

January 3, 2012

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

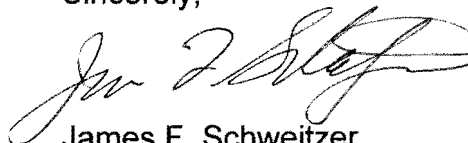
Dear Sir/Madam:

Purdue University has permanently ceased operations and requests to remove a location of use from our Broad Scope License 13-02812-04. The Service Building at 231 S. University St, West Lafayette, IN, was used for storage of a moisture gauge with a Cs-137 or a Ra-266 sealed source.

During that time period there were no contamination incidents and routine surveillance of the gauge for source integrity by leak testing were all satisfactory. A survey for fixed contamination was conducted with a calibrated thin window GM survey meter. Additionally, wipe tests for removable contamination with a minimum area of 100 cm² were performed and analyzed by liquid scintillation counting. As expected, no contamination was found during the final survey and exposure rates were all equivalent to background. These results meet the screening criteria in Appendix B of NUREG 1757 (Volume 1) and is in compliance with the dose limits of 10 CFR 20.1402 for unrestricted use. The location of surveys and the results of the surveys performed can be found in the attachment.

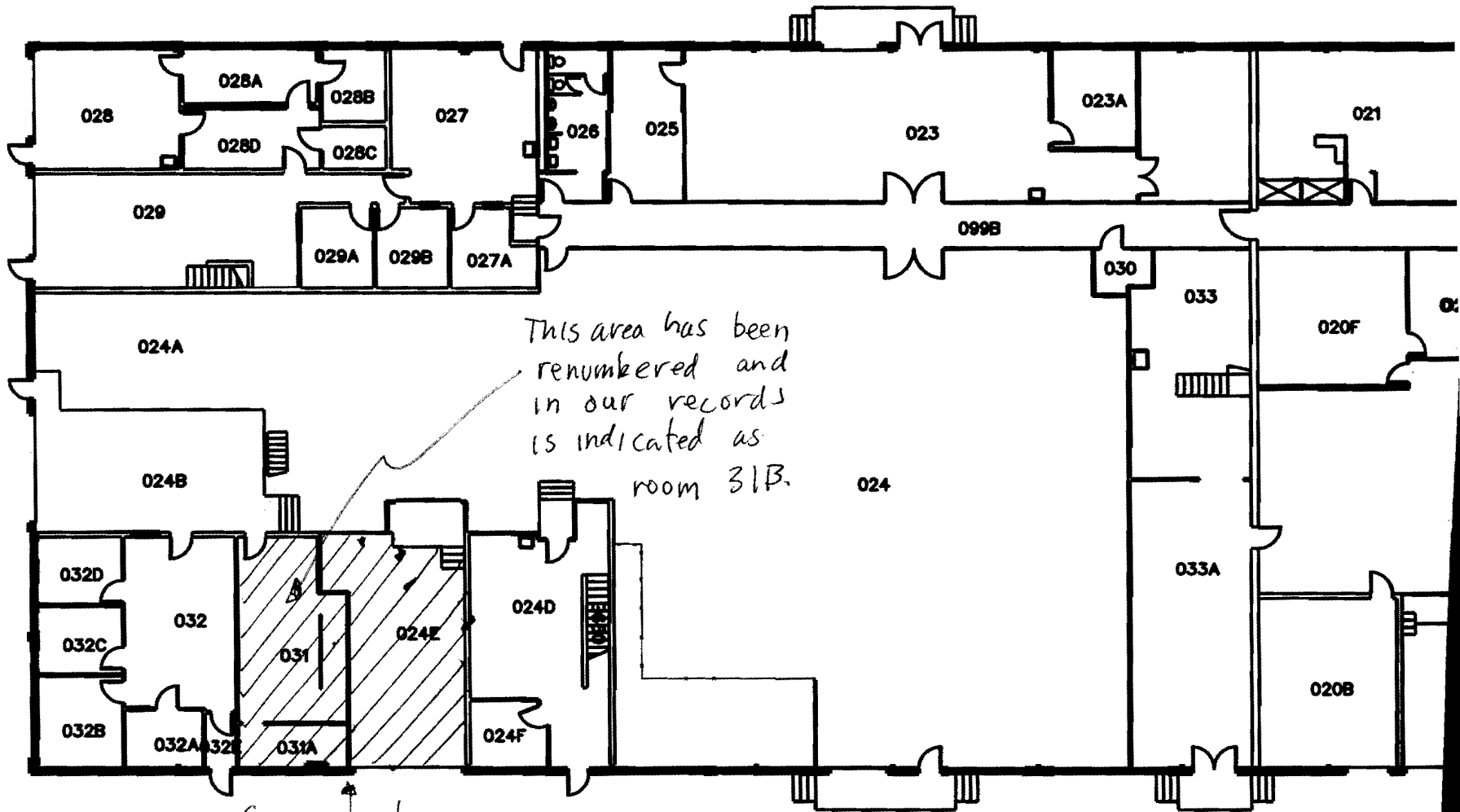
The facility has been released for unrestricted use and will be demolished on or after March 5, 2012. The records will be maintained as required under 10 CFR 30.36. If you need further information please contact me at 765-494-2350.

Sincerely,



James F. Schweitzer
Radiation Safety Officer

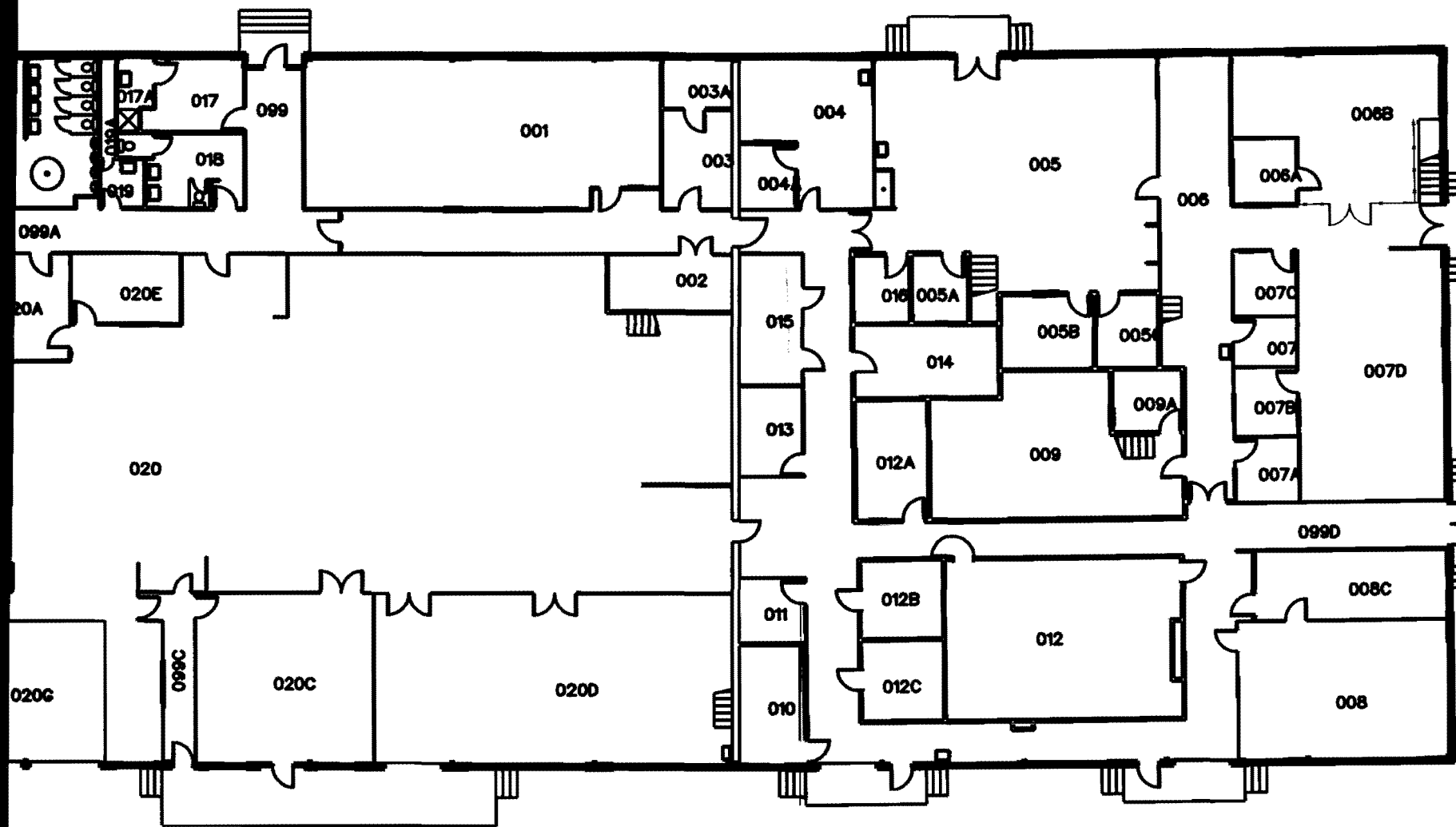
G:\Library\BiblePlan\serv-1.dgn



This area has been renumbered and in our records is indicated as room 31B.

Gauge storage locations



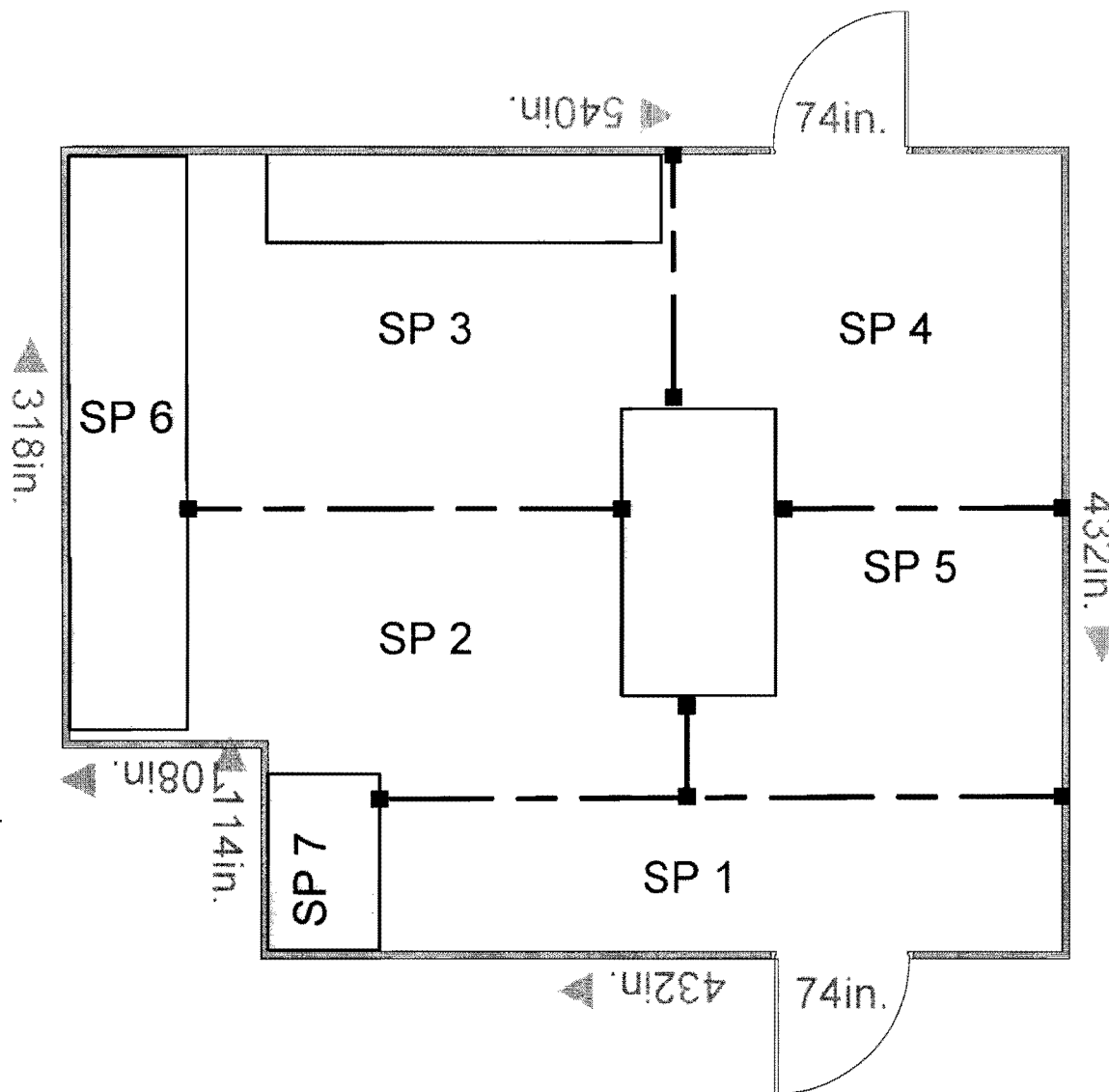


BUILDING

Radioactive Material Area Decommissioning Map: Survey Locations

Surveyed By:	Matt Metzger
Survey Date:	7/22/2011

Building:	SERV
Room:	31B



- Key:
- R = Refrigerator/Freezer
 - H = Hood
 - E = Equipment
 - C = Cabinet
 - S = Shelves
 - D = Desk
 - Dr = Door
 - Fl = Floor
 - LS = Lightswitch
 - SP = Survey Point

SP = static probe thin window GM detector

Meter Readings (Integrated Counts)

Location: **SERV 31B**

Meter:	Ludlum 3; SN 258427	Open Area
Probe:	Ludlum 44-9-18; SN PR280263	12 cm ²

Background Readings

Material 1			Material 2		
Description: Floor			Description: Bench Top		
Count #	CPM	MDA	Count #	CPM	MDA
1	47	43	1	35	37
2	42		2	28	
3	43		3	32	
AVG ₁ =	44		AVG ₂ =	32	

Material 3			Material 4		
Description: Air			Description: N/A		
Count #	CPM	MDA	Count #	CPM	MDA
1	30	37	1	0	5
2	28		2	0	
3	32		3	0	
AVG ₃ =	30		AVG ₄ =	0	

Background Count Time: 1 minute(s)

Sample Count Time: 0.5 minute(s)

Calibration nuclide used for efficiency:

Tc-99

Energy comparisons:

Tc-99 is the isotope with the closest beta energy to the isotopes of interest that is used to calculate meter efficiency; therefore, it will be used as the calibration isotope.

Calibration nuclide calculated efficiency:

0.162

Release Criteria*

Nuclide	Activity (DPM/100 cm ²)
Tc-99	1300000

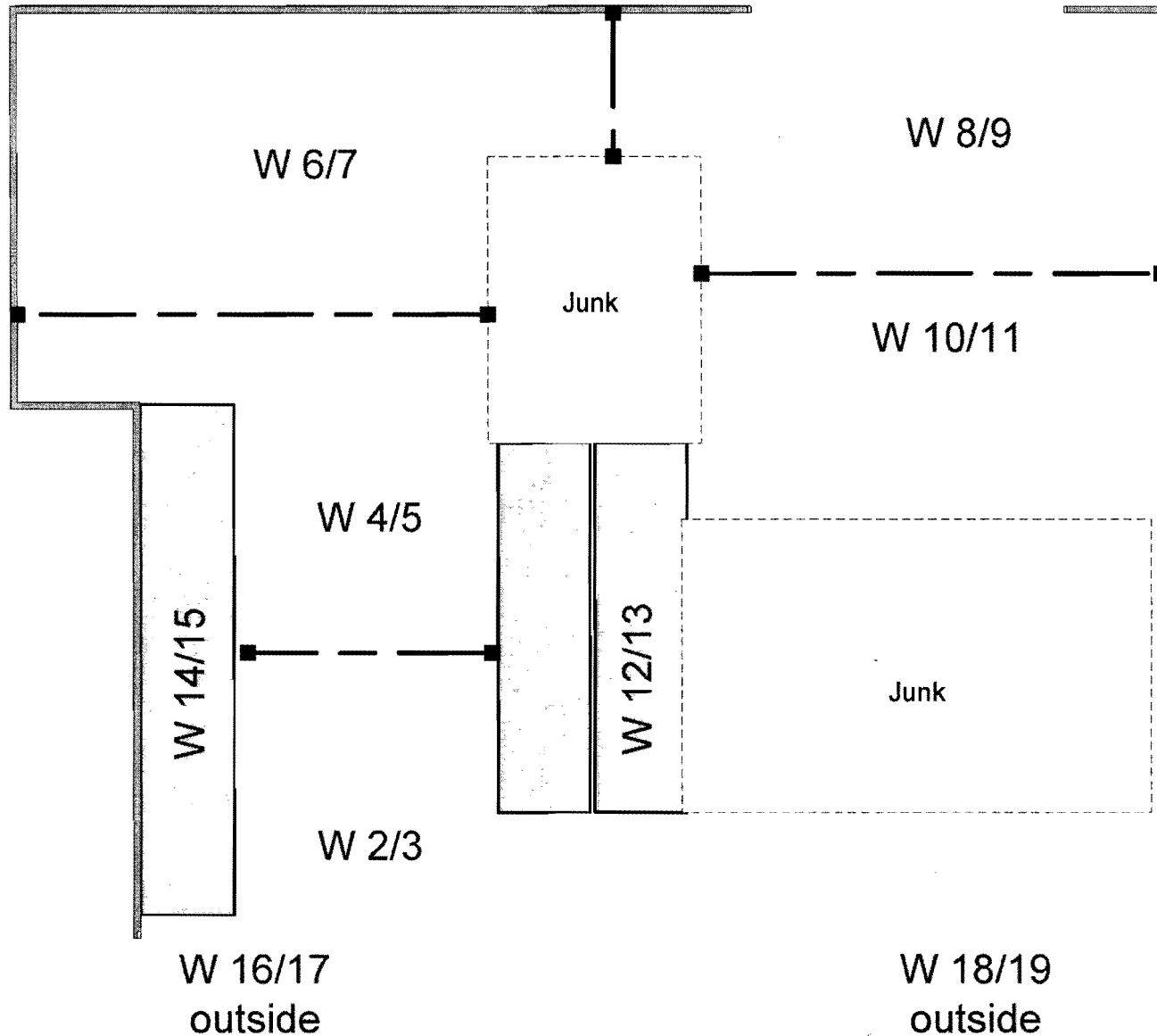
*NUREG 1757 Vol. 1, Rev. 2, Table B.1

Meter Reading	Description	Counts/30 sec	CPM	Net Counts	Material #	<MDA?	DPM	DPM/100cm ²	Below Release Criteria?
1	SP 1	12	24	-20	1	Yes	0	0	Yes
2	SP 2	15	30	-14	1	Yes	0	0	Yes
3	SP 3	11	22	-22	1	Yes	0	0	Yes
4	SP 4	14	28	-16	1	Yes	0	0	Yes
5	SP 5	10	20	-24	1	Yes	0	0	Yes
6	SP 6	9	18	-12	3	Yes	0	0	Yes
7	SP 7	8	16	-14	3	Yes	0	0	Yes

Radioactive Material Area Decommissioning Map: Survey Locations

Surveyed By: Matt Metzger
 Survey Date: 7/22/2011

Building: SERV
 Room: 24E



- Key:
- R = Refrigerator/Freezer
 - H = Hood
 - E = Equipment
 - C = Cabinet
 - S = Shelves
 - D = Desk
 - Dr = Door
 - Fl = Floor
 - LS = Lightswitch
 - SP = Survey Point

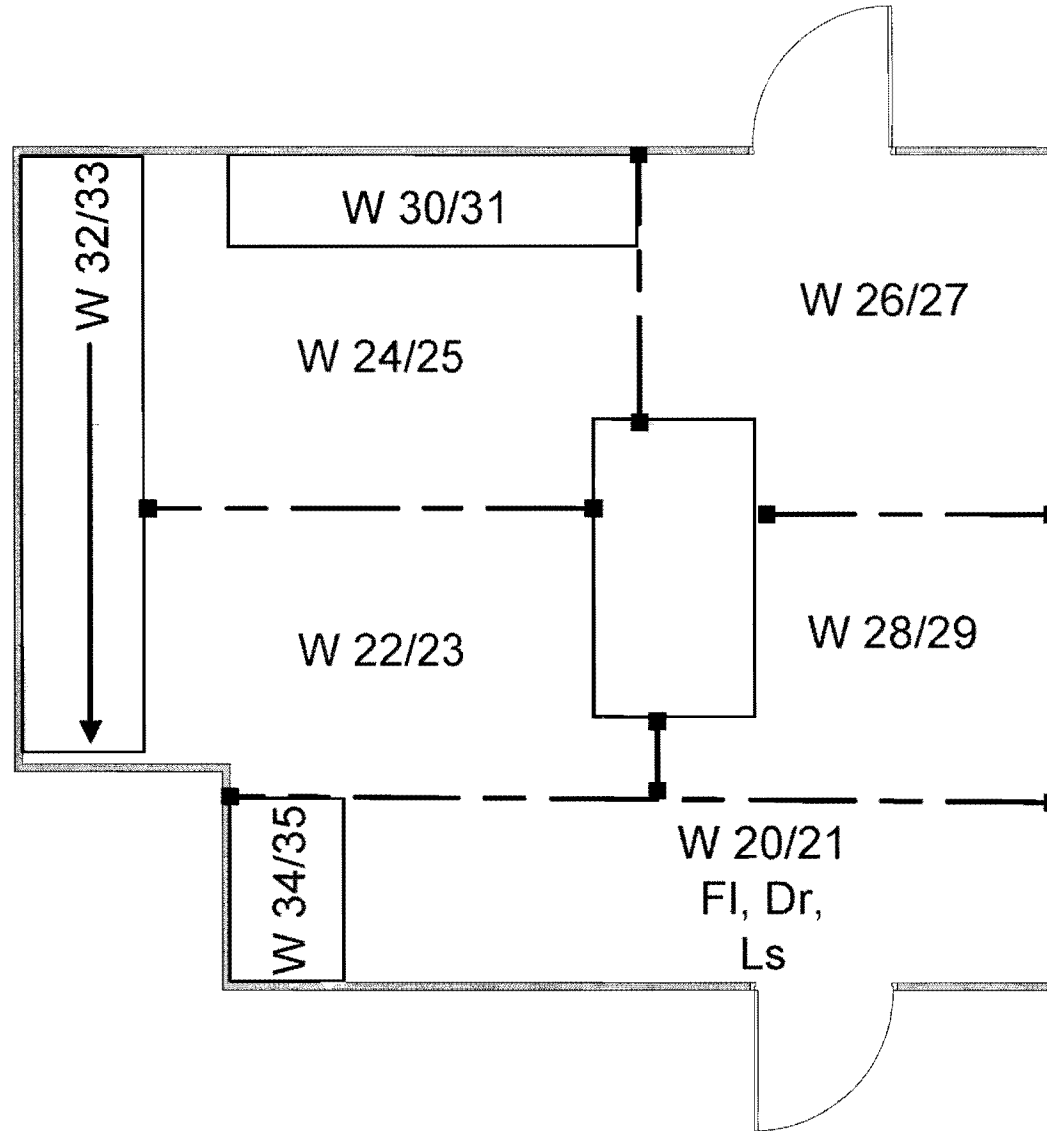
even # = dry, odd # = wet

W = wet and dry wipes of an area ~ 100 cm²

Radioactive Material Area Decommissioning Map: Wipe Locations

Surveyed By: Matt Metzger
 Survey Date: 7/22/2011

Building: SERV
 Room: 31B

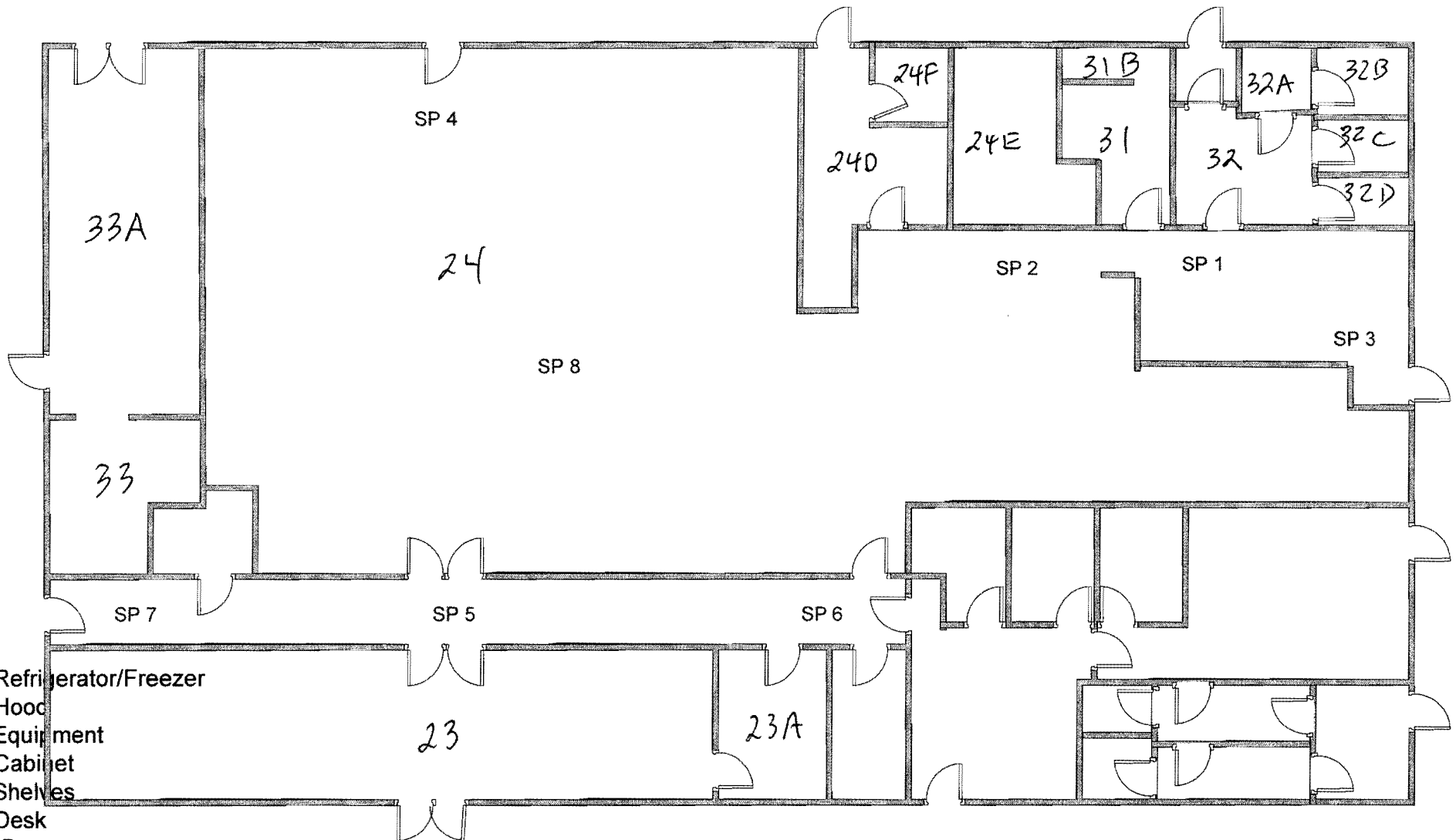


- Key:
- R = Refrigerator/Freezer
 - H = Hood
 - E = Equipment
 - C = Cabinet
 - S = Shelves
 - D = Desk
 - Dr = Door
 - Fl = Floor
 - LS = Lightswitch
 - W = Wipe Area (even # = dry, odd # = wet)

Radioactive Material Area Decommissioning Map: Survey Locations

Surveyed By: **Matt Metzger**
 Survey Date: **7/22/2011**

Building: **SERV**
 Room: **BLDG**



- Key:
- R = Refrigerator/Freezer
 - H = Hood
 - E = Equipment
 - C = Cabinet
 - S = Shelves
 - D = Desk
 - Dr = Door
 - Fl = Floor
 - LS = Lightswitch
 - SP = Survey Point

SP = static probe thru window GM detector

Meter Readings (Integrated Counts)

Location: SERV BLDG

Background Readings

Material 1			Material 2		
Description: Floor			Description: Bench Top		
Count #	CPM	MDA	Count #	CPM	MDA
1	47	43	1	35	37
2	42		2	28	
3	43		3	32	
AVG ₁ =	44		AVG ₂ =	32	

Material 3			Material 4		
Description: Air			Description: N/A		
Count #	CPM	MDA	Count #	CPM	MDA
1	30	37	1	0	5
2	28		2	0	
3	32		3	0	
AVG ₃ =	30		AVG ₄ =	0	

Background Count Time: 1 minute(s)

Sample Count Time: 0.5 minute(s)

Meter:	Ludlum 3; SN 258427	Open Area
Probe:	Ludlum 44-9-18; SN PR280263	12 cm ²

Calibration nuclide used for efficiency:

Tc-99

Energy comparisons:

Tc-99 is the isotope with the closest beta energy to the isotopes of interest that is used to calculate meter efficiency; therefore, it will be used as the calibration isotope.

Calibration nuclide calculated efficiency:

0.162

Release Criteria*

Nuclide	Activity (DPM/100 cm ²)
Tc-99	1300000

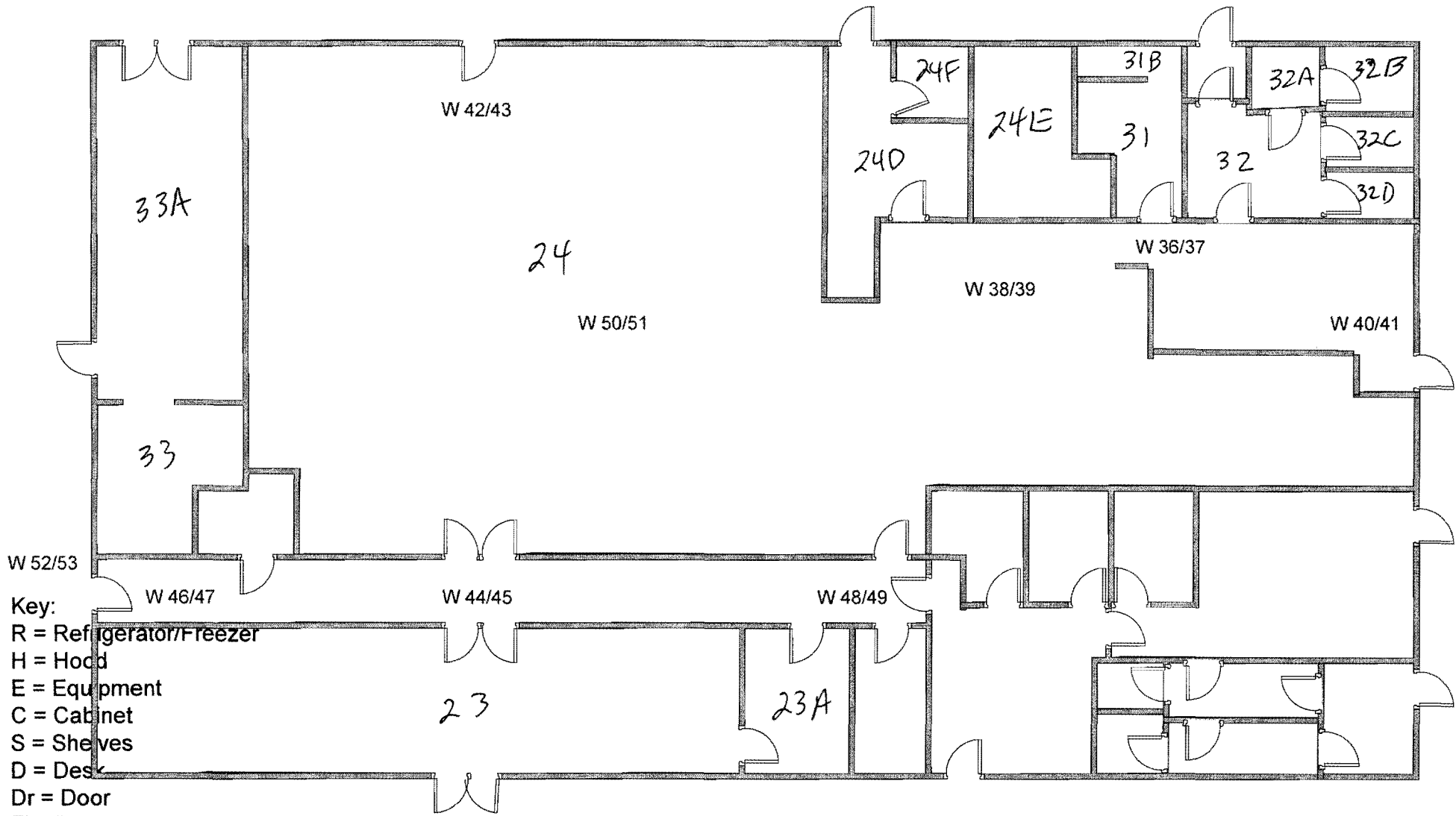
*NUREG 1757 Vol. 1, Rev. 2, Table B.1

Meter Reading	Description	Counts/30 sec	CPM	Net Counts	Material #	<MDA?	DPM	DPM/100cm ²	Below Release Criteria?
1	SP 1	21	42	-2	1	Yes	0	0	Yes
2	SP 2	23	46	2	1	Yes	0	0	Yes
3	SP 3	21	42	-2	1	Yes	0	0	Yes
4	SP 4	29	58	14	1	Yes	0	0	Yes
5	SP 5	15	30	-14	1	Yes	0	0	Yes
6	SP 6	21	42	-2	1	Yes	0	0	Yes
7	SP 7	18	36	-8	1	Yes	0	0	Yes
8	SP 8	22	44	0	1	Yes	0	0	Yes
9	SP 9	23	46	2	1	Yes	0	0	Yes

Radioactive Material Area Decommissioning Map: Wipe Locations

Surveyed By: Matt Metzger
 Survey Date: 7/22/2011

Building: SERV
 Room: BLDG



- Key:
- R = Refrigerator/Freezer
 - H = Hood
 - E = Equipment
 - C = Cabinet
 - S = Shelves
 - D = Desk
 - Dr = Door
 - Fl = Floor
 - LS = Lightswitch
 - W = Wipe Area (even # = dry, odd # = wet)

Date: 7/22/2011

QuantaSmart (TM) - 2.03 - Serial # 083527

LSC Fluid Used: Recycled Fluid #16

If LSC Fluid is recycled, the LSC analysis for the fluid is found here: Recycled Fluid Survey Binder

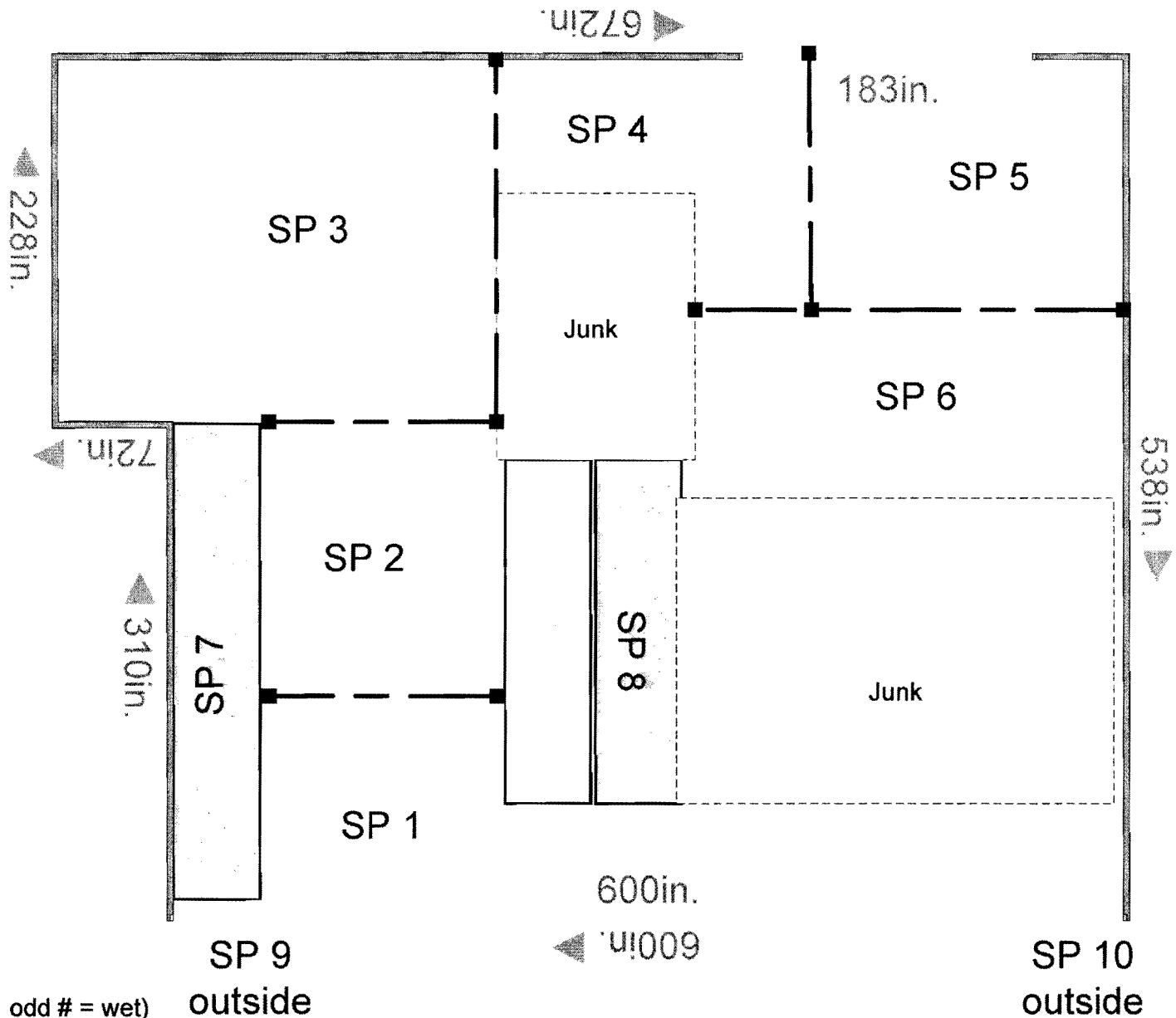
Cycle 1 Results | 0-18 keV | 18-156 keV | >156 keV |

S#	Count Time	CPMA	DPM1	CPMB	DPM2	CPMC	DPM3	SIS	tSIE
1	10	6	0	12	0	13	0	39.44	430.19
36	1	0	0	0	0	0	0	0	418.16
37	1	0	0	1	3	0	0	0	237.95
38	1	0	1	0	0	0	0	0	427.04
39	1	0	0	0	0	0	0	0	236.33
40	1	6	15	0	0	0	0	0	412.44
41	1	0	0	0	0	0	0	0	236.96
42	1	0	0	0	0	0	0	0	405.13
43	1	0	0	4	8	0	0	0	213.48
44	1	0	0	0	0	0	0	0	409.38
45	1	0	0	0	0	7	1	0	231.07
46	1	0	0	4	5	0	0	0	377.57
47	1	0	0	10	14	0	0	23.76	253.11
48	1	1	1	1	1	0	0	65.18	393.81
49	1	0	0	0	0	0	0	0	213.33
50	1	0	0	0	0	0	0	0	402.47
51	1	0	0	0	0	1	0	0	224.89
52	1	0	0	0	0	0	0	0	393.09
53	1	0	0	0	1	0	0	0	289.07

Radioactive Material Area Decommissioning Map: Wipe Locations

Surveyed By: Matt Metzger
 Survey Date: 7/22/2011

Building: SERV
 Room: 24E



- Key:
 R = Refrigerator/Freezer
 H = Hood
 E = Equipment
 C = Cabinet
 S = Shelves
 D = Desk
 Dr = Door
 Fl = Floor
 LS = Lightswitch
 W = Wipe Area (even # = dry, odd # = wet)

SP = static probe thin window GM detector

Meter Readings (Integrated Counts)

Location: **SERV 24E**

Meter:	Ludlum 3; SN 258427	Open Area
Probe:	Ludlum 44-9-18; SN PR280263	12 cm ²

Background Readings

Material 1			Material 2		
Description: Floor			Description: Bench Top		
Count #	CPM	MDA	Count #	CPM	MDA
1	47	43	1	35	37
2	42		2	28	
3	43		3	32	
AVG ₁ =	44		AVG ₂ =	32	

Calibration nuclide used for efficiency:
Tc-99
Energy comparisons:
Tc-99 is the isotope with the closest beta energy to the isotopes of interest that is used to calculate meter efficiency; therefore, it will be used as the calibration isotope.
Calibration nuclide calculated efficiency:
0.162

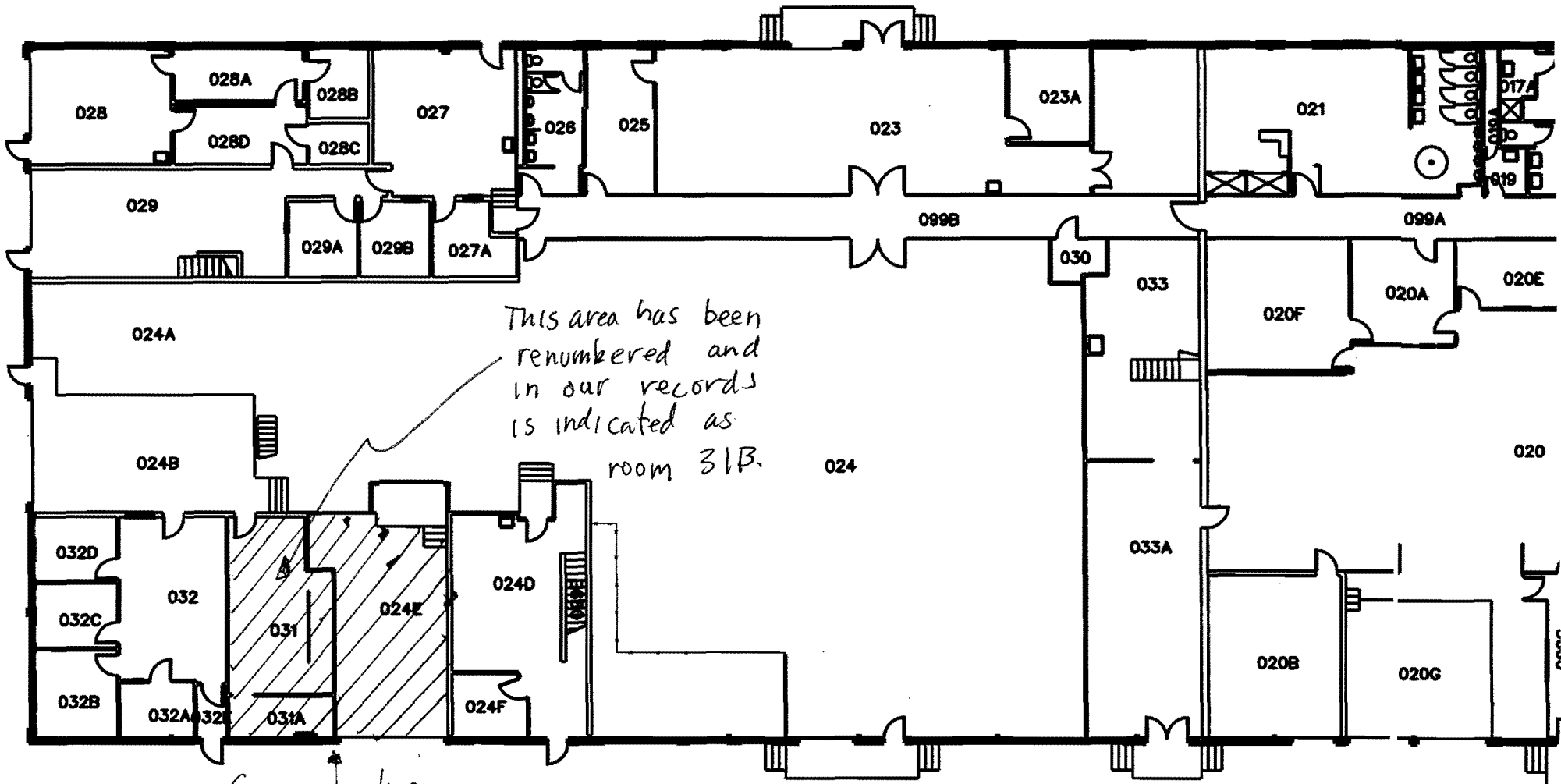
Material 3			Material 4		
Description: Air			Description: N/A		
Count #	CPM	MDA	Count #	CPM	MDA
1	30	37	1	0	5
2	28		2	0	
3	32		3	0	
AVG ₃ =	30		AVG ₄ =	0	

Release Criteria*	
Nuclide	Activity (DPM/100 cm ²)
Tc-99	1300000

*NUREG 1757 Vol. 1, Rev. 2, Table B.1

Background Count Time:	1 minute(s)
Sample Count Time:	0.5 minute(s)

Meter Reading	Description	Counts/30 sec	CPM	Net Counts	Material #	<MDA?	DPM	DPM/100cm ²	Below Release Criteria?
1	SP 1	19	38	-6	1	Yes	0	0	Yes
2	SP 2	18	36	-8	1	Yes	0	0	Yes
3	SP 3	18	36	-8	1	Yes	0	0	Yes
4	SP 4	16	32	-12	1	Yes	0	0	Yes
5	SP 5	13	26	-18	1	Yes	0	0	Yes
6	SP 6	13	26	-18	1	Yes	0	0	Yes
7	SP 7	19	38	8	3	Yes	0	0	Yes
8	SP 8	16	32	2	3	Yes	0	0	Yes
9	SP 9	14	28	-2	3	Yes	0	0	Yes
10	SP 10	16	32	2	3	Yes	0	0	Yes

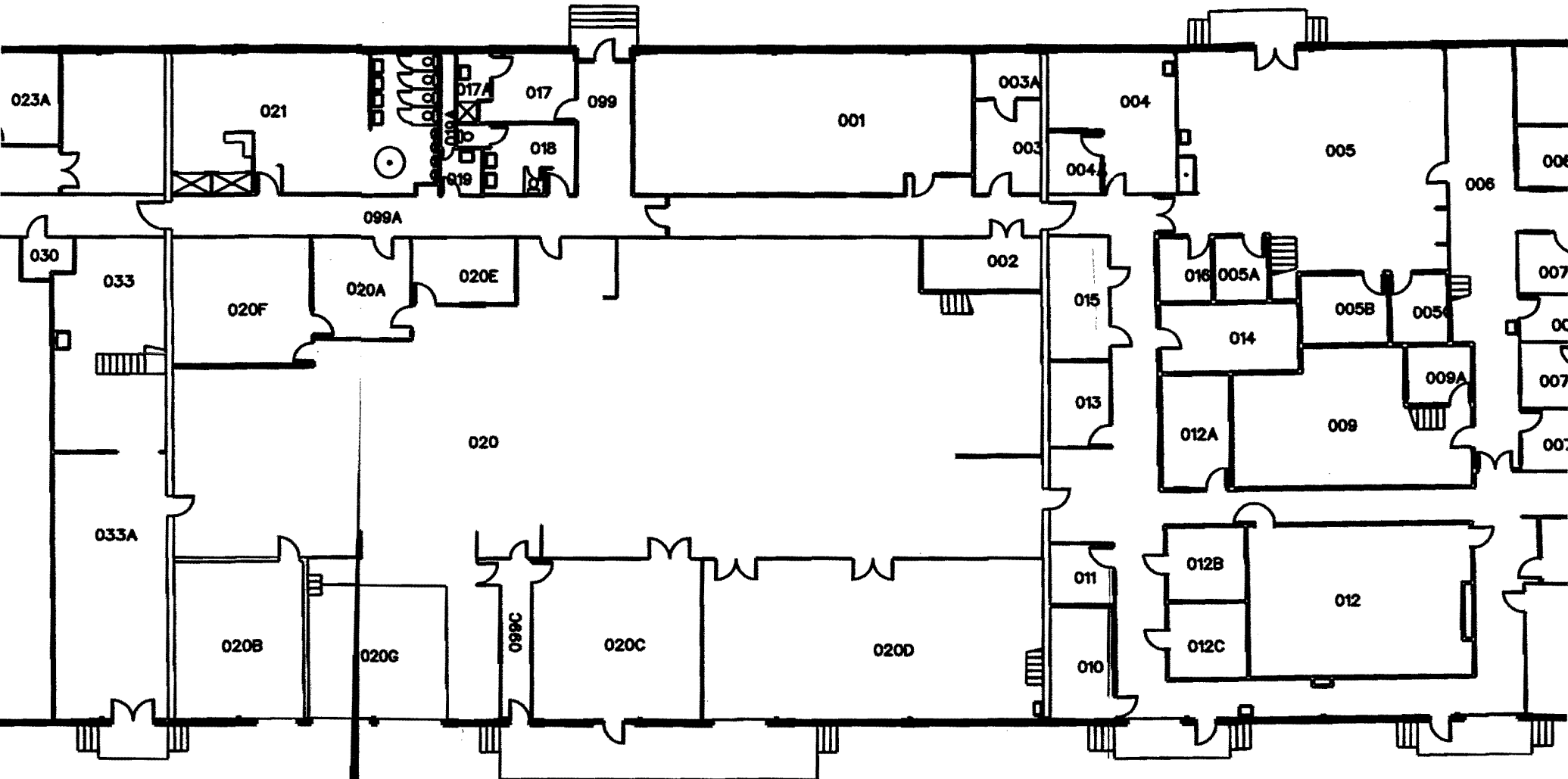


This area has been renumbered and in our records is indicated as room 31B.

Gauge storage locations



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SERV FIRST FLOOR



SERVICE BUILDING
SERV FIRST FLOOR

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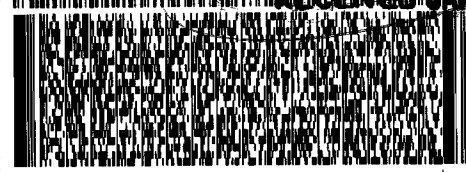
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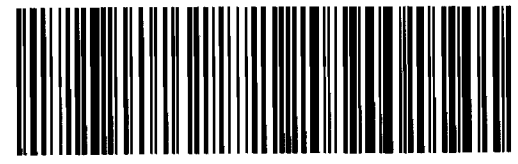


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