

Health Physics Sample Records

Sample ID: 142480

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 9 , CAMP MESA # 6

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 09:35

Comments:

Origin

Mat. Size/Volume: 1453 GRAMS

Docmnt/MO/Act #:

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

Description: CAMP MESA # 6

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/03/14 12:42

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1453 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: **142480**

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Status: APPROVED

Rasterized:

Description: 140603BD 9 , CAMP MESA # 6

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30369	1453	GR		.000		PARK, MICHAEL C	06/05/14 16:13		

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0	K-40	NT	0.00001413	1.6E-6		72.468%	40		
0	TL-208	NT	2.771E-7	6.86E-8		1.421%	208		
0	PB-212	NT	6.328E-7	1.244E-7		3.245%	212		
0	BI-214	NT	4.909E-7	1.257E-7		2.518%	214		
0	PB-214	NT	7.305E-7	2.28E-7		3.746%	214		
0	RA-226	NT	2.453E-6	8.71E-7		12.581%	226		
0	AC-228	NT	6.322E-7	2.183E-7		3.242%	228		
0	U-235	NT	1.518E-7	5.39E-8		0.779%	235		
0	BE-7	AP	7.9944E-7			0.000%	7		
0	MN-54	AP	1.3858E-7			0.000%	54		
0	MN-56	AP	9.7799E-8			0.000%	56		
0	CO-57	AP	7.791E-8			0.000%	57		
0	CO-58	AP	1.5096E-7			0.000%	58		
0	CO-60	AP	1.6212E-7			0.000%	60		
0	SB-124	AP	7.0785E-8			0.000%	124		
0	SB-125	FP	2.3617E-7			0.000%	125		
0	CS-134	FP	7.2984E-8			0.000%	134		
0	CS-137	FP	1.5786E-7			0.000%	137		

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:44

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: **142480**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 9 , CAMP MESA # 6

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:45

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

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 14:53

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 16:07  *
*-----*
*          >>>> SAMPLE PARAMETERS <<<<<          *
*
* Title      : 140603BD 9 , CAMP MESA # 6          *
*
* ID         : 30369                               Acquisition date: 5-JUN-2014 16:04:05. *
* Start Time: 5-JUN-2014 16:04:00.                Counting System   : U2GSP          *
* Stop Time  : 5-JUN-2014 16:04:00.                IHPS Sample Number: 142480         *
* Quantity   : 1.45300E+03 GR                       Analysis Library  : HP_NATURAL      *
* Geometry   : A_1L_marinelli_sand_1               Operator: MICHAEL PARK             *
*-----*
*          >>>> A #41-TP11679B PARAMETERS <<<<<          *
*
* Elapsed Live Time : 0 00:03:00.46                 Calibration      : 5-JUN-2014 08:09: *
* Elapsed Real Time : 0 00:03:00.49                 Energy Offset    : 2.12659E-01          *
* Deadtime          : 0.0%                           Energy Slope     : 4.99528E-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	77.21	26	28	1.34	154.15	151	7	40.3	1.79E+00	BI-214 PB-212 PB-214
1	186.28	18	10	1.83	372.49	369	8	35.5	2.42E+00	U-235 RA-226
1	238.58	56	22	1.27	477.18	474	9	19.7	2.98E+00	PB-212
1	295.22	24	10	1.80	590.56	584	10	31.2	6.92E-01	PB-214
1	338.43	21	9	1.56	677.07	676	6	31.6	3.73E+00	AC-228
1	351.95	29	10	2.04	704.14	699	11	28.8	2.15E+00	PB-214
1	582.89	19	2	1.94	1166.46	1162	8	24.8	2.72E-01	TL-208
1	609.24	23	2	1.72	1219.21	1215	10	25.6	1.13E+00	BI-214
1	911.11	13	2	1.49	1823.53	1818	10	34.5	5.87E-01	AC-228
1	1460.77	78	0	2.10	2923.89	2919	10	11.3	4.82E-01	K-40

Summary of Nuclide Activity
Sample ID : 30369

Page : 2
Acquisition date : 5-JUN-2014 16:04:05

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	1.413E-05	1.413E-05	0.160E-05	11.29	A
TL-208	3.05M	1.41	1.966E-07	2.771E-07	0.686E-07	24.76	A
PB-212	10.64H	1.00	6.317E-07	6.328E-07	1.244E-07	19.65	A
BI-214	19.90M	1.06	4.646E-07	4.909E-07	1.257E-07	25.60	A
PB-214	26.80M	1.04	7.011E-07	7.305E-07	2.280E-07	31.22	A
RA-226	1600.00Y	1.00	2.453E-06	2.453E-06	0.871E-06	35.52	A
AC-228	6.13H	1.00	6.303E-07	6.322E-07	2.183E-07	34.53	A
U-235	7.04E+08Y	1.00	1.518E-07	1.518E-07	0.539E-07	35.52	A
Total Activity :			1.936E-05	1.950E-05			

Grand Total Activity : 1.936E-05 1.950E-05

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

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

Unidentified Energy Lines
Sample ID : 30369

Page : 3
Acquisition date : 5-JUN-2014 16:04:05

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30369

Page : 4
Acquisition date : 5-JUN-2014 16:04:05

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	78	10.67*	5.314E-01	1.413E-05	1.413E-05	11.29	
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	19	86.00*	1.128E+00	1.966E-07	2.771E-07	24.76	
	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		26	17.70	1.787E+00	8.417E-07	8.432E-07	40.29	
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		56	43.60*	2.082E+00	6.317E-07	6.328E-07	19.65	
300.03		-----	3.34	1.834E+00	-----	Line Not Found	-----	
BI-214		76.86	26	0.58	1.787E+00	2.569E-05	2.714E-05	40.29
		79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
		609.31	23	46.10*	1.084E+00	4.646E-07	4.909E-07	25.60
	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	-----	
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	-----		
1847.41	-----	2.12	5.694E-01	-----	Line Not Found	-----		
PB-214	53.17	-----	1.10	5.543E-01	-----	Line Not Found	-----	
	74.81	-----	6.52	1.685E+00	-----	Line Not Found	-----	
	77.11	26	11.00	1.787E+00	1.354E-06	1.411E-06	40.29	
	87.19	-----	3.88	2.129E+00	-----	Line Not Found	-----	
	90.13	-----	1.15	2.206E+00	-----	Line Not Found	-----	
	241.92	-----	7.46	2.067E+00	-----	Line Not Found	-----	
	258.94	-----	0.55	1.994E+00	-----	Line Not Found	-----	
	295.09	24	19.20*	1.852E+00	7.011E-07	7.305E-07	31.22	
	351.87	29	37.10	1.662E+00	4.832E-07	5.035E-07	28.79	
	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-226	81.07	-----	0.18	1.934E+00	-----	Line Not Found	-----
	186.11	18	3.28*	2.338E+00	2.453E-06	2.453E-06	35.52
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	21	12.40	1.704E+00	1.022E-06	1.025E-06	31.58
	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	13	29.00*	7.349E-01	6.303E-07	6.322E-07	34.53	
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	-----	
U-235	89.96	-----	3.36	2.201E+00	-----	Line Not Found	-----
	93.35	-----	5.50	2.279E+00	-----	Line Not Found	-----
	105.36	-----	1.98	2.463E+00	-----	Line Not Found	-----
	109.18	-----	1.50	2.498E+00	-----	Line Not Found	-----
	143.79	-----	10.50	2.533E+00	-----	Line Not Found	-----
	163.38	-----	4.70	2.453E+00	-----	Line Not Found	-----
	185.74	18	53.00*	2.338E+00	1.518E-07	1.518E-07	35.52
	194.96	-----	0.59	2.294E+00	-----	Line Not Found	-----
	202.13	-----	1.00	2.257E+00	-----	Line Not Found	-----
205.33	-----	4.70	2.241E+00	-----	Line Not Found	-----	

Nuclide Line Activity Report (continued)
Sample ID : 30369

Page : 7
Acquisition date : 5-JUN-2014 16:04:05

Flag: "*" = Keyline

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	3.	477.61	7.9944E-07
MN-54	3.	834.83	1.3858E-07
MN-56	1.	846.81	9.7799E-08
CO-57	9.	122.06	7.7910E-08
CO-58	4.	810.79	1.5096E-07
CO-60	2.	1173.24	1.6212E-07
SB-124	1.	602.73	7.0785E-08
SB-125	0.	635.89	2.3617E-07
CS-134	1.	604.71	7.2984E-08
CS-137	5.	661.66	1.5786E-07