

### Health Physics Sample Records

Sample ID: 142484

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 13, CAMP MESA # 14

#### 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 11:10

Comments:

#### Origin

Mat. Size/Volume: 1316 GRAMS

Docmnt/MO/Act #:

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

Description: CAMP MESA #14

#### Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/03/14 13:16

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1760 GRAMS

Instructions: COUNT TO MBA

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**

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**Analysis**

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30367	1760	GR		.000		PARK, MICHAEL C	06/05/14 15:58		

  

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0 K-40	NT	9.476E-6	1.352E-6	<input type="checkbox"/>	82.205%	40			
0 TL-208	NT	3.979E-7	9.16E-8	<input type="checkbox"/>	3.452%	208			
0 PB-212	NT	6.136E-7	1.568E-7	<input type="checkbox"/>	5.323%	212			
0 BI-214	NT	5.399E-7	1.488E-7	<input type="checkbox"/>	4.684%	214			
0 PB-214	NT	4.999E-7	1.204E-7	<input type="checkbox"/>	4.337%	214			
0 BE-7	AP	1.0044E-6		<input checked="" type="checkbox"/>	0.000%	7			
0 MN-54	AP	1.2096E-7		<input checked="" type="checkbox"/>	0.000%	54			
0 MN-56	AP	1.1612E-7		<input checked="" type="checkbox"/>	0.000%	56			
0 CO-57	AP	1.017E-7		<input checked="" type="checkbox"/>	0.000%	57			
0 CO-58	AP	1.5969E-7		<input checked="" type="checkbox"/>	0.000%	58			
0 CO-60	AP	4.7942E-8		<input checked="" type="checkbox"/>	0.000%	60			
0 SB-124	AP	1.122E-7		<input checked="" type="checkbox"/>	0.000%	124			
0 SB-125	FP	2.8895E-7		<input checked="" type="checkbox"/>	0.000%	125			
0 CS-134	FP	1.0367E-7		<input checked="" type="checkbox"/>	0.000%	134			
0 CS-137	FP	1.5784E-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 15:36

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

## Health Physics Sample Records

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Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 13, CAMP MESA # 14

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### Review/Approve

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#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 15:36

Comments: 338 keV peak is Ac-228

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#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

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#### Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 15:37

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 15:54
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<
*
* Title       : 140603BD 13, CAMP MESA # 14
*
* ID          : 30367                      Acquisition date: 5-JUN-2014 15:51:14.
* Start Time : 5-JUN-2014 15:51:00.
* Stop Time  : 5-JUN-2014 15:51:00.      Counting System   : U2GSP
* Quantity   : 1.76000E+03 GR             IHPS Sample Number: 142484
* Geometry   : B_1L_marinelli_sand_1     Analysis Library  : HP_NATURAL
* Operator   : MICHAEL PARK
*-----*
*                >>>> B #42-TP11663A PARAMETERS <<<<<
*
* Elapsed Live Time : 0 00:03:00.48      Calibration       : 5-JUN-2014 08:35:
* Elapsed Real Time : 0 00:03:00.53      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	238.83	57	36	1.41	478.59	473	13	25.6	1.16E+00	PB-212
1	338.12	21	5	1.81	677.15	672	10	29.1	2.85E-01	
1	351.61	29	7	2.14	704.13	700	11	24.1	1.03E+00	PB-214
1	583.17	25	2	1.22	1167.20	1162	9	23.0	4.36E-01	TL-208
1	609.03	24	8	2.21	1218.91	1215	8	27.6	1.71E+00	BI-214
1	1460.92	50	0	2.18	2922.52	2916	12	14.3	3.23E-01	K-40

Unidentified Energy Lines  
Sample ID : 30367

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Acquisition date : 5-JUN-2014 15:51:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	338.12	21	5	1.81	677.15	672	10	1.18E-01	29.1	1.44E+00	T

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30367

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Acquisition date : 5-JUN-2014 15:51:14

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	50	10.67*	4.211E-01	9.476E-06	9.476E-06	14.27
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	25	86.00*	9.197E-01	2.727E-07	3.979E-07	23.03
	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		57	43.60*	1.804E+00	6.124E-07	6.136E-07	25.55
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	24	46.10*	8.837E-01	5.082E-07	5.399E-07	27.57
	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	-----
	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	-----	
PB-214	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	-----	7.46	1.790E+00	-----	Line Not Found	-----
	258.94	-----	0.55	1.718E+00	-----	Line Not Found	-----
	295.09	-----	19.20*	1.579E+00	-----	Line Not Found	-----
	351.87	29	37.10	1.396E+00	4.779E-07	4.999E-07	24.10
	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 : 30367

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Acquisition date : 5-JUN-2014 15:51:14

Flag: "\*" = Keyline



Minimum Detectable Activity Report  
Sample ID : 30367

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Acquisition date : 5-JUN-2014 15:51:14

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	1.0044E-06
MN-54	2.	834.83	1.2096E-07
MN-56	2.	846.81	1.1612E-07
CO-57	17.	122.06	1.0170E-07
CO-58	4.	810.79	1.5969E-07
CO-60	0.	1173.24	4.7942E-08
SB-124	4.	602.73	1.1220E-07
SB-125	4.	427.88	2.8895E-07
CS-134	3.	604.71	1.0367E-07
CS-137	5.	661.66	1.5784E-07