

Health Physics Sample Records

Sample ID: 142449

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD 19 STAR 19-20 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 09:01

Comments:

Origin

Mat. Size/Volume: 2221 GRAMS

Docmnt/MO/Act #:

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

Description: STAR 19 SOIL SAMPLE

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 08:15

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2221 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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Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30297	2221	GR		.000		PARK, MICHAEL C	06/02/14 09:58		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 K-40	NT	0.00001131	1.16E-6	<input type="checkbox"/>	69.696%	40				
0 TL-208	NT	2.656E-7	7.26E-8	<input type="checkbox"/>	1.637%	208				
0 PB-212	NT	8.025E-7	9.01E-8	<input type="checkbox"/>	4.945%	212				
0 BI-214	NT	2.14E-7	1.031E-7	<input type="checkbox"/>	1.319%	214				
0 PB-214	NT	7.054E-7	2.321E-7	<input type="checkbox"/>	4.347%	214				
0 RA-224	NT	2.036E-6	8.1E-7	<input type="checkbox"/>	12.546%	224				
0 AC-228	NT	8.942E-7	1.68E-7	<input type="checkbox"/>	5.510%	228				
0 BE-7	AP	6.2356E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	9.9459E-8		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	9.487E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	8.1745E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	9.1172E-8		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	8.4669E-8		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	6.6535E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.4056E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	6.2965E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	1.0084E-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 10:21

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142449

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140528BD 19 STAR 19-20 Dirt Sample

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 10:21

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 10:21

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          2-JUN-2014 09:55  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*-----*
* Title       : 140528BD 19 STAR 19-20 DIRT SAMPLE                *
*-----*
* ID          : 30297                      Acquisition date: 2-JUN-2014 09:52:37. *
* Start Time: 2-JUN-2014 09:52:00.                      *
* Stop Time : 2-JUN-2014 09:52:00.                      Counting System : U2GSP      *
* Quantity  : 2.22100E+03 GR                      IHPS Sample Number: 142449 *
* Geometry  : C_1L_marinelli_sand_1                Analysis Library : HP_NATURAL *
* Operator  : MICHAEL PARK                          *
*-----*
*                >>>> C #41-TP11750A PARAMETERS <<<<<                *
*-----*
* Elapsed Live Time : 0 00:03:00.38 Calibration : 1-JUN-2014 20:29: *
* Elapsed Real Time : 0 00:03:00.45 Energy Offset : -1.46898E-01 *
* Deadtime          : 0.0% Energy Slope : 4.99817E-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	77.24	35	63	0.99	154.82	152	8	43.2	2.39E+00	BI-214 PB-212 PB-214
3	238.58	106	14	1.08	477.61	471	18	11.2	1.99E+00	PB-212
3	241.60	24	7	1.50	483.66	471	18	39.8		RA-224 PB-214
1	295.23	35	22	1.73	590.94	586	12	32.9	1.67E+00	PB-214
1	338.37	27	4	1.62	677.26	673	8	22.3	2.93E-01	AC-228
1	351.83	38	18	1.30	704.17	700	10	26.6	1.59E+00	PB-214
1	583.25	25	5	1.04	1167.11	1163	10	27.3	6.31E-01	TL-208
1	609.13	15	14	1.74	1218.89	1215	8	48.2	1.30E+00	BI-214
1	911.06	29	0	1.86	1822.83	1818	9	18.8	8.17E-01	AC-228
1	968.83	23	3	2.62	1938.38	1933	11	24.1	7.56E-01	AC-228
1	1460.57	99	0	1.93	2921.86	2916	11	10.3	1.81E+00	K-40

Summary of Nuclide Activity
Sample ID : 30297

Page : 2
Acquisition date : 2-JUN-2014 09:52:37

Total number of lines in spectrum 11
Number of unidentified lines 0
Number of lines tentatively identified by NID 11 100.00%

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	1.131E-05	1.131E-05	0.116E-05	10.25	A
TL-208	3.05M	1.59	1.673E-07	2.656E-07	0.726E-07	27.33	A
PB-212	10.64H	1.00	8.006E-07	8.025E-07	0.901E-07	11.22	A
BI-214	19.90M	1.08	1.989E-07	2.140E-07	1.031E-07	48.17	A
PB-214	26.80M	1.06	6.679E-07	7.054E-07	2.321E-07	32.90	A
RA-224	3.66D	1.00	2.036E-06	2.036E-06	0.810E-06	39.75	A
AC-228	6.13H	1.00	8.906E-07	8.942E-07	1.680E-07	18.79	A
			-----	-----			
	Total Activity :		1.607E-05	1.623E-05			

Grand Total Activity : 1.607E-05 1.623E-05

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

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

Unidentified Energy Lines
Sample ID : 30297

Page : 3
Acquisition date : 2-JUN-2014 09:52:37

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30297

Page : 4
Acquisition date : 2-JUN-2014 09:52:37

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	99	10.67*	5.560E-01	1.131E-05	1.131E-05	10.25
TL-208	72.80	-----	2.14	1.486E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.577E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.917E+00	-----	Line Not Found	-----
	252.45	-----	0.80	2.004E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.917E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.298E+00	-----	Line Not Found	-----
	583.02	25	86.00*	1.157E+00	1.673E-07	2.656E-07	27.33
	763.06	-----	1.64	8.934E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.922E-01	-----	Line Not Found	-----
	PB-212	74.81	-----	10.50	1.570E+00	-----	Line Not Found
77.11		35	17.70	1.666E+00	7.949E-07	7.968E-07	43.18
87.19		-----	6.27	1.983E+00	-----	Line Not Found	-----
90.13		-----	1.86	2.055E+00	-----	Line Not Found	-----
115.12		-----	0.59	2.376E+00	-----	Line Not Found	-----
238.58		106	43.60*	2.055E+00	8.006E-07	8.025E-07	11.22
300.03		-----	3.34	1.843E+00	-----	Line Not Found	-----
BI-214	76.86	35	0.58	1.666E+00	2.426E-05	2.611E-05	43.18
	79.29	-----	0.97	1.741E+00	-----	Line Not Found	-----
	609.31	15	46.10*	1.112E+00	1.989E-07	2.140E-07	48.17
	665.44	-----	1.56	1.023E+00	-----	Line Not Found	-----
	768.35	-----	4.88	8.873E-01	-----	Line Not Found	-----
	806.16	-----	1.23	8.454E-01	-----	Line Not Found	-----
	934.04	-----	3.16	7.310E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	6.242E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	6.105E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	5.846E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	5.747E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	5.602E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	5.595E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	5.583E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	5.578E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	5.568E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	5.628E-01	-----	Line Not Found	-----
PB-214	1661.26	-----	1.15	5.753E-01	-----	Line Not Found	-----
	1729.58	-----	3.05	5.918E-01	-----	Line Not Found	-----
	1764.49	-----	15.90	6.023E-01	-----	Line Not Found	-----
	1847.41	-----	2.12	6.331E-01	-----	Line Not Found	-----
	53.17	-----	1.10	5.203E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.570E+00	-----	Line Not Found	-----
	77.11	35	11.00	1.666E+00	1.279E-06	1.351E-06	43.18
	87.19	-----	3.88	1.983E+00	-----	Line Not Found	-----
	90.13	-----	1.15	2.055E+00	-----	Line Not Found	-----
	241.92	24	7.46	2.044E+00	1.064E-06	1.124E-06	39.75
	258.94	-----	0.55	1.981E+00	-----	Line Not Found	-----
	295.09	35	19.20*	1.858E+00	6.679E-07	7.054E-07	32.90
	351.87	38	37.10	1.686E+00	4.124E-07	4.356E-07	26.63
	785.83	-----	1.09	8.674E-01	-----	Line Not Found	-----
839.00	-----	0.59	8.122E-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	1.887E+00	-----	Line Not Found	-----
	240.76	24	3.90*	2.044E+00	2.036E-06	2.036E-06	39.75
AC-228	89.96	-----	3.40	2.051E+00	-----	Line Not Found	-----
	93.35	-----	5.60	2.124E+00	-----	Line Not Found	-----
	99.55	-----	1.30	2.229E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.301E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.335E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.414E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.377E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.168E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.141E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.941E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.756E+00	-----	Line Not Found	-----
	338.42	27	12.40	1.725E+00	8.486E-07	8.520E-07	22.30
	340.94	-----	0.52	1.718E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.531E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.401E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.195E+00	-----	Line Not Found	-----
	581.52	-----	3.00	1.160E+00	-----	Line Not Found	-----
	726.63	-----	0.87	9.382E-01	-----	Line Not Found	-----
	755.28	-----	1.32	9.027E-01	-----	Line Not Found	-----
	772.28	-----	1.09	8.827E-01	-----	Line Not Found	-----
	782.12	-----	0.59	8.716E-01	-----	Line Not Found	-----
	794.79	-----	4.60	8.576E-01	-----	Line Not Found	-----
	830.59	-----	0.63	8.205E-01	-----	Line Not Found	-----
	835.60	-----	1.71	8.155E-01	-----	Line Not Found	-----
	840.44	-----	0.94	8.108E-01	-----	Line Not Found	-----
	904.29	-----	0.89	7.542E-01	-----	Line Not Found	-----
	911.16	29	29.00*	7.488E-01	8.906E-07	8.942E-07	18.79
	964.64	-----	5.80	7.091E-01	-----	Line Not Found	-----
	968.97	23	17.40	7.062E-01	1.282E-06	1.288E-06	24.05
	1246.60	-----	0.57	5.825E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	5.560E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	5.563E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	5.565E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	5.624E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	5.634E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	5.696E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	5.709E-01	-----	Line Not Found	-----

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30297

Page : 7
Acquisition date : 2-JUN-2014 09:52:37

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	6.2356E-07
MN-54	4.	834.83	9.9459E-08
MN-56	3.	846.81	9.4870E-08
CO-57	23.	122.06	8.1745E-08
CO-58	3.	810.79	9.1172E-08
CO-60	1.	1173.24	8.4669E-08
SB-124	0.	1690.98	6.6535E-08
SB-125	8.	427.88	2.4056E-07
CS-134	3.	604.71	6.2965E-08
CS-137	5.	661.66	1.0084E-07