

## Health Physics Sample Records

**Sample ID:** 142510

**Type:** RLSSS

**Type Detail:** SAND

**Status:** APPROVED

**Rasterized:** ☒

**Description:** 14060614BD 10 NORTH LAYDOWN # 20

### Common

**Resp Org:** P4000 - PROJECT MANAGEMENT

**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 09:08

**Comments:** COUNT TO MDA

### Origin

**Mat. Size/Volume:** 1883 GRAMS

**Docmnt/MO/Act #:**

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

**Description:** NORTH LAYDOWN # 20

### Collection

**Sample Tech:** DYNES, WILLIAM J

**Sample Date:** 06/06/14 12:25

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

**Tritium Req:** Yes

**Sample Size/Volume:** 1883 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: 142510

Type: RLSSS
















Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 10 NORTH LAYDOWN # 20

## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30426	1883	GR		.000		NEEBE, DAVID J	06/09/14 20:48		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001044	1.24E-6		83.537%	40				
0 TL-208	NT	3.521E-7	7.0E-8		2.817%	208				
0 PB-212	NT	6.09E-7	8.47E-8		4.873%	212				
0 BI-214	NT	4.371E-7	1.033E-7		3.497%	214				
0 PB-214	NT	6.593E-7	1.341E-7		5.275%	214				
0 BE-7	AP	7.0081E-7			0.000%	7				
0 MN-54	AP	1.2235E-7			0.000%	54				
0 MN-56	AP	7.57E-8			0.000%	56				
0 CO-57	AP	7.0423E-8			0.000%	57				
0 CO-58	AP	9.0057E-8			0.000%	58				
0 CO-60	AP	3.9271E-8			0.000%	60				
0 SB-124	AP	5.4748E-8			0.000%	124				
0 SB-125	FP	2.772E-7			0.000%	125				
0 CS-134	FP	8.456E-8			0.000%	134				
0 CS-137	FP	1.1363E-7			0.000%	137				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:15

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

## Health Physics Sample Records

Sample ID: **142510**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 10 NORTH LAYDOWN # 20

### Review/Approve

#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:15

Comments:

#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

#### Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 08:15

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          9-JUN-2014 20:46  *
*-----*
*          >>>> SAMPLE  PARAMETERS <<<<<
*
* Title      : 14060614BD 10 NORTH LAYDOWN # 20
*
* ID         : 30426                      Acquisition date: 9-JUN-2014 20:43:46.
* Start Time: 9-JUN-2014 20:43:00.
* Stop Time : 9-JUN-2014 20:43:00.      Counting System   : U2GSP
* Quantity  : 1.88300E+03 GR             IHPS Sample Number: 142510
* Geometry  : A_1L_marinelli_sand_1     Analysis Library  : HP_NATURAL
*                      Operator: DAVID NEEBE
*-----*
*          >>>> A #41-TP11679B  PARAMETERS <<<<<
*
* Elapsed Live Time   : 0 00:03:00.45   Calibration       : 9-JUN-2014 19:32:
* Elapsed Real Time   : 0 00:03:00.50   Energy Offset      : 2.30553E-01
* Deadtime            : 0.0%             Energy Slope       : 4.99505E-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	77.01	28	45	1.69	153.71	151	7	42.5	3.46E+00	BI-214 PB-212 PB-214
1	238.54	69	8	1.35	477.10	473	8	13.9	5.73E-01	PB-212
1	295.03	28	0	1.50	590.18	586	9	20.3	1.46E+00	PB-214
1	351.94	38	2	1.77	704.14	699	9	17.7	6.84E-01	PB-214
1	582.90	26	0	1.95	1166.53	1162	10	19.9	4.23E-01	TL-208
1	609.16	25	4	1.93	1219.10	1215	8	23.6	1.40E+00	BI-214
1	1460.61	74	0	1.91	2923.87	2918	12	11.9	1.23E+00	K-40

Summary of Nuclide Activity  
Sample ID : 30426

Page : 2  
Acquisition date : 9-JUN-2014 20:43:46

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	1.044E-05	1.044E-05	0.124E-05	11.86	A
TL-208	3.05M	1.64	2.141E-07	3.521E-07	0.700E-07	19.89	A
PB-212	10.64H	1.00	6.075E-07	6.090E-07	0.847E-07	13.91	A
BI-214	19.90M	1.08	4.040E-07	4.371E-07	1.033E-07	23.64	A
PB-214	26.80M	1.06	6.218E-07	6.593E-07	1.341E-07	20.35	A
Total Activity :			1.229E-05	1.250E-05			

Grand Total Activity : 1.229E-05 1.250E-05

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

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

Unidentified Energy Lines  
Sample ID : 30426

Page : 3  
Acquisition date : 9-JUN-2014 20:43:46

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30426

Page : 4  
Acquisition date : 9-JUN-2014 20:43:46

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/GR	uCi/GR	
K-40	1460.83	74	10.67*	5.314E-01	1.044E-05	1.044E-05	11.86
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	-----
PB-212	583.02	26	86.00*	1.128E+00	2.141E-07	3.521E-07	19.89
	763.06	-----	1.64	8.744E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.770E-01	-----	Line Not Found	-----
	74.81	-----	10.50	1.685E+00	-----	Line Not Found	-----
	77.11	28	17.70	1.778E+00	7.043E-07	7.061E-07	42.54
	87.19	-----	6.27	2.129E+00	-----	Line Not Found	-----
BI-214	90.13	-----	1.86	2.206E+00	-----	Line Not Found	-----
	115.12	-----	0.59	2.535E+00	-----	Line Not Found	-----
	238.58	69	43.60*	2.083E+00	6.075E-07	6.090E-07	13.91
	300.03	-----	3.34	1.834E+00	-----	Line Not Found	-----
	76.86	28	0.58	1.778E+00	2.149E-05	2.326E-05	42.54
	79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
PB-214	609.31	25	46.10*	1.084E+00	4.040E-07	4.371E-07	23.64
	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	28	11.00	1.778E+00	1.133E-06	1.202E-06	42.54
	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	28	19.20*	1.853E+00	6.218E-07	6.593E-07	20.35
	351.87	38	37.10	1.662E+00	4.945E-07	5.244E-07	17.71
	785.83	-----	1.09	8.495E-01	-----	Line Not Found	-----
PB-214	839.00	-----	0.59	7.964E-01	-----	Line Not Found	-----



Nuclide Line Activity Report (continued)  
Sample ID : 30426

Page : 6  
Acquisition date : 9-JUN-2014 20:43:46

Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 30426

Page : 7  
Acquisition date : 9-JUN-2014 20:43:46

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	4.	477.61	7.0081E-07
MN-54	4.	834.83	1.2235E-07
MN-56	1.	846.81	7.5700E-08
CO-57	13.	122.06	7.0423E-08
CO-58	2.	810.79	9.0057E-08
CO-60	0.	1332.50	3.9271E-08
SB-124	1.	602.73	5.4748E-08
SB-125	7.	427.88	2.7720E-07
CS-134	3.	604.71	8.4560E-08
CS-137	4.	661.66	1.1363E-07