

Health Physics Sample Records

Sample ID: 142487

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 16, CAMP MESA 19

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: 06/05/14 11:32

Comments:

Origin

Mat. Size/Volume: 1530 GRAMS

Docmnt/MO/Act #:

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

Description: CAMP MESA # 19

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/03/14 12:46

Count Time: 900 (secs.)

Tritium Req: Yes

Sample Size/Volume: 1530 GRAMS

Instructions: COUNT TO MDA

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: (in.)

Equip ID:

Stored By: ,

Date: 00/00/00 00:00

Sample Loc:

Other:

Material Loc:

Health Physics Sample Records

Sample ID: **142487**

Type: RLSSS

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Status: APPROVED

Rasterized:

Description: 140603BD 16, CAMP MESA 19

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30376	1530	GR		.000		PARK, MICHAEL C	06/05/14 16:28		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 K-40	NT	0.00001424	1.77E-6	☐	73.444%	40				
0 TL-208	NT	2.981E-7	1.062E-7	☐	1.537%	208				
0 PB-212	NT	7.451E-7	1.552E-7	☐	3.843%	212				
0 BI-214	NT	8.047E-7	1.574E-7	☐	4.150%	214				
0 PB-214	NT	6.229E-7	1.438E-7	☐	3.213%	214				
0 RA-226	NT	2.522E-6	9.95E-7	☐	13.007%	226				
0 U-235	NT	1.561E-7	6.16E-8	☐	0.805%	235				
0 BE-7	AP	1.0646E-6		☑	0.000%	7				
0 MN-54	AP	1.5434E-7		☑	0.000%	54				
0 MN-56	AP	1.2948E-7		☑	0.000%	56				
0 CO-57	AP	9.4251E-8		☑	0.000%	57				
0 CO-58	AP	1.4665E-7		☑	0.000%	58				
0 CO-60	AP	1.4992E-7		☑	0.000%	60				
0 SB-124	AP	8.2486E-8		☑	0.000%	124				
0 SB-125	FP	2.8742E-7		☑	0.000%	125				
0 CS-134	FP	1.1721E-7		☑	0.000%	134				
0 CS-137	FP	1.4178E-7		☑	0.000%	137				

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 15:55

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142487

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 16, CAMP MESA 19

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 15:56

Comments: U-235 is likely mis-ID'd off the Ra-226 peak

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 15:56

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 16:25
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<
*
* Title       : 140603BD 16, CAMP MESA 19
*
* ID          : 30376                      Acquisition date: 5-JUN-2014 16:22:08.
* Start Time  : 5-JUN-2014 16:22:00.
* Stop Time   : 5-JUN-2014 16:22:00.      Counting System   : U2GSP
* Quantity    : 1.53000E+03 GR             IHPS Sample Number: 142487
* Geometry    : B_1L_marinelli_sand_1     Analysis Library  : HP_NATURAL
*                               Operator: MICHAEL PARK
*-----*
*                >>>> B #42-TP11663A   PARAMETERS <<<<<
*
* Elapsed Live Time : 0 00:03:00.46      Calibration       : 5-JUN-2014 08:35:
* Elapsed Real Time : 0 00:03:00.50      Energy Offset    : -4.96372E-01
* Deadtime         : 0.0%                 Energy Slope     : 5.00067E-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	185.89	17	12	1.58	372.73	369	7	39.4	3.03E+00	U-235 RA-226
1	238.65	60	23	1.53	478.23	472	11	20.8	2.43E+00	PB-212
1	241.78	21	7	2.02	484.49	482	7	29.5	2.15E+00	PB-214
1	351.95	32	6	2.09	704.79	698	11	23.1	1.12E+00	PB-214
1	583.64	17	7	1.56	1168.13	1163	9	35.6	2.95E-01	TL-208
1	609.53	32	3	2.09	1219.89	1215	10	19.6	3.62E-01	BI-214
1	1460.63	65	0	2.26	2921.94	2916	12	12.4	3.36E-01	K-40

Summary of Nuclide Activity
Sample ID : 30376

Page : 2
Acquisition date : 5-JUN-2014 16:22:08

Total number of lines in spectrum 7
Number of unidentified lines 0
Number of lines tentatively identified by NID 7 100.00%

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	1.424E-05	1.424E-05	0.177E-05	12.43	A
TL-208	3.05M	1.43	2.091E-07	2.981E-07	1.062E-07	35.63	A
PB-212	10.64H	1.00	7.438E-07	7.451E-07	1.552E-07	20.83	A
BI-214	19.90M	1.06	7.602E-07	8.047E-07	1.574E-07	19.56	A
PB-214	26.80M	1.04	5.971E-07	6.229E-07	1.438E-07	23.09	KA
RA-226	1600.00Y	1.00	2.522E-06	2.522E-06	0.995E-06	39.45	A
U-235	7.04E+08Y	1.00	1.561E-07	1.561E-07	0.616E-07	39.45	A
Total Activity :			1.923E-05	1.939E-05			

Grand Total Activity : 1.923E-05 1.939E-05

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 30376

Page : 3
Acquisition date : 5-JUN-2014 16:22:08

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30376

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Acquisition date : 5-JUN-2014 16:22:08

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	65	10.67*	4.212E-01	1.424E-05	1.424E-05	12.43	
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	17	86.00*	9.190E-01	2.091E-07	2.981E-07	35.63	
	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		-----	17.70	1.239E+00	-----	Line Not Found	-----	
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		60	43.60*	1.804E+00	7.438E-07	7.451E-07	20.83	
300.03		-----	3.34	1.562E+00	-----	Line Not Found	-----	
BI-214		76.86	-----	0.58	1.229E+00	-----	Line Not Found	-----
		79.29	-----	0.97	1.320E+00	-----	Line Not Found	-----
		609.31	32	46.10*	8.830E-01	7.602E-07	8.047E-07	19.56
	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	-----	
PB-214	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	-----	
	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	-----	
PB-214	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	-----	11.00	1.239E+00	-----	Line Not Found	-----	
	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	1.791E+00	1.558E-06	1.625E-06	29.47	
	258.94	-----	0.55	1.718E+00	-----	Line Not Found	-----	
	295.09	-----	19.20*	1.579E+00	-----	Line Not Found	-----	
	351.87	32	37.10	1.395E+00	5.971E-07	6.229E-07	23.09	
785.83	-----	1.09	6.925E-01	-----	Line Not Found	-----		
839.00	-----	0.59	6.497E-01	-----	Line Not Found	-----		

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma %Error
					uCi/GR	uCi/GR	
RA-226	81.07	-----	0.18	1.383E+00	-----	Line Not Found	-----
	186.11	17	3.28*	2.044E+00	2.522E-06	2.522E-06	39.45
U-235	89.96	-----	3.36	1.657E+00	-----	Line Not Found	-----
	93.35	-----	5.50	1.743E+00	-----	Line Not Found	-----
	105.36	-----	1.98	1.973E+00	-----	Line Not Found	-----
	109.18	-----	1.50	2.024E+00	-----	Line Not Found	-----
	143.79	-----	10.50	2.177E+00	-----	Line Not Found	-----
	163.38	-----	4.70	2.133E+00	-----	Line Not Found	-----
	185.74	17	53.00*	2.044E+00	1.561E-07	1.561E-07	39.45
	194.96	-----	0.59	2.003E+00	-----	Line Not Found	-----
	202.13	-----	1.00	1.970E+00	-----	Line Not Found	-----
	205.33	-----	4.70	1.956E+00	-----	Line Not Found	-----

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30376

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Acquisition date : 5-JUN-2014 16:22:08

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	4.	477.61	1.0646E-06
MN-54	3.	834.83	1.5434E-07
MN-56	1.	846.81	1.2948E-07
CO-57	10.	122.06	9.4251E-08
CO-58	2.	810.79	1.4665E-07
CO-60	1.	1332.50	1.4992E-07
SB-124	1.	602.73	8.2486E-08
SB-125	3.	427.88	2.8742E-07
CS-134	3.	604.71	1.1721E-07
CS-137	3.	661.66	1.4178E-07