

THERMO EBERLINE LLC
BUILDING CHARACTERIZATION - VOLUMETRIC LABORATORY ANALYSES
Table 3-20: PAOC-9

Sample ID				9-F-11-C				9-F-11-C				9-F-17-C				9-F-17-C			
GEL Laboratory ID				522492001				1204666183				522492002				1204665953			
Collection Date				09/21/20				09/21/20				09/21/20				09/21/20			
Substrate				Concrete				Concrete				Concrete				Concrete			
Building Surface				Floor				Floor				Floor				Floor			
QC Code				Normal				Duplicate				Normal				Duplicate			
Analysis Method	Analyte	NMED RCB Required MDC	NMED RCB Volumetric Release Criterion ¹	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC
Alpha Spectroscopy																			
ASTM C 1475-00 Modified	Np-237	0.05	0.6	-0.018	0.014	U	0.036	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML	Am-241	0.05	1.25	0.016	0.020	U	0.032	0.016	0.024	U	0.040	NA	NA	NA	NA	NA	NA	NA	NA
HASL 300 Am-05-RC Mod	Cf-252	0.05	4.12	0.005	0.015	U	0.026	0.000	0.006	U	0.007	NA	NA	NA	NA	NA	NA	NA	NA
	Cm-243/244	0.05	2.5	-0.005	0.019	U	0.039	-0.002	0.010	U	0.021	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML	Pu-238	0.05	1.52	-0.019	0.013	U	0.038	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HASL 300 Pu-	Pu-239/240	0.05	1.37	-0.012	0.016	U	0.039	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML HASL 300 U-02-RC Mod	U-233/234		7.8 ²	0.478	0.068		0.037	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-235/236	0.05	4.82	0.054	0.024		0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-238		8.4 ²	0.524	0.070		0.029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Spectroscopy																			
DOE HASL	Am-241	0.05	1.25	NA	NA	NA	NA	NA	NA	NA	NA	-0.099	0.131	U	0.234	-0.064	0.118	U	0.213
300, 4.5.2.3/Ga-	Cs-137	1	6.6	NA	NA	NA	NA	NA	NA	NA	NA	0.017	0.050	U	0.100	0.114	0.126	U	0.164
Gas Flow Proportional Counting																			
EPA 905.0 Modified/DOE RP501 Rev. 1 Modified	Sr-90	0.1	1.03	NA	NA	NA	NA	NA	NA	NA	NA	0.037	0.047	U	0.080	NA	NA	NA	NA
Liquid Scintillation Counting																			
EPA 906.0 Modified	Tritium	1	64.8	NA	NA	NA	NA	NA	NA	NA	NA	-0.898	0.839	U	1.500	NA	NA	NA	NA
EPA EERF C-01 Modified	C-14	1	6.96	NA	NA	NA	NA	NA	NA	NA	NA	0.106	0.450	U	0.774	NA	NA	NA	NA

Notes:

All values are reported in picoCuries per gram (pCi/g)

Table summarizes lab results following quality assurance (QA)/quality control (QC) evaluation of data- see QA/QC Evaluation (Appendix D)/Laboratory Reports (Appendix E) for additional details

NA = Not Analyzed

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NMED RCB- New Mexico Environmental Department (NMED), Radiation Control Bureau (RCB)

MDC - Minimum Detectable Concentration

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Table 3-20: PAOC-9

Sample ID				9-F-17-C				9-W-E-18-C				9-W-E-18-C				9-W-N-6-C			
GEL Laboratory ID				1204667401				522493001				1204666184				522493002			
Collection Date				09/21/20				09/21/20				09/21/20				09/21/20			
Substrate				Concrete				Vinyl Insulation				Vinyl Insulation				Vinyl Insulation			
Building Surface				Floor				Wall				Wall				Wall			
QC Code				Duplicate				Normal				Duplicate				Normal			
Analysis Method	Analyte	NMED RCB Required MDC	NMED RCB Volumetric Release Criterion ¹	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC
Alpha Spectroscopy																			
ASTM C 1475-00 Modified	Np-237	0.05	0.6	NA	NA	NA	NA	-0.014	0.015	U	0.037	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML	Am-241	0.05	1.25	NA	NA	NA	NA	0.005	0.013	U	0.022	0.000	0.015	U	0.029	NA	NA	NA	NA
HASL 300 Am-05-RC Mod	CF252	0.05	4.12	NA	NA	NA	NA	0.002	0.006	U	0.006	0.002	0.007	U	0.006	NA	NA	NA	NA
	Cm-243/244	0.05	2.5	NA	NA	NA	NA	-0.007	0.012	U	0.027	-0.008	0.012	U	0.029	NA	NA	NA	NA
DOE EML	Pu-238	0.05	1.52	NA	NA	NA	NA	-0.003	0.012	U	0.029	NA	NA	NA	NA	NA	NA	NA	NA
HASL 300 Pu-	Pu-239/240	0.05	1.37	NA	NA	NA	NA	0.007	0.012	U	0.017	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML HASL 300 U-02-RC Mod	U-233/234		7.8 ²	NA	NA	NA	NA	0.019	0.033	U	0.057	NA	NA	NA	NA	NA	NA	NA	NA
	U-235/236	0.05	4.82	NA	NA	NA	NA	0.006	0.019	U	0.034	NA	NA	NA	NA	NA	NA	NA	NA
	U-238		8.4 ²	NA	NA	NA	NA	0.030	0.025	U	0.033	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Spectroscopy																			
DOE HASL	Am-241	0.05	1.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.066	1.270	U	2.230
300, 4.5.2.3/Ga-	Cs-137	1	6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-0.082	0.281	U	0.498
Gas Flow Proportional Counting																			
EPA 905.0 Modified/DOE RP501 Rev. 1 Modified	Sr-90	0.1	1.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-0.011	0.048	U	0.098
Liquid Scintillation Counting																			
EPA 906.0 Modified	Tritium	1	64.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-0.817	1.440	U	2.540
EPA EERF C-01 Modified	C-14	1	6.96	0.280	0.408	U	0.690	NA	NA	NA	NA	NA	NA	NA	NA	-0.085	0.347	U	0.603

Notes:

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Sample ID				9-W-N-6-C				9-W-N-6-C				9-W-S-21-C				9-W-S-21-C			
GEL Laboratory ID				1204665954				1204667402				1204665955				522496002			
Collection Date				09/21/20				09/21/20				09/21/20				09/21/20			
Substrate				Vinyl Insulation				Vinyl Insulation				Stucco				Stucco			
Building Surface				Wall				Wall				Wall				Wall			
QC Code				Duplicate				Duplicate				Duplicate				Normal			
Analysis Method	Analyte	NMED RCB Required MDC	NMED RCB Volumetric Release Criterion ¹	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC
Alpha Spectroscopy																			
ASTM C 1475-00 Modified	Np-237	0.05	0.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML	Am-241	0.05	1.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HASL 300 Am-05-RC Mod	CF-252	0.05	4.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Cm-243/244	0.05	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML	Pu-238	0.05	1.52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HASL 300 Pu-	Pu-239/240	0.05	1.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DOE EML HASL 300 U-02-RC Mod	U-233/234		7.8 ²	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-235/236	0.05	4.82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	U-238		8.4 ²	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gamma Spectroscopy																			
DOE HASL	Am-241	0.05	1.25	-0.244	1.830	U	3.320	NA	NA	NA	NA	0.300	0.283	U	0.519	0.058	0.159	U	0.305
300, 4.5.2.3/Ga-	Cs-137	1	6.6	0.047	0.326	U	0.648	NA	NA	NA	NA	0.021	0.056	U	0.105	0.068	0.046		0.068
Gas Flow Proportional Counting																			
EPA 905.0 Modified/DOE RP501 Rev. 1 Modified	Sr-90	0.1	1.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.014	0.033	U	0.059
Liquid Scintillation Counting																			
EPA 906.0 Modified	Tritium	1	64.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-0.044	0.826	U	1.430
EPA EERF C-01 Modified	C-14	1	6.96	NA	NA	NA	NA	-0.198	0.359	U	0.629	NA	NA	NA	NA	0.520	0.480	U	0.801

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Sample ID				9-W-S-21-C				9-W-S-22-C				9-W-S-22-C			
GEL Laboratory ID				1204667403				522496001				1204666185			
Collection Date				09/21/20				09/21/20				09/21/20			
Substrate				Stucco				Stucco				Stucco			
Building Surface				Wall				Wall				Wall			
QC Code				Duplicate				Normal				Duplicate			
Analysis Method	Analyte	NMED RCB Required MDC	NMED RCB Volumetric Release Criterion ¹	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC	Result	Uncertainty	Qualifier	MDC
Alpha Spectroscopy															
ASTM C 1475-00 Modified	Np-237	0.05	0.6	NA	NA	NA	NA	-0.003	0.008	U	0.019	NA	NA	NA	NA
DOE EML	Am-241	0.05	1.25	NA	NA	NA	NA	0.009	0.016	U	0.024	0.026	0.019		0.020
HASL 300 Am-05-RC Mod	Cf-252	0.05	4.12	NA	NA	NA	NA	0.029	0.023		0.025	0.022	0.020	U	0.026
	Cm-243/244	0.05	2.5	NA	NA	NA	NA	0.022	0.020	U	0.024	0.039	0.024		0.029
DOE EML	Pu-238	0.05	1.52	NA	NA	NA	NA	0.005	0.012	U	0.019	NA	NA	NA	NA
HASL 300 Pu-	Pu-239/240	0.05	1.37	NA	NA	NA	NA	0.002	0.013	U	0.026	NA	NA	NA	NA
DOE EML HASL 300 U-02-RC Mod	U-233/234		7.8 ²	NA	NA	NA	NA	0.332	0.067		0.038	NA	NA	NA	NA
	U-235/236	0.05	4.82	NA	NA	NA	NA	0.023	0.021	U	0.025	NA	NA	NA	NA
	U-238		8.4 ²	NA	NA	NA	NA	0.348	0.069		0.040	NA	NA	NA	NA
Gamma Spectroscopy															
DOE HASL	Am-241	0.05	1.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
300, 4.5.2.3/Ga-	Cs-137	1	6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gas Flow Proportional Counting															
EPA 905.0 Modified/DOE RP501 Rev. 1 Modified	Sr-90	0.1	1.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liquid Scintillation Counting															
EPA 906.0 Modified	Tritium	1	64.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA EERF C-01 Modified	C-14	1	6.96	0.594	0.487	U	0.808	NA	NA	NA	NA	NA	NA	NA	NA

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