FL 32653</b>		U.S. EPA ID Number <b>FLD980711071</b>			
Facility's Phone: <b>352-373-8088</b>					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.
	1. <b>Waste Flammable Liquid n.o.s., 3, UN1993, (Contains - Toluene/EPA-D001) "Limited Quantity Radioactive Material"</b>	<b>001</b>	<b>DF</b>	<b>0001</b>	<b>P</b>
	2.				
	3.				
	4.				
13. Waste Codes <b>D001</b> <b>P005</b> <b>P003</b>					
14. Special Handling Instructions and Additional Information <b>(b) (1) Lab Pack Exempt Radioactive Shipment Manifest</b> <b>Exempt 2510.2</b>					
15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled, packaged, and are in full compliance with applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Receipt. I certify that the waste identification statement identified in 40 CFR 262.22(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Owner's Printed/Typed Name <b>Dwight R. Kirk</b>		Signature <i>[Signature]</i>		Month Day Year <b>7 19 07</b>	
16. International Shipments	<input type="checkbox"/> Import to U.S.		<input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:
	Transporter signature (for exports only):				
17. Transporter Acknowledgment of Receipt of Materials	Transporter 1 Printed/Typed Name <b>BRYAN KIRK</b>		Signature <i>[Signature]</i>		Month Day Year <b>7 19 07</b>
	Transporter 2 Printed/Typed Name		Signature		Month Day Year
18. Discrepancy					
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
18b. Manifest Reference Number:					
18c. Signature of Alternate Facility (or Generator)					
18d. Signature of Alternate Facility (or Generator)					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems):					
1.		2.		3.	
4.		5.		6.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 18a					
Printed/Typed Name		Signature		Month Day Year	

EPA Form 6700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

012



APPROVED BY OMB: NO 3160-0164  
EXPIRES: 04/30/2007

Estimated burden per response to comply with this information collection request is 45 minutes. This reporting requirement 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 this estimate to the Records and Compliance Services Branch (1-875-322 U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001) or by internet e-mail to nrc@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, HCOB-U022, (1100)0164, Office of Management and Budget, Washington, DC 20503. It is requested that you provide an informed collection does not duplicate a currently held OMB control number. The NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

<b>NRC FORM 640</b> (6-2004) <b>U.S. NUCLEAR REGULATORY COMMISSION</b> <b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER</b>		<b>3. OFFER - NAME AND FACILITY</b> PAL CORP 600 S. WAGNER RD ANN ARBOR MI 48103 USER PERMIT NUMBER: SHIPMENT NUMBER:		<b>6. EMPLOYER NUMBER</b> <input type="checkbox"/> COLLECTOR <input type="checkbox"/> PROCESSOR <input checked="" type="checkbox"/> GENERATOR TYPE (Specify)		<b>7. NRC FORM 540 AND 540A</b> NRC FORM 541 AND 541A NRC FORM 542 AND 542A ADDITIONAL INFORMATION:		<b>8. MANIFEST NUMBER</b> (Use this number on all corresponding reports) 060328782JK													
<b>1. EMERGENCY TELEPHONE NUMBER</b> (Include Area Code) (865) 230-8520		<b>4. CONTACT</b> MIKE EVERETT <b>5. CARRIER - Name and Address</b> BIONOMICS, INC 1530 BEAR CREEK AV OAK RIDGE TN 37830		<b>9. CONSIGNEE - Name and Facility Address</b> PERMANENT FIX 1940 N W 6TH PL GAINESVILLE FL 32653 SIGNATURE: AUTHORIZED REPRESENTATIVE (Include title and date) DATE: 7/15/07		<b>10. CERTIFICATION</b> 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 requirements of the Department of Transportation. This also certifies that the materials are consigned, packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the applicable requirements of 10 CFR Parts 20 and 81, or equivalent state regulations. AUTHORIZED SIGNATURE: TITLE: DATE:															
<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> 1		<b>4. DOES EPA REGULATE WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?</b> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If "Yes," provide manifest number: 060328782JK		<b>11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION</b> (Including proper shipping name, hazard class, UN ID number, and any additional information) WASTE FLAMMABLES (LQID), N/A N/A UN1993, II (GAS/FLU/OPA-DOO1) LIMITED QUANTITY RADIOACTIVE MATERIAL		<b>12. DOT LABEL RADIOACTIVE</b> N/A		<b>13. TRANSPORT INDEX</b> N/A		<b>14. PHYSICAL AND CHEMICAL FORM</b> LIQUID/GEL/SLURRY H <sub>2</sub> , CH <sub>4</sub>		<b>15. INDIVIDUAL RADIOACTIVITY</b> 1.48E+10S		<b>16. LEASCO CLASS</b> N/A		<b>17. TOTAL WEIGHT OR VOLUME</b> (Use appropriate units) 0.0945 PC-3		<b>18. IDENTIFICATION NUMBER OF PACKAGE</b> PC-3	
<b>FOR CONSIGNEE USE ONLY</b>																					

NRC FORM 640 (6-2004)

CONSIGNEE ORIGINAL COPY (MUST ACCOMPANY WASTE IN TRANSIT)

*Zionomics,  
Inc.*

P.O. Box 817 — Kingston, TN 37763 — (865) 220-8501

August 07, 2007

Mr. Mike Everett  
Pall Corporation  
600 S. Wagner Road  
Ann Arbor, MI 48103

Dear Mr. Mike Everett,

As required by 10 CFR Part 20 (Appendix G), this letter is notification that Energy Solutions (formerly Duratek) has received the shipment recently picked up at your facility on July 19, 2007. Attached you will find a copy of your NRC Form 540, the only change from the original is in Item No. 9 "signature" which identifies that Energy Solutions is acknowledging receipt of waste from your facility.

Please keep this with your original, as well as future disposal certifications.

If you have any questions please feel free to contact me at (865) 220-8501.

Sincerely,



Rene Guy  
Administrative Manager

Cc: File GTS-07-018



P.O. Box 817 — Kingston, TN 37763 — (865) 220-8501

September 12, 2007

Mr. Mike Everett  
Pall Corporation  
600 S. Wagner Road  
Ann Arbor, MI 48103

Dear Mr. Mike Everett:

This letter certifies that Duratek, Inc. (Energy Solutions) has processed the materials from your shipment as indicated below:

Please reference the following table for detailed disposal information.

Manifest Number	Shipment Date	Container Number	Incineration Date
71907D	07/19/2007	PC-2	8/23/2007

Note: Any ash from the incineration process becomes Duratek's (Energy Solutions) waste.

If you have any questions please feel free to contact me at (865) 220-8501.

Sincerely,

Rene Guy  
Administrative Manager

Cc: File

APPROVED BY OMB: NO. 3160-0164  
EXPIRES: 06/30/2007

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. Every shipment requires a signed manifest to the Recipient and NRC/Physical Services Branch (PSS) U.S. Nuclear Regulatory Commission, Washington, DC 20555-2001, or by internet to the NRC's Office of Research and Regulatory Affairs, NRC-1000 (NRC-1000) Office of Management and Budget, Washington, DC 20503. If a manifest is used to transport an information collection does not display a currently valid NRC license number, the NRC may not conduct or sponsor and a person is not required to respond to, the information collection.

<b>NRC FORM 540</b> (8-2004)  <b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST</b> <b>SHIPPING PAPER</b>		<b>U.S. NUCLEAR REGULATORY COMMISSION</b> <b>SHIPPER NAME AND FACILITY</b> FALL CORPORATION 600 S. WAGGON RD ANN ARBOR MI 48103 USER IDENTIFICATION NUMBER: SHIPMENT NUMBER:		<b>SHIPPER TO NUMBER</b> <input type="checkbox"/> COLLECTOR <input type="checkbox"/> PROCESSOR <input checked="" type="checkbox"/> GENERATOR TYPE (Specify) <b>TELEPHONE NUMBER</b> (Include Area Code) 734-73-6885 <b>EPA ID NUMBER</b> TN08216493 <b>SHIPPING DATE</b> 7/19/07 <b>TELEPHONE NUMBER</b> (Include Area Code) (865) 220-8525 <b>DATE</b> 7/19/07		<b>7. NRC FORM 540 AND 541A</b> PAGE 1 OF 1 NRC FORM 541 AND 541A NRC FORM 542 AND 542A ADDITIONAL INFORMATION 7. MANIFEST NUMBER (Use this number on all communication pages) 71907D	
<b>1. EMERGENCY TELEPHONE NUMBER</b> (Include Area Code) (865) 220-8525 <b>ORGANIZATION</b> BIONOMICS, INC		<b>CONTACT</b> MIKE EVERETT <b>8. CARRIER - Name and Address</b> BIONOMICS, INC. 1560 BEAR CREEK RD OAK RIDGE TN 37830 <b>CONTACT</b> JOHN MCCORMICK SIGNATURE: AUTHORIZED SIGNER acknowledging waste receipt		<b>9. CONSIGNEE - Name and Facility Address</b> ENERGY SOLUTIONS 1560 BEAR CREEK RD OAK RIDGE TN 37831 <b>SIGNATURE - Authorized consignee acknowledging waste receipt</b> FRED SCHWARTZ (865) 220-8525		<b>CONTACT</b> FRED SCHWARTZ (865) 220-8525	
<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> 1		<b>10. CERTIFICATION</b> This is to certify that the herein-named materials are properly described, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable requirements of the Department of Transportation. The shipper certifies that the materials are described, packaged, marked, and labeled and are in proper condition for transportation and transport of described in accordance with the applicable requirements of 10 CFR Parts 20 and 81, or equivalent state regulations. <b>AUTHORIZED SIGNATURE</b> <i>John R. McCormick</i> <b>TITLE</b> CHS Manager <b>DATE</b> 7/19/07			
<b>4. DOES EPA REGULATE THIS SHIPMENT?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If "Yes," provide Manifest Number		<b>EPA MANIFEST NUMBER</b> N/A		<b>11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION</b> (Including proper shipping name, hazard class, UN ID number, and any additional information) RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II) 7, UN3321			
<b>12. DOT LABEL - RADIOACTIVE</b> N/A		<b>13. TRANSPORT INDEX</b> N/A		<b>14. PHYSICAL AND CHEMICAL FORM</b> SOLID/OXIDES		<b>15. RADIOLOGICAL RADIOLOGICALS</b> C14, CA137, H3	
<b>16. TOTAL PACKAGE ACTIVITY IN SI UNITS</b> 0.08 MBq 473		<b>17. LSA/SCO CLASS</b> LSA-II		<b>18. TOTAL WEIGHT OR VOLUME</b> (Use appropriate units) 0.11 m <sup>3</sup>		<b>19. IDENTIFICATION NUMBER OF PACKAGE</b> PG-2	
<b>FOR CONSIGNEE USE ONLY</b> JUL 24 2007							

NRC FORM 540 (8-2004)

CONSIGNEE ORIGINAL COPY (MUST ACCOMPANY WASTE IN TRANSIT)



APPROVED BY OMB: NO. 3150-0144  
EXPIRES: 06/30/2007

\*Estimated burden per response to comply with this information collection request is 3 hours. This uniform manuscript required by HHS to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of hazardous waste. Send comments regarding burden estimates or the Accuracy and Reliability Service Branch (7-5-53) U.S. Nuclear Regulatory Commission Washington DC 20555-0001, or by electronic mail to info@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, HQC-1000, 015A-169, Office of Management and Budget, Washington, DC 20503. A person's failure to provide an information collection does not impose a penalty unless the NRC has previously notified you of such requirement. The information collection number is 0708-0182.

NRC FORM 641 (8-2004)			U.S. NUCLEAR REGULATORY COMMISSION			1. MANIFEST TOTALS				2. MANIFEST NUMBER			
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION						SPECIAL NUCLEAR MATERIAL (gms)				PAGE 1 OF 1 PAGE(S)			
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste						TOTAL				SHIPPER NAME			
DISPOSAL CONTAINER DESCRIPTION						ACTIVITY (MBq)				SHIPPER'S NUMBER			
CONTAINER IDENTIFICATION NUMBER/GENERATOR (S) NUMBER(S)						ALL NUCLEIDES				SHIPPER'S NUMBER			
CONTAINER DESCRIPTION (See Note 1)						TITANIUM				SHIPPER'S NUMBER			
VOLUME (m³)						C-14				SHIPPER'S NUMBER			
WASTE AND CONTAINER WEIGHT (kg)						Tc-99				SHIPPER'S NUMBER			
SURFACE RADIATION LEVEL (µSv/hr)						I-129				SHIPPER'S NUMBER			
SURFACE CONTAMINATION (MBq/cm²)						TOTAL				SHIPPER'S NUMBER			
ALPHA						TOTAL				SHIPPER'S NUMBER			
BETA-GAMMA						TOTAL				SHIPPER'S NUMBER			
WASTE DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER				WASTE CLASSIFICATION			
WASTE DESCRIPTION (See Note 2)						CHEMICAL DESCRIPTION				RADIOLOGICAL DESCRIPTION			
APPROXIMATE WASTE VOLUME(S) IN CONTAINER						CHEMICAL FORM/ CHELATING AGENT				INDIVIDUAL RADIOISOTOPES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPES PERCENT			
SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)						WEIGHT & CHELATING AGENT (g ± 0.1%)				WASTE CLASSIFICATION (AS SHOWN ON THIS MANIFEST)			
PC-2	19 Fiber Box	0.11	2.725	20.00	1330-1	211005	59 DAW FOR INCIN	0.11	100	OXIDES / NP	NP	C14 = 0.037 C137 = 0.031 I129 = 0.01073 TOTAL = 0.08473	AU

NOTE: Container Description Codes for containers with requiring disposal is approved structural overpacks, the numerical code must be followed by "OP".

- |                               |  |
|-------------------------------|--|
| 1. Introduction Box or Cover  | 9. Disinfectant                                  |
| 2. Manual Box                 | 10. Gas Cylinder                                 |
| 3. Pressure Control Panel     | 11. Bulk Unpackaged Vessels                      |
| 4. Manual Drive or Pull       | 12. Unpackaged Components                        |
| 5. Manual Tank or Liner       | 13. High Integrity Containment                   |
| 6. Concrete Tank or Pipe      | 12. Other. Describe in Item 5 or additional page |
| 7. Polyethylene Tank or Liner |  |
| 8. ...                        |  |

NOTE 2: Waste Description Codes (Choose up to three which best describe by volume)

- |    |                   |    |                                  |    |  |
|----|-------------------|----|----------------------------------|----|--|
| 30 | Convert           | 36 | Demote the Ranks                 | 38 | Disorder the Elements of the Government    |
| 31 | Indicate the Age  | 37 | Change the Existing Matter       | 39 | Compensate Loss                            |
| 32 | See               | 38 | Announce the Existing Matter     | 40 | Uncover the Existing Thing                 |
| 33 | Give              | 39 | Mixed with an exchange of Matter | 41 | Amend the Law                              |
| 34 | Go                | 40 | Constitute the Equipment         | 42 | Bring out Matter at (except in the matter) |
| 35 | Remove the Light  | 41 | Organize the Government          | 43 | Amend the Matter                           |
|    | Take the Matter   | 42 | Disorder the Government          | 44 | Order the Government                       |
| 37 | Mechanical of the | 43 | Disorder the Government          | 45 | Order the Government                       |
| 38 | Give of the Light | 44 | Disorder the Government          | 46 | Order the Government                       |

NOTE 2: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "S". For all solidification media, the volume in cubic feet and total mass must also be identified in box 13. Cost: 100-NONE REQUIRED.

For an information review, the Federal Information Council also is available in both print and electronic formats.

- | Sorption     |                 |               | Solidification  |                 |               |
|--------------|-----------------|---------------|-----------------|-----------------|---------------|
| 01. Specimen | 54. Safe T Sub  | 09. Chemicals | 24. Perimeter   | 25. Cover       | 30. Cement    |
| 02. Material | 55. Safe H Ds   | 10. Chemicals | 25. Perimeter   | 26. Designation | 31. Corrosion |
| 03. Floor    | 56. Floor       | 21. Chemicals | 26. Perimeter   | 27. Designation | 32. Corrosion |
| 04. Floor    | 57. Floor       | 22. Chemicals | 27. Designation | 28. Designation | 33. Corrosion |
| 05. In Ds    | 58. Solid A Mem | 23. Chemicals | 28. Designation | 29. Designation | 34. Corrosion |

NRC FORM 541 (5-2024)

CONSIGNEE ORIGINAL COPY

# Attachment 3

## Transfer of Generally Licensed Items



NRD, LLC  
2937 ALT BOULEVARD  
PO BOX 310  
GRAND ISLAND, NY  
14072-0310

800-525-8076  
716-773-7634  
716-773-7744 FAX  
service@nrdinc.com

Monday, July 30, 2007

IRWS INC  
28265 BECK RD STE. C-6  
WIXOM, MI 48393

**ATTN: SAFETY MANAGER**

**We are in receipt of the item(s) returned to NRD, LLC for waste disposal.**

**This letter serves as Proof of Compliance that the device(s) listed below have been disposed, and the service performed under New York State License 1391-1811.**

<u>Device/Model</u>	<u>Qty</u>	<u>Serial #</u>	<u>To Serial#</u>	<u>Manufactured</u>	<u>NRD's Sales Order#</u>	<u>Millicuries</u>
P-2001	1	SP28868		8/5/1993	043618-1	9
					<u>Total Millicuries</u>	<u>9</u>

Isotope: Polonium 210

Your Original Po # 14720

NRD's Original Sales Order # 043618-1

Very truly yours,

A handwritten signature in black ink, appearing to read "Douglas M. Davis".

Douglas M. Davis

Radiation Safety Officer



TRUST. SCIENCE. INNOVATION.

## TSI Incorporated

500 Cardigan Road, Shoreview, MN 55126 USA

tel 651 490 2811 toll free 800 874 2811 fax 651 490 3824 web www.tsi.com

Dennis J. Anderson  
Manufacturing Engineering Manager, RSO  
TSI Incorporated  
500 Cardigan Road, Shoreview, MN 55126  
(651) 490-2885  
E-Mail: [dennis.anderson@tsi.com](mailto:dennis.anderson@tsi.com)  
TRUST. SCIENCE. INNOVATION.

October 3, 2008

This letter is to inform you that we have received the radioactive material listed below. We have processed the material and have sent it out for proper disposal. We have notified the Nuclear Regulatory Commission or appropriate Agreement State that you are no longer in possession of this radioactive material. If you have any further questions, please call me.

Dennis J. Anderson  
TSI Radiation Safety Officer

**Customer Information:**

Robert Erps  
28265 Beck Road  
Suite C6  
Wixom, MI 48393  
(248) 449-7216

TSI Model Number	Serial Number
3012	1142

# Attachment 4

Transfer of Items Under  
License No. 21-26088-02E



## Attachment 4

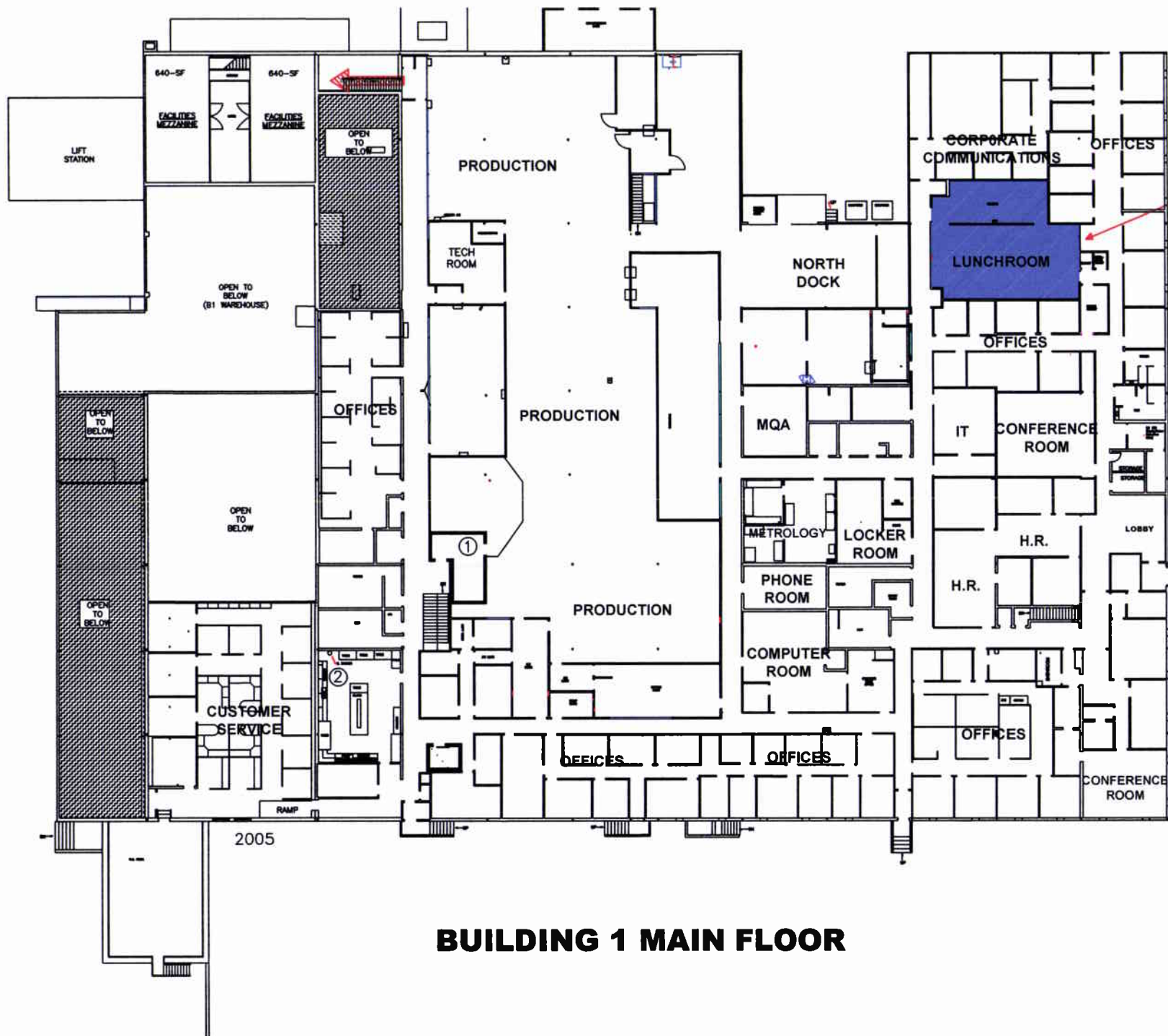
Gelman Sciences, Inc. License Termination Request  
January 26, 2010

Ship Date	Customer Name	Ship to	Ship QTY	u/m	Activity (microcuries) of each item	Total Activity (microcuries)	Physical form	Radionuclide	Form
2/16/06	BERLEX	2600 Hilltop Drive Richmond CA 94806	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
2/16/06	MOLECULAR MEDICINE BIOSERVICES	5919 Farnsworth Court Carlsbad, CA 92008	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
9/23/05	EUROPEAN DISTRIBUTION CENTRE (EDC)	Cherwell Site 2, Middleton Close, Banbury, Oxfordshire OX164RS, UK	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
8/31/05	PALL FILTER (BEIJING) CO. LTD.	12 Hongda NanLu, Beijing Economic-Technological Development Area, Beijing, 100176, P.R. China	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
8/25/05	Favrille, Inc.	10421 Pacific Center Court, Suite 150 San Diego, CA 92121	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
5/12/05	BAXTER BIOSCIENCE	1455 LAWRENCE DRIVE THOUSAND OAKS, CA 91320	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
2/02/05	TEXAS, UNIV OF SW MED CTR	4600 HARRY HINES BLVD DALLAS, TX 75235	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
1/07/05	Bruce D Fernbaugh	6219 El Camino Real Carlsbad, CA 92009	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
12/13/04	CHILDRENS MEDICAL CENTER	1935 Motor St. Dallas, TX 75235	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
11/29/04	SMITH & NEPHEW WOUND MANAGEMNT	10933 N Torrey Pines Rd. La Jolla, CA 92037	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
4/02/03	University of North Carolina	Dept. of Pathology & Lab. Medicine Rm 31-345 Lineberger Comprehensive CB7295 Chapel Hill NC 27599	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168

Ship Date	Customer Name	Ship to	Ship QTY	u/m	Activity (microcuries) of each item	Total Activity (microcuries)	Physical form	Radionuclide	Form
3/28/03	BERLEX	2600 Hilltop Drive Richmond CA 94806	1	EA	10	10	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168
12/13/02	WYETH	1 Burt Rd. Andover, MA 01810	2	EA	10	20	Liquid	H-3	Gen-Probe Tritium Standards, Catalog #2168

# Attachment 5

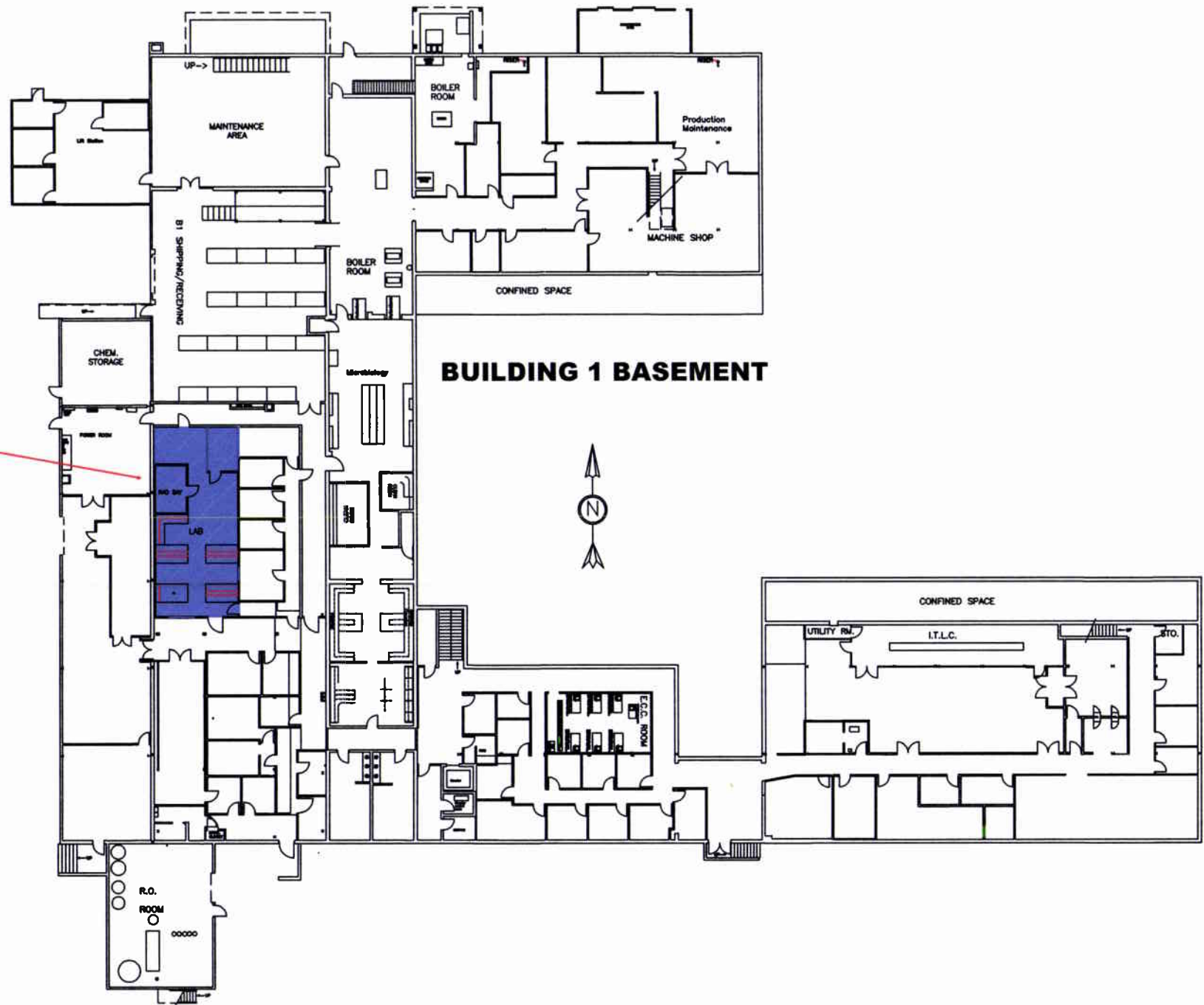
## Facility Diagram



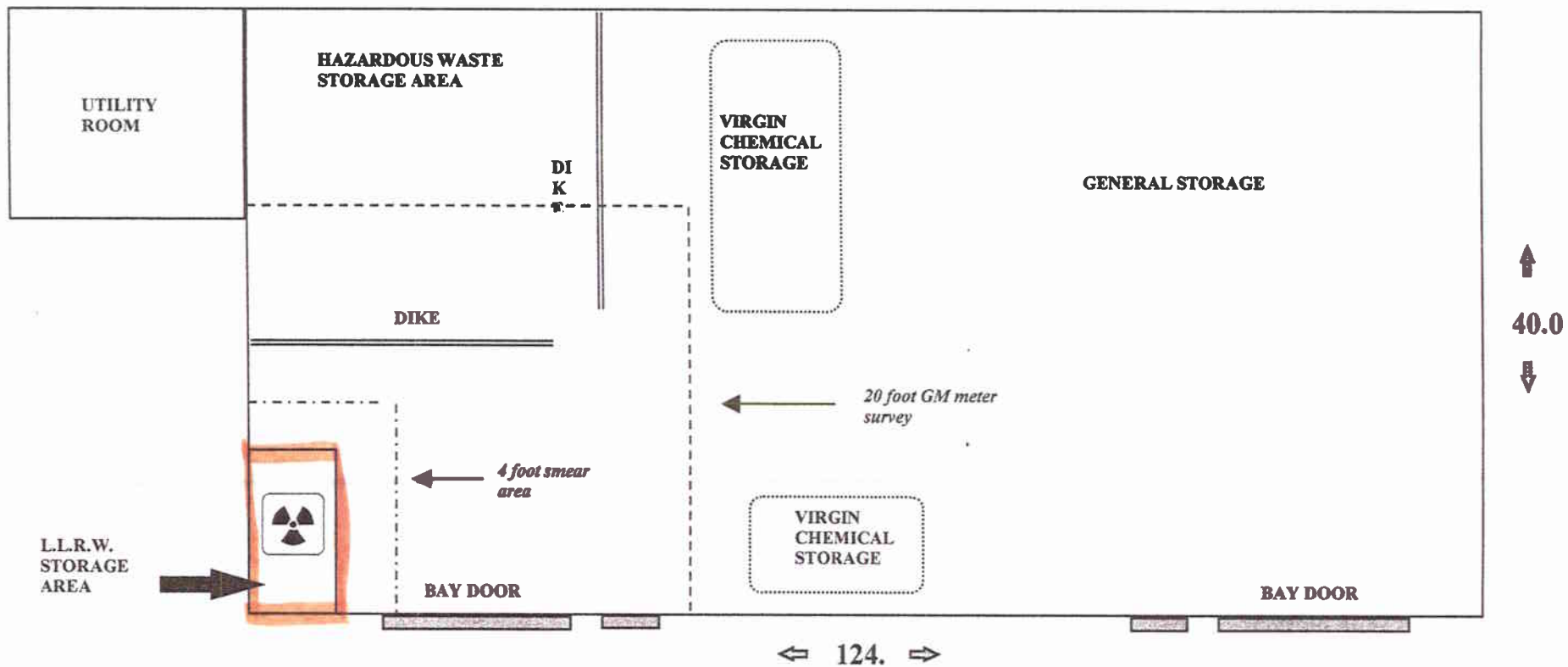
Former Applications Lab  
Decommissioned 2002  
for Unrestricted Use

**BUILDING 1 MAIN FLOOR**

**Current  
Applications  
Lab**







Building 4 - Low level Radioactive Waste Storage

# **Attachment 6**

## **Sewer Disposal Records**

**Sewer Discharge Log - 1998 - Daily discharge should be kept below 5 uCi.**

Activities:

[illegible]

Instructions: Place activity of discharge in appropriate column. Place total amount discharged for the month for the specific isotope in the "Monthly Conc." column.

Do not include discharges which occurred more than thirty days prior to current discharge.

Add amount discharged for each isotope to the final column, "Cumulative Discharge for Year.". This amount cannot equal or exceed 1 Ci.

## Sewer Discharge Log - 1997

**Activities:**

[illegible]

**Instructions:** Place activity of discharge in appropriate column. Place total amount discharged for the month for the specific isotope in the "Monthly Conc." column.

Do not include discharges which occurred more than thirty days prior to current discharge.

Add amount discharged for each isotope to the final column, "Cumulative Discharge for Year..". This amount cannot equal or exceed 1 Ci.



Pall Corporation

HR

Life Sciences  
600 S. Wagner Rd  
Ann Arbor, MI 48103 USA

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MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION,  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE IL 60532-4352

