

Health Physics Sample Records

Sample ID: 142477

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 6 CULVERT # 12

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/RECOUNTED ON IHPS # 142524

Reviewed: DYNES, WILLIAM J

Date: 06/05/14 07:24

Comments:

Origin

Mat. Size/Volume: 756 GRAMS

Docmnt/MO/Act #:

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

Description: CULVERT # 12

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/03/14 08:20

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 756 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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Rasterized:

Description: 140603BD 6 CULVERT # 12

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30450	1000 gr			.047		PARK, MICHAEL C	06/16/14 13:33		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 BE-7	AP	2.332E-6	3.99E-7	<input type="checkbox"/>	1.282%	7				
0 K-40	NT	9.832E-6	1.23E-6	<input type="checkbox"/>	5.405%	40				
0 CS-137	FP	1.088E-7	4.82E-8	<input type="checkbox"/>	0.060%	137				
0 TL-208	NT	5.499E-7	1.235E-7	<input type="checkbox"/>	0.302%	208				
0 PB-212	NT	6.506E-7	9.63E-8	<input type="checkbox"/>	0.358%	212				
0 BI-214	NT	5.151E-7	9.64E-8	<input type="checkbox"/>	0.283%	214				
0 PB-214	NT	9.097E-7	1.656E-7	<input type="checkbox"/>	0.500%	214				
0 RN-222	NT	0.000167	0.0000688	<input type="checkbox"/>	91.810%	222				
0 MN-54	AP	8.1391E-8		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	9.5159E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	7.1487E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	1.034E-7		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	1.6074E-7		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	8.9806E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.5599E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	9.9487E-8		<input checked="" type="checkbox"/>	0.000%	134				

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/16/14 13:46

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142477

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140603BD 6 CULVERT # 12

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/16/14 13:46

Comments: Cs-137 is consistent with environmental levels

Disposition

Disposition: OTHER

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

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/16/14 13:47

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          16-JUN-2014 13:27  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*
* Title       : 140603BD 6 CULVERT # 12                          *
*
* ID          : 30450                      Acquisition date: 5-JUN-2014 16:13:11. *
* Start Time : 5-JUN-2014 16:13:00.                          *
* Stop Time  : 5-JUN-2014 16:13:00.                          *
* Quantity   : 1.00000E+03 gr                      Counting System   : U2GSP          *
* Geometry   : B_1L_marinelli_sand_1              IHPS Sample Number: 142477        *
* Operator    : MICHAEL PARK                      Analysis Library  : HP_NATURAL    *
*-----*
*                >>>> B #42-TP11663A PARAMETERS <<<<<                *
*
* Elapsed Live Time : 0 00:07:00.73 Calibration      : 5-JUN-2014 08:35:   *
* Elapsed Real Time  : 0 00:07:00.80 Energy Offset   : -4.96372E-01          *
* Deadtime           : 0.0%                          Energy Slope      : 5.00067E-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
7	238.48	79	19	1.41	477.89	471	24	14.8	1.32E+00	PB-212
7	242.37	27	17	2.45	485.67	471	24	57.5		PB-214
1	295.22	39	3	2.28	591.36	587	11	18.2	1.47E+00	PB-214
1	338.57	20	12	2.09	678.06	675	9	38.9	1.32E+00	
1	351.89	46	13	1.17	704.68	699	12	21.3	1.05E+00	PB-214
1	477.57	41	2	1.38	956.01	951	9	17.1	8.07E-01	BE-7
1	510.77	19	11	1.89	1022.40	1017	11	41.2	1.93E+00	RN-222 TL-208
1	583.34	32	5	1.94	1167.53	1162	12	22.5	5.39E-01	TL-208
1	609.25	29	0	1.59	1219.35	1214	9	18.7	4.95E-01	BI-214
1	661.99	12	7	1.36	1324.81	1321	7	44.3	2.23E-01	CS-137
1	1460.86	69	0	2.04	2922.40	2916	13	12.5	6.49E-01	K-40

Summary of Nuclide Activity
Sample ID : 30450

Page : 2
Acquisition date : 5-JUN-2014 16:13:11

Total number of lines in spectrum 11
Number of unidentified lines 0
Number of lines tentatively identified by NID 11 100.00%

Nuclide Type : activation

Nuclide	Hlife	Decay	Uncorrected uCi/gr	Decay Corr uCi/gr	Decay Corr 1-Sigma Error	1-Sigma %Error	Flags
BE-7	53.29D	1.00	2.332E-06	2.332E-06	0.399E-06	17.11	A
Total Activity :			2.332E-06	2.332E-06			

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	9.832E-06	9.832E-06	1.230E-06	12.51	A
TL-208	3.05M	2.09	2.633E-07	5.499E-07	1.235E-07	22.46	A
PB-212	10.64H	1.00	6.480E-07	6.506E-07	0.963E-07	14.80	A
BI-214	19.90M	1.13	4.540E-07	5.151E-07	0.964E-07	18.71	A
PB-214	26.80M	1.10	8.278E-07	9.097E-07	1.656E-07	18.20	A
RN-222	3.83D	1.00	1.670E-04	1.670E-04	0.688E-04	41.21	A
Total Activity :			1.790E-04	1.795E-04			

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	1.088E-07	1.088E-07	0.482E-07	44.28	A
Total Activity :			1.088E-07	1.088E-07			

Grand Total Activity : 1.814E-04 1.819E-04

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

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

Unidentified Energy Lines
Sample ID : 30450

Page : 3
Acquisition date : 5-JUN-2014 16:13:11

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	338.57	20	12	2.09	678.06	675	9	4.70E-02	38.9	1.43E+00	T

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30450

Page : 4
Acquisition date : 5-JUN-2014 16:13:11

No interference correction performed

Nuclide Type: activation

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/gr	Decay Corr uCi/gr	1-Sigma %Error
BE-7	477.61	41	10.39*	1.096E+00	2.332E-06	2.332E-06	17.11

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected uCi/gr	Decay Corr uCi/gr	1-Sigma %Error
K-40	1460.83	69	10.67*	4.211E-01	9.832E-06	9.832E-06	12.51
TL-208	72.80	-----	2.14	1.070E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.156E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.506E+00	-----	Line Not Found	-----
	252.45	-----	0.80	1.745E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.645E+00	-----	Line Not Found	-----
	510.61	19	21.60	1.035E+00	5.411E-07	1.130E-06	41.21
	583.02	32	86.00*	9.194E-01	2.633E-07	5.499E-07	22.46
	763.06	-----	1.64	7.126E-01	-----	Line Not Found	-----
	860.30	-----	12.00	6.341E-01	-----	Line Not Found	-----
PB-212	74.81	-----	10.50	1.150E+00	-----	Line Not Found	-----
	77.11	-----	17.70	1.239E+00	-----	Line Not Found	-----
	87.19	-----	6.27	1.579E+00	-----	Line Not Found	-----
	90.13	-----	1.86	1.662E+00	-----	Line Not Found	-----
	115.12	-----	0.59	2.085E+00	-----	Line Not Found	-----
	238.58	79	43.60*	1.805E+00	6.480E-07	6.506E-07	14.80
	300.03	-----	3.34	1.562E+00	-----	Line Not Found	-----
BI-214	76.86	-----	0.58	1.229E+00	-----	Line Not Found	-----
	79.29	-----	0.97	1.320E+00	-----	Line Not Found	-----
	609.31	29	46.10*	8.834E-01	4.540E-07	5.151E-07	18.71
	665.44	-----	1.56	8.131E-01	-----	Line Not Found	-----
	768.35	-----	4.88	7.078E-01	-----	Line Not Found	-----
	806.16	-----	1.23	6.754E-01	-----	Line Not Found	-----
	934.04	-----	3.16	5.861E-01	-----	Line Not Found	-----
	1120.27	-----	15.00	4.982E-01	-----	Line Not Found	-----
	1155.18	-----	1.69	4.860E-01	-----	Line Not Found	-----
	1238.11	-----	5.92	4.615E-01	-----	Line Not Found	-----
	1280.95	-----	1.47	4.510E-01	-----	Line Not Found	-----
	1377.66	-----	4.02	4.323E-01	-----	Line Not Found	-----
	1385.30	-----	0.78	4.311E-01	-----	Line Not Found	-----
	1401.48	-----	1.39	4.287E-01	-----	Line Not Found	-----
	1407.97	-----	2.48	4.277E-01	-----	Line Not Found	-----
	1509.22	-----	2.19	4.165E-01	-----	Line Not Found	-----
	1583.22	-----	0.72	4.120E-01	-----	Line Not Found	-----
	1661.26	-----	1.15	4.103E-01	-----	Line Not Found	-----
	1729.58	-----	3.05	4.114E-01	-----	Line Not Found	-----
	1764.49	-----	15.90	4.128E-01	-----	Line Not Found	-----
	1847.41	-----	2.12	4.187E-01	-----	Line Not Found	-----
PB-214	53.17	-----	1.10	2.929E-01	-----	Line Not Found	-----
	74.81	-----	6.52	1.150E+00	-----	Line Not Found	-----
	77.11	-----	11.00	1.239E+00	-----	Line Not Found	-----
	87.19	-----	3.88	1.579E+00	-----	Line Not Found	-----
	90.13	-----	1.15	1.662E+00	-----	Line Not Found	-----

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/gr	uCi/gr	%Error
	241.92	27	7.46	1.788E+00	1.307E-06	1.437E-06	57.48
	258.94	-----	0.55	1.718E+00	-----	Line Not Found	-----
	295.09	39	19.20*	1.579E+00	8.278E-07	9.097E-07	18.20
	351.87	46	37.10	1.395E+00	5.744E-07	6.312E-07	21.28
	785.83	-----	1.09	6.925E-01	-----	Line Not Found	-----
	839.00	-----	0.59	6.497E-01	-----	Line Not Found	-----
RN-222	510.00	19	0.07*	1.035E+00	1.670E-04	1.670E-04	41.21

Nuclide Type: fission

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/gr	uCi/gr	%Error
CS-137	661.66	12	85.21*	8.171E-01	1.088E-07	1.088E-07	44.28

Flag: "*" = Keyline

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/gr)
MN-54	1.	834.83	8.1391E-08
MN-56	2.	846.81	9.5159E-08
CO-57	14.	122.06	7.1487E-08
CO-58	3.	810.79	1.0340E-07
CO-60	4.	1173.24	1.6074E-07
SB-124	0.	1690.98	8.9806E-08
SB-125	6.	427.88	2.5599E-07
CS-134	5.	604.71	9.9487E-08