EPA Region 5 Records Ctr.
356285

Fw: DuSable Park - Gamma Spec Results

VERNETA SIMON to: Mark Bedford, Gordon Clarke, Ernesto Manzon, Phillip Brown 02/24/2010 09:01 AM

Sender	Date	Subject
VERNETA SIMON	02/24/2010 09:01 AM	Fw: DuSable Park - Gamma Spec Result

Please add the below e-mail message to SDMS and the Lindsay DuSable AR. Thanks, Verneta
---- Forwarded by VERNETA SIMON/R5/USEPA/US on 02/24/2010 08:59 AM ----

From: "Korder, Steve" <steve.korder@sts.aecom.com>
To: VERNETA SIMON/R5/USEPA/US@EPA
Cc: EUGENE JABLONOWSKI/R5/USEPA/US@EPA, "Baratta, Bob" <bbaratta@freebornpeters.com>, "MacDonell, Don" <don.macdonell@sts.aecom.com>
Date: 03/14/2008 12:12 PM
Subject: DuSable Park - Gamma Spec Results

Hi Verneta:

I have attached a PDF copy of the gamma spec results for the sample collected Wednesday from the western edge of the southern mound. A single fist size piece of material, which turned out not to be brick, was collected in a marinelli for gamma spec analysis by RSSI. Please note that the entire hot spot is contained in the sample container. I know you are out of the office so I will attempt to contact you Monday to discuss.

In the meantime, please feel free to contact me if you have any questions.

Sincerely,

Steve Korder

phone 847.279.2448
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STS
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080775 DuSable Park S 3-4.pdf

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

Sample ID : 080775 STS DU SABLE PARK S/3-4

Sample Size . . . . . 4.35e+002 g | Spectrum File . .H:\MAESTROS\080775.CHN
Sampling Start. . . . .00-00-00 00:00 | Counting Start. 03-13-08 09:09
Sampling Stop . . . . .00-00-00 00:00 | Live Time . . . . . 3600 Sec
Current Date. . . . . .03-13-08 11:40 | Real Time . . . . . 3862 Sec

Detector #: 1

Energy(keV)= 6.40 + 0.232*Ch + 0.00e+000*Ch^2 + 0.00e+000*Ch^3 03-13-08 09:09

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	74.61	294.07	43937	718	1432	93614	1.45	a
2	76.80	303.49	60310	579	1051	71304	1.17	b
3	84.24	335.59	11486	629	1312	66952	1.32	a
4	86.92	347.14	36928	696	1406	82745	1.71	b
5	89.69	359.06	29322	614	1219	74104	1.57	c
6	93.07	373.63	30733	654	1334	68721	1.54	d
7	99.30	400.54	6409	464	915	54440	1.48	
8	105.11	425.57	11513	505	995	60831	1.65	
9	115.11	468.67	3788	445	875	52912	1.25	
10	128.84	527.89	17075	524	1017	67306	1.28	
11	153.85	635.70	5446	453	888	54443	1.49	
12	209.14	874.09	30975	468	869	49124	1.36	
13	238.56	1000.92	349750	882	1387	73726	1.46	a
14	240.87	1010.88	39201	574	1132	53858	1.59	b
15	270.18	1137.27	22060	364	671	27609	1.45	
16	277.32	1168.02	13389	346	659	26661	1.35	
17	287.94	1213.84	2494	306	608	22719	1.59	
18	295.14	1244.87	1718	293	592	19348	1.01	a
19	300.03	1265.93	21450	397	771	26590	1.53	b
20	327.90	1386.09	17532	414	839	24366	1.47	a
21	332.58	1406.28	2612	402	840	28830	1.79	b
22	338.23	1430.65	72920	452	763	24605	1.65	c
23	340.85	1441.96	2302	319	661	18625	1.30	d
24	351.98	1489.94	3793	280	554	17857	1.38	
25	409.45	1737.71	9880	268	506	14912	1.61	
26	452.76	1924.43	1839	220	436	11676	1.35	
27	462.98	1968.51	19530	275	481	13449	1.59	
28	510.74	2174.40	33578	323	544	16330	1.80	
29	562.52	2397.64	3804	224	439	10663	1.67	
30	583.27	2487.12	111935	442	589	19163	1.65	

31	609.34	2599.49	2910	202	395	9098	1.55	
32	727.42	3108.62	25111	264	435	9944	1.75	
33	755.37	3229.12	3035	202	402	8103	1.72	
34	763.52	3264.24	1824	192	386	7476	1.89	
35	772.47	3302.83	4474	186	356	6657	1.79	
36	782.28	3345.14	1869	224	470	7634	2.03	a
37	785.64	3359.59	3373	191	381	6235	1.66	b
38	795.08	3400.30	12631	206	357	6387	1.75	
39	830.75	3554.11	1420	169	352	4424	1.48	a
40	835.87	3576.18	5188	182	350	5211	1.90	b
41	840.45	3595.94	2580	172	350	4406	1.70	c
42	860.72	3683.31	13378	185	299	4481	1.85	
43	893.43	3824.34	1074	129	256	3462	1.99	
44	904.69	3872.89	1988	212	446	6202	2.16	a
45	911.33	3901.49	81435	355	455	6599	1.98	b
46	952.18	4077.63	381	120	244	2988	1.66	
47	959.06	4107.28	1117	222	481	5294	2.73	a
48	965.03	4133.01	16784	224	392	5108	2.34	b
49	969.13	4150.70	47674	287	404	4605	1.96	c
50	988.53	4234.37	573	112	229	2317	2.20	
51	1033.76	4429.37	512	97	195	1910	2.03	
52	1065.47	4566.05	735	99	197	1947	1.50	
53	1078.81	4623.57	1522	106	205	1936	1.94	
54	1094.25	4690.14	1381	111	220	2133	2.24	
55	1110.84	4761.68	1229	105	207	1900	2.61	
56	1120.41	4802.95	334	97	195	2110	1.12	
57	1153.95	4947.55	319	93	189	1800	1.65	
58	1246.72	5347.50	1090	123	250	2561	2.84	
59	1373.80	5895.40	314	79	157	1431	1.77	
60	1459.76	6266.02	2172	110	209	1791	2.41	
61	1496.06	6422.52	1651	112	223	1611	1.99	a
62	1501.68	6446.76	781	96	194	1430	1.83	b
63	1513.12	6496.07	811	81	158	1152	2.22	
64	1556.97	6685.12	360	80	162	1158	2.47	
65	1580.76	6787.69	1158	114	236	1581	1.97	a
66	1588.34	6820.35	6999	139	239	1917	2.36	b
67	1592.63	6838.87	3984	139	271	1882	2.27	c
68	1620.88	6960.69	2869	111	203	1821	2.08	
69	1630.80	7003.42	3195	129	252	1705	2.11	a
70	1638.54	7036.79	959	112	234	1571	2.50	b
71	1666.64	7157.95	370	91	189	1358	2.76	
72	1764.73	7580.85	572	91	185	1358	3.10	
73	1868.76	8029.37	373	57	115	393	2.60	

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

BACKGROUND SUBTRACT RESULTS

Sample ID : 080775 STS DU SABLE PARK S/3-4

Bkg File: . . . .H:\GDR\BKG\NOCAL.BKG | Counting Start. 03-13-08 09:09
ID.:. . . . . 24 Hour Background | Current Date 03-13-08 11:40

PK#	ENERGY (keV)	FWHM (keV)	OLD NET COUNTS	OLD UN-CERTAINTY	NEW NET COUNTS	NEW UN-CERTAINTY	FLAG
1	74.61	1.45	43937	718	43871	718	
3	84.24	1.32	11486	629	11467	629	
6	93.07	1.54	30733	654	30683	654	
13	238.56	1.46	349750	882	349717	882	
18	295.14	1.01	1718	293	1693	293	
24	351.98	1.38	3793	280	3737	280	
28	510.74	1.80	33578	323	33491	323	
30	583.27	1.65	111935	442	111912	442	
31	609.34	1.55	2910	202	2816	202	
45	911.33	1.98	81435	355	81412	355	
49	969.13	1.96	47674	287	47662	287	
56	1120.41	1.12	334	97	318	97	
60	1459.76	2.41	2172	110	1987	110	
72	1764.73	3.10	572	91	552	91	

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

NUCLIDE ACTIVITY SUMMARY

Sample ID: 080775 STS DU SABLE PARK S/3-4

Sample Size . . . . . 4.35e+002 g	Spectrum File . .H:\MAESTROS\080775.CHN
Sampling Start. 00-00-00 00:00	Counting Start. 03-13-08 09:09
Sampling Stop 00-00-00 00:00	Buildup Time. . . . . 0.00e+000 Hrs
Current Date. 03-13-08 11:40	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/[2.90e-002*En^-2.65e+000 + 9.35e+001*En^8.20e-001] 02-19-08 12:00

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:	4.07e-004	+-1.02e-006	1.06e+001	4 of 4
	74.82		I.D.Only		
	77.11		I.D.Only		
	238.63	4.08e-004	+-1.03e-006		
	300.09	3.86e-004	+-7.15e-006		
Pb-214	Average:	6.57e-006	+-4.51e-007	4.47e-001	4 of 4
	77.11		I.D.Only		
	241.98	6.97e-006	+-4.01e-006		
	295.21	5.33e-006	+-9.21e-007		
	351.92	6.96e-006	+-5.21e-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-224	240.98	5.07e-004	+-7.61e-006	8.69e+001	1 of 1
Tl-208	Average:	1.38e-004	+-5.00e-007	5.09e-002	3 of 3
	277.35	1.14e-004	+-2.95e-006		
	510.84	1.45e-004	+-1.40e-006		
	583.14	1.38e-004	+-5.45e-007		
Bi-212	Average:	4.61e-004	+-4.59e-006	1.01e+000	4 of 4
	288.07	4.67e-004	+-5.73e-005		
	727.17	4.63e-004	+-4.87e-006		
	785.46	4.06e-004	+-2.30e-005		
	1620.60	4.62e-004	+-1.78e-005		
Ac-228	Average:	4.40e-004	+-1.35e-006	6.13e+000	3 of 3
	338.32	4.32e-004	+-2.68e-006		
	911.07	4.40e-004	+-1.92e-006		
	969.11	4.51e-004	+-2.72e-006		

Bi-214	Average:	6.37e-006	+-4.17e-007	3.32e-001	3 of 4
	609.31	6.55e-006	+-4.70e-007		
	1120.30	3.72e-006	+-1.14e-006		
	1764.50	8.96e-006	+-1.48e-006		
K-40	1460.80	4.10e-005	+-2.26e-006	1.12e+013	1 of 1

TOTAL: 2.01e-003 uCi/g

UNKNOWN PEAKS

Energy (keV)	Centroid Channel	Net Counts	Un-Certainty	C.L. Counts	Bkg. Counts	FWHM (keV)	Net Gamma/sec
86.92	347.14	36928	696	1406	82745	1.71	3.221e+002
89.69	359.06	29322	614	1219	74104	1.57	2.462e+002
105.11	425.57	11513	505	995	60831	1.65	8.345e+001
115.11	468.67	3788	445	875	52912	1.25	2.610e+001
128.84	527.90	17075	524	1017	67306	1.28	1.140e+002
153.85	635.70	5446	453	888	54443	1.49	3.674e+001
209.14	874.09	30975	468	869	49124	1.36	2.388e+002
270.18	1137.27	22060	364	671	27609	1.45	2.016e+002
327.90	1386.09	17532	414	839	24366	1.47	1.852e+002
332.58	1406.28	2612	402	840	28830	1.79	2.790e+001
340.85	1441.96	2302	319	661	18625	1.30	2.506e+001
409.45	1737.71	9880	268	506	14912	1.61	1.242e+002
452.76	1924.43	1839	220	436	11676	1.35	2.506e+001
462.98	1968.51	19530	275	481	13449	1.59	2.710e+002
562.52	2397.64	3804	224	439	10663	1.67	6.178e+001
755.37	3229.12	3035	202	402	8103	1.72	6.267e+001
763.52	3264.24	1824	192	386	7476	1.89	3.799e+001
772.47	3302.83	4474	186	356	6657	1.79	9.410e+001
782.28	3345.14	1869	224	470	7634	2.03	3.972e+001
795.08	3400.30	12631	206	357	6387	1.75	2.720e+002
830.75	3554.11	1420	169	352	4424	1.48	3.169e+001
835.87	3576.18	5188	182	350	5211	1.90	1.164e+002
840.45	3595.94	2580	172	350	4406	1.70	5.815e+001
860.72	3683.31	13378	185	299	4481	1.85	3.074e+002
893.43	3824.34	1074	129	256	3462	1.99	2.543e+001
904.69	3872.89	1988	212	446	6202	2.16	4.757e+001
952.18	4077.63	381	120	244	2988	1.66	9.501e+000
959.06	4107.28	1117	222	481	5294	2.73	2.803e+001
965.03	4133.01	16784	224	392	5108	2.34	4.235e+002
988.53	4234.37	573	112	229	2317	2.20	1.476e+001
1033.76	4429.37	512	97	195	1910	2.03	1.366e+001
1065.47	4566.05	735	99	197	1947	1.50	2.011e+001
1078.81	4623.57	1522	106	205	1936	1.94	4.208e+001
1094.25	4690.14	1381	111	220	2133	2.24	3.862e+001
1110.84	4761.67	1229	105	207	1900	2.61	3.480e+001
1153.95	4947.55	319	93	189	1800	1.65	9.309e+000
1246.72	5347.50	1090	123	250	2561	2.84	3.391e+001
1373.80	5895.40	314	79	157	1431	1.77	1.057e+001
1496.06	6422.52	1651	112	223	1611	1.99	5.967e+001
1501.68	6446.76	781	96	194	1430	1.83	2.831e+001
1513.12	6496.07	811	81	158	1152	2.22	2.958e+001
1556.97	6685.12	360	80	162	1158	2.47	1.343e+001
1580.76	6787.69	1158	114	236	1581	1.97	4.379e+001

1588.33	6820.35	6999	139	239	1917	2.36	2.657e+002
1592.63	6838.87	3984	139	271	1882	2.27	1.516e+002
1630.80	7003.42	3195	129	252	1705	2.11	1.239e+002
1638.54	7036.79	959	112	234	1571	2.50	3.734e+001
1666.64	7157.95	370	91	189	1358	2.76	1.460e+001
1868.76	8029.37	373	57	115	393	2.60	1.619e+001