

Health Physics Sample Records

Sample ID: 142450

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD 20STAR 20-20 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 09:06

Comments:

Origin

Mat. Size/Volume: 2145 GRAMS

Docmnt/MO/Act #:

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

Description: STAR 20 SOIL SAMPLE

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 08:25

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2145 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: No

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: COUNT TO MDA

Material Loc:

Health Physics Sample Records

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Status: APPROVED

Rasterized:

Description: 140528BD 20STAR 20-20 Dirt Sample

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30298	2145	GR		.000		PARK, MICHAEL C	06/02/14 10:18		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001366	1.32E-6	<input type="checkbox"/>	73.354%	40				
0 TL-208	NT	2.684E-7	9.91E-8	<input type="checkbox"/>	1.441%	208				
0 PB-212	NT	5.755E-7	8.74E-8	<input type="checkbox"/>	3.090%	212				
0 BI-214	NT	6.864E-7	1.232E-7	<input type="checkbox"/>	3.686%	214				
0 PB-214	NT	5.108E-7	1.738E-7	<input type="checkbox"/>	2.743%	214				
0 RA-224	NT	2.017E-6	7.65E-7	<input type="checkbox"/>	10.831%	224				
0 AC-228	NT	9.038E-7	1.772E-7	<input type="checkbox"/>	4.853%	228				
0 BE-7	AP	6.4831E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	8.7705E-8		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	8.3928E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	8.665E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	6.2671E-8		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	1.4684E-7		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	6.5765E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.3248E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	7.4622E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	7.0034E-8		<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 10:22

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142450

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD 20STAR 20-20 Dirt Sample

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 10:23

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 10:23

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          2-JUN-2014 10:14 *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*-----*
* Title       : 140528BD 20STAR 20-20 DIRT SAMPLE                *
* ID          : 30298                      Acquisition date: 2-JUN-2014 10:11:51. *
* Start Time: 2-JUN-2014 10:11:00.                    *
* Stop Time: 2-JUN-2014 10:11:00.                    Counting System : U2GSP *
* Quantity   : 2.14500E+03 GR                      IHPS Sample Number: 142450 *
* Geometry   : A_1L_marinelli_sand_1              Analysis Library : HP_NATURAL *
*                               Operator: MICHAEL PARK *
*-----*
*                >>>> A #41-TP11679B PARAMETERS <<<<<                *
*-----*
* Elapsed Live Time : 0 00:03:00.38 Calibration : 1-JUN-2014 20:24: *
* Elapsed Real Time : 0 00:03:00.44 Energy Offset : 2.86241E-01 *
* Deadtime          : 0.0% Energy Slope : 4.99400E-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
3	238.54	75	14	1.15	477.08	472	16	15.2	2.17E+00	PB-212
3	241.66	23	16	1.37	483.32	472	16	37.9		RA-224
										PB-214
1	294.96	24	13	1.59	590.05	586	9	34.0	1.55E+00	PB-214
1	338.01	34	10	2.57	676.25	669	13	25.2	1.52E+00	AC-228
1	351.76	59	14	1.34	703.79	700	11	18.2	2.38E+00	PB-214
1	582.87	22	12	1.42	1166.55	1161	10	36.9	7.37E-01	TL-208
1	609.09	45	8	1.44	1219.05	1215	8	18.0	6.37E-01	BI-214
1	910.81	27	0	1.87	1823.17	1819	10	19.6	4.06E-01	AC-228
1	1460.38	111	0	1.65	2923.52	2917	12	9.6	5.67E-01	K-40

Summary of Nuclide Activity
Sample ID : 30298

Page : 2
Acquisition date : 2-JUN-2014 10:11:51

Total number of lines in spectrum 9
Number of unidentified lines 0
Number of lines tentatively identified by NID 9 100.00%

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	1.366E-05	1.366E-05	0.132E-05	9.63	A
TL-208	3.05M	1.68	1.599E-07	2.684E-07	0.991E-07	36.92	A
PB-212	10.64H	1.00	5.740E-07	5.755E-07	0.874E-07	15.19	A
BI-214	19.90M	1.09	6.324E-07	6.864E-07	1.232E-07	17.95	A
PB-214	26.80M	1.06	4.806E-07	5.108E-07	1.738E-07	34.03	A
RA-224	3.66D	1.00	2.017E-06	2.017E-06	0.765E-06	37.92	A
AC-228	6.13H	1.00	8.998E-07	9.038E-07	1.772E-07	19.61	A
Total Activity :			1.842E-05	1.862E-05			

Grand Total Activity : 1.842E-05 1.862E-05

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

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

Unidentified Energy Lines
Sample ID : 30298

Page : 3
Acquisition date : 2-JUN-2014 10:11:51

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30298

Page : 4
Acquisition date : 2-JUN-2014 10:11:51

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma %Error	
					uCi/GR	uCi/GR		
K-40	1460.83	111	10.67*	5.315E-01	1.366E-05	1.366E-05	9.63	
TL-208	72.80	-----	2.14	1.594E+00	-----	Line Not Found	-----	
	74.97	-----	3.60	1.692E+00	-----	Line Not Found	-----	
	84.79	-----	1.27	2.058E+00	-----	Line Not Found	-----	
	252.45	-----	0.80	2.021E+00	-----	Line Not Found	-----	
	277.28	-----	6.80	1.920E+00	-----	Line Not Found	-----	
	510.61	-----	21.60	1.265E+00	-----	Line Not Found	-----	
	583.02	22	86.00*	1.128E+00	1.599E-07	2.684E-07	36.92	
	763.06	-----	1.64	8.744E-01	-----	Line Not Found	-----	
	860.30	-----	12.00	7.770E-01	-----	Line Not Found	-----	
	PB-212	74.81	-----	10.50	1.685E+00	-----	Line Not Found	-----
77.11		-----	17.70	1.782E+00	-----	Line Not Found	-----	
87.19		-----	6.27	2.129E+00	-----	Line Not Found	-----	
90.13		-----	1.86	2.206E+00	-----	Line Not Found	-----	
115.12		-----	0.59	2.535E+00	-----	Line Not Found	-----	
238.58		75	43.60*	2.083E+00	5.740E-07	5.755E-07	15.19	
300.03		-----	3.34	1.834E+00	-----	Line Not Found	-----	
BI-214		76.86	-----	0.58	1.772E+00	-----	Line Not Found	-----
		79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
		609.31	45	46.10*	1.084E+00	6.324E-07	6.864E-07	17.95
	665.44	-----	1.56	9.985E-01	-----	Line Not Found	-----	
	768.35	-----	4.88	8.685E-01	-----	Line Not Found	-----	
	806.16	-----	1.23	8.283E-01	-----	Line Not Found	-----	
	934.04	-----	3.16	7.177E-01	-----	Line Not Found	-----	
	1120.27	-----	15.00	6.114E-01	-----	Line Not Found	-----	
	1155.18	-----	1.69	5.973E-01	-----	Line Not Found	-----	
	1238.11	-----	5.92	5.697E-01	-----	Line Not Found	-----	
PB-214	1280.95	-----	1.47	5.585E-01	-----	Line Not Found	-----	
	1377.66	-----	4.02	5.401E-01	-----	Line Not Found	-----	
	1385.30	-----	0.78	5.391E-01	-----	Line Not Found	-----	
	1401.48	-----	1.39	5.370E-01	-----	Line Not Found	-----	
	1407.97	-----	2.48	5.362E-01	-----	Line Not Found	-----	
	1509.22	-----	2.19	5.292E-01	-----	Line Not Found	-----	
	1583.22	-----	0.72	5.296E-01	-----	Line Not Found	-----	
	1661.26	-----	1.15	5.351E-01	-----	Line Not Found	-----	
	1729.58	-----	3.05	5.442E-01	-----	Line Not Found	-----	
	1764.49	-----	15.90	5.503E-01	-----	Line Not Found	-----	
PB-214	1847.41	-----	2.12	5.694E-01	-----	Line Not Found	-----	
	53.17	-----	1.10	5.543E-01	-----	Line Not Found	-----	
	74.81	-----	6.52	1.685E+00	-----	Line Not Found	-----	
	77.11	-----	11.00	1.782E+00	-----	Line Not Found	-----	
	87.19	-----	3.88	2.129E+00	-----	Line Not Found	-----	
	90.13	-----	1.15	2.206E+00	-----	Line Not Found	-----	
	241.92	23	7.46	2.069E+00	1.054E-06	1.121E-06	37.92	
	258.94	-----	0.55	1.994E+00	-----	Line Not Found	-----	
	295.09	24	19.20*	1.853E+00	4.806E-07	5.108E-07	34.03	
	351.87	59	37.10	1.662E+00	6.626E-07	7.042E-07	18.16	
785.83	-----	1.09	8.495E-01	-----	Line Not Found	-----		
839.00	-----	0.59	7.964E-01	-----	Line Not Found	-----		

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma %Error
					uCi/GR	uCi/GR	
RA-224	83.79	-----	0.20	2.027E+00	-----	Line Not Found	-----
	240.76	23	3.90*	2.069E+00	2.017E-06	2.017E-06	37.92
AC-228	89.96	-----	3.40	2.201E+00	-----	Line Not Found	-----
	93.35	-----	5.60	2.279E+00	-----	Line Not Found	-----
	99.55	-----	1.30	2.389E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.463E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.496E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.562E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.496E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.221E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.187E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.948E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.738E+00	-----	Line Not Found	-----
	338.42	34	12.40	1.705E+00	1.133E-06	1.138E-06	25.19
	340.94	-----	0.52	1.696E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.499E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.368E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.164E+00	-----	Line Not Found	-----
	581.52	-----	3.00	1.131E+00	-----	Line Not Found	-----
	726.63	-----	0.87	9.173E-01	-----	Line Not Found	-----
	755.28	-----	1.32	8.833E-01	-----	Line Not Found	-----
	772.28	-----	1.09	8.641E-01	-----	Line Not Found	-----
	782.12	-----	0.59	8.534E-01	-----	Line Not Found	-----
	794.79	-----	4.60	8.400E-01	-----	Line Not Found	-----
	830.59	-----	0.63	8.043E-01	-----	Line Not Found	-----
	835.60	-----	1.71	7.996E-01	-----	Line Not Found	-----
	840.44	-----	0.94	7.951E-01	-----	Line Not Found	-----
	904.29	-----	0.89	7.403E-01	-----	Line Not Found	-----
	911.16	27	29.00*	7.352E-01	8.998E-07	9.038E-07	19.61
	964.64	-----	5.80	6.962E-01	-----	Line Not Found	-----
	968.97	-----	17.40	6.933E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	5.673E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	5.315E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	5.296E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	5.294E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	5.295E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	5.298E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	5.324E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	5.330E-01	-----	Line Not Found	-----

Flag: "*" = Keyline

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	6.4831E-07
MN-54	2.	834.83	8.7705E-08
MN-56	2.	846.81	8.3928E-08
CO-57	28.	122.06	8.6650E-08
CO-58	1.	810.79	6.2671E-08
CO-60	4.	1332.50	1.4684E-07
SB-124	3.	602.73	6.5765E-08
SB-125	6.	427.88	2.3248E-07
CS-134	3.	604.71	7.4622E-08
CS-137	2.	661.66	7.0034E-08