

## Health Physics Sample Records

**Sample ID:** 142473

**Type:** RLSSS

**Type Detail:** SAND

**Status:** APPROVED

**Rasterized:** ☐

**Description:** 140603BD 2, CULVERT #3

### 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:** 06/05/14 07:01

**Comments:**

### Origin

**Mat. Size/Volume:** 1642 GRAMS

**Docmnt/MO/Act #:**

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

**Description:** CULVERT 3

### Collection

**Sample Tech:** DYNES, WILLIAM J

**Sample Date:** 06/03/14 07:57

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

**Tritium Req:** No

**Sample Size/Volume:** 1642 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:**

**Material Loc:**

# Health Physics Sample Records

Sample ID: 142473

Type: RLSSS

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Status: APPROVED

Rasterized: ☐

Description: 140603BD 2, CULVERT #3

## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30377	1642	GR		.000		PARK, MICHAEL C	06/05/14 16:28		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001757	1.66E-6	<input type="checkbox"/>	92.442%	40				
0 PB-212	NT	4.7E-7	1.173E-7	<input type="checkbox"/>	2.473%	212				
0 BI-214	NT	3.149E-7	7.37E-8	<input type="checkbox"/>	1.657%	214				
0 PB-214	NT	6.517E-7	1.796E-7	<input type="checkbox"/>	3.429%	214				
0 BE-7	AP	8.3663E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	1.1637E-7		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	8.495E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	7.9134E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	8.0125E-8		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	4.3554E-8		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	8.2179E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.3222E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	9.3676E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	9.649E-8		<input checked="" type="checkbox"/>	0.000%	137				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:26

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:


## Health Physics Sample Records

Sample ID: 142473

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 140603BD 2, CULVERT #3

Review/Approve

### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:26

Comments:

### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

### Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 14:26

Comments:

```

*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 16:25  *
*-----*
*          >>>>> SAMPLE  PARAMETERS <<<<<          *
*
* Title      : 140603BD 2, CULVERT #3          *
*
* ID         : 30377                      Acquisition date: 5-JUN-2014 16:22:28. *
* Start Time: 5-JUN-2014 16:22:00.          *
* Stop Time : 5-JUN-2014 16:22:00.          Counting System   : U2GSP          *
* Quantity  : 1.64200E+03 GR                IHPS Sample Number: 142473          *
* Geometry  : C_1L_marinelli_sand_1        Analysis Library  : HP_NATURAL          *
*          Operator: MICHAEL PARK          *
*-----*
*          >>>>> C #41-TP11750A  PARAMETERS <<<<<          *
*
* Elapsed Live Time : 0 00:03:00.60          Calibration      : 5-JUN-2014 08:14:          *
* Elapsed Real Time : 0 00:03:00.64          Energy Offset    : -1.39807E-01          *
* Deadtime          : 0.0%                   Energy Slope     : 4.99820E-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	238.82	46	14	1.89	478.07	472	15	25.0	3.70E+00	PB-212
1	295.56	24	3	1.85	591.59	587	13	27.6	1.00E+00	PB-214
1	351.84	23	8	1.50	704.17	699	12	33.5	1.06E+00	PB-214
1	609.20	17	0	1.88	1218.99	1215	8	23.4	4.43E-01	BI-214
1	1460.86	114	0	2.07	2922.26	2916	12	9.5	9.36E-01	K-40

Summary of Nuclide Activity  
Sample ID : 30377

Page : 2  
Acquisition date : 5-JUN-2014 16:22:28

Total number of lines in spectrum 5  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 5 100.00%

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	1.757E-05	1.757E-05	0.166E-05	9.46	A
PB-212	10.64H	1.00	4.690E-07	4.700E-07	1.173E-07	24.95	A
BI-214	19.90M	1.07	2.940E-07	3.149E-07	0.737E-07	23.42	A
PB-214	26.80M	1.05	6.192E-07	6.517E-07	1.796E-07	27.56	A
Total Activity :			1.895E-05	1.901E-05			

Grand Total Activity : 1.895E-05 1.901E-05

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

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

Unidentified Energy Lines  
Sample ID : 30377

Page : 3  
Acquisition date : 5-JUN-2014 16:22:28

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30377

Page : 4  
Acquisition date : 5-JUN-2014 16:22:28

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/GR	uCi/GR	%Error
K-40	1460.83	114	10.67*	5.560E-01	1.757E-05	1.757E-05	9.46
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	46	43.60*	2.054E+00	4.690E-07	4.700E-07	24.95
BI-214	300.03	-----	3.34	1.843E+00	-----	Line Not Found	-----
	76.86	-----	0.58	1.651E+00	-----	Line Not Found	-----
	79.29	-----	0.97	1.741E+00	-----	Line Not Found	-----
	609.31	17	46.10*	1.112E+00	2.940E-07	3.149E-07	23.42
	665.44	-----	1.56	1.023E+00	-----	Line Not Found	-----
	768.35	-----	4.88	8.873E-01	-----	Line Not Found	-----
	806.16	-----	1.23	8.454E-01	-----	Line Not Found	-----
	934.04	-----	3.16	7.310E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	6.242E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	6.105E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	5.846E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	5.747E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	5.602E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	5.595E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	5.583E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	5.578E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	5.568E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	5.628E-01	-----	Line Not Found	-----
	1661.26	-----	1.15	5.753E-01	-----	Line Not Found	-----
	1729.58	-----	3.05	5.918E-01	-----	Line Not Found	-----
	1764.49	-----	15.90	6.023E-01	-----	Line Not Found	-----
PB-214	1847.41	-----	2.12	6.331E-01	-----	Line Not Found	-----
	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	-----	7.46	2.043E+00	-----	Line Not Found	-----
	258.94	-----	0.55	1.981E+00	-----	Line Not Found	-----
	295.09	24	19.20*	1.857E+00	6.192E-07	6.517E-07	27.56
	351.87	23	37.10	1.686E+00	3.399E-07	3.577E-07	33.48
	785.83	-----	1.09	8.674E-01	-----	Line Not Found	-----
	839.00	-----	0.59	8.122E-01	-----	Line Not Found	-----

Flag: "\*" = Keyline



Minimum Detectable Activity Report  
Sample ID : 30377

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Acquisition date : 5-JUN-2014 16:22:28

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	8.3663E-07
MN-54	3.	834.83	1.1637E-07
MN-56	1.	846.81	8.4950E-08
CO-57	11.	122.06	7.9134E-08
CO-58	1.	810.79	8.0125E-08
CO-60	0.	1332.50	4.3554E-08
SB-124	2.	602.73	8.2179E-08
SB-125	3.	427.88	2.3222E-07
CS-134	3.	604.71	9.3676E-08
CS-137	2.	661.66	9.6490E-08