

Phone 317 276 2000

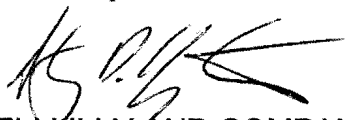
February 22, 2012
COURIER MAIL

Materials Licensing Branch
United States Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

RADIOACTIVE MATERIALS LICENSE NUMBER: 13-01133-02

We herein request that Radioactive Materials License 13-01133-02 granted to Eli Lilly and Company be updated with Amendment 66 to reflect decommissioning of the 1971 West Davis Road, Greenfield IN facility and subsequent release for unrestricted use. For the foreseeable future, this property will continue to be owned and managed by Elanco, a division of Eli Lilly and Company, but radioactive material will no longer be used at this address .

Sincerely,



ELI LILLY AND COMPANY

Stanley D. Hampton, M.S.
Radiation Safety Officer
Telephone: 317-276-7862
Facsimile: 317-276-4446

RECEIVED FEB 27 2012

Lilly

RADIOACTIVE MATERIALS
LICENSE 13-01133-02

ELI LILLY AND COMPANY

February 2012

Radioactive Materials License 13-01133-02
Eli Lilly and Company

NAME AND ADDRESS OF APPLICANT

Eli Lilly and Company
Radiation Safety Office
Corporate Health, Safety and Environment
Mail Drop 0715
Lilly Corporate Center
Indianapolis, Indiana 46285

NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Stanley D. Hampton
Radiation Safety Officer
Hampton_St Stanley_D@lilly.com
Telephone: 317-276-7862
Facsimile: 317-276-4446

LICENSE DESCRIPTION

Radioactive Materials License Number: 13-01133-02
Broad Scope License, Modified Type B
Expiration Date: January 31, 2013

RELEASE OF FACILITIES FOR UNRESTRICTED USE

1971 West Davis Road represents the only portion of the former 2001 West Main Street Greenfield IN address still licensed by Eli Lilly and Company under Radioactive Material License 13-01133-02. With the exception of the Building 258 waste storage facility, very little radioactive material has been used at this address in recent years. Listed below are the portions of the 1971 West Davis Road address that, per our Historical Site Assessment, were approved for use or storage of radioactive material.

Building 244 research laboratory 3
Building 293, research labs 2,5,6
Building 290, stalls
Building 258, waste storage

The primary isotopes used at this site and of interest for decommissioning efforts were C-14 and H-3. Any other nuclides such as P-33, P-32, S-35 or I-125 would have decayed through 10 half-lives prior to this request.

Closeout surveys conducted between 2000 and 2004 for buildings 244, 293 and 290 did not identify residual contamination, but unrestricted release of these buildings has not been requested until now in order to maintain flexibility for future activities. Close-out surveys were not repeated prior to this request for unrestricted release since no radioactive material had been used or stored in these areas subsequent to the 2000-2004 survey efforts. The closeout surveys for these areas are included as Attachment 1 to this request.

The building 258 waste processing facility had been in use since 1995 and was designated within our broad scope license as a special use facility. The closeout survey for this facility was conducted in August of 2010 and is included as Attachment 2 to this request.

Due to the nature of licensed activities at this facility, ground or water contamination is improbable, and our records indicate no incident or abnormal event contrary to this statement. Accordingly, environmental sampling was not conducted for the close-out of this facility.

Per license conditions, Eli Lilly's survey program utilizes an institutional removable contamination action level of 200 dpm. It is our determination that the absence of removable contamination above the 200 dpm action level, as documented by the attached surveys, demonstrates compliance with the dose criteria of 10 CFR 20.1402 (Radiological Criteria for Unrestricted Use,) thus warranting release of this address for unrestricted use.

Attachment 1

Closeout Surveys Buildings 244, 293 and 290

**1971 West Davis Road
Greenfield, Indiana**

**PRINCIPAL INVESTIGATOR
 CHECKLIST FOR CLOSE-OUT OF RADIOACTIVE ROOM USE ONLY**

For assistance with close out process contact Brian Davidson at 276-9372

Principal Investigator TOM BURNETT

Building and Room Number ALC 293 ROOM 6

- | <u>To Be Done By Principal Investigator:</u> | NA/Completed/Initial/Date |
|--|--------------------------------------|
| 1. Remove Radiation Safety regulatory poster | <u>1</u> ✓ <u>mea</u> <u>9-23-02</u> |
| 2. Remove ALL radiation caution labels and tape | <u>1</u> ✓ <u>mea</u> <u>9-23-02</u> |
| 3. Submit His_Protégé waste ticket(s) to have ALL radioactive waste removed from room(s) | <u>1</u> ✓ <u>mea</u> <u>9-23-02</u> |
| 4. Verify ALL radioactive materials and radioactive waste have been removed from room(s) | <u>1</u> ✓ <u>mea</u> <u>9-23-02</u> |
| 5. Conduct final wipe tests of room(s) and equipment after ALL radioactive materials and radioactive waste have been removed | <u>1</u> ✓ <u>mea</u> <u>9-23-02</u> |

* Contact Radiation Safety (6-9372) or mail form to D.C. 0504 to complete close-out process

Principal Investigator Signature Thomas Burnett Date 23 Sep 2002

- | <u>To Be Done By Radiation Safety:</u> | Reassigned/Returned/Initial/Date |
|---|---------------------------------------|
| 1. Survey meter(s) <u>NA</u> ✓ | |
| Manufacturer: _____ Meter Serial # _____ | _____ / _____ / _____ |
| Manufacturer: _____ Meter Serial # _____ | _____ / _____ / _____ |
| | NA/Completed/Initial/Date |
| 2. Remove ALL unwanted waste containers and shielding | <u>1</u> / _____ / _____ |
| 3. Survey meter location/responsible person updated in His_Protégé (Mays) | <u>1</u> ✓ / _____ / _____ |
| 4. Radiation Safety has conducted a confirmatory close-out survey of ALL room(s) and equipment (Davidson) | <u>1</u> / _____ / _____ |
| 5. Wipe test results reviewed by Radiation Safety; ALL room(s) and equipment released from radioactive use | <u>1</u> ✓ <u>B.D.</u> <u>9-26-02</u> |
| 6. ALL room(s) inactivated from His_Protégé laboratory survey system and removed from Principal Investigator's authorization (Davidson) | <u>1</u> ✓ <u>B.D.</u> <u>9-26-02</u> |

Radiation Safety Signature Brian David Date 9-26-02

K:\radsafe\forms\close out form, ELVIS RadSafe home page, 1/21/2000

**PRINCIPAL INVESTIGATOR
 CHECKLIST FOR CLOSE-OUT OF RADIOACTIVE ROOM USE ONLY**

For assistance with close out process contact Julia Klingler at 655-0487
 (If Greenfield: Brian Davidson 277-4750)

Principal Investigator Thomas Burnett

Building and Room Number 4/293/2

<u>To Be Done By Principal Investigator:</u>	NA/Completed/Initial/Date
1. Remove Radiation Safety regulatory poster	<u>1</u> <u>✓</u> <u>1</u> <u>1</u> <u> </u>
2. Remove ALL radiation caution labels and tape	<u>1</u> <u>✓</u> <u>1</u> <u>1</u> <u> </u>
3. Submit His Protégé waste ticket(s) to have ALL radioactive waste removed from room(s)	<u>✓</u> <u>1</u> <u>1</u> <u>1</u> <u> </u>
4. Verify ALL radioactive materials and radioactive waste have been removed from room(s)	<u>1</u> <u>✓</u> <u>1</u> <u>1</u> <u> </u>
5. Conduct final wipe tests of room(s) and equipment after ALL radioactive materials and radioactive waste have been removed	<u>✓</u> <u>1</u> <u>1</u> <u>1</u> <u> </u>

* Contact Radiation Safety to complete close-out process: LCC (5-0487) or mail form to D.C. 2037
 Greenfield (277-4750) or mail form to D.C. GL46

Principal Investigator Signature _____ Date _____

To Be Done By Radiation Safety:

1. Survey meter(s) NA _____	Reassigned/Returned/Initial/Date
Manufacturer: <u>Bicron</u> Meter Serial # <u>60304</u>	<u>✓</u> <u>1</u> <u>1</u> <u>14 22 Nov 2004</u>
Manufacturer: _____ Meter Serial # _____	<u>1</u> <u>1</u> <u>1</u> <u>1</u> <u> </u>

	NA/Completed/Initial/Date
2. Remove ALL unwanted waste containers and shielding	<u>1</u> <u>✓</u> <u>1</u> <u>1</u> <u>11/4/04</u>
3. Radiation Safety has conducted a confirmatory close-out survey of ALL room(s) and equipment	<u>1</u> <u>✓</u> <u>1</u> <u>1</u> <u>11/4/04</u>
4. Wipe test results reviewed by Radiation Safety; ALL room(s) and equipment released from radioactive use	<u>1</u> <u>✓</u> <u>JK</u> <u>14 Nov 04</u>
5. ALL room(s) inactivated from His Protégé laboratory survey system and removed from Principal Investigator's authorization	<u>1</u> <u>✓</u> <u>JK</u> <u>14 Nov 04</u>

Radiation Safety Signature Julia Klingler Date 4 Nov 2004

K:\radsafe\forms\close out form, ELVIS RadSafe home page, 1/21/2000

Radioactive Materials License 13-01133-02
 Eli Lilly and Company

Greenfield Surveys

Assay Definition-

Assay Description:
 Documented Room Surveys

Assay Type: Direct DPM
 Report Name: Report1
 Output Data Path: C:\Packard\Tricarb\Results\Keith Wilson\Direct Assay
 Raw Results Path: C:\Packard\Tricarb\Results\Keith Wilson\Direct Assay\20041027_1406.results
 Assay File Name: C:\Packard\TriCarb\Assays\Direct Assay.lsa

Count Conditions-

Nuclide: Direct DPM 3H
 Quench Indicator: tSIE/AEC
 External Std Terminator (sec): 0.5 2s%
 Pre-Count Delay (min): 0.00
 Quench Set:
 Low Energy: 3H
 Count Time (min): 1.00
 Count Mode: Normal
 Assay Count Cycles: 1
 #Vials/Sample: 1

Normalization Std DPM: 137700
 Repeat Sample Count: 1
 Calculate % Reference: Off

Background Subtract: Off
 Low CPM Threshold: Off
 Sigma % Terminator: Off

Regions LL UL
 A 0.0 2000.0

Count Corrections-

Static Controller: On Luminescence Correction: On
 Colored Samples: n/a Heterogeneity Monitor: n/a
 Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

Cycle 1 Results

S#	Count Time	CPMA	DPM1	SIS	tSIE	MESSAGES
1	1.00	42	68	474.89	587.17	Background
2	1.00	42	58	281.45	586.81	
3	1.00	36	41	388.50	576.59	
4	1.00	38	51	523.10	569.56	
5	1.00	34	51	336.44	573.39	
6	1.00	49	70	472.97	575.01	
7	1.00	39	54	351.27	589.37	
8	1.00	32	47	145.70	583.04	
9	1.00	44	58	347.12	586.32	

54-95

GREENFIELD

Close Out
 Bid. 293
 Room # 2
 #2

ORIGINAL
 DATA
 10/27/04
 KW

Radioactive Materials License 13-01133-02
 Eli Lilly and Company

16/27/04 4:29:00 PM

QuantaSmart (TM) - 1.31 - Serial# 426666

Page # 2

Protocol# 34 - Direct Assay.lsa

User: Keith Wilson

Greenfield Surveys

10	1.00	42	53	573.63	569.12
11	1.00	41	54	431.26	585.36
12	1.00	32	45	194.46	584.38
13	1.00	44	57	549.53	568.88
14	1.00	50	64	694.84	548.71
15	1.00	35	51	209.16	569.56
16	1.00	37	53	533.88	582.91
17	1.00	39	51	593.54	588.61
18	1.00	51	67	493.44	586.35
19	1.00	46	68	501.98	590.22
20	1.00	53	69	383.44	588.29
21	1.00	53	73	691.16	588.49
22	1.00	52	75	378.16	587.90
23	1.00	46	65	675.04	589.21
24	1.00	47	75	521.81	573.59
25	1.00	47	66	404.07	581.43
26	1.00	39	66	611.48	573.77
27	1.00	47	66	531.82	592.69
28	1.00	43	64	359.58	586.59
29	1.00	40	52	402.90	576.93
30	1.00	45	55	376.94	574.43
31	1.00	34	45	316.16	583.24
32	1.00	42	55	338.81	582.64
33	1.00	43	58	379.39	583.18
34	1.00	46	67	383.21	576.41
35	1.00	38	50	446.36	575.48
36	1.00	36	53	587.07	576.90
37	1.00	37	47	559.08	573.05
38	1.00	43	62	541.69	567.33
39	1.00	35	51	423.56	567.54
40	1.00	34	49	570.58	574.04
41	1.00	34	43	548.77	582.62
42	1.00	49	63	240.47	563.98
43	1.00	28	40	529.88	577.83
44	1.00	39	48	405.47	572.20
45	1.00	39	56	438.06	581.73
46	1.00	38	50	421.44	577.52
47	1.00	49	70	416.10	574.71
48	1.00	41	55	414.07	569.75
49	1.00	40	57	304.48	580.19
50	1.00	38	59	357.94	576.77
51	1.00	29	34	528.90	565.35
52	1.00	41	60	460.31	578.38
53	1.00	46	65	391.17	581.05
54	1.00	50	64	474.21	586.95
55	1.00	34	57	220.59	545.38
56	1.00	38	54	398.76	568.33
57	1.00	41	62	701.44	547.62
58	1.00	31	42	731.60	584.74
59	1.00	30	39	409.76	564.57
60	1.00	32	43	508.94	580.78
61	1.00	42	62	629.43	573.11
62	1.00	45	64	733.32	586.18
63	1.00	37	54	232.92	579.18
64	1.00	33	40	633.66	579.98
65	1.00	45	59	469.28	570.25
66	1.00	38	53	384.74	584.08
67	1.00	40	56	680.66	584.17
68	1.00	46	59	500.73	586.07
69	1.00	33	46	469.16	580.29
70	1.00	42	54	722.07	568.20
71	1.00	38	55	485.26	568.79
72	1.00	46	62	334.64	577.17

Radioactive Materials License 13-01133-02
Eli Lilly and Company

10/27/94 4:29:00 PM

QuantaSmart (TM) - 1.31 - Serial# 426666

Page #

Protocol# 34 - Direct Assay.lsa

User: Keith Wilsc

Greenfield Surveys

73	1.00	35	53	438.19	518.84
74	1.00	48	66	526.04	528.95
75	1.00	40	48	546.06	580.73
76	1.00	37	58	348.31	559.06
77	1.00	34	55	404.74	586.13
78	1.00	42	58	354.09	565.68
79	1.00	49	60	478.08	567.37
80	1.00	36	47	374.72	506.91
81	1.00	32	43	226.15	553.36
82	1.00	32	39	598.41	565.98
83	1.00	38	54	406.99	550.68
84	1.00	47	65	280.89	533.90
85	1.00	43	49	418.48	561.99
86	1.00	45	57	628.39	562.11
87	1.00	28	43	336.53	577.24
88	1.00	48	60	316.42	571.16
89	1.00	41	57	515.19	587.33
90	1.00	45	62	478.56	561.06
91	1.00	46	60	418.35	581.46
92	1.00	38	47	653.24	587.98
93	1.00	51	69	290.84	583.17
94	1.00	39	58	182.29	585.39
95	1.00	41	62	234.55	583.94

**PRINCIPAL INVESTIGATOR
 CHECKLIST FOR CLOSE-OUT OF RADIOACTIVE ROOM USE ONLY**

For assistance with close out process contact Julia Klingler at 655-0487
 (If Greenfield: Brian Davidson 277-4750)

Principal Investigator Thomas Burnett

Building and Room Number GL/293/5

<u>To Be Done By Principal Investigator:</u>	NA/Completed/Initial/Date
1. Remove Radiation Safety regulatory poster	<u>1 / ✓ / / /</u>
2. Remove ALL radiation caution labels and tape	<u>1 / ✓ / / /</u>
3. Submit His Protégé waste ticket(s) to have ALL radioactive waste removed from room(s)	<u>✓ / / / /</u>
4. Verify ALL radioactive materials and radioactive waste have been removed from room(s)	<u>1 / ✓ / / /</u>
5. Conduct final wipe tests of room(s) and equipment after ALL radioactive materials and radioactive waste have been removed	<u>✓ / / / /</u>

* Contact Radiation Safety to complete close-out process: LCC (5-0487) or mail form to D.C. 2037
 Greenfield (277-4750) or mail form to D.C. GL46

Principal Investigator Signature _____ Date _____

To Be Done By Radiation Safety:

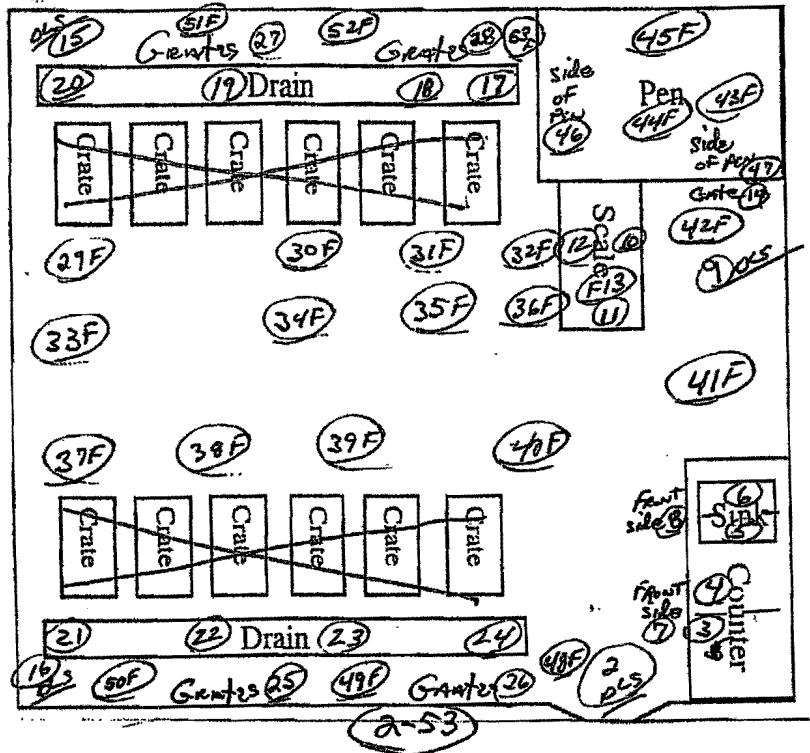
1. Survey meter(s)	NA <u>✓</u>	Reassigned/Returned/Initial/Date
Manufacturer: _____	Meter Serial # _____	<u> / / / /</u>
Manufacturer: _____	Meter Serial # _____	<u> / / / /</u>

	NA/Completed/Initial/Date
2. Remove ALL unwanted waste containers and shielding	<u>1 / ✓ / GK / 4 Nov 04</u>
3. Radiation Safety has conducted a confirmatory close-out survey of ALL room(s) and equipment	<u>1 / ✓ / GK / 4 Nov 04</u>
4. Wipe test results reviewed by Radiation Safety; ALL room(s) and equipment released from radioactive use	<u>1 / ✓ / GK / 4 Nov 04</u>
5. ALL room(s) inactivated from His Protégé laboratory survey system and removed from Principal Investigator's authorization	<u>1 / ✓ / GK / 4 Nov 04</u>

Radiation Safety Signature Julia Klingler Date Nov 3, 2004

K:\radsafe\forms\close out form, ELVIS RadSafe home page, 1/21/2000

Eli Lilly and Company
 Laboratory Survey for Radiation Safety
 Close Out Form



Building: 293 Room: 5 Investigator: Burnett, T.

1. Any radioactive material transferred or disposed (Y)N
2. Radioactive waste and waste containers removed (Y)N
3. Radiation safety reg. poster & all radiation caution labels removed (Y)N
4. Reviewed laboratory's final wipe test (Y)N

5. Background reading: *0.4 / **0.5 cpm

6. Radiation determination: *0.4 / **0.5 cpm

7. Meter Manufacturer: Ludlum Serial Number *163971 / **B829U

Signed: Erica DeWitt Date: 10/27/04

Radioactive Materials License 13-01133-02
 Eli Lilly and Company

10/27/04 4:29:00 PM

QuantaSmart (TM) - 1.31 - Serial# 426666

Page # 1

Protocol# 34 - Direct Assay.lsa

User: Keith Wilson

Greenfield Surveys

Assay Definition-

Assay Description:
 Documented Room Surveys

Assay Type: Direct DPM
 Report Name: Report1
 Output Data Path: C:\Packard\Tricarb\Results\Keith Wilson\Direct Assay
 Raw Results Path: C:\Packard\Tricarb\Results\Keith Wilson\Direct Assay\20041027_1406.results
 Assay File Name: C:\Packard\TriCarb\Assays\Direct Assay.lsa

GREENFIELD Close Out
 Bid 293
 Room # 8
 R # 5
 ORIGINAL DATA
 10/27/04
 KW

Count Conditions-

Nuclide: Direct DPM 3H
 Quench Indicator: tSIE/AEC
 External Std Terminator (sec): 0.5 2s
 Pre-Count Delay (min): 0.00
 Quench Set:
 Low Energy: 3H
 Count Time (min): 1.00
 Count Mode: Normal
 Assay Count Cycles: 1
 #Vials/Sample: 1
 Normalization Std DPM: 137700
 Repeat Sample Count: 1
 Calculate % Reference: Off

Background Subtract: Off
 Low CPM Threshold: Off
 ? Sigma % Terminator: Off

Regions	LL	UL
A	0.0	2000.0

Count Corrections-

Static Controller: On Luminescence Correction: On
 Colored Samples: n/a Heterogeneity Monitor: n/a
 Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

Cycle 1 Results

S#	Count	Time	CPMA	DPM1	SIS	tSIE	MESSAGES
1	1.00		42	68	474.89	587.17	Background
2	1.00		42	58	281.45	586.81	
3	1.00		36	41	388.50	576.59	
4	1.00		38	51	523.10	569.56	
5	1.00		34	51	336.44	573.39	
6	1.00		49	70	472.97	575.01	
7	1.00		39	54	351.27	589.37	
8	1.00		32	47	145.70	583.04	
9	1.00		44	58	347.12	586.32	

2-53

Radioactive Materials License 13-01133-02
 Eli Lilly and Company

10/27/04 4:29:00 PM

QuantaSmart (TM) - 1.31 - Serial# 426666

Page # 2

Protocol# 34 - Direct Assay.lsa

User: Keith Wilson

Greenfield Surveys

10	1.00	42	53	573.63	569.12
11	1.00	41	54	431.26	585.36
12	1.00	32	45	194.46	584.38
13	1.00	44	57	549.53	568.88
14	1.00	50	64	694.84	548.71
15	1.00	35	51	209.16	569.56
16	1.00	37	53	533.88	582.91
17	1.00	39	51	593.54	588.61
18	1.00	51	67	493.44	586.35
19	1.00	46	68	501.98	590.22
20	1.00	53	69	383.44	588.29
21	1.00	53	73	691.16	588.49
22	1.00	52	75	378.16	587.90
23	1.00	46	65	675.04	589.21
24	1.00	47	75	521.81	573.59
25	1.00	47	66	404.07	581.43
26	1.00	39	66	611.48	573.77
27	1.00	47	66	531.82	592.69
28	1.00	43	64	359.58	586.59
29	1.00	40	52	402.90	576.93
30	1.00	45	55	376.94	574.43
31	1.00	34	45	316.16	583.24
32	1.00	42	55	338.81	582.64
33	1.00	43	58	379.39	583.18
34	1.00	46	67	383.21	576.41
35	1.00	38	50	446.36	575.48
36	1.00	36	53	587.07	576.90
37	1.00	37	47	559.08	573.05
38	1.00	43	62	541.69	567.33
39	1.00	35	51	423.56	567.54
40	1.00	34	49	570.58	574.04
41	1.00	34	43	548.77	582.62
42	1.00	49	63	240.47	563.98
43	1.00	28	40	529.88	577.83
44	1.00	39	48	405.47	572.20
45	1.00	39	56	438.06	581.73
46	1.00	38	50	421.44	577.52
47	1.00	49	70	416.10	574.71
48	1.00	41	55	414.07	569.75
49	1.00	40	57	304.48	580.19
50	1.00	38	59	357.94	576.77
51	1.00	29	34	528.90	565.35
52	1.00	41	60	460.31	578.38
53	1.00	46	65	391.17	581.05
54	1.00	50	64	474.21	586.95
55	1.00	34	57	220.59	545.38
56	1.00	38	54	398.76	568.33
57	1.00	41	62	701.44	547.62
58	1.00	31	42	731.60	584.74
59	1.00	30	39	409.76	564.57
60	1.00	32	43	508.94	580.78
61	1.00	42	62	629.43	573.11
62	1.00	45	64	733.32	586.18
63	1.00	37	54	232.92	579.18
64	1.00	33	40	633.66	579.98
65	1.00	45	59	469.28	570.25
66	1.00	38	53	384.74	584.08
67	1.00	40	56	680.66	584.17
68	1.00	46	59	500.73	586.07
69	1.00	33	46	469.16	580.29
70	1.00	42	54	722.07	568.20
71	1.00	38	55	485.26	568.79
72	1.00	46	62	334.64	577.17

Radioactive Materials License 13-01133-02
Eli Lilly and Company

Greenfield Surveys

73	1.00	35	53	438.19	518.84
74	1.00	48	66	526.04	528.95
75	1.00	40	48	546.06	580.73
76	1.00	37	58	348.31	559.06
77	1.00	34	55	404.74	586.13
78	1.00	42	58	354.09	565.68
79	1.00	49	60	478.08	567.37
80	1.00	36	47	374.72	506.91
81	1.00	32	43	226.15	553.36
82	1.00	32	39	598.41	565.98
83	1.00	38	54	406.99	550.68
84	1.00	47	65	280.89	533.90
85	1.00	43	49	418.48	561.99
86	1.00	45	57	628.39	562.11
87	1.00	28	43	336.53	577.24
88	1.00	48	60	316.42	571.16
89	1.00	41	57	515.19	587.33
90	1.00	45	62	478.56	561.06
91	1.00	46	60	418.35	581.46
92	1.00	38	47	653.24	587.98
93	1.00	51	69	290.84	583.17
94	1.00	39	58	182.29	585.39
95	1.00	41	62	234.55	583.94

**PRINCIPAL INVESTIGATOR
 CHECKLIST FOR CLOSE-OUT OF RADIOACTIVE ROOM USE ONLY**

For assistance with close out process contact Brian Davidson at 276-9372

Principal Investigator THOMAS BURNETT
 Building and Room Number GL/290/STANC - GL 296/BARN/ GL/242/142

- | <u>To Be Done By Principal Investigator:</u> | NA/Completed/Initial/Date |
|--|---------------------------|
| 1. Remove Radiation Safety regulatory poster | 1 ✓ [Signature] 4-17-02 |
| 2. Remove ALL radiation caution labels and tape | 1 ✓ [Signature] 4-17-02 |
| 3. Submit His Protégé waste ticket(s) to have ALL radioactive waste removed from room(s) | 1 ✓ [Signature] 4-17-02 |
| 4. Verify ALL radioactive materials and radioactive waste have been removed from room(s) | 1 ✓ [Signature] 4-17-02 |
| 5. Conduct final wipe tests of room(s) and equipment after ALL radioactive materials and radioactive waste have been removed | 1 ✓ [Signature] 4-17-02 |

* Contact Radiation Safety (6-9372) or mail form to D.C. 0504 to complete close-out process

Principal Investigator Signature [Signature] Date 17-Apr-2002

To Be Done By Radiation Safety:

1. Survey meter(s) NA
 Reassigned/Returned/Initial/Date
- Manufacturer: _____ Meter Serial # _____ NA
- Manufacturer: _____ Meter Serial # _____ NA

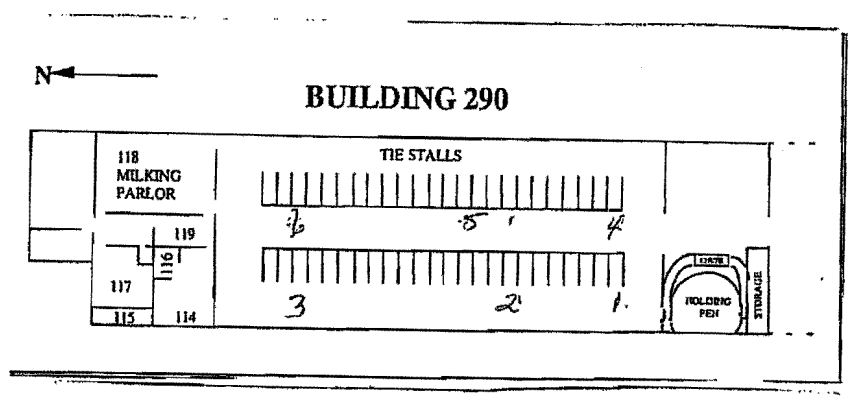
- | | NA/Completed/Initial/Date |
|---|---------------------------|
| 2. Remove ALL unwanted waste containers and shielding | 1 ✓ [Signature] 4-17-02 |
| 3. Survey meter location/responsible person updated in His Protégé (Mays) | NA |
| 4. Radiation Safety has conducted a confirmatory close-out survey of ALL room(s) and equipment (Davidson) | 1 ✓ [Signature] 4-17-02 |
| 5. Wipe test results reviewed by Radiation Safety; ALL room(s) and equipment released from radioactive use | 1 ✓ [Signature] 4-17-02 |
| 6. ALL room(s) inactivated from His Protégé laboratory survey system and removed from Principal Investigator's authorization (Davidson) | 1 ✓ [Signature] 4-23-02 |

Radiation Safety Signature [Signature] Date 4-23-02

K:\radsafe\forms\close out form, ELVIS RadSafe home page, 1/21/2000

ELI LILLY AND COMPANY
 LABORATORY SURVEY FOR RADIATION SAFETY
 WIPE TEST WORKSHEET

Close Out
4/16/02
M. Shelden



	H ₃	Cl
1.	0	0
2.	0	0
3.	0	0
4.	0	C
5.	0	C
6.	0	C

BUILDING: GL290 ROOM: STANC INVESTIGATOR: THOMSON, T
 SURVEY FREQUENCY: CLOSEOUT/ACTIVE LAB CLASS:
 WASTE DISPOSAL: ADEQUATE INADEQUATE _____
 APPROPRIATE CAUTION SIGNS AND POSTING: YES NO _____ NEEDED _____
 PROPER STORAGE/USE OF FOOD OR DRINK: YES NO _____
 RADIATION EXPOSURE: MR/HR _____ NOT DONE
 SURVEY METER: MANUFACTURER / SERIAL NUMBER _____
 SURVEYED BY: M. Shelden DATE: 4/16/02

Radioactive Materials License 13-01133-02
 Eli Lilly and Company

PAGE: 1

ID: SIAIPIE 11 APR 2002 14:38
 USER: 5 COMMENT: 5 MINUTE COUNT
 PRESET TIME : 5.00
 DATA CALC : DL DPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD
 COUNT BLANK : YES ICH# : NO REPLICATES : 1 RS232 : OFF
 TWO PHASE : NO AGC : YES CYCLE REPEATS : 1 DISK : OFF
 SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 1.00 FACTOR: 1.000000 BKG. SUB: 0
 ISOTOPE 2: 14C %ERROR: 1.00 FACTOR: 1.000000 BKG. SUB: 0
 WIDE OPEN WINDOW %ERROR: 1.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 5.067 High: 265.89

SAM NO	POS	TIME MIN	H#	ISD	CORRECTED CPM	%ERROR	DPM	EFF-1	EFF-2	RATIO	LUMEX %	ELAPSED TIME
B1	**-1	5.00	61.9	3H	25.20	17.82	45.57	48.17	0.90	2.374	7.43	5.56
				14C	15.00	23.09	19.20	16.93	76.01			
				WIDE	61.80	11.38						
				Blank Average	DPM	for	3H :	45.57	COEF. OF VAR:	0.000		
				Blank Average	DPM	for	14C :	19.20	COEF. OF VAR:	0.000		
1	**-3	5.00	62.2	3H	24.40	18.11	-0.77	48.10	0.90	0.327	2.08	11.17
				14C	13.20	24.62	-2.36	16.93	76.00			
				WIDE	53.00	12.29						
2	**-4	5.00	62.7	3H	22.60	18.81	-4.34	47.99	0.90	1.686	1.60	16.77
				14C	13.00	24.81	-2.57	16.93	75.98			
				WIDE	54.20	12.15						
3	**-5	5.00	61.2	3H	14.80	23.25	-19.54	48.33	0.90	3.209	1.81	22.35
				14C	10.20	28.01	-6.09	16.93	76.04			
				WIDE	43.60	13.55						
4	**-6	5.00	62.1	3H	17.60	21.32	-15.17	48.12	0.90	9.130	1.65	27.93
				14C	13.60	24.25	-1.66	16.93	76.00			
				WIDE	50.40	12.60						
5	**-7	5.00	63.9	3H	17.60	21.32	-14.16	47.71	0.90	3.763	1.50	33.53
				14C	12.00	25.82	-3.76	16.93	75.93			
				WIDE	48.40	12.86						
6	**-8	5.00	61.1	3H	16.40	22.09	-17.61	48.35	0.90	8.125	1.24	39.14
				14C	13.20	24.62	-2.17	16.93	76.05			
				WIDE	45.80	13.22						

279 **-5	1.00	57.4	3H	25.00	40.00	-4.46	52.32	0.73	-3.344	4.15	399.68
			14C	17.00	48.51	1.33	17.92	76.79			
			WIDE	63.00	25.20						
280 **-6	1.00	58.3	3H	20.00	44.72	-10.33	52.11	0.73	1.145	3.74	401.23
			14C	9.00	66.67	-9.02	17.93	76.75			
			WIDE	46.00	29.49						
281 **-7	1.00	59.1	3H	28.00	37.80	5.68	51.94	0.73	-0.543	3.59	402.80
			14C	8.00	70.71	-10.47	17.93	76.71			
			WIDE	60.00	25.82						
282 **-8	1.00	58.0	3H	25.00	40.00	-2.13	52.20	0.73	0.409	5.04	404.34
			14C	12.00	57.74	-5.20	17.93	76.77			
			WIDE	52.00	27.74						

PAGE: 15

SAM NO	POS	TIME MIN	H#	ISO	CORRECTED CPM	%ERROR	DFM	EFF-1	EFF-2	RATIO	LUMEX %	ELAPSED TIME
283 **-9	1.00	57.4	3H		24.00	40.82	-9.07	52.33	0.73	-0.987	3.10	405.89
			14C		23.00	41.70	9.19	17.92	76.79			
			WIDE		67.00	24.43						
284 **-10	1.00	57.5	3H		21.00	43.64	-12.12	52.31	0.73	-8.622	3.05	407.44
			14C		17.00	48.51	1.41	17.92	76.79			
			WIDE		54.00	27.22						

Attachment 2

Closeout Survey Buildings 258, Waste Storage Facility

**1971 West Davis Road
Greenfield, Indiana**

Close-out Survey for Greenfield Waste Storage Facility: Building 258

BACKGROUND

The Greenfield Waste Storage facility, building 258, is a small warehouse facility approximately 25' by 70' with a large concrete floor. This warehouse was approved in 1995 for decay in storage of bagged and drummed dry radioactive waste generated by radioactive material use laboratories located at 2001 West Main St, Greenfield IN. The 258 facility ceased being used in 2009 following the sale of the majority of the 2001 West Main street property to Covance Labs.— The last radioactive waste stored in this facility was removed in May of 2010. Please note, that while this facility was previously considered to exist as part of the 2001 West Main Street address, since the sale of the majority of that property to Covance Labs in 2008 it is referred to with a street address of 1971 West Davis Road, Greenfield Rd.

During routine use of the waste facility, waste was double bagged, drummed and wipe tested at the generator site (Greenfield plant site) to ensure it was free of removable contamination prior to transport for decay in storage. Per License conditions, this facility was surveyed quarterly while in use.

Operating procedures and training delivered to Greenfield support personnel would dictate that the corporate radiation safety office be notified of any abnormal occurrences at the facility. Our office has no record of spills, widespread contamination or any other abnormal occurrences at this facility.

CLOSEOUT SURVEY METHODS

The design and extent of this final status survey was based on the fact that licensed activities involved only sealed containers of radioactive material.

In accordance with our radioactive materials license conditions, this closeout survey was conducted by Eli Lilly Radiation Safety personnel and consisted of a direct floor survey with a gas proportional floor monitor (conducted on August 24, 2010) and wipe tests (conducted on August 5, 2010.)

Direct Survey

The direct survey covered 100% of the storage area floor. Readings were obtained with a Ludlum model 239-1F floor monitor outfitted with a Ludlum model 43-37 P-10 gas proportional detector with 0.4 mg/cm² window density and 584 cm² active window area. This meter was a recent purchase and was at the time of survey still within its manufacturer calibration period. An SEI SE International "Inspector" survey meter which utilizes a Halogen-quenched pancake Geiger-Mueller tube and 1.75" diameter mica window with density 1.5-2.0 mg/cm² - was used to survey areas not accessible with the floor monitor. These survey meters are calibrated by Eli Lilly shops personnel with NIST traceable standards, in accordance with previously approved license conditions (Amendment 51) or following major repair which detail a minimum efficiency criteria of 2% for C-14.

No direct readings above background were detected.

Removable Contamination

Wipes for removable surface contamination were obtained by conducting large area wipes of approximately 1000 cm², using a dry filter paper, while applying moderate pressure. One hundred and three wipes were completed including 52 of the storage area floor, 28 of the building walls, 2 of area heating vents, 7 of the cement pad leading into the caged storage area and 11 of non rad materials remaining in the warehouse including plastic sheeting and an empty storage drum. The location of each wipe is indicated on the attached survey map.

All wipe results from this survey were less than 200 dpm.

Survey Instrument Detection Capabilities:

Calculation of C-14 MDA for TriCarb LSC:

Equation Used (from NUREG 1507, representing 95% confidence level):

$$MDA = \frac{3 + 4.65\sqrt{R_b}}{T}$$

Where:

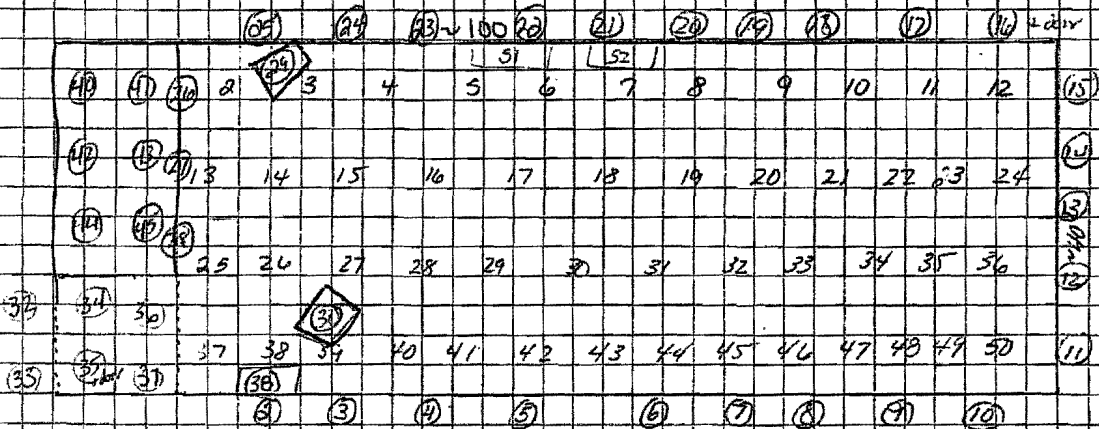
R_b = background count-rate (reported in dpm from direct dpm LSC protocol)
= 64 dpm (highest background results obtained from enclosed surveys)

T = Sample count time = background count time
= 1 minute

Using the above equation and values, Minimum Detectable Activity of the Tri-Carb LSC for C-14 beta particles = **40 dpm**

GL 258 Close net survey - w/protects 8/5/10

Auska Mahim
 Jim Baker
 Claire Edellmattuff
 Kyle Ferguson



2-52 floor w/400 area > 100cm² ≈ 1000cm² counted 8/5/10

②-③⑩ walls & ceiling counted 8/1/10

③②-③③ outside + entry, paint

④⑩-④⑤ room

④⑦-⑤① plastic sheets on floor

Survey of floor 8/4/10
 Auska Mahim + Beth Kay

Ludlum Floor Monitor

pkg: 1200cpm

(1-14 disk source): 32,000cpm

(0.104 µCi ¹³⁷CS/100)

0.7% eff (4pi eff)

SET

DEDM6

Bkg: 60-80cpm

All areas @ pkg

Wipe/Leak Tests

Assay Definition-

Assay Description:
 Direct DPM Assay

Assay Type: Direct DPM
 Report Name: Report1
 Output Data Path: C:\Packard\Tricarb\Results\Alisha Mahin\Direct Assay
 Raw Results Path: C:\Packard\Tricarb\Results\Alisha Mahin\Direct Assay\20100805_1624.results
 Assay File Name: C:\Packard\TriCarb\Assays\Direct Assay.lsa

Count Conditions-

Nuclide: Direct DPM 3H
 Quench Indicator: tSIE/AEC
 External Std Terminator (sec): 0.5 2s*
 Pre-Count Delay (min): 0.00
 Quench Set:
 Low Energy: 3H
 Count Time (min): 1.00
 Count Mode: Normal
 Assay Count Cycles: 1
 #Vials/Sample: 1
 Normalization Std DPM: 127500
 Repeat Sample Count: 1
 Calculate % Reference: Off

Background Subtract: Off
 Low CPM Threshold: Off
 2 Sigma % Terminator: Off

Regions	LL	UL
A	0.0	2000.0

Count Corrections-

Static Controller: On
 Colored Samples: n/a
 Coincidence Time (nsec): 18
 Luminescence Correction: On
 Heterogeneity Monitor: n/a
 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

Cycle 1 Results

S#	DPM1	CPMA	tSIE	MESSAGES
1	53	40	569.29	
2	67	44	355.81	
3	63	46	434.79	
4	68	44	454.34	
5	59	41	459.61	
6	102	67	477.99	
7	54	43	443.01	
8	79	54	461.51	
9	76	46	428.77	

*floor strip
 main area
 25B waste
 building*

*rec'd by:
 Claire Wellinghoff 8/5/10*

*Area > 100cm²
 ≈ 1000cm²*

Radioactive Materials License 13-01133-02
Eli Lilly and Company

8/5/10 5:48:08 PM

QuantaSmart (TM) - 1.31 - Serial# 431803

Page # 2

Protocol# 3 - Direct Assay.lsa

User: Alisha Mahin

Wipe/Leak Tests

10	59	45	438.68
11	55	37	456.55
12	57	38	452.94
13	57	38	440.87
14	57	44	460.81
15	57	40	486.88
16	56	44	466.23
17	76	49	449.84
18	56	43	402.86
19	62	44	448.94
20	50	37	492.05
21	62	46	455.44
22	80	52	432.48
23	56	36	476.58
24	37	26	404.06
25	50	36	462.76
26	69	50	429.32
27	80	57	455.33
28	50	36	473.59
29	68	47	475.62
30	74	52	448.49
31	51	35	487.56
32	70	52	449.42
33	70	49	491.93
34	43	34	510.52
35	51	43	445.00
36	60	45	452.00
37	47	33	503.14
38	65	44	456.25
39	45	32	450.64
40	50	37	475.70
41	41	26	467.29
42	64	45	466.21
43	47	35	485.03
44	64	49	416.44
45	92	53	444.96
46	71	54	458.83
47	83	55	541.71
48	49	37	473.74
49	47	34	415.58
50	52	43	466.66
51	50	38	487.47
52	49	39	485.22

Radioactive Materials License 13-01133-02
Eli Lilly and Company

8/6/10 8:41:20 AM QuantaSmart (TM) - 1.31 - Serial# 431803 Page # 1
Protocol# 3 - Direct Assay.lsa User: Alisha Mahin

Wipe/Leak Tests

Assay Definition-

Assay Description:
Direct DPM Assay

Assay Type: Direct DPM
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\Alisha Mahin\Direct Assay
Raw Results Path: C:\Packard\Tricarb\Results\Alisha Mahin\Direct Assay\20100806_0723.results
Assay File Name: C:\Packard\TriCarb\Assays\Direct Assay.lsa

Count Conditions-

Nuclide: Direct DPM 3H
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2st
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: 3H
Count Time (min): 1.00
Count Mode: Normal
Assay Count Cycles: 1
#Vials/Sample: 1
Normalization Std DPM: 127500
Repeat Sample Count: 1
Calculate & Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma & Terminator: Off

Regions	LL	UL
A	0.0	2000.0

Count Corrections-

Static Controller: On
Colored Samples: n/a
Coincidence Time (nsec): 18
Luminescence Correction: On
Heterogeneity Monitor: n/a
Delay Before Burst (nsec): 75

Half Life-

Regions	Half Life	Units	Reference Date	Reference Time
A				

Cycle 1 Results

S#	DPM1	CPMA	tSIE	MESSAGES
1	54	36	564.54	
2	48	34	515.12	
3	69	40	558.31	
4	37	24	560.38	
5	49	31	550.64	
6	49	39	561.51	
7	68	48	541.99	
8	41	29	550.92	
9	52	33	546.51	

walls of main storage area

*Area > 100 cm²
vs 1000 cm²*

*wipe taken by
Alisha Mahin
& Jim Baker
8/5/10*

Radioactive Materials License 13-01133-02
 Eli Lilly and Company

8/6/10 8:41:20 AM

QuantaSmart (TM) - 1.31 - Serial# 431803

Page # 2

Protocol# 3 - Direct Assay.lsa

User: Alisha Mahin

Wipe/Leak Tests

10	61	41	547.80	
11	65	45	563.45	
12	53	40	564.87	
13	74	52	546.47	
14	53	39	503.53	
15	88	61	549.60	
16	56	43	555.78	
17	39	30	551.71	
18	69	54	561.16	
19	85	52	566.86	
20	63	47	559.33	
21	49	35	543.85	
22	64	45	545.57	
23	39	26	564.76	
24	77	50	560.93	
25	64	47	568.96	
26	61	42	564.29	
27	71	48	569.72	
28	91	66	548.80	
29	47	30	381.09	
30	48	40	433.62	2 heaters on E side of room
Missing vial 31.				
32	51	36	554.93	
33	68	46	558.41	
34	75	48	548.37	outside area before
35	52	45	555.38	fence - floor
36	39	26	542.39	(also cart)
37	73	55	543.70	
38	50	37	533.77	
Missing vial 39.				
40	50	37	516.67	
41	49	40	505.53	empty
42	51	32	385.76	drum storage room - floor
43	61	48	476.34	
44	44	27	498.77	
45	36	30	533.40	
Missing vial 46.				
47	53	39	431.28	
48	43	31	485.54	plastic on floor
49	54	38	514.48	
50	57	37	512.29	
51	66	49	540.11	

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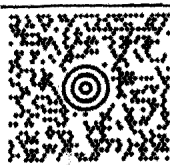
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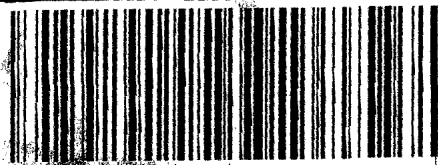
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LISLE IL 60532



IL 603 9-03



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If no, attach sheet with the name and address of the final destination.

Prepared By
Sarah Kay

Cost Element
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Material Location
 Accompanies Other

Special Instr. In the
number of the

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