Date: _____

9626 Niagara Falls Blvd Onsite Gamma Spec Screening Lab

Gamma Spectroscopy Detector work sheet.

Counted by (Initial,date)	Geometry Description	Analysis Number/Sample ID/Remarks	Sample Collection mmddyy hh:mm	Sample Quantity	Sample Units (GWET,GDRY,L, ft^3, etc)	Count Time (s)	Report Matches Sample Parameters (Initial, date)
CC/110416	450 cc SOIL	Duplicate N002-P05-S015-2230-02	10-25-16 1500	627.4	GWET	7200	
CC/110716	450 cc SOIL	P006-S002-0004-01	10/14/16 1515	363.4	GWET	7200	
CC/110716	450 cc SOIL	P006-S002-0412-01	10/14/16 1516	688.2	GWET	7200	
CC/110716	450 cc SOIL	P006-S002-1218-01	10/14/16 1516	570.5	GWET	7200	
CC/110916	450 cc SOIL	Duplicate P006-S001-0412-02	10/14/16 1432	652.7	GWET	7200	
CC/110716	450 cc SOIL	P006-S001-0004-01	10/14/16 1432	367.2	GWET	7200	
CC/110816	450 cc SOIL	P007-S001-0006-01	10/14/16 1545	458.4	GWET	7200	
CC/110816	450 cc SOIL	P007-S001-0612-01	10/14/16 1545	579.6	GWET	7200	
CC/110816	450 cc SOIL	P007-S001-1218-01	10/14/16 1546	564.5	GWET	7200	
CC/110816	450 cc SOIL	P006-S001-1218-01	10/14/16 1432	455.6	GWET	7200	

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*************************************************************************
*****          G A M M A   S P E C T R U M   A N A L Y S I S        *****
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Filename: ERT01,C:\GENIE2K\CAMFILES\SMP-N002-A05-S015-2230-02.CNF

Report Generated On	: 11/4/2016 5:09:35 PM
Sample Title	: N002-A05-S015-2230-02
Sample Description	: 450 cc Soil
Sample Identification	:
Sample Type	:
Sample Geometry	:
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 100 - 8192
Peak Area Range (in channels)	: 100 - 8192
Identification Energy Tolerance	: 1.000 keV
Sample Size	: 6.274E+002 GWET
Sample Taken On	: 10/25/2016 3:00:00 PM
Acquisition Started	: 11/4/2016 3:09:31 PM
Live Time	: 7200.0 seconds
Real Time	: 7201.5 seconds
Dead Time	: 0.02 %

Energy Calibration Used Done On	: 10/24/2016
Efficiency Calibration Used Done On	: 9/27/2016
Efficiency ID	: ERT0101

****
***** P E A K A N A L Y S I S R E P O R T *****
****

Detector Name: ERT01
Sample Title: N002-A05-S015-2230-02
Peak Analysis Performed on: 11/4/2016 5:09:35 PM
Peak Analysis From Channel: 100
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	295-	316	299.96	74.95	1.10	1.82E+002	20.38	3.17E+002
m	2	295-	316	309.37	77.30	1.10	3.32E+002	24.84	3.74E+002
	3	343-	355	349.40	87.31	0.49	5.78E+001	32.68	3.83E+002
	4	366-	386	372.00	92.96	1.41	2.78E+002	46.03	5.00E+002
	5	513-	520	516.60	129.11	0.49	2.20E+001	20.69	1.98E+002
	6	734-	751	744.42	186.07	1.40	2.74E+002	36.34	3.22E+002
	7	834-	843	837.63	209.38	0.67	3.76E+001	21.41	1.85E+002
M	8	942-	974	954.70	238.65	1.16	8.29E+002	32.07	2.06E+002
m	9	942-	974	967.81	241.92	1.16	1.73E+002	17.21	1.97E+002
	10	1174-	1188	1180.93	295.21	1.12	3.52E+002	27.78	1.46E+002
	11	1346-	1360	1353.10	338.25	0.97	1.35E+002	23.21	1.39E+002
	12	1398-	1415	1407.59	351.88	1.05	6.55E+002	33.61	1.46E+002
	13	1847-	1860	1852.36	463.08	0.61	5.24E+001	17.59	9.16E+001
	14	2035-	2056	2042.23	510.55	1.69	2.23E+002	26.93	1.32E+002
	15	2325-	2344	2332.41	583.10	1.36	2.73E+002	23.65	8.00E+001
	16	2424-	2448	2436.84	609.21	1.39	5.19E+002	29.44	8.43E+001
	17	2902-	2917	2908.12	727.04	1.09	4.80E+001	15.55	6.40E+001
	18	3069-	3079	3073.97	768.51	0.72	2.26E+001	12.13	4.94E+001
	19	3434-	3450	3441.31	860.35	0.86	4.35E+001	13.52	4.45E+001
	20	3635-	3652	3644.47	911.15	1.77	1.71E+002	19.19	6.05E+001
M	21	3853-	3885	3858.58	964.68	1.33	4.33E+001	8.28	2.99E+001
m	22	3853-	3885	3875.69	968.96	1.34	9.62E+001	11.57	4.22E+001
	23	4472-	4492	4481.49	1120.42	0.93	1.11E+002	18.09	5.85E+001
	24	4946-	4962	4953.91	1238.53	1.38	5.96E+001	12.06	2.74E+001
	25	5833-	5857	5845.24	1461.38	1.64	8.28E+002	31.78	4.39E+001
	26	7056-	7071	7062.63	1765.76	0.90	7.00E+001	10.25	1.20E+001

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

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***** N U C L I D E M D A R E P O R T *****
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Detector Name: ERT01
Sample Geometry:
Sample Title: N002-A05-S015-2230-02
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	K-40	1460.82*	10.55	6.7716E-001	6.77E-001	7.9234E+000
	Co-60	1173.23	99.85	6.0831E-002	5.94E-002	3.9340E-002
		1332.49	99.98	5.9442E-002		2.0776E-002
>		2505.71	0.10	0.0000E+000		0.0000E+000
	Cs-137	32.06	5.54	8.8598E+002	6.37E-002	4.4351E+002
		661.66	84.99	6.3669E-002		2.3958E-002
+	Tl-208	72.80	2.02	5.8721E+000	5.43E-002	-2.3285E+000
		74.97*	3.41	1.9290E+000		2.9367E+000
		84.90	1.51	4.7378E+000		-2.2591E-001
		277.36	6.31	6.8714E-001		4.1804E-001
		510.77*	22.60	2.8078E-001		1.1735E-001
		583.19*	84.50	5.4288E-002		1.7366E-001
		763.13	1.81	3.0232E+000		-9.0256E-001
		860.56*	12.42	3.3686E-001		2.5441E-001
+	Bi-212	39.86	1.06	4.4461E+002	6.46E-001	3.7113E+000
		727.33*	6.74	6.4592E-001		4.5987E-001
		785.37	1.11	4.7714E+000		1.3760E+000
		1620.74	1.51	3.2489E+000		-1.6698E-001
		1806.00	0.09	4.7954E+001		-1.4296E+001
+	Pb-212	74.81*	10.40	6.3249E-001	7.10E-002	9.6291E-001
		77.11*	17.50	3.6709E-001		9.3654E-001
		87.30*	7.81	6.8672E-001		2.6365E-001
		115.18	0.59	7.3556E+000		-4.2523E+000
		238.63*	43.30	7.0969E-002		5.6702E-001
		300.09	3.28	1.3846E+000		3.1753E-001
+	Bi-214	76.86*	0.43	1.4931E+001	1.11E-001	3.8093E+001
		89.81	0.24	2.7159E+001		-2.8373E+000
		386.77	0.30	1.4830E+001		-6.7638E+000
		454.77	0.29	1.5256E+001		-8.7581E-001
		609.31*	45.49	1.1077E-001		6.4247E-001
		665.45	1.53	3.5587E+000		2.0604E+000
		703.11	0.48	1.0817E+001		-2.5690E+000
		719.86	0.39	1.3960E+001		3.0680E+000
		768.36*	4.89	7.4170E-001		3.0776E-001
		786.10	0.31	1.7784E+001		5.6328E+000
		806.17	1.26	4.5347E+000		3.3020E+000
		934.06	3.10	2.0103E+000		1.3246E+000
		964.08*	0.36	8.2918E+000		9.2876E+000
		1051.96	0.31	1.7847E+001		-6.2939E+000
		1120.29*	14.91	4.1023E-001		6.4364E-001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	2.1396E+001	1.11E-001	1.4353E+001
		1155.19	1.63	3.8534E+000		9.6849E-001
		1207.68	0.45	1.5889E+001		5.0207E-002
		1238.11*	5.79	7.2880E-001		9.4838E-001
		1280.96	1.43	3.9327E+000		-1.5855E+000
		1377.67	4.00	1.5328E+000		-1.7565E-001
		1385.31	0.76	7.7866E+000		5.0367E-001
		1401.50	1.27	4.7680E+000		-2.7879E-001
		1407.98	2.15	2.8254E+000		2.3231E-002
		1509.23	2.11	2.3658E+000		-3.0057E-001
		1538.50	0.38	1.2451E+001		1.6736E+000
		1543.32	0.20	2.4016E+001		1.2531E+001
		1583.22	0.69	7.6337E+000		1.9537E+000
		1594.73	0.25	2.2391E+001		2.4009E+000
		1599.31	0.23	2.0149E+001		1.9612E+000
		1661.28	1.15	4.3506E+000		1.2276E-002
		1683.99	0.22	1.6566E+001		2.7720E+000
		1729.59	2.92	1.7435E+000		-1.1590E-001
		1764.49	15.40	5.2720E-001		5.0653E-001
		1847.42	2.11	2.4406E+000		6.5918E-002
		1873.16	0.22	1.7681E+001		-1.0233E+000
>		2118.55	1.14	0.0000E+000		0.0000E+000
>		2204.21	5.08	0.0000E+000		0.0000E+000
+	Pb-214	53.28	1.20	3.9107E+001	1.07E-001	8.2611E+000
		74.81*	6.44	1.0113E+000		1.5397E+000
		77.11*	10.80	5.8895E-001		1.5026E+000
		87.30*	4.84	1.0972E+000		4.2124E-001
		242.00*	7.43	3.8821E-001		7.0614E-001
		258.87	0.52	8.0392E+000		7.2254E-001
		274.80	0.47	9.0544E+000		-6.5428E+000
		295.22*	19.30	1.7213E-001		6.1908E-001
		351.93*	37.60	1.0693E-001		6.5549E-001
		462.00	0.22	2.3395E+001		1.4360E+001
		533.66	0.19	2.5495E+001		9.5506E+000
		785.96	1.07	5.0997E+000		2.1569E+000
		839.04	0.59	1.0373E+001		1.1249E+001
+	Ra-224	81.07	0.13	5.9010E+001	7.11E-001	-3.4183E+001
		83.78	0.22	3.2728E+001		3.5549E+000
		240.99*	4.10	7.1053E-001		1.2924E+000
+	Ra-226	81.07	0.20	3.8853E+001	1.21E+000	-2.2506E+001
		83.78	0.33	2.1438E+001		2.3286E+000
		94.90	0.15	4.0143E+001		1.7371E+000
		186.21*	3.59	1.2095E+000		1.7139E+000
+	Ac-228	99.50	1.26	3.6037E+000	2.00E-001	2.7666E-001
		129.07*	2.50	1.0640E+000		2.4327E-001
		209.25*	3.97	7.1001E-001		2.7227E-001
		270.24	3.55	1.2878E+000		1.3088E+000
		328.00	3.04	1.5005E+000		6.9324E-001
		338.32*	11.40	3.1545E-001		4.4130E-001
		409.46	2.02	2.1556E+000		-5.0236E-001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	8.0996E-001	2.00E-001	5.4867E-001
		755.31	1.03	4.3670E+000		1.7316E-001
		772.29	1.52	3.8417E+000		4.8491E-001
		794.94	4.31	1.3366E+000		5.5305E-001
		835.70	1.70	3.2532E+000		-2.5497E+000
		911.20*	26.20	2.0029E-001		4.7915E-001
		964.79*	4.99	6.0920E-001		6.8237E-001
		968.96*	15.90	2.2525E-001		4.7653E-001
		1588.20	3.06	1.8741E+000		-4.6022E-001
		1630.62	1.52	3.1625E+000		7.0342E-001
	Th-228	84.37	1.26	5.6567E+000	5.66E+000	1.9899E-001
		131.61	0.13	3.7844E+001		1.0533E+001
		166.41	0.10	4.1224E+001		-5.9986E+000
		215.98	0.25	1.7535E+001		-4.0282E+000
	Pa-234m	258.23	0.07	5.6932E+001	6.90E+000	1.2062E+001
		742.81	0.09	5.4242E+001		1.7288E+001
		766.36	0.32	1.8680E+001		5.5361E+000
		786.27	0.05	1.0322E+002		2.3838E+001
		1001.03	0.85	6.8969E+000		2.4816E+000
		1737.77	0.02	2.1763E+002		-1.8352E+002
	Th-234	63.30	3.75	5.1885E+000	1.50E+000	3.1768E+000
		92.59	4.33	1.4959E+000		-5.4075E-002
		112.81	0.22	2.0641E+001		6.4745E-001

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = Calculated MDA is zero due to zero counts in the region, or the region is outside the spectrum, or has not been calculated
@ = Half-life too short to be able to perform the decay correction

****
***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****
****

Sample Title: N002-A05-S015-2230-02
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
K-40	0.951	1460.82*		10.55	7.92337E+000	3.75997E-001
Tl-208	0.838	72.80	@	2.02		
		74.97*	@	3.41	2.93673E+000	3.43393E-001
		84.90	@	1.51		
		277.36		6.31		
		510.77*	@	22.60	1.17349E-001	6.13807E-002
		583.19*		84.50	1.73658E-001	1.65103E-002
		763.13	@	1.81		
		860.56*		12.42	2.54406E-001	7.93318E-002
Bi-211	0.892	351.03*		13.00	1.89750E+000	1.25460E-001
Bi-212	0.566	39.86	@	1.06		
		727.33*		6.74	4.59865E-001	1.49637E-001
		785.37		1.11		
		1620.74		1.51		
		1806.00	@	0.09		
Pb-212	0.920	74.81*		10.40	9.62910E-001	1.15969E-001
		77.11*		17.50	9.36537E-001	8.18696E-002
		87.30*		7.81	2.63653E-001	1.49607E-001
		115.18	@	0.59		
		238.63*		43.30	5.67022E-001	3.41301E-002
		300.09		3.28		
Bi-214	0.473	76.86*	@	0.43	3.80929E+001	3.35493E+000
		89.81	@	0.24		
		386.77	@	0.30		
		454.77	@	0.29		
		609.31*		45.49	6.42470E-001	4.14265E-002
		665.45	@	1.53		
		703.11	@	0.48		
		719.86	@	0.39		
		768.36*		4.89	3.07762E-001	1.64986E-001
		786.10	@	0.31		
		806.17	@	1.26		
		934.06		3.10		
		964.08*	@	0.36	9.28762E+000	1.81430E+000
		1051.96	@	0.31		
		1120.29*		14.91	6.43640E-001	1.05677E-001
		1133.66	@	0.25		
		1155.19	@	1.63		
		1207.68	@	0.45		
		1238.11*		5.79	9.48378E-001	1.93821E-001
		1280.96	@	1.43		

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.473	1377.67		4.00		
		1385.31	@	0.76		
		1401.50	@	1.27		
		1407.98	@	2.15		
		1509.23	@	2.11		
		1538.50	@	0.38		
		1543.32	@	0.20		
		1583.22	@	0.69		
		1594.73	@	0.25		
		1599.31	@	0.23		
		1661.28	@	1.15		
		1683.99	@	0.22		
		1729.59	@	2.92		
		1764.49		15.40		
		1847.42	@	2.11		
		1873.16	@	0.22		
		2118.55	@	1.14		
		2204.21	@	5.08		
Pb-214	0.943	53.28	@	1.20		
		74.81*		6.44	1.53966E+000	1.86902E-001
		77.11*		10.80	1.50255E+000	1.36039E-001
		87.30*		4.84	4.21240E-001	2.39161E-001
		242.00*		7.43	7.06144E-001	7.74858E-002
		258.87	@	0.52		
		274.80	@	0.47		
		295.22*		19.30	6.19080E-001	5.52156E-002
		351.93*		37.60	6.55486E-001	4.28391E-002
		462.00	@	0.22		
		533.66	@	0.19		
		785.96	@	1.07		
		839.04	@	0.59		
Ra-224	0.769	81.07	@	0.13		
		83.78	@	0.22		
		240.99*		4.10	1.29243E+000	1.41404E-001
Ra-226	0.776	81.07	@	0.20		
		83.78	@	0.33		
		94.90	@	0.15		
		186.21*		3.59	1.71392E+000	2.91421E-001
Ac-228	0.590	99.50	@	1.26		
		129.07*	@	2.50	2.43270E-001	2.28550E-001
		209.25*		3.97	2.72271E-001	1.55710E-001
		270.24		3.55		
		328.00		3.04		
		338.32*		11.40	4.41297E-001	7.95102E-002
		409.46	@	2.02		
		463.00*		4.45	5.48673E-001	1.87758E-001
		755.31	@	1.03		
		772.29	@	1.52		
		794.94		4.31		
		835.70	@	1.70		

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ac-228	0.590	911.20*	26.20	4.79153E-001	5.85953E-002
		964.79*	4.99	6.82366E-001	1.33416E-001
		968.96*	15.90	4.76533E-001	6.03267E-002
		1588.20	3.06		
		1630.62 @	1.52		

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.45
Errors quoted at 1.000 sigma

****
***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****
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	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/GWET)	Wt mean Activity Uncertainty
	K-40		0.951	7.923373E+000	3.759974E-001
X	Cd-109		0.919		
	Tl-208	@	0.838	1.770307E-001	1.608907E-002
	Bi-211		0.892	2.364786E-001	1.871847E-001
	Bi-212	@	0.566	4.598650E-001	1.496372E-001
	Pb-212	@	0.920	5.396785E-001	3.020731E-002
	Bi-214	@	0.473	6.380970E-001	3.679648E-002
	Pb-214	@	0.943	5.737950E-001	4.893535E-002
	Ra-224	@	0.769	2.422338E-001	1.666389E-001
	Ra-226	@	0.776	1.713924E+000	2.914210E-001
	Ac-228	@	0.590	4.741635E-001	3.340264E-002

? = Nuclide is part of an undetermined solution
X = Nuclide rejected by the interference analysis
@ = Nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 11/4/2016 5:09:35 PM
Peak Locate From Channel: 100
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
4	92.96	2.8069E-002	22.97	Tol.	Yb-169 Th-227 Th-234
26	1765.76	8.9885E-003	15.99		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

```
*************************************************************************
*****        G A M M A   S P E C T R U M   A N A L Y S I S        *****
*************************************************************************
```

Filename: ERT01,C:\GENIE2K\CAMFILES\SMP-P006-S002-0004-01.CNF

Report Generated On	: 11/7/2016 11:14:32 AM
Sample Title	: P006-S002-0004-01
Sample Description	: 450 cc Soil
Sample Identification	:
Sample Type	:
Sample Geometry	:
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 100 - 8192
Peak Area Range (in channels)	: 100 - 8192
Identification Energy Tolerance	: 1.000 keV
Sample Size	: 3.634E+002 GWET
Sample Taken On	: 10/14/2016 3:15:00 PM
Acquisition Started	: 11/7/2016 9:14:29 AM
Live Time	: 7200.0 seconds
Real Time	: 7201.6 seconds
Dead Time	: 0.02 %

Energy Calibration Used Done On	: 10/24/2016
Efficiency Calibration Used Done On	: 9/27/2016
Efficiency ID	: ERT0101

****
***** P E A K A N A L Y S I S R E P O R T *****
****

Detector Name: ERT01
Sample Title: P006-S002-0004-01
Peak Analysis Performed on: 11/7/2016 11:14:32 AM
Peak Analysis From Channel: 100
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	295-	316	299.76	74.90	0.92	2.27E+002	21.80	3.59E+002
m	2	295-	316	309.10	77.23	0.93	4.15E+002	26.94	3.79E+002
M	3	333-	355	336.67	84.13	0.91	2.83E+001	16.99	2.85E+002
m	4	333-	355	349.00	87.21	0.92	6.49E+001	38.04	4.09E+002
	5	366-	377	371.02	92.71	0.84	1.79E+002	31.56	3.26E+002
	6	512-	522	516.90	129.19	0.79	6.47E+001	24.35	2.20E+002
	7	734-	754	744.25	186.03	1.03	3.61E+002	42.10	3.89E+002
M	8	947-	978	954.66	238.64	1.13	6.72E+002	29.92	2.72E+002
m	9	947-	978	967.94	241.96	1.14	3.20E+002	21.13	1.77E+002
	10	1173-	1189	1180.81	295.18	1.11	6.12E+002	32.89	1.48E+002
	11	1308-	1321	1312.08	328.00	0.73	5.44E+001	18.98	1.10E+002
	12	1346-	1361	1352.59	338.13	1.09	1.25E+002	24.09	1.51E+002
	13	1397-	1416	1407.43	351.84	1.36	1.13E+003	41.18	1.60E+002
	14	2029-	2052	2042.37	510.59	2.01	2.73E+002	25.17	9.00E+001
	15	2324-	2338	2331.63	582.91	1.48	2.17E+002	21.57	8.63E+001
	16	2429-	2444	2436.36	609.09	1.31	8.28E+002	31.77	6.08E+001
	17	2637-	2653	2645.97	661.50	0.94	2.20E+002	20.64	6.58E+001
	18	2901-	2914	2907.56	726.90	0.60	4.13E+001	13.25	4.87E+001
	19	3064-	3079	3072.73	768.20	1.31	6.79E+001	15.18	5.41E+001
	20	3217-	3227	3221.97	805.51	0.55	1.63E+001	9.21	2.87E+001
	21	3434-	3444	3439.29	859.85	0.54	2.43E+001	9.77	2.87E+001
	22	3635-	3652	3644.39	911.12	1.81	1.42E+002	18.24	5.81E+001
	23	3728-	3743	3736.23	934.09	0.81	5.26E+001	12.05	3.04E+001
M	24	3853-	3883	3858.35	964.62	1.20	1.19E+001	7.00	5.09E+001
m	25	3853-	3883	3874.43	968.64	1.21	6.50E+001	10.59	5.51E+001
	26	4470-	4490	4480.82	1120.25	1.63	2.08E+002	18.49	3.67E+001
	27	4943-	4960	4951.30	1237.88	1.46	7.74E+001	12.80	2.66E+001
	28	5505-	5516	5510.45	1377.68	0.35	2.83E+001	8.86	1.97E+001
	29	5628-	5640	5633.50	1408.44	0.74	3.79E+001	8.10	1.01E+001
	30	5831-	5857	5844.29	1461.15	1.78	6.52E+002	28.79	4.05E+001
	31	6915-	6928	6921.09	1730.37	1.46	2.46E+001	7.69	1.24E+001
	32	7050-	7071	7060.23	1765.16	0.56	1.42E+002	14.03	1.42E+001
	33	7386-	7399	7392.60	1848.26	1.08	2.60E+001	6.75	6.98E+000

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

****
***** N U C L I D E M D A R E P O R T *****
****

Detector Name: ERT01
Sample Geometry:
Sample Title: P006-S002-0004-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	K-40	1460.82*	10.55	1.1571E+000	1.16E+000	1.0697E+001
	Co-60	1173.23	99.85	9.9203E-002	9.92E-002	4.2123E-002
		1332.49	99.98	1.1094E-001		2.1207E-002
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	1.4963E+003	8.44E-002	-2.6493E+002
		661.66*	84.99	8.4414E-002		2.6776E-001
+	Tl-208	72.80	2.02	1.1064E+001	8.89E-002	-4.9971E+000
		74.97*	3.41	3.5963E+000		6.4096E+000
		84.90*	1.51	5.1143E+000		1.2731E+000
		277.36	6.31	1.2042E+000		7.2309E-002
		510.77*	22.60	4.4082E-001		3.9979E-001
		583.19*	84.50	8.8943E-002		2.3960E-001
		763.13	1.81	5.4475E+000		-1.8885E+000
		860.56*	12.42	4.2914E-001		2.4879E-001
+	Bi-212	39.86	1.06	7.6746E+002	9.49E-001	-1.3226E+002
		727.33*	6.74	9.4866E-001		6.9177E-001
		785.37	1.11	8.6552E+000		3.3960E+000
		1620.74	1.51	6.0818E+000		3.1858E+000
		1806.00	0.09	7.9127E+001		2.4814E+001
+	Pb-212	74.81*	10.40	1.1792E+000	1.41E-001	2.1016E+000
		77.11*	17.50	6.4813E-001		2.0595E+000
		87.30*	7.81	1.0865E+000		5.1975E-001
		115.18	0.59	1.2944E+001		-2.7520E+000
		238.63*	43.30	1.4093E-001		7.9878E-001
		300.09	3.28	2.4634E+000		1.1564E+000
+	Bi-214	76.86*	0.43	2.6005E+001	1.40E-001	8.2636E+001
		89.81	0.24	4.9987E+001		1.4720E+001
		386.77	0.30	2.6557E+001		7.3781E+000
		454.77	0.29	2.6714E+001		-6.5842E+000
		609.31*	45.49	1.3968E-001		1.7708E+000
		665.45	1.53	8.9139E+000		6.9641E-001
		703.11	0.48	1.8431E+001		-4.3947E+000
		719.86	0.39	2.1344E+001		-1.5050E+001
		768.36*	4.89	1.4535E+000		1.5938E+000
		786.10	0.31	3.1317E+001		1.4411E+001
		806.17*	1.26	3.8729E+000		1.5290E+000
		934.06*	3.10	2.0104E+000		2.2313E+000
		964.08*	0.36	1.8357E+001		4.4167E+000
		1051.96	0.31	3.1986E+001		1.3805E+001
		1120.29*	14.91	5.6268E-001		2.0762E+000

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	4.2284E+001	1.40E-001	1.9483E+001
		1155.19	1.63	7.0480E+000		5.8026E-001
		1207.68	0.45	2.5603E+001		8.3126E-001
		1238.11*	5.79	1.2615E+000		2.1246E+000
		1280.96	1.43	7.6412E+000		2.9563E+000
		1377.67*	4.00	1.5248E+000		1.2096E+000
		1385.31	0.76	1.2166E+001		-1.3192E+001
		1401.50	1.27	7.1933E+000		-7.7778E+000
		1407.98*	2.15	2.1978E+000		3.0580E+000
		1509.23	2.11	5.6795E+000		1.6926E+000
		1538.50	0.38	2.5709E+001		1.4832E+001
		1543.32	0.20	4.6800E+001		-1.9149E+001
		1583.22	0.69	1.4296E+001		2.8848E+000
		1594.73	0.25	4.2826E+001		1.6031E+001
		1599.31	0.23	3.9430E+001		1.3779E+000
		1661.28	1.15	8.3437E+000		6.1463E+000
		1683.99	0.22	3.9908E+001		-1.9868E+000
		1729.59*	2.92	2.0635E+000		1.6940E+000
		1764.49*	15.40	5.2133E-001		1.8070E+000
		1847.42*	2.11	2.3289E+000		2.6005E+000
		1873.16	0.22	3.6492E+001		5.2990E+000
>		2118.55	1.14	0.0000E+000		0.0000E+000
>		2204.21	5.08	0.0000E+000		0.0000E+000
+	Pb-214	53.28	1.20	6.5964E+001	2.00E-001	-2.1825E+001
		74.81*	6.44	1.8599E+000		3.3149E+000
		77.11*	10.80	1.0258E+000		3.2595E+000
		87.30*	4.84	1.7124E+000		8.1917E-001
		242.00*	7.43	6.3574E-001		2.2524E+000
		258.87	0.52	1.3464E+001		4.8886E+000
		274.80	0.47	1.6004E+001		-7.4523E+000
		295.22*	19.30	3.1418E-001		1.8557E+000
		351.93*	37.60	2.0001E-001		1.9673E+000
		462.00	0.22	3.9236E+001		3.6123E+001
		533.66	0.19	4.2860E+001		9.6067E+000
		785.96	1.07	9.1304E+000		5.5304E+000
		839.04	0.59	1.6796E+001		8.0396E+000
+	Ra-224	81.07	0.13	1.0342E+002	1.18E+000	-3.5916E+001
		83.78*	0.22	3.5588E+001		8.8588E+000
		240.99*	4.10	1.1795E+000		4.1790E+000
+	Ra-226	81.07	0.20	6.7169E+001	2.40E+000	-2.3327E+001
		83.78*	0.33	2.2997E+001		5.7245E+000
		94.90	0.15	6.7224E+001		-1.9289E+001
		186.21*	3.59	2.3989E+000		4.0969E+000
+	Ac-228	99.50	1.26	6.3356E+000	3.46E-001	2.4987E-001
		129.07*	2.50	2.1162E+000		1.2502E+000
		209.25	3.97	1.9824E+000		4.5664E-002
		270.24	3.55	2.2438E+000		1.0122E+000
		328.00*	3.04	1.7723E+000		1.1485E+000
		338.32*	11.40	5.8507E-001		7.1632E-001
		409.46	2.02	3.9917E+000		9.8365E-001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00	4.45	2.0019E+000	3.46E-001	1.5836E+000
		755.31	1.03	8.0793E+000		8.1461E-001
		772.29	1.52	7.4071E+000		7.2789E-001
		794.94	4.31	2.2558E+000		-4.6066E-001
		835.70	1.70	5.9620E+000		2.6639E+000
		911.20*	26.20	3.4559E-001		6.8946E-001
		964.79*	4.99	1.3672E+000		3.2895E-001
		968.96*	15.90	4.4694E-001		5.6350E-001
		1588.20	3.06	3.7207E+000		9.9888E-001
		1630.62	1.52	5.7410E+000		-1.1315E+000
	Th-228	84.37*	1.26	6.1291E+000	6.13E+000	1.5257E+000
		131.61	0.13	6.3199E+001		4.7104E+000
		166.41	0.10	7.3979E+001		-2.1661E+001
		215.98	0.25	2.8538E+001		-2.8302E+001
	Pa-234m	258.23	0.07	9.5592E+001	1.23E+001	4.0893E+001
		742.81	0.09	8.4329E+001		-1.2811E+001
		766.36	0.32	3.3445E+001		1.7910E+001
		786.27	0.05	1.8056E+002		8.2189E+001
		1001.03	0.85	1.2251E+001		-1.2761E-001
		1737.77	0.02	3.7021E+002		-2.3876E+002
+	Th-234	63.30	3.75	9.2479E+000	1.82E+000	2.6555E+000
		92.59*	4.33	1.8170E+000		1.2918E+000
		112.81	0.22	3.5727E+001		1.5339E+001

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = Calculated MDA is zero due to zero counts in the region, or the region is outside the spectrum, or has not been calculated
@ = Half-life too short to be able to perform the decay correction

****
***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****
****

Sample Title: P006-S002-0004-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
K-40	0.983	1460.82*		10.55	1.06968E+001	5.64317E-001
Cs-137	0.992	32.06	@	5.54		
		661.66*		84.99	2.67764E-001	2.62246E-002
Tl-208	0.845	72.80	@	2.02		
		74.97*	@	3.41	6.40956E+000	6.54414E-001
		84.90*	@	1.51	1.27309E+000	7.65698E-001
		277.36		6.31		
		510.77*	@	22.60	3.99790E-001	1.01482E-001
		583.19*		84.50	2.39600E-001	2.59769E-002
		763.13	@	1.81		
		860.56*		12.42	2.48786E-001	1.00178E-001
Bi-211	0.901	351.03*		13.00	5.70173E+000	3.12480E-001
Bi-212	0.555	39.86	@	1.06		
		727.33*		6.74	6.91766E-001	2.23168E-001
		785.37		1.11		
		1620.74		1.51		
		1806.00	@	0.09		
Pb-212	0.921	74.81*		10.40	2.10160E+000	2.22972E-001
		77.11*		17.50	2.05953E+000	1.62628E-001
		87.30*		7.81	5.19752E-001	3.05462E-001
		115.18	@	0.59		
		238.63*		43.30	7.98781E-001	5.16127E-002
		300.09		3.28		
Bi-214	0.798	76.86*	@	0.43	8.26359E+001	6.58508E+000
		89.81	@	0.24		
		386.77	@	0.30		
		454.77	@	0.29		
		609.31*		45.49	1.77083E+000	8.69157E-002
		665.45	@	1.53		
		703.11	@	0.48		
		719.86	@	0.39		
		768.36*		4.89	1.59383E+000	3.58242E-001
		786.10	@	0.31		
		806.17*	@	1.26	1.52896E+000	8.66349E-001
		934.06*		3.10	2.23131E+000	5.13315E-001
		964.08*	@	0.36	4.41670E+000	2.59451E+000
		1051.96	@	0.31		
		1120.29*		14.91	2.07622E+000	1.91237E-001
		1133.66	@	0.25		
		1155.19	@	1.63		
		1207.68	@	0.45		

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.798	1238.11*		5.79	2.12456E+000	3.56638E-001
		1280.96	@	1.43		
		1377.67*		4.00	1.20963E+000	3.80446E-001
		1385.31	@	0.76		
		1401.50	@	1.27		
		1407.98*	@	2.15	3.05796E+000	6.62396E-001
		1509.23	@	2.11		
		1538.50	@	0.38		
		1543.32	@	0.20		
		1583.22	@	0.69		
		1594.73	@	0.25		
		1599.31	@	0.23		
		1661.28	@	1.15		
		1683.99	@	0.22		
		1729.59*	@	2.92	1.69398E+000	5.31649E-001
		1764.49*		15.40	1.80697E+000	1.96949E-001
		1847.42*	@	2.11	2.60052E+000	6.83598E-001
		1873.16	@	0.22		
		2118.55	@	1.14		
		2204.21	@	5.08		
Pb-214	0.943	53.28	@	1.20		
		74.81*		6.44	3.31489E+000	3.55292E-001
		77.11*		10.80	3.25953E+000	2.68603E-001
		87.30*		4.84	8.19171E-001	4.81682E-001
		242.00*		7.43	2.25237E+000	1.81743E-001
		258.87	@	0.52		
		274.80	@	0.47		
		295.22*		19.30	1.85574E+000	1.26248E-001
		351.93*		37.60	1.96732E+000	1.06000E-001
		462.00	@	0.22		
		533.66	@	0.19		
		785.96	@	1.07		
		839.04	@	0.59		
Ra-224	0.829	81.07	@	0.13		
		83.78*	@	0.22	8.85885E+000	5.33813E+000
		240.99*		4.10	4.17900E+000	3.35372E-001
Ra-226	0.879	81.07	@	0.20		
		83.78*	@	0.33	5.72447E+000	3.44933E+000
		94.90	@	0.15		
		186.21*		3.59	4.09692E+000	5.91050E-001
Ac-228	0.470	99.50	@	1.26		
		129.07*	@	2.50	1.25016E+000	4.73048E-001
		209.25		3.97		
		270.24		3.55		
		328.00*		3.04	1.14846E+000	4.04952E-001
		338.32*		11.40	7.16322E-001	1.43187E-001
		409.46	@	2.02		
		463.00		4.45		
		755.31	@	1.03		
		772.29	@	1.52		

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ac-228	0.470	794.94		4.31		
		835.70	@	1.70		
		911.20*		26.20	6.89462E-001	9.63084E-002
		964.79*		4.99	3.28947E-001	1.93253E-001
		968.96*		15.90	5.63495E-001	9.44380E-002
		1588.20		3.06		
		1630.62	@	1.52		
Th-234	0.456	63.30		3.75		
		92.59*		4.33	1.29184E+000	4.09995E-001
		112.81	@	0.22		

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.45
Errors quoted at 1.000 sigma

****
***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****
****

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/GWET)	Wt mean Activity Uncertainty
	K-40		0.983	1.069676E+001	5.643167E-001
X	Cd-109		0.897		
	Cs-137	@	0.992	2.677639E-001	2.622459E-002
X	Tm-170		0.997		
	Tl-208	@	0.845	2.406914E-001	2.505981E-002
	Bi-211		0.901	5.419870E-001	4.294551E-001
	Bi-212	@	0.555	6.917656E-001	2.231677E-001
	Pb-212	@	0.921	7.789132E-001	4.795936E-002
	Bi-214	@	0.798	1.807699E+000	6.844891E-002
	Pb-214	@	0.943	1.780316E+000	1.056363E-001
	Ra-224	@	0.829	8.758381E-001	3.850863E-001
	Ra-226	@	0.879	4.096925E+000	5.910502E-001
	Ac-228	@	0.470	6.134956E-001	5.654349E-002
X	Th-228		0.495		
X	Th-231		0.637		
	Th-234	@	0.456	1.291837E+000	4.099952E-001

? = Nuclide is part of an undetermined solution
X = Nuclide rejected by the interference analysis
@ = Nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 11/7/2016 11:14:32 AM
Peak Locate From Channel: 100
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide

All peaks were identified.

```
*************************************************************************
*****        G A M M A   S P E C T R U M   A N A L Y S I S        *****
*************************************************************************
```

Filename: ERT01,C:\GENIE2K\CAMFILES\SMP-P006-S002-0412-01.CNF

Report Generated On	: 11/7/2016 1:26:39 PM
Sample Title	: P006-S002-0412-01
Sample Description	: 450 cc Soil
Sample Identification	:
Sample Type	:
Sample Geometry	:
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 100 - 8192
Peak Area Range (in channels)	: 100 - 8192
Identification Energy Tolerance	: 1.000 keV
Sample Size	: 6.882E+002 GWET
Sample Taken On	: 10/14/2016 3:16:00 PM
Acquisition Started	: 11/7/2016 11:26:20 AM
Live Time	: 7200.0 seconds
Real Time	: 7217.0 seconds
Dead Time	: 0.24 %

Energy Calibration Used Done On	: 10/24/2016
Efficiency Calibration Used Done On	: 9/27/2016
Efficiency ID	: ERT0101

****
***** P E A K A N A L Y S I S R E P O R T *****
****

Detector Name: ERT01
Sample Title: P006-S002-0412-01
Peak Analysis Performed on: 11/7/2016 1:26:40 PM
Peak Analysis From Channel: 100
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	1	242-	259	254.05	63.47	0.83	1.31E+003	187.76	1.04E+004
M	2	292-	386	299.91	74.93	1.04	5.15E+003	108.16	1.02E+004
m	3	292-	386	308.98	77.20	1.04	1.14E+004	164.62	9.84E+003
m	4	292-	386	318.13	79.49	1.05	3.19E+002	42.95	9.56E+003
m	5	292-	386	324.72	81.14	1.05	2.59E+002	38.44	9.42E+003
m	6	292-	386	336.21	84.01	1.05	2.72E+003	129.68	9.20E+003
m	7	292-	386	349.57	87.35	1.06	5.46E+003	136.33	8.26E+003
m	8	292-	386	359.80	89.91	1.06	1.26E+003	59.48	8.64E+003
m	9	292-	386	371.00	92.71	1.07	6.39E+003	113.06	8.36E+003
m	10	292-	386	379.57	94.85	1.07	8.33E+002	76.80	7.56E+003
	11	448-	462	451.79	112.91	1.01	4.31E+002	163.83	9.15E+003
	12	571-	587	576.14	144.00	1.15	1.04E+003	188.19	1.10E+004
	13	611-	622	616.94	154.20	0.85	2.54E+002	142.88	8.03E+003
	14	650-	663	653.45	163.33	0.61	1.29E+002	152.01	8.31E+003
	15	735-	758	744.36	186.06	1.24	1.05E+004	251.46	1.31E+004
M	16	935-	983	944.04	235.98	1.12	1.06E+003	64.13	5.07E+003
m	17	935-	983	954.84	238.68	1.13	5.98E+002	58.40	4.97E+003
m	18	935-	983	968.10	242.00	1.13	1.17E+004	125.82	4.75E+003
M	19	1015-	1043	1024.73	256.15	1.19	4.47E+002	56.81	4.55E+003
m	20	1015-	1043	1035.33	258.81	1.19	8.48E+002	65.11	4.45E+003
M	21	1072-	1113	1078.03	269.48	1.10	7.91E+002	59.70	3.89E+003
m	22	1072-	1113	1085.13	271.26	1.11	6.61E+002	56.45	4.13E+003
m	23	1072-	1113	1098.83	274.68	1.11	4.44E+002	53.28	4.03E+003
	24	1170-	1191	1180.86	295.19	1.16	2.60E+004	214.87	5.38E+003
	25	1193-	1204	1200.22	300.03	0.81	2.18E+002	84.75	2.78E+003
	26	1245-	1262	1257.68	314.40	0.50	1.92E+002	113.64	3.91E+003
	27	1291-	1299	1295.19	323.78	0.71	2.01E+002	63.97	1.82E+003
	28	1315-	1325	1320.09	330.00	0.57	1.82E+002	75.11	2.29E+003
	29	1346-	1358	1352.80	338.18	0.61	2.04E+002	85.39	2.69E+003
	30	1388-	1419	1407.47	351.85	1.22	4.55E+004	277.04	6.00E+003
M	31	1542-	1560	1546.95	386.72	1.06	2.46E+002	38.71	1.83E+003
m	32	1542-	1560	1555.31	388.81	1.06	3.75E+002	43.11	2.00E+003
M	33	1601-	1629	1607.21	401.79	1.31	3.05E+002	44.31	2.21E+003
m	34	1601-	1629	1620.83	405.19	1.32	3.22E+002	45.05	2.46E+003
	35	1809-	1826	1819.34	454.83	1.18	2.36E+002	80.91	1.94E+003
	36	1839-	1852	1846.24	461.55	1.11	2.06E+002	66.11	1.51E+003
	37	1875-	1889	1879.68	469.91	0.51	8.78E+001	67.10	1.53E+003
	38	1915-	1932	1921.33	480.32	1.52	4.14E+002	74.79	1.58E+003
	39	1941-	1957	1947.88	486.96	1.44	4.10E+002	71.33	1.49E+003
	40	2030-	2054	2043.08	510.77	2.98	9.32E+002	97.75	2.09E+003
	41	2126-	2141	2133.93	533.48	0.88	1.23E+002	63.17	1.29E+003
M	42	2315-	2336	2320.24	580.06	1.30	3.16E+002	34.34	9.94E+002

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
m	43	2315-	2336	2331.07	582.77	1.30	1.43E+002	29.24	9.84E+002
	44	2426-	2448	2436.50	609.13	1.38	3.65E+004	205.58	1.47E+003
	45	2648-	2669	2661.05	665.27	1.47	9.38E+002	71.88	1.12E+003
	46	2805-	2824	2811.61	702.91	1.14	2.45E+002	62.51	1.04E+003
	47	2872-	2883	2878.13	719.54	0.79	1.05E+002	40.95	6.27E+002
	48	2959-	2975	2969.19	742.31	0.74	1.79E+002	52.04	8.08E+002
	49	3057-	3087	3072.70	768.19	1.45	3.64E+003	100.84	1.34E+003
	50	3129-	3153	3142.68	785.69	1.40	8.21E+002	72.96	1.09E+003
	51	3214-	3233	3223.84	805.98	1.26	7.36E+002	62.03	8.88E+002
	52	3320-	3343	3326.45	831.63	0.91	2.61E+002	62.89	9.16E+002
	53	3346-	3364	3355.05	838.78	1.70	4.02E+002	56.89	8.33E+002
	54	3568-	3579	3574.87	893.74	0.46	2.11E+001	36.06	5.11E+002
	55	3637-	3649	3643.37	910.87	1.08	1.40E+002	38.54	5.11E+002
	56	3723-	3747	3735.41	933.88	1.45	1.87E+003	77.41	9.99E+002
	57	3846-	3864	3855.27	963.85	1.35	2.01E+002	49.35	6.59E+002
	58	3997-	4016	4003.89	1001.01	1.66	4.93E+002	54.95	7.15E+002
	59	4200-	4213	4207.65	1051.95	1.16	1.49E+002	35.70	4.08E+002
	60	4271-	4291	4279.05	1069.80	0.56	8.52E+001	49.22	6.43E+002
	61	4466-	4494	4480.93	1120.28	1.69	8.11E+003	108.05	7.72E+002
	62	4526-	4543	4535.10	1133.82	1.23	1.04E+002	41.86	5.05E+002
	63	4611-	4632	4620.50	1155.17	1.74	8.93E+002	54.78	5.63E+002
	64	4823-	4839	4830.78	1207.75	1.58	1.78E+002	37.55	3.93E+002
	65	4938-	4969	4952.56	1238.20	1.66	3.10E+003	79.03	6.30E+002
	66	5111-	5145	5124.24	1281.12	1.59	8.55E+002	65.89	6.32E+002
	67	5500-	5527	5511.44	1377.93	1.74	2.22E+003	67.36	5.10E+002
	68	5527-	5552	5542.06	1385.58	1.62	3.80E+002	48.53	4.65E+002
M	69	5592-	5645	5606.94	1401.80	1.77	5.98E+002	30.16	4.16E+002
m	70	5592-	5645	5632.83	1408.28	1.77	1.16E+003	38.99	4.00E+002
	71	5835-	5853	5844.91	1461.30	0.45	1.31E+002	38.92	4.09E+002
	72	6026-	6049	6038.65	1509.74	1.70	9.41E+002	54.27	5.01E+002
M	73	6145-	6185	6155.88	1539.05	1.81	1.75E+002	21.90	4.25E+002
m	74	6145-	6185	6175.01	1543.83	1.81	2.05E+002	22.25	3.72E+002
	75	6322-	6348	6334.97	1583.83	2.31	3.52E+002	43.28	3.44E+002
M	76	6372-	6409	6381.72	1595.51	2.04	1.17E+002	18.47	2.93E+002
m	77	6372-	6409	6399.14	1599.87	2.04	1.80E+002	20.24	2.88E+002
	78	6637-	6659	6647.43	1661.95	1.70	4.33E+002	35.57	2.15E+002
	79	6729-	6747	6738.04	1684.60	1.61	9.68E+001	23.67	1.37E+002
	80	6759-	6788	6774.84	1693.80	1.23	1.60E+002	34.01	2.10E+002
	81	6909-	6935	6921.14	1730.38	1.94	1.43E+003	47.13	1.80E+002
	82	7041-	7075	7061.01	1765.35	1.96	7.05E+003	89.39	1.70E+002
	83	7346-	7365	7356.96	1839.35	2.05	1.38E+002	20.72	8.28E+001
	84	7380-	7406	7393.12	1848.39	1.99	9.40E+002	40.06	1.52E+002
	85	7488-	7504	7496.01	1874.11	0.40	7.86E+001	18.96	8.94E+001

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

****
***** N U C L I D E M D A R E P O R T *****
****

Detector Name: ERT01
Sample Geometry:
Sample Title: P006-S002-0412-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	K-40	1460.82*	10.55	1.5792E+000	1.58E+000	1.0076E+000
	Co-60	1173.23	99.85	1.9162E-001	1.88E-001	5.4424E-002
		1332.49	99.98	1.8824E-001		3.9474E-002
>		2505.71	0.10	0.0000E+000		0.0000E+000
	Cs-137	32.06	5.54	3.6525E+003	2.33E-001	-2.1386E+002
		661.66	84.99	2.3321E-001		-4.1941E-003
+	Tl-208	72.80	2.02	2.7755E+001	1.26E-001	3.2465E+000
		74.97*	3.41	9.9224E+000		7.6628E+001
		84.90*	1.51	1.5102E+001		6.4846E+001
		277.36	6.31	3.1754E+000		3.8370E-001
		510.77*	22.60	9.0049E-001		1.5614E+000
		583.19*	84.50	1.2639E-001		8.1843E-002
		763.13	1.81	1.3601E+001		-1.4579E+000
		860.56	12.42	1.5667E+000		-6.0550E-002
	Bi-212	39.86	1.06	1.9888E+003	2.55E+000	7.3528E+002
		727.33	6.74	2.5489E+000		-1.6505E+000
		785.37	1.11	1.9236E+001		4.7718E+001
		1620.74	1.51	1.1800E+001		7.8352E+000
		1806.00	0.09	1.4522E+002		9.8525E+001
+	Pb-212	74.81*	10.40	3.2534E+000	3.03E-001	2.5125E+001
		77.11*	17.50	1.7174E+000		2.9769E+001
		87.30*	7.81	2.5292E+000		2.2996E+001
		115.18	0.59	3.6094E+001		-2.3800E+000
		238.63*	43.30	3.0331E-001		3.7406E-001
		300.09*	3.28	3.8100E+000		2.1245E+000
+	Bi-214	76.86*	0.43	6.8903E+001	4.00E-001	1.1943E+003
		89.81*	0.24	7.6335E+001		1.5651E+002
		386.77*	0.30	3.5494E+001		3.0775E+001
		454.77*	0.29	5.3686E+001		3.4054E+001
		609.31*	45.49	4.0006E-001		4.1264E+001
		665.45*	1.53	1.0913E+001		3.3535E+001
		703.11*	0.48	3.3757E+001		2.9061E+001
		719.86*	0.39	2.7543E+001		1.5496E+001
		768.36*	4.89	4.6873E+000		4.5080E+001
		786.10*	0.31	6.2486E+001		1.6309E+002
		806.17*	1.26	1.3015E+001		3.6534E+001
		934.06*	3.10	6.7410E+000		4.1855E+001
		964.08*	0.36	4.3446E+001		3.9149E+001
		1051.96*	0.31	3.7898E+001		3.5499E+001
		1120.29*	14.91	1.4766E+000		4.2672E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66*	0.25	5.9650E+001	4.00E-001	3.2389E+001
		1155.19*	1.63	1.0595E+001		4.3762E+001
		1207.68*	0.45	3.0380E+001		3.2596E+001
		1238.11*	5.79	3.8205E+000		4.5009E+001
		1280.96*	1.43	1.6664E+001		5.1358E+001
		1377.67*	4.00	5.1151E+000		5.0129E+001
		1385.31*	0.76	2.5074E+001		4.5528E+001
		1401.50*	1.27	9.8509E+000		4.3015E+001
		1407.98*	2.15	5.7238E+000		4.9408E+001
		1509.23*	2.11	9.6143E+000		4.2910E+001
		1538.50*	0.38	3.5879E+001		4.5413E+001
		1543.32*	0.20	6.3337E+001		9.9949E+001
		1583.22*	0.69	2.6541E+001		5.0815E+001
		1594.73*	0.25	4.6135E+001		4.6855E+001
		1599.31*	0.23	4.9790E+001		7.8249E+001
		1661.28*	1.15	1.2258E+001		3.8765E+001
		1683.99*	0.22	4.9495E+001		4.6628E+001
		1729.59*	2.92	4.8399E+000		5.2038E+001
		1764.49*	15.40	1.0194E+000		4.9234E+001
		1847.42*	2.11	6.4721E+000		4.9624E+001
		1873.16*	0.22	4.1453E+001		4.0381E+001
>		2118.55	1.14	0.0000E+000		0.0000E+000
>		2204.21	5.08	0.0000E+000		0.0000E+000
+	Pb-214	53.28	1.20	1.6555E+002	7.60E-001	3.1852E+001
		74.81*	6.44	5.1312E+000		3.9627E+001
		77.11*	10.80	2.7178E+000		4.7109E+001
		87.30*	4.84	3.9859E+000		3.6240E+001
		242.00*	7.43	1.6967E+000		4.3695E+001
		258.87*	0.52	2.4120E+001		4.6352E+001
		274.80*	0.47	2.6248E+001		2.7738E+001
		295.22*	19.30	1.0616E+000		4.1698E+001
		351.93*	37.60	7.6029E-001		4.1959E+001
		462.00*	0.22	5.7538E+001		3.9134E+001
		533.66*	0.19	7.3218E+001		3.0953E+001
		785.96*	1.07	1.8104E+001		4.7249E+001
		839.04*	0.59	2.7472E+001		4.4089E+001
	Ra-224	81.07	0.13	2.7538E+002	6.92E+000	-6.1205E+003
		83.78	0.22	1.5279E+002		-1.0991E+003
		240.99	4.10	6.9153E+000		7.4410E+001
+	Ra-226	81.07*	0.20	1.2541E+002	7.45E+000	5.0615E+001
		83.78*	0.33	6.7901E+001		2.9155E+002
		94.90*	0.15	1.0720E+002		1.5545E+002
		186.21*	3.59	7.4513E+000		7.2976E+001
	Ac-228	99.50	1.26	1.7215E+001	8.08E-001	7.2532E+000
		129.07	2.50	9.0141E+000		1.0302E-001
		209.25	3.97	5.1784E+000		-2.2139E+000
		270.24	3.55	5.7786E+000		-2.6166E-001
		328.00	3.04	6.4359E+000		2.6647E-001
		338.32	11.40	1.7329E+000		2.5313E-001
		409.46	2.02	9.4792E+000		3.1283E+000

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
	Ac-228	463.00	4.45	4.0815E+000	8.08E-001	2.7697E+000
		755.31	1.03	1.7375E+001		1.1321E+001
		772.29	1.52	1.9108E+001		-3.6537E+000
		794.94	4.31	4.4127E+000		2.7827E+000
		835.70	1.70	1.2813E+001		-9.0308E-002
		911.20	26.20	8.0802E-001		6.8885E-001
		964.79	4.99	4.1614E+000		1.5432E+000
		968.96	15.90	1.3157E+000		6.2018E-001
		1588.20	3.06	7.4358E+000		1.4116E+000
		1630.62	1.52	1.1172E+001		-4.0803E-001
	Th-228	84.37*	1.26	1.8099E+001	1.81E+001	7.7712E+001
		131.61	0.13	1.7198E+002		2.4308E+000
		166.41	0.10	2.0869E+002		5.1198E+001
		215.98	0.25	7.8547E+001		-5.9534E+001
+	Pa-234m	258.23*	0.07	1.7125E+002	2.03E+001	3.2910E+002
		742.81*	0.09	1.4885E+002		1.1244E+002
		766.36	0.32	9.0955E+001		-1.1521E+001
		786.27*	0.05	3.6139E+002		9.4320E+002
		1001.03*	0.85	2.0329E+001		4.2006E+001
		1737.77	0.02	9.4903E+002		3.1379E+001
+	Th-234	63.30*	3.75	2.3177E+001	4.03E+000	3.4342E+001
		92.59*	4.33	4.0257E+000		4.1952E+001
		112.81*	0.22	8.8612E+001		5.0304E+001

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = Calculated MDA is zero due to zero counts in the region, or the region is outside the spectrum, or has not been calculated
@ = Half-life too short to be able to perform the decay correction

****
***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****
****

Sample Title: P006-S002-0412-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
K-40	0.964	1460.82*	10.55	1.00756E+000	3.48618E-001
Eu-152m	0.999	89.85*	69.90	5.48127E-001	3.17076E-002
Tm-170	0.990	84.25*	2.48	4.38917E+001	3.02527E+000
Tl-208	0.716	72.80 @	2.02		
		74.97* @	3.41	7.66280E+001	3.10700E+000
		84.90* @	1.51	6.48458E+001	3.79966E+000
		277.36	6.31		
		510.77* @	22.60	1.56135E+000	2.07500E-001
		583.19*	84.50	8.18434E-002	1.78911E-002
		763.13 @	1.81		
		860.56	12.42		
Bi-211	0.898	351.03*	13.00	1.21608E+002	5.01031E+000
Pb-211	0.677	74.81* @	0.23	1.11183E+003	6.60989E+001
		77.11* @	0.39	1.31738E+003	7.62952E+001
		87.30* @	0.17	1.01596E+003	6.31220E+001
		404.85*	3.78	3.26039E+000	4.75030E-001
		427.09	1.76		
		832.01*	3.52	4.76002E+000	1.15493E+000
Pb-212	0.986	74.81*	10.40	2.51251E+001	1.25024E+000
		77.11*	17.50	2.97687E+001	1.40915E+000
		87.30*	7.81	2.29958E+001	1.20513E+000
		115.18 @	0.59		
		238.63*	43.30	3.74063E-001	4.15626E-002
		300.09*	3.28	2.12449E+000	8.30901E-001
Bi-214	0.975	76.86* @	0.43	1.19432E+003	5.79670E+001
		89.81* @	0.24	1.56505E+002	1.06529E+001
		386.77* @	0.30	3.07752E+001	5.00028E+000
		454.77* @	0.29	3.40541E+001	1.17515E+001
		609.31*	45.49	4.12637E+001	1.28433E+000
		665.45* @	1.53	3.35351E+001	2.74299E+000
		703.11* @	0.48	2.90605E+001	7.49713E+000
		719.86* @	0.39	1.54965E+001	6.05618E+000
		768.36*	4.89	4.50799E+001	1.68609E+000
		786.10* @	0.31	1.63087E+002	3.02948E+001
		806.17* @	1.26	3.65336E+001	3.20853E+000
		934.06*	3.10	4.18546E+001	1.99206E+000
		964.08* @	0.36	3.91488E+001	9.76424E+000
		1051.96* @	0.31	3.54989E+001	8.65516E+000
		1120.29*	14.91	4.26717E+001	1.19313E+000
		1133.66* @	0.25	3.23895E+001	1.31033E+001
		1155.19* @	1.63	4.37623E+001	2.90021E+000

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.975	1207.68* @	0.45	3.25962E+001	7.01893E+000
		1238.11*	5.79	4.50089E+001	1.72127E+000
		1280.96* @	1.43	5.13576E+001	4.22340E+000
		1377.67*	4.00	5.01289E+001	2.09951E+000
		1385.31* @	0.76	4.55278E+001	6.01759E+000
		1401.50* @	1.27	4.30145E+001	2.50716E+000
		1407.98* @	2.15	4.94079E+001	2.35744E+000
		1509.23* @	2.11	4.29095E+001	2.80884E+000
		1538.50* @	0.38	4.54129E+001	6.03211E+000
		1543.32* @	0.20	9.99485E+001	2.73614E+001
		1583.22* @	0.69	5.08155E+001	6.45461E+000
		1594.73* @	0.25	4.68551E+001	1.05954E+001
		1599.31* @	0.23	7.82492E+001	2.23270E+001
		1661.28* @	1.15	3.87650E+001	3.50514E+000
		1683.99* @	0.22	4.66282E+001	1.15434E+001
		1729.59* @	2.92	5.20382E+001	2.43470E+000
		1764.49*	15.40	4.92344E+001	1.82871E+000
		1847.42* @	2.11	4.96245E+001	2.94160E+000
		1873.16* @	0.22	4.03809E+001	9.96876E+000
		2118.55 @	1.14		
		2204.21 @	5.08		
Pb-214	0.991	53.28 @	1.20		
		74.81*	6.44	3.96268E+001	2.06187E+000
		77.11*	10.80	4.71094E+001	2.49109E+000
		87.30*	4.84	3.62400E+001	2.01934E+000
		242.00*	7.43	4.36952E+001	2.07496E+000
		258.87* @	0.52	4.63518E+001	4.18639E+000
		274.80* @	0.47	2.77385E+001	3.58191E+000
		295.22*	19.30	4.16983E+001	1.77119E+000
		351.93*	37.60	4.19593E+001	1.67682E+000
		462.00* @	0.22	3.91340E+001	1.27390E+001
		533.66* @	0.19	3.09526E+001	1.59503E+001
		785.96* @	1.07	4.72494E+001	5.60695E+000
		839.04* @	0.59	4.40893E+001	6.37521E+000
Rn-219	0.987	76.86* @	0.56	9.10402E+002	1.50295E+002
		79.29* @	0.93	1.40727E+001	2.99561E+000
		89.80* @	0.42	9.11088E+001	1.60544E+001
		130.60 @	0.13		
		271.23*	10.80	1.80434E+000	2.07577E-001
		401.81*	6.60	1.76266E+000	2.95719E-001
Ra-223	0.913	81.07*	15.30	6.53051E-001	9.96177E-002
		83.78*	25.40	3.77267E+000	2.33202E-001
		94.90*	11.50	2.01825E+000	2.02895E-001
		122.32 @	1.21		
		144.24*	3.27	7.71752E+000	1.44331E+000
		154.21*	5.70	1.08629E+000	6.13256E-001
		158.63 @	0.69		
		179.54 @	0.15		
		269.46*	13.90	1.67116E+000	1.52065E-001
		288.18 @	0.16		

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ra-223	0.913	323.87*		3.99	1.65220E+000	5.32080E-001
		328.38	@	0.21		
		338.32*		2.84	2.42395E+000	1.02279E+000
		342.87	@	0.22		
		371.68	@	0.49		
		445.03	@	1.29		
Ra-226	0.996	81.07*	@	0.20	5.06153E+001	7.92767E+000
		83.78*	@	0.33	2.91554E+002	2.01402E+001
		94.90*	@	0.15	1.55452E+002	1.63390E+001
		186.21*		3.59	7.29759E+001	3.85032E+000
Th-227	0.506	50.13		8.40		
		79.69*	@	1.95	6.71159E+000	1.11942E+000
		85.43	@	1.29		
		88.47	@	2.12		
		93.88*	@	1.51	1.53707E+001	2.06346E+000
		210.62	@	1.25		
		235.96*		12.90	2.23934E+000	2.67780E-001
		256.23*		7.00	1.82378E+000	3.04998E-001
		286.09	@	1.74		
		289.59	@	1.90		
		299.98*		2.21	3.08574E+000	1.23842E+000
		304.50	@	1.15		
		329.85*		2.90	2.08634E+000	8.92068E-001
		334.37	@	1.14		
Pa-234m	0.596	258.23*	@	0.07	3.29101E+002	2.91290E+001
		742.81*	@	0.09	1.12439E+002	3.30647E+001
		766.36		0.32		
		786.27*	@	0.05	9.43199E+002	8.77856E+001
		1001.03*		0.85	4.20064E+001	4.83984E+000
		1737.77	@	0.02		
Th-234	0.997	63.30*		3.75	3.43415E+001	5.21933E+000
		92.59*		4.33	4.19522E+001	2.38082E+000
		112.81*	@	0.22	5.03040E+001	1.98765E+001

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.45
Errors quoted at 1.000 sigma

****
***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****
****

	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/GWET)	Wt mean Activity Uncertainty
	K-40		0.964	1.007555E+000	3.486180E-001
X	Cd-109		0.928		
	Eu-152m		0.999	3.819955E-001	3.143541E-002
	Tm-170		0.990	2.782623E+001	2.717242E+000
	Tl-208	@	0.716	8.175103E-002	1.787801E-002
	Bi-211		0.898	4.753997E+000	5.175167E+000
	Pb-211	@	0.677	3.467009E+000	4.369053E-001
	Pb-212	@	0.986	3.711714E-001	4.133344E-002
	Bi-214	@	0.975	4.435449E+001	5.851432E-001
	Pb-214	@	0.991	4.031897E+001	7.589342E-001
	Rn-219	@	0.987	1.793395E+000	1.437914E-001
	Ra-223	@	0.913	5.725955E-001	8.045575E-002
	Ra-226	@	0.996	6.209807E+001	3.504256E+000
	Th-227	@	0.506	2.133597E+000	1.355122E-001
X	Th-228		0.487		
X	Th-231		0.995		
	Pa-234m	@	0.596	4.200644E+001	4.839837E+000
	Th-234	@	0.997	4.064137E+001	2.166108E+000

? = Nuclide is part of an undetermined solution
X = Nuclide rejected by the interference analysis
@ = Nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 11/7/2016 1:26:40 PM
Peak Locate From Channel: 100
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
14	163.33	1.7920E-002	117.81	Sum	
26	314.40	2.6637E-002	59.25	Sum	
m 32	388.81	5.2077E-002	11.50	Sum	
37	469.91	1.2193E-002	76.43	Sum	
38	480.32	5.7504E-002	18.06	Sum	
39	486.96	5.6924E-002	17.40	D-Esc.	
M 42	580.06	4.3898E-002	10.86	Sum	
54	893.74	2.9240E-003	171.26	Sum	
55	910.87	1.8695E-002	28.67	Sum	
60	1069.80	1.1839E-002	57.74	Sum	
80	1693.80	2.2247E-002	21.23	Sum	
83	1839.35	1.9200E-002	14.99	Sum	

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

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*********************************************************************
*****        G A M M A   S P E C T R U M   A N A L Y S I S        *****
*********************************************************************
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Filename: ERT01,C:\GENIE2K\CAMFILES\SMP-P006-S002-1218-01.CNF

Report Generated On	: 11/7/2016 3:30:23 PM
Sample Title	: P006-S002-1218-01
Sample Description	: 450 cc Soil
Sample Identification	:
Sample Type	:
Sample Geometry	:
Peak Locate Threshold	: 3.00
Peak Locate Range (in channels)	: 100 - 8192
Peak Area Range (in channels)	: 100 - 8192
Identification Energy Tolerance	: 1.000 keV
Sample Size	: 5.705E+002 GWET
Sample Taken On	: 10/14/2016 3:16:00 PM
Acquisition Started	: 11/7/2016 1:30:19 PM
Live Time	: 7200.0 seconds
Real Time	: 7201.9 seconds
Dead Time	: 0.03 %

Energy Calibration Used Done On	: 10/24/2016
Efficiency Calibration Used Done On	: 9/27/2016
Efficiency ID	: ERT0101

****
***** P E A K A N A L Y S I S R E P O R T *****
****

Detector Name: ERT01
Sample Title: P006-S002-1218-01
Peak Analysis Performed on: 11/7/2016 3:30:24 PM
Peak Analysis From Channel: 100
Peak Analysis To Channel: 8192

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
M	1	287-	315	299.81	74.91	0.96	3.10E+002	24.80	4.38E+002
m	2	287-	315	309.15	77.25	0.96	5.52E+002	30.37	4.26E+002
	3	345-	355	349.53	87.34	1.10	9.39E+001	34.70	4.57E+002
	4	367-	379	372.35	93.05	1.06	2.45E+002	39.65	5.01E+002
	5	541-	549	545.91	136.44	0.38	2.00E+001	24.15	2.64E+002
	6	734-	749	743.99	185.96	0.94	2.75E+002	37.80	3.83E+002
	7	830-	841	837.29	209.29	0.65	6.11E+001	28.33	2.95E+002
M	8	949-	978	954.71	238.65	1.14	1.40E+003	40.81	2.43E+002
m	9	949-	978	966.44	241.58	1.14	2.95E+002	20.55	2.12E+002
	10	1077-	1089	1081.64	270.38	0.59	9.86E+001	24.88	1.96E+002
	11	1104-	1115	1109.36	277.32	0.39	3.88E+001	21.96	1.75E+002
	12	1175-	1186	1180.69	295.15	1.08	3.08E+002	26.81	1.64E+002
	13	1194-	1208	1199.87	299.94	0.54	8.61E+001	25.44	1.94E+002
	14	1305-	1321	1312.02	327.98	0.43	8.84E+001	25.14	1.74E+002
	15	1340-	1359	1353.22	338.28	1.16	2.52E+002	33.48	2.43E+002
	16	1396-	1417	1407.41	351.83	1.06	7.56E+002	39.37	2.12E+002
	17	1632-	1644	1637.31	409.31	0.38	4.84E+001	16.78	8.86E+001
	18	1841-	1856	1851.49	462.86	0.82	8.82E+001	20.51	1.11E+002
	19	2030-	2057	2042.41	510.60	1.52	3.45E+002	35.17	1.98E+002
	20	2320-	2341	2331.94	582.99	1.24	4.87E+002	30.80	1.22E+002
	21	2426-	2444	2436.62	609.16	1.23	5.44E+002	29.77	1.02E+002
	22	2897-	2916	2907.92	726.99	1.07	1.12E+002	21.09	9.50E+001
	23	3236-	3245	3240.96	810.26	0.38	1.05E+001	8.51	2.75E+001
	24	3432-	3447	3440.83	860.23	0.71	5.80E+001	15.81	6.40E+001
	25	3635-	3655	3643.95	911.01	1.44	3.16E+002	24.12	7.28E+001
	26	3730-	3742	3736.09	934.05	0.74	1.96E+001	12.67	5.34E+001
M	27	3849-	3883	3858.16	964.57	1.42	7.02E+001	10.71	6.49E+001
m	28	3849-	3883	3875.25	968.85	1.42	1.64E+002	14.71	5.82E+001
	29	4471-	4493	4480.82	1120.25	0.88	1.18E+002	21.26	8.64E+001
	30	5627-	5638	5632.21	1408.12	0.31	2.74E+001	7.86	1.36E+001
	31	5830-	5857	5843.97	1461.07	1.65	1.85E+003	44.29	2.45E+001
	32	6367-	6378	6372.28	1593.16	0.64	2.43E+001	6.79	8.73E+000
	33	7050-	7070	7060.72	1765.28	1.07	1.05E+002	12.39	1.32E+001

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma

****
***** N U C L I D E M D A R E P O R T *****
****

Detector Name: ERT01
Sample Geometry:
Sample Title: P006-S002-1218-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	K-40	1460.82*	10.55	6.0590E-001	6.06E-001	1.9717E+001
	Co-60	1173.23	99.85	8.9727E-002	7.77E-002	-1.5332E-002
		1332.49	99.98	7.7672E-002		-2.9541E-003
>		2505.71	0.10	0.0000E+000		0.0000E+000
	Cs-137	32.06	5.54	1.1103E+003	7.72E-002	4.0696E+002
		661.66	84.99	7.7159E-002		6.9654E-003
+	Tl-208	72.80	2.02	7.8562E+000	7.57E-002	6.7390E-002
		74.97*	3.41	2.5242E+000		5.5696E+000
		84.90	1.51	6.1278E+000		-3.1085E+000
		277.36*	6.31	5.8658E-001		2.2624E-001
		510.77*	22.60	3.8782E-001		4.3211E-001
		583.19*	84.50	7.5664E-002		3.4930E-001
		763.13	1.81	4.0712E+000		-2.3589E+000
		860.56*	12.42	4.3773E-001		3.7844E-001
+	Bi-212	39.86	1.06	5.6897E+002	9.35E-001	-7.7321E+000
		727.33*	6.74	9.3500E-001		1.1963E+000
		785.37	1.11	6.5863E+000		-2.7766E-001
		1620.74	1.51	4.0722E+000		1.2698E+000
		1806.00	0.09	6.0826E+001		2.8169E+001
+	Pb-212	74.81*	10.40	8.2764E-001	8.53E-002	1.8262E+000
		77.11*	17.50	4.3686E-001		1.7410E+000
		87.30*	7.81	8.0123E-001		4.7729E-001
		115.18	0.59	9.9212E+000		1.0633E+000
		238.63*	43.30	8.5256E-002		1.0782E+000
		300.09*	3.28	1.3273E+000		1.0124E+000
+	Bi-214	76.86*	0.43	1.7525E+001	1.21E-001	6.9844E+001
		89.81	0.24	3.6061E+001		3.8035E+000
		386.77	0.30	1.8751E+001		1.3826E+000
		454.77	0.29	1.8961E+001		9.9069E+000
		609.31*	45.49	1.2100E-001		7.4032E-001
		665.45	1.53	4.4673E+000		3.0675E+000
		703.11	0.48	1.3687E+001		-1.5593E+000
		719.86	0.39	1.6416E+001		-2.3773E+000
		768.36	4.89	1.6097E+000		7.4718E-001
		786.10	0.31	2.4022E+001		9.1682E+000
		806.17	1.26	5.4476E+000		1.0904E+000
		934.06*	3.10	1.5642E+000		5.2780E-001
		964.08*	0.36	1.3121E+001		1.6547E+001
		1051.96	0.31	2.5038E+001		-8.9786E+000
		1120.29*	14.91	5.5706E-001		7.4704E-001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	3.2176E+001	1.21E-001	1.5314E+000
		1155.19	1.63	5.8209E+000		2.2170E-001
		1207.68	0.45	2.1646E+001		7.2174E+000
		1238.11	5.79	1.8847E+000		2.1542E+000
		1280.96	1.43	6.2454E+000		4.2081E+000
		1377.67	4.00	1.9264E+000		1.3228E+000
		1385.31	0.76	8.0503E+000		-5.1893E+000
		1401.50	1.27	5.1451E+000		-3.2927E+000
		1407.98*	2.15	1.5439E+000		1.4079E+000
		1509.23	2.11	3.0870E+000		1.8098E+000
		1538.50	0.38	1.4178E+001		-7.4620E+000
		1543.32	0.20	2.6412E+001		-1.0486E+001
		1583.22	0.69	1.1200E+001		9.8028E+000
		1594.73	0.25	3.3353E+001		1.1649E+001
		1599.31	0.23	2.9286E+001		-1.8810E+001
		1661.28	1.15	4.1828E+000		1.0755E+000
		1683.99	0.22	2.4165E+001		6.8230E+000
		1729.59	2.92	2.1956E+000		4.4724E-001
		1764.49*	15.40	3.1618E-001		8.3885E-001
		1847.42	2.11	3.2485E+000		1.1814E+000
		1873.16	0.22	2.4002E+001		-3.4758E+000
>		2118.55	1.14	0.0000E+000		0.0000E+000
>		2204.21	5.08	0.0000E+000		0.0000E+000
+	Pb-214	53.28	1.20	4.7683E+001	1.50E-001	-4.8214E+000
		74.81*	6.44	1.3052E+000		2.8800E+000
		77.11*	10.80	6.9128E-001		2.7550E+000
		87.30*	4.84	1.2626E+000		7.5212E-001
		242.00*	7.43	4.4183E-001		1.3221E+000
		258.87	0.52	9.5302E+000		-1.1009E+000
		274.80	0.47	1.1640E+001		1.1524E+000
		295.22*	19.30	1.8725E-001		5.9596E-001
		351.93*	37.60	1.5024E-001		8.3341E-001
		462.00*	0.22	2.0104E+001		2.0250E+001
		533.66	0.19	3.0941E+001		-1.2249E+001
		785.96	1.07	7.0047E+000		2.7529E+000
		839.04	0.59	1.2393E+001		7.5819E+000
+	Ra-224	81.07	0.13	7.4275E+001	8.20E-001	-7.1468E+001
		83.78	0.22	4.1962E+001		-1.7979E+001
		240.99*	4.10	8.1991E-001		2.4534E+000
+	Ra-226	81.07	0.20	4.8233E+001	1.39E+000	-4.6410E+001
		83.78	0.33	2.7111E+001		-1.1615E+001
		94.90	0.15	5.0277E+001		-1.2697E+001
		186.21*	3.59	1.3912E+000		1.8910E+000
+	Ac-228	99.50	1.26	5.0463E+000	2.57E-001	2.7890E+000
		129.07	2.50	2.6523E+000		1.7684E+000
		209.25*	3.97	1.0439E+000		4.9299E-001
		270.24*	3.55	1.1110E+000		1.0067E+000
		328.00*	3.04	1.4933E+000		1.1878E+000
		338.32*	11.40	5.1118E-001		9.2203E-001
		409.46*	2.02	1.7369E+000		1.1409E+000

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	1.0224E+000	2.57E-001	1.0298E+000
		755.31	1.03	6.8394E+000		1.6380E+000
		772.29	1.52	5.1165E+000		7.6405E-001
		794.94	4.31	1.8603E+000		1.5692E+000
		835.70	1.70	4.5014E+000		2.8953E+000
		911.20*	26.20	2.5670E-001		9.9971E-001
		964.79*	4.99	9.7743E-001		1.2326E+000
		968.96*	15.90	2.9226E-001		9.0882E-001
		1588.20	3.06	2.8723E+000		2.3076E+000
		1630.62	1.52	4.1011E+000		1.9402E+000
	Th-228	84.37	1.26	7.3108E+000	7.31E+000	-3.1443E+000
		131.61	0.13	4.9439E+001		2.5459E+001
		166.41	0.10	5.4791E+001		-8.9923E+000
		215.98	0.25	2.2740E+001		3.5621E+000
	Pa-234m	258.23	0.07	6.8704E+001	9.08E+000	3.2909E+001
		742.81	0.09	7.3212E+001		4.1539E+001
		766.36	0.32	2.2995E+001		-1.7212E+000
		786.27	0.05	1.3895E+002		2.1090E+001
		1001.03	0.85	9.0825E+000		-3.8179E+000
		1737.77	0.02	2.1343E+002		-3.8907E+002
	Th-234	63.30	3.75	6.6421E+000	1.93E+000	4.4761E+000
		92.59	4.33	1.9294E+000		3.5200E+000
		112.81	0.22	2.6478E+001		-1.2866E+001

+ = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = Calculated MDA is zero due to zero counts in the region, or the region is outside the spectrum, or has not been calculated
@ = Half-life too short to be able to perform the decay correction

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***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****
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Sample Title: P006-S002-1218-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

..... IDENTIFIED NUCLIDES .....

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
K-40	0.990	1460.82*		10.55	1.97168E+001	7.08374E-001
Co-58	0.943	810.76*		99.44	1.01284E-002	8.20988E-003
		863.96		0.70		
		1674.70		0.53		
Tl-208	0.930	72.80	@	2.02		
		74.97*	@	3.41	5.56964E+000	4.85819E-001
		84.90	@	1.51		
		277.36*		6.31	2.26242E-001	1.28392E-001
		510.77*	@	22.60	4.32114E-001	8.94492E-002
		583.19*		84.50	3.49303E-001	2.51715E-002
		763.13	@	1.81		
		860.56*		12.42	3.78441E-001	1.03520E-001
TL-208e	0.940	1592.53*		99.16	3.02140E-002	8.65750E-003
Bi-211	0.902	351.03*		13.00	2.41545E+000	1.60913E-001
Bi-212	0.562	39.86	@	1.06		
		727.33*		6.74	1.19630E+000	2.28405E-001
		785.37		1.11		
		1620.74		1.51		
		1806.00	@	0.09		
Pb-212	0.986	74.81*		10.40	1.82620E+000	1.67777E-001
		77.11*		17.50	1.74102E+000	1.23891E-001
		87.30*		7.81	4.77293E-001	1.77729E-001
		115.18	@	0.59		
		238.63*		43.30	1.07815E+000	5.81707E-002
		300.09*		3.28	1.01238E+000	3.02075E-001
Bi-214	0.550	76.86*	@	0.43	6.98440E+001	5.02616E+000
		89.81	@	0.24		
		386.77	@	0.30		
		454.77	@	0.29		
		609.31*		45.49	7.40317E-001	4.64586E-002
		665.45	@	1.53		
		703.11	@	0.48		
		719.86	@	0.39		
		768.36		4.89		
		786.10	@	0.31		
		806.17	@	1.26		
		934.06*		3.10	5.27803E-001	3.42384E-001
		964.08*	@	0.36	1.65467E+001	2.61158E+000
		1051.96	@	0.31		
		1120.29*		14.91	7.47040E-001	1.36233E-001
		1133.66	@	0.25		

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.550	1155.19	@	1.63		
		1207.68	@	0.45		
		1238.11		5.79		
		1280.96	@	1.43		
		1377.67		4.00		
		1385.31	@	0.76		
		1401.50	@	1.27		
		1407.98*	@	2.15	1.40789E+000	4.07327E-001
		1509.23	@	2.11		
		1538.50	@	0.38		
		1543.32	@	0.20		
		1583.22	@	0.69		
		1594.73	@	0.25		
		1599.31	@	0.23		
		1661.28	@	1.15		
		1683.99	@	0.22		
		1729.59	@	2.92		
		1764.49*		15.40	8.38846E-001	1.09124E-001
		1847.42	@	2.11		
		1873.16	@	0.22		
		2118.55	@	1.14		
		2204.21	@	5.08		
Pb-214	0.944	53.28	@	1.20		
		74.81*		6.44	2.88000E+000	2.68191E-001
		77.11*		10.80	2.75496E+000	2.06514E-001
		87.30*		4.84	7.52120E-001	2.80427E-001
		242.00*		7.43	1.32211E+000	1.10637E-001
		258.87	@	0.52		
		274.80	@	0.47		
		295.22*		19.30	5.95957E-001	5.74500E-002
		351.93*		37.60	8.33412E-001	5.48887E-002
		462.00*	@	0.22	2.02501E+001	4.83719E+000
		533.66	@	0.19		
		785.96	@	1.07		
		839.04	@	0.59		
Ra-224	0.839	81.07	@	0.13		
		83.78	@	0.22		
		240.99*		4.10	2.45345E+000	2.04274E-001
Ra-226	0.771	81.07	@	0.20		
		83.78	@	0.33		
		94.90	@	0.15		
		186.21*		3.59	1.89102E+000	3.32233E-001
Ac-228	0.713	99.50	@	1.26		
		129.07	@	2.50		
		209.25*		3.97	4.92993E-001	2.30310E-001
		270.24*		3.55	1.00675E+000	2.59122E-001
		328.00*		3.04	1.18777E+000	3.43654E-001
		338.32*		11.40	9.22033E-001	1.31520E-001
		409.46*	@	2.02	1.14092E+000	3.99034E-001
		463.00*		4.45	1.02981E+000	2.48674E-001

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ac-228	0.713	755.31	@	1.03		
		772.29	@	1.52		
		794.94		4.31		
		835.70	@	1.70		
		911.20*		26.20	9.99708E-001	8.67822E-002
		964.79*		4.99	1.23258E+000	1.94804E-001
		968.96*		15.90	9.08819E-001	8.87484E-002
		1588.20		3.06		
		1630.62	@	1.52		

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 keV
Nuclide confidence index threshold = 0.45
Errors quoted at 1.000 sigma

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***** I N T E R F E R E N C E C O R R E C T E D R E P O R T *****
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	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/GWET)	Wt mean Activity Uncertainty
	K-40		0.990	1.971680E+001	7.083741E-001
	Co-58		0.943	1.012839E-002	8.209879E-003
X	Cd-109		0.926		
	Tl-208	@	0.930	3.484986E-001	2.385487E-002
	TL-208e		0.940	3.021400E-002	8.657504E-003
	Bi-211		0.902	6.884640E-001	2.210128E-001
	Bi-212	@	0.562	1.196300E+000	2.284053E-001
	Pb-212	@	0.986	1.075830E+000	4.767110E-002
	Bi-214	@	0.550	7.531954E-001	4.039656E-002
	Pb-214	@	0.944	5.958681E-001	5.367465E-002
	Ra-224	@	0.839	1.347695E+000	2.252857E-001
	Ra-226	@	0.771	1.891018E+000	3.322327E-001
	Ac-228	@	0.713	9.529906E-001	4.756588E-002

? = Nuclide is part of an undetermined solution
X = Nuclide rejected by the interference analysis
@ = Nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.000 sigma

********** U N I D E N T I F I E D P E A K S **********

Peak Locate Performed on: 11/7/2016 3:30:24 PM
Peak Locate From Channel: 100
Peak Locate To Channel: 8192

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
4	93.05	2.3419E-002	23.78	Tol.	Yb-169 Th-227 Th-234
5	136.44	2.7827E-003	120.52		

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet

Errors quoted at 1.000 sigma