

Health Physics Sample Records

Sample ID: 142497

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140605BD08 SOUTH LAY DOWN # 16

Common

Resp Org: P4000 - PROJECT MANAGEMET

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: 06/06/14 10:00

Comments:

Origin

Mat. Size/Volume: 2006 GRAMS

Docmnt/MO/Act #:

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

Description: SOUTH LAY DOWN # 16

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/05/14 08:30

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2006 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: COUNT TO MDA

Material Loc:

## Health Physics Sample Records

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Description: 140605BD08 SOUTH LAY DOWN # 16

**Analysis**

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	1012	2006	GR		.000		DYNES, WILLIAM J	06/11/14 10:18		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 K-40	NT	0.00001345	1.54E-6	☐	87.085%	40				
0 TL-208	NT	3.243E-7	9.06E-8	☐	2.100%	208				
0 PB-212	NT	5.252E-7	1.168E-7	☐	3.401%	212				
0 BI-214	NT	3.868E-7	1.182E-7	☐	2.504%	214				
0 PB-214	NT	7.584E-7	1.957E-7	☐	4.910%	214				
0 BE-7	AP	4.2257E-7		☑	0.000%	7				
0 MN-54	AP	9.81E-8		☑	0.000%	54				
0 MN-56	AP	1.184E-7		☑	0.000%	56				
0 CO-57	AP	9.8611E-8		☑	0.000%	57				
0 CO-58	AP	7.5934E-8		☑	0.000%	58				
0 CO-60	AP	4.275E-8		☑	0.000%	60				
0 SB-124	AP	8.1198E-8		☑	0.000%	124				
0 SB-125	FP	2.6125E-7		☑	0.000%	125				
0 CS-134	FP	9.4846E-8		☑	0.000%	134				
0 CS-137	FP	1.2398E-7		☑	0.000%	137				

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30390	1000	gr		.000		NEEBE, DAVID J	06/06/14 20:58		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 K-40	NT	0.00002544	2.16E-6	☐	64.572%	40				
0 TL-208	NT	7.222E-7	1.114E-7	☐	1.833%	208				
0 BI-212	NT	3.104E-6	8.26E-7	☐	7.879%	212				
0 PB-212	NT	1.271E-6	1.88E-7	☐	3.226%	212				
0 BI-214	NT	9.97E-7	1.699E-7	☐	2.531%	214				
0 PB-214	NT	3.086E-6	2.95E-7	☐	7.833%	214				
0 RA-226	NT	3.758E-6	1.939E-6	☐	9.539%	226				
0 AC-228	NT	7.868E-7	1.959E-7	☐	1.997%	228				
0 U-235	NT	2.326E-7	1.2E-7	☐	0.590%	235				
0 BE-7	AP	1.0392E-6		☑	0.000%	7				

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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_	30390	1000 gr			.000		NEEBE, DAVID J	06/06/14 20:58		

  

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0 MN-54	AP	1.4855E-7		✓	0.000%	54			
0 MN-56	AP	1.6207E-7		✓	0.000%	56			
0 CO-57	AP	1.3645E-7		✓	0.000%	57			
0 CO-58	AP	1.4329E-7		✓	0.000%	58			
0 CO-60	AP	1.5182E-7		✓	0.000%	60			
0 SB-124	AP	9.778E-8		✓	0.000%	124			
0 SB-125	FP	3.9874E-7		✓	0.000%	125			
0 CS-134	FP	1.1969E-7		✓	0.000%	134			
0 CS-137	FP	1.7652E-7		✓	0.000%	137			

**Analysis Review**

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 10:33

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

**Review/Approve**

**HP Eng Review**

Reviewed: COOPER, TERRY L

Date: 06/11/14 10:34

Comments:

**Disposition**

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

**Final Approval**

Approved: COOPER, TERRY L

Date: 06/11/14 10:34

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          11-JUN-2014 10:11
*-----*
*          >>>> SAMPLE PARAMETERS <<<<<
*
* Title      : 140605BD08 SOUTH LAY DOWN # 16
*
* ID         : 1012                      Acquisition date: 11-JUN-2014 10:08:13
* Start Time: 11-JUN-2014 10:08:00
* Stop Time : 11-JUN-2014 10:08:00      Counting System   : U1GSP
* Quantity  : 2.00600E+03 GR             IHPS Sample Number: 142497
* Geometry  : A_1L_marinelli_sand_1     Analysis Library  : HP_NATURAL
*          Operator: BILL DYNES
*-----*
*          >>>> A -1922924 PARAMETERS <<<<<
*
* Elapsed Live Time : 0 00:03:00.25      Calibration       : 11-JUN-2014 09:11
* Elapsed Real Time : 0 00:03:00.32      Energy Offset    : -1.07429E-01
* Deadtime          : 0.0%                Energy Slope     : 4.99821E-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	238.70	60	25	1.33	477.76	475	11	21.8	1.20E+00	PB-212
1	295.44	32	10	1.32	591.27	586	10	25.5	3.54E-01	PB-214
1	351.90	45	7	1.81	704.21	700	9	17.9	4.18E-01	PB-214
1	583.30	26	7	2.29	1167.10	1163	10	27.3	6.82E-01	TL-208
1	609.45	21	7	1.34	1219.42	1214	9	30.2	4.16E-01	BI-214
1	1460.83	86	0	2.23	2922.15	2917	12	10.9	7.35E-01	K-40

Summary of Nuclide Activity  
Sample ID : 1012

Page : 2  
Acquisition date : 11-JUN-2014 10:08:13

Total number of lines in spectrum 6  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 6 100.00%

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	1.345E-05	1.345E-05	0.154E-05	11.47	A
TL-208	3.05M	1.45	2.232E-07	3.243E-07	0.906E-07	27.93	A
PB-212	10.64H	1.00	5.242E-07	5.252E-07	1.168E-07	22.24	A
BI-214	19.90M	1.06	3.644E-07	3.868E-07	1.182E-07	30.55	A
PB-214	26.80M	1.05	7.254E-07	7.584E-07	1.957E-07	25.81	A
Total Activity :			1.529E-05	1.544E-05			

Grand Total Activity : 1.529E-05 1.544E-05

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

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

Unidentified Energy Lines  
Sample ID : 1012

Page : 3  
Acquisition date : 11-JUN-2014 10:08:13

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 1012

Page : 4  
Acquisition date : 11-JUN-2014 10:08:13

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	86	10.67*	4.482E-01	1.345E-05	1.345E-05	11.47
TL-208	72.80	-----	2.14	1.155E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.239E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.578E+00	-----	Line Not Found	-----
	252.45	-----	0.80	1.887E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.783E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.121E+00	-----	Line Not Found	-----
	583.02	26	86.00*	9.950E-01	2.232E-07	3.243E-07	27.93
	763.06	-----	1.64	7.714E-01	-----	Line Not Found	-----
	860.30	-----	12.00	6.870E-01	-----	Line Not Found	-----
	PB-212	74.81	-----	10.50	1.233E+00	-----	Line Not Found
77.11		-----	17.70	1.319E+00	-----	Line Not Found	-----
87.19		-----	6.27	1.650E+00	-----	Line Not Found	-----
90.13		-----	1.86	1.730E+00	-----	Line Not Found	-----
115.12		-----	0.59	2.162E+00	-----	Line Not Found	-----
238.58		60	43.60*	1.948E+00	5.242E-07	5.252E-07	22.24
300.03		-----	3.34	1.694E+00	-----	Line Not Found	-----
BI-214		76.86	-----	0.58	1.310E+00	-----	Line Not Found
	79.29	-----	0.97	1.397E+00	-----	Line Not Found	-----
	609.31	21	46.10*	9.555E-01	3.644E-07	3.868E-07	30.55
	665.44	-----	1.56	8.797E-01	-----	Line Not Found	-----
	768.35	-----	4.88	7.663E-01	-----	Line Not Found	-----
	806.16	-----	1.23	7.315E-01	-----	Line Not Found	-----
	934.04	-----	3.16	6.352E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	5.391E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	5.255E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	4.976E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	4.855E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	4.629E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	4.614E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	4.583E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	4.571E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	4.415E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	4.336E-01	-----	Line Not Found	-----
	1661.26	-----	1.15	4.280E-01	-----	Line Not Found	-----
1729.58	-----	3.05	4.255E-01	-----	Line Not Found	-----	
1764.49	-----	15.90	4.249E-01	-----	Line Not Found	-----	
PB-214	1847.41	-----	2.12	4.256E-01	-----	Line Not Found	-----
	53.17	-----	1.10	3.707E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.233E+00	-----	Line Not Found	-----
	77.11	-----	11.00	1.319E+00	-----	Line Not Found	-----
	87.19	-----	3.88	1.650E+00	-----	Line Not Found	-----
	90.13	-----	1.15	1.730E+00	-----	Line Not Found	-----
	241.92	-----	7.46	1.933E+00	-----	Line Not Found	-----
	258.94	-----	0.55	1.859E+00	-----	Line Not Found	-----
	295.09	32	19.20*	1.712E+00	7.254E-07	7.584E-07	25.81
	351.87	45	37.10	1.515E+00	5.990E-07	6.263E-07	18.47
	785.83	-----	1.09	7.498E-01	-----	Line Not Found	-----
	839.00	-----	0.59	7.038E-01	-----	Line Not Found	-----



Nuclide Line Activity Report (continued)  
Sample ID : 1012

Page : 6  
Acquisition date : 11-JUN-2014 10:08:13

Flag: "\*" = Keyline

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	1.	477.61	4.2257E-07
MN-54	2.	834.83	9.8100E-08
MN-56	3.	846.81	1.1840E-07
CO-57	23.	122.06	9.8611E-08
CO-58	1.	810.79	7.5934E-08
CO-60	0.	1332.50	4.2750E-08
SB-124	3.	602.73	8.1198E-08
SB-125	5.	427.88	2.6125E-07
CS-134	4.	604.71	9.4846E-08
CS-137	4.	661.66	1.2398E-07