```
*************************************************************************
*****        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-N002-A05-S007-1218-01.CNF

Report Generated On	: 10/21/2016 11:47:04 AM
Sample Title	: N002-A05-S007-1218-01
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	: 6.967E+002 GWET
Sample Taken On	: 10/12/2016 4:12:00 PM
Acquisition Started	: 10/21/2016 9:45:36 AM
Live Time	: 7200.0 seconds
Real Time	: 7286.2 seconds
Dead Time	: 1.18 %

Energy Calibration Used Done On	: 10/12/2016
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-S007-1218-01
Peak Analysis Performed on: 10/21/2016 11:47:05 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
	1	229-	236	231.73	57.98	0.39	3.29E+001	202.48	2.03E+004
	2	247-	258	253.78	63.49	0.55	2.94E+002	287.39	3.28E+004
M	3	285-	316	299.82	75.01	1.02	2.15E+004	219.13	4.05E+004
m	4	285-	316	308.87	77.28	1.02	3.37E+004	254.73	4.39E+004
M	5	321-	384	325.76	81.50	1.25	4.14E+002	169.12	4.09E+004
m	6	321-	384	337.83	84.52	1.25	6.50E+003	186.05	5.02E+004
m	7	321-	384	349.31	87.39	1.25	1.95E+004	227.30	4.99E+004
m	8	321-	384	360.27	90.14	1.26	1.84E+004	225.06	4.96E+004
m	9	321-	384	373.45	93.43	1.26	2.27E+004	237.63	5.24E+004
	10	387-	406	398.53	99.71	1.04	5.28E+003	469.95	6.15E+004
M	11	413-	441	421.95	105.56	1.42	8.51E+003	233.40	5.76E+004
m	12	413-	441	435.68	109.00	1.42	2.30E+003	190.29	4.87E+004
	13	456-	469	460.96	115.32	0.81	1.58E+003	356.08	4.53E+004
	14	503-	522	516.65	129.26	1.07	1.02E+004	505.20	7.00E+004
M	15	571-	591	575.71	144.03	0.68	6.85E+002	144.72	2.99E+004
m	16	571-	591	583.69	146.03	0.68	5.86E+002	138.99	2.97E+004
	17	609-	623	616.10	154.14	0.93	3.79E+003	377.27	4.81E+004
	18	650-	657	653.43	163.47	0.71	3.75E+002	220.91	2.40E+004
	19	736-	754	744.01	186.14	1.16	9.52E+003	444.11	5.55E+004
	20	761-	770	765.05	191.40	0.71	3.64E+002	254.04	2.84E+004
	21	791-	802	797.70	199.57	1.22	1.30E+003	289.68	3.29E+004
	22	830-	853	836.88	209.37	1.07	2.03E+004	523.45	6.27E+004
	23	854-	871	863.91	216.13	1.01	1.37E+003	385.99	4.53E+004
M	24	913-	979	916.16	229.20	1.10	2.24E+002	131.88	2.38E+004
m	25	913-	979	933.51	233.54	1.11	9.28E+002	147.36	3.47E+004
m	26	913-	979	943.39	236.02	1.11	1.98E+003	152.79	3.40E+004
m	27	913-	979	954.19	238.72	1.11	2.71E+005	595.97	2.80E+004
m	28	913-	979	964.39	241.27	1.12	2.82E+004	208.15	2.55E+004
M	29	1003-	1041	1009.89	252.65	1.04	1.06E+003	124.62	2.20E+004
m	30	1003-	1041	1025.36	256.52	1.05	6.05E+002	112.12	1.99E+004
m	31	1003-	1041	1034.97	258.93	1.05	8.50E+002	118.45	2.11E+004
	32	1068-	1090	1080.42	270.30	1.22	1.75E+004	380.70	3.29E+004
	33	1103-	1121	1108.91	277.42	1.13	1.04E+004	316.39	2.63E+004
	34	1142-	1162	1152.21	288.26	1.07	1.79E+003	318.21	2.74E+004
	35	1171-	1190	1180.24	295.27	1.14	2.32E+004	334.34	2.53E+004
	36	1193-	1208	1199.84	300.17	1.14	1.56E+004	272.99	1.95E+004
M	37	1279-	1342	1285.29	321.55	1.18	9.83E+002	102.82	1.54E+004
m	38	1279-	1342	1294.24	323.79	1.18	3.90E+002	100.04	1.65E+004
m	39	1279-	1342	1311.12	328.01	1.19	1.27E+004	197.75	1.64E+004
m	40	1279-	1342	1328.59	332.38	1.19	1.58E+003	105.62	1.64E+004
M	41	1342-	1371	1352.41	338.34	1.17	5.20E+004	256.65	1.56E+004
m	42	1342-	1371	1362.95	340.98	1.17	1.52E+003	101.22	1.50E+004

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	43	1397-	1422	1406.78	351.94	1.17	4.21E+004	380.29	2.37E+004
	44	1449-	1456	1452.22	363.31	0.67	8.00E+001	117.92	6.85E+003
M	45	1613-	1644	1618.02	404.79	1.15	2.92E+002	83.31	9.70E+003
m	46	1613-	1644	1636.68	409.46	1.15	7.33E+003	130.14	1.16E+004
	47	1803-	1823	1809.88	452.79	1.03	1.36E+003	223.46	1.34E+004
M	48	1836-	1871	1850.61	462.98	1.27	1.61E+004	155.85	9.48E+003
m	49	1836-	1871	1865.94	466.81	1.27	3.05E+002	75.29	8.06E+003
	50	1907-	1919	1911.32	478.17	0.84	5.31E+002	145.75	7.84E+003
	51	1942-	1958	1946.91	487.07	0.74	2.66E+002	172.83	9.44E+003
	52	2008-	2024	2013.96	503.84	0.89	4.35E+002	175.04	9.62E+003
	53	2024-	2061	2041.29	510.68	1.41	3.23E+004	389.29	2.07E+004
M	54	2174-	2207	2184.42	546.49	1.15	4.87E+002	77.08	7.75E+003
m	55	2174-	2207	2197.31	549.71	1.15	3.40E+002	70.99	7.54E+003
	56	2241-	2255	2248.06	562.41	1.15	2.75E+003	154.45	7.32E+003
	57	2312-	2347	2330.84	583.12	1.36	9.33E+004	429.85	1.66E+004
	58	2426-	2445	2435.30	609.25	1.36	3.50E+004	253.02	8.27E+003
	59	2457-	2469	2462.20	615.98	0.88	1.43E+002	118.99	5.31E+003
	60	2599-	2610	2603.80	651.41	0.60	2.50E+002	109.68	4.69E+003
	61	2652-	2668	2659.78	665.41	1.39	1.10E+003	148.09	6.65E+003
	62	2690-	2701	2695.96	674.46	0.97	1.72E+002	110.11	4.76E+003
	63	2726-	2736	2731.26	683.29	0.42	1.41E+002	101.52	4.26E+003
M	64	2800-	2838	2808.15	702.53	2.23	8.27E+002	88.67	8.63E+003
m	65	2800-	2838	2827.64	707.41	2.23	7.91E+002	88.43	9.32E+003
	66	2897-	2917	2906.81	727.21	1.41	2.05E+004	215.66	7.17E+003
	67	3009-	3029	3018.72	755.21	1.31	2.41E+003	162.49	6.60E+003
M	68	3036-	3101	3051.14	763.32	1.55	1.78E+003	72.83	5.72E+003
m	69	3036-	3101	3070.99	768.28	1.55	3.32E+003	82.74	5.44E+003
m	70	3036-	3101	3086.75	772.23	1.55	4.09E+003	88.40	5.17E+003
M	71	3119-	3149	3126.06	782.06	1.43	1.30E+003	64.06	4.00E+003
m	72	3119-	3149	3139.88	785.52	1.43	3.38E+003	84.05	4.49E+003
	73	3166-	3192	3177.31	794.88	1.51	1.13E+004	192.47	5.85E+003
	74	3211-	3236	3222.66	806.23	1.33	7.36E+002	152.54	5.29E+003
M	75	3308-	3368	3319.76	830.52	1.60	1.34E+003	61.46	3.84E+003
m	76	3308-	3368	3340.34	835.67	1.60	4.17E+003	83.13	3.67E+003
m	77	3308-	3368	3358.52	840.22	1.60	2.59E+003	71.13	3.66E+003
	78	3428-	3450	3439.68	860.52	1.54	1.17E+004	162.21	3.77E+003
	79	3489-	3501	3493.55	874.00	1.27	1.44E+002	75.54	2.11E+003
	80	3562-	3579	3571.02	893.38	1.43	8.42E+002	99.59	2.79E+003
	81	3603-	3624	3614.30	904.21	1.40	1.76E+003	121.00	3.43E+003
	82	3626-	3657	3642.22	911.19	1.56	6.74E+004	301.05	4.65E+003
	83	3720-	3741	3733.89	934.12	1.59	1.70E+003	110.51	2.79E+003
	84	3761-	3779	3773.35	944.00	1.37	1.45E+002	89.33	2.32E+003
	85	3798-	3815	3805.90	952.14	1.04	4.37E+002	85.74	2.12E+003
	86	3822-	3840	3831.55	958.56	1.34	5.84E+002	89.73	2.21E+003
M	87	3840-	3887	3856.48	964.79	1.58	1.24E+004	119.58	2.43E+003
m	88	3840-	3887	3873.26	968.99	1.59	4.00E+004	205.26	2.21E+003
	89	3910-	3920	3914.11	979.21	1.16	2.00E+001	53.08	1.17E+003
	90	3939-	3959	3951.31	988.52	1.83	4.26E+002	88.38	2.04E+003
	91	3992-	4011	4001.28	1001.02	1.58	6.24E+002	87.06	1.98E+003
	92	4119-	4140	4130.38	1033.31	1.03	4.85E+002	89.23	1.99E+003

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
93	4197-	4209	4204.65	1051.90	0.64	6.16E+001	58.22	1.26E+003
94	4245-	4269	4258.65	1065.41	1.28	4.85E+002	101.46	2.38E+003
95	4297-	4323	4312.21	1078.80	1.81	1.26E+003	106.36	2.30E+003
96	4361-	4393	4373.20	1094.06	2.13	1.24E+003	122.45	2.68E+003
97	4430-	4458	4439.51	1110.65	1.71	1.01E+003	107.65	2.27E+003
98	4462-	4497	4478.65	1120.44	1.72	8.28E+003	155.83	2.89E+003
99	4603-	4628	4618.30	1155.38	1.27	1.06E+003	102.51	2.22E+003
100	4648-	4663	4655.39	1164.66	0.62	1.56E+002	63.09	1.27E+003
101	4822-	4839	4828.55	1207.98	1.27	2.04E+002	70.01	1.44E+003
102	4937-	4961	4950.19	1238.41	1.73	2.88E+003	105.81	2.02E+003
103	4970-	5004	4985.90	1247.34	2.15	1.20E+003	131.51	2.99E+003
104	5109-	5131	5122.11	1281.42	1.55	7.72E+002	86.76	1.74E+003
105	5499-	5522	5508.61	1378.11	1.68	1.86E+003	99.76	2.02E+003
106	5529-	5548	5539.54	1385.85	1.69	4.07E+002	73.79	1.44E+003
M107	5592-	5648	5603.74	1401.91	1.71	5.28E+002	39.85	1.55E+003
m108	5592-	5648	5630.22	1408.53	1.71	1.06E+003	47.53	1.51E+003
109	5817-	5857	5836.32	1460.10	2.88	2.45E+003	129.92	2.35E+003
M110	5968-	6018	5981.95	1496.53	1.91	1.68E+003	52.69	1.33E+003
m111	5968-	6018	6004.86	1502.26	1.91	9.28E+002	43.06	1.32E+003
M112	6022-	6062	6035.30	1509.88	1.81	9.12E+002	43.03	1.29E+003
m113	6022-	6062	6049.40	1513.40	1.81	6.33E+002	38.38	1.27E+003
M114	6139-	6177	6150.52	1538.70	2.23	3.30E+002	37.75	1.26E+003
m115	6139-	6177	6171.58	1543.97	2.23	1.78E+002	31.85	1.03E+003
116	6219-	6240	6226.65	1557.75	1.59	2.59E+002	66.89	1.12E+003
117	6301-	6339	6320.63	1581.26	1.79	1.05E+003	118.87	2.23E+003
M118	6339-	6383	6351.27	1588.92	1.91	5.61E+003	82.81	1.48E+003
m119	6339-	6383	6368.91	1593.34	1.91	3.15E+003	65.23	1.46E+003
M120	6469-	6534	6481.80	1621.58	1.86	2.54E+003	59.10	1.19E+003
m121	6469-	6534	6499.52	1626.01	1.86	4.23E+002	33.48	1.15E+003
m122	6469-	6534	6521.25	1631.45	1.86	2.92E+003	62.07	1.10E+003
123	6541-	6567	6551.53	1639.02	1.76	8.50E+002	77.89	1.19E+003
M124	6635-	6677	6644.43	1662.26	1.86	4.60E+002	35.60	9.50E+002
m125	6635-	6677	6665.01	1667.41	1.87	3.69E+002	32.38	9.94E+002
126	6738-	6751	6743.74	1687.11	0.64	5.57E+001	44.17	6.79E+002
127	6767-	6781	6772.79	1694.37	0.62	1.06E+002	43.57	6.21E+002
128	6907-	6934	6917.81	1730.66	1.94	1.53E+003	79.46	1.06E+003
129	7041-	7074	7057.50	1765.60	1.95	6.62E+003	119.42	1.46E+003
130	7211-	7237	7224.57	1807.40	2.14	2.34E+002	70.24	1.07E+003
131	7377-	7401	7390.32	1848.86	2.23	9.89E+002	71.95	1.02E+003

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: N002-A05-S007-1218-01
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	4.9435E+000	4.94E+000	2.1410E+001
	Co-60	1173.23	99.85	3.2568E-001	3.26E-001	1.6396E-001
		1332.49	99.98	3.5359E-001		1.5783E-001
>		2505.71	0.10	0.0000E+000		0.0000E+000
	Cs-137	32.06	5.54	7.6793E+003	5.37E-001	1.1169E+003
		661.66	84.99	5.3711E-001		-4.8042E-002
+	Tl-208	72.80	2.02	5.6902E+001	8.27E-001	-1.1123E+001
		74.97*	3.41	1.9131E+001		3.1078E+002
		84.90*	1.51	3.3725E+001		1.4853E+002
		277.36*	6.31	6.5651E+000		4.8702E+001
		510.77*	22.60	3.2073E+000		6.4123E+001
		583.19*	84.50	8.2691E-001		5.4759E+001
		763.13*	1.81	1.6610E+001		5.9212E+001
		860.56*	12.42	2.9704E+000		6.1588E+001
+	Bi-212	39.86	1.06	4.3309E+003	6.49E+000	-9.2686E+001
		727.33*	6.74	6.4860E+000		1.7668E+002
		785.37*	1.11	2.4505E+001		1.8672E+002
		1620.74*	1.51	1.5343E+001		1.6944E+002
		1806.00	0.09	3.9279E+002		2.6248E+002
+	Pb-212	74.81*	10.40	6.2726E+000	6.97E-001	1.0190E+002
		77.11*	17.50	3.5120E+000		8.5648E+001
		87.30*	7.81	6.0275E+000		7.9721E+001
		115.18*	0.59	7.0141E+001		6.7298E+001
		238.63*	43.30	6.9720E-001		1.7105E+002
		300.09*	3.28	1.0736E+001		1.4832E+002
+	Bi-214	76.86*	0.43	1.4303E+002	8.87E-001	3.4881E+003
		89.81*	0.24	1.7939E+002		2.2540E+003
		386.77	0.30	1.4210E+002		1.2927E+002
		454.77	0.29	1.4404E+002		2.6582E+002
		609.31*	45.49	8.8666E-001		3.9041E+001
		665.45*	1.53	2.3811E+001		3.8766E+001
		703.11*	0.48	7.1976E+001		9.7032E+001
		719.86	0.39	1.1365E+002		1.3799E+001
		768.36*	4.89	5.9660E+000		4.0596E+001
		786.10*	0.31	8.6986E+001		6.6283E+002
		806.17*	1.26	3.4375E+001		3.6088E+001
		934.06*	3.10	1.0598E+001		3.7657E+001
		964.08*	0.36	6.3082E+001		2.3842E+003
		1051.96*	0.31	6.3910E+001		1.4525E+001
		1120.29*	14.91	3.0728E+000		4.3067E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	1.2855E+002	8.87E-001	1.1959E+002
		1155.19*	1.63	2.2014E+001		5.1332E+001
		1207.68*	0.45	5.8143E+001		3.6832E+001
		1238.11*	5.79	6.1150E+000		4.1244E+001
		1280.96*	1.43	2.2853E+001		4.5819E+001
		1377.67*	4.00	9.3913E+000		4.1485E+001
		1385.31*	0.76	3.9371E+001		4.8138E+001
		1401.50*	1.27	1.8624E+001		3.7546E+001
		1407.98*	2.15	1.0892E+001		4.4548E+001
		1509.23*	2.11	1.0746E+001		4.1084E+001
		1538.50*	0.38	6.0545E+001		8.4481E+001
		1543.32*	0.20	1.0314E+002		8.5908E+001
		1583.22	0.69	8.5507E+001		1.4516E+002
		1594.73	0.25	2.7043E+002		3.9566E+001
		1599.31	0.23	2.0751E+002		5.0490E+001
		1661.28*	1.15	1.8172E+001		4.0742E+001
		1683.99	0.22	1.5968E+002		1.4593E+002
		1729.59	2.92	1.4246E+001		4.7759E+001
		1764.49	15.40	4.3053E+000		4.6005E+001
		1847.42	2.11	1.9636E+001		3.5660E+001
		1873.16	0.22	1.7052E+002		1.5834E+002
>		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	3.6274E+002	1.36E+000	-9.9360E+001
		74.81*	6.44	1.0042E+001		1.6314E+002
		77.11*	10.80	5.6417E+000		1.3759E+002
		87.30*	4.84	9.6424E+000		1.2753E+002
		242.00*	7.43	3.8657E+000		1.0362E+002
		258.87*	0.52	5.1766E+001		4.5904E+001
		274.80	0.47	9.6561E+001		-6.5676E+001
		295.22*	19.30	2.1954E+000		3.6643E+001
		351.93*	37.60	1.3588E+000		3.8320E+001
		462.00*	0.22	1.2098E+002		3.0288E+003
		533.66	0.19	2.2005E+002		1.0199E+001
		785.96*	1.07	2.5202E+001		1.9203E+002
		839.04	0.59	8.5257E+001		-2.2225E+000
+	Ra-224	81.07*	0.13	3.8593E+002	7.07E+000	1.1977E+002
		83.78*	0.22	2.3467E+002		1.0335E+003
		240.99*	4.10	7.0663E+000		1.8941E+002
+	Ra-226	81.07*	0.20	2.5442E+002	1.39E+001	7.8956E+001
		83.78*	0.33	1.5392E+002		6.7789E+002
		94.90	0.15	3.8490E+002		-7.3750E+000
		186.21*	3.59	1.3870E+001		6.5098E+001
+	Ac-228	99.50*	1.26	4.4883E+001	1.39E+000	1.0970E+002
		129.07*	2.50	2.2868E+001		1.0139E+002
		209.25*	3.97	1.5266E+001		1.3223E+002
		270.24*	3.55	1.3693E+001		1.4430E+002
		328.00*	3.04	9.1665E+000		1.3818E+002
		338.32*	11.40	2.4308E+000		1.5331E+002
		409.46*	2.02	1.3488E+001		1.3923E+002

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	6.0602E+000	1.39E+000	1.5173E+002
		755.31*	1.03	4.1872E+001		1.3964E+002
		772.29*	1.52	1.8950E+001		1.6302E+002
		794.94*	4.31	1.0739E+001		1.6235E+002
		835.70*	1.70	1.5102E+001		1.5688E+002
		911.20*	26.20	1.8476E+000		1.7470E+002
		964.79*	4.99	4.6288E+000		1.7494E+002
		968.96*	15.90	1.3915E+000		1.7845E+002
		1588.20*	3.06	8.3138E+000		1.8212E+002
		1630.62*	1.52	1.4736E+001		1.9453E+002
+	Th-228	84.37*	1.26	4.0416E+001	4.04E+001	1.7800E+002
		131.61	0.13	3.8782E+002		-3.4521E+002
		166.41	0.10	4.5748E+002		9.3541E+001
		215.98*	0.25	1.8437E+002		1.4128E+002
+	Pa-234m	258.23*	0.07	3.6755E+002	3.31E+001	3.2593E+002
		742.81	0.09	4.7093E+002		6.9497E+001
		766.36	0.32	1.6017E+002		-9.7037E+002
		786.27*	0.05	5.0309E+002		3.8335E+003
		1001.03*	0.85	3.3138E+001		5.2560E+001
		1737.77	0.02	1.6065E+003		4.4937E+002
+	Th-234	63.30*	3.75	3.5510E+001	9.78E+000	6.9187E+000
		92.59*	4.33	9.7814E+000		1.4641E+002
		112.81	0.22	2.1958E+002		-1.1251E+002

+ = 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-S007-1218-01
Nuclide Library Used: C:\GENIE2K\CAMFILES\ERT_LIBRARY_LMDA.NLB

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

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Be-7	0.951	477.60*	10.44	2.42665E+000	6.71564E-001
K-40	0.919	1460.82*	10.55	2.14103E+001	1.27724E+000
Te-132	0.748	49.72	15.10		
		111.81	1.85		
		116.34	1.97		
		228.33*	88.12	4.45256E-001	2.62545E-001
Ce-141	0.940	40.82 @	2.67		
		145.44*	48.29	3.52514E-001	8.43196E-002
Eu-152m	0.987	89.85*	69.90	7.87766E+000	2.79395E-001
Eu-155	0.909	45.30	1.31		
		60.01	1.22		
		86.55*	30.70	2.01761E+001	7.35527E-001
		105.31*	21.10	1.01061E+001	4.87408E-001
Tl-208	0.976	72.80 @	2.02		
		74.97* @	3.41	3.10779E+002	1.12345E+001
		84.90* @	1.51	1.48530E+002	6.59581E+000
		277.36*	6.31	4.87016E+001	2.60156E+000
		510.77* @	22.60	6.41229E+001	2.31408E+000
		583.19*	84.50	5.47594E+001	1.79361E+000
		763.13* @	1.81	5.92120E+001	2.83650E+000
		860.56*	12.42	6.15877E+001	1.75004E+000
TL-208e	0.902	1592.53*	99.16	3.16452E+000	2.04414E-001
Bi-211	0.875	351.03*	13.00	1.10916E+002	4.62923E+000
Bi-212	0.944	39.86 @	1.06		
		727.33*	6.74	1.76684E+002	5.87282E+000
		785.37*	1.11	1.86723E+002	6.73527E+000
		1620.74*	1.51	1.69442E+002	6.80737E+000
		1806.00 @	0.09		
Pb-212	0.997	74.81*	10.40	1.01900E+002	4.71267E+000
		77.11*	17.50	8.56483E+001	3.91362E+000
		87.30*	7.81	7.97213E+001	3.78837E+000
		115.18* @	0.59	6.72982E+001	1.53190E+001
		238.63*	43.30	1.71049E+002	7.70557E+000
		300.09*	3.28	1.48325E+002	6.62619E+000
Bi-214	0.744	76.86* @	0.43	3.48808E+003	1.63712E+002
		89.81* @	0.24	2.25402E+003	1.13705E+002
		386.77 @	0.30		
		454.77 @	0.29		
		609.31*	45.49	3.90415E+001	1.22784E+000
		665.45* @	1.53	3.87662E+001	5.34799E+000
		703.11* @	0.48	9.70320E+001	1.09522E+001

Nuclide Name	Id Confidence	Energy (keV)		Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.744	719.86	@	0.39		
		768.36*		4.89	4.05956E+001	1.43703E+000
		786.10*	@	0.31	6.62826E+002	1.09385E+002
		806.17*	@	1.26	3.60882E+001	7.53566E+000
		934.06*		3.10	3.76571E+001	2.59839E+000
		964.08*	@	0.36	2.38415E+003	9.92675E+001
		1051.96*	@	0.31	1.45250E+001	1.37458E+001
		1120.29*		14.91	4.30667E+001	1.33313E+000
		1133.66	@	0.25		
		1155.19*	@	1.63	5.13317E+001	5.12711E+000
		1207.68*	@	0.45	3.68316E+001	1.27646E+001
		1238.11*		5.79	4.12440E+001	1.91909E+000
		1280.96*	@	1.43	4.58193E+001	5.31540E+000
		1377.67*		4.00	4.14854E+001	2.52716E+000
		1385.31*	@	0.76	4.81376E+001	8.88471E+000
		1401.50*	@	1.27	3.75461E+001	3.03751E+000
		1407.98*	@	2.15	4.45476E+001	2.50592E+000
		1509.23*	@	2.11	4.10836E+001	2.31878E+000
		1538.50*	@	0.38	8.44814E+001	1.03806E+001
		1543.32*	@	0.20	8.59079E+001	2.64987E+001
		1583.22	@	0.69		
		1594.73	@	0.25		
		1599.31	@	0.23		
		1661.28*	@	1.15	4.07422E+001	3.50512E+000
		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	0.964	53.28	@	1.20		
		74.81*		6.44	1.63140E+002	7.94227E+000
		77.11*		10.80	1.37586E+002	7.07377E+000
		87.30*		4.84	1.27532E+002	6.52363E+000
		242.00*		7.43	1.03617E+002	4.85857E+000
		258.87*	@	0.52	4.59043E+001	6.75916E+000
		274.80	@	0.47		
		295.22*		19.30	3.66427E+001	1.61573E+000
		351.93*		37.60	3.83199E+001	1.55254E+000
		462.00*	@	0.22	3.02882E+003	1.66072E+002
		533.66	@	0.19		
		785.96*	@	1.07	1.92034E+002	1.58471E+001
		839.04	@	0.59		
Rn-220	1.000	549.73*		0.11	1.41610E+002	3.66417E+001
Ra-223	0.647	81.07*		15.30	1.01739E+000	4.17421E-001
		83.78*		25.40	8.76039E+000	4.25533E-001
		94.90		11.50		
		122.32	@	1.21		
		144.24*		3.27	4.99125E+000	1.08757E+000

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ra-223	0.647	154.21*	5.70	1.59941E+001	1.75560E+000
		158.63 @	0.69		
		179.54 @	0.15		
		269.46*	13.90	3.65642E+001	2.02124E+000
		288.18* @	0.16	3.37867E+002	6.23755E+001
		323.87*	3.99	3.16803E+000	8.25170E-001
		328.38* @	0.21	1.99407E+003	1.13037E+002
		338.32*	2.84	6.10570E+002	2.80523E+001
		342.87 @	0.22		
		371.68 @	0.49		
		445.03 @	1.29		
Ra-224	0.983	81.07* @	0.13	1.19768E+002	4.93514E+001
		83.78* @	0.22	1.03355E+003	5.96523E+001
		240.99*	4.10	1.89406E+002	8.73776E+000
Ra-226	0.937	81.07* @	0.20	7.89560E+001	3.25159E+001
		83.78* @	0.33	6.77887E+002	3.90035E+001
		94.90 @	0.15		
		186.21*	3.59	6.50977E+001	4.32250E+000
Ac-228	0.995	99.50* @	1.26	1.09699E+002	1.08284E+001
		129.07* @	2.50	1.01389E+002	6.51359E+000
		209.25*	3.97	1.32229E+002	8.12605E+000
		270.24*	3.55	1.44303E+002	7.93164E+000
		328.00*	3.04	1.38180E+002	7.64058E+000
		338.32*	11.40	1.53314E+002	8.01717E+000
		409.46* @	2.02	1.39227E+002	7.02083E+000
		463.00*	4.45	1.51728E+002	9.89917E+000
		755.31* @	1.03	1.39636E+002	1.14188E+001
		772.29* @	1.52	1.63022E+002	8.37843E+000
		794.94*	4.31	1.62349E+002	7.14484E+000
		835.70* @	1.70	1.56880E+002	8.08485E+000
		911.20*	26.20	1.74700E+002	6.75154E+000
		964.79*	4.99	1.74944E+002	7.42513E+000
		968.96*	15.90	1.78453E+002	7.05554E+000
		1588.20*	3.06	1.82117E+002	8.91641E+000
		1630.62* @	1.52	1.94531E+002	1.01095E+001
Th-228	0.754	84.37*	1.26	1.78000E+002	8.39429E+000
		131.61 @	0.13		
		166.41 @	0.10		
		215.98*	0.25	1.41279E+002	4.03142E+001
Pa-234m	0.484	258.23* @	0.07	3.25930E+002	4.76323E+001
		742.81 @	0.09		
		766.36	0.32		
		786.27* @	0.05	3.83347E+003	1.42948E+002
		1001.03*	0.85	5.25601E+001	7.50513E+000
		1737.77 @	0.02		
Th-234	0.884	63.30*	3.75	6.91869E+000	7.63744E+000
		92.59*	4.33	1.46406E+002	8.00935E+000
		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
	Be-7		0.951	2.426647E+000	6.715642E-001
	K-40		0.919	2.141026E+001	1.277238E+000
X	Mn-54		0.896		
X	Cd-109		0.936		
	Te-132		0.748	4.452558E-001	2.625447E-001
	Ce-141	@	0.940	3.525145E-001	8.431964E-002
	Eu-152m		0.987	7.735570E+000	2.710982E-001
	Eu-155		0.909	7.550495E+000	3.600709E-001
X	Tm-170		0.989		
	Tl-208	@	0.976	5.643666E+001	1.082670E+000
	TL-208e		0.902	3.164516E+000	2.044136E-001
	Bi-211		0.875	2.482023E+001	6.163876E+000
	Bi-212	@	0.944	1.661311E+002	3.306427E+000
	Pb-212	@	0.997	6.400995E+001	1.951928E+000
	Bi-214	@	0.744	4.065669E+001	6.532716E-001
	Pb-214	@	0.964	2.974484E+001	1.513506E+000
	Rn-220		1.000	1.416099E+002	3.664167E+001
	Ra-223	@	0.647	7.698761E-001	3.391348E-001
	Ra-224	@	0.983	1.286899E+002	8.820376E+000
	Ra-226	@	0.937	6.272491E+001	4.171365E+000
	Ac-228	@	0.995	1.631928E+002	1.634457E+000
	Th-228	@	0.754	5.924832E+001	1.022711E+001
X	Th-231		0.987		
	Pa-234m	@	0.484	5.112964E+001	7.480304E+000
	Th-234	@	0.884	7.334895E+001	5.527289E+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: 10/21/2016 11:47:04 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
1	57.98	4.5722E-003	615.08	Tol.	Np-239
m 12	109.00	3.1985E-001	8.26	Tol.	Cs-136
18	163.47	5.2065E-002	58.93	Sum	
20	191.40	5.0536E-002	69.82		
21	199.57	1.8080E-001	22.25	Sum	
m 25	233.54	1.2892E-001	15.87	Sum	
m 26	236.02	2.7477E-001	7.72	Sum	
M 29	252.65	1.4754E-001	11.73		
m 30	256.52	8.4089E-002	18.52	Tol.	Th-227
M 37	321.55	1.3653E-001	10.46	Sum	
m 40	332.38	2.1966E-001	6.68	Sum	
m 42	340.98	2.1115E-001	6.66	Sum	
44	363.31	1.1116E-002	147.34	D-Esc.	
M 45	404.79	4.0514E-002	28.56	Sum	
47	452.79	1.8940E-001	16.39	Sum	
m 49	466.81	4.2339E-002	24.70	Sum	
51	487.07	3.6938E-002	64.98	D-Esc.	
52	503.84	6.0359E-002	40.28	Sum	
M 54	546.49	6.7589E-002	15.84	Sum	
56	562.41	3.8184E-001	5.62	Sum	
59	615.98	1.9827E-002	83.35	Sum	
60	651.41	3.4744E-002	43.84	Sum	
62	674.46	2.3836E-002	64.16		
63	683.29	1.9618E-002	71.88	Sum	
m 65	707.41	1.0992E-001	11.17	Sum	
M 71	782.06	1.8009E-001	4.94		
M 75	830.52	1.8630E-001	4.58	Sum	
m 77	840.22	3.5934E-001	2.75	Sum	
79	874.00	1.9955E-002	52.58	S-Esc.	
80	893.38	1.1690E-001	11.83	Sum	
81	904.21	2.4493E-001	6.86	Sum	
84	944.00	2.0089E-002	61.76	Sum	
85	952.14	6.0629E-002	19.64	Sum	
86	958.56	8.1130E-002	15.36	Sum	
89	979.21	2.7789E-003	265.31	Sum	
90	988.52	5.9212E-002	20.73	Sum	
92	1033.31	6.7345E-002	18.40	S-Esc.	
94	1065.41	6.7327E-002	20.93	Sum	
95	1078.80	1.7473E-001	8.45	S-Esc.	
96	1094.06	1.7268E-001	9.85	Sum	
97	1110.65	1.3966E-001	10.71	S-Esc.	
100	1164.66	2.1735E-002	40.31	Sum	
103	1247.34	1.6681E-001	10.95	Sum	
M110	1496.53	2.3284E-001	3.14	Sum	

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
m111	1502.26	1.2889E-001	4.64	Sum	
m113	1513.40	8.7924E-002	6.06	Sum	
116	1557.75	3.5966E-002	25.83	Sum	
117	1581.26	1.4630E-001	11.28	Sum	
m121	1626.01	5.8723E-002	7.92	Sum	
123	1639.02	1.1804E-001	9.17	Sum	
m125	1667.41	5.1260E-002	8.77	Sum	
126	1687.11	7.7378E-003	79.28	Sum	
127	1694.37	1.4719E-002	41.11	Sum	
128	1730.66	2.1246E-001	5.19	Sum	
129	1765.60	9.1935E-001	1.80	Sum	
130	1807.40	3.2517E-002	30.00	Sum	
131	1848.86	1.3731E-001	7.28	Sum	

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

Errors quoted at 1.000 sigma