Date: _____

9626 Niagara Falls Blvd Onsite Gamma Spec Screening Lab

Gamma Spectroscopy Detector work sheet.

Counted by (Initial,date)	Geometry Description	SMP 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/101316	450 cc SOIL	N002-A05-S011-0006-1	10-12-16 1623	969.8	gwet	7200	Actual Quantity 920.8
CC/101316	450 cc SOIL	N002-A05-S011-0612-1	10-12-16 1623	619.1	gwet	7200	570.1
CC/101316	450 cc SOIL	N002-A05-S011-1218-1	10-12-16 1623	674.8	gwet	7200	625.8
CC/101316	450 cc SOIL	N002-A05-S011-1824-1	10-12-16 1623	603.3	gwet	7200	554.2
CC/101416	450 cc SOIL	N002-A05-S001-0006-1	10-12-16 1445	687.8	gwet	7200	~~576.3~~ 638.8
CC/101416	450 cc SOIL	Asphalt 0006 #1	10-14-16 1250	760.7	gwet	7200	711.7
CC/101416	450 cc SOIL	Area 7-0006	10-14-16 1400	890.4	gwet	7200	841.3
CC/101416	450 cc SOIL	N002-A05-S005-0006-1	10-12-16 1526	625.3	gwet	7200	576.3 *
CC/101516	450 cc SOIL	Asphalt-0006 #2	10-14-16 1250	930.7	gwet	7200	881.7
CC/101516	450 cc SOIL	Asphalt-06-12	10-14-16 1250	1061.8	gwet	7200	1012.9

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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-N002-A05-S011-0612-01.CNF,C:\GENIE2K\

Report Generated On	: 10/19/2016 4:07:45 PM
Sample Title	: N002-A05-S011-0612-01
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	: 5.701E+002 GWET
Sample Taken On	: 10/12/2016 4:23:00 PM
Acquisition Started	: 10/13/2016 12:49:52 PM
Live Time	: 7200.0 seconds
Real Time	: 7206.1 seconds
Dead Time	: 0.08 %

Energy Calibration Used Done On	: 10/12/2016
Efficiency Calibration Used Done On	: 9/27/2016
Efficiency ID	: ERT0101

****
***** PEAK ANALYSIS REPORT *****
****

Detector Name: ERT01
Sample Title: N002-A05-S011-0612-01
Peak Analysis Performed on: 10/19/2016 4:07:45 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	250-	259	254.41	63.65	0.40	8.69E+001	68.20	2.02E+003
M	2	293-	315	299.87	75.02	0.99	2.19E+003	64.87	3.09E+003
m	3	293-	315	308.98	77.30	1.00	3.58E+003	75.52	2.55E+003
M	4	331-	386	337.27	84.38	1.34	6.21E+002	50.07	2.76E+003
m	5	331-	386	349.22	87.37	1.34	1.77E+003	61.82	3.06E+003
m	6	331-	386	360.20	90.12	1.35	1.35E+003	56.90	2.99E+003
m	7	331-	386	373.09	93.34	1.35	1.75E+003	61.34	3.08E+003
	8	387-	405	398.40	99.67	1.06	3.16E+002	105.41	3.20E+003
M	9	449-	466	452.30	113.16	0.83	9.81E+001	34.48	1.58E+003
m	10	449-	466	462.30	115.66	0.83	2.16E+002	40.66	1.71E+003
	11	510-	523	516.07	129.11	1.23	5.62E+002	90.12	2.73E+003
	12	608-	623	616.65	154.27	0.98	2.39E+002	91.48	2.71E+003
	13	734-	759	743.90	186.11	1.17	1.12E+003	133.62	3.92E+003
	14	828-	846	836.91	209.38	1.04	1.27E+003	99.09	2.53E+003
M	15	946-	972	954.14	238.71	1.10	1.40E+004	124.42	1.66E+003
m	16	946-	972	964.69	241.34	1.10	1.70E+003	50.33	1.30E+003
	17	1071-	1088	1080.31	270.27	1.25	9.89E+002	73.07	1.34E+003
	18	1103-	1120	1108.78	277.39	1.07	5.08E+002	71.90	1.42E+003
	19	1171-	1186	1180.09	295.23	1.14	1.84E+003	72.76	1.15E+003
	20	1193-	1207	1199.53	300.09	1.09	8.22E+002	62.05	1.05E+003
M	21	1300-	1340	1311.23	328.04	1.19	7.20E+002	38.99	9.17E+002
m	22	1300-	1340	1329.04	332.49	1.19	1.27E+002	24.88	8.96E+002
	23	1341-	1360	1352.15	338.28	1.11	2.67E+003	82.73	1.19E+003
	24	1399-	1416	1406.74	351.93	1.14	3.46E+003	80.14	9.06E+002
	25	1628-	1649	1636.80	409.49	1.03	4.71E+002	61.78	8.88E+002
	26	1800-	1813	1808.90	452.54	0.66	2.27E+001	38.25	5.20E+002
	27	1843-	1858	1850.50	462.95	1.28	7.70E+002	49.26	5.52E+002
	28	2030-	2056	2041.32	510.69	1.42	1.76E+003	74.67	8.58E+002
	29	2237-	2253	2247.80	562.34	0.74	1.60E+002	37.61	4.01E+002
	30	2316-	2343	2330.68	583.08	1.34	4.94E+003	93.07	8.26E+002
	31	2426-	2446	2435.20	609.23	1.26	2.74E+003	68.27	5.29E+002
M	32	2640-	2668	2644.72	661.64	1.03	1.02E+002	18.15	2.70E+002
m	33	2640-	2668	2658.68	665.14	1.03	8.33E+001	16.88	2.95E+002
	34	2897-	2914	2906.67	727.18	1.43	1.07E+003	46.76	3.43E+002
	35	3012-	3028	3018.15	755.06	0.98	9.24E+001	32.73	3.13E+002
M	36	3041-	3094	3051.00	763.28	1.36	9.00E+001	16.32	2.96E+002
m	37	3041-	3094	3070.68	768.21	1.36	2.40E+002	21.26	2.87E+002
m	38	3041-	3094	3086.10	772.06	1.37	1.53E+002	18.94	3.11E+002
M	39	3119-	3151	3126.70	782.22	1.57	5.03E+001	15.31	2.75E+002
m	40	3119-	3151	3139.63	785.46	1.57	2.13E+002	21.24	2.89E+002
	41	3167-	3189	3177.27	794.87	1.43	5.64E+002	43.11	3.32E+002
	42	3211-	3230	3221.00	805.81	0.88	7.48E+001	31.23	2.57E+002

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	43	3331-	3347	3340.68	835.75	1.05	2.05E+002	30.13	2.25E+002
	44	3427-	3450	3439.19	860.40	1.58	6.63E+002	38.92	2.13E+002
	45	3609-	3622	3614.16	904.17	0.49	4.55E+001	21.83	1.54E+002
	46	3631-	3657	3642.00	911.14	1.59	3.52E+003	67.88	2.47E+002
	47	3725-	3742	3733.17	933.94	0.88	1.01E+002	24.98	1.60E+002
M	48	3845-	3883	3856.20	964.72	1.52	6.11E+002	27.17	1.61E+002
m	49	3845-	3883	3872.96	968.92	1.52	1.99E+003	46.83	1.84E+002
	50	4363-	4379	4372.00	1093.76	0.57	5.67E+001	21.31	1.25E+002
	51	4468-	4490	4478.50	1120.41	1.50	6.30E+002	34.04	1.37E+002
	52	4607-	4625	4617.90	1155.28	0.78	1.07E+002	20.87	9.73E+001
	53	4939-	4960	4950.12	1238.39	1.37	2.23E+002	28.30	1.54E+002
	54	4996-	5007	5001.81	1251.32	0.55	3.47E-001	14.19	7.97E+001
	55	5114-	5132	5121.25	1281.21	0.86	5.81E+001	19.77	9.79E+001
	56	5500-	5520	5507.61	1377.86	0.39	1.62E+002	23.31	1.05E+002
M	57	5594-	5640	5602.94	1401.71	1.99	6.31E+001	11.72	9.20E+001
m	58	5594-	5640	5629.58	1408.37	1.99	1.16E+002	14.19	9.94E+001
	59	5827-	5852	5841.42	1461.37	1.69	9.41E+002	39.94	1.53E+002
	60	5973-	5990	5981.78	1496.49	1.47	8.28E+001	17.36	6.72E+001
	61	6026-	6040	6034.42	1509.66	0.32	4.80E+001	16.32	7.40E+001
M	62	6340-	6376	6350.86	1588.82	1.78	2.84E+002	19.33	1.03E+002
m	63	6340-	6376	6367.98	1593.10	1.78	1.42E+002	14.69	9.10E+001
M	64	6472-	6530	6481.31	1621.46	1.91	1.51E+002	13.98	4.88E+001
m	65	6472-	6530	6497.23	1625.44	1.91	3.69E+001	8.49	5.13E+001
m	66	6472-	6530	6520.77	1631.33	1.91	1.60E+002	14.06	4.22E+001
	67	6546-	6559	6551.46	1639.01	0.72	2.28E+001	12.38	4.52E+001
	68	6908-	6927	6916.40	1730.30	1.39	1.36E+002	16.48	3.81E+001
	69	7044-	7069	7057.27	1765.54	1.65	5.04E+002	27.94	6.50E+001
	70	7380-	7397	7388.43	1848.39	1.46	6.45E+001	14.51	4.35E+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-S011-0612-01
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	1.3318E+000	1.33E+000	9.9317E+000
	Co-60	1173.23	99.85	1.1060E-001	1.11E-001	-5.4222E-003
		1332.49	99.98	1.1550E-001		-1.8057E-003
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	2.6700E+003	8.58E-002	2.2110E+002
		661.66*	84.99	8.5777E-002		7.9136E-002
+	Tl-208	72.80	2.02	1.9559E+001	2.04E-001	-5.3603E+000
		74.97*	3.41	6.4373E+000		3.8305E+001
		84.90*	1.51	9.6920E+000		1.7269E+001
		277.36*	6.31	1.8261E+000		2.8968E+000
		510.77*	22.60	7.1936E-001		3.8409E+000
		583.19*	84.50	2.0421E-001		3.5079E+000
		763.13*	1.81	4.6650E+000		3.6253E+000
		860.56*	12.42	8.8297E-001		4.2286E+000
+	Bi-212	39.86	1.06	1.4551E+003	1.65E+000	3.2273E+002
		727.33*	6.74	1.6505E+000		1.1201E+001
		785.37*	1.11	7.6748E+000		1.4292E+001
		1620.74*	1.51	3.9400E+000		1.2208E+001
		1806.00	0.09	1.1115E+002		1.4568E+001
+	Pb-212	74.81*	10.40	2.1107E+000	2.09E-001	1.2560E+001
		77.11*	17.50	1.0313E+000		1.1028E+001
		87.30*	7.81	1.8215E+000		8.7799E+000
		115.18*	0.59	1.4185E+001		1.1161E+001
		238.63*	43.30	2.0855E-001		1.0714E+001
		300.09*	3.28	2.9755E+000		9.4574E+000
+	Bi-214	76.86*	0.43	4.2330E+001	2.81E-001	4.5266E+002
		89.81*	0.24	5.4119E+001		2.0105E+002
		386.77	0.30	4.1476E+001		1.1209E+001
		454.77	0.29	4.1572E+001		-5.5932E+000
		609.31*	45.49	2.8142E-001		3.7367E+000
		665.45*	1.53	4.9956E+000		3.5971E+000
		703.11	0.48	2.9587E+001		1.1606E+001
		719.86	0.39	3.3301E+001		1.3638E+001
		768.36*	4.89	1.7068E+000		3.5898E+000
		786.10*	0.31	2.7458E+001		5.1132E+001
		806.17*	1.26	8.5245E+000		4.4851E+000
		934.06*	3.10	2.9466E+000		2.7232E+000
		964.08*	0.36	2.0295E+001		1.4399E+002
		1051.96	0.31	3.5318E+001		1.1385E+001
		1120.29*	14.91	6.9631E-001		4.0067E+000

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	4.1271E+001	2.81E-001	6.5801E+000
		1155.19*	1.63	5.1481E+000		6.3108E+000
		1207.68	0.45	2.6760E+001		-1.7241E+000
		1238.11*	5.79	2.0047E+000		3.9048E+000
		1280.96*	1.43	6.3511E+000		4.2187E+000
		1377.67*	4.00	2.5486E+000		4.4156E+000
		1385.31	0.76	1.5661E+001		-5.4569E+000
		1401.50*	1.27	5.7131E+000		5.4795E+000
		1407.98*	2.15	3.5138E+000		5.9588E+000
		1509.23*	2.11	3.9309E+000		2.6422E+000
		1538.50	0.38	2.9590E+001		-1.1151E+000
		1543.32	0.20	5.7124E+001		3.0166E+001
		1583.22	0.69	2.5415E+001		6.0520E+000
		1594.73	0.25	7.7643E+001		-1.0488E+001
		1599.31	0.23	5.8668E+001		-3.8932E+001
		1661.28	1.15	9.9857E+000		2.1955E+000
		1683.99	0.22	5.0659E+001		2.2089E+001
		1729.59*	2.92	2.4934E+000		5.9589E+000
		1764.49	15.40	1.4324E+000		4.2186E+000
		1847.42*	2.11	3.7534E+000		4.1103E+000
		1873.16	0.22	5.2618E+001		-3.2960E+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	1.1658E+002	2.85E-001	1.6276E+001
		74.81*	6.44	3.4057E+000		2.0266E+001
		77.11*	10.80	1.6697E+000		1.7855E+001
		87.30*	4.84	2.9367E+000		1.4156E+001
		242.00*	7.43	1.0759E+000		7.6353E+000
		258.87	0.52	2.2166E+001		2.5468E+000
		274.80	0.47	2.8107E+001		-2.7655E+000
		295.22*	19.30	5.3412E-001		3.5500E+000
		351.93*	37.60	2.8540E-001		3.8464E+000
		462.00*	0.22	4.4141E+001		1.7698E+002
		533.66	0.19	6.3774E+001		3.7416E+001
		785.96*	1.07	7.9550E+000		1.4814E+001
		839.04	0.59	2.5853E+001		6.5059E+000
+	Ra-224	81.07	0.13	1.7100E+002	1.95E+000	-1.4632E+002
		83.78*	0.22	6.7442E+001		1.2017E+002
		240.99*	4.10	1.9515E+000		1.3848E+001
+	Ra-226	81.07	0.20	1.1361E+002	5.09E+000	-9.7215E+001
		83.78*	0.33	4.4581E+001		7.9435E+001
		94.90	0.15	1.1687E+002		2.7153E+002
		186.21*	3.59	5.0878E+000		8.9485E+000
+	Ac-228	99.50*	1.26	1.2236E+001	4.92E-001	7.9560E+000
		129.07*	2.50	4.8986E+000		6.7704E+000
		209.25*	3.97	3.4156E+000		1.0013E+001
		270.24*	3.55	3.0896E+000		9.8771E+000
		328.00*	3.04	2.6535E+000		9.4651E+000
		338.32*	11.40	1.0841E+000		9.5607E+000
		409.46*	2.02	6.2611E+000		1.0862E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	2.1940E+000	4.92E-001	8.7965E+000
		755.31*	1.03	1.0404E+001		6.4902E+000
		772.29*	1.52	5.7397E+000		7.4124E+000
		794.94*	4.31	2.9571E+000		9.8162E+000
		835.70*	1.70	5.7531E+000		9.3700E+000
		911.20*	26.20	4.9204E-001		1.1067E+001
		964.79*	4.99	1.4776E+000		1.0484E+001
		968.96*	15.90	4.9672E-001		1.0779E+001
		1588.20*	3.06	2.7306E+000		1.1180E+001
		1630.62*	1.52	3.6681E+000		1.2906E+001
+	Th-228	84.37*	1.26	1.1615E+001	1.16E+001	2.0696E+001
		131.61	0.13	1.1137E+002		2.3933E+000
		166.41	0.10	1.2854E+002		7.1877E+001
		215.98	0.25	5.1424E+001		3.0942E+000
	Pa-234m	258.23	0.07	1.5795E+002	1.37E+001	7.2179E+001
		742.81	0.09	1.3616E+002		-4.2807E+001
		766.36	0.32	4.8785E+001		-1.1564E+001
		786.27	0.05	2.6622E+002		-3.8845E+001
		1001.03	0.85	1.3707E+001		1.8664E+001
		1737.77	0.02	5.1544E+002		-2.8578E+001
+	Th-234	63.30*	3.75	1.0266E+001	2.94E+000	1.7061E+000
		92.59*	4.33	2.9437E+000		1.3278E+001
		112.81*	0.22	3.7237E+001		1.3839E+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-S011-0612-01
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	0.953	1460.82*	10.55	9.93172E+000	5.04962E-001
Cs-137	0.995	32.06 @	5.54		
		661.66*	84.99	7.91355E-002	1.42345E-002
Eu-152m	0.988	89.85*	69.90	7.01898E-001	3.77805E-002
Tl-208	0.975	72.80 @	2.02		
		74.97* @	3.41	3.83053E+001	1.74724E+000
		84.90* @	1.51	1.72693E+001	1.51165E+000
		277.36*	6.31	2.89681E+000	4.29238E-001
		510.77* @	22.60	3.84094E+000	2.23232E-001
		583.19*	84.50	3.50786E+000	1.31644E-001
		763.13* @	1.81	3.62529E+000	6.63320E-001
		860.56*	12.42	4.22858E+000	2.69508E-001
TL-208e	0.949	1592.53*	99.16	1.72293E-001	2.07552E-002
Bi-211	0.878	351.03*	13.00	1.11259E+001	5.21716E-001
Bi-212	0.948	39.86 @	1.06		
		727.33*	6.74	1.12006E+001	6.02888E-001
		785.37*	1.11	1.42922E+001	1.47076E+000
		1620.74*	1.51	1.22077E+001	1.19992E+000
		1806.00 @	0.09		
Pb-212	0.997	74.81*	10.40	1.25597E+001	6.77840E-001
		77.11*	17.50	1.10284E+001	5.48724E-001
		87.30*	7.81	8.77986E+000	5.07848E-001
		115.18* @	0.59	1.11605E+001	2.13394E+000
		238.63*	43.30	1.07142E+001	4.91441E-001
		300.09*	3.28	9.45738E+000	8.13011E-001
Bi-214	0.752	76.86* @	0.43	4.52663E+002	2.30393E+001
		89.81* @	0.24	2.01053E+002	1.30050E+001
		386.77 @	0.30		
		454.77 @	0.29		
		609.31*	45.49	3.73667E+000	1.47452E-001
		665.45* @	1.53	3.59713E+000	7.36006E-001
		703.11 @	0.48		
		719.86 @	0.39		
		768.36*	4.89	3.58978E+000	3.30367E-001
		786.10* @	0.31	5.11320E+001	9.77185E+000
		806.17* @	1.26	4.48508E+000	1.87479E+000
		934.06*	3.10	2.72318E+000	6.77860E-001
		964.08* @	0.36	1.43992E+002	8.66438E+000
		1051.96 @	0.31		
		1120.29*	14.91	4.00667E+000	2.37673E-001
		1133.66 @	0.25		

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.752	1155.19* @	1.63	6.31077E+000	1.24457E+000
		1207.68 @	0.45		
		1238.11*	5.79	3.90478E+000	5.07886E-001
		1280.96* @	1.43	4.21873E+000	1.43959E+000
		1377.67*	4.00	4.41558E+000	6.47951E-001
		1385.31 @	0.76		
		1401.50* @	1.27	5.47954E+000	1.03036E+000
		1407.98* @	2.15	5.95885E+000	7.57783E-001
		1509.23* @	2.11	2.64223E+000	9.01966E-001
		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	5.95892E+000	7.49216E-001
		1764.49	15.40		
		1847.42* @	2.11	4.11028E+000	9.39980E-001
		1873.16 @	0.22		
		2118.55 @	1.14		
		2204.21 @	5.08		
Pb-214	0.955	53.28 @	1.20		
		74.81*	6.44	2.02657E+001	1.13631E+000
		77.11*	10.80	1.78550E+001	9.83004E-001
		87.30*	4.84	1.41555E+001	8.61534E-001
		242.00*	7.43	7.63533E+000	4.19490E-001
		258.87 @	0.52		
		274.80 @	0.47		
		295.22*	19.30	3.54995E+000	2.04152E-001
		351.93*	37.60	3.84645E+000	1.76200E-001
		462.00* @	0.22	1.76975E+002	1.48154E+001
		533.66 @	0.19		
		785.96* @	1.07	1.48139E+001	1.87960E+000
		839.04 @	0.59		
Ra-224	0.938	81.07 @	0.13		
		83.78* @	0.22	1.20169E+002	1.14137E+001
		240.99*	4.10	1.38484E+001	7.51908E-001
Ra-226	0.879	81.07 @	0.20		
		83.78* @	0.33	7.94348E+001	7.53611E+000
		94.90 @	0.15		
		186.21*	3.59	8.94849E+000	1.19939E+000
Ac-228	0.996	99.50* @	1.26	7.95601E+000	2.67642E+000
		129.07* @	2.50	6.77045E+000	1.11975E+000
		209.25*	3.97	1.00132E+001	9.61202E-001
		270.24*	3.55	9.87709E+000	8.83798E-001
		328.00*	3.04	9.46512E+000	7.17612E-001
		338.32*	11.40	9.56074E+000	5.79077E-001
		409.46* @	2.02	1.08624E+001	1.51333E+000
		463.00*	4.45	8.79654E+000	7.99392E-001

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ac-228	0.996	755.31* @	1.03	6.49016E+000	2.31752E+000
		772.29* @	1.52	7.41241E+000	9.78615E-001
		794.94*	4.31	9.81624E+000	8.49195E-001
		835.70* @	1.70	9.37000E+000	1.44627E+000
		911.20*	26.20	1.10673E+001	4.75510E-001
		964.79*	4.99	1.04836E+001	6.36707E-001
		968.96*	15.90	1.07791E+001	4.92573E-001
		1588.20*	3.06	1.11805E+001	9.22797E-001
		1630.62* @	1.52	1.29061E+001	1.29031E+000
Th-228	0.501	84.37*	1.26	2.06957E+001	1.84112E+000
		131.61 @	0.13		
		166.41 @	0.10		
		215.98	0.25		
Th-234	0.945	63.30*	3.75	1.70613E+000	2.20237E+000
		92.59*	4.33	1.32781E+001	8.64644E-001
		112.81* @	0.22	1.38395E+001	5.08306E+000

* = 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		0.953	9.931724E+000	5.049616E-001
X	Mn-54		0.875		
X	Cd-109		0.932		
	Cs-137	@	0.995	7.913552E-002	1.423448E-002
	Eu-152m		0.988	6.887100E-001	3.729905E-002
X	Tm-170		0.997		
	Tl-208	@	0.975	3.598728E+000	1.115229E-001
	TL-208e		0.949	1.722932E-001	2.075522E-002
	Bi-211		0.878	1.615336E+000	7.472845E-001
	Bi-212	@	0.948	1.124731E+001	4.838504E-001
	Pb-212	@	0.997	8.796421E+000	2.418343E-001
	Bi-214	@	0.752	3.777650E+000	1.104535E-001
	Pb-214	@	0.955	3.287996E+000	1.933212E-001
	Ra-224	@	0.938	7.884878E+000	8.122727E-001
	Ra-226	@	0.879	8.948492E+000	1.190026E+000
	Ac-228	@	0.996	1.031227E+001	1.676983E-001
	Th-228	@	0.501	1.269361E+001	1.848088E+000
X	Th-231		0.835		
	Th-234	@	0.945	1.173266E+001	8.048397E-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: 10/19/2016 4:07:45 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
12	154.27	3.3164E-002	38.31	Sum	
m 22	332.49	1.7692E-002	19.53	Sum	
26	452.54	3.1558E-003	168.36	Sum	
29	562.34	2.2160E-002	23.57	Sum	
M 39	782.22	6.9793E-003	30.47		
45	904.17	6.3233E-003	47.94	Sum	
50	1093.76	7.8789E-003	37.57	Sum	
54	1251.32	4.8178E-005	4091.08		
60	1496.49	1.1503E-002	20.96	Sum	
m 65	1625.44	5.1301E-003	22.99	Sum	
67	1639.01	3.1720E-003	54.22	Sum	
69	1765.54	6.9265E-002	5.61		

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-N002-A05-S011-0612-01.CNF,C:\GENIE2K\

Report Generated On	: 10/13/2016 3:38:30 PM
Sample Title	: N002-A05-S011-0612-01
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	: 6.191E+002 GWET
Sample Taken On	: 10/12/2016 4:23:00 PM
Acquisition Started	: 10/13/2016 12:49:52 PM
Live Time	: 7200.0 seconds
Real Time	: 7206.1 seconds
Dead Time	: 0.08 %

Energy Calibration Used Done On	: 10/12/2016
Efficiency Calibration Used Done On	: 9/27/2016
Efficiency ID	: ERT0101

REANALYZED ON 10-19-16: INCORRECT QUANTITY ENTERED

****
***** 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-S011-0612-01
Peak Analysis Performed on: 10/13/2016 3:38:31 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	250-	259	254.41	63.65	0.40	8.69E+001	68.20	2.02E+003
M	2	293-	315	299.87	75.02	0.99	2.19E+003	64.87	3.09E+003
m	3	293-	315	308.98	77.30	1.00	3.58E+003	75.52	2.55E+003
M	4	331-	386	337.27	84.38	1.34	6.21E+002	50.07	2.76E+003
m	5	331-	386	349.22	87.37	1.34	1.77E+003	61.82	3.06E+003
m	6	331-	386	360.20	90.12	1.35	1.35E+003	56.90	2.99E+003
m	7	331-	386	373.09	93.34	1.35	1.75E+003	61.34	3.08E+003
	8	387-	405	398.40	99.67	1.06	3.16E+002	105.41	3.20E+003
M	9	449-	466	452.30	113.16	0.83	9.81E+001	34.48	1.58E+003
m	10	449-	466	462.30	115.66	0.83	2.16E+002	40.66	1.71E+003
	11	510-	523	516.07	129.11	1.23	5.62E+002	90.12	2.73E+003
	12	608-	623	616.65	154.27	0.98	2.39E+002	91.48	2.71E+003
	13	734-	759	743.90	186.11	1.17	1.12E+003	133.62	3.92E+003
	14	828-	846	836.91	209.38	1.04	1.27E+003	99.09	2.53E+003
M	15	946-	972	954.14	238.71	1.10	1.40E+004	124.42	1.66E+003
m	16	946-	972	964.69	241.34	1.10	1.70E+003	50.33	1.30E+003
	17	1071-	1088	1080.31	270.27	1.25	9.89E+002	73.07	1.34E+003
	18	1103-	1120	1108.78	277.39	1.07	5.08E+002	71.90	1.42E+003
	19	1171-	1186	1180.09	295.23	1.14	1.84E+003	72.76	1.15E+003
	20	1193-	1207	1199.53	300.09	1.09	8.22E+002	62.05	1.05E+003
M	21	1300-	1340	1311.23	328.04	1.19	7.20E+002	38.99	9.17E+002
m	22	1300-	1340	1329.04	332.49	1.19	1.27E+002	24.88	8.96E+002
	23	1341-	1360	1352.15	338.28	1.11	2.67E+003	82.73	1.19E+003
	24	1399-	1416	1406.74	351.93	1.14	3.46E+003	80.14	9.06E+002
	25	1628-	1649	1636.80	409.49	1.03	4.71E+002	61.78	8.88E+002
	26	1800-	1813	1808.90	452.54	0.66	2.27E+001	38.25	5.20E+002
	27	1843-	1858	1850.50	462.95	1.28	7.70E+002	49.26	5.52E+002
	28	2030-	2056	2041.32	510.69	1.42	1.76E+003	74.67	8.58E+002
	29	2237-	2253	2247.80	562.34	0.74	1.60E+002	37.61	4.01E+002
	30	2316-	2343	2330.68	583.08	1.34	4.94E+003	93.07	8.26E+002
	31	2426-	2446	2435.20	609.23	1.26	2.74E+003	68.27	5.29E+002
M	32	2640-	2668	2644.72	661.64	1.03	1.02E+002	18.15	2.70E+002
m	33	2640-	2668	2658.68	665.14	1.03	8.33E+001	16.88	2.95E+002
	34	2897-	2914	2906.67	727.18	1.43	1.07E+003	46.76	3.43E+002
	35	3012-	3028	3018.15	755.06	0.98	9.24E+001	32.73	3.13E+002
M	36	3041-	3094	3051.00	763.28	1.36	9.00E+001	16.32	2.96E+002
m	37	3041-	3094	3070.68	768.21	1.36	2.40E+002	21.26	2.87E+002
m	38	3041-	3094	3086.10	772.06	1.37	1.53E+002	18.94	3.11E+002
M	39	3119-	3151	3126.70	782.22	1.57	5.03E+001	15.31	2.75E+002
m	40	3119-	3151	3139.63	785.46	1.57	2.13E+002	21.24	2.89E+002
	41	3167-	3189	3177.27	794.87	1.43	5.64E+002	43.11	3.32E+002
	42	3211-	3230	3221.00	805.81	0.88	7.48E+001	31.23	2.57E+002

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	43	3331-	3347	3340.68	835.75	1.05	2.05E+002	30.13	2.25E+002
	44	3427-	3450	3439.19	860.40	1.58	6.63E+002	38.92	2.13E+002
	45	3609-	3622	3614.16	904.17	0.49	4.55E+001	21.83	1.54E+002
	46	3631-	3657	3642.00	911.14	1.59	3.52E+003	67.88	2.47E+002
	47	3725-	3742	3733.17	933.94	0.88	1.01E+002	24.98	1.60E+002
M	48	3845-	3883	3856.20	964.72	1.52	6.11E+002	27.17	1.61E+002
m	49	3845-	3883	3872.96	968.92	1.52	1.99E+003	46.83	1.84E+002
	50	4363-	4379	4372.00	1093.76	0.57	5.67E+001	21.31	1.25E+002
	51	4468-	4490	4478.50	1120.41	1.50	6.30E+002	34.04	1.37E+002
	52	4607-	4625	4617.90	1155.28	0.78	1.07E+002	20.87	9.73E+001
	53	4939-	4960	4950.12	1238.39	1.37	2.23E+002	28.30	1.54E+002
	54	4996-	5007	5001.81	1251.32	0.55	3.47E-001	14.19	7.97E+001
	55	5114-	5132	5121.25	1281.21	0.86	5.81E+001	19.77	9.79E+001
	56	5500-	5520	5507.61	1377.86	0.39	1.62E+002	23.31	1.05E+002
M	57	5594-	5640	5602.94	1401.71	1.99	6.31E+001	11.72	9.20E+001
m	58	5594-	5640	5629.58	1408.37	1.99	1.16E+002	14.19	9.94E+001
	59	5827-	5852	5841.42	1461.37	1.69	9.41E+002	39.94	1.53E+002
	60	5973-	5990	5981.78	1496.49	1.47	8.28E+001	17.36	6.72E+001
	61	6026-	6040	6034.42	1509.66	0.32	4.80E+001	16.32	7.40E+001
M	62	6340-	6376	6350.86	1588.82	1.78	2.84E+002	19.33	1.03E+002
m	63	6340-	6376	6367.98	1593.10	1.78	1.42E+002	14.69	9.10E+001
M	64	6472-	6530	6481.31	1621.46	1.91	1.51E+002	13.98	4.88E+001
m	65	6472-	6530	6497.23	1625.44	1.91	3.69E+001	8.49	5.13E+001
m	66	6472-	6530	6520.77	1631.33	1.91	1.60E+002	14.06	4.22E+001
	67	6546-	6559	6551.46	1639.01	0.72	2.28E+001	12.38	4.52E+001
	68	6908-	6927	6916.40	1730.30	1.39	1.36E+002	16.48	3.81E+001
	69	7044-	7069	7057.27	1765.54	1.65	5.04E+002	27.94	6.50E+001
	70	7380-	7397	7388.43	1848.39	1.46	6.45E+001	14.51	4.35E+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: N002-A05-S011-0612-01
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	1.2264E+000	1.23E+000	9.1457E+000
	Co-60	1173.23	99.85	1.0184E-001	1.02E-001	-4.9931E-003
		1332.49	99.98	1.0636E-001		-1.6628E-003
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	2.4587E+003	7.90E-002	2.0360E+002
		661.66*	84.99	7.8988E-002		7.2872E-002
+	Tl-208	72.80	2.02	1.8011E+001	1.88E-001	-4.9361E+000
		74.97*	3.41	5.9278E+000		3.5274E+001
		84.90*	1.51	8.9249E+000		1.5902E+001
		277.36*	6.31	1.6815E+000		2.6675E+000
		510.77*	22.60	6.6242E-001		3.5369E+000
		583.19*	84.50	1.8805E-001		3.2302E+000
		763.13*	1.81	4.2957E+000		3.3384E+000
		860.56*	12.42	8.1309E-001		3.8939E+000
+	Bi-212	39.86	1.06	1.3399E+003	1.52E+000	2.9719E+002
		727.33*	6.74	1.5199E+000		1.0314E+001
		785.37*	1.11	7.0674E+000		1.3161E+001
		1620.74*	1.51	3.6282E+000		1.1241E+001
		1806.00	0.09	1.0235E+002		1.3415E+001
+	Pb-212	74.81*	10.40	1.9436E+000	1.92E-001	1.1566E+001
		77.11*	17.50	9.4968E-001		1.0156E+001
		87.30*	7.81	1.6773E+000		8.0850E+000
		115.18*	0.59	1.3063E+001		1.0277E+001
		238.63*	43.30	1.9205E-001		9.8662E+000
		300.09*	3.28	2.7400E+000		8.7089E+000
+	Bi-214	76.86*	0.43	3.8980E+001	2.59E-001	4.1684E+002
		89.81*	0.24	4.9836E+001		1.8514E+002
		386.77	0.30	3.8193E+001		1.0322E+001
		454.77	0.29	3.8282E+001		-5.1505E+000
		609.31*	45.49	2.5915E-001		3.4409E+000
		665.45*	1.53	4.6003E+000		3.3124E+000
		703.11	0.48	2.7245E+001		1.0688E+001
		719.86	0.39	3.0665E+001		1.2559E+001
		768.36*	4.89	1.5717E+000		3.3057E+000
		786.10*	0.31	2.5284E+001		4.7085E+001
		806.17*	1.26	7.8498E+000		4.1301E+000
		934.06*	3.10	2.7134E+000		2.5076E+000
		964.08*	0.36	1.8689E+001		1.3260E+002
		1051.96	0.31	3.2523E+001		1.0484E+001
		1120.29*	14.91	6.4120E-001		3.6896E+000

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	3.8004E+001	2.59E-001	6.0593E+000
		1155.19*	1.63	4.7407E+000		5.8113E+000
		1207.68	0.45	2.4642E+001		-1.5876E+000
		1238.11*	5.79	1.8460E+000		3.5957E+000
		1280.96*	1.43	5.8485E+000		3.8848E+000
		1377.67*	4.00	2.3469E+000		4.0661E+000
		1385.31	0.76	1.4421E+001		-5.0250E+000
		1401.50*	1.27	5.2609E+000		5.0458E+000
		1407.98*	2.15	3.2357E+000		5.4872E+000
		1509.23*	2.11	3.6198E+000		2.4331E+000
		1538.50	0.38	2.7248E+001		-1.0269E+000
		1543.32	0.20	5.2602E+001		2.7779E+001
		1583.22	0.69	2.3404E+001		5.5730E+000
		1594.73	0.25	7.1498E+001		-9.6581E+000
		1599.31	0.23	5.4025E+001		-3.5850E+001
		1661.28	1.15	9.1954E+000		2.0217E+000
		1683.99	0.22	4.6649E+001		2.0340E+001
		1729.59*	2.92	2.2961E+000		5.4873E+000
		1764.49	15.40	1.3190E+000		3.8847E+000
		1847.42*	2.11	3.4563E+000		3.7850E+000
		1873.16	0.22	4.8454E+001		-3.0352E+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	1.0735E+002	2.63E-001	1.4988E+001
		74.81*	6.44	3.1361E+000		1.8662E+001
		77.11*	10.80	1.5375E+000		1.6442E+001
		87.30*	4.84	2.7043E+000		1.3035E+001
		242.00*	7.43	9.9078E-001		7.0310E+000
		258.87	0.52	2.0411E+001		2.3452E+000
		274.80	0.47	2.5882E+001		-2.5466E+000
		295.22*	19.30	4.9184E-001		3.2690E+000
		351.93*	37.60	2.6281E-001		3.5420E+000
		462.00*	0.22	4.0647E+001		1.6297E+002
		533.66	0.19	5.8726E+001		3.4454E+001
		785.96*	1.07	7.3254E+000		1.3641E+001
		839.04	0.59	2.3807E+001		5.9910E+000
+	Ra-224	81.07	0.13	1.5746E+002	1.80E+000	-1.3474E+002
		83.78*	0.22	6.2104E+001		1.1066E+002
		240.99*	4.10	1.7970E+000		1.2752E+001
+	Ra-226	81.07	0.20	1.0462E+002	4.69E+000	-8.9521E+001
		83.78*	0.33	4.1052E+001		7.3148E+001
		94.90	0.15	1.0762E+002		2.5004E+002
		186.21*	3.59	4.6851E+000		8.2402E+000
+	Ac-228	99.50*	1.26	1.1267E+001	4.53E-001	7.3263E+000
		129.07*	2.50	4.5109E+000		6.2346E+000
		209.25*	3.97	3.1452E+000		9.2207E+000
		270.24*	3.55	2.8451E+000		9.0953E+000
		328.00*	3.04	2.4435E+000		8.7160E+000
		338.32*	11.40	9.9830E-001		8.8040E+000
		409.46*	2.02	5.7656E+000		1.0003E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	2.0204E+000	4.53E-001	8.1003E+000
		755.31*	1.03	9.5808E+000		5.9765E+000
		772.29*	1.52	5.2854E+000		6.8257E+000
		794.94*	4.31	2.7230E+000		9.0393E+000
		835.70*	1.70	5.2977E+000		8.6284E+000
		911.20*	26.20	4.5309E-001		1.0191E+001
		964.79*	4.99	1.3607E+000		9.6539E+000
		968.96*	15.90	4.5740E-001		9.9260E+000
		1588.20*	3.06	2.5145E+000		1.0296E+001
		1630.62*	1.52	3.3777E+000		1.1885E+001
+	Th-228	84.37*	1.26	1.0696E+001	1.07E+001	1.9058E+001
		131.61	0.13	1.0256E+002		2.2038E+000
		166.41	0.10	1.1837E+002		6.6188E+001
		215.98	0.25	4.7354E+001		2.8493E+000
	Pa-234m	258.23	0.07	1.4545E+002	1.26E+001	6.6466E+001
		742.81	0.09	1.2538E+002		-3.9419E+001
		766.36	0.32	4.4924E+001		-1.0649E+001
		786.27	0.05	2.4515E+002		-3.5770E+001
		1001.03	0.85	1.2622E+001		1.7187E+001
		1737.77	0.02	4.7464E+002		-2.6317E+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-S011-0612-01
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	0.953	1460.82*		10.55	9.14566E+000	4.64995E-001
Cs-137	0.995	32.06	@	5.54		
		661.66*		84.99	7.28722E-002	1.31079E-002
Eu-152m	0.988	89.85*		69.90	6.46345E-001	3.47903E-002
Tl-208	0.975	72.80	@	2.02		
		74.97*	@	3.41	3.52736E+001	1.60895E+000
		84.90*	@	1.51	1.59025E+001	1.39200E+000
		277.36*		6.31	2.66753E+000	3.95265E-001
		510.77*	@	22.60	3.53694E+000	2.05564E-001
		583.19*		84.50	3.23023E+000	1.21224E-001
		763.13*	@	1.81	3.33836E+000	6.10820E-001
		860.56*		12.42	3.89390E+000	2.48178E-001
TL-208e	0.949	1592.53*		99.16	1.58657E-001	1.91125E-002
Bi-211	0.878	351.03*		13.00	1.02453E+001	4.80424E-001
Bi-212	0.948	39.86	@	1.06		
		727.33*		6.74	1.03141E+001	5.55171E-001
		785.37*		1.11	1.31610E+001	1.35435E+000
		1620.74*		1.51	1.12415E+001	1.10495E+000
		1806.00	@	0.09		
Pb-212	0.997	74.81*		10.40	1.15657E+001	6.24191E-001
		77.11*		17.50	1.01556E+001	5.05294E-001
		87.30*		7.81	8.08496E+000	4.67653E-001
		115.18*	@	0.59	1.02772E+001	1.96504E+000
		238.63*		43.30	9.86619E+000	4.52545E-001
		300.09*		3.28	8.70885E+000	7.48664E-001
Bi-214	0.752	76.86*	@	0.43	4.16836E+002	2.12158E+001
		89.81*	@	0.24	1.85140E+002	1.19757E+001
		386.77	@	0.30		
		454.77	@	0.29		
		609.31*		45.49	3.44092E+000	1.35782E-001
		665.45*	@	1.53	3.31243E+000	6.77753E-001
		703.11	@	0.48		
		719.86	@	0.39		
		768.36*		4.89	3.30566E+000	3.04220E-001
		786.10*	@	0.31	4.70850E+001	8.99844E+000
		806.17*	@	1.26	4.13010E+000	1.72641E+000
		934.06*		3.10	2.50765E+000	6.24209E-001
		964.08*	@	0.36	1.32595E+002	7.97862E+000
		1051.96	@	0.31		
		1120.29*		14.91	3.68956E+000	2.18862E-001
		1133.66	@	0.25		

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.752	1155.19* @	1.63	5.81129E+000	1.14607E+000
		1207.68 @	0.45		
		1238.11*	5.79	3.59572E+000	4.67689E-001
		1280.96* @	1.43	3.88483E+000	1.32565E+000
		1377.67*	4.00	4.06610E+000	5.96667E-001
		1385.31 @	0.76		
		1401.50* @	1.27	5.04585E+000	9.48807E-001
		1407.98* @	2.15	5.48722E+000	6.97806E-001
		1509.23* @	2.11	2.43311E+000	8.30578E-001
		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	5.48729E+000	6.89918E-001
		1764.49	15.40		
		1847.42* @	2.11	3.78497E+000	8.65583E-001
		1873.16 @	0.22		
		2118.55 @	1.14		
		2204.21 @	5.08		
Pb-214	0.955	53.28 @	1.20		
		74.81*	6.44	1.86617E+001	1.04637E+000
		77.11*	10.80	1.64419E+001	9.05202E-001
		87.30*	4.84	1.30352E+001	7.93346E-001
		242.00*	7.43	7.03102E+000	3.86289E-001
		258.87 @	0.52		
		274.80 @	0.47		
		295.22*	19.30	3.26899E+000	1.87994E-001
		351.93*	37.60	3.54201E+000	1.62254E-001
		462.00* @	0.22	1.62968E+002	1.36428E+001
		533.66 @	0.19		
		785.96* @	1.07	1.36415E+001	1.73083E+000
		839.04 @	0.59		
Ra-224	0.938	81.07 @	0.13		
		83.78* @	0.22	1.10658E+002	1.05103E+001
		240.99*	4.10	1.27523E+001	6.92397E-001
Ra-226	0.879	81.07 @	0.20		
		83.78* @	0.33	7.31478E+001	6.93965E+000
		94.90 @	0.15		
		186.21*	3.59	8.24024E+000	1.10446E+000
Ac-228	0.996	99.50* @	1.26	7.32632E+000	2.46459E+000
		129.07* @	2.50	6.23458E+000	1.03113E+000
		209.25*	3.97	9.22071E+000	8.85126E-001
		270.24*	3.55	9.09534E+000	8.13847E-001
		328.00*	3.04	8.71599E+000	6.60815E-001
		338.32*	11.40	8.80404E+000	5.33245E-001
		409.46* @	2.02	1.00027E+001	1.39355E+000
		463.00*	4.45	8.10032E+000	7.36123E-001

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ac-228	0.996	755.31* @	1.03	5.97648E+000	2.13409E+000
		772.29* @	1.52	6.82574E+000	9.01160E-001
		794.94*	4.31	9.03931E+000	7.81983E-001
		835.70* @	1.70	8.62839E+000	1.33180E+000
		911.20*	26.20	1.01914E+001	4.37875E-001
		964.79*	4.99	9.65386E+000	5.86313E-001
		968.96*	15.90	9.92596E+000	4.53587E-001
		1588.20*	3.06	1.02956E+001	8.49761E-001
		1630.62* @	1.52	1.18846E+001	1.18818E+000
Th-228	0.501	84.37*	1.26	1.90577E+001	1.69540E+000
		131.61 @	0.13		
		166.41 @	0.10		
		215.98	0.25		
Th-234	0.945	63.30*	3.75	1.57110E+000	2.02806E+000
		92.59*	4.33	1.22272E+001	7.96210E-001
		112.81* @	0.22	1.27441E+001	4.68075E+000

* = 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		0.953	9.145657E+000	4.649953E-001
X	Mn-54		0.875		
X	Cd-109		0.932		
	Cs-137	@	0.995	7.287217E-002	1.310787E-002
	Eu-152m		0.988	6.342007E-001	3.434694E-002
X	Tm-170		0.997		
	Tl-208	@	0.975	3.313899E+000	1.026961E-001
	TL-208e		0.949	1.586567E-001	1.911250E-002
	Bi-211		0.878	1.487487E+000	6.881391E-001
	Bi-212	@	0.948	1.035712E+001	4.455550E-001
	Pb-212	@	0.997	8.100210E+000	2.226938E-001
	Bi-214	@	0.752	3.478660E+000	1.017114E-001
	Pb-214	@	0.955	3.027760E+000	1.780203E-001
	Ra-224	@	0.938	7.260813E+000	7.479837E-001
	Ra-226	@	0.879	8.240245E+000	1.095839E+000
	Ac-228	@	0.996	9.496084E+000	1.544255E-001
	Th-228	@	0.501	1.168895E+001	1.701817E+000
X	Th-231		0.835		
	Th-234	@	0.945	1.080406E+001	7.411389E-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: 10/13/2016 3:38:30 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
12	154.27	3.3164E-002	38.31	Sum	
m 22	332.49	1.7692E-002	19.53	Sum	
26	452.54	3.1558E-003	168.36	Sum	
29	562.34	2.2160E-002	23.57	Sum	
M 39	782.22	6.9793E-003	30.47		
45	904.17	6.3233E-003	47.94	Sum	
50	1093.76	7.8789E-003	37.57	Sum	
54	1251.32	4.8178E-005	4091.08		
60	1496.49	1.1503E-002	20.96	Sum	
m 65	1625.44	5.1301E-003	22.99	Sum	
67	1639.01	3.1720E-003	54.22	Sum	
69	1765.54	6.9265E-002	5.61		

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-N002-A05-S011-0612-01.CNF

Report Generated On	: 10/13/2016 2:50:00 PM
Sample Title	: N002-A05-S011-0612-01
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	: 6.191E+002 GWET
Sample Taken On	: 10/12/2016 4:23:00 PM
Acquisition Started	: 10/13/2016 12:49:52 PM
Live Time	: 7200.0 seconds
Real Time	: 7206.1 seconds
Dead Time	: 0.08 %

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-S011-0612-01
Peak Analysis Performed on: 10/13/2016 2:50:01 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	250-	259	254.41	63.65	0.40	8.69E+001	68.20	2.02E+003
M	2	293-	315	299.87	75.02	0.99	2.19E+003	64.87	3.09E+003
m	3	293-	315	308.98	77.30	1.00	3.58E+003	75.52	2.55E+003
M	4	331-	386	337.27	84.38	1.34	6.21E+002	50.07	2.76E+003
m	5	331-	386	349.22	87.37	1.34	1.77E+003	61.82	3.06E+003
m	6	331-	386	360.20	90.12	1.35	1.35E+003	56.90	2.99E+003
m	7	331-	386	373.09	93.34	1.35	1.75E+003	61.34	3.08E+003
	8	387-	405	398.40	99.67	1.06	3.16E+002	105.41	3.20E+003
M	9	449-	466	452.30	113.16	0.83	9.81E+001	34.48	1.58E+003
m	10	449-	466	462.30	115.66	0.83	2.16E+002	40.66	1.71E+003
	11	510-	523	516.07	129.11	1.23	5.62E+002	90.12	2.73E+003
	12	608-	623	616.65	154.27	0.98	2.39E+002	91.48	2.71E+003
	13	734-	759	743.90	186.11	1.17	1.12E+003	133.62	3.92E+003
	14	828-	846	836.91	209.38	1.04	1.27E+003	99.09	2.53E+003
M	15	946-	972	954.14	238.71	1.10	1.40E+004	124.42	1.66E+003
m	16	946-	972	964.69	241.34	1.10	1.70E+003	50.33	1.30E+003
	17	1071-	1088	1080.31	270.27	1.25	9.89E+002	73.07	1.34E+003
	18	1103-	1120	1108.78	277.39	1.07	5.08E+002	71.90	1.42E+003
	19	1171-	1186	1180.09	295.23	1.14	1.84E+003	72.76	1.15E+003
	20	1193-	1207	1199.53	300.09	1.09	8.22E+002	62.05	1.05E+003
M	21	1300-	1340	1311.23	328.04	1.19	7.20E+002	38.99	9.17E+002
m	22	1300-	1340	1329.04	332.49	1.19	1.27E+002	24.88	8.96E+002
	23	1341-	1360	1352.15	338.28	1.11	2.67E+003	82.73	1.19E+003
	24	1399-	1416	1406.74	351.93	1.14	3.46E+003	80.14	9.06E+002
	25	1628-	1649	1636.80	409.49	1.03	4.71E+002	61.78	8.88E+002
	26	1800-	1813	1808.90	452.54	0.66	2.27E+001	38.25	5.20E+002
	27	1843-	1858	1850.50	462.95	1.28	7.70E+002	49.26	5.52E+002
	28	2030-	2056	2041.32	510.69	1.42	1.76E+003	74.67	8.58E+002
	29	2237-	2253	2247.80	562.34	0.74	1.60E+002	37.61	4.01E+002
	30	2316-	2343	2330.68	583.08	1.34	4.94E+003	93.07	8.26E+002
	31	2426-	2446	2435.20	609.23	1.26	2.74E+003	68.27	5.29E+002
M	32	2640-	2668	2644.72	661.64	1.03	1.02E+002	18.15	2.70E+002
m	33	2640-	2668	2658.68	665.14	1.03	8.33E+001	16.88	2.95E+002
	34	2897-	2914	2906.67	727.18	1.43	1.07E+003	46.76	3.43E+002
	35	3012-	3028	3018.15	755.06	0.98	9.24E+001	32.73	3.13E+002
M	36	3041-	3094	3051.00	763.28	1.36	9.00E+001	16.32	2.96E+002
m	37	3041-	3094	3070.68	768.21	1.36	2.40E+002	21.26	2.87E+002
m	38	3041-	3094	3086.10	772.06	1.37	1.53E+002	18.94	3.11E+002
M	39	3119-	3151	3126.70	782.22	1.57	5.03E+001	15.31	2.75E+002
m	40	3119-	3151	3139.63	785.46	1.57	2.13E+002	21.24	2.89E+002
	41	3167-	3189	3177.27	794.87	1.43	5.64E+002	43.11	3.32E+002
	42	3211-	3230	3221.00	805.81	0.88	7.48E+001	31.23	2.57E+002

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
	43	3331-	3347	3340.68	835.75	1.05	2.05E+002	30.13	2.25E+002
	44	3427-	3450	3439.19	860.40	1.58	6.63E+002	38.92	2.13E+002
	45	3609-	3622	3614.16	904.17	0.49	4.55E+001	21.83	1.54E+002
	46	3631-	3657	3642.00	911.14	1.59	3.52E+003	67.88	2.47E+002
	47	3725-	3742	3733.17	933.94	0.88	1.01E+002	24.98	1.60E+002
M	48	3845-	3883	3856.20	964.72	1.52	6.11E+002	27.17	1.61E+002
m	49	3845-	3883	3872.96	968.92	1.52	1.99E+003	46.83	1.84E+002
	50	4363-	4379	4372.00	1093.76	0.57	5.67E+001	21.31	1.25E+002
	51	4468-	4490	4478.50	1120.41	1.50	6.30E+002	34.04	1.37E+002
	52	4607-	4625	4617.90	1155.28	0.78	1.07E+002	20.87	9.73E+001
	53	4939-	4960	4950.12	1238.39	1.37	2.23E+002	28.30	1.54E+002
	54	4996-	5007	5001.81	1251.32	0.55	3.47E-001	14.19	7.97E+001
	55	5114-	5132	5121.25	1281.21	0.86	5.81E+001	19.77	9.79E+001
	56	5500-	5520	5507.61	1377.86	0.39	1.62E+002	23.31	1.05E+002
M	57	5594-	5640	5602.94	1401.71	1.99	6.31E+001	11.72	9.20E+001
m	58	5594-	5640	5629.58	1408.37	1.99	1.16E+002	14.19	9.94E+001
	59	5827-	5852	5841.42	1461.37	1.69	9.41E+002	39.94	1.53E+002
	60	5973-	5990	5981.78	1496.49	1.47	8.28E+001	17.36	6.72E+001
	61	6026-	6040	6034.42	1509.66	0.32	4.80E+001	16.32	7.40E+001
M	62	6340-	6376	6350.86	1588.82	1.78	2.84E+002	19.33	1.03E+002
m	63	6340-	6376	6367.98	1593.10	1.78	1.42E+002	14.69	9.10E+001
M	64	6472-	6530	6481.31	1621.46	1.91	1.51E+002	13.98	4.88E+001
m	65	6472-	6530	6497.23	1625.44	1.91	3.69E+001	8.49	5.13E+001
m	66	6472-	6530	6520.77	1631.33	1.91	1.60E+002	14.06	4.22E+001
	67	6546-	6559	6551.46	1639.01	0.72	2.28E+001	12.38	4.52E+001
	68	6908-	6927	6916.40	1730.30	1.39	1.36E+002	16.48	3.81E+001
	69	7044-	7069	7057.27	1765.54	1.65	5.04E+002	27.94	6.50E+001
	70	7380-	7397	7388.43	1848.39	1.46	6.45E+001	14.51	4.35E+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-S011-0612-01
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	1.2264E+000	1.23E+000	9.1457E+000
	Co-60	1173.23	99.85	1.0184E-001	1.02E-001	-4.9931E-003
		1332.49	99.98	1.0636E-001		-1.6628E-003
>		2505.71	0.10	0.0000E+000		0.0000E+000
+	Cs-137	32.06	5.54	2.4587E+003	7.90E-002	2.0360E+002
		661.66*	84.99	7.8988E-002		7.2872E-002
+	Tl-208	72.80	2.02	1.8011E+001	1.88E-001	-4.9361E+000
		74.97*	3.41	5.9278E+000		3.5274E+001
		84.90*	1.51	8.9249E+000		1.5902E+001
		277.36*	6.31	1.6815E+000		2.6675E+000
		510.77*	22.60	6.6242E-001		3.5369E+000
		583.19*	84.50	1.8805E-001		3.2302E+000
		763.13*	1.81	4.2957E+000		3.3384E+000
		860.56*	12.42	8.1309E-001		3.8939E+000
+	Bi-212	39.86	1.06	1.3399E+003	1.52E+000	2.9719E+002
		727.33*	6.74	1.5199E+000		1.0314E+001
		785.37*	1.11	7.0674E+000		1.3161E+001
		1620.74*	1.51	3.6282E+000		1.1241E+001
		1806.00	0.09	1.0235E+002		1.3415E+001
+	Pb-212	74.81*	10.40	1.9436E+000	1.92E-001	1.1566E+001
		77.11*	17.50	9.4968E-001		1.0156E+001
		87.30*	7.81	1.6773E+000		8.0850E+000
		115.18*	0.59	1.3063E+001		1.0277E+001
		238.63*	43.30	1.9205E-001		9.8662E+000
		300.09*	3.28	2.7400E+000		8.7089E+000
+	Bi-214	76.86*	0.43	3.8980E+001	2.59E-001	4.1684E+002
		89.81*	0.24	4.9836E+001		1.8514E+002
		386.77	0.30	3.8193E+001		1.0322E+001
		454.77	0.29	3.8282E+001		-5.1505E+000
		609.31*	45.49	2.5915E-001		3.4409E+000
		665.45*	1.53	4.6003E+000		3.3124E+000
		703.11	0.48	2.7245E+001		1.0688E+001
		719.86	0.39	3.0665E+001		1.2559E+001
		768.36*	4.89	1.5717E+000		3.3057E+000
		786.10*	0.31	2.5284E+001		4.7085E+001
		806.17*	1.26	7.8498E+000		4.1301E+000
		934.06*	3.10	2.7134E+000		2.5076E+000
		964.08*	0.36	1.8689E+001		1.3260E+002
		1051.96	0.31	3.2523E+001		1.0484E+001
		1120.29*	14.91	6.4120E-001		3.6896E+000

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66	0.25	3.8004E+001	2.59E-001	6.0593E+000
		1155.19*	1.63	4.7407E+000		5.8113E+000
		1207.68	0.45	2.4642E+001		-1.5876E+000
		1238.11*	5.79	1.8460E+000		3.5957E+000
		1280.96*	1.43	5.8485E+000		3.8848E+000
		1377.67*	4.00	2.3469E+000		4.0661E+000
		1385.31	0.76	1.4421E+001		-5.0250E+000
		1401.50*	1.27	5.2609E+000		5.0458E+000
		1407.98*	2.15	3.2357E+000		5.4872E+000
		1509.23*	2.11	3.6198E+000		2.4331E+000
		1538.50	0.38	2.7248E+001		-1.0269E+000
		1543.32	0.20	5.2602E+001		2.7779E+001
		1583.22	0.69	2.3404E+001		5.5730E+000
		1594.73	0.25	7.1498E+001		-9.6581E+000
		1599.31	0.23	5.4025E+001		-3.5850E+001
		1661.28	1.15	9.1954E+000		2.0217E+000
		1683.99	0.22	4.6649E+001		2.0340E+001
		1729.59*	2.92	2.2961E+000		5.4873E+000
		1764.49	15.40	1.3190E+000		3.8847E+000
		1847.42*	2.11	3.4563E+000		3.7850E+000
		1873.16	0.22	4.8454E+001		-3.0352E+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	1.0735E+002	2.63E-001	1.4988E+001
		74.81*	6.44	3.1361E+000		1.8662E+001
		77.11*	10.80	1.5375E+000		1.6442E+001
		87.30*	4.84	2.7043E+000		1.3035E+001
		242.00*	7.43	9.9078E-001		7.0310E+000
		258.87	0.52	2.0411E+001		2.3452E+000
		274.80	0.47	2.5882E+001		-2.5466E+000
		295.22*	19.30	4.9184E-001		3.2690E+000
		351.93*	37.60	2.6281E-001		3.5420E+000
		462.00*	0.22	4.0647E+001		1.6297E+002
		533.66	0.19	5.8726E+001		3.4454E+001
		785.96*	1.07	7.3254E+000		1.3641E+001
		839.04	0.59	2.3807E+001		5.9910E+000
+	Ra-224	81.07	0.13	1.5746E+002	1.80E+000	-1.3474E+002
		83.78*	0.22	6.2104E+001		1.1066E+002
		240.99*	4.10	1.7970E+000		1.2752E+001
+	Ra-226	81.07	0.20	1.0462E+002	4.69E+000	-8.9521E+001
		83.78*	0.33	4.1052E+001		7.3148E+001
		94.90	0.15	1.0762E+002		2.5004E+002
		186.21*	3.59	4.6851E+000		8.2402E+000
+	Ac-228	99.50*	1.26	1.1267E+001	4.53E-001	7.3263E+000
		129.07*	2.50	4.5109E+000		6.2346E+000
		209.25*	3.97	3.1452E+000		9.2207E+000
		270.24*	3.55	2.8451E+000		9.0953E+000
		328.00*	3.04	2.4435E+000		8.7160E+000
		338.32*	11.40	9.9830E-001		8.8040E+000
		409.46*	2.02	5.7656E+000		1.0003E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	2.0204E+000	4.53E-001	8.1003E+000
		755.31*	1.03	9.5808E+000		5.9765E+000
		772.29*	1.52	5.2854E+000		6.8257E+000
		794.94*	4.31	2.7230E+000		9.0393E+000
		835.70*	1.70	5.2977E+000		8.6284E+000
		911.20*	26.20	4.5309E-001		1.0191E+001
		964.79*	4.99	1.3607E+000		9.6539E+000
		968.96*	15.90	4.5740E-001		9.9260E+000
		1588.20*	3.06	2.5145E+000		1.0296E+001
		1630.62*	1.52	3.3777E+000		1.1885E+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: N002-A05-S011-0612-01
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	0.953	1460.82*		10.55	9.14566E+000	4.64995E-001
Cs-137	0.995	32.06	@	5.54		
		661.66*		84.99	7.28722E-002	1.31079E-002
Eu-152m	0.988	89.85*		69.90	6.46345E-001	3.47903E-002
Tl-208	0.975	72.80	@	2.02		
		74.97*	@	3.41	3.52736E+001	1.60895E+000
		84.90*	@	1.51	1.59025E+001	1.39200E+000
		277.36*		6.31	2.66753E+000	3.95265E-001
		510.77*	@	22.60	3.53694E+000	2.05564E-001
		583.19*		84.50	3.23023E+000	1.21224E-001
		763.13*	@	1.81	3.33836E+000	6.10820E-001
		860.56*		12.42	3.89390E+000	2.48178E-001
TL-208e	0.949	1592.53*		99.16	1.58657E-001	1.91125E-002
Bi-211	0.878	351.03*		13.00	1.02453E+001	4.80424E-001
Bi-212	0.948	39.86	@	1.06		
		727.33*		6.74	1.03141E+001	5.55171E-001
		785.37*		1.11	1.31610E+001	1.35435E+000
		1620.74*		1.51	1.12415E+001	1.10495E+000
		1806.00	@	0.09		
Pb-212	0.997	74.81*		10.40	1.15657E+001	6.24191E-001
		77.11*		17.50	1.01556E+001	5.05294E-001
		87.30*		7.81	8.08496E+000	4.67653E-001
		115.18*	@	0.59	1.02772E+001	1.96504E+000
		238.63*		43.30	9.86619E+000	4.52545E-001
		300.09*		3.28	8.70885E+000	7.48664E-001
Bi-214	0.752	76.86*	@	0.43	4.16836E+002	2.12158E+001
		89.81*	@	0.24	1.85140E+002	1.19757E+001
		386.77	@	0.30		
		454.77	@	0.29		
		609.31*		45.49	3.44092E+000	1.35782E-001
		665.45*	@	1.53	3.31243E+000	6.77753E-001
		703.11	@	0.48		
		719.86	@	0.39		
		768.36*		4.89	3.30566E+000	3.04220E-001
		786.10*	@	0.31	4.70850E+001	8.99844E+000
		806.17*	@	1.26	4.13010E+000	1.72641E+000
		934.06*		3.10	2.50765E+000	6.24209E-001
		964.08*	@	0.36	1.32595E+002	7.97862E+000
		1051.96	@	0.31		
		1120.29*		14.91	3.68956E+000	2.18862E-001
		1133.66	@	0.25		

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.752	1155.19* @	1.63	5.81129E+000	1.14607E+000
		1207.68 @	0.45		
		1238.11*	5.79	3.59572E+000	4.67689E-001
		1280.96* @	1.43	3.88483E+000	1.32565E+000
		1377.67*	4.00	4.06610E+000	5.96667E-001
		1385.31 @	0.76		
		1401.50* @	1.27	5.04585E+000	9.48807E-001
		1407.98* @	2.15	5.48722E+000	6.97806E-001
		1509.23* @	2.11	2.43311E+000	8.30578E-001
		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	5.48729E+000	6.89918E-001
		1764.49	15.40		
		1847.42* @	2.11	3.78497E+000	8.65583E-001
		1873.16 @	0.22		
		2118.55 @	1.14		
		2204.21 @	5.08		
Pb-214	0.955	53.28 @	1.20		
		74.81*	6.44	1.86617E+001	1.04637E+000
		77.11*	10.80	1.64419E+001	9.05202E-001
		87.30*	4.84	1.30352E+001	7.93346E-001
		242.00*	7.43	7.03102E+000	3.86289E-001
		258.87 @	0.52		
		274.80 @	0.47		
		295.22*	19.30	3.26899E+000	1.87994E-001
		351.93*	37.60	3.54201E+000	1.62254E-001
		462.00* @	0.22	1.62968E+002	1.36428E+001
		533.66 @	0.19		
		785.96* @	1.07	1.36415E+001	1.73083E+000
		839.04 @	0.59		
Ra-224	0.938	81.07 @	0.13		
		83.78* @	0.22	1.10658E+002	1.05103E+001
		240.99*	4.10	1.27523E+001	6.92397E-001
Ra-226	0.879	81.07 @	0.20		
		83.78* @	0.33	7.31478E+001	6.93965E+000
		94.90 @	0.15		
		186.21*	3.59	8.24024E+000	1.10446E+000
Ac-228	0.996	99.50* @	1.26	7.32632E+000	2.46459E+000
		129.07* @	2.50	6.23458E+000	1.03113E+000
		209.25*	3.97	9.22071E+000	8.85126E-001
		270.24*	3.55	9.09534E+000	8.13847E-001
		328.00*	3.04	8.71599E+000	6.60815E-001
		338.32*	11.40	8.80404E+000	5.33245E-001
		409.46* @	2.02	1.00027E+001	1.39355E+000
		463.00*	4.45	8.10032E+000	7.36123E-001

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ac-228	0.996	755.31* @	1.03	5.97648E+000	2.13409E+000
		772.29* @	1.52	6.82574E+000	9.01160E-001
		794.94*	4.31	9.03931E+000	7.81983E-001
		835.70* @	1.70	8.62839E+000	1.33180E+000
		911.20*	26.20	1.01914E+001	4.37875E-001
		964.79*	4.99	9.65386E+000	5.86313E-001
		968.96*	15.90	9.92596E+000	4.53587E-001
		1588.20*	3.06	1.02956E+001	8.49761E-001
		1630.62* @	1.52	1.18846E+001	1.18818E+000
Th-228	0.501	84.37*	1.26	1.90577E+001	1.69540E+000
		131.61 @	0.13		
		166.41 @	0.10		
		215.98	0.25		
Th-234	0.945	63.30*	3.75	1.57110E+000	2.02806E+000
		92.59*	4.33	1.22272E+001	7.96210E-001
		112.81* @	0.22	1.27441E+001	4.68075E+000

* = 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		0.953	9.145657E+000	4.649953E-001
X	Mn-54		0.875		
X	Cd-109		0.932		
	Cs-137	@	0.995	7.287217E-002	1.310787E-002
	Eu-152m		0.988	6.342007E-001	3.434694E-002
X	Tm-170		0.997		
	Tl-208	@	0.975	3.313899E+000	1.026961E-001
	TL-208e		0.949	1.586567E-001	1.911250E-002
	Bi-211		0.878	1.487487E+000	6.881391E-001
	Bi-212	@	0.948	1.035712E+001	4.455550E-001
	Pb-212	@	0.997	8.100210E+000	2.226938E-001
	Bi-214	@	0.752	3.478660E+000	1.017114E-001
	Pb-214	@	0.955	3.027760E+000	1.780203E-001
	Ra-224	@	0.938	7.260813E+000	7.479837E-001
	Ra-226	@	0.879	8.240245E+000	1.095839E+000
	Ac-228	@	0.996	9.496084E+000	1.544255E-001
	Th-228	@	0.501	1.168895E+001	1.701817E+000
X	Th-231		0.835		
	Th-234	@	0.945	1.080406E+001	7.411389E-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: 10/13/2016 2:50:01 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
12	154.27	3.3164E-002	38.31	Sum	
m 22	332.49	1.7692E-002	19.53	Sum	
26	452.54	3.1558E-003	168.36	Sum	
29	562.34	2.2160E-002	23.57	Sum	
M 39	782.22	6.9793E-003	30.47		
45	904.17	6.3233E-003	47.94	Sum	
50	1093.76	7.8789E-003	37.57	Sum	
54	1251.32	4.8178E-005	4091.08		
60	1496.49	1.1503E-002	20.96	Sum	
m 65	1625.44	5.1301E-003	22.99	Sum	
67	1639.01	3.1720E-003	54.22	Sum	
69	1765.54	6.9265E-002	5.61		

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

Errors quoted at 1.000 sigma