HPGE QC

1. STANDARD 6HOURS 14DEC2016 – 6:02:16 PM
2. STANDARD 6HOURS 14DEC2016 – 5:46:51 PM
3. STANDARD 6HOURS 14DEC2016 – 5:32:48 PM
4. STANDARD 6HOURS 14DEC2016 – 5:28:49 PM

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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: C:\GENIE2K\CAMFILES\SMP-STANDARD-6HR-161211.CNF

Report Generated On	: 12/14/2016 6:02:16 PM
Sample Title	: STANDARD 6HOURS 14DEC2016
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	: 1.000E+000 GWET
Sample Taken On	: 4/1/2015 12:00:00 PM
Acquisition Started	: 12/11/2016 5:09:53 PM
Live Time	: 21600.0 seconds
Real Time	: 21708.4 seconds
Dead Time	: 0.50 %

Energy Calibration Used Done On	: 12/14/2016 ✓
Efficiency Calibration Used Done On	: 12/14/2016 ✓
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: STANDARD 6HOURS 14DEC2016
Peak Analysis Performed on: 12/14/2016 6:02:16 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	173-	193	186.83	46.79	0.96	2.70E+004	538.32	7.24E+004
2	225-	246	238.87	59.80	0.96	1.25E+005	656.03	7.98E+004
3	338-	366	352.75	88.27	0.98	2.33E+005	870.59	1.14E+005
4	481-	496	488.85	122.29	0.99	8.99E+004	474.96	4.53E+004
5	538-	555	546.42	136.68	1.01	1.15E+004	392.41	4.37E+004
6	657-	670	663.82	166.03	1.01	2.77E+004	331.08	2.97E+004
7	795-	802	798.84	199.78	0.36	1.63E+002	182.03	1.64E+004
8	1010-	1029	1020.75	255.25	0.94	9.14E+002	341.07	3.29E+004
9	1405-	1412	1408.13	352.09	0.55	2.95E+002	138.20	9.32E+003
10	1556-	1577	1566.49	391.68	1.22	1.34E+004	322.75	2.42E+004
11	2050-	2064	2055.42	513.91	0.86	7.94E+002	191.76	1.25E+004
12	2633-	2656	2645.80	661.49	1.39	2.47E+005	552.56	1.44E+004
13	2801-	2813	2808.79	702.23	0.44	4.54E+001	134.92	6.90E+003
14	3580-	3606	3591.35	897.86	1.56	1.39E+004	304.61	1.79E+004
15	4674-	4719	4692.79	1173.20	1.69	2.59E+005	578.35	1.11E+004
16	5314-	5355	5330.49	1332.61	1.77	2.38E+005	504.34	2.74E+003
17	6510-	6521	6515.15	1628.76	0.48	1.78E+001	28.45	3.15E+002
18	7332-	7364	7347.76	1836.89	1.90	9.11E+003	109.00	5.38E+002
19	7570-	7583	7576.84	1894.16	1.04	1.64E+001	22.90	1.81E+002

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: STANDARD 6HOURS 14DEC2016
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	6.1426E+002	6.14E+002	7.9050E+002
+	Co-60	1173.23*	99.85	2.9926E+002	1.56E+002	6.0697E+004
		1332.49*	99.98	1.5625E+002		6.1287E+004
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	8.5133E+006	1.66E+002	1.8734E+006
		661.66*	84.99	1.6635E+002		3.6638E+004
	Tl-208	72.80	2.02	2.2227E+004	2.57E+002	4.0959E+003
		74.97	3.41	1.2184E+004		-5.0407E+003
		84.90	1.51	2.4461E+004		-9.1083E+003
		277.36	6.31	3.0932E+003		-4.4235E+002
		510.77	22.60	1.0081E+003		6.6218E+001
		583.19	84.50	2.5716E+002		7.7237E+001
		763.13	1.81	1.3444E+004		6.9063E+003
		860.56	12.42	2.3899E+003		-9.4190E+002
	Bi-212	39.86	1.06	2.8613E+006	3.44E+003	-2.9549E+006
		727.33	6.74	3.4411E+003		2.4482E+003
		785.37	1.11	2.2595E+004		-1.2803E+004
		1620.74	1.51	7.6739E+003		5.1200E+003
		1806.00	0.09	1.0251E+005		2.3956E+004
	Pb-212	74.81	10.40	4.0139E+003	4.56E+002	-2.3797E+002
		77.11	17.50	2.2306E+003		-1.0654E+003
		87.30	7.81	7.0466E+003		-8.5563E+002
		115.18	0.59	3.2991E+004		-3.0231E+003
		238.63	43.30	4.5613E+002		-6.1892E+000
		300.09	3.28	5.9340E+003		-2.3475E+003
	Bi-214	76.86	0.43	4.9843E+004	2.63E+002	-2.4743E+004
		89.81	0.24	1.1190E+005		-2.8749E+002
		386.77	0.30	3.9747E+004		2.0340E+004
		454.77	0.29	4.3773E+004		7.7226E+003
		609.31	45.49	2.6339E+002		1.0816E+002
		665.45	1.53	2.7051E+004		-1.3840E+004
		703.11	0.48	2.5656E+004		3.7891E+002
		719.86	0.39	3.1755E+004		1.7060E+004
		768.36	4.89	2.7014E+003		-1.5812E+002
		786.10	0.31	4.3843E+004		5.7283E+002
		806.17	1.26	1.1065E+004		-1.9950E+003
		934.06	3.10	6.0659E+003		-2.8163E+003
		964.08	0.36	5.1423E+004		1.2198E+004
		1051.96	0.31	5.5955E+004		-5.1866E+004
		1120.29	14.91	1.1348E+003		-1.6692E+002

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
	Bi-214	1133.66	0.25	6.0723E+004	2.63E+002	-2.1386E+003
		1155.19	1.63	9.1772E+003		6.1441E+002
		1207.68	0.45	2.4332E+004		-1.3467E+004
		1238.11	5.79	1.6851E+003		9.5720E+002
		1280.96	1.43	6.0989E+003		-2.5117E+003
		1377.67	4.00	1.5159E+003		-3.0087E+002
		1385.31	0.76	7.8956E+003		-1.0018E+004
		1401.50	1.27	4.8363E+003		-1.0927E+003
		1407.98	2.15	2.8715E+003		1.2505E+003
		1509.23	2.11	3.0176E+003		-1.9324E+003
		1538.50	0.38	1.7171E+004		-1.1056E+003
		1543.32	0.20	3.3450E+004		-8.5249E+003
		1583.22	0.69	9.8341E+003		-5.8280E+003
		1594.73	0.25	2.7485E+004		-1.6895E+004
		1599.31	0.23	3.0094E+004		-1.8900E+004
		1661.28	1.15	5.0512E+003		-5.4326E+002
		1683.99	0.22	2.6099E+004		6.8923E+003
		1729.59	2.92	1.8177E+003		-7.7052E+002
		1764.49	15.40	3.4160E+002		-1.0620E+001
		1847.42	2.11	2.2932E+003		-2.3817E+002
		1873.16	0.22	2.1522E+004		7.5479E+003
>		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	9.2252E+004	2.94E+002	-1.7450E+005
		74.81	6.44	3.5045E+003		-2.0777E+002
		77.11	10.80	1.9541E+003		-9.3335E+002
		87.30	4.84	6.1475E+003		-7.4645E+002
		242.00	7.43	1.4306E+003		6.9252E+002
		258.87	0.52	2.0445E+004		-7.2253E+003
		274.80	0.47	2.2316E+004		1.0977E+003
		295.22	19.30	5.4853E+002		2.7718E+002
		351.93	37.60	2.9384E+002		7.7436E+001
		462.00	0.22	5.7454E+004		2.1120E+004
		533.66	0.19	6.1671E+004		-1.3364E+004
		785.96	1.07	1.2679E+004		-7.2944E+003
		839.04	0.59	2.6367E+004		7.9926E+003
	Ra-224	81.07	0.13	2.7414E+005	4.80E+003	-1.9930E+005
		83.78	0.22	1.6075E+005		-1.2397E+005
		240.99	4.10	4.8044E+003		2.2908E+003
	Ra-226	81.07	0.20	9.8558E+004	2.78E+003	-7.1651E+004
		83.78	0.33	5.7496E+004		-4.4341E+004
		94.90	0.15	8.1142E+004		-5.8966E+003
		186.21	3.59	2.7809E+003		2.2970E+003
	Ac-228	99.50	1.26	1.6810E+004	1.25E+003	-9.6087E+003
		129.07	2.50	6.8496E+003		-1.8202E+002
		209.25	3.97	4.8549E+003		-1.9100E+003
		270.24	3.55	5.5327E+003		6.1840E+001
		328.00	3.04	6.6438E+003		3.5865E+003
		338.32	11.40	1.7689E+003		8.4747E+002
		409.46	2.02	1.0741E+004		2.5046E+003

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
Ac-228	463.00	4.45	5.2706E+003	1.25E+003	-2.1217E+003
	755.31	1.03	2.3459E+004		1.1158E+004
	772.29	1.52	1.6145E+004		-1.8878E+003
	794.94	4.31	5.8665E+003		2.5593E+003
	835.70	1.70	1.6698E+004		3.9111E+003
	911.20	26.20	1.2548E+003		-7.9204E+002
	964.79	4.99	6.8725E+003		9.5083E+002
	968.96	15.90	2.0976E+003		-1.0028E+003
	1588.20	3.06	4.1330E+003		-1.9164E+002
	1630.62	1.52	7.3780E+003		1.8723E+001
Th-228	84.37	1.26	2.7775E+004	2.78E+004	-7.4919E+003
	131.61	0.13	1.3093E+005		-1.4030E+004
	166.41	0.10	2.0509E+005		2.9454E+006
	215.98	0.25	7.8915E+004		8.4587E+003
Pa-234m	258.23	0.07	1.4537E+005	2.05E+004	-1.5900E+004
	742.81	0.09	1.3600E+005		2.5055E+004
	766.36	0.32	4.0744E+004		-1.1403E+004
	786.27	0.05	2.5332E+005		3.3098E+003
	1001.03	0.85	2.0491E+004		-6.7261E+003
	1737.77	0.02	2.4703E+005		-2.1734E+005
Th-234	63.30	3.75	1.1016E+004	2.90E+003	-2.6856E+004
	92.59	4.33	2.8984E+003		4.7321E+002
	112.81	0.22	4.9299E+004		2.3097E+004

+ = 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: STANDARD 6HOURS 14DEC2016
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

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

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Co-57	0.966	122.06*	85.51	2.89517E+004	6.86179E+002
		136.47*	10.71	2.92455E+004	1.29543E+003
Co-60	0.998	1173.23*	99.85	6.06967E+004	1.50403E+003
		1332.49*	99.98	6.12870E+004	1.55345E+003
		2505.71 @	0.10		
Sr-85	0.632	514.00*	98.50	6.34639E+004	1.54694E+004
Y-88	0.795	898.04*	93.90	1.26060E+005	4.00086E+003
		1836.05*	99.32	1.26351E+005	5.06701E+003
		2734.07 @	0.61		
Cd-109	0.982	88.03*	3.63	1.24081E+006	3.48270E+004
Sn-113	0.865	255.13*	2.11	1.30198E+005	4.90285E+004
		391.70*	64.97	7.75446E+004	3.18829E+003
Cs-137	0.993	32.06 @	5.54		
		661.66*	84.99	3.66384E+004	1.01594E+003
Ce-139	0.899	165.86*	79.89	4.60323E+004	1.39630E+003
Pb-210	0.990	46.54*	4.25	1.08714E+006	5.24787E+004
Am-241	0.990	26.34 @	2.31		
		59.54*	35.92	9.80722E+004	2.87323E+003

* = 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
	Co-57		0.966	2.901606E+004	6.063866E+002
	Co-60	@	0.998	6.098229E+004	1.080560E+003
	Sr-85		0.632	6.346386E+004	1.546940E+004
	Y-88	@	0.795	1.261720E+005	3.140781E+003
	Cd-109		0.982	1.240812E+006	3.482705E+004
	Sn-113		0.865	7.776625E+004	3.181580E+003
	Cs-137	@	0.993	3.663839E+004	1.015936E+003
	Ce-139		0.899	4.603235E+004	1.396298E+003
X	Tl-207		0.999		
	Pb-210		0.990	1.087141E+006	5.247865E+004
	Am-241	@	0.990	9.807217E+004	2.873226E+003

? = 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: 12/14/2016 6:02:16 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
7	199.78	7.5295E-003	111.93		
9	352.09	1.2715E-002	50.43	Tol.	Pb-214
13	702.23	2.1004E-003	297.39	Tol.	Rh-106
					Bi-214
17	1628.76	8.2235E-004	160.15		
19	1894.16	7.6025E-004	139.46		

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: C:\GENIE2K\CAMFILES\SMP-STANDARD-6HR-161211.CNF

Report Generated On	: 12/14/2016 5:46:51 PM
Sample Title	: STANDARD 6HOURS 14DEC2016
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 FWHM
Sample Size	: 1.000E+000 GWET
Sample Taken On	: 4/1/2015 12:00:00 PM
Acquisition Started	: 12/11/2016 5:09:53 PM
Live Time	: 21600.0 seconds
Real Time	: 21708.4 seconds
Dead Time	: 0.50 %

Energy Calibration Used Done On	: 12/14/2016
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: STANDARD 6HOURS 14DEC2016
Peak Analysis Performed on: 12/14/2016 5:46:51 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	173-	193	186.83	46.79	0.96	2.70E+004	594.57	7.24E+004
2	225-	246	238.87	59.80	0.96	1.25E+005	713.13	8.06E+004
3	338-	366	352.75	88.27	0.98	2.33E+005	870.59	1.14E+005
4	481-	496	488.85	122.29	0.99	8.99E+004	474.96	4.53E+004
5	538-	555	546.42	136.68	1.01	1.15E+004	392.41	4.37E+004
6	657-	670	663.82	166.03	1.01	2.77E+004	331.08	2.97E+004
7	795-	802	798.84	199.78	0.36	1.63E+002	182.03	1.64E+004
8	1010-	1029	1020.75	255.25	0.94	9.14E+002	341.07	3.29E+004
9	1405-	1412	1408.13	352.09	0.55	2.80E+002	131.23	9.34E+003
10	1556-	1577	1566.49	391.68	1.23	1.34E+004	301.31	2.41E+004
11	2050-	2064	2055.42	513.91	0.84	7.31E+002	179.40	1.25E+004
12	2633-	2656	2645.80	661.49	1.39	2.47E+005	538.87	1.42E+004
13	2801-	2813	2808.79	702.23	0.44	5.80E+001	120.15	6.88E+003
14	3580-	3606	3591.35	897.86	1.56	1.36E+004	270.58	1.82E+004
15	4674-	4719	4692.79	1173.20	1.69	2.59E+005	555.04	1.14E+004
16	5314-	5355	5330.49	1332.61	1.77	2.37E+005	498.43	2.81E+003
17	6510-	6521	6515.15	1628.76	0.46	8.21E+000	24.76	3.25E+002
18	7332-	7364	7347.76	1836.89	1.89	9.09E+003	103.99	5.64E+002

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: STANDARD 6HOURS 14DEC2016
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	6.0259E+002	6.03E+002	7.2652E+002
+	Co-60	1173.23*	99.85	2.4034E+002	1.24E+002	6.0221E+004
		1332.49*	99.98	1.2388E+002		6.0134E+004
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	2.0973E+006	1.48E+002	4.3472E+005
		661.66*	84.99	1.4778E+002		3.7857E+004
	Tl-208	72.80	2.02	2.3100E+004	2.62E+002	4.2567E+003
		74.97	3.41	1.2453E+004		-5.1522E+003
		84.90	1.51	2.3514E+004		-8.7556E+003
		277.36	6.31	2.8187E+003		-1.0538E+003
		510.77	22.60	1.0090E+003		-1.9161E+002
		583.19	84.50	2.6247E+002		7.8219E+001
		763.13	1.81	1.3926E+004		3.5377E+003
		860.56	12.42	2.4631E+003		-7.9243E+002
	Bi-212	39.86	1.06	2.0420E+006	3.57E+003	-2.2893E+006
		727.33	6.74	3.5653E+003		1.1825E+003
		785.37	1.11	2.3394E+004		-6.8551E+003
		1620.74	1.51	7.6244E+003		-7.8380E+002
		1806.00	0.09	1.0585E+005		1.9413E+004
	Pb-212	74.81	10.40	4.1083E+003	4.15E+002	-2.4357E+002
		77.11	17.50	2.2451E+003		-1.0724E+003
		87.30	7.81	6.7068E+003		-8.1437E+002
		115.18	0.59	3.3070E+004		-3.0303E+003
		238.63	43.30	4.1534E+002		-5.6357E+000
		300.09	3.28	5.4382E+003		-6.3359E+002
	Bi-214	76.86	0.43	5.0254E+004	2.70E+002	-2.4948E+004
		89.81	0.24	1.0565E+005		-2.7142E+002
		386.77	0.30	3.7789E+004		9.1525E+003
		454.77	0.29	4.2899E+004		1.0705E+004
		609.31	45.49	2.7011E+002		9.0257E+000
		665.45	1.53	2.7934E+004		-9.1850E+004
		703.11	0.48	2.6568E+004		-4.1036E+003
		719.86	0.39	3.2886E+004		1.7552E+004
		768.36	4.89	2.7987E+003		5.8031E+002
		786.10	0.31	4.5371E+004		2.3482E+003
		806.17	1.26	1.1446E+004		-2.0719E+003
		934.06	3.10	6.2040E+003		-4.0952E+003
		964.08	0.36	5.2411E+004		2.1852E+004
		1051.96	0.31	5.6386E+004		-3.6609E+004
		1120.29	14.91	1.1344E+003		-4.2100E+002

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
	Bi-214	1133.66	0.25	6.0592E+004	2.70E+002	1.2222E+004
		1155.19	1.63	9.1352E+003		4.3690E+003
		1207.68	0.45	2.4095E+004		-1.0063E+004
		1238.11	5.79	1.6631E+003		-1.2263E+001
		1280.96	1.43	6.0015E+003		-1.9145E+002
		1377.67	4.00	1.4860E+003		1.5599E+002
		1385.31	0.76	7.7379E+003		-8.9470E+003
		1401.50	1.27	4.7380E+003		-9.0724E+002
		1407.98	2.15	2.8143E+003		3.1321E+002
		1509.23	2.11	2.9659E+003		-2.1104E+003
		1538.50	0.38	1.6906E+004		-2.6353E+003
		1543.32	0.20	3.2963E+004		-3.1064E+003
		1583.22	0.69	9.7255E+003		-3.4335E+003
		1594.73	0.25	2.7232E+004		-9.6039E+003
		1599.31	0.23	2.9829E+004		-1.4527E+004
		1661.28	1.15	5.0529E+003		9.9047E+002
		1683.99	0.22	2.6196E+004		-1.2496E+002
		1729.59	2.92	1.8429E+003		-4.2828E+002
		1764.49	15.40	3.4900E+002		-4.0144E+001
		1847.42	2.11	2.3972E+003		-1.9011E+003
		1873.16	0.22	2.2677E+004		-2.8104E+003
>		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	1.0405E+005	2.75E+002	-1.7632E+005
		74.81	6.44	3.5869E+003		-2.1266E+002
		77.11	10.80	1.9668E+003		-9.3942E+002
		87.30	4.84	5.8510E+003		-7.1046E+002
		242.00	7.43	1.3020E+003		6.3030E+002
		258.87	0.52	1.8596E+004		-6.5719E+003
		274.80	0.47	2.0334E+004		4.5894E+002
		295.22	19.30	5.0203E+002		1.2860E+002
		351.93	37.60	2.7492E+002		8.6056E+001
		462.00	0.22	5.6500E+004		2.1719E+004
		533.66	0.19	6.2158E+004		-7.3056E+003
		785.96	1.07	1.3128E+004		-1.7765E+003
		839.04	0.59	2.7207E+004		1.0820E+004
	Ra-224	81.07	0.13	2.6890E+005	4.37E+003	-1.9549E+005
		83.78	0.22	1.5537E+005		-1.1982E+005
		240.99	4.10	4.3725E+003		2.0849E+003
	Ra-226	81.07	0.20	9.6673E+004	2.61E+003	-7.0281E+004
		83.78	0.33	5.5573E+004		-4.2858E+004
		94.90	0.15	7.5932E+004		-5.5180E+003
		186.21	3.59	2.6096E+003		2.1556E+003
	Ac-228	99.50	1.26	1.5751E+004	1.29E+003	-9.0033E+003
		129.07	2.50	6.9742E+003		-1.8533E+002
		209.25	3.97	4.4710E+003		-1.7590E+003
		270.24	3.55	5.0354E+003		5.6281E+001
		328.00	3.04	6.1533E+003		3.4640E+003
		338.32	11.40	1.6451E+003		7.9157E+002
		409.46	2.02	1.0321E+004		2.8237E+003

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
Ac-228	463.00	4.45	5.1850E+003	1.29E+003	-1.9982E+003
	755.31	1.03	2.4308E+004		8.7739E+003
	772.29	1.52	1.6718E+004		-3.8083E+003
	794.94	4.31	6.0720E+003		1.4863E+003
	835.70	1.70	1.7243E+004		1.6748E+003
	911.20	26.20	1.2867E+003		-5.5525E+002
	964.79	4.99	7.0031E+003		2.4372E+003
	968.96	15.90	2.1360E+003		-1.7433E+003
	1588.20	3.06	4.0905E+003		3.1047E+001
	1630.62	1.52	7.3433E+003		-1.4458E+003
Th-228	84.37	1.26	2.6768E+004	2.68E+004	-7.2204E+003
	131.61	0.13	1.3281E+005		-1.4232E+004
	166.41	0.10	1.9708E+005		2.8304E+006
	215.98	0.25	7.2410E+004		7.7614E+003
Pa-234m	258.23	0.07	1.3220E+005	2.08E+004	-1.4460E+004
	742.81	0.09	1.4092E+005		1.2078E+004
	766.36	0.32	4.2198E+004		-1.4610E+004
	786.27	0.05	2.6225E+005		1.3573E+004
	1001.03	0.85	2.0788E+004		-8.0677E+003
	1737.77	0.02	2.5079E+005		-7.2130E+004
Th-234	63.30	3.75	1.2282E+004	2.72E+003	-1.7607E+004
	92.59	4.33	2.7195E+003		4.4400E+002
	112.81	0.22	4.8623E+004		2.2780E+004

+ = 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: STANDARD 6HOURS 14DEC2016
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

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

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Co-57	0.971	122.06*	85.51	2.97437E+004	1.08920E+003
		136.47*	10.71	2.94350E+004	1.38043E+003
Co-60	0.999	1173.23*	99.85	6.02207E+004	1.49854E+003
		1332.49*	99.98	6.01338E+004	1.49852E+003
		2505.71 @	0.10		
Sr-85	0.633	514.00*	98.50	5.85733E+004	1.45154E+004
Y-88	0.825	898.04*	93.90	1.26469E+005	3.88782E+003
		1836.05*	99.32	1.31251E+005	5.17200E+003
		2734.07 @	0.61		
Cd-109	0.988	88.03*	3.63	1.17698E+006	3.99021E+004
Sn-113	0.865	255.13*	2.11	1.18416E+005	4.47218E+004
		391.70*	64.97	7.40294E+004	3.21626E+003
Cs-137	0.994	32.06 @	5.54		
		661.66*	84.99	3.78575E+004	1.07761E+003
Ce-139	0.902	165.86*	79.89	4.42596E+004	1.83558E+003
Pb-210	0.996	46.54*	4.25	1.10113E+006	5.76475E+004
Bi-211	0.933	351.03*	13.00	1.67380E+002	8.52526E+001
Am-241	0.994	26.34 @	2.31		
		59.54*	35.92	1.10539E+005	3.24083E+003

* = Energy line found in the spectrum.
@ = Energy line not used for Weighted Mean Activity
Energy Tolerance : 1.000 FWHM
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
	Co-57		0.971	2.962524E+004	8.550978E+002
	Co-60	@	0.999	6.017726E+004	1.059620E+003
	Sr-85		0.633	5.857331E+004	1.451544E+004
	Y-88	@	0.825	1.281954E+005	3.108487E+003
	Cd-109		0.988	1.176977E+006	3.990213E+004
	Sn-113		0.865	7.425768E+004	3.207985E+003
	Cs-137	@	0.994	3.785747E+004	1.077610E+003
	Ce-139		0.902	4.425956E+004	1.835578E+003
X	Tl-207		0.999		
	Pb-210		0.996	1.101134E+006	5.764748E+004
	Bi-211		0.933	1.673800E+002	8.525262E+001
	Am-241	@	0.994	1.105393E+005	3.240833E+003

? = 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: 12/14/2016 5:46:51 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
7	199.78	7.5295E-003	111.93		
13	702.23	2.6872E-003	207.01	Tol.	Rh-106 Bi-214
17	1628.76	3.8012E-004	301.57		

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: C:\GENIE2K\CAMFILES\SMP-STANDARD-6HR-161211.CNF

Report Generated On	: 12/14/2016 5:32:48 PM
Sample Title	: STANDARD 6HOURS 14DEC2016
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	: 1.000E+000 GWET
Sample Taken On	: 4/1/2015 12:00:00 PM
Acquisition Started	: 12/11/2016 5:09:53 PM
Live Time	: 21600.0 seconds
Real Time	: 21708.4 seconds
Dead Time	: 0.50 %

Energy Calibration Used Done On	: 12/14/2016
Efficiency Calibration Used Done On	: 12/14/2016
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: STANDARD 6HOURS 14DEC2016
Peak Analysis Performed on: 12/14/2016 5:32:48 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	173-	193	186.83	46.79	0.96	2.70E+004	538.32	7.24E+004
2	225-	246	238.87	59.80	0.96	1.25E+005	656.03	7.98E+004
3	338-	366	352.75	88.27	0.98	2.33E+005	870.59	1.14E+005
4	481-	496	488.85	122.29	0.99	8.99E+004	474.96	4.53E+004
5	538-	555	546.42	136.68	1.01	1.15E+004	392.41	4.37E+004
6	657-	670	663.82	166.03	1.01	2.77E+004	331.08	2.97E+004
7	795-	802	798.84	199.78	0.36	1.63E+002	182.03	1.64E+004
8	1010-	1029	1020.75	255.25	0.94	9.14E+002	341.07	3.29E+004
9	1405-	1412	1408.13	352.09	0.55	2.95E+002	138.20	9.32E+003
10	1556-	1577	1566.49	391.68	1.22	1.34E+004	322.75	2.42E+004
11	2050-	2064	2055.42	513.91	0.86	7.94E+002	191.76	1.25E+004
12	2633-	2656	2645.80	661.49	1.39	2.47E+005	552.56	1.44E+004
13	2801-	2813	2808.79	702.23	0.44	4.54E+001	134.92	6.90E+003
14	3580-	3606	3591.35	897.86	1.56	1.39E+004	304.61	1.79E+004
15	4674-	4719	4692.79	1173.20	1.69	2.59E+005	578.35	1.11E+004
16	5314-	5355	5330.49	1332.61	1.77	2.38E+005	504.34	2.74E+003
17	6510-	6521	6515.15	1628.76	0.48	1.78E+001	28.45	3.15E+002
18	7332-	7364	7347.76	1836.89	1.90	9.11E+003	109.00	5.38E+002
19	7570-	7583	7576.84	1894.16	1.04	1.64E+001	22.90	1.81E+002

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: STANDARD 6HOURS 14DEC2016
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	6.1426E+002	6.14E+002	7.9050E+002
+	Co-60	1173.23*	99.85	2.9926E+002	1.56E+002	6.0697E+004
		1332.49*	99.98	1.5625E+002		6.1287E+004
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	8.5133E+006	1.66E+002	1.8734E+006
		661.66*	84.99	1.6635E+002		3.6638E+004
	Tl-208	72.80	2.02	2.2227E+004	2.57E+002	4.0959E+003
		74.97	3.41	1.2184E+004		-5.0407E+003
		84.90	1.51	2.4461E+004		-9.1083E+003
		277.36	6.31	3.0932E+003		-4.4235E+002
		510.77	22.60	1.0081E+003		6.6218E+001
		583.19	84.50	2.5716E+002		7.7237E+001
		763.13	1.81	1.3444E+004		6.9063E+003
		860.56	12.42	2.3899E+003		-9.4190E+002
	Bi-212	39.86	1.06	2.8613E+006	3.44E+003	-2.9549E+006
		727.33	6.74	3.4411E+003		2.4482E+003
		785.37	1.11	2.2595E+004		-1.2803E+004
		1620.74	1.51	7.6739E+003		5.1200E+003
		1806.00	0.09	1.0251E+005		2.3956E+004
	Pb-212	74.81	10.40	4.0139E+003	4.56E+002	-2.3797E+002
		77.11	17.50	2.2306E+003		-1.0654E+003
		87.30	7.81	7.0466E+003		-8.5563E+002
		115.18	0.59	3.2991E+004		-3.0231E+003
		238.63	43.30	4.5613E+002		-6.1892E+000
		300.09	3.28	5.9340E+003		-2.3475E+003
	Bi-214	76.86	0.43	4.9843E+004	2.63E+002	-2.4743E+004
		89.81	0.24	1.1190E+005		-2.8749E+002
		386.77	0.30	3.9747E+004		2.0340E+004
		454.77	0.29	4.3773E+004		7.7226E+003
		609.31	45.49	2.6339E+002		1.0816E+002
		665.45	1.53	2.7051E+004		-1.3840E+004
		703.11	0.48	2.5656E+004		3.7891E+002
		719.86	0.39	3.1755E+004		1.7060E+004
		768.36	4.89	2.7014E+003		-1.5812E+002
		786.10	0.31	4.3843E+004		5.7283E+002
		806.17	1.26	1.1065E+004		-1.9950E+003
		934.06	3.10	6.0659E+003		-2.8163E+003
		964.08	0.36	5.1423E+004		1.2198E+004
		1051.96	0.31	5.5955E+004		-5.1866E+004
		1120.29	14.91	1.1348E+003		-1.6692E+002

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
	Bi-214	1133.66	0.25	6.0723E+004	2.63E+002	-2.1386E+003
		1155.19	1.63	9.1772E+003		6.1441E+002
		1207.68	0.45	2.4332E+004		-1.3467E+004
		1238.11	5.79	1.6851E+003		9.5720E+002
		1280.96	1.43	6.0989E+003		-2.5117E+003
		1377.67	4.00	1.5159E+003		-3.0087E+002
		1385.31	0.76	7.8956E+003		-1.0018E+004
		1401.50	1.27	4.8363E+003		-1.0927E+003
		1407.98	2.15	2.8715E+003		1.2505E+003
		1509.23	2.11	3.0176E+003		-1.9324E+003
		1538.50	0.38	1.7171E+004		-1.1056E+003
		1543.32	0.20	3.3450E+004		-8.5249E+003
		1583.22	0.69	9.8341E+003		-5.8280E+003
		1594.73	0.25	2.7485E+004		-1.6895E+004
		1599.31	0.23	3.0094E+004		-1.8900E+004
		1661.28	1.15	5.0512E+003		-5.4326E+002
		1683.99	0.22	2.6099E+004		6.8923E+003
		1729.59	2.92	1.8177E+003		-7.7052E+002
		1764.49	15.40	3.4160E+002		-1.0620E+001
		1847.42	2.11	2.2932E+003		-2.3817E+002
		1873.16	0.22	2.1522E+004		7.5479E+003
>		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	9.2252E+004	2.94E+002	-1.7450E+005
		74.81	6.44	3.5045E+003		-2.0777E+002
		77.11	10.80	1.9541E+003		-9.3335E+002
		87.30	4.84	6.1475E+003		-7.4645E+002
		242.00	7.43	1.4306E+003		6.9252E+002
		258.87	0.52	2.0445E+004		-7.2253E+003
		274.80	0.47	2.2316E+004		1.0977E+003
		295.22	19.30	5.4853E+002		2.7718E+002
		351.93	37.60	2.9384E+002		7.7436E+001
		462.00	0.22	5.7454E+004		2.1120E+004
		533.66	0.19	6.1671E+004		-1.3364E+004
		785.96	1.07	1.2679E+004		-7.2944E+003
		839.04	0.59	2.6367E+004		7.9926E+003
	Ra-224	81.07	0.13	2.7414E+005	4.80E+003	-1.9930E+005
		83.78	0.22	1.6075E+005		-1.2397E+005
		240.99	4.10	4.8044E+003		2.2908E+003
	Ra-226	81.07	0.20	9.8558E+004	2.78E+003	-7.1651E+004
		83.78	0.33	5.7496E+004		-4.4341E+004
		94.90	0.15	8.1142E+004		-5.8966E+003
		186.21	3.59	2.7809E+003		2.2970E+003
	Ac-228	99.50	1.26	1.6810E+004	1.25E+003	-9.6087E+003
		129.07	2.50	6.8496E+003		-1.8202E+002
		209.25	3.97	4.8549E+003		-1.9100E+003
		270.24	3.55	5.5327E+003		6.1840E+001
		328.00	3.04	6.6438E+003		3.5865E+003
		338.32	11.40	1.7689E+003		8.4747E+002
		409.46	2.02	1.0741E+004		2.5046E+003

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
Ac-228	463.00	4.45	5.2706E+003	1.25E+003	-2.1217E+003
	755.31	1.03	2.3459E+004		1.1158E+004
	772.29	1.52	1.6145E+004		-1.8878E+003
	794.94	4.31	5.8665E+003		2.5593E+003
	835.70	1.70	1.6698E+004		3.9111E+003
	911.20	26.20	1.2548E+003		-7.9204E+002
	964.79	4.99	6.8725E+003		9.5083E+002
	968.96	15.90	2.0976E+003		-1.0028E+003
	1588.20	3.06	4.1330E+003		-1.9164E+002
	1630.62	1.52	7.3780E+003		1.8723E+001
Th-228	84.37	1.26	2.7775E+004	2.78E+004	-7.4919E+003
	131.61	0.13	1.3093E+005		-1.4030E+004
	166.41	0.10	2.0509E+005		2.9454E+006
	215.98	0.25	7.8915E+004		8.4587E+003
Pa-234m	258.23	0.07	1.4537E+005	2.05E+004	-1.5900E+004
	742.81	0.09	1.3600E+005		2.5055E+004
	766.36	0.32	4.0744E+004		-1.1403E+004
	786.27	0.05	2.5332E+005		3.3098E+003
	1001.03	0.85	2.0491E+004		-6.7261E+003
	1737.77	0.02	2.4703E+005		-2.1734E+005
Th-234	63.30	3.75	1.1016E+004	2.90E+003	-2.6856E+004
	92.59	4.33	2.8984E+003		4.7321E+002
	112.81	0.22	4.9299E+004		2.3097E+004

+ = 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: STANDARD 6HOURS 14DEC2016
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

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

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Co-57	0.966	122.06*	85.51	2.89517E+004	6.86179E+002
		136.47*	10.71	2.92455E+004	1.29543E+003
Co-60	0.998	1173.23*	99.85	6.06967E+004	1.50403E+003
		1332.49*	99.98	6.12870E+004	1.55345E+003
		2505.71 @	0.10		
Sr-85	0.632	514.00*	98.50	6.34639E+004	1.54694E+004
Y-88	0.795	898.04*	93.90	1.26060E+005	4.00086E+003
		1836.05*	99.32	1.26351E+005	5.06701E+003
		2734.07 @	0.61		
Cd-109	0.982	88.03*	3.63	1.24081E+006	3.48270E+004
Sn-113	0.865	255.13*	2.11	1.30198E+005	4.90285E+004
		391.70*	64.97	7.75446E+004	3.18829E+003
Cs-137	0.993	32.06 @	5.54		
		661.66*	84.99	3.66384E+004	1.01594E+003
Ce-139	0.899	165.86*	79.89	4.60323E+004	1.39630E+003
Pb-210	0.990	46.54*	4.25	1.08714E+006	5.24787E+004
Am-241	0.990	26.34 @	2.31		
		59.54*	35.92	9.80722E+004	2.87323E+003

* = 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
	Co-57		0.966	2.901606E+004	6.063866E+002
	Co-60	@	0.998	6.098229E+004	1.080560E+003
	Sr-85		0.632	6.346386E+004	1.546940E+004
	Y-88	@	0.795	1.261720E+005	3.140781E+003
	Cd-109		0.982	1.240812E+006	3.482705E+004
	Sn-113		0.865	7.776625E+004	3.181580E+003
	Cs-137	@	0.993	3.663839E+004	1.015936E+003
	Ce-139		0.899	4.603235E+004	1.396298E+003
X	Tl-207		0.999		
	Pb-210		0.990	1.087141E+006	5.247865E+004
	Am-241	@	0.990	9.807217E+004	2.873226E+003

? = 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: 12/14/2016 5:32:48 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
7	199.78	7.5295E-003	111.93		
9	352.09	1.2715E-002	50.43	Tol.	Pb-214
13	702.23	2.1004E-003	297.39	Tol.	Rh-106
					Bi-214
17	1628.76	8.2235E-004	160.15		
19	1894.16	7.6025E-004	139.46		

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        *****
*************************************************************************
```

Filename: C:\GENIE2K\CAMFILES\SMP-STANDARD-6HR-161211.CNF

Report Generated On	: 12/14/2016 5:28:49 PM
Sample Title	: STANDARD 6HOURS 14DEC2016
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	: 1.000E+000 GWET
Sample Taken On	: 4/1/2015 12:00:00 PM
Acquisition Started	: 12/11/2016 5:09:53 PM
Live Time	: 21600.0 seconds
Real Time	: 21708.4 seconds
Dead Time	: 0.50 %

Energy Calibration Used Done On	: 12/14/2016
Efficiency Calibration Used Done On	: 12/14/2016
Efficiency ID	: ERT0101

need Kr-85 deleted
out of library

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

Detector Name: ERT01
Sample Title: STANDARD 6HOURS 14DEC2016
Peak Analysis Performed on: 12/14/2016 5:28:49 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	173-	193	186.83	46.79	0.96	2.70E+004	538.32	7.24E+004
2	225-	246	238.87	59.80	0.96	1.25E+005	656.03	7.98E+004
3	338-	366	352.75	88.27	0.98	2.33E+005	870.59	1.14E+005
4	481-	496	488.85	122.29	0.99	8.99E+004	474.96	4.53E+004
5	538-	555	546.42	136.68	1.01	1.15E+004	392.41	4.37E+004
6	657-	670	663.82	166.03	1.01	2.77E+004	331.08	2.97E+004
7	795-	802	798.84	199.78	0.36	1.63E+002	182.03	1.64E+004
8	1010-	1029	1020.75	255.25	0.94	9.14E+002	341.07	3.29E+004
9	1405-	1412	1408.13	352.09	0.55	2.95E+002	138.20	9.32E+003
10	1556-	1577	1566.49	391.68	1.22	1.34E+004	322.75	2.42E+004
11	2050-	2064	2055.42	513.91	0.86	7.94E+002	191.76	1.25E+004
12	2633-	2656	2645.80	661.49	1.39	2.47E+005	552.56	1.44E+004
13	2801-	2813	2808.79	702.23	0.44	4.54E+001	134.92	6.90E+003
14	3580-	3606	3591.35	897.86	1.56	1.39E+004	304.61	1.79E+004
15	4674-	4719	4692.79	1173.20	1.69	2.59E+005	578.35	1.11E+004
16	5314-	5355	5330.49	1332.61	1.77	2.38E+005	504.34	2.74E+003
17	6510-	6521	6515.15	1628.76	0.48	1.78E+001	28.45	3.15E+002
18	7332-	7364	7347.76	1836.89	1.90	9.11E+003	109.00	5.38E+002
19	7570-	7583	7576.84	1894.16	1.04	1.64E+001	22.90	1.81E+002

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: STANDARD 6HOURS 14DEC2016
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	6.1426E+002	6.14E+002	7.9050E+002
+	Co-60	1173.23*	99.85	2.9926E+002	1.56E+002	6.0697E+004
		1332.49*	99.98	1.5625E+002		6.1287E+004
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	8.5133E+006	1.66E+002	1.8734E+006
		661.66*	84.99	1.6635E+002		3.6638E+004
	Tl-208	72.80	2.02	2.2227E+004	2.57E+002	4.0959E+003
		74.97	3.41	1.2184E+004		-5.0407E+003
		84.90	1.51	2.4461E+004		-9.1083E+003
		277.36	6.31	3.0932E+003		-4.4235E+002
		510.77	22.60	1.0081E+003		6.6218E+001
		583.19	84.50	2.5716E+002		7.7237E+001
		763.13	1.81	1.3444E+004		6.9063E+003
		860.56	12.42	2.3899E+003		-9.4190E+002
	Bi-212	39.86	1.06	2.8613E+006	3.44E+003	-2.9549E+006
		727.33	6.74	3.4411E+003		2.4482E+003
		785.37	1.11	2.2595E+004		-1.2803E+004
		1620.74	1.51	7.6739E+003		5.1200E+003
		1806.00	0.09	1.0251E+005		2.3956E+004
	Pb-212	74.81	10.40	4.0139E+003	4.56E+002	-2.3797E+002
		77.11	17.50	2.2306E+003		-1.0654E+003
		87.30	7.81	7.0466E+003		-8.5563E+002
		115.18	0.59	3.2991E+004		-3.0231E+003
		238.63	43.30	4.5613E+002		-6.1892E+000
		300.09	3.28	5.9340E+003		-2.3475E+003
	Bi-214	76.86	0.43	4.9843E+004	2.63E+002	-2.4743E+004
		89.81	0.24	1.1190E+005		-2.8749E+002
		386.77	0.30	3.9747E+004		2.0340E+004
		454.77	0.29	4.3773E+004		7.7226E+003
		609.31	45.49	2.6339E+002		1.0816E+002
		665.45	1.53	2.7051E+004		-1.3840E+004
		703.11	0.48	2.5656E+004		3.7891E+002
		719.86	0.39	3.1755E+004		1.7060E+004
		768.36	4.89	2.7014E+003		-1.5812E+002
		786.10	0.31	4.3843E+004		5.7283E+002
		806.17	1.26	1.1065E+004		-1.9950E+003
		934.06	3.10	6.0659E+003		-2.8163E+003
		964.08	0.36	5.1423E+004		1.2198E+004
		1051.96	0.31	5.5955E+004		-5.1866E+004
		1120.29	14.91	1.1348E+003		-1.6692E+002

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
	Bi-214	1133.66	0.25	6.0723E+004	2.63E+002	-2.1386E+003
		1155.19	1.63	9.1772E+003		6.1441E+002
		1207.68	0.45	2.4332E+004		-1.3467E+004
		1238.11	5.79	1.6851E+003		9.5720E+002
		1280.96	1.43	6.0989E+003		-2.5117E+003
		1377.67	4.00	1.5159E+003		-3.0087E+002
		1385.31	0.76	7.8956E+003		-1.0018E+004
		1401.50	1.27	4.8363E+003		-1.0927E+003
		1407.98	2.15	2.8715E+003		1.2505E+003
		1509.23	2.11	3.0176E+003		-1.9324E+003
		1538.50	0.38	1.7171E+004		-1.1056E+003
		1543.32	0.20	3.3450E+004		-8.5249E+003
		1583.22	0.69	9.8341E+003		-5.8280E+003
		1594.73	0.25	2.7485E+004		-1.6895E+004
		1599.31	0.23	3.0094E+004		-1.8900E+004
		1661.28	1.15	5.0512E+003		-5.4326E+002
		1683.99	0.22	2.6099E+004		6.8923E+003
		1729.59	2.92	1.8177E+003		-7.7052E+002
		1764.49	15.40	3.4160E+002		-1.0620E+001
		1847.42	2.11	2.2932E+003		-2.3817E+002
		1873.16	0.22	2.1522E+004		7.5479E+003
>		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	9.2252E+004	2.94E+002	-1.7450E+005
		74.81	6.44	3.5045E+003		-2.0777E+002
		77.11	10.80	1.9541E+003		-9.3335E+002
		87.30	4.84	6.1475E+003		-7.4645E+002
		242.00	7.43	1.4306E+003		6.9252E+002
		258.87	0.52	2.0445E+004		-7.2253E+003
		274.80	0.47	2.2316E+004		1.0977E+003
		295.22	19.30	5.4853E+002		2.7718E+002
		351.93	37.60	2.9384E+002		7.7436E+001
		462.00	0.22	5.7454E+004		2.1120E+004
		533.66	0.19	6.1671E+004		-1.3364E+004
		785.96	1.07	1.2679E+004		-7.2944E+003
		839.04	0.59	2.6367E+004		7.9926E+003
	Ra-224	81.07	0.13	2.7414E+005	4.80E+003	-1.9930E+005
		83.78	0.22	1.6075E+005		-1.2397E+005
		240.99	4.10	4.8044E+003		2.2908E+003
	Ra-226	81.07	0.20	9.8558E+004	2.78E+003	-7.1651E+004
		83.78	0.33	5.7496E+004		-4.4341E+004
		94.90	0.15	8.1142E+004		-5.8966E+003
		186.21	3.59	2.7809E+003		2.2970E+003
	Ac-228	99.50	1.26	1.6810E+004	1.25E+003	-9.6087E+003
		129.07	2.50	6.8496E+003		-1.8202E+002
		209.25	3.97	4.8549E+003		-1.9100E+003
		270.24	3.55	5.5327E+003		6.1840E+001
		328.00	3.04	6.6438E+003		3.5865E+003
		338.32	11.40	1.7689E+003		8.4747E+002
		409.46	2.02	1.0741E+004		2.5046E+003

Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
Ac-228	463.00	4.45	5.2706E+003	1.25E+003	-2.1217E+003
	755.31	1.03	2.3459E+004		1.1158E+004
	772.29	1.52	1.6145E+004		-1.8878E+003
	794.94	4.31	5.8665E+003		2.5593E+003
	835.70	1.70	1.6698E+004		3.9111E+003
	911.20	26.20	1.2548E+003		-7.9204E+002
	964.79	4.99	6.8725E+003		9.5083E+002
	968.96	15.90	2.0976E+003		-1.0028E+003
	1588.20	3.06	4.1330E+003		-1.9164E+002
	1630.62	1.52	7.3780E+003		1.8723E+001
Th-228	84.37	1.26	2.7775E+004	2.78E+004	-7.4919E+003
	131.61	0.13	1.3093E+005		-1.4030E+004
	166.41	0.10	2.0509E+005		2.9454E+006
	215.98	0.25	7.8915E+004		8.4587E+003
Pa-234m	258.23	0.07	1.4537E+005	2.05E+004	-1.5900E+004
	742.81	0.09	1.3600E+005		2.5055E+004
	766.36	0.32	4.0744E+004		-1.1403E+004
	786.27	0.05	2.5332E+005		3.3098E+003
	1001.03	0.85	2.0491E+004		-6.7261E+003
	1737.77	0.02	2.4703E+005		-2.1734E+005
Th-234	63.30	3.75	1.1016E+004	2.90E+003	-2.6856E+004
	92.59	4.33	2.8984E+003		4.7321E+002
	112.81	0.22	4.9299E+004		2.3097E+004

+ = 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: STANDARD 6HOURS 14DEC2016
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

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

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Co-57	0.966	122.06*		85.51	2.89517E+004	6.86179E+002
		136.47*		10.71	2.92455E+004	1.29543E+003
Co-60	0.998	1173.23*		99.85	6.06967E+004	1.50403E+003
		1332.49*		99.98	6.12870E+004	1.55345E+003
		2505.71	@	0.10		
Kr-85	0.999	514.00*		0.44	2.11558E+004	5.17891E+003
Sr-85	0.632	514.00*		98.50	6.34639E+004	1.54694E+004
Y-88	0.795	898.04*		93.90	1.26060E+005	4.00086E+003
		1836.05*		99.32	1.26351E+005	5.06701E+003
		2734.07	@	0.61		
Cd-109	0.982	88.03*		3.63	1.24081E+006	3.48270E+004
Sn-113	0.865	255.13*		2.11	1.30198E+005	4.90285E+004
		391.70*		64.97	7.75446E+004	3.18829E+003
Cs-137	0.993	32.06	@	5.54		
		661.66*		84.99	3.66384E+004	1.01594E+003
Ce-139	0.899	165.86*		79.89	4.60323E+004	1.39630E+003
Pb-210	0.990	46.54*		4.25	1.08714E+006	5.24787E+004
Am-241	0.990	26.34	@	2.31		
		59.54*		35.92	9.80722E+004	2.87323E+003

* = 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

****
***** INTERFERENCE CORRECTED REPORT *****
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	Nuclide Name		Nuclide Id Confidence	Wt mean Activity (pCi/GWET)	Wt mean Activity Uncertainty
	Co-57		0.966	2.901606E+004	6.063866E+002
	Co-60	@	0.998	6.098229E+004	1.080560E+003
?	Kr-85		0.999	2.115581E+004	5.178907E+003
?	Sr-85		0.632	6.346386E+004	1.546940E+004
	Y-88	@	0.795	1.261720E+005	3.140781E+003
	Cd-109		0.982	1.240812E+006	3.482705E+004
	Sn-113		0.865	7.776625E+004	3.181580E+003
	Cs-137	@	0.993	3.663839E+004	1.015936E+003
	Ce-139		0.899	4.603235E+004	1.396298E+003
X	Tl-207		0.999		
	Pb-210		0.990	1.087141E+006	5.247865E+004
	Am-241	@	0.990	9.807217E+004	2.873226E+003

? = 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

********** UNIDENTIFIED PEAKS **********

Peak Locate Performed on: 12/14/2016 5:28:49 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
7	199.78	7.5295E-003	111.93		
9	352.09	1.2715E-002	50.43	Tol.	Pb-214
13	702.23	2.1004E-003	297.39	Tol.	Rh-106
					Bi-214
17	1628.76	8.2235E-004	160.15		
19	1894.16	7.6025E-004	139.46		

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

Errors quoted at 1.000 sigma