

## Health Physics Sample Records

**Sample ID:** 142501

**Type:** RLSSS

**Type Detail:** SAND

**Status:** APPROVED

**Rasterized:** ☒

**Description:** 14060614BD 01 NORTH LAYDOWN #1

### 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 07:49

**Comments:**

### Origin

**Mat. Size/Volume:** 2250 GRAMS

**Docmnt/MO/Act #:**

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

**Description:** NORTH LAYDOWN #1

### Collection

**Sample Tech:** DYNES, WILLIAM J

**Sample Date:** 06/06/14 08:45

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

**Tritium Req:** No

**Sample Size/Volume:** 2250 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: **142501**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 14060614BD 01 NORTH LAYDOWN #1

## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30424	2250 GR			.000		NEEBE, DAVID J	06/09/14 20:43		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001128	1.33E-6	<input type="checkbox"/>	88.617%	40				
0 TL-208	NT	2.139E-7	7.78E-8	<input type="checkbox"/>	1.680%	208				
0 PB-212	NT	3.415E-7	1.245E-7	<input type="checkbox"/>	2.683%	212				
0 BI-214	NT	5.102E-7	1.036E-7	<input type="checkbox"/>	4.008%	214				
0 PB-214	NT	3.834E-7	1.651E-7	<input type="checkbox"/>	3.012%	214				
0 BE-7	AP	7.6574E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	9.3778E-8		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	2.8548E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	7.7894E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	1.0717E-7		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	1.0206E-7		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	7.4769E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.4717E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	9.9531E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	1.5889E-7		<input checked="" type="checkbox"/>	0.000%	137				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 07:22

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:


## Health Physics Sample Records

Sample ID: **142501**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 01 NORTH LAYDOWN #1

**Review/Approve**

### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 07:22

Comments:

### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

### Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 07:22

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          9-JUN-2014 20:38  *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<<          *
*          *          *          *          *          *          *          *          *          *
* Title      : 14060614BD 01 NORTH LAYDOWN #1          *
*          *          *          *          *          *          *          *          *          *
* ID         : 30424          Acquisition date: 9-JUN-2014 20:35:46. *
* Start Time: 9-JUN-2014 20:35:00.          *
* Stop Time : 9-JUN-2014 20:35:00.          Counting System   : U2GSP          *
* Quantity   : 2.25000E+03 GR          IHPS Sample Number: 142501          *
* Geometry    : B_1L_marinelli_sand_1          Analysis Library  : HP_NATURAL          *
*          *          *          *          *          *          *          *          *          *
*          *          *          *          *          *          *          *          *          *
*          >>>> B #42-TP11663A  PARAMETERS <<<<<          *
*          *          *          *          *          *          *          *          *          *
* Elapsed Live Time : 0 00:03:00.41 Calibration      : 9-JUN-2014 19:36:          *
* Elapsed Real Time  : 0 00:03:00.46 Energy Offset   : -5.05220E-01          *
* Deadtime           : 0.0%          Energy Slope    : 5.00079E-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	77.32	37	26	1.93	155.62	152	8	30.0	1.08E+00	BI-214 PB-212 PB-214
1	238.44	40	52	1.42	477.81	475	11	36.5	1.49E+00	PB-212
1	295.03	16	12	1.83	590.98	587	9	43.1	1.12E+00	PB-214
1	351.89	42	5	1.32	704.68	699	12	20.2	7.61E-01	PB-214
1	583.62	15	5	1.88	1168.08	1163	10	36.4	6.27E-01	TL-208
1	609.44	29	3	2.27	1219.71	1214	10	20.3	5.10E-01	BI-214
1	1460.81	76	0	2.04	2922.27	2917	12	11.7	1.09E+00	K-40

Summary of Nuclide Activity  
Sample ID : 30424

Page : 2  
Acquisition date : 9-JUN-2014 20:35:46

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	1.128E-05	1.128E-05	0.133E-05	11.75	A
TL-208	3.05M	1.65	1.300E-07	2.139E-07	0.778E-07	36.37	A
PB-212	10.64H	1.00	3.407E-07	3.415E-07	1.245E-07	36.45	A
BI-214	19.90M	1.08	4.715E-07	5.102E-07	1.036E-07	20.30	A
PB-214	26.80M	1.06	3.616E-07	3.834E-07	1.651E-07	43.07	A
Total Activity :			1.258E-05	1.273E-05			

Grand Total Activity : 1.258E-05 1.273E-05

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

Unidentified Energy Lines  
Sample ID : 30424

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Acquisition date : 9-JUN-2014 20:35:46

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30424

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Acquisition date : 9-JUN-2014 20:35:46

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	76	10.67*	4.211E-01	1.128E-05	1.128E-05	11.75
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	15	86.00*	9.190E-01	1.300E-07	2.139E-07	36.37
	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	37	17.70	1.247E+00	1.112E-06	1.115E-06	29.97
	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	40	43.60*	1.805E+00	3.407E-07	3.415E-07	36.45
	300.03	-----	3.34	1.562E+00	-----	Line Not Found	-----
BI-214	76.86	37	0.58	1.247E+00	3.394E-05	3.672E-05	29.97
	79.29	-----	0.97	1.320E+00	-----	Line Not Found	-----
	609.31	29	46.10*	8.831E-01	4.715E-07	5.102E-07	20.30
	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	37	11.00	1.247E+00	1.789E-06	1.897E-06	29.97
	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	16	19.20*	1.579E+00	3.616E-07	3.834E-07	43.07
	351.87	42	37.10	1.395E+00	5.403E-07	5.730E-07	20.20
	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 : 30424

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Acquisition date : 9-JUN-2014 20:35:46

Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 30424

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Acquisition date : 9-JUN-2014 20:35:46

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	7.6574E-07
MN-54	2.	834.83	9.3778E-08
MN-56	0.	846.81	2.8548E-08
CO-57	16.	122.06	7.7894E-08
CO-58	3.	810.79	1.0717E-07
CO-60	1.	1173.24	1.0206E-07
SB-124	2.	602.73	7.4769E-08
SB-125	5.	427.88	2.4717E-07
CS-134	5.	604.71	9.9531E-08
CS-137	9.	661.66	1.5889E-07