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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-HTC-A01-S004-1218-01.CNF

Report Generated On              : 6/11/2017   6:57:47 PM

Sample Title                     : HTC-A01-S004-1218-01
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                      :  9.854E+002 GWET

Sample Taken On                  : 5/13/2017   2:15:00 PM
Acquisition Started              : 6/11/2017   4:56:13 PM

Live Time                        :     7200.0 seconds
Real Time                        :     7291.7 seconds

Dead Time                        :   1.26 %


            Energy Calibration Used Done On       : 5/10/2017
            Efficiency Calibration Used Done On   : 12/14/2016
            Efficiency ID                         : ERT0101
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****
***** P E A K A N A L Y S I S R E P O R T *****
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Detector Name: ERT01
Sample Title: HTC-A01-S004-1218-01
Peak Analysis Performed on: 6/11/2017 6:57:48 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	217-	236	231.37	57.71	1.09	2.74E+003	433.41	5.28E+004
M	2	239-	265	254.11	63.39	0.80	1.79E+003	154.12	2.85E+004
m	3	239-	265	261.28	65.18	0.80	7.11E+002	136.44	2.92E+004
M	4	278-	315	292.45	72.98	1.00	2.71E+003	157.32	4.07E+004
m	5	278-	315	300.17	74.90	1.00	2.44E+004	226.48	4.13E+004
m	6	278-	315	309.25	77.17	1.01	3.93E+004	267.64	4.23E+004
M	7	322-	386	325.39	81.21	1.30	6.54E+002	164.67	3.90E+004
m	8	322-	386	337.70	84.28	1.30	7.14E+003	192.75	5.52E+004
m	9	322-	386	349.68	87.28	1.31	2.06E+004	238.65	5.49E+004
m	10	322-	386	360.61	90.01	1.31	1.66E+004	218.15	5.47E+004
m	11	322-	386	373.22	93.16	1.32	2.35E+004	243.90	5.45E+004
	12	386-	407	398.73	99.54	1.30	4.49E+003	519.19	7.06E+004
M	13	407-	442	422.31	105.43	1.28	5.40E+003	218.20	5.67E+004
m	14	407-	442	435.86	108.82	1.29	2.06E+003	188.98	5.14E+004
M	15	450-	474	453.35	113.19	0.98	1.74E+002	62.75	3.47E+004
m	16	450-	474	461.75	115.29	0.98	1.83E+003	92.26	4.45E+004
M	17	508-	532	517.12	129.12	1.03	9.87E+003	220.22	5.10E+004
m	18	508-	532	527.52	131.72	1.03	9.85E+002	166.56	4.33E+004
	19	570-	581	576.48	143.96	1.30	1.94E+003	332.51	4.33E+004
	20	611-	622	616.84	154.05	1.09	4.56E+003	328.53	4.12E+004
M	21	648-	675	654.49	163.46	0.90	9.22E+002	168.39	3.54E+004
m	22	648-	675	667.38	166.68	0.91	5.89E+002	153.69	3.82E+004
	23	733-	753	744.88	186.05	1.22	2.24E+004	506.82	6.47E+004
	24	791-	804	798.49	199.44	1.26	1.39E+003	335.21	4.02E+004
M	25	819-	848	821.99	205.32	1.06	2.87E+002	143.43	2.90E+004
m	26	819-	848	837.89	209.29	1.06	1.84E+004	222.73	3.88E+004
	27	856-	869	865.05	216.08	0.83	1.02E+003	319.56	3.67E+004
M	28	930-	976	935.00	233.56	1.12	7.23E+002	144.08	2.90E+004
m	29	930-	976	944.66	235.97	1.12	2.13E+003	148.22	3.56E+004
m	30	930-	976	955.30	238.63	1.12	2.21E+005	497.32	3.17E+004
m	31	930-	976	966.90	241.53	1.13	3.27E+004	221.85	2.56E+004
M	32	1003-	1046	1011.34	252.64	1.17	9.26E+002	127.85	2.54E+004
m	33	1003-	1046	1025.61	256.21	1.18	9.57E+002	124.80	2.48E+004
m	34	1003-	1046	1035.87	258.77	1.18	1.61E+003	137.08	2.43E+004
M	35	1069-	1121	1081.67	270.22	1.24	1.68E+004	188.55	2.46E+004
m	36	1069-	1121	1100.08	274.82	1.25	7.68E+002	116.74	2.42E+004
m	37	1069-	1121	1110.26	277.36	1.25	9.08E+003	158.01	2.40E+004
	38	1149-	1164	1153.21	288.10	0.93	9.57E+002	264.23	2.29E+004
	39	1171-	1193	1181.60	295.19	1.15	4.87E+004	414.59	3.17E+004
	40	1195-	1207	1201.15	300.08	1.13	1.38E+004	242.34	1.71E+004
M	41	1282-	1342	1287.59	321.68	1.19	6.64E+002	104.76	1.53E+004
m	42	1282-	1342	1296.58	323.93	1.19	5.58E+002	103.78	1.76E+004

	Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
m	43	1282	1342	1312.74	327.97	1.20	1.13E+004	185.43	1.75E+004
m	44	1282	1342	1330.29	332.35	1.20	1.47E+003	107.07	1.73E+004
M	45	1344	1374	1353.98	338.27	1.15	4.60E+004	245.57	1.54E+004
m	46	1344	1374	1364.77	340.97	1.16	1.46E+003	102.63	1.60E+004
	47	1399	1422	1408.38	351.87	1.20	8.67E+004	428.82	2.39E+004
M	48	1542	1561	1548.33	386.84	1.18	6.95E+002	92.74	1.23E+004
m	49	1542	1561	1556.01	388.76	1.19	9.07E+002	98.34	1.23E+004
M	50	1603	1646	1607.37	401.60	1.20	5.87E+002	89.98	1.05E+004
m	51	1603	1646	1620.98	405.00	1.20	5.94E+002	88.01	1.37E+004
m	52	1603	1646	1638.52	409.38	1.21	6.58E+003	131.74	1.23E+004
	53	1758	1767	1762.15	440.28	0.44	3.39E+002	125.68	6.83E+003
M	54	1805	1829	1812.16	452.78	1.31	1.40E+003	95.91	1.03E+004
m	55	1805	1829	1820.93	454.97	1.31	5.81E+002	81.48	1.02E+004
	56	1840	1860	1852.67	462.91	1.26	1.39E+004	250.80	1.35E+004
M	57	1908	1932	1913.65	478.14	1.36	5.18E+002	79.28	8.12E+003
m	58	1908	1932	1922.56	480.37	1.36	8.29E+002	87.22	9.81E+003
	59	1943	1958	1948.79	486.93	0.82	5.88E+002	168.41	9.22E+003
	60	2010	2027	2014.75	503.41	1.04	1.94E+002	183.43	1.03E+004
	61	2027	2056	2043.69	510.64	1.40	2.82E+004	329.22	1.69E+004
	62	2127	2146	2134.84	533.42	0.75	3.05E+002	192.95	1.05E+004
M	63	2179	2206	2186.74	546.40	1.05	4.55E+002	73.15	7.30E+003
m	64	2179	2206	2198.95	549.45	1.06	4.10E+002	71.54	7.25E+003
	65	2242	2257	2250.71	562.38	1.45	2.44E+003	162.46	7.98E+003
M	66	2278	2297	2283.59	570.60	0.96	5.23E+002	66.46	5.99E+003
m	67	2278	2297	2290.23	572.26	0.96	4.98E+002	65.67	5.93E+003
	68	2324	2346	2333.56	583.09	1.34	8.04E+004	355.24	1.18E+004
	69	2428	2451	2438.11	609.22	1.34	6.99E+004	333.98	1.03E+004
	70	2473	2487	2482.38	620.28	1.20	1.88E+002	131.86	5.97E+003
	71	2655	2674	2662.60	665.32	1.46	2.04E+003	171.00	7.75E+003
	72	2696	2705	2700.02	674.67	0.25	7.54E+001	95.09	3.95E+003
M	73	2728	2759	2733.86	683.13	0.62	1.50E+002	45.23	3.00E+003
m	74	2728	2759	2754.19	688.21	0.63	2.11E+002	48.88	3.02E+003
M	75	2803	2839	2811.87	702.63	2.55	1.20E+003	97.12	9.60E+003
m	76	2803	2839	2832.24	707.72	2.55	6.13E+002	86.37	9.14E+003
	77	2871	2886	2879.65	719.57	0.70	3.48E+002	132.11	5.68E+003
	78	2900	2924	2910.22	727.21	1.48	1.90E+004	227.37	7.84E+003
	79	2965	2977	2971.53	742.53	1.04	1.57E+002	106.90	4.28E+003
	80	3014	3036	3022.36	755.23	1.42	2.21E+003	175.30	7.31E+003
M	81	3045	3107	3054.29	763.21	1.49	1.38E+003	69.08	5.55E+003
m	82	3045	3107	3074.57	768.28	1.49	6.63E+003	102.70	5.36E+003
m	83	3045	3107	3090.40	772.24	1.49	3.31E+003	82.67	5.17E+003
M	84	3121	3161	3129.45	782.00	1.53	1.14E+003	65.14	4.70E+003
m	85	3121	3161	3144.02	785.64	1.54	3.90E+003	89.04	5.05E+003
	86	3170	3198	3181.03	794.89	1.42	9.77E+003	205.01	6.88E+003
	87	3213	3241	3225.86	806.09	1.48	1.69E+003	176.00	6.32E+003
	88	3280	3295	3287.38	821.47	0.72	1.24E+002	102.58	3.45E+003
M	89	3314	3376	3323.71	830.55	1.63	1.35E+003	63.64	4.18E+003
m	90	3314	3376	3344.25	835.68	1.63	3.78E+003	83.27	4.34E+003
m	91	3314	3376	3361.82	840.07	1.63	2.48E+003	73.26	4.09E+003
	92	3433	3453	3443.62	860.51	1.48	9.89E+003	155.50	3.94E+003

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
93	3565-	3583	3575.72	893.53	1.28	6.01E+002	110.79	3.46E+003
94	3605-	3628	3618.49	904.22	1.81	1.71E+003	133.22	4.01E+003
95	3629-	3659	3646.48	911.21	1.54	5.87E+004	291.27	5.27E+003
96	3729-	3751	3738.06	934.10	1.56	3.26E+003	130.75	3.54E+003
M 97	3771-	3820	3778.56	944.22	1.72	2.89E+002	46.77	2.51E+003
m 98	3771-	3820	3793.66	948.00	1.73	2.74E+002	45.76	3.04E+003
m 99	3771-	3820	3809.64	951.99	1.73	4.05E+002	49.78	3.00E+003
M100	3826-	3899	3836.11	958.60	1.59	6.06E+002	47.17	2.63E+003
m101	3826-	3899	3860.84	964.79	1.59	1.12E+004	115.66	2.60E+003
m102	3826-	3899	3877.77	969.02	1.59	3.50E+004	193.64	2.51E+003
103	3942-	3962	3954.73	988.25	1.45	3.42E+002	97.14	2.51E+003
104	3996-	4016	4006.49	1001.19	1.57	1.30E+003	103.00	2.57E+003
M105	4120-	4169	4134.90	1033.28	1.79	4.61E+002	49.52	2.45E+003
m106	4120-	4169	4161.66	1039.97	1.79	1.76E+002	41.36	2.22E+003
107	4203-	4229	4212.35	1052.64	2.01	5.55E+002	111.65	2.72E+003
M108	4255-	4290	4263.15	1065.33	1.18	2.03E+002	86.60	1.77E+003
m109	4255-	4290	4282.23	1070.10	1.19	1.54E+002	66.17	1.67E+003
110	4307-	4331	4317.27	1078.86	1.71	1.11E+003	109.09	2.61E+003
111	4369-	4393	4378.13	1094.07	1.62	1.15E+003	107.49	2.51E+003
112	4433-	4462	4445.20	1110.83	0.98	7.62E+002	123.28	3.02E+003
113	4463-	4502	4483.80	1120.47	1.67	1.66E+004	198.66	3.81E+003
114	4531-	4545	4538.18	1134.06	1.04	1.80E+002	67.70	1.53E+003
115	4607-	4635	4623.74	1155.45	1.71	2.13E+003	122.87	2.80E+003
116	4826-	4845	4834.05	1208.01	1.00	3.50E+002	83.72	1.90E+003
117	4942-	4968	4955.91	1238.47	1.77	5.83E+003	129.83	2.52E+003
118	4977-	5007	4992.07	1247.50	1.37	9.73E+002	124.33	2.96E+003
119	5118-	5140	5127.64	1281.38	1.62	1.49E+003	97.40	2.06E+003
120	5505-	5525	5515.28	1378.26	1.64	4.17E+003	106.16	1.96E+003
121	5533-	5556	5546.20	1385.99	1.69	7.80E+002	91.53	1.90E+003
M122	5594-	5655	5610.52	1402.06	1.78	1.30E+003	50.93	1.90E+003
m123	5594-	5655	5636.64	1408.59	1.78	2.14E+003	59.51	1.80E+003
124	5729-	5743	5734.79	1433.12	0.53	7.78E+001	60.43	1.24E+003
125	5831-	5863	5841.68	1459.83	2.02	1.87E+003	120.54	2.43E+003
M126	5980-	6025	5988.95	1496.64	1.83	1.43E+003	52.04	1.41E+003
m127	5980-	6025	6011.38	1502.25	1.83	7.90E+002	43.23	1.59E+003
M128	6031-	6069	6042.14	1509.93	1.93	2.04E+003	58.30	1.56E+003
m129	6031-	6069	6056.28	1513.47	1.94	5.87E+002	40.66	1.69E+003
M130	6149-	6190	6158.89	1539.11	2.04	4.67E+002	41.05	1.51E+003
m131	6149-	6190	6179.05	1544.15	2.04	4.22E+002	40.22	1.62E+003
132	6220-	6240	6233.21	1557.69	1.52	2.61E+002	68.73	1.23E+003
M133	6315-	6414	6328.34	1581.46	1.90	8.76E+002	43.20	1.39E+003
m134	6315-	6414	6339.25	1584.19	1.90	6.13E+002	39.96	1.37E+003
m135	6315-	6414	6358.84	1589.08	1.90	5.05E+003	78.92	1.33E+003
m136	6315-	6414	6376.10	1593.40	1.90	3.08E+003	64.75	1.28E+003
m137	6315-	6414	6402.24	1599.93	1.91	2.73E+002	32.24	1.25E+003
M138	6478-	6569	6489.07	1621.63	1.91	2.36E+003	57.82	1.19E+003
m139	6478-	6569	6506.47	1625.98	1.91	4.11E+002	34.45	1.24E+003
m140	6478-	6569	6528.79	1631.56	1.92	2.53E+003	59.03	1.25E+003
m141	6478-	6569	6559.57	1639.25	1.92	7.06E+002	39.29	1.14E+003
M142	6641-	6683	6651.98	1662.34	1.88	8.65E+002	43.27	1.14E+003

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
m143	6641-	6683	6673.39	1667.70	1.88	2.37E+002	29.77	9.83E+002
144	6913-	6941	6925.96	1730.82	1.95	2.78E+003	93.94	1.31E+003
145	7050-	7081	7065.80	1765.77	1.91	1.36E+004	143.22	1.39E+003
146	7220-	7243	7231.16	1807.09	1.52	2.59E+002	62.60	9.08E+002
147	7347-	7372	7362.08	1839.81	1.43	2.91E+002	71.32	1.13E+003
148	7387-	7413	7398.34	1848.87	1.98	1.85E+003	81.80	1.10E+003
149	7492-	7510	7502.00	1874.78	1.64	2.47E+002	54.75	8.14E+002
150	7548-	7564	7557.37	1888.62	1.19	5.26E+001	49.93	7.78E+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: HTC-A01-S004-1218-01
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	3.3400E+000	3.34E+000	1.1784E+001
	Co-60	1173.23	99.85	2.6822E-001	2.68E-001	1.2266E-001
		1332.49	99.98	2.8593E-001		8.7814E-002
>		2505.71	0.10	0.0000E+000		0.0000E+000
	Cs-137	32.06	5.54	2.3940E+004	3.84E-001	1.0845E+004
		661.66	84.99	3.8409E-001		3.3022E-002
+	Tl-208	72.80*	2.02	2.4881E+001	4.14E-001	5.0735E+001
		74.97*	3.41	1.3702E+001		2.4919E+002
		84.90*	1.51	2.6644E+001		1.2299E+002
		277.36*	6.31	3.7985E+000		3.3786E+001
		510.77*	22.60	1.8969E+000		4.0330E+001
		583.19*	84.50	4.1408E-001		3.3330E+001
		763.13*	1.81	1.1391E+001		3.1989E+001
		860.56*	12.42	2.0573E+000		3.6421E+001
+	Bi-212	39.86	1.06	4.5286E+003	5.06E+000	-5.6684E+002
		727.33*	6.74	5.0629E+000		1.1381E+002
		785.37*	1.11	1.8104E+001		1.5006E+002
		1620.74*	1.51	1.1132E+001		1.1415E+002
		1806.00	0.09	2.8068E+002		1.8715E+001
+	Pb-212	74.81*	10.40	4.4928E+000	5.88E-001	8.1706E+001
		77.11*	17.50	2.4813E+000		7.1931E+001
		87.30*	7.81	4.8063E+000		6.4109E+001
		115.18*	0.59	4.2543E+001		5.6128E+001
		238.63*	43.30	5.8753E-001		1.1065E+002
		300.09*	3.28	7.3790E+000		1.0335E+002
+	Bi-214	76.86*	0.43	9.9031E+001	7.32E-001	2.8708E+003
		89.81*	0.24	1.4149E+002		1.5222E+003
		386.77*	0.30	6.7278E+001		6.3853E+001
		454.77*	0.29	6.8492E+001		5.9729E+001
		609.31*	45.49	7.3168E-001		5.3778E+001
		665.45*	1.53	1.8619E+001		4.9473E+001
		703.11*	0.48	5.1858E+001		9.6544E+001
		719.86*	0.39	6.0621E+001		3.4580E+001
		768.36*	4.89	4.0419E+000		5.5335E+001
		786.10*	0.31	6.2980E+001		5.2203E+002
		806.17*	1.26	2.6775E+001		5.6514E+001
		934.06*	3.10	8.4002E+000		4.9841E+001
		964.08*	0.36	4.5237E+001		1.5007E+003
		1051.96*	0.31	8.4502E+001		9.1927E+001
		1120.29*	14.91	2.5957E+000		6.1243E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Bi-214	1133.66*	0.25	6.7909E+001	7.32E-001	3.9363E+001
		1155.19*	1.63	1.8312E+001		7.3186E+001
		1207.68*	0.45	4.9358E+001		4.5249E+001
		1238.11*	5.79	5.0392E+000		5.9835E+001
		1280.96*	1.43	1.7857E+001		6.3432E+001
		1377.67*	4.00	6.3524E+000		6.7102E+001
		1385.31*	0.76	3.4827E+001		6.6562E+001
		1401.50*	1.27	1.4846E+001		6.6917E+001
		1407.98*	2.15	8.5617E+000		6.5180E+001
		1509.23*	2.11	8.5051E+000		6.6134E+001
		1538.50*	0.38	4.7451E+001		8.5932E+001
		1543.32*	0.20	9.2698E+001		1.4628E+002
		1583.22*	0.69	2.5090E+001		6.2382E+001
		1594.73	0.25	2.0038E+002		2.2268E+003
		1599.31*	0.23	7.2235E+001		8.3820E+001
		1661.28	1.15	2.5328E+001		8.5464E-001
		1683.99	0.22	1.2183E+002		9.0651E+001
		1729.59	2.92	1.2159E+001		7.6460E+001
		1764.49	15.40	3.9896E+000		6.6271E+001
		1847.42	2.11	1.5761E+001		6.8195E+001
		1873.16	0.22	1.2135E+002		5.0126E+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	2.3500E+002	9.99E-001	-8.0010E+001
		74.81*	6.44	7.0489E+000		1.2819E+002
		77.11*	10.80	3.9062E+000		1.1324E+002
		87.30*	4.84	7.5349E+000		1.0051E+002
		242.00*	7.43	3.0110E+000		9.3393E+001
		258.87*	0.52	4.3110E+001		6.7403E+001
		274.80*	0.47	4.9130E+001		3.6785E+001
		295.22*	19.30	1.9987E+000		5.9527E+001
		351.93*	37.60	9.9948E-001		5.9621E+001
		462.00*	0.22	1.3959E+002		1.8733E+003
		533.66*	0.19	1.5577E+002		5.2923E+001
		785.96*	1.07	1.8247E+001		1.5124E+002
		839.04	0.59	6.1303E+001		1.2627E+000
+	Ra-224	81.07*	0.13	2.8029E+002	5.62E+000	1.4085E+002
		83.78*	0.22	1.8540E+002		8.5584E+002
		240.99*	4.10	5.6164E+000		1.7420E+002
+	Ra-226	81.07*	0.20	1.8108E+002	1.17E+001	9.0997E+001
		83.78*	0.33	1.1917E+002		5.5010E+002
		94.90	0.15	2.9756E+002		2.4464E+003
		186.21*	3.59	1.1678E+001		1.1568E+002
+	Ac-228	99.50*	1.26	3.8376E+001	1.05E+000	7.1925E+001
		129.07*	2.50	1.0459E+001		6.9419E+001
		209.25*	3.97	6.6217E+000		9.3619E+001
		270.24*	3.55	6.7535E+000		1.0994E+002
		328.00*	3.04	7.3629E+000		9.5282E+001
		338.32*	11.40	1.8767E+000		1.0525E+002
		409.46*	2.02	1.0456E+001		9.3877E+001

	Nuclide Name	Energy (keV)	Yield (%)	Line MDA (pCi/GWET)	Nuclide MDA (pCi/GWET)	Activity (pCi/GWET)
+	Ac-228	463.00*	4.45	7.1355E+000	1.05E+000	9.5758E+001
		755.31*	1.03	3.1789E+001		8.9264E+001
		772.29*	1.52	1.3207E+001		9.2021E+001
		794.94*	4.31	8.3777E+000		9.7667E+001
		835.70*	1.70	1.1471E+001		9.9486E+001
		911.20*	26.20	1.3765E+000		1.0716E+002
		964.79*	4.99	3.3871E+000		1.1236E+002
		968.96*	15.90	1.0489E+000		1.1054E+002
		1588.20*	3.06	5.7446E+000		1.1959E+002
		1630.62*	1.52	1.1343E+001		1.2219E+002
+	Th-228	84.37*	1.26	3.1930E+001	3.19E+001	1.4739E+002
		131.61*	0.13	1.8456E+002		1.3258E+002
		166.41*	0.10	2.2750E+002		1.0400E+002
		215.98*	0.25	1.2003E+002		8.2574E+001
+	Pa-234m	258.23*	0.07	3.0608E+002	2.67E+001	4.7856E+002
		742.81*	0.09	2.1061E+002		6.6641E+001
		766.36	0.32	1.2344E+002		-1.5890E+002
		786.27*	0.05	3.6424E+002		3.0191E+003
		1001.03*	0.85	2.6709E+001		7.6399E+001
		1737.77	0.02	1.4981E+003		4.1960E+002
+	Th-234	63.30*	3.75	1.8919E+001	7.55E+000	2.9743E+001
		92.59*	4.33	7.5548E+000		1.1487E+002
		112.81*	0.22	1.0139E+002		1.4363E+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: HTC-A01-S004-1218-01
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	0.953	477.60*		10.44	2.20668E+000	3.45233E-001
K-40	0.855	1460.82*		10.55	1.17835E+001	8.29251E-001
Ce-139	0.898	165.86*		79.89	1.51737E-001	3.98389E-002
Eu-152m	0.996	89.85*		69.90	5.33507E+000	1.63399E-001
Eu-155	0.926	45.30		1.31		
		60.01		1.22		
		86.55*		30.70	1.60299E+001	4.96990E-001
		105.31*		21.10	4.81047E+000	2.62787E-001
Bi-207	0.515	72.80*	@	21.75	4.58536E+000	3.07152E-001
		74.97*	@	36.60	2.25936E+001	7.77115E-001
		84.94*		12.49	1.44699E+001	6.31880E-001
		87.58*		3.77	1.29243E+002	5.11997E+000
		569.70*		97.76	1.80119E-001	2.35485E-002
		1063.66		74.60		
		1442.20	@	0.13		
		1770.23		6.87		
Tl-208	0.998	72.80*	@	2.02	5.07345E+001	3.32564E+000
		74.97*	@	3.41	2.49192E+002	7.86599E+000
		84.90*	@	1.51	1.22991E+002	4.77341E+000
		277.36*		6.31	3.37857E+001	1.32749E+000
		510.77*	@	22.60	4.03297E+001	1.37189E+000
		583.19*		84.50	3.33297E+001	1.04857E+000
		763.13*	@	1.81	3.19889E+001	1.78098E+000
		860.56*		12.42	3.64213E+001	1.05741E+000
TL-208e	0.887	1592.53*		99.16	2.25480E+000	1.46259E-001
Bi-211	0.894	351.03*		13.00	1.72874E+002	6.29647E+000
Bi-212	0.946	39.86	@	1.06		
		727.33*		6.74	1.13806E+002	3.79762E+000
		785.37*		1.11	1.50063E+002	5.16711E+000
		1620.74*		1.51	1.14151E+002	4.69755E+000
		1806.00	@	0.09		
Pb-212	1.000	74.81*		10.40	8.17063E+001	3.49385E+000
		77.11*		17.50	7.19311E+001	3.00600E+000
		87.30*		7.81	6.41093E+001	2.78740E+000
		115.18*	@	0.59	5.61275E+001	3.19190E+000
		238.63*		43.30	1.10647E+002	3.64875E+000
		300.09*		3.28	1.03346E+002	3.92984E+000
Bi-214	0.758	76.86*	@	0.43	2.87084E+003	1.23857E+002
		89.81*	@	0.24	1.52219E+003	7.17997E+001
		386.77*	@	0.30	6.38533E+001	8.84305E+000
		454.77*	@	0.29	5.97294E+001	8.66719E+000

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Bi-214	0.758	609.31*	45.49	5.37781E+001	1.60787E+000
		665.45* @	1.53	4.94729E+001	4.35990E+000
		703.11* @	0.48	9.65445E+001	8.48098E+000
		719.86* @	0.39	3.45804E+001	1.31701E+001
		768.36*	4.89	5.53350E+001	1.61492E+000
		786.10* @	0.31	5.22032E+002	8.59675E+001
		806.17* @	1.26	5.65144E+001	6.05793E+000
		934.06*	3.10	4.98407E+001	2.30397E+000
		964.08* @	0.36	1.50070E+003	6.22870E+001
		1051.96* @	0.31	9.19274E+001	1.88933E+001
		1120.29*	14.91	6.12431E+001	1.65805E+000
		1133.66* @	0.25	3.93626E+001	1.48535E+001
		1155.19* @	1.63	7.31861E+001	4.60331E+000
		1207.68* @	0.45	4.52494E+001	1.09895E+001
		1238.11*	5.79	5.98346E+001	2.17049E+000
		1280.96* @	1.43	6.34324E+001	4.53974E+000
		1377.67*	4.00	6.71018E+001	2.60653E+000
		1385.31* @	0.76	6.65616E+001	8.14561E+000
		1401.50* @	1.27	6.69167E+001	3.28195E+000
		1407.98* @	2.15	6.51801E+001	2.87306E+000
		1509.23* @	2.11	6.61341E+001	2.80958E+000
		1538.50* @	0.38	8.59315E+001	8.48035E+000
		1543.32* @	0.20	1.46279E+002	3.93076E+001
		1583.22* @	0.69	6.23817E+001	4.55272E+000
		1594.73 @	0.25		
		1599.31* @	0.23	8.38196E+001	2.41013E+001
		1661.28 @	1.15		
		1683.99 @	0.22		
		1729.59 @	2.92		
		1764.49	15.40		
		1847.42 @	2.11		
		1873.16 @	0.22		
		2118.55 @	1.14		
		2204.21 @	5.08		
Pb-214	0.980	53.28 @	1.20		
		74.81*	6.44	1.28193E+002	5.81797E+000
		77.11*	10.80	1.13239E+002	5.43287E+000
		87.30*	4.84	1.00506E+002	4.76619E+000
		242.00*	7.43	9.33933E+001	3.32294E+000
		258.87* @	0.52	6.74030E+001	6.30248E+000
		274.80* @	0.47	3.67849E+001	5.78024E+000
		295.22*	19.30	5.95265E+001	2.08913E+000
		351.93*	37.60	5.96208E+001	2.08771E+000
		462.00* @	0.22	1.87333E+003	1.03610E+002
		533.66* @	0.19	5.29235E+001	3.36746E+001
		785.96* @	1.07	1.51243E+002	1.23747E+001
		839.04 @	0.59		
Rn-220	0.987	549.73*	0.11	1.21665E+002	2.81887E+001
Ra-223	0.668	81.07*	15.30	1.17460E+000	2.97524E-001
		83.78*	25.40	7.12142E+000	3.09909E-001

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Ra-223	0.668	94.90	11.50		
		122.32 @	1.21		
		144.24*	3.27	1.01434E+001	1.78726E+000
		154.21*	5.70	1.39304E+001	1.14721E+000
		158.63 @	0.69		
		179.54 @	0.15		
		269.46*	13.90	2.73475E+001	1.21827E+000
		288.18* @	0.16	1.39622E+002	3.90547E+001
		323.87*	3.99	3.47210E+000	6.60637E-001
		328.38* @	0.21	1.34988E+003	7.15615E+001
		338.32*	2.84	4.11479E+002	1.70521E+001
		342.87 @	0.22		
		371.68 @	0.49		
		445.03 @	1.29		
Ra-224	0.955	81.07* @	0.13	1.40851E+002	3.60801E+001
		83.78* @	0.22	8.55835E+002	4.58126E+001
		240.99*	4.10	1.74204E+002	6.02323E+000
Ra-226	0.939	81.07* @	0.20	9.09971E+001	2.32751E+001
		83.78* @	0.33	5.50097E+002	2.93403E+001
		94.90 @	0.15		
		186.21*	3.59	1.15678E+002	4.72127E+000
Ac-228	0.993	99.50* @	1.26	7.19250E+001	8.79371E+000
		129.07* @	2.50	6.94191E+001	2.97914E+000
		209.25*	3.97	9.36191E+001	4.35461E+000
		270.24*	3.55	1.09938E+002	4.85459E+000
		328.00*	3.04	9.52817E+001	4.90913E+000
		338.32*	11.40	1.05245E+002	5.09218E+000
		409.46* @	2.02	9.38771E+001	4.58223E+000
		463.00*	4.45	9.57585E+001	6.28606E+000
		755.31* @	1.03	8.92639E+001	8.18168E+000
		772.29* @	1.52	9.20214E+001	4.84879E+000
		794.94*	4.31	9.76672E+001	4.44293E+000
		835.70* @	1.70	9.94861E+001	5.19207E+000
		911.20*	26.20	1.07164E+002	4.11715E+000
		964.79*	4.99	1.12365E+002	4.75464E+000
		968.96*	15.90	1.10543E+002	4.34334E+000
		1588.20*	3.06	1.19589E+002	5.91390E+000
		1630.62* @	1.52	1.22195E+002	6.47934E+000
Th-228	0.998	84.37*	1.26	1.47394E+002	6.18045E+000
		131.61* @	0.13	1.32579E+002	2.27149E+001
		166.41* @	0.10	1.03995E+002	2.73457E+001
		215.98*	0.25	8.25736E+001	2.60386E+001
Pa-234m	0.591	258.23* @	0.07	4.78563E+002	4.39130E+001
		742.81* @	0.09	6.66414E+001	4.54378E+001
		766.36	0.32		
		786.27* @	0.05	3.01911E+003	1.07805E+002
		1001.03*	0.85	7.63995E+001	6.38363E+000
		1737.77 @	0.02		
Th-234	0.972	63.30*	3.75	2.97430E+001	2.83919E+000
		92.59*	4.33	1.14869E+002	5.95014E+000

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GWET)	Activity Uncertainty
Th-234	0.972	112.81* @	0.22	1.43633E+001	5.39629E+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
	Be-7		0.953	2.206682E+000	3.452330E-001
	K-40		0.855	1.178354E+001	8.292512E-001
X	Mn-54		0.893		
X	Cd-109		0.913		
	Ce-139		0.898	8.727556E-002	4.129645E-002
	Eu-152m		0.996	5.134180E+000	1.568727E-001
	Eu-155		0.926	3.431961E+000	2.098937E-001
X	Tm-170		1.000		
X	Lu-177		0.831		
	Bi-207	@	0.515	1.764461E-001	2.353833E-002
	Tl-208	@	0.998	3.447795E+001	6.184619E-001
	TL-208e		0.887	2.254800E+000	1.462590E-001
	Bi-211		0.894	6.640905E+001	7.655251E+000
	Bi-212	@	0.946	1.097336E+002	2.285955E+000
	Pb-212	@	1.000	5.123619E+001	1.460252E+000
	Bi-214	@	0.758	5.731653E+001	7.532986E-001
	Pb-214	@	0.980	3.671759E+001	1.736126E+000
	Rn-220		0.987	1.216650E+002	2.818868E+001
	Ra-223	@	0.668	7.312237E-001	2.524808E-001
	Ra-224	@	0.955	9.996944E+001	6.471240E+000
	Ra-226	@	0.939	1.104820E+002	4.285605E+000
	Ac-228	@	0.993	1.042324E+002	9.879539E-001
	Th-228	@	0.998	4.417937E+001	7.453220E+000
X	Th-231		0.999		
	Pa-234m	@	0.591	7.508816E+001	6.333627E+000
	Th-234	@	0.972	4.553039E+001	2.562421E+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: 6/11/2017 6:57:47 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
1	57.71	3.8079E-001	15.81	Tol.	Np-239
m 3	65.18	9.8690E-002	19.20	Tol.	Se-75 Ta-182
m 14	108.82	2.8643E-001	9.16	Tol.	Cs-136 Yb-169
M 21	163.46	1.2812E-001	18.26	Sum	
24	199.44	1.9271E-001	24.16	Sum	
M 25	205.32	3.9852E-002	49.99	Sum	
M 28	233.56	1.0041E-001	19.93	Sum	
m 29	235.97	2.9521E-001	6.97	Sum	
M 32	252.64	1.2868E-001	13.80	Sum	
m 33	256.21	1.3299E-001	13.03	Sum	
M 41	321.68	9.2221E-002	15.78	Sum	
m 44	332.35	2.0375E-001	7.30	Sum	
m 46	340.97	2.0331E-001	7.01	Sum	
m 49	388.76	1.2593E-001	10.85	Sum	
M 50	401.60	8.1468E-002	15.34	Sum	
m 51	405.00	8.2541E-002	14.81	Sum	
53	440.28	4.7052E-002	37.10	Sum	
M 54	452.78	1.9376E-001	6.87	Sum	
m 58	480.37	1.1514E-001	10.52	Sum	
59	486.93	8.1646E-002	28.65	Sum	
60	503.41	2.6932E-002	94.60	Sum	
M 63	546.40	6.3179E-002	16.08	Sum	
65	562.38	3.3858E-001	6.66	D-Esc.	
m 67	572.26	6.9178E-002	13.19	D-Esc.	
70	620.28	2.6122E-002	70.11	Sum	
72	674.67	1.0466E-002	126.19	Sum	
M 73	683.13	2.0859E-002	30.12	Sum	
m 74	688.21	2.9350E-002	23.13	Sum	
m 76	707.72	8.5179E-002	14.08		
M 84	782.00	1.5785E-001	5.73	Sum	
88	821.47	1.7288E-002	82.41	Sum	
M 89	830.55	1.8787E-001	4.70	Sum	
m 91	840.07	3.4396E-001	2.96	Sum	
93	893.53	8.3456E-002	18.44	Sum	
94	904.22	2.3769E-001	7.78	Sum	
M 97	944.22	4.0190E-002	16.16	Sum	
m 98	948.00	3.8030E-002	16.71	S-Esc.	
m 99	951.99	5.6299E-002	12.28	Sum	
M100	958.60	8.4117E-002	7.79	Sum	
103	988.25	4.7568E-002	28.36	Sum	
M105	1033.28	6.4006E-002	10.75	S-Esc.	
m106	1039.97	2.4472E-002	23.48	Sum	

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
M108	1065.33	2.8138E-002	42.75	Sum	
m109	1070.10	2.1440E-002	42.87	Sum	
110	1078.86	1.5371E-001	9.86	S-Esc.	
111	1094.07	1.5996E-001	9.33	Sum	
112	1110.83	1.0584E-001	16.18	S-Esc.	
118	1247.50	1.3521E-001	12.77	Sum	
124	1433.12	1.0800E-002	77.71	Sum	
M126	1496.64	1.9888E-001	3.63	Sum	
m127	1502.25	1.0965E-001	5.48	Sum	
m129	1513.47	8.1546E-002	6.93	Sum	
132	1557.69	3.6314E-002	26.29	Sum	
M133	1581.46	1.2170E-001	4.93	Sum	
m139	1625.98	5.7079E-002	8.38	Sum	
m141	1639.25	9.8020E-002	5.57	Sum	
M142	1662.34	1.2013E-001	5.00	Sum	
m143	1667.70	3.2975E-002	12.54	Sum	
144	1730.82	3.8548E-001	3.38	Sum	
145	1765.77	1.8837E+000	1.06	Sum	
146	1807.09	3.5923E-002	24.20	Sum	
147	1839.81	4.0422E-002	24.50	Sum	
148	1848.87	2.5640E-001	4.43	Sum	
149	1874.78	3.4299E-002	22.17	Sum	
150	1888.62	7.3042E-003	94.94	Sum	

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

Errors quoted at 1.000 sigma