EPA Region 5 Records Ctr.
356298

Fw: DuSable Park - Gamma Spec Results

VERNETA SIMON to: Phillip Brown 02/24/2010 09:18 AM

Sender	Date	Subject
VERNETA SIMON	02/24/2010 09:18 AM	Fw: DuSable Park - Gamma Spec Result

---- Forwarded by VERNETA SIMON/R5/USEPA/US on 02/24/2010 09:18 AM ----

From: "Kornder, Steve" <steve.kornder@sts.aecom.com>
To: EUGENE JABLONOWSKI/R5/USEPA/US@EPA
Cc: VERNETA SIMON/R5/USEPA/US@EPA, "Baratta, Bob" <bbaratta@freebornpeters.com>
Date: 10/23/2007 12:58 PM
Subject: DuSable Park - Gamma Spec Results

Hi Gene:

I have attached a PDF copy of the sample results for the split collected by USEPA on October 15, 2007 at DuSable Park. You indicated that you might want to reanalyze this sample, but it is my understanding that the results of the USEPA split were very similar. Therefore, please let me know if you are still interested in reanalyzing the STS sample or if you have any questions regarding the attached analytical report

Sincerely,

Steve Kornder

phone 847.279.2448
fax 847.279.2510

STS
750 Corporate Woods Parkway
Vernon Hills, IL 60061
T 847.279-2500 F 847.279.2510
steve.kornder@sts.aecom.com

GammaSpecResults_10-15-07.pdf

GDR/PC RSSI High Resolution Gamma Spectroscopy Ver. 6.02a

Sample ID : 072092 STS 716G EPA# 107062 & 107063

Sample Size . . . . . 7.16e+002 g | Spectrum File . . h:maestros/072092.chn
Sampling Start. . . . .00-00-00 00:00 | Counting Start. 10-15-07 12:00
Sampling Stop . . . . .00-00-00 00:00 | Live Time . . . . . 3600 Sec
Current Date. . . . . .00-00-00 00:00 | Real Time . . . . . 3731 Sec

Detector #: 1

Energy(keV)= 4.53 + 0.238*Ch + 0.00e+000*Ch^2 + 0.00e+000*Ch^3 10-15-07 12:00

FWHM(keV) = 0.94 + 0.015*En + 2.91e-004*En^2 + 0.00e+000*En^3 08-13-07 15:28
Where En = Sqrt(Energy in keV)

Sensitivity . . . . . 0.20 | Search Start / End. . . . . 0 / 8191
Sigma Multiplier. . . . . 1.00 |

PEAK SEARCH RESULTS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	74.65	295.24	16302	381	733	29976	1.19	a
2	76.90	304.70	25748	344	602	25795	1.04	b
3	84.28	335.76	4850	420	877	29649	1.40	a
4	87.02	347.30	15183	384	746	29399	1.37	b
5	89.76	358.85	11323	335	637	26061	1.21	c
6	93.14	373.08	12043	394	794	27282	1.32	d
7	99.28	398.91	3511	305	595	24435	1.24	
8	105.19	423.82	5326	438	910	34069	1.63	a
9	108.54	437.92	1649	324	650	25512	1.17	b
10	115.02	465.20	1734	296	576	24458	1.07	
11	128.96	523.90	8802	329	620	28363	1.11	
12	154.01	629.34	2453	299	580	24788	0.90	
13	186.08	764.38	3773	292	567	22197	1.45	
14	209.18	861.62	14281	297	541	20208	1.16	
15	238.59	985.44	155661	498	628	19477	1.21	a
16	241.13	996.13	15973	291	530	17190	1.31	b
17	252.73	1044.97	464	196	383	10800	0.76	
18	270.20	1118.54	10941	227	404	10605	1.27	
19	277.35	1148.62	6479	217	403	10577	1.25	
20	288.01	1193.50	1249	201	399	9795	1.62	
21	295.18	1223.72	7118	208	388	8349	1.11	a
22	300.08	1244.31	8886	211	383	8589	1.14	b
23	321.30	1333.67	472	176	351	8001	0.83	
24	327.95	1361.65	7992	232	451	8187	1.25	a
25	332.40	1380.38	924	164	322	6891	1.10	b
26	338.28	1405.15	31274	254	373	7703	1.30	c
27	340.95	1416.42	958	180	368	6630	1.12	d
28	351.90	1462.50	12786	198	325	6848	1.28	
29	409.38	1704.51	4493	159	289	5417	1.48	
30	452.98	1888.05	905	141	278	4761	1.65	

31	463.00	1930.26	8687	166	278	4731	1.36	
32	510.78	2131.43	13857	190	300	5529	1.53	
33	562.59	2349.52	1539	141	277	4240	1.47	
34	583.26	2436.58	45976	256	283	4658	1.45	
35	609.40	2546.61	8970	156	253	3718	1.46	
36	727.39	3043.36	10134	152	232	2983	1.70	
37	755.46	3161.55	1389	116	224	2763	1.57	
38	763.47	3195.29	726	130	270	2750	1.44 a	
39	768.51	3216.49	646	90	172	2057	1.15 b	
40	772.42	3232.96	1823	126	250	2552	1.52 c	
41	782.50	3275.38	515	95	191	1871	1.22 a	
42	785.66	3288.70	1343	109	213	2238	1.51 b	
43	795.10	3328.46	5342	116	184	1873	1.60	
44	806.73	3377.40	150	89	181	1807	1.20	NET < CL
45	830.79	3478.70	627	110	228	1792	1.65 a	
46	835.90	3500.23	2030	99	183	1684	1.63 b	
47	840.44	3519.36	1193	102	204	1591	1.64 c	
48	860.72	3604.72	5204	109	168	1484	1.57	
49	893.74	3743.76	595	80	158	1204	2.79	
50	904.35	3788.40	839	99	203	1402	1.75 a	
51	911.35	3817.90	31940	197	178	1231	1.69 b	
52	934.22	3914.18	284	71	141	1097	1.37	
53	952.61	3991.59	117	63	127	931	1.24	NET < CL
54	958.85	4017.88	291	78	161	973	1.48 a	
55	964.99	4043.72	5812	107	156	1114	1.81 b	
56	969.14	4061.17	18190	156	169	1032	1.71 c	
57	988.52	4142.78	176	68	139	928	2.01	
58	1033.12	4330.54	188	62	124	816	1.73	
59	1065.40	4466.45	190	60	119	783	1.69	
60	1079.00	4523.71	514	61	115	727	1.83	
61	1094.41	4588.61	424	69	138	909	1.86	
62	1111.04	4658.61	511	67	131	796	1.76	
63	1120.50	4698.44	1810	76	129	840	2.02	
64	1154.89	4843.25	277	73	149	945	2.31	
65	1238.40	5194.82	655	67	129	797	1.94	
66	1247.17	5231.75	336	69	137	942	2.01	
67	1377.79	5781.68	346	64	126	796	1.24	
68	1408.25	5909.92	227	65	133	754	2.32	
69	1460.22	6128.74	1224	72	134	709	3.42	
70	1496.03	6279.47	833	63	120	476	2.03 a	
71	1501.80	6303.78	383	55	109	468	1.74 b	
72	1509.57	6336.49	179	56	115	525	1.83 a	
73	1513.33	6352.34	161	51	103	485	1.49 b	
74	1557.30	6537.46	140	49	99	475	1.70	
75	1580.61	6635.58	447	59	117	461	1.72 a	
76	1588.41	6668.42	2456	76	122	593	2.04 b	
77	1592.68	6686.39	1977	84	156	668	2.21 c	
78	1620.87	6805.09	1017	71	136	539	1.73 a	
79	1625.25	6823.52	229	60	123	540	1.86 b	
80	1630.87	6847.18	1210	65	115	531	2.06 c	
81	1638.52	6879.38	334	66	139	503	2.21 d	
82	1729.70	7263.28	301	49	95	400	2.49	
83	1764.69	7410.59	1368	64	110	538	2.19	
84	1847.51	7759.28	183	55	113	527	1.73	

GDR/PC RSSI High Resolution Gamma Spectroscopy Ver. 6.02a

BACKGROUND SUBTRACT RESULTS

Sample ID : 072092 STS 716G EPA# 107062 & 107063

Bkg File: . . . .H:\GDR\BKG\NOCAL.BKG | Counting Start. 10-15-07 12:00
ID.:. . . . . 24 Hour Background | Current Date 00-00-00 00:00

PK#	ENERGY (keV)	FWHM (keV)	OLD NET COUNTS	OLD UN-CERTAINTY	NEW NET COUNTS	NEW UN-CERTAINTY	FLAG
1	74.65	1.19	16302	381	16242	381	
3	84.28	1.40	4850	420	4829	420	
6	93.14	1.32	12043	394	11993	394	
13	186.08	1.45	3773	292	3744	292	
15	238.59	1.21	155661	498	155631	498	
21	295.18	1.11	7118	208	7091	208	
28	351.90	1.28	12786	198	12730	198	
32	510.78	1.53	13857	190	13770	190	
34	583.26	1.45	45976	256	45953	256	
35	609.40	1.46	8970	156	8876	156	
51	911.35	1.69	31940	197	31917	198	
56	969.14	1.71	18190	156	18178	156	
63	1120.50	2.02	1810	76	1794	76	
69	1460.22	3.42	1224	72	1039	72	
83	1764.69	2.19	1368	64	1348	64	

GDR/PC RSSI High Resolution Gamma Spectroscopy Ver. 6.02a

NUCLIDE ACTIVITY SUMMARY

Sample ID: 072092 STS 716G EPA# 107062 & 107063

Sample Size . . . . . 7.16e+002 g | Spectrum File . . h:maestros/072092.chn
Sampling Start. . . . .00-00-00 00:00 | Counting Start. 10-15-07 12:00
Sampling Stop . . . . .00-00-00 00:00 | Buildup Time. . . . . 0.00e+000 Hrs
Current Date. . . . . .00-00-00 00:00 | Decay Time [OFF]. . . . . 0.00e+000 Hrs

Efficiency File.H:\GDR\EFF\500MAR.EFF | Library File. . . . H:\GDR\LIB\1001.LIB
ID. . . . . 500 MARINELLI | ID. . . . . TH, U, AND K SERIES

Eff.= 1/[4.50e-002*En^-2.60e+000 + 1.35e+002*En^8.70e-001] 08-14-07 16:35

Gamma Fraction Limit >= . . . 10.00 % | Decay Limit <=. . . . 8.000 Halflives
Library Energy Tolerance. . . 1.20

FINAL ACTIVITY REPORT

Nuclide	Energy (keV)	Conc +- 1.00sigma (uCi/g)	Halflife (hrs)	Peaks Found
Pb-212	Average:	1.48e-004 +-4.70e-007	1.06e+001	4 of 4
	74.82	I.D.Only		
	77.11	I.D.Only		
	238.63	1.49e-004 +-4.76e-007		
	300.09	1.32e-004 +-3.14e-006		
Pb-214	Average:	1.95e-005 +-2.64e-007	4.47e-001	4 of 4
	77.11	I.D.Only		
	241.98	1.98e-005 +-1.67e-006		
	295.21	1.85e-005 +-5.41e-007		
	351.92	1.98e-005 +-3.07e-007		
Th-228	84.37	I.D.Only	1.68e+004	1 of 2
Th-234	92.80	I.D.Only	5.78e+002	1 of 3
Pa-234	98.44	I.D.Only	6.70e+000	1 of 4
Pa-234m	98.44	I.D.Only	1.95e-002	1 of 4
Ra-226	186.10	I.D.Only	1.40e+007	1 of 1
Ra-224	240.98	1.36e-004 +-3.17e-006	8.69e+001	1 of 1
Tl-208	Average:	4.86e-005 +-2.48e-007	5.09e-002	3 of 3
	277.35	4.55e-005 +-1.52e-006		
	510.84	5.06e-005 +-6.97e-007		
	583.14	4.84e-005 +-2.69e-007		
Bi-212	Average:	1.60e-004 +-2.30e-006	1.01e+000	4 of 4
	288.07	1.93e-004 +-3.11e-005		
	727.17	1.61e-004 +-2.42e-006		
	785.46	1.40e-004 +-1.14e-005		
	1620.60	1.47e-004 +-1.02e-005		
Ac-228	Average:	1.51e-004 +-6.48e-007	6.13e+000	3 of 3
	338.32	1.54e-004 +-1.25e-006		
	911.07	1.51e-004 +-9.31e-007		

	969.11	1.51e-004	+-1.30e-006		
Bi-214	Average:	1.79e-005	+-2.74e-007	3.32e-001	4 of 4
	609.31	1.77e-005	+-3.12e-007		
	768.36	1.44e-005	+-2.02e-006		
	1120.30	1.85e-005	+-7.81e-007		
	1764.50	1.97e-005	+-9.43e-007		
K-40	1460.80	1.92e-005	+-1.34e-006	1.12e+013	1 of 1

TOTAL: 7.01e-004 uCi/g

UNKNOWN PEAKS

Energy (keV)	Centroid Channel	Net Counts	Un-Certainty	C.L. Counts	Bkg. Counts	FWHM (keV)	Net Gamma/sec
87.02	347.30	15183	384	746	29399	1.37	1.765e+002
89.76	358.85	11323	335	637	26061	1.21	1.268e+002
105.19	423.82	5326	438	910	34069	1.63	5.139e+001
108.54	437.92	1649	324	650	25512	1.17	1.559e+001
115.02	465.20	1734	296	576	24458	1.07	1.590e+001
128.96	523.90	8802	329	620	28363	1.11	7.816e+001
154.01	629.34	2453	299	580	24788	0.90	2.203e+001
209.18	861.62	14281	297	541	20208	1.16	1.477e+002
252.73	1044.97	464	196	383	10800	0.76	5.466e+000
270.20	1118.54	10941	227	404	10605	1.27	1.355e+002
321.30	1333.67	472	176	351	8001	0.83	6.700e+000
327.95	1361.65	7992	232	451	8187	1.25	1.154e+002
332.40	1380.38	924	164	322	6891	1.10	1.349e+001
340.95	1416.42	958	180	368	6630	1.12	1.429e+001
409.38	1704.51	4493	159	289	5417	1.48	7.803e+001
452.98	1888.05	905	141	278	4761	1.65	1.713e+001
463.00	1930.26	8687	166	278	4731	1.36	1.675e+002
562.58	2349.52	1539	141	277	4240	1.47	3.507e+001
755.46	3161.55	1389	116	224	2763	1.57	4.084e+001
763.47	3195.29	726	130	270	2750	1.44	2.155e+001
772.42	3232.96	1823	126	250	2552	1.52	5.466e+001
782.50	3275.38	515	95	191	1871	1.22	1.563e+001
795.10	3328.46	5342	116	184	1873	1.60	1.642e+002
830.79	3478.70	627	110	228	1792	1.65	2.002e+001
835.90	3500.23	2030	99	183	1684	1.63	6.518e+001
840.44	3519.36	1193	102	204	1591	1.64	3.847e+001
860.72	3604.72	5204	109	168	1484	1.57	1.714e+002
893.74	3743.76	595	80	158	1204	2.79	2.026e+001
904.35	3788.40	839	99	203	1402	1.75	2.885e+001
934.22	3914.18	284	71	141	1097	1.37	1.005e+001
958.85	4017.88	291	78	161	973	1.48	1.054e+001
964.99	4043.72	5812	107	156	1114	1.81	2.114e+002
988.52	4142.78	176	68	139	928	2.01	6.549e+000
1033.12	4330.54	188	62	124	816	1.73	7.236e+000
1065.40	4466.45	190	60	119	783	1.69	7.518e+000
1079.00	4523.71	514	61	115	727	1.83	2.061e+001
1094.41	4588.61	424	69	138	909	1.86	1.718e+001
1111.04	4658.60	511	67	131	796	1.76	2.101e+001
1154.89	4843.25	277	73	149	945	2.31	1.179e+001
1238.40	5194.81	655	67	129	797	1.94	2.957e+001
1247.17	5231.75	336	69	137	942	2.01	1.526e+001

1377.79	5781.68	346	64	126	796	1.24	1.717e+001
1408.25	5909.92	227	65	133	754	2.32	1.147e+001
1496.03	6279.47	833	63	120	476	2.03	4.433e+001
1501.80	6303.78	383	55	109	468	1.74	2.048e+001
1509.57	6336.49	179	56	115	525	1.83	9.626e+000
1513.33	6352.33	161	51	103	485	1.49	8.668e+000
1557.30	6537.46	140	49	99	475	1.70	7.701e+000
1580.61	6635.58	447	59	117	461	1.72	2.494e+001
1588.41	6668.42	2456	76	122	593	2.04	1.378e+002
1592.68	6686.39	1977	84	156	668	2.21	1.111e+002
1625.25	6823.52	229	60	123	540	1.86	1.310e+001
1630.87	6847.18	1210	65	115	531	2.06	6.942e+001
1638.52	6879.38	334	66	139	503	2.21	1.924e+001
1729.70	7263.28	301	49	95	400	2.49	1.818e+001
1847.51	7759.28	183	55	113	527	1.73	1.167e+001