

# Health Physics Sample Records

Sample ID: 142472

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140603BD 1 CULVERT 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:

Reviewed: DYNES, WILLIAM J

Date: 06/05/14 06:54

Comments:

## Origin

Mat. Size/Volume: 1821 GRAMS

Docmnt/MO/Act #:

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

Description: CULVERT 1

## Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/03/14 07:57

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1821 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

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Type: RLSSS
















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Rasterized: 

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## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	30378	1821	GR		.000		PARK, MICHAEL C	06/05/14 16:43		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.0000153	1.65E-6		89.261%	40				
0 PB-212	NT	4.662E-7	9.63E-8		2.720%	212				
0 BI-214	NT	3.461E-7	1.046E-7		2.019%	214				
0 PB-214	NT	3.499E-7	1.264E-7		2.041%	214				
0 AC-228	NT	6.786E-7	1.5E-7		3.959%	228				
0 BE-7	AP	7.8081E-7			0.000%	7				
0 MN-54	AP	1.0074E-7			0.000%	54				
0 MN-56	AP	1.1917E-7			0.000%	56				
0 CO-57	AP	7.8151E-8			0.000%	57				
0 CO-58	AP	4.7226E-8			0.000%	58				
0 CO-60	AP	1.3939E-7			0.000%	60				
0 SB-124	AP	5.6474E-8			0.000%	124				
0 SB-125	FP	2.3502E-7			0.000%	125				
0 CS-134	FP	7.1626E-8			0.000%	134				
0 CS-137	FP	1.2898E-7			0.000%	137				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:18

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:


## Health Physics Sample Records

Sample ID: **142472**

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: 

Description: 140603BD 1 CULVERT 1

**Review/Approve**

### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 14:25

Comments:

### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

### Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 14:25

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 16:34  *
*-----*
*          >>>> SAMPLE   PARAMETERS <<<<          *
*-----*
* Title      : 140603BD 1 CULVERT 1          *
* ID         : 30378                      Acquisition date: 5-JUN-2014 16:31:46. *
* Start Time: 5-JUN-2014 16:31:00.          *
* Stop Time: 5-JUN-2014 16:31:00.          Counting System   : U2GSP          *
* Quantity   : 1.82100E+03 GR              IHPS Sample Number: 142472          *
* Geometry   : A_1L_marinelli_sand_1      Analysis Library  : HP_NATURAL          *
* Operator: MICHAEL PARK                    *
*-----*
*          >>>> A #41-TP11679B   PARAMETERS <<<<          *
*-----*
* Elapsed Live Time   : 0 00:03:00.48      Calibration       : 5-JUN-2014 08:09:  *
* Elapsed Real Time   : 0 00:03:00.51      Energy Offset      : 2.12659E-01      *
* Deadtime            : 0.0%                Energy Slope      : 4.99528E-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	238.65	51	18	1.14	477.33	472	9	20.7	8.16E-01	PB-212
1	351.94	25	14	1.53	704.12	698	11	36.1	9.19E-01	PB-214
1	608.99	19	5	2.14	1218.70	1214	10	30.2	8.54E-01	BI-214
1	910.68	18	0	2.07	1822.66	1818	8	22.1	2.22E-01	AC-228
1	1460.69	106	6	1.80	2923.73	2917	12	10.8	1.14E+00	K-40

Summary of Nuclide Activity  
Sample ID : 30378

Page : 2  
Acquisition date : 5-JUN-2014 16:31:46

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	1.530E-05	1.530E-05	0.165E-05	10.76	A
PB-212	10.64H	1.00	4.650E-07	4.662E-07	0.963E-07	20.66	A
BI-214	19.90M	1.08	3.198E-07	3.461E-07	1.046E-07	30.21	A
PB-214	26.80M	1.06	3.298E-07	3.499E-07	1.264E-07	36.13	KA
AC-228	6.13H	1.00	6.756E-07	6.786E-07	1.500E-07	22.11	A
Total Activity :			1.709E-05	1.714E-05			

Grand Total Activity : 1.709E-05 1.714E-05

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

Unidentified Energy Lines  
Sample ID : 30378

Page : 3  
Acquisition date : 5-JUN-2014 16:31:46

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30378

Page : 4  
Acquisition date : 5-JUN-2014 16:31:46

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	106	10.67*	5.314E-01	1.530E-05	1.530E-05	10.76
PB-212	74.81	-----	10.50	1.685E+00	-----	Line Not Found	-----
	77.11	-----	17.70	1.782E+00	-----	Line Not Found	-----
	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	-----
BI-214	238.58	51	43.60*	2.082E+00	4.650E-07	4.662E-07	20.66
	300.03	-----	3.34	1.834E+00	-----	Line Not Found	-----
	76.86	-----	0.58	1.772E+00	-----	Line Not Found	-----
	79.29	-----	0.97	1.869E+00	-----	Line Not Found	-----
	609.31	19	46.10*	1.085E+00	3.198E-07	3.461E-07	30.21
PB-214	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	-----
	53.17	-----	1.10	5.543E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.685E+00	-----	Line Not Found	-----
	77.11	-----	11.00	1.782E+00	-----	Line Not Found	-----
AC-228	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	-----	19.20*	1.852E+00	-----	Line Not Found	-----
	351.87	25	37.10	1.662E+00	3.298E-07	3.499E-07	36.13
	785.83	-----	1.09	8.495E-01	-----	Line Not Found	-----
	839.00	-----	0.59	7.964E-01	-----	Line Not Found	-----
	89.96	-----	3.40	2.201E+00	-----	Line Not Found	-----
	93.35	-----	5.60	2.279E+00	-----	Line Not Found	-----
	99.55	-----	1.30	2.389E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.463E+00	-----	Line Not Found	-----
AC-228	108.99	-----	0.67	2.496E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.562E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.496E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.221E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.187E+00	-----	Line Not Found	-----



Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
	270.26	-----	3.80	1.948E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.738E+00	-----	Line Not Found	-----
	338.42	-----	12.40	1.704E+00	-----	Line Not Found	-----
	340.94	-----	0.52	1.696E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.499E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.368E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.164E+00	-----	Line Not Found	-----
	581.52	-----	3.00	1.131E+00	-----	Line Not Found	-----
	726.63	-----	0.87	9.173E-01	-----	Line Not Found	-----
	755.28	-----	1.32	8.833E-01	-----	Line Not Found	-----
	772.28	-----	1.09	8.641E-01	-----	Line Not Found	-----
	782.12	-----	0.59	8.534E-01	-----	Line Not Found	-----
	794.79	-----	4.60	8.400E-01	-----	Line Not Found	-----
	830.59	-----	0.63	8.043E-01	-----	Line Not Found	-----
	835.60	-----	1.71	7.996E-01	-----	Line Not Found	-----
	840.44	-----	0.94	7.951E-01	-----	Line Not Found	-----
	904.29	-----	0.89	7.403E-01	-----	Line Not Found	-----
	911.16	18	29.00*	7.353E-01	6.756E-07	6.786E-07	22.11
	964.64	-----	5.80	6.962E-01	-----	Line Not Found	-----
	968.97	-----	17.40	6.933E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	5.673E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	5.315E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	5.296E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	5.294E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	5.295E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	5.298E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	5.324E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	5.330E-01	-----	Line Not Found	-----

Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 30378

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Acquisition date : 5-JUN-2014 16:31:46

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	7.8081E-07
MN-54	2.	834.83	1.0074E-07
MN-56	3.	846.81	1.1917E-07
CO-57	15.	122.06	7.8151E-08
CO-58	0.	810.79	4.7226E-08
CO-60	2.	1332.50	1.3939E-07
SB-124	1.	602.73	5.6474E-08
SB-125	4.	427.88	2.3502E-07
CS-134	2.	604.71	7.1626E-08
CS-137	5.	661.66	1.2898E-07