

Health Physics Sample Records

Sample ID: 142440

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD 10 STAR 10-20 Dirt Sample

Common

Resp Org: P4000 - PROJECT MANAGEMEN

Cross Ref Sample ID:

Priority: N

Contact: COOPER, TERRY L

Survey No:

Reference ID:

Accounting Subcode:

Unknown Mat: NO

Hazardous Mat: NO

Comments: COUNT TO MDA

Reviewed: DYNES, WILLIAM J

Date: 05/30/14 07:58

Comments:

Origin

Mat. Size/Volume: 1446 GRAMS

Docmnt/MO/Act #:

Proposed Ship Date: 00/00/00 00:00

Description: STAR 10 SOIL SAMPLE

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 07:06

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1446 GRAMS

Instructions:

Comments: COUNT TO MDA

RLSSS

Exempt: No

Evaluated: No

Chem Notification: No

State Permit: No

Offsite Analysis: No

Effluent Permit: No

Container Surveyed: No

Cleared For Release: Yes

Container Evaluated: Yes

Form 212 Ready:

Location

Unit: NON-UNIT RE

Area: MS

Elev: 100

Room:

Depth: 3" (in.)

Equip ID:

Stored By: ,

Date: 00/00/00 00:00

Sample Loc:

Other:

Material Loc:

Health Physics Sample Records

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Status: APPROVED

Rasterized:

Description: 140528BD 10 STAR 10-20 Dirt Sample

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30303	1446	GR		.000		PARK, MICHAEL C	06/02/14 13:43		

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0 K-40	NT	0.00001295	1.98E-6	<input type="checkbox"/>	83.360%	40			
0 TL-208	NT	3.975E-7	1.129E-7	<input type="checkbox"/>	2.559%	208			
0 PB-212	NT	7.549E-7	1.188E-7	<input type="checkbox"/>	4.859%	212			
0 BI-214	NT	7.854E-7	1.463E-7	<input type="checkbox"/>	5.056%	214			
0 PB-214	NT	6.472E-7	2.456E-7	<input type="checkbox"/>	4.166%	214			
0 BE-7	AP	8.8214E-7		<input checked="" type="checkbox"/>	0.000%	7			
0 MN-54	AP	1.5816E-7		<input checked="" type="checkbox"/>	0.000%	54			
0 MN-56	AP	1.4705E-7		<input checked="" type="checkbox"/>	0.000%	56			
0 CO-57	AP	1.0421E-7		<input checked="" type="checkbox"/>	0.000%	57			
0 CO-58	AP	2.1574E-7		<input checked="" type="checkbox"/>	0.000%	58			
0 CO-60	AP	5.8375E-8		<input checked="" type="checkbox"/>	0.000%	60			
0 SB-124	AP	1.2334E-7		<input checked="" type="checkbox"/>	0.000%	124			
0 SB-125	FP	4.5686E-7		<input checked="" type="checkbox"/>	0.000%	125			
0 CS-134	FP	4.7941E-8		<input checked="" type="checkbox"/>	0.000%	134			
0 CS-137	FP	1.0936E-7		<input checked="" type="checkbox"/>	0.000%	137			

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 09:53

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142440

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD 10 STAR 10-20 Dirt Sample

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 09:54

Comments: Peaks at 131 and 271 keV are Ac-228

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 09:54

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          2-JUN-2014 13:32  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*-----*
* Title       : 140528BD 10 STAR 10-20 DIRT SAMPLE                *
* ID          : 30303                      Acquisition date: 2-JUN-2014 13:29:23. *
* Start Time : 2-JUN-2014 13:29:00.                    Counting System : U2GSP          *
* Stop Time  : 2-JUN-2014 13:29:00.                    IHPS Sample Number: 142440       *
* Quantity   : 1.44600E+03 GR                          Analysis Library : HP_NATURAL     *
* Geometry   : B_1L_marinelli_sand_1                    Operator: MICHAEL PARK           *
*-----*
*                >>>> B #42-TP11663A PARAMETERS <<<<<                *
*-----*
* Elapsed Live Time : 0 00:03:00.41 Calibration : 1-JUN-2014 20:28: *
* Elapsed Real Time : 0 00:03:00.45 Energy Offset : -5.64750E-02      *
* Deadtime          : 0.0% Energy Slope : 4.99765E-01                 *
* Activity Mult Factor: 1.00000E+00 Energy Tolerance: 1.00000         *
* Half Life Ratio   : 8.00000 Sensitivity : 5.00000                   *
*-----*
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Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
1	77.88	36	11	1.71	155.94	153	8	23.5	2.67E+00	PB-212 PB-214
1	130.54	33	29	4.63	261.32	255	13	36.8	2.87E+00	
5	238.94	57	6	1.35	478.22	473	16	15.7	1.55E+00	PB-212
5	242.27	21	4	1.99	484.87	473	16	27.6		PB-214
1	271.10	14	4	1.98	542.57	539	8	36.5	9.00E-01	
1	295.52	18	8	1.92	591.44	587	10	37.9	7.87E-01	PB-214
1	352.28	24	9	1.59	705.00	700	9	29.8	3.31E-01	PB-214
1	583.42	20	3	2.18	1167.50	1161	11	28.4	5.93E-01	TL-208
1	609.23	29	0	2.30	1219.15	1214	10	18.6	6.78E-01	BI-214
1	1460.24	56	3	2.56	2921.97	2915	13	15.3	1.08E+00	K-40

Summary of Nuclide Activity
Sample ID : 30303

Page : 2
Acquisition date : 2-JUN-2014 13:29:23

Total number of lines in spectrum 10
Number of unidentified lines 0
Number of lines tentatively identified by NID 10 100.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected uCi/GR	Decay Corr uCi/GR	Decay Corr 1-Sigma Error	1-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.295E-05	1.295E-05	0.198E-05	15.26	A
TL-208	3.05M	1.51	2.631E-07	3.975E-07	1.129E-07	28.42	A
PB-212	10.64H	1.00	7.533E-07	7.549E-07	1.188E-07	15.74	A
BI-214	19.90M	1.07	7.354E-07	7.854E-07	1.463E-07	18.63	A
PB-214	26.80M	1.05	6.163E-07	6.472E-07	2.456E-07	37.94	A
Total Activity :			1.532E-05	1.554E-05			

Grand Total Activity : 1.532E-05 1.554E-05

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 30303

Page : 3
Acquisition date : 2-JUN-2014 13:29:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	130.54	33	29	4.63	261.32	255	13	1.83E-01	36.8	2.17E+00	T
1	271.10	14	4	1.98	542.57	539	8	7.89E-02	36.5	1.67E+00	T

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30303

Page : 4
Acquisition date : 2-JUN-2014 13:29:23

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/GR	uCi/GR	%Error
K-40	1460.83	56	10.67*	4.212E-01	1.295E-05	1.295E-05	15.26
TL-208	72.80	-----	2.14	1.070E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.156E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.506E+00	-----	Line Not Found	-----
	252.45	-----	0.80	1.745E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.645E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.035E+00	-----	Line Not Found	-----
	583.02	20	86.00*	9.193E-01	2.631E-07	3.975E-07	28.42
	763.06	-----	1.64	7.126E-01	-----	Line Not Found	-----
	860.30	-----	12.00	6.341E-01	-----	Line Not Found	-----
	PB-212	74.81	-----	10.50	1.150E+00	-----	Line Not Found
77.11		36	17.70	1.268E+00	1.679E-06	1.682E-06	23.50
87.19		-----	6.27	1.579E+00	-----	Line Not Found	-----
90.13		-----	1.86	1.662E+00	-----	Line Not Found	-----
115.12		-----	0.59	2.085E+00	-----	Line Not Found	-----
238.58		57	43.60*	1.803E+00	7.533E-07	7.549E-07	15.74
BI-214	300.03	-----	3.34	1.562E+00	-----	Line Not Found	-----
	76.86	-----	0.58	1.229E+00	-----	Line Not Found	-----
	79.29	-----	0.97	1.320E+00	-----	Line Not Found	-----
	609.31	29	46.10*	8.834E-01	7.354E-07	7.854E-07	18.63
	665.44	-----	1.56	8.131E-01	-----	Line Not Found	-----
	768.35	-----	4.88	7.078E-01	-----	Line Not Found	-----
	806.16	-----	1.23	6.754E-01	-----	Line Not Found	-----
	934.04	-----	3.16	5.861E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	4.982E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	4.860E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	4.615E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	4.510E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	4.323E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	4.311E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	4.287E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	4.277E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	4.165E-01	-----	Line Not Found	-----
	PB-214	1583.22	-----	0.72	4.120E-01	-----	Line Not Found
1661.26		-----	1.15	4.103E-01	-----	Line Not Found	-----
1729.58		-----	3.05	4.114E-01	-----	Line Not Found	-----
1764.49		-----	15.90	4.128E-01	-----	Line Not Found	-----
1847.41		-----	2.12	4.187E-01	-----	Line Not Found	-----
53.17		-----	1.10	2.929E-01	-----	Line Not Found	-----
74.81		-----	6.52	1.150E+00	-----	Line Not Found	-----
77.11		36	11.00	1.268E+00	2.701E-06	2.836E-06	23.50
87.19		-----	3.88	1.579E+00	-----	Line Not Found	-----
90.13		-----	1.15	1.662E+00	-----	Line Not Found	-----
241.92		21	7.46	1.789E+00	1.639E-06	1.721E-06	27.62
258.94		-----	0.55	1.718E+00	-----	Line Not Found	-----
295.09		18	19.20*	1.578E+00	6.163E-07	6.472E-07	37.94
351.87		24	37.10	1.394E+00	4.761E-07	5.000E-07	29.82
785.83	-----	1.09	6.925E-01	-----	Line Not Found	-----	
839.00	-----	0.59	6.497E-01	-----	Line Not Found	-----	

Nuclide Line Activity Report (continued)
Sample ID : 30303

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Acquisition date : 2-JUN-2014 13:29:23

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30303

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Acquisition date : 2-JUN-2014 13:29:23

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	2.	477.61	8.8214E-07
MN-54	2.	834.83	1.5816E-07
MN-56	2.	846.81	1.4705E-07
CO-57	11.	122.06	1.0421E-07
CO-58	6.	810.79	2.1574E-07
CO-60	0.	1173.24	5.8375E-08
SB-124	3.	602.73	1.2334E-07
SB-125	8.	427.88	4.5686E-07
CS-134	0.	795.87	4.7941E-08
CS-137	1.	661.66	1.0936E-07