

From: [Newman, Nancy \(NIH/OD/ORS\) \[E\]](#)
To: [Nicholson, John](#)
Subject: Attachments for Final Status Report on Nicholson Lane facility, National Institutes of Health
Date: Thursday, April 16, 2015 8:17:54 AM
Attachments: [ATTACHMENT 1.pdf](#)
[ATTACHMENT 2.pdf](#)
[ATTACHMENT 3.pdf](#)
[ATTACHMENT 4.pdf](#)
[ATTACHMENT 5.pdf](#)
[ATTACHMENT 6.pdf](#)
[ATTACHMENT 7.pdf](#)
[ATTACHMENT 8.pdf](#)
[ATTACHMENT 9.pdf](#)
[ATTACHMENT 10.pdf](#)
Importance: High

19-00296-10
030-01786

Hello again. Here are the attachments per our discussion. Please let me know if you need anything else.

Thanks for your help!

Nancy

Nancy Newman
National Institutes of Health
Radiation Safety Officer
Director, Division of Radiation Safety
Building 21, Room 108
301-594-0922 (direct)
301-496-5774 (general radiation safety)

586165

ATTACHMENT 1



U.S. Department of Health and Human Services
Food and Drug Administration

Office of Facilities Engineering and
Mission Support Services

10500 Medical Center Boulevard, Silver Spring, MD 20910

NICHOLSEN LANE RESEARCH CENTER
5516 NICHOLSEN LANE
FIRST FLOOR

FACILITY MANAGEMENT SYSTEM
SPACE PLAN - VACANCIES

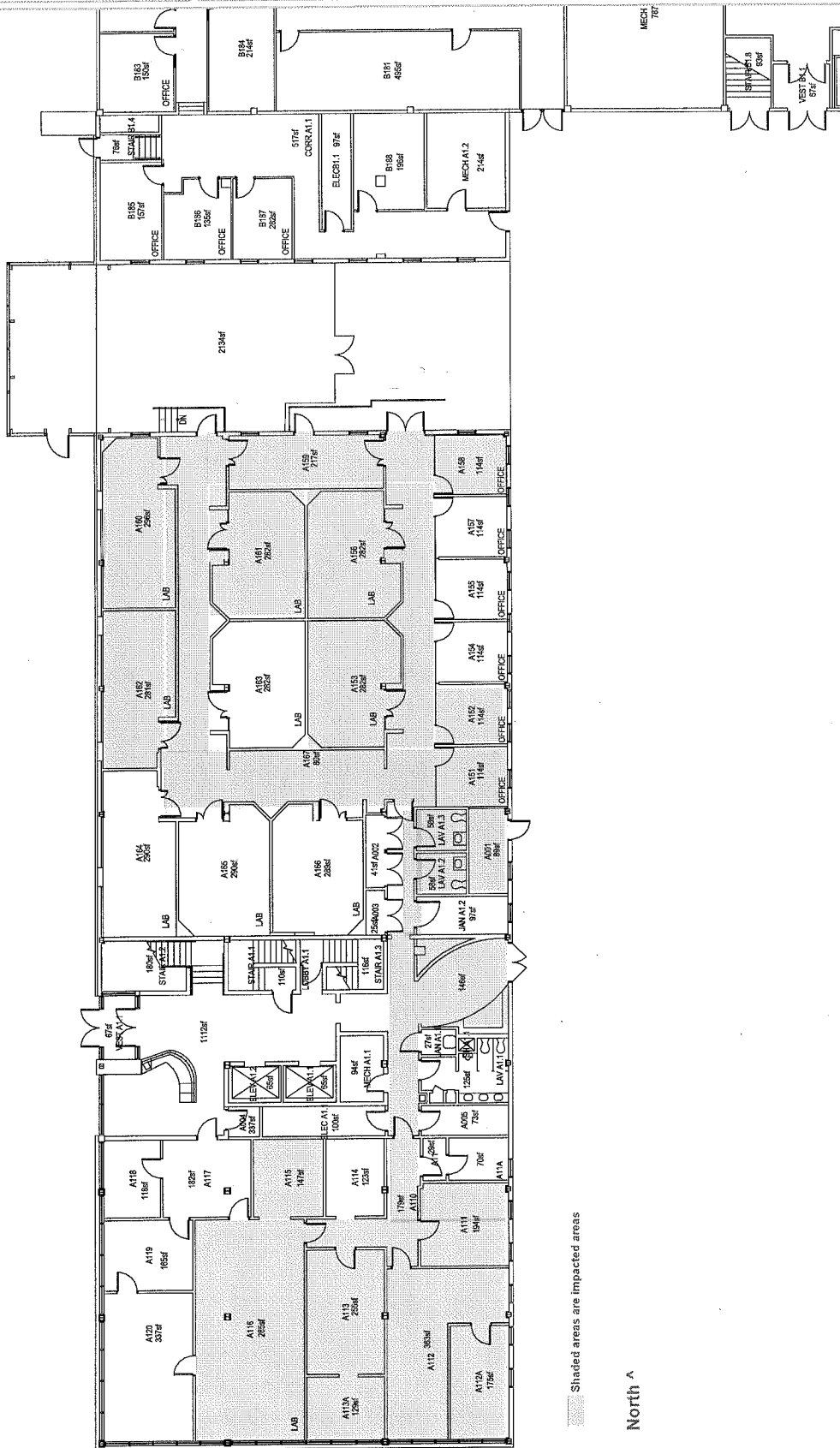
NLRC-01

DATE: 06/01/00
BY: J.A.

REVISIONS

NO. DESCRIPTION

1.00 Initial Design



Shaded areas are impacted areas

North ^

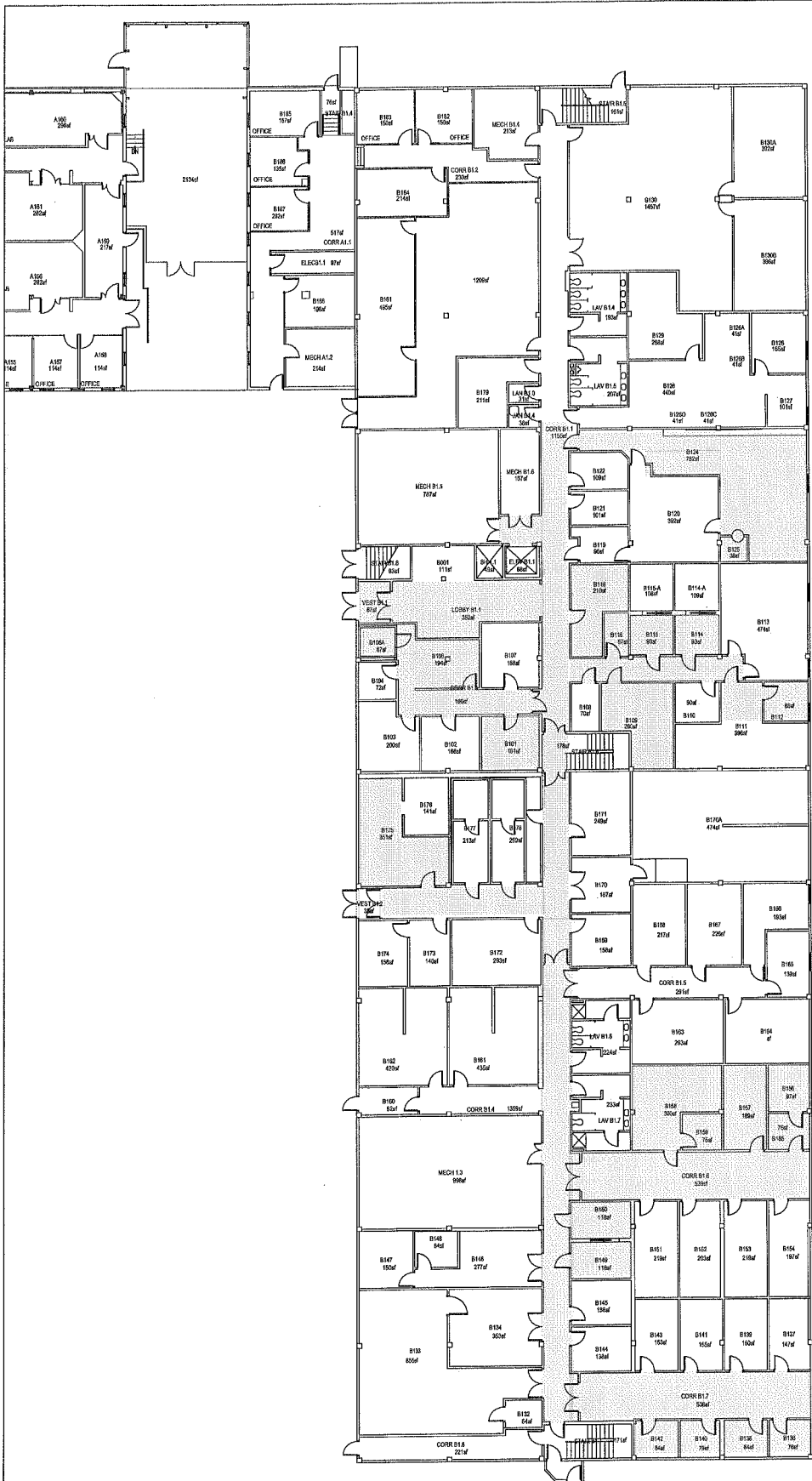


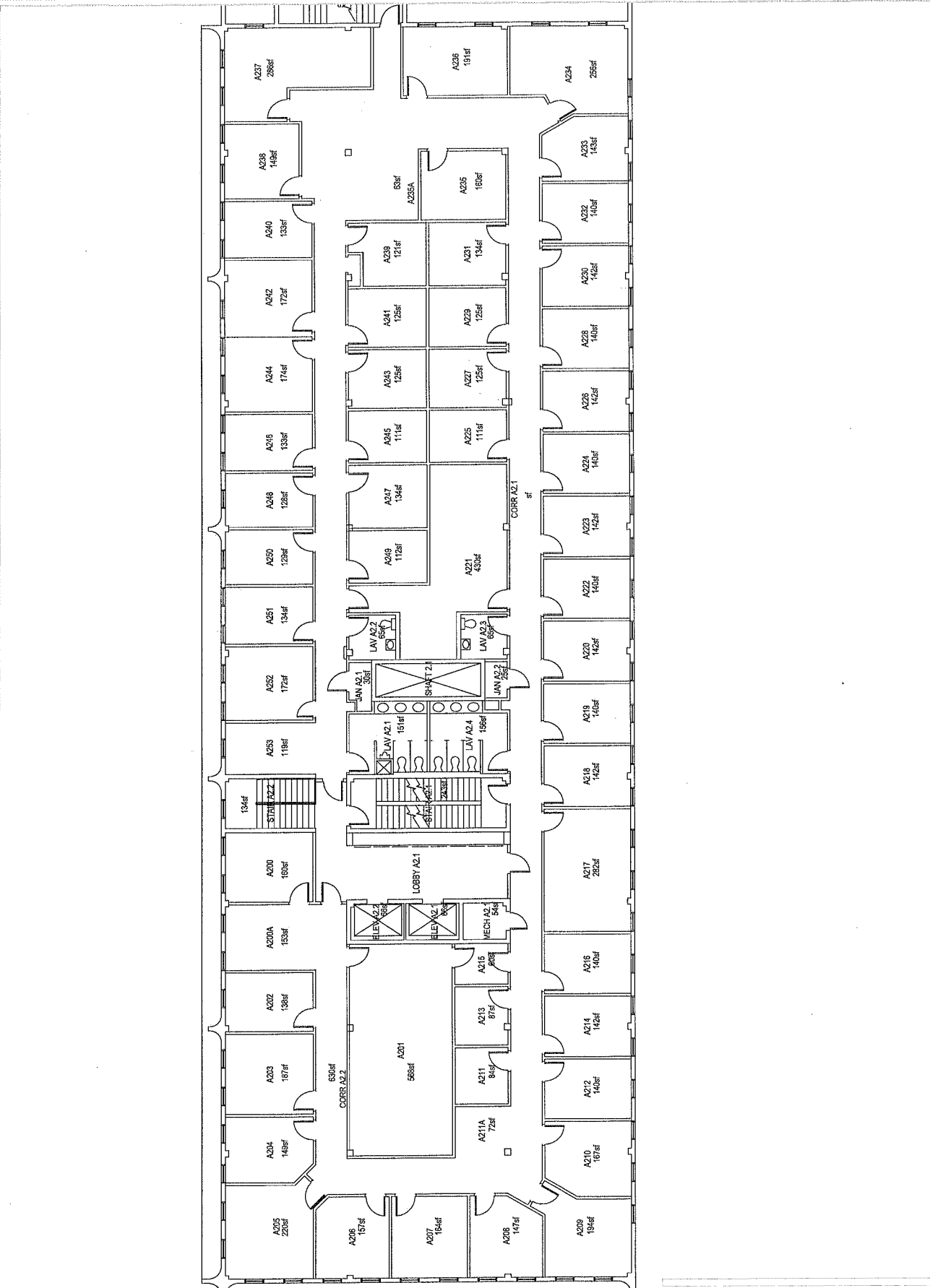
U.S. Department of Health and Human Services
Food and Drug Administration
Office of Facilities Engineering and
Mission Support Services
12000 Belmont Road, Suite 200, Spring 2012 20894

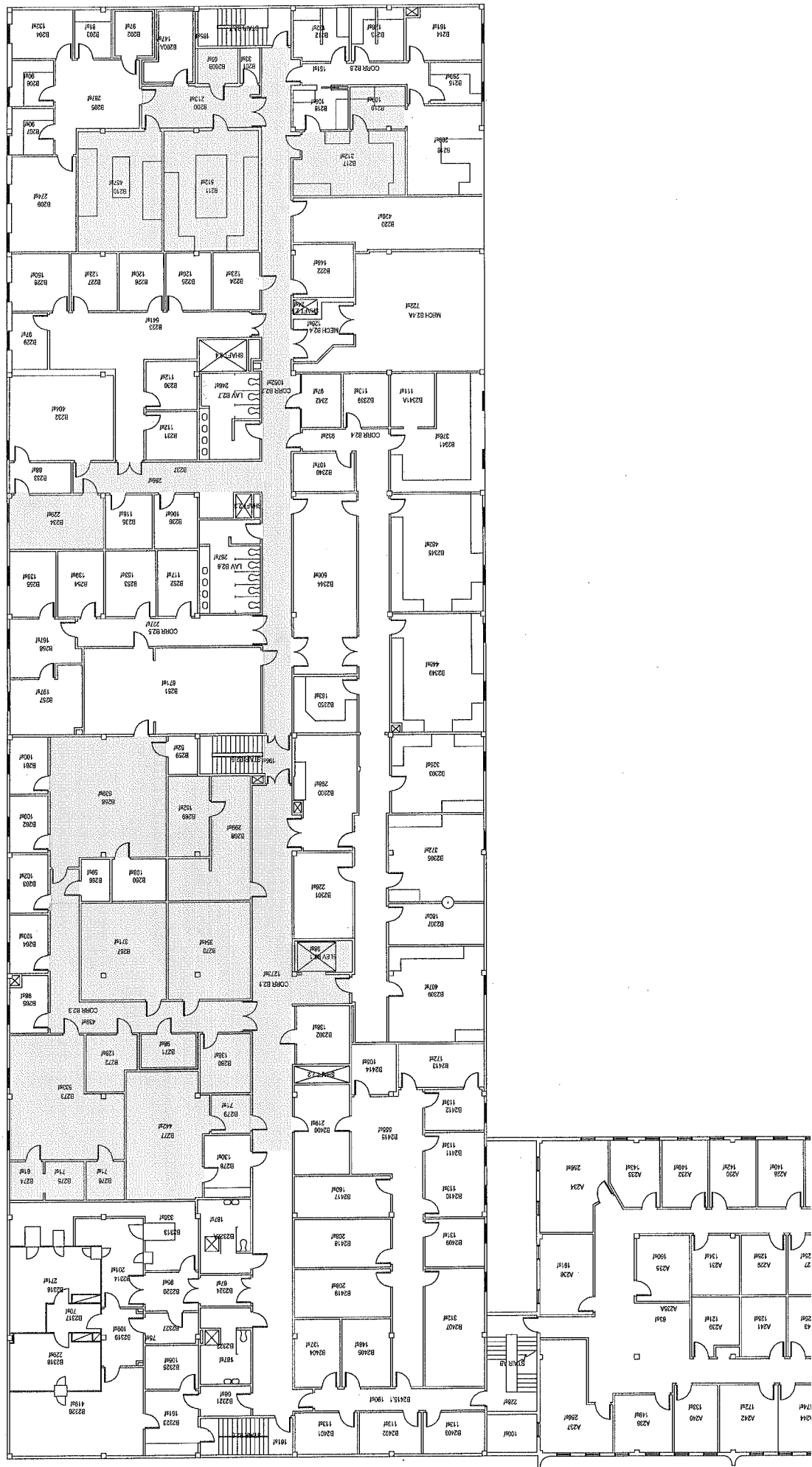
NICHOLSEN LANE RESEARCH CENTER
5516 NICHOLSEN LANE
FIRST FLOOR
FACILITY MANAGEMENT SYSTEM
SPACE PLAN - VACANCIES

Rev	0000
Date	1/1/12
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Project	...

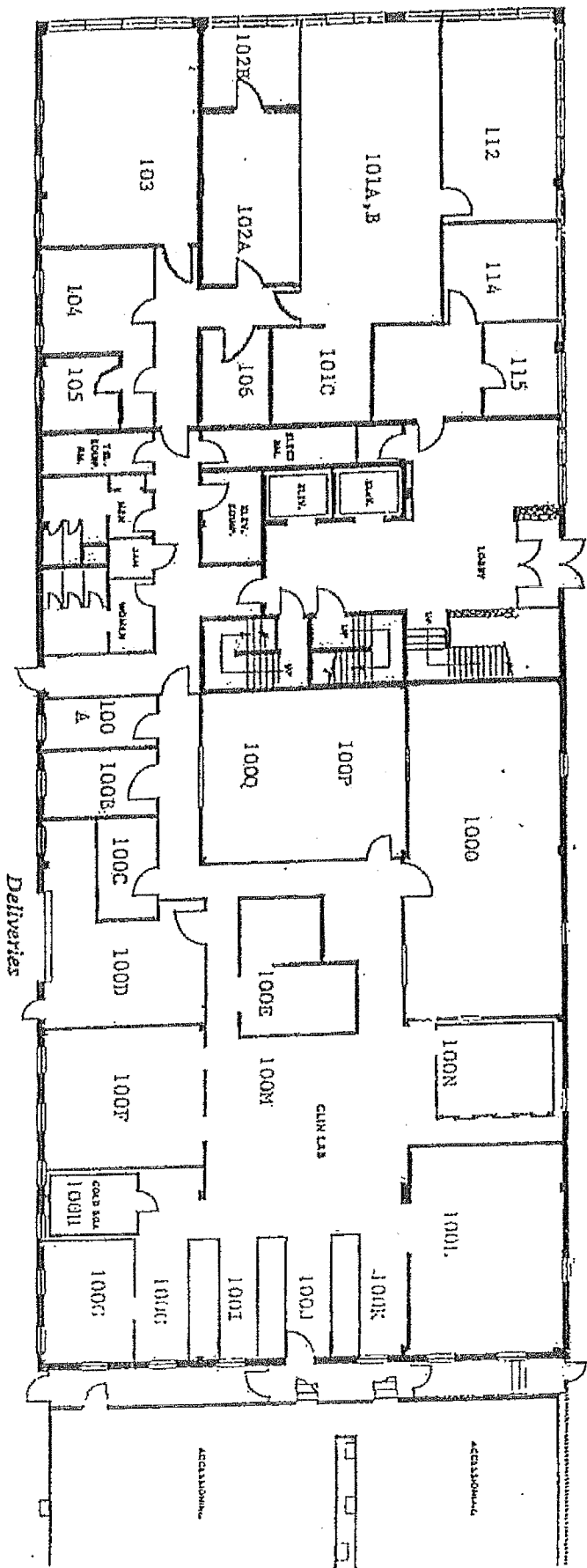
NLRC-01







ATTACHMENT 2



FDA BUILDING "A"

FDA BUILDING "B"
FIRST FLOOR

FDA BUILDING "B"
SECOND FLOOR

ATTACHMENT 3



DandD Building Occupancy Scenario

DandD Version: 2.1.0

Run Date/Time: 2/8/2015 11:50:33 AM

Site Name: National Institutes of Health

Description: DCGL Determination

FileName: C:\Users\Finley\Documents\NL\U238+C DCGL.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 800

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
238U+C	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: DCGL Determination		Value 2.50E+02

Site Specific Parameters:

General Parameters:

None

Correlation Coefficients:

None

Summary Results:

90.00% of the 800 calculated TEDE values are < 2.32E+01 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 2.23E+01 to 2.43E+01 mrem/year



DandD Building Occupancy Scenario

DandD Version: 2.1.0

Run Date/Time: 2/8/2015 12:18:43 PM

Site Name: National institutes of Health

Description: DCGL Determination

FileName: C:\Users\Finley\Documents\NL\Th232+C.mcd

Options:

Implicit progeny doses NOT included with explicit parent doses

Nuclide concentrations are distributed among all progeny

Number of simulations: 3200

Seed for Random Generation: 8718721

Averages used for behavioral type parameters

External Pathway is ON

Inhalation Pathway is ON

Secondary Ingestion Pathway is ON

Initial Activities:

Nuclide	Area of Contamination (m ²)	Distribution
232Th+C	UNLIMITED	CONSTANT(dpm/100 cm**2)
Justification for concentration: DCGL Determination		Value 5.50E+01

Site Specific Parameters:

General Parameters:

None

Correlation Coefficients:

None

Summary Results:

90.00% of the 3200 calculated TEDE values are < 2.32E+01 mrem/year .

The 95 % Confidence Interval for the 0.9 quantile value of TEDE is 2.27E+01 to 2.37E+01 mrem/year

ATTACHMENT 4

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	147494
Model:	Ludlum 43-37A	Serial Nr:	216994

Calibration Date:	02/28/14
Calibration Date:	03/01/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM			Acceptable Range (CPM)			Results
			X	-	250%	-250%	+3σ	-3σ		X	-	X	+20%	-20%	+3σ	-3σ
11/9/2014	0800	MW FW	4	4	10	-10	9	-1	1219-3	239Pu	3403	3403	4084	3743	3063	Pass
11/15/2014	1200	MW FW	4	4	10	-10	9	-1	1219-3	239Pu	3278	3341	4009	3569	3112	Pass
12/3/2014	1300	BE FW	3	4	9	-9	8	-1	1219-3	239Pu	3422	3368	4041	3570	3166	Pass
12/4/2014	0800	MW FW	4	4	9	-9	8	-1	1219-3	239Pu	3512	3404	4085	3652	3155	Pass
12/4/2014	1300	BE FW	4	4	9	-9	8	0	1219-3	239Pu	3539	3431	4117	3697	3165	Pass
12/5/2014	0800	BE FW	3	4	9	-9	8	0	1219-3	239Pu	3541	3449	4139	3714	3184	Pass
12/5/2014	1300	BE FW	4	4	9	-9	8	0	1219-3	239Pu	3575	3467	4161	3738	3196	Pass
12/8/2014	0800	BE FW	2	4	9	-9	8	0	1219-3	239Pu	3576	3481	4177	3751	3211	Pass
12/8/2014	1300	BE FW	5	4	9	-9	8	0	1219-3	239Pu	3556	3489	4187	3750	3229	Pass
12/9/2014	0800	BE FW	6	4	10	-10	8	0	1219-3	239Pu	3629	3503	4204	3774	3232	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	147494
Model:	Ludlum 43-37B	Serial Nr:	216994

Calibration Date:	02/28/14
Calibration Date:	03/01/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM			Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			X	-	X	+20%	-20%	+3σ	
11/9/2014	0800	MW FW	1271	1271	1271	1271	1271	1271	1271	1271	1271	1271	1271	1271	1271	Pass
11/14/2014	0800	MW FW	1219	1266	1219	1266	1219	1266	1266	1219	1266	1219	1266	1219	1266	Pass
11/15/2014	1300	MW FW	1186	1259	1186	1259	1186	1259	1259	1186	1259	1186	1259	1186	1259	Pass
11/19/2014	0800	BE FW	1295	1262	1295	1262	1295	1262	1262	1295	1262	1295	1262	1295	1262	Pass
11/19/2014	1300	BE FW	1304	1265	1304	1265	1304	1265	1265	1304	1265	1304	1265	1304	1265	Pass
11/20/2014	0800	BE FW	1183	1259	1183	1259	1183	1259	1259	1183	1259	1183	1259	1183	1259	Pass
11/20/2014	1300	BE FW	1271	1260	1271	1260	1271	1260	1260	1271	1260	1271	1260	1271	1260	Pass
11/21/2014	0800	BE FW	1233	1259	1233	1259	1233	1259	1259	1233	1259	1233	1259	1233	1259	Pass
11/21/2014	1300	MW FW	1198	1255	1198	1255	1198	1255	1255	1198	1255	1198	1255	1198	1255	Pass
11/22/2014	0800	JB FW	1198	1252	1198	1252	1198	1252	1252	1198	1252	1198	1252	1198	1252	Pass
11/23/2014	0800	BE FW	1143	1247	1143	1247	1143	1247	1247	1143	1247	1143	1247	1143	1247	Pass
11/24/2014	0800	BE FW	1157	1242	1157	1242	1157	1242	1242	1157	1242	1157	1242	1157	1242	Pass
11/24/2014	1300	BE FW	1209	1241	1209	1241	1209	1241	1241	1209	1241	1209	1241	1209	1241	Pass
11/25/2014	0800	BE FW	1168	1238	1168	1238	1168	1238	1238	1168	1238	1168	1238	1168	1238	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	147494
Model:	Ludlum 43-68A	Serial Nr:	149769

Calibration Date:	02/28/14
Calibration Date:	03/01/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X		250%	-250%	+3σ			X		+20%	-20%	+3σ	
11/9/2014	0800	MW FW	2	2	5.5	-5.5	5.4	1219-3	239Pu	2433	2433	2920	1946	2676	Pass
11/12/2014	0800	MW FW	2	2	5.5	-5.5	5.2	1219-3	239Pu	2375	2404	2885	1923	2510	Pass
11/13/2014	1300	MW FW	3	2	5.6	-5.6	5.2	1219-3	239Pu	2592	2467	2960	1973	2757	Pass
11/14/2014	0800	MW FW	3	2	5.8	-5.8	5.2	1219-3	239Pu	2810	2553	3063	2042	3055	Pass
11/16/2014	0800	MW FW	3	2	5.9	-5.9	5.1	1219-3	239Pu	2574	2557	3068	2045	2992	Pass
11/18/2014	0800	BE FW	3	2	6.0	-6.0	5.1	1219-3	239Pu	2353	2523	3027	2018	2968	Pass
12/3/2014	0800	BE FW	2	2	5.9	-5.9	5.0	1219-3	239Pu	2611	2535	3043	2028	2951	Pass
12/3/2014	1300	BE FW	1	2	5.7	-5.7	5.0	1219-3	239Pu	2587	2542	3050	2034	2929	Pass
12/5/2014	0800	BE FW	1	2	5.6	-5.6	5.0	1219-3	239Pu	2512	2539	3046	2031	2902	Pass
12/5/2014	1300	BE FW	1	2	5.4	-5.4	4.9	1219-3	239Pu	2575	2542	3051	2034	2886	Pass
12/8/2014	0800	BE FW	1	2	5.3	-5.3	4.9	1219-3	239Pu	2552	2543	3052	2034	2869	Pass
12/9/2014	0800	BE FW	1	2	5.1	-5.1	4.8	1219-3	239Pu	2550	2544	3052	2035	2855	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	147494
Model:	Ludlum 43-68B	Serial Nr.:	149769

Calibration Date:	02/28/14
Calibration Date:	03/01/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM			Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			X	-	X	+20%	-20%	+3σ	
11/9/2014	0800	MW FW	334	334	401	267	373	12-036	137Cs	5934	5934	5934	7121	4747	6527	Pass
11/16/2014	0800	MW FW	323	333	400	267	371	12-036	137Cs	5849	5892	5892	7070	4713	6047	Pass
11/18/2014	0800	BE FW	315	332	398	265	370	12-036	137Cs	5952	5912	5912	7094	4729	6054	Pass
12/3/2014	0800	BE FW	330	332	398	265	369	12-036	137Cs	6026	5940	5940	7128	4752	6128	Pass
12/3/2014	1300	BE FW	315	330	396	264	368	12-036	137Cs	6017	5956	5956	7147	4764	6141	Pass
12/4/2014	0800	BE FW	345	331	398	265	369	12-036	137Cs	5977	5959	5959	7151	4767	6126	Pass
12/5/2014	0800	BE FW	353	333	399	266	371	12-036	137Cs	5929	5955	5955	7146	4764	6110	Pass
12/5/2014	1300	BE FW	340	333	400	266	371	12-036	137Cs	5902	5948	5948	7138	4759	6100	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	144866
Model:	Ludlum 43-37A	Serial Nr:	148745

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results		
			X	-	250%	-250%	+3σ			-3σ	X	-	+20%	-20%		+3σ	-3σ
11/9/2014	0800	MW FW	6	6	15	-15	12	0	1219-3	239Pu	2851	2851	3421	2281	3136	2566	Pass
11/15/2014	1000	MW FW	4	6	15	-15	12	0	1219-3	239Pu	2859	2855	3426	2284	2870	2840	Pass
12/9/2014	0800	BE FW	3	6	14	-14	12	0	1219-3	239Pu	2874	2861	3434	2289	2891	2831	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	183988
Model:	Ludlum 43-37B	Serial Nr:	216662

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM			Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			X	-	X	+20%	-20%	+3σ	
11/9/2014	0800	MW FW	1200	1200	1440	960	1258	12-036	137Cs	7042	7042	7042	8450	5634	7746	Pass
11/14/2014	0800	MW FW	1238	1204	1445	963	1265	12-036	137Cs	6938	6990	6990	8388	5592	7180	Pass
11/15/2014	1300	MW FW	1271	1209	1451	968	1287	12-036	137Cs	7018	6999	6999	8399	5599	7140	Pass
11/18/2014	0800	MW FW	1214	1210	1452	968	1284	12-036	137Cs	6970	6992	6992	8390	5594	7113	Pass
11/22/2014	0800	LR FW	1241	1212	1454	970	1286	12-036	137Cs	6942	6982	6982	8378	5586	7101	Pass
11/23/2014	0800	BE FW	1250	1215	1457	972	1290	12-036	137Cs	7006	6986	6986	8383	5589	7096	Pass
12/10/2014	0800	BE FW	1285	1219	1463	975	1305	12-036	137Cs	7054	6996	6996	8395	5597	7116	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	183988
Model:	Ludlum 43-68A	Serial Nr:	147956

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	250%	-250%	+3σ			-3σ	X	-	+20%	-20%	
11/9/2014	0800	MW	2	2	4.5	4.2	4.2	1219-3	239Pu	2792	2792	3350	3071	Pass	
		FW			-4.5	-0.6					2234	2513			
11/16/2014	0800	MW	1	2	4.3	4.1	4.1	1219-3	239Pu	2672	2732	3278	2951	Pass	
		FW			-4.3	-0.6					2186	2513			
11/18/2014	0800	BE	1	2	4.2	4.0	4.0	1219-3	239Pu	2671	2712	3254	2891	Pass	
		FW			-4.2	-0.6					2169	2532			

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	149987
Model:	Ludlum 43-68B	Serial Nr:	178072

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM			Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			X	-	X	+20%	-20%	+3σ	
11/9/2014	0800	MW FW	305	305	305	366	337	12-036	137Cs	5985	5985	5985	7182	4788	6584	Pass
11/15/2014	0800	MW FW	300	300	305	366	336	12-036	137Cs	5960	5973	5973	7167	4778	6018	Pass
11/18/2014	0830	BE FW	276	302	302	363	339	12-036	137Cs	5982	5976	5976	7171	4781	6011	Pass
11/18/2014	1300	BE FW	292	302	302	362	337	12-036	137Cs	5682	5902	5902	7083	4722	6282	Pass
11/19/2014	0600	BE FW	296	301	301	361	336	12-036	137Cs	5721	5866	5866	7039	4693	6256	Pass
11/23/2014	0800	BE FW	301	301	301	361	334	12-036	137Cs	5837	5861	5861	7033	4689	6211	Pass
11/24/2014	0800	BE FW	280	300	300	360	332	12-036	137Cs	5896	5866	5866	7039	4693	6187	Pass
11/24/2014	1300	BE FW	287	299	299	359	331	12-036	137Cs	5888	5869	5869	7043	4695	6167	Pass
11/25/2014	0800	BE FW	262	297	297	356	329	12-036	137Cs	6004	5884	5884	7061	4707	6186	Pass
11/25/2014	1300	BE FW	277	296	296	355	337	12-036	137Cs	5915	5887	5887	7064	4710	6173	Pass
11/26/2014	0800	BE FW	274	295	295	354	337	12-036	137Cs	5967	5894	5894	7073	4715	6166	Pass
11/26/2014	1300	BE FW	283	294	294	353	336	12-036	137Cs	5974	5901	5901	7081	4721	6167	Pass
11/28/2014	0800	BE FW	298	294	294	353	335	12-036	137Cs	5915	5908	5908	7090	4726	6159	Pass
11/28/2014	1300	BE FW	289	294	294	353	334	12-036	137Cs	5985	5908	5908	7090	4726	6159	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	149987
Model:	Ludlum 43-37A	Serial Nr:	149714

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	250%	-250%	+3σ			X	-	+20%	-20%	+3σ	
11/9/2014	0800	MW FW	7	7	18	-18	14	1219-3	239Pu	2888	2888	3466	2310	3177	Pass
11/15/2014	1400	MW FW	5	7	18	-18	14	1219-3	239Pu	2909	2899	3478	2319	2937	Pass
11/16/2014	0800	MW FW	6	7	18	-18	13	1219-3	239Pu	3045	2947	3537	2358	3076	Pass
12/3/2014	0800	BE FW	5	7	17	-17	13	1219-3	239Pu	2987	2957	3549	2366	3144	Pass
12/9/2014	0800	BE FW	5	7	17	-17	13	1219-3	239Pu	2971	2960	3552	2368	3122	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	149987
Model:	Ludlum 43-37B	Serial Nr:	147408

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			X	-	+20%	-20%	+3σ	
11/9/2014	0800	MW	1247	1247	1496	1496	1320	12-036	137Cs	6881	6881	8257	7569	6193	Pass
		FW			1122	1122	1173					5505			
11/14/2014	0800	MW	1211	1243	1492	1492	1319	12-036	137Cs	6780	6831	8197	7015	6646	Pass
		FW			1119	1119	1168					5464			
11/15/2014	1300	MW	1243	1243	1492	1492	1315	12-036	137Cs	6794	6818	8182	6960	6677	Pass
		FW			1119	1119	1172					5455			
11/22/2014	0800	CD	1206	1240	1489	1489	1314	12-036	137Cs	6871	6832	8198	6965	6698	Pass
		FW			992	992	1167					5465			
11/24/2014	0800	BE	1220	1239	1487	1487	1311	12-036	137Cs	6830	6831	8197	6947	6715	Pass
		FW			991	991	1167					5465			
11/24/2014	1300	BE	1241	1239	1487	1487	1309	12-036	137Cs	6870	6838	8205	6949	6726	Pass
		FW			991	991	1170					5470			
11/25/2014	0800	BE	1198	1237	1484	1484	1309	12-036	137Cs	6808	6833	8200	6939	6728	Pass
		FW			989	989	1164					5467			
11/25/2014	1300	BE	1207	1235	1482	1482	1307	12-036	137Cs	6819	6832	8198	6930	6733	Pass
		FW			988	988	1162					5465			
11/26/2014	0800	BE	1215	1234	1480	1480	1305	12-036	137Cs	6689	6816	8179	6969	6662	Pass
		FW			987	987	1163					5453			
11/26/2014	1300	BE	1198	1232	1478	1478	1304	12-036	137Cs	6772	6811	8174	6961	6662	Pass
		FW			985	985	1159					5449			
11/28/2014	0800	BE	1201	1230	1476	1476	1303	12-036	137Cs	6762	6807	8168	6949	6665	Pass
		FW			984	984	1158					5446			
11/28/2014	1300	BE	1194	1229	1474	1474	1302	12-036	137Cs	6758	6803	8163	6943	6663	Pass
		FW			983	983	1155					5442			
11/29/2014	0800	AW	1299	1232	1478	1478	1313	12-036	137Cs	6843	6797	8157	6957	6638	Pass
		FW			985	985	1150					5438			
11/30/2014	0800	AW	1265	1233	1480	1480	1315	12-036	137Cs	6685	6797	8157	6957	6638	Pass
		FW			987	987	1151					5438			

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	149987
Model:	Ludlum 43-37B	Serial Nr:	149714

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ -3σ			X	-	+20%	-20%	+3σ -3σ	
12/1/2014	0800	BE	1142	1229	1475	1323	1323	12-036	137Cs	6865	6802	8162	5441	6962	Pass
		FW			984	1136								6642	
12/1/2014	1300	BE	1207	1229	1474	1320	1320	12-036	137Cs	6790	6801	8161	5441	6956	Pass
		FW			983	1137								6646	
12/2/2014	0800	BE	1197	1227	1473	1318	1318	12-036	137Cs	6884	6806	8167	5445	6964	Pass
		FW			982	1137								6647	
12/2/2014	1300	BE	1238	1228	1473	1318	1318	12-036	137Cs	6878	6810	8172	5448	6970	Pass
		FW			982	1138								6650	
12/3/2014	0800	BE	1203	1227	1472	1316	1316	12-036	137Cs	6909	6815	8178	5452	6981	Pass
		FW			981	1138								6649	

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	149987
Model:	Ludlum 43-68A	Serial Nr:	147408

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X		250%	-250%	+3σ			X		+20%	-20%	+3σ	
11/9/2014	0800	MW FW	2	2	5.25	-5.25	4.00	1219-3	239Pu	2768	2768	3322	2214	3045	Pass
							0.20							2491	
11/12/2014	0800	MW FW	0	2	4.77	-4.77	4.34	1219-3	239Pu	2776	2772	3326	2218	2787	Pass
							-0.53							2757	
11/13/2014	1300	MW FW	2	2	4.79	-4.79	4.24	1219-3	239Pu	2535	2693	3232	2154	3046	Pass
							-0.41							2340	
11/18/2014	0800	BE FW	0	2	4.42	-4.42	4.38	1219-3	239Pu	2452	2633	3159	2106	3057	Pass
							-0.84							2209	
11/19/2014	1300	BE FW	1	2	4.29	-4.29	4.28	1219-3	239Pu	2425	2591	3109	2073	3030	Pass
							-0.85							2153	
11/20/2014	0800	BE FW	2	2	4.33	-4.33	4.21	1219-3	239Pu	2770	2621	3145	2097	3056	Pass
							-0.75							2186	

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	149987
Model:	Ludlum 43-68B	Serial Nr:	147408

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			-3σ	X	-	+20%	-20%	
11/9/2014	0800	MW FW	291	291	350	337	337	12-036	137Cs	5881	5881	7057	6469	6469	Pass
11/16/2014	0800	MW FW	278	290	348	335	246	12-036	137Cs	5867	5874	7049	5900	5900	Pass
11/19/2014	1300	MW FW	296	291	349	334	248	12-036	137Cs	5876	5875	7050	5893	5893	Pass
11/19/2014	0800	MW FW	259	288	346	335	241	12-036	137Cs	5872	5874	7049	5889	5889	Pass
11/20/2014	0800	MW FW	330	291	349	345	238	12-036	137Cs	5855	5870	7044	5896	5896	Pass
11/20/2014	0800	MW FW	298	292	350	343	240	12-036	137Cs	5867	5870	7044	5893	5893	Pass
11/21/2014	0800	MW FW	263	290	348	332	248	12-036	137Cs	5884	5872	7046	5897	5897	Pass
11/21/2014	0900	MW FW	281	289	347	338	241	12-036	137Cs	5875	5872	7047	5896	5896	Pass
11/22/2014	0800	CD FW	258	288	345	336	230	12-036	137Cs	5782	5862	7035	5943	5943	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	183988
Model:	Ludlum 43-37A	Serial Nr:	216662

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results		
			X	-	250%	-250%	+3σ			-3σ	X	-	+20%	-20%		+3σ	-3σ
11/9/2014	0800	MW FW	3	3	6.8	-6.8	5.9	-0.5	1219-3	239Pu	2803	2803	3364	2242	3083	2523	Pass
11/15/2014	0800	MW FW	1	3	6.4	-6.4	5.9	-0.8	1219-3	239Pu	2699	2751	3301	2201	2941	2561	Pass
11/16/2014	1300	MW FW	4	3	6.7	-6.7	6.0	-0.7	1219-3	239Pu	2680	2727	3273	2182	2898	2557	Pass
11/22/2014	0800	LR FW	2	3	6.5	-6.5	5.9	-0.6	1219-3	239Pu	2765	2737	3284	2189	2884	2589	Pass
12/9/2014	0800	BE FW	4	3	6.8	-6.8	6.0	-0.6	1219-3	239Pu	2744	2738	3286	2191	2866	2610	Pass
12/10/2014	0800	BE FW	3	3	6.8	-6.8	5.9	-0.4	1219-3	239Pu	2810	2750	3300	2200	2888	2613	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	183988
Model:	Ludlum 43-37B	Serial Nr:	216662

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	20%	-20%	+3σ			X	-	+20%	-20%	+3σ	
11/9/2014	0800	MW FW	1200	1200	1440	960	1258	12-036	137Cs	7042	7042	8450	5634	7746	Pass
11/14/2014	0800	MW FW	1238	1204	1445	963	1265	12-036	137Cs	6938	6990	8388	5592	7180	Pass
11/15/2014	1300	MW FW	1271	1209	1451	968	1287	12-036	137Cs	7018	6999	8399	5599	7140	Pass
11/18/2014	0800	MW FW	1214	1210	1452	968	1284	12-036	137Cs	6970	6992	8390	5594	7113	Pass
11/22/2014	0800	LR FW	1241	1212	1454	970	1286	12-036	137Cs	6942	6982	8378	5586	7101	Pass
11/23/2014	0800	BE FW	1250	1215	1457	972	1290	12-036	137Cs	7006	6986	8383	5589	7096	Pass
12/10/2014	0800	BE FW	1285	1219	1463	975	1305	12-036	137Cs	7054	6996	8395	5597	7116	Pass

Instrument:	Scaler/rate meter
Detector:	Gas proportional

Model:	Ludlum 2221	Serial Nr:	183988
Model:	Ludlum 43-68A	Serial Nr:	147956

Calibration Date:	03/23/14
Calibration Date:	03/23/14

Date	Time	Technician Reviewer	Background in CPM		Acceptable Range (CPM)			Source ID Nr.	Isotope	Source Reading in CPM		Acceptable Range (CPM)			Results
			X	-	250%	-250%	+3σ			X	-	+20%	-20%	+3σ	
11/9/2014	0800	MW	2	2	4.5	4.2	4.2	1219-3	239Pu	2792	2792	3350	3071	3071	Pass
		FW			-4.5	-0.6	-0.6					2234	2513	2513	
11/16/2014	0800	MW	1	2	4.3	4.1	4.1	1219-3	239Pu	2672	2732	3278	2951	2951	Pass
		FW			-4.3	-0.6	-0.6					2186	2513	2513	
11/18/2014	0800	BE	1	2	4.2	4.0	4.0	1219-3	239Pu	2671	2712	3254	2891	2891	Pass
		FW			-4.2	-0.6	-0.6					2169	2532	2532	

ATTACHMENT 5

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency U-nat	Time (m)	Activity in DPM/100cm2			
							Gross Alpha	Uncertainty (95%CL)	MDA	
BE120314 - 1	113 - F2	Vinyl tile	12	14	0.47	2	2	11	20	19.1
BE120314 - 2	113 - F15	Vinyl tile	12	19	0.47	2	7	12	20	19.1
BE120314 - 3	113 - A9	Drywall	12	13	0.47	2	1	10	20	19.1
BE120314 - 4	113 - A13	Drywall	12	17	0.47	2	5	11	20	19.1
BE120314 - 5	113 - A14	Drywall	12	15	0.47	2	3	11	20	19.1
BE120314 - 6	113 - B7	Drywall	12	22	0.47	2	11	12	20	19.1
BE120314 - 7	113 - C3	Drywall	12	13	0.47	2	1	10	20	19.1
BE120314 - 8	113 - C9	Drywall	12	23	0.47	2	12	12	20	19.1
BE120314 - 9	113 - C10	Drywall	12	24	0.47	2	13	13	20	19.1
BE120314 - 10	113 - D3	Drywall	12	10	0.47	2	-2	10	20	19.1
BE120314 - 11	113 - D8	Drywall	12	23	0.47	2	12	12	20	19.1
BE120314 - 12	113A - A7	Drywall	12	22	0.47	2	11	12	20	19.1
BE120314 - 13	113A - C1	Drywall	12	16	0.47	2	4	11	20	19.1
BE120314 - 14	113A - D4	Drywall	12	11	0.47	2	-1	10	20	19.1
BE120314 - 15	113A - D9	Drywall	12	11	0.47	2	-1	10	20	19.1
BE120314 - 16	113A - F1	Vinyl tile	12	5	0.47	2	-7	9	20	19.1
BE120314 - 17	113A - F5	Vinyl tile	12	6	0.47	2	-6	9	20	19.1
BE120314 - 18	113A - F7	Vinyl tile	12	12	0.47	2	0	10	20	19.1

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency U-nat	Time (m)	Activity in DPM/100cm ²		
							Gross Alpha	Uncertainty (95%CL)	MDA
BE120314 - 19	Reference area	Vinyl tile	12	16	0.47	2	4	11	20
BE120314 - 20	Reference area	Vinyl tile	12	9	0.47	2	-3	10	20
BE120314 - 21	Reference area	Drywall	12	8	0.47	2	-4	9	20
BE120314 - 22	Reference area	Drywall	12	9	0.47	2	-3	10	20
BE120314 - 23	Reference area	Drywall	12	10	0.47	2	-2	10	20
BE120314 - 24	Reference area	Drywall	12	16	0.47	2	4	11	20
BE120314 - 25	Reference area	Drywall	12	17	0.47	2	5	11	20
BE120314 - 26	Reference area	Drywall	12	9	0.47	2	-3	10	20
BE120314 - 27	Reference area	Drywall	12	8	0.47	2	-4	9	20
BE120314 - 28	Reference area	Drywall	12	8	0.47	2	-4	9	20
BE120314 - 29	Reference area	Drywall	12	10	0.47	2	-2	10	20
BE120314 - 30	Reference area	Drywall	12	15	0.47	2	3	11	20
BE120314 - 31	Reference area	Drywall	12	17	0.47	2	5	11	20
BE120314 - 32	Reference area	Drywall	12	11	0.47	2	-1	10	20
BE120314 - 33	Reference area	Drywall	12	9	0.47	2	-3	10	20
BE120314 - 34	Reference area	Vinyl tile	12	10	0.47	2	-2	10	20
BE120314 - 35	Reference area	Vinyl tile	12	11	0.47	2	-1	10	20
BE120314 - 36	Reference area	Vinyl tile	12	9	0.47	2	-3	10	20

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency Th-nat	Time (m)	Activity in DPM/100cm2			
							Gross Alpha	Uncertainty (95%CL)	MDA	
BE120314 - 1	113 - F2	Vinyl tile	12	14	0.52	2	2	10	18	19.1
BE120314 - 2	113 - F15	Vinyl tile	12	19	0.52	2	7	10	18	19.1
BE120314 - 3	113 - A9	Drywall	12	13	0.52	2	1	9	18	19.1
BE120314 - 4	113 - A13	Drywall	12	17	0.52	2	5	10	18	19.1
BE120314 - 5	113 - A14	Drywall	12	15	0.52	2	3	10	18	19.1
BE120314 - 6	113 - B7	Drywall	12	22	0.52	2	10	11	18	19.1
BE120314 - 7	113 - C3	Drywall	12	13	0.52	2	1	9	18	19.1
BE120314 - 8	113 - C9	Drywall	12	23	0.52	2	11	11	18	19.1
BE120314 - 9	113 - C10	Drywall	12	24	0.52	2	12	11	18	19.1
BE120314 - 10	113 - D3	Drywall	12	10	0.52	2	-2	9	18	19.1
BE120314 - 11	113 - D8	Drywall	12	23	0.52	2	11	11	18	19.1
BE120314 - 12	113A - A7	Drywall	12	22	0.52	2	10	11	18	19.1
BE120314 - 13	113A - C1	Drywall	12	16	0.52	2	4	10	18	19.1
BE120314 - 14	113A - D4	Drywall	12	11	0.52	2	-1	9	18	19.1
BE120314 - 15	113A - D9	Drywall	12	11	0.52	2	-1	9	18	19.1
BE120314 - 16	113A - F1	Vinyl tile	12	5	0.52	2	-7	8	18	19.1
BE120314 - 17	113A - F5	Vinyl tile	12	6	0.52	2	-6	8	18	19.1
BE120314 - 18	113A - F7	Vinyl tile	12	12	0.52	2	0	9	18	19.1

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency Th-nat	Time (m)	Activity in DPM/100cm ²		
							Gross Alpha	Uncertainty (95%CL)	MDA
BE120314 - 19	Reference area	Vinyl tile	12	16	0.52	2	4	10	18
BE120314 - 20	Reference area	Vinyl tile	12	9	0.52	2	-3	9	18
BE120314 - 21	Reference area	Drywall	12	8	0.52	2	-4	8	18
BE120314 - 22	Reference area	Drywall	12	9	0.52	2	-3	9	18
BE120314 - 23	Reference area	Drywall	12	10	0.52	2	-2	9	18
BE120314 - 24	Reference area	Drywall	12	16	0.52	2	4	10	18
BE120314 - 25	Reference area	Drywall	12	17	0.52	2	5	10	18
BE120314 - 26	Reference area	Drywall	12	9	0.52	2	-3	9	18
BE120314 - 27	Reference area	Drywall	12	8	0.52	2	-4	8	18
BE120314 - 28	Reference area	Drywall	12	8	0.52	2	-4	8	18
BE120314 - 29	Reference area	Drywall	12	10	0.52	2	-2	9	18
BE120314 - 30	Reference area	Drywall	12	15	0.52	2	3	10	18
BE120314 - 31	Reference area	Drywall	12	17	0.52	2	5	10	18
BE120314 - 32	Reference area	Drywall	12	11	0.52	2	-1	9	18
BE120314 - 33	Reference area	Drywall	12	9	0.52	2	-3	9	18
BE120314 - 34	Reference area	Vinyl tile	12	10	0.52	2	-2	9	18
BE120314 - 35	Reference area	Vinyl tile	12	11	0.52	2	-1	9	18
BE120314 - 36	Reference area	Vinyl tile	12	9	0.52	2	-3	9	18

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency ¹⁴ C	Time (m)	Activity in DPM/100cm2			
							Gross Beta	Uncertainty (95%CL)	MDA	
BE120414 - 49	113 - F2	Vinyl tile	2187	1953	0.58	2	-202	109	190	220.5
BE120414 - 50	113 - F15	Vinyl tile	2187	1886	0.58	2	-259	108	190	220.5
BE120414 - 51	113 - A9	Drywall	1706	1696	0.58	2	-9	99	168	195.1
BE120414 - 52	113 - A13	Drywall	1706	1654	0.58	2	-45	98	168	195.1
BE120414 - 53	113 - A14	Drywall	1706	1672	0.58	2	-29	98	168	195.1
BE120414 - 54	113 - B7	Drywall	1706	1698	0.58	2	-7	99	168	195.1
BE120414 - 55	113 - C3	Drywall	1706	1735	0.58	2	25	99	168	195.1
BE120414 - 56	113 - C9	Drywall	1706	1583	0.58	2	-106	97	168	195.1
BE120414 - 57	113 - C10	Drywall	1706	1708	0.58	2	2	99	168	195.1
BE120414 - 58	113 - D3	Drywall	1706	1606	0.58	2	-86	97	168	195.1
BE120414 - 59	113 - D8	Drywall	1706	1605	0.58	2	-87	97	168	195.1
BE120414 - 60	113A - A7	Drywall	1706	1677	0.58	2	-25	98	168	195.1
BE120414 - 61	113A - C1	Drywall	1706	1845	0.58	2	120	101	168	195.1
BE120414 - 62	113A - D4	Drywall	1706	1759	0.58	2	46	99	168	195.1
BE120414 - 63	113A - D9	Drywall	1706	1744	0.58	2	33	99	168	195.1
BE120414 - 64	113A - F1	Vinyl tile	2187	2139	0.58	2	-41	111	190	220.5
BE120414 - 65	113A - F5	Vinyl tile	2187	2008	0.58	2	-154	109	190	220.5
BE120414 - 66	113A - F7	Vinyl tile	2187	2066	0.58	2	-104	110	190	220.5

Swipe Sample ID Number	Swipe Sample Location	Removable Surface Activity in DPM/100cm ²			
		3H	Uncertainty (95%CL)	MDA	Radionuclide
BE120814 - 1	113 - F2	-0.27	13	18	ND
BE120814 - 2	113 - F15	-0.06	12	17	ND
BE120814 - 3	113 - A9	-0.23	12	17	ND
BE120814 - 4	113 - A13	-4.52	13	17	ND
BE120814 - 5	113 - A14	-0.06	12	17	ND
BE120814 - 6	113 - B7	-0.32	12	17	ND
BE120814 - 7	113 - C3	-1.14	12	17	ND
BE120814 - 8	113 - C9	-2.40	12	17	ND
BE120814 - 9	113 - C10	-0.27	13	17	ND
BE120814 - 10	113 - D3	-0.23	12	17	ND
BE120814 - 11	113 - D8	-3.62	13	17	ND
BE120814 - 12	113A - A7	-0.06	12	17	ND
BE120814 - 13	113A - C1	-0.47	12	17	ND
BE120814 - 14	113A - D4	-2.12	12	17	ND
BE120814 - 15	113A - D9	-1.29	12	17	ND
BE120814 - 16	113A - F1	-2.25	13	17	ND
BE120814 - 17	113A - F5	0.42	13	17	ND
BE120814 - 18	113A - F7	-2.78	13	17	ND

ATTACHMENT 6

Survey Unit - NL-A1

Sample ID Number	Sample Location	Matrices	Bkg Cts	Sample Gross cts	Efficiency 14C	Time (m)	Activity in DPM/100cm2			
							Gross Beta	Uncertainty (95%CL)	MDA	
BE120414 - 33	CORR A1.3 - f9	Vinyl tile	2187	1891	0.58	2	-255	108	190	220.5
BE120414 - 34	CORR A1.3 - F19	Vinyl tile	2187	1857	0.58	2	-284	107	190	220.5
BE120414 - 35	CORR A1.3 - F37	Vinyl tile	2187	1947	0.58	2	-207	109	190	220.5
BE120414 - 36	112 - C18	Drywall	1706	1846	0.58	2	121	101	168	195.1
BE120414 - 37	112A - C5	Drywall	1706	1689	0.58	2	-15	98	168	195.1
BE120414 - 38	111 - B9	Glass	1736	1613	0.58	2	-106	98	170	196.7
BE120414 - 39	111 - C1	Drywall	1706	1957	0.58	2	216	102	168	195.1
BE120414 - 40	115 - D2	Drywall	1706	1803	0.58	2	84	100	168	195.1
BE120414 - 41	152 - F1	Carpet	2746	2166	0.58	2	-500	118	213	246.7
BE120414 - 42	159 - F7	Vinyl tile	2187	1984	0.58	2	-175	109	190	220.5
BE120414 - 43	159 - C8	Drywall	1706	1836	0.58	2	112	101	168	195.1
BE120414 - 44	160 - F17	Vinyl tile	2187	2042	0.58	2	-125	110	190	220.5
BE120414 - 45	160 - D18	Drywall	1706	1620	0.58	2	-74	97	168	195.1
BE120414 - 46	CORR 166 - F17	Vinyl tile	2187	1670	0.58	2	-446	105	190	220.5
BE120414 - 47	CORR 166 - F21	Vinyl tile	2187	1755	0.58	2	-372	106	190	220.5
BE120414 - 48	CORR 166 - C19	Drywall	1706	1462	0.58	2	-210	95	168	195.1

Survey Unit - NL-A1

Swipe Sample ID Number	Swipe Sample Location	Removable Surface Activity in DPM/100cm ²			
		3H	Uncertainty (95%CL)	MDA	Radionuclide
BE120814 - 35	CORR A1.3 - f9	-0.17	13	18	ND
BE120814 - 36	CORR A1.3 - F19	-2.39	13	18	ND
BE120814 - 37	CORR A1.3 - F37	-1.31	13	18	ND
BE120814 - 38	112 - C18	-2.29	12	17	ND
BE120814 - 39	112A - C5	-3.02	12	17	ND
BE120814 - 40	111 - B9	-1.34	13	18	ND
BE120814 - 41	111 - C1	-1.89	13	17	ND
BE120814 - 42	115 - D2	-0.44	12	17	ND
BE120814 - 43	152 - F1	-0.38	13	17	ND
BE120814 - 44	159 - F7	-3.52	13	17	ND
BE120814 - 45	159 - C8	-0.15	12	17	ND
BE120814 - 46	160 - F17	-2.82	13	17	ND
BE120814 - 47	160 - D18	-0.15	12	17	ND
BE120814 - 48	CORR 166 - F17	-2.17	13	17	ND
BE120814 - 49	CORR 166 - F21	-0.34	13	17	ND
BE120814 - 50	CORR 166 - C19	-2.80	13	17	ND

ATTACHMENT 7

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency U-nat	Time (m)	Activity in DPM/100cm2		
							Gross Alpha	Uncertainty (95%CL)	MDA
BE120514-1	106 F1	Vinyl tile	12	6	0.47	2	-6	9	20
BE120514-2	106 F3	Vinyl tile	12	9	0.47	2	-3	10	20
BE120514-3	106 F15	Vinyl tile	12	5	0.47	2	-7	9	20
BE120514-4	106 A1	Drywall	12	8	0.47	2	-4	9	20
BE120514-5	106 A3	Cold room exterior, verticle	12	7	0.47	2	-5	9	20
BE120514-6	106 A7	Drywall	12	6	0.47	2	-6	9	20
BE120514-7	106 A8	Cold room exterior, verticle	12	6	0.47	2	-6	9	20
BE120514-8	106 B1	Drywall	12	12	0.47	2	0	10	20
BE120514-9	106 B3	Drywall	12	8	0.47	2	-4	9	20
BE120514-10	106 B5	Drywall	12	5	0.47	2	-7	9	20
BE120514-11	106 B9	Drywall	12	9	0.47	2	-3	10	20
BE120514-12	106 B11	Drywall	12	10	0.47	2	-2	10	20
BE120514-13	106 C3	Drywall	12	10	0.47	2	-2	10	20
BE120514-14	Corridor 106 C4	Drywall	12	8	0.47	2	-4	9	20
BE120514-15	106A A1	Cold room interior, verticle	12	9	0.47	2	-3	10	20
BE120514-16	106A D2	Cold room interior, verticle	12	5	0.47	2	-7	9	20
BE120514-17	106A D3	Cold room interior, verticle	12	6	0.47	2	-6	9	20
BE120514-18	106A D4	Cold room interior, verticle	12	10	0.47	2	-2	10	20

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency U-nat	Time (m)	Activity in DPM/100cm2			MDC
							Gross Alpha	Uncertainty (95%CL)	MDA	
BE120714-1	Reference area	Vinyl tile	12	9	0.47	2	-3	10	20	19.1
BE120714-2	Reference area	Vinyl tile	12	7	0.47	2	-5	9	20	19.1
BE120714-3	Reference area	Vinyl tile	12	8	0.47	2	-4	9	20	19.1
BE120714-4	Reference area	Drywall	12	7	0.47	2	-5	9	20	19.1
BE120714-5	Reference area	Cold room exterior, verticle	12	7	0.47	2	-5	9	20	19.1
BE120714-6	Reference area	Drywall	12	7	0.47	2	-5	9	20	19.1
BE120714-7	Reference area	Cold room exterior, verticle	12	8	0.47	2	-4	9	20	19.1
BE120714-8	Reference area	Drywall	12	12	0.47	2	0	10	20	19.1
BE120714-9	Reference area	Drywall	12	11	0.47	2	-1	10	20	19.1
BE120714-10	Reference area	Drywall	12	8	0.47	2	-4	9	20	19.1
BE120714-11	Reference area	Drywall	12	9	0.47	2	-3	10	20	19.1
BE120714-12	Reference area	Drywall	12	8	0.47	2	-4	9	20	19.1
BE120714-13	Reference area	Drywall	12	11	0.47	2	-1	10	20	19.1
BE120714-14	Reference area	Drywall	12	7	0.47	2	-5	9	20	19.1
BE120714-15	Reference area	Cold room interior, verticle	12	10	0.47	2	-2	10	20	19.1
BE120714-16	Reference area	Cold room interior, verticle	12	7	0.47	2	-5	9	20	19.1
BE120714-17	Reference area	Cold room interior, verticle	12	9	0.47	2	-3	10	20	19.1
BE120714-18	Reference area	Cold room interior, verticle	12	8	0.47	2	-4	9	20	19.1

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency Th-nat	Time (m)	Activity in DPM/100cm ²		
							Gross Alpha	Uncertainty (95%CL)	MDA
BE120514-1	106 F1	Vinyl tile	12	6	0.52	2	-6	8	18
BE120514-2	106 F3	Vinyl tile	12	9	0.52	2	-3	9	18
BE120514-3	106 F15	Vinyl tile	12	5	0.52	2	-7	8	18
BE120514-4	106 A1	Drywall	12	8	0.52	2	-4	8	18
BE120514-5	106 A3	Cold room exterior, verticle	12	7	0.52	2	-5	8	18
BE120514-6	106 A7	Drywall	12	6	0.52	2	-6	8	18
BE120514-7	106 A8	Cold room exterior, verticle	12	6	0.52	2	-6	8	18
BE120514-8	106 B1	Drywall	12	12	0.52	2	0	9	18
BE120514-9	106 B3	Drywall	12	8	0.52	2	-4	8	18
BE120514-10	106 B5	Drywall	12	5	0.52	2	-7	8	18
BE120514-11	106 B9	Drywall	12	9	0.52	2	-3	9	18
BE120514-12	106 B11	Drywall	12	10	0.52	2	-2	9	18
BE120514-13	106 C3	Drywall	12	10	0.52	2	-2	9	18
BE120514-14	Corridor 106 C4	Drywall	12	8	0.52	2	-4	8	18
BE120514-15	106A A1	Cold room interior, verticle	12	9	0.52	2	-3	9	18
BE120514-16	106A D2	Cold room interior, verticle	12	5	0.52	2	-7	8	18
BE120514-17	106A D3	Cold room interior, verticle	12	6	0.52	2	-6	8	18
BE120514-18	106A D4	Cold room interior, verticle	12	10	0.52	2	-2	9	18

Sample ID Number	Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Efficiency Th-nat	Time (m)	Activity in DPM/100cm ²		
							Gross Alpha	Uncertainty (95%CL)	MDA
BE120714-1	Reference area	Vinyl tile	12	9	0.52	2	-3	9	18
BE120714-2	Reference area	Vinyl tile	12	7	0.52	2	-5	8	18
BE120714-3	Reference area	Vinyl tile	12	8	0.52	2	-4	8	18
BE120714-4	Reference area	Drywall	12	7	0.52	2	-5	8	18
BE120714-5	Reference area	Cold room exterior, verticle	12	7	0.52	2	-5	8	18
BE120714-6	Reference area	Drywall	12	7	0.52	2	-5	8	18
BE120714-7	Reference area	Cold room exterior, verticle	12	8	0.52	2	-4	8	18
BE120714-8	Reference area	Drywall	12	12	0.52	2	0	9	18
BE120714-9	Reference area	Drywall	12	11	0.52	2	-1	9	18
BE120714-10	Reference area	Drywall	12	8	0.52	2	-4	8	18
BE120714-11	Reference area	Drywall	12	9	0.52	2	-3	9	18
BE120714-12	Reference area	Drywall	12	8	0.52	2	-4	8	18
BE120714-13	Reference area	Drywall	12	11	0.52	2	-1	9	18
BE120714-14	Reference area	Drywall	12	7	0.52	2	-5	8	18
BE120714-15	Reference area	Cold room interior, verticle	12	10	0.52	2	-2	9	18
BE120714-16	Reference area	Cold room interior, verticle	12	7	0.52	2	-5	8	18
BE120714-17	Reference area	Cold room interior, verticle	12	9	0.52	2	-3	9	18
BE120714-18	Reference area	Cold room interior, verticle	12	8	0.52	2	-4	8	18

Sample ID Number	Sample Location	Matrices	Bkg. Gross (cts)	Sample Gross cts	Efficiency 14C	Time (m)	Activity in DPM/100cm2		
							Gross Beta	Uncertainty (95%CL)	MDA
BE120514-19	106 F1	Vinyl tile	2187	2007	0.58	2	-155	109	190
BE120514-20	106 F3	Vinyl tile	2187	2047	0.58	2	-121	110	190
BE120514-21	106 F15	Vinyl tile	2187	1877	0.58	2	-267	108	190
BE120514-22	106 A1	Drywall	1706	1801	0.58	2	82	100	168
BE120514-23	106 A3	Cold room exterior, verticle	1818	1507	0.58	2	-268	97	174
BE120514-24	106 A7	Drywall	1706	1835	0.58	2	111	101	168
BE120514-25	106 A8	Cold room exterior, verticle	1808	1565	0.58	2	-209	98	173
BE120514-26	106 B1	Drywall	1706	1964	0.58	2	222	102	168
BE120514-27	106 B3	Drywall	1706	1615	0.58	2	-78	97	168
BE120514-28	106 B5	Drywall	1706	1634	0.58	2	-62	98	168
BE120514-29	106 B9	Drywall	1706	1560	0.58	2	-126	97	168
BE120514-30	106 B11	Drywall	1706	1576	0.58	2	-112	97	168
BE120514-31	106 C3	Drywall	1706	1568	0.58	2	-119	97	168
BE120514-32	Corridor 106 C4	Drywall	1706	1516	0.58	2	-164	96	168
BE120514-33	106A A1	Cold room interior, verticle	1808	1598	0.58	2	-181	99	173
BE120514-34	106A D2	Cold room interior, verticle	1808	1520	0.58	2	-248	97	173
BE120514-35	106A D3	Cold room interior, verticle	1808	1584	0.58	2	-193	98	173
BE120514-36	106A D4	Cold room interior, verticle	1808	1485	0.58	2	-278	97	173

Swipe Sample ID Number	Swipe Sample Location	Removable Surface Activity in DPM/100cm ²			
		3H	Uncertainty (95%CL)	MDA	Radionuclide
BE120614-1	106 F1	-1.28	13	17	ND
BE120614-2	106 F3	-0.40	13	17	ND
BE120614-3	106 F15	-4.14	12	16	ND
BE120614-4	106 A1	-0.83	12	16	ND
BE120614-5	106 A3	-2.33	12	16	ND
BE120614-6	106 A7	-5.85	13	17	ND
BE120614-7	106 A8	-3.00	12	16	ND
BE120614-8	106 B1	-1.42	12	16	ND
BE120614-9	106 B3	-1.17	13	18	ND
BE120614-10	106 B5	-2.12	12	17	ND
BE120614-11	106 B9	-1.53	12	16	ND
BE120614-12	106 B11	-0.77	12	16	ND
BE120614-13	106 C3	-0.18	12	16	ND
BE120614-14	106 C7	-4.11	13	17	ND
BE120614-15	106A A1	-2.33	12	16	ND
BE120614-16	106A D2	-0.18	12	16	ND
BE120614-17	106A D3	1.25	12	16	ND
BE120614-18	106A D4	-0.17	13	17	ND

ATTACHMENT 8

Survey Unit - NL-B1

Sample ID Number	Sample Location	Matrices	Bkg Cts	Sample Gross cts	Efficiency 14C	Time (m)	Activity in DPM/100cm2			
							Gross Beta	Uncertainty (95%CL)	MDA	
BE120414 - 1	101 - B4	Drywall	1706	2125	0.58	2	361	105	168	195.1
BE120414 - 2	101 - C7	Drywall	1706	1769	0.58	2	54	100	168	195.1
BE120414 - 3	109 - B3	Drywall	1706	2124	0.58	2	360	105	168	195.1
BE120414 - 4	112 - F6	Carpet	2746	2438	0.58	2	-266	122	213	246.7
BE120414 - 5	115 - D3	Drywall	1706	1809	0.58	2	89	100	168	195.1
BE120414 - 6	124 - C12	Drywall	1706	1682	0.58	2	-21	98	168	195.1
BE120414 - 7	124 - C29	Drywall	1706	1962	0.58	2	221	102	168	195.1
BE120414 - 8	140 - F6	Concrete sealed	2285	2267	0.58	2	-16	114	194	225.3
BE120414 - 9	175 - C3	Drywall	1706	1970	0.58	2	228	102	168	195.1
BE120414 - 10	CORR 1.7 - F36	Vinyl tile	2187	2443	0.58	2	221	115	190	220.5
BE120414 - 11	ELEV CORR - F5	Vinyl tile	2187	2135	0.58	2	-45	111	190	220.5
BE120414 - 12	ENTRANCE - C3	Drywall	1706	1893	0.58	2	161	101	168	195.1
BE120414 - 13	ENTRANCE - D14	Drywall	1706	1777	0.58	2	61	100	168	195.1
BE120414 - 14	CORR B1.6 - A16	Drywall	1706	2208	0.58	2	433	106	168	195.1
BE120414 - 15	CORR B1.6 - C34	Cinderblock, rough	2002	1772	0.58	2	-198	104	182	211.1
BE120414 - 16	CORR B1.B - F14	Vinyl tile	2187	2120	0.58	2	-58	111	190	220.5

Survey Unit - NL-B1

Swipe Sample ID Number	Swipe Sample Location	Removable Surface Activity in DPM/100cm ²			
		3H	Uncertainty (95%CL)	MDA	Radionuclide
BE120314 - 19	101 - B4	-0.60	12	17	ND
BE120314 - 20	101 - C7	-0.60	13	17	ND
BE120314 - 21	109 - B3	-1.05	13	17	ND
BE120314 - 22	112 - F6	-0.05	13	17	ND
BE120314 - 23	115 - D3	-0.09	12	17	ND
BE120314 - 24	124 - C12	-1.71	13	17	ND
BE120314 - 25	124 - C29	-0.93	13	17	ND
BE120314 - 26	140 - F6	-0.61	13	17	ND
BE120314 - 27	175 - C3	-0.24	12	17	ND
BE120314 - 28	CORR 1.7 - F36	-0.56	12	17	ND
BE120314 - 29	ELEV CORR - F5	-0.54	12	17	ND
BE120314 - 30	ENTRANCE - C3	-0.13	12	17	ND
BE120314 - 31	ENTRANCE - D14	0.00	12	17	ND
BE120314 - 32	CORR B1.6 - A16	-1.01	13	17	ND
BE120314 - 33	CORR B1.6 - C34	-0.73	12	17	ND
BE120314 - 34	CORR B1.B - F14	-0.11	12	17	ND

ATTACHMENT 9

Survey Unit - NL-B2

Sample Location	Matrices	Bkg. (cts)	Sample Gross cts	Eff. Wt	Time (m)	Activity in DPM/100cm2			
						Gross Beta	Uncertainty (95%CL)	MDA	
217 - C8	Drywall	1706	1816	0.58	2	95	100	168	195.1
219 - B3	Drywall	1706	1912	0.58	2	178	102	168	195.1
258 - F13	Vinyl tile	2187	2383	0.58	2	169	114	190	220.5
258 - F14	Vinyl tile	2187	2374	0.58	2	161	114	190	220.5
267 - D9	Drywall	1706	1794	0.58	2	76	100	168	195.1
268 - C3	Drywall	1706	1609	0.58	2	-84	97	168	195.1
268 - D14	Drywall	1706	1881	0.58	2	151	101	168	195.1
269 - F10	Vinyl tile	2187	2202	0.58	2	13	112	190	220.5
272 - C8	Casework, verticle	1548	1560	0.58	2	10	94	160	186.0
274 - F2	Vinyl tile	2187	2341	0.58	2	133	114	190	220.5
277 - A5	Casework, verticle	1548	1376	0.58	2	-148	91	160	186.0
279 - F2	Drywall	1706	1729	0.58	2	20	99	168	195.1
B2.37 - F9	Vinyl tile	2187	2472	0.58	2	246	115	190	220.5
B2.1 - A123	Drywall	1706	1753	0.58	2	41	99	168	195.1
B2.1 - C23	Coldroom, verticle	1808	1663	0.58	2	-125	100	173	200.7
B2.1 - C101	Drywall	1706	1843	0.58	2	118	101	168	195.1

Survey Unit - NL-B2

Swipe Sample ID Number	Swipe Sample Location	Removable Surface Activity in DPM/100cm ²			
		3H	Uncertainty (95%CL)	MDA	Radionuclide
BE120814 - 50	217 - C8	-0.52	12	17	ND
BE120814 - 52	219 - B3	-1.78	12	17	ND
BE120814 - 53	258 - F13	-5.07	13	17	ND
BE120814 - 54	258 - F14	-4.36	13	17	ND
BE120814 - 55	267 - D9	-3.50	13	17	ND
BE120814 - 56	268 - C3	-1.14	12	17	ND
BE120814 - 57	268 - D14	-1.42	12	17	ND
BE120814 - 58	269 - F10	-3.24	13	17	ND
BE120814 - 59	272 - C8	-1.13	12	17	ND
BE120814 - 16	274 - F2	-0.76	12	17	ND
BE120814 - 61	277 - A5	-1.73	12	17	ND
BE120814 - 62	279 - F2	-3.45	13	17	ND
BE120814 - 63	B2.37 - F9	-1.46	12	17	ND
BE120814 - 64	B2.1 - A123	-2.29	12	17	ND
BE120814 - 65	B2.1 - C23	-1.77	12	17	ND
BE120814 - 66	B2.1 - C101	-0.12	12	17	ND

ATTACHMENT 10

<u>Survey Unit</u>	<u>Units</u>	<u>²³²Th+C</u>	<u>²³⁸U+C</u>	<u>¹⁴C</u>	<u>³H</u>	<u>SOF</u>	<u>Logic (N<1)</u>
NLRC-B 1st Floor	Concentration	NP	NP	99	-1.7		
	DCGL	NP	NP	<u>3.7E+06</u> 2.7E-05	<u>1.2E+07</u> -1.4E-07	2.7E-05	TRUE
NLRC-B 2nd Floor	Concentration	NP	NP	66	-2.1		
	DCGL	NP	NP	<u>3.7E+06</u> 1.8E-05	<u>1.2E+07</u> -1.8E-07	1.8E-05	TRUE
NLRC-A 1st Floor	Concentration	NP	NP	-140	-1.6		
	DCGL	NP	NP	<u>3.7E+06</u> -3.8E-05	<u>1.2E+07</u> -1.3E-07	-3.8E-05	TRUE
106	Concentration	-4.1	-4.6	-120	-1.7		
	DCGL	<u>55</u> -0.07	<u>250</u> -0.02	<u>3.7E+06</u> -3.2E-05	<u>1.2E+07</u> -1.4E-07	-9.3E-02	TRUE
113	Concentration	3	4	-52	-1.2		
	DCGL	<u>55</u> 0.05	<u>250</u> 0.02	<u>3.7E+06</u> -1.4E-05	<u>1.2E+07</u> -1.0E-07	7.1E-02	TRUE

NP - Not present