



March 28, 2013

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

Amendment to Materials License No. 21-04171-04

Dear Madam or Sir:


We wish to provide the following information, in an effort to close-out an address or area of use under our Materials License.

- A close-out survey and wipe test was performed on March 20, 2013 @ 15:15 and the data is enclosed for your review.
- A map of the area(s) noted above keyed to the survey and wipe test data.
- The last date of receipt and use of byproduct material was March 19, 2013.
- The following radionuclide(s) **\*see attached** were used at this facility.
- All residual byproduct material to include waste was fully decayed in storage and disposed, returned to supplier or transferred to an authorized user.
- All sealed sources were transferred to an authorized user or returned to supplier.
- A current copy of the sealed source leak test results for the sealed sources used at our facility are enclosed for your review.

This facility is exempt from decommissioning due to low volumes and short physical half-lives of materials used.

We did not dispose of radioactive materials by release to sewers or incineration. In addition, there were no spills of any long-lived radioactive material or on-site burials of radioactive materials.

Sincerely,

 Conlin 3-28-2013

Christopher J. Conlin, M.D.  
Radiation Safety Officer

  
Brent Wheeler  
VP Ancillary/Support Service

RECEIVED MAR 29 2013

# CLOSE-OUT SURVEY



Address of Close-out Survey Performed: 401 S. Ballenger Hwy

License Number: 21-04171-04

Date Performed: 3/20/13

Performed By: James Smith

Wipe tests analyzed with Captus 3000 well with a 2000 keV window.  
Efficiency for Cobalt-57 is 79.40%. MDA is 20 dpm.

Survey performed with Ludlum survey meter model 14C with end window probe  
S/N 160986 calibrated on 2/14/13 with a check source reading of 10  
mR/hr. Range used was .01 mR/hr.  
to 0.2 mR/hr.

All sealed radioactive sources were moved to new hot lab location

## Visual Check

The area was checked to ensure that all radioactive waste had been removed. No radioactive material was located.

## Radiation Level Survey

No area within the department demonstrated radiation levels in excess of the background reading of 0.03 mR/hr.



## Sealed Source Inventory

Licensee: McLaren Flint

Date: 02/05/13

Performed by: Thomas Kumpuris

		Calibration		Location	M/N	S/N
Nuclide	Type	Activity	Date			
Co-57	Spot(4)	50 uCi	04/08/03	Hot Lab	BM03	BM03509
	Current Activity:	0.005 uCi				
Ba-133	Rod	0.111 uCi	04/01/02	Hot Lab	MED3400	17300
	Current Activity:	0.054 uCi				
Cs-137	Vial	214 uCi	03/31/78	Hot Lab	NES-356	31920215
	Current Activity:	95.61 uCi				
Ba-133	Vial	244 uCi	02/20/90	Hot Lab	NES-358	358008048
	Current Activity:	53.76 uCi				
Cs-137	Vial	96.3 uCi		Hot Lab	NEN	
	Current Activity:	uCi		MoEq		
Cs-137	Vial	17.2 uCi	01/01/75	Hot Lab	SQUIBB	8834AW-1
	Current Activity:	7.13 uCi				
Cs-137	Spot	10 uCi		Hot Lab	Yellow	Green Jar
	Current Activity:	uCi				
Cs-137	Vial	34 uCi	11/03/87	Hot Lab	NEN	S802300310
	Current Activity:	18.96 uCi				
Co-57	Spot(3)	50 uCi	02/01/02	Hot Lab	MED3503	15925-27
	Current Activity:	0.002 uCi				
Cs-137	Spot	10 uCi		Hot Lab	Yellow	Bicron IC
	Current Activity:	uCi				
Cs-137	Spot	UNK		Hot Lab	Nucleus	Gray
	Current Activity:	UNK				
Cs-137	Rod	500 nCi	01/01/06	Hot Lab	IPL	1140-82-28
	Current Activity:	424.4 nCi				
Co-57	Spot	50 uCi	11/01/05	Hot Lab	IPL	1140-65-5
	Current Activity:	0.056 uCi				
Co-57	Spot	50 uCi	12/01/05	Hot Lab	IPL	1140-65-10
	Current Activity:	0.061 uCi				
Co-57	Spot	50 uCi	12/01/05	Hot Lab	IPL	1140-65-7
	Current Activity:	0.061 uCi				
Co-57	Spot	50 uCi	12/01/05	Hot Lab	IPL	1140-65-15
	Current Activity:	0.061 uCi				
Cs-137	Rod	0.5 uCi	04/01/07	Hot Lab	IPL	1231872
	Current Activity:	0.437 uCi				
Eu-152	Rod	0.5 uCi	03/01/07	Hot Lab	IPL	11949113
	Current Activity:	0.367 uCi				

## Sealed Source Inventory

Licensee: McLaren Flint

Date: 02/05/13

Performed by: Thomas Kumpuris

Nuclide	Type	Calibration		Location	M/N	S/N
		Activity	Date			
Cs-137	Spot	UNK		Hot Lab	Beige	Red Ring
Current Activity:		UNK				
Co-57	FF	10 mCi	06/01/11	Hot Lab	IPL	1519-024
Current Activity:		2.074 mCi				
Co-57	Spot(x4)	50 uCi	06/01/11	Hot Lab	IPL	1452-88-7/10
Current Activity:		10.37 uCi				

### SEALED SOURCE AMBIENT EXPOSURE SURVEY

Meter: Ludlum

Max Reading 0.1 mR/hr

RADIATION SAFETY OFFICER: \_\_\_\_\_

3-13-13

### General Inventory

- (1) 2.5 Ci Mo/Tc Generator
- (1) Decay Bin of I-131 Capsules
- (1) Decay Bin of I-123 Capsules
- (1) Solidified I-125 source
- (2) Decay Bins of Tc-99m
- (1) Decay Bin In-111, Ga-67, Tl-201

CGMD Contin

3.28.2013

# CLOSE-OUT SURVEY



## Removable Contamination

1 minute counts of a wipe sample covering at least a 100 square centimeter area

Background: 310, 312, 315

Average: 315  $\frac{\text{cpm}}{\text{dpm}} = 472.5 \text{ dpm}$

Area	Result	Area	Result
1	dpm	22	dpm
2		23	
3		24	
4		25	
5		26	
6		27	
7		28	
8		29	
9		30	
10		31	
11		32	
12		33	
13		34	
14		35	
15		36	
16		37	
17		38	
18		39	
19		40	
20		41	
21		42	

See attached  
wipes

Maximum removable contamination:

$$\frac{79}{101.5} \text{ cpm/100 cm}^2 \times \frac{1.5}{1} \text{ dpm/cpm} = \text{net dpm/100 cm}^2$$

## Conclusion

As of 3/20/13 @ 1515 all radioactive materials were removed from the site and no removable contamination was present.

*[Signature]* cmmT

## CAPTUS 3000 S/N: CNV-496

McLaren - Flint

Flint, MI 48532

Department of Nuclear Medicine

## Today's Wipes

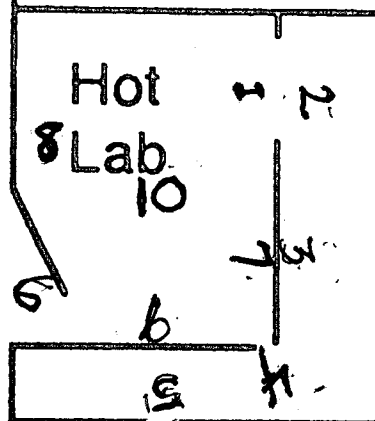
		Net Counting Rate		Net Activity	
10	floor		03/20/2013 13:42	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	40.00 cpm		61.54 dpm	
9	I131 drawer		03/20/2013 13:41	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	24.00 cpm		36.92 dpm	
8	floor by gen		03/20/2013 13:40	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	28.00 cpm		43.08 dpm	
7	inside hot trash storage		03/20/2013 13:38	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	22.00 cpm		33.85 dpm	
6	hot lab entrance		03/20/2013 13:36	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	41.00 cpm		63.08 dpm	
5	I123 counter storage		03/20/2013 13:34	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	29.00 cpm		44.62 dpm	
4	counter by computer		03/20/2013 13:33	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	18.00 cpm		27.69 dpm	
3	hot trash cupboard		03/20/2013 13:32	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	19.00 cpm		29.23 dpm	
2	inside fume hood		03/20/2013 13:30	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	68.00 cpm		104.6 dpm	
1	outside fume hood		03/20/2013 13:28	60 sec	Trigger: 2000 dpm
	Background		315.0 cpm		
	Full Spectrum	79.00 cpm		121.5 dpm	

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Office



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FedEx carbon-neutral  
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FZ **495**  
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ORIGIN ID: FNTA (810) 342-2263 SHIPPING DEPARTMENT MCLAREN 401 S. BALLENGER HWY FLINT, MI 485323685 UNITED STATES US	SHIP DATE: 28MAR13 ACTWT: 1.0 LB MAN CAD: 778540/CAFE2453 BILL SENDER
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TO **MATERIALS LICENSING SECTION**  
**U.S. NUCLEAR REGULATORY COMMISSION**  
**2443 WARRENVILLE ROAD SUITE 210**  
**REGION III**  
**LISLE IL 60532**

DEPT: RADIOLOGY

 **FedEx Express** 

**FedEx**  
FRI - 29 MAR 3:00P  
STANDARD OVERNIGHT  
**60532**  
IL-US  
ORD

**XH ENLA**



Emp# 527961 28MAR13 FNTA 519C1/648E/93AB

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