

# Health Physics Sample Records

Sample ID: 142526

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized: ☐

Description: 140612BD02 PARKING LOT 4 CULVERT 2

## 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: 06/12/14 13:04

Comments: COUNT TO MDA

## Origin

Mat. Size/Volume: 1118 GRAMS

Docmnt/MO/Act #:

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

Description: PARKING LOT 4 CULVERT 2

## Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/12/14 09:30

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1118 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: UNIT 1 COUNT ROOM

Other: COUNT TO MDA

Material Loc:

# Health Physics Sample Records

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Description: 140612BD02 PARKING LOT 4 CULVERT 2

## Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
A_1L_marinelli_sand_	1018	1118 GR			.000		DYNES, WILLIAM J	06/12/14 14:03		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments		Mod Id	Mod Date
0 K-40	NT	0.00001609	1.89E-6		79.441%	40				
0 CS-137	FP	2.093E-7	6.43E-8		1.033%	137				
0 TL-208	NT	2.92E-7	1.038E-7		1.442%	208				
0 PB-212	NT	5.292E-7	1.552E-7		2.613%	212				
0 BI-214	NT	6.864E-7	1.274E-7		3.389%	214				
0 PB-214	NT	1.06E-6	2.9E-7		5.234%	214				
0 AC-228	NT	1.387E-6	3.18E-7		6.848%	228				
0 BE-7	AP	1.2106E-6			0.000%	7				
0 MN-54	AP	1.3606E-7			0.000%	54				
0 MN-56	AP	1.2199E-7			0.000%	56				
0 CO-57	AP	8.7664E-8			0.000%	57				
0 CO-58	AP	1.483E-7			0.000%	58				
0 CO-60	AP	1.8557E-7			0.000%	60				
0 SB-124	AP	1.2028E-7			0.000%	124				
0 SB-125	FP	2.5134E-7			0.000%	125				
0 CS-134	FP	1.7713E-7			0.000%	134				

## Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/17/14 13:28

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

## Health Physics Sample Records

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Status: APPROVED

Rasterized: 

Description: 140612BD02 PARKING LOT 4 CULVERT 2

### Review/Approve

#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/17/14 13:29

Comments: Background Reference Sample /w environmental levels of Cs-137

#### Disposition

Disposition: OTHER

Result: Cs-137 is in the environment 1e-7uCi/gr range

Remarks:

#### Final Approval

Approved: COOPER, TERRY L

Date: 06/17/14 13:29

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          12-JUN-2014 13:57  *
*-----*
*          >>>> SAMPLE   PARAMETERS <<<<          *
*-----*
* Title      : 140612BD02 PARKING LOT 4 CULVERT 2          *
* ID         : 1018                      Acquisition date: 12-JUN-2014 13:52:53 *
* Start Time: 12-JUN-2014 13:52:00          *
* Stop Time : 12-JUN-2014 13:52:00          Counting System   : U1GSP          *
* Quantity  : 1.11800E+03 GR                IHPS Sample Number: 142526          *
* Geometry  : A_1L_marinelli_sand_1        Analysis Library  : HP_NATURAL          *
*          Operator: BILL DYNES              *
*-----*
*          >>>> A -1922924   PARAMETERS <<<<          *
*-----*
* Elapsed Live Time : 0 00:04:30.33 Calibration      : 12-JUN-2014 13:16          *
* Elapsed Real Time : 0 00:04:30.41 Energy Offset   : -1.11209E-01          *
* Deadtime          : 0.0%                      Energy Slope    : 4.99842E-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	77.32	30	13	1.04	154.92	153	5	25.7	1.78E+00	BI-214 PB-212 PB-214
1	238.82	50	37	1.48	477.99	473	13	29.0	6.76E-01	PB-212
1	294.74	36	17	2.09	589.85	587	13	27.1	3.26E+00	PB-214
1	352.02	36	9	1.56	704.43	697	11	24.0	3.87E-01	PB-214
1	583.47	14	2	2.19	1167.39	1163	9	35.1	2.17E+00	TL-208
1	609.50	30	0	1.97	1219.47	1215	10	18.1	3.16E-01	BI-214
1	661.70	18	4	1.65	1323.86	1320	8	30.5	1.30E+00	CS-137
1	911.17	29	2	1.92	1822.81	1817	10	20.1	7.96E-02	AC-228
1	1460.94	86	0	1.73	2922.18	2915	13	11.2	9.25E-01	K-40

Summary of Nuclide Activity  
Sample ID : 1018

Page : 2  
Acquisition date : 12-JUN-2014 13:52:53

Total number of lines in spectrum 9  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 9 100.00%

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	1.609E-05	1.609E-05	0.189E-05	11.76	A
TL-208	3.05M	1.96	1.492E-07	2.920E-07	1.038E-07	35.54	A
PB-212	10.64H	1.00	5.274E-07	5.292E-07	1.552E-07	29.33	A
BI-214	19.90M	1.11	6.158E-07	6.864E-07	1.274E-07	18.56	A
PB-214	26.80M	1.08	9.776E-07	1.060E-06	0.290E-06	27.38	A
AC-228	6.13H	1.01	1.379E-06	1.387E-06	0.318E-06	22.95	A
Total Activity :			1.974E-05	2.004E-05			

Nuclide Type : fission

Nuclide	Hlife	Decay	Uncorrected uCi/GR	Decay Corr uCi/GR	Decay Corr 1-Sigma Error	1-Sigma %Error	Flags
CS-137	30.00Y	1.00	2.093E-07	2.093E-07	0.643E-07	30.73	A
Total Activity :			2.093E-07	2.093E-07			

Grand Total Activity : 1.995E-05 2.025E-05

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

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

Unidentified Energy Lines  
Sample ID : 1018

Page : 3  
Acquisition date : 12-JUN-2014 13:52:53

None

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 1018

Page : 4  
Acquisition date : 12-JUN-2014 13:52:53

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	86	10.67*	4.482E-01	1.609E-05	1.609E-05	11.76
TL-208	72.80	-----	2.14	1.155E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.239E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.578E+00	-----	Line Not Found	-----
	252.45	-----	0.80	1.887E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.783E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.121E+00	-----	Line Not Found	-----
	583.02	14	86.00*	9.947E-01	1.492E-07	2.920E-07	35.54
	763.06	-----	1.64	7.714E-01	-----	Line Not Found	-----
	860.30	-----	12.00	6.870E-01	-----	Line Not Found	-----
	74.81	-----	10.50	1.233E+00	-----	Line Not Found	-----
PB-212	77.11	30	17.70	1.327E+00	1.142E-06	1.145E-06	26.09
	87.19	-----	6.27	1.650E+00	-----	Line Not Found	-----
	90.13	-----	1.86	1.730E+00	-----	Line Not Found	-----
	115.12	-----	0.59	2.162E+00	-----	Line Not Found	-----
	238.58	50	43.60*	1.947E+00	5.274E-07	5.292E-07	29.33
BI-214	300.03	-----	3.34	1.694E+00	-----	Line Not Found	-----
	76.86	30	0.58	1.327E+00	3.484E-05	3.883E-05	26.39
	79.29	-----	0.97	1.397E+00	-----	Line Not Found	-----
	609.31	30	46.10*	9.554E-01	6.158E-07	6.864E-07	18.56
	665.44	-----	1.56	8.797E-01	-----	Line Not Found	-----
	768.35	-----	4.88	7.663E-01	-----	Line Not Found	-----
	806.16	-----	1.23	7.315E-01	-----	Line Not Found	-----
	934.04	-----	3.16	6.352E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	5.391E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	5.255E-01	-----	Line Not Found	-----
PB-214	1238.11	-----	5.92	4.976E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	4.855E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	4.629E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	4.614E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	4.583E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	4.571E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	4.415E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	4.336E-01	-----	Line Not Found	-----
	1661.26	-----	1.15	4.280E-01	-----	Line Not Found	-----
	1729.58	-----	3.05	4.255E-01	-----	Line Not Found	-----
	1764.49	-----	15.90	4.249E-01	-----	Line Not Found	-----
	1847.41	-----	2.12	4.256E-01	-----	Line Not Found	-----
	53.17	-----	1.10	3.707E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.233E+00	-----	Line Not Found	-----
	77.11	30	11.00	1.327E+00	1.837E-06	1.991E-06	26.13
	87.19	-----	3.88	1.650E+00	-----	Line Not Found	-----
	90.13	-----	1.15	1.730E+00	-----	Line Not Found	-----
	241.92	-----	7.46	1.933E+00	-----	Line Not Found	-----
	258.94	-----	0.55	1.859E+00	-----	Line Not Found	-----
	295.09	36	19.20*	1.714E+00	9.776E-07	1.060E-06	27.38
	351.87	36	37.10	1.514E+00	5.747E-07	6.231E-07	24.43
	785.83	-----	1.09	7.498E-01	-----	Line Not Found	-----
	839.00	-----	0.59	7.038E-01	-----	Line Not Found	-----

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
AC-228	89.96	-----	3.40	1.726E+00	-----	Line Not Found	-----
	93.35	-----	5.60	1.811E+00	-----	Line Not Found	-----
	99.55	-----	1.30	1.943E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.042E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.093E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.254E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.276E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.079E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.048E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.812E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.593E+00	-----	Line Not Found	-----
	338.42	-----	12.40	1.558E+00	-----	Line Not Found	-----
	340.94	-----	0.52	1.550E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.348E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.219E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.028E+00	-----	Line Not Found	-----
	581.52	-----	3.00	9.978E-01	-----	Line Not Found	-----
	726.63	-----	0.87	8.087E-01	-----	Line Not Found	-----
	755.28	-----	1.32	7.791E-01	-----	Line Not Found	-----
	772.28	-----	1.09	7.625E-01	-----	Line Not Found	-----
	782.12	-----	0.59	7.532E-01	-----	Line Not Found	-----
	794.79	-----	4.60	7.416E-01	-----	Line Not Found	-----
	830.59	-----	0.63	7.107E-01	-----	Line Not Found	-----
	835.60	-----	1.71	7.065E-01	-----	Line Not Found	-----
	840.44	-----	0.94	7.026E-01	-----	Line Not Found	-----
	904.29	-----	0.89	6.549E-01	-----	Line Not Found	-----
	911.16	29	29.00*	6.502E-01	1.379E-06	1.387E-06	22.95
	964.64	-----	5.80	6.162E-01	-----	Line Not Found	-----
	968.97	-----	17.40	6.137E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	4.951E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	4.485E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	4.432E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	4.425E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	4.338E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	4.331E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	4.299E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	4.294E-01	-----	Line Not Found	-----

Nuclide Type: fission

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
CS-137	661.66	18	85.21*	8.845E-01	2.093E-07	2.093E-07	30.73

Flag: "\*" = Keyline

Minimum Detectable Activity Report  
Sample ID : 1018

Page : 7  
Acquisition date : 12-JUN-2014 13:52:53

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	9.	477.61	1.2106E-06
MN-54	3.	834.83	1.3606E-07
MN-56	2.	846.81	1.2199E-07
CO-57	12.	122.06	8.7664E-08
CO-58	4.	810.79	1.4830E-07
CO-60	3.	1173.24	1.8557E-07
SB-124	0.	1690.98	1.2028E-07
SB-125	3.	427.88	2.5134E-07
CS-134	12.	604.71	1.7713E-07