

## Health Physics Sample Records

**Sample ID:** 142508

**Type:** RLSSS

**Type Detail:** SAND

**Status:** APPROVED

**Rasterized:** ☒

**Description:** 14060614BD 08 NORTH LAYDOWN # 15

### 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 08:54

**Comments:** COUNT TO MDA

### Origin

**Mat. Size/Volume:** 2119 GRAMS

**Docmnt/MO/Act #:**

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

**Description:** NORTH LAYDOWN # 15

### Collection

**Sample Tech:** DYNES, WILLIAM J

**Sample Date:** 06/06/14 11:50

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

**Tritium Req:** No

**Sample Size/Volume:** 2119 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:** No

**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:**


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Rasterized: 

Description: 14060614BD 08 NORTH LAYDOWN # 15

### Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30417	2119	GR		.000		NEEBE, DAVID J	06/09/14 20:13		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001136	1.22E-6		86.068%	40				
0 TL-208	NT	2.164E-7	5.6E-8		1.640%	208				
0 PB-212	NT	4.107E-7	8.18E-8		3.112%	212				
0 BI-214	NT	6.861E-7	1.075E-7		5.198%	214				
0 PB-214	NT	5.257E-7	1.16E-7		3.983%	214				
0 BE-7	AP	5.3213E-7			0.000%	7				
0 MN-54	AP	8.8458E-8			0.000%	54				
0 MN-56	AP	5.4196E-8			0.000%	56				
0 CO-57	AP	7.3191E-8			0.000%	57				
0 CO-58	AP	8.0045E-8			0.000%	58				
0 CO-60	AP	7.5924E-8			0.000%	60				
0 SB-124	AP	7.5131E-8			0.000%	124				
0 SB-125	FP	2.033E-7			0.000%	125				
0 CS-134	FP	7.1385E-8			0.000%	134				
0 CS-137	FP	7.6689E-8			0.000%	137				

### Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:12

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

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Sample ID: **142508**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 14060614BD 08 NORTH LAYDOWN # 15

### Review/Approve

#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 08:12

Comments:

#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

#### Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 08:12

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          9-JUN-2014 20:09      *
*-----*
*          >>>> SAMPLE PARAMETERS <<<<
*
* Title      : 14060614BD 08 NORTH LAYDOWN # 15
*
* ID         : 30417                      Acquisition date: 9-JUN-2014 20:06:51.
* Start Time: 9-JUN-2014 20:06:00.
* Stop Time: 9-JUN-2014 20:06:00.      Counting System   : U2GSP
* Quantity   : 2.11900E+03 GR           IHPS Sample Number: 142508
* Geometry   : A_1L_marinelli_sand_1    Analysis Library  : HP_NATURAL
* Operator   : DAVID NEEBE
*-----*
*          >>>> A #41-TP11679B PARAMETERS <<<<
*
* Elapsed Live Time   : 0 00:03:00.41  Calibration       : 9-JUN-2014 19:32:
* Elapsed Real Time   : 0 00:03:00.45  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
*
*****

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Post-NID Peak Search Report

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	%Err	Fit	Nuclides
1	77.31	37	24	1.23	154.31	151	7	27.9	3.95E+00	BI-214 PB-212 PB-214
1	238.50	53	21	1.15	477.02	473	15	19.9	2.71E+00	PB-212
1	242.07	16	18	1.15	484.16	473	15	48.0		PB-214
1	295.12	25	4	1.71	590.37	587	7	22.1	3.78E-02	PB-214
1	352.09	35	7	1.46	704.43	701	9	22.3	1.32E+00	PB-214
1	582.73	18	0	1.88	1166.19	1162	11	25.9	1.13E+00	TL-208
1	609.35	45	2	1.22	1219.48	1215	8	15.7	2.13E-01	BI-214
1	1460.93	91	0	1.90	2924.52	2918	13	10.8	6.07E-01	K-40

Summary of Nuclide Activity  
Sample ID : 30417

Page : 2  
Acquisition date : 9-JUN-2014 20:06:51

Total number of lines in spectrum 8  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 8 100.00%

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	1.136E-05	1.136E-05	0.122E-05	10.76	A
TL-208	3.05M	1.68	1.291E-07	2.164E-07	0.560E-07	25.86	A
PB-212	10.64H	1.00	4.096E-07	4.107E-07	0.818E-07	19.91	A
BI-214	19.90M	1.09	6.322E-07	6.861E-07	1.075E-07	15.67	A
PB-214	26.80M	1.06	4.947E-07	5.257E-07	1.160E-07	22.06	A
Total Activity :			1.302E-05	1.320E-05			

Grand Total Activity : 1.302E-05 1.320E-05

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

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

Unidentified Energy Lines  
Sample ID : 30417

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Acquisition date : 9-JUN-2014 20:06:51

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30417

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Acquisition date : 9-JUN-2014 20:06:51

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	91	10.67*	5.314E-01	1.136E-05	1.136E-05	10.76
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	-----
	583.02	18	86.00*	1.129E+00	1.291E-07	2.164E-07	25.86
	763.06	-----	1.64	8.744E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.770E-01	-----	Line Not Found	-----
PB-212	74.81	-----	10.50	1.685E+00	-----	Line Not Found	-----
	77.11	37	17.70	1.791E+00	8.231E-07	8.252E-07	27.89
	87.19	-----	6.27	2.129E+00	-----	Line Not Found	-----
	90.13	-----	1.86	2.206E+00	-----	Line Not Found	-----
	115.12	-----	0.59	2.535E+00	-----	Line Not Found	-----
	238.58	53	43.60*	2.083E+00	4.096E-07	4.107E-07	19.91
	300.03	-----	3.34	1.834E+00	-----	Line Not Found	-----
BI-214	76.86	37	0.58	1.791E+00	2.512E-05	2.726E-05	27.89
	79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
	609.31	45	46.10*	1.084E+00	6.322E-07	6.861E-07	15.67
	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	37	11.00	1.791E+00	1.325E-06	1.408E-06	27.89
	87.19	-----	3.88	2.129E+00	-----	Line Not Found	-----
	90.13	-----	1.15	2.206E+00	-----	Line Not Found	-----
	241.92	16	7.46	2.067E+00	7.505E-07	7.976E-07	48.01
	258.94	-----	0.55	1.994E+00	-----	Line Not Found	-----
	295.09	25	19.20*	1.852E+00	4.947E-07	5.257E-07	22.06
	351.87	35	37.10	1.661E+00	4.021E-07	4.273E-07	22.31
	785.83	-----	1.09	8.495E-01	-----	Line Not Found	-----
	839.00	-----	0.59	7.964E-01	-----	Line Not Found	-----



Nuclide Line Activity Report (continued)  
Sample ID : 30417

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Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 30417

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Acquisition date : 9-JUN-2014 20:06:51

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	3.	477.61	5.3213E-07
MN-54	2.	834.83	8.8458E-08
MN-56	0.	846.81	5.4196E-08
CO-57	18.	122.06	7.3191E-08
CO-58	2.	810.79	8.0045E-08
CO-60	0.	1332.50	7.5924E-08
SB-124	3.	602.73	7.5131E-08
SB-125	4.	427.88	2.0330E-07
CS-134	3.	604.71	7.1385E-08
CS-137	2.	661.66	7.6689E-08