


## Health Physics Sample Records

**Sample ID:** 142506

**Type:** RLSSS

**Type Detail:** SAND

**Status:** APPROVED

**Rasterized:** 

**Description:** 14060614BD 06 NORTH LAYDOWN # 11

### 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:** 06/09/14 08:44

**Comments:** COUNT TO MDA

### Origin

**Mat. Size/Volume:** 1979 GRAMS

**Docmnt/MO/Act #:**

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

**Description:** NORTH LAYDOWN #11

### Collection

**Sample Tech:** DYNES, WILLIAM J

**Sample Date:** 06/06/14 10:25

**Count Time:** 900 (secs.)

**Tritium Req:** No

**Sample Size/Volume:** 1979 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

Sample ID: **142506**

Type: RLSSS
















Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 06 NORTH LAYDOWN # 11

### Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30419	1979	GR		.000		NEEBE, DAVID J	06/09/14 20:18		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	9.533E-6	1.112E-6		83.626%	40				
0 TL-208	NT	3.351E-7	8.66E-8		2.940%	208				
0 PB-212	NT	4.512E-7	1.015E-7		3.958%	212				
0 PB-214	NT	5.505E-7	1.871E-7		4.829%	214				
0 AC-228	NT	5.297E-7	1.31E-7		4.647%	228				
0 BE-7	AP	7.4794E-7			0.000%	7				
0 MN-54	AP	9.9773E-8			0.000%	54				
0 MN-56	AP	9.5349E-8			0.000%	56				
0 CO-57	AP	8.4073E-8			0.000%	57				
0 CO-58	AP	7.4561E-8			0.000%	58				
0 CO-60	AP	3.6173E-8			0.000%	60				
0 SB-124	AP	1.8626E-8			0.000%	124				
0 SB-125	FP	2.0504E-7			0.000%	125				
0 CS-134	FP	8.5147E-8			0.000%	134				
0 CS-137	FP	8.0139E-8			0.000%	137				

### Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:03

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

## Health Physics Sample Records

Sample ID: 142506

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 06 NORTH LAYDOWN # 11

### Review/Approve

#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:03

Comments: the 345 keV peak is not associated with any plant-produced radionuclide

#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

#### Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 08:03

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          9-JUN-2014 20:11      *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<          *
*
* Title      : 14060614BD 06 NORTH LAYDOWN # 11          *
*
* ID         : 30419                      Acquisition date: 9-JUN-2014 20:08:35.      *
* Start Time: 9-JUN-2014 20:08:00.                      *
* Stop Time : 9-JUN-2014 20:08:00.                      Counting System   : U2GSP      *
* Quantity  : 1.97900E+03 GR                      IHPS Sample Number: 142506      *
* Geometry  : C_1L_marinelli_sand_1              Analysis Library  : HP_NATURAL      *
*          Operator: DAVID NEEBE                      *
*-----*
*          >>>> C #41-TP11750A  PARAMETERS <<<<          *
*
* Elapsed Live Time : 0 00:03:00.42      Calibration      : 9-JUN-2014 19:38:      *
* Elapsed Real Time : 0 00:03:00.47      Energy Offset    : -1.08890E-01      *
* Deadtime          : 0.0%                Energy Slope     : 4.99807E-01      *
* Activity Mult Factor: 1.00000E+00      Energy Tolerance: 1.00000      *
* Half Life Ratio   : 8.00000            Sensitivity       : 5.00000      *
*
*****

```

Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
1	238.75	53	22	1.20	477.87	472	11	22.5	4.24E+00	PB-212
1	241.82	17	4	1.25	484.02	482	5	28.0	1.86E-01	PB-214
1	295.64	25	9	1.98	591.69	585	13	34.0	1.15E+00	PB-214
1	337.98	28	2	1.73	676.39	672	8	20.6	7.27E-01	AC-228
1	345.65	15	2	2.28	691.74	688	8	28.2	7.51E-01	
1	351.86	48	0	1.46	704.16	698	11	15.0	7.95E-01	PB-214
1	582.87	28	7	3.29	1166.26	1163	12	25.8	1.80E+00	TL-208
1	911.15	15	0	1.84	1822.85	1818	8	24.7	2.99E-01	AC-228
1	1460.83	75	0	1.83	2922.06	2916	12	11.7	5.58E-01	K-40

Summary of Nuclide Activity  
Sample ID : 30419

Page : 2  
Acquisition date : 9-JUN-2014 20:08:35

Total number of lines in spectrum 9  
Number of unidentified lines 1  
Number of lines tentatively identified by NID 8 88.89%

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	9.533E-06	9.533E-06	1.112E-06	11.67	A
TL-208	3.05M	1.58	2.121E-07	3.351E-07	0.866E-07	25.85	A
PB-212	10.64H	1.00	4.501E-07	4.512E-07	1.015E-07	22.49	A
PB-214	26.80M	1.06	5.215E-07	5.505E-07	1.871E-07	33.99	A
AC-228	6.13H	1.00	5.276E-07	5.297E-07	1.310E-07	24.73	A
Total Activity :			1.124E-05	1.140E-05			

Grand Total Activity : 1.124E-05 1.140E-05

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

Unidentified Energy Lines  
Sample ID : 30419

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Acquisition date : 9-JUN-2014 20:08:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	345.65	15	2	2.28	691.74	688	8	8.33E-02	28.2	1.70E+00	

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30419

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Acquisition date : 9-JUN-2014 20:08:35

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
K-40	1460.83	75	10.67*	5.560E-01	9.533E-06	9.533E-06	11.67
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	28	86.00*	1.158E+00	2.121E-07	3.351E-07	25.85
	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	-----	17.70	1.661E+00	-----	Line Not Found	-----
	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	53	43.60*	2.055E+00	4.501E-07	4.512E-07	22.49
	300.03	-----	3.34	1.843E+00	-----	Line Not Found	-----
PB-214	53.17	-----	1.10	5.203E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.570E+00	-----	Line Not Found	-----
	77.11	-----	11.00	1.661E+00	-----	Line Not Found	-----
	87.19	-----	3.88	1.983E+00	-----	Line Not Found	-----
	90.13	-----	1.15	2.055E+00	-----	Line Not Found	-----
	241.92	17	7.46	2.043E+00	8.274E-07	8.734E-07	27.95
	258.94	-----	0.55	1.981E+00	-----	Line Not Found	-----
	295.09	25	19.20*	1.857E+00	5.215E-07	5.505E-07	33.99
	351.87	48	37.10	1.686E+00	5.800E-07	6.123E-07	15.04
	785.83	-----	1.09	8.674E-01	-----	Line Not Found	-----
	839.00	-----	0.59	8.122E-01	-----	Line Not Found	-----
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	28	12.40	1.726E+00	1.002E-06	1.006E-06	20.58
	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	-----



Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/GR	uCi/GR	%Error
	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	15	29.00*	7.487E-01	5.276E-07	5.297E-07	24.73
	964.64	-----	5.80	7.091E-01	-----	Line Not Found	-----
	968.97	-----	17.40	7.061E-01	-----	Line Not Found	-----
	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 : 30419

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Acquisition date : 9-JUN-2014 20:08:35

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	6.	477.61	7.4794E-07
MN-54	3.	834.83	9.9773E-08
MN-56	2.	846.81	9.5349E-08
CO-57	19.	122.06	8.4073E-08
CO-58	1.	810.79	7.4561E-08
CO-60	0.	1332.50	3.6173E-08
SB-124	0.	602.73	1.8626E-08
SB-125	4.	427.88	2.0504E-07
CS-134	4.	604.71	8.5147E-08
CS-137	2.	661.66	8.0139E-08