

Health Physics Sample Records

Sample ID: 142502

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 14060614BD 02 NORTH LAYDOWN #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: 06/09/14 08:05

Comments:

Origin

Mat. Size/Volume: 2159 GRAMS

Docmnt/MO/Act #:

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

Description: NORTH LAYDOWN # 2

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 06/06/14 09:05

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2159 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: COUNT TO MDA

Material Loc:

Health Physics Sample Records

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Status: APPROVED

Rasterized:

Description: 14060614BD 02 NORTH LAYDOWN #2

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30422	2159	GR		.000		NEEBE, DAVID J	06/09/14 20:28		

Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date
0	K-40	9.949E-6	1.072E-6	☐	77.973%	40			
0	TL-208	3.145E-7	6.83E-8	☐	2.465%	208			
0	PB-212	5.323E-7	9.33E-8	☐	4.172%	212			
0	BI-214	4.563E-7	1.15E-7	☐	3.576%	214			
0	PB-214	6.85E-7	1.303E-7	☐	5.369%	214			
0	AC-228	8.225E-7	1.87E-7	☐	6.446%	228			
0	BE-7	6.876E-7		☑	0.000%	7			
0	MN-54	7.8889E-8		☑	0.000%	54			
0	MN-56	8.1524E-8		☑	0.000%	56			
0	CO-57	6.5035E-8		☑	0.000%	57			
0	CO-58	6.0999E-8		☑	0.000%	58			
0	CO-60	9.0202E-8		☑	0.000%	60			
0	SB-124	6.8431E-8		☑	0.000%	124			
0	SB-125	2.2988E-7		☑	0.000%	125			
0	CS-134	8.8027E-8		☑	0.000%	134			
0	CS-137	1.0562E-7		☑	0.000%	137			

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/11/14 07:31

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142502

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 14060614BD 02 NORTH LAYDOWN #2

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/11/14 07:31

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/11/14 07:32

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          9-JUN-2014 20:20  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*
* Title       : 14060614BD 02 NORTH LAYDOWN #2                    *
*
* ID          : 30422                      Acquisition date: 9-JUN-2014 20:17:14. *
* Start Time : 9-JUN-2014 20:17:00.                    *
* Stop Time  : 9-JUN-2014 20:17:00.                    *
* Quantity   : 2.15900E+03 GR                      Counting System : U2GSP *
* Geometry   : C_1L_marinelli_sand_1                IHPS Sample Number: 142502 *
*                               Analysis Library : HP_NATURAL *
*                               Operator: DAVID NEEBE *
*-----*
*                >>>> C #41-TP11750A PARAMETERS <<<<<                *
*
* Elapsed Live Time : 0 00:03:00.42 Calibration : 9-JUN-2014 19:38: *
* Elapsed Real Time : 0 00:03:00.47 Energy Offset : -1.08890E-01 *
* Deadtime          : 0.0% Energy Slope : 4.99807E-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	238.72	69	22	1.23	477.82	473	9	17.5	1.58E+00	PB-212
1	295.24	34	2	1.75	590.88	586	9	19.0	5.46E-01	PB-214
1	338.54	13	8	1.59	677.50	673	8	46.5	3.75E-01	AC-228
1	351.67	42	7	1.46	703.78	699	9	19.3	1.43E+00	PB-214
1	583.29	31	2	1.70	1167.10	1163	10	21.7	2.75E+00	TL-208
1	609.16	32	9	1.91	1218.85	1213	12	25.2	1.19E+00	BI-214
1	911.29	26	4	2.21	1823.14	1819	8	22.7	3.13E-01	AC-228
1	1460.89	85	0	2.12	2922.19	2916	12	10.8	2.02E-01	K-40

Summary of Nuclide Activity
Sample ID : 30422

Page : 2
Acquisition date : 9-JUN-2014 20:17:14

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	9.949E-06	9.949E-06	1.072E-06	10.77	A
TL-208	3.05M	1.46	2.159E-07	3.145E-07	0.683E-07	21.73	A
PB-212	10.64H	1.00	5.313E-07	5.323E-07	0.933E-07	17.53	A
BI-214	19.90M	1.06	4.296E-07	4.563E-07	1.150E-07	25.20	A
PB-214	26.80M	1.05	6.550E-07	6.850E-07	1.303E-07	19.03	A
AC-228	6.13H	1.00	8.198E-07	8.225E-07	1.870E-07	22.73	A

Total Activity : 1.260E-05 1.276E-05

Grand Total Activity : 1.260E-05 1.276E-05

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

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

Unidentified Energy Lines
Sample ID : 30422

Page : 3
Acquisition date : 9-JUN-2014 20:17:14

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30422

Page : 4
Acquisition date : 9-JUN-2014 20:17:14

No interference correction performed

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma %Error
					uCi/GR	uCi/GR	
K-40	1460.83	85	10.67*	5.560E-01	9.949E-06	9.949E-06	10.77
TL-208	72.80	-----	2.14	1.486E+00	-----	Line Not Found	-----
	74.97	-----	3.60	1.577E+00	-----	Line Not Found	-----
	84.79	-----	1.27	1.917E+00	-----	Line Not Found	-----
	252.45	-----	0.80	2.004E+00	-----	Line Not Found	-----
	277.28	-----	6.80	1.917E+00	-----	Line Not Found	-----
	510.61	-----	21.60	1.298E+00	-----	Line Not Found	-----
	583.02	31	86.00*	1.157E+00	2.159E-07	3.145E-07	21.73
	763.06	-----	1.64	8.934E-01	-----	Line Not Found	-----
	860.30	-----	12.00	7.922E-01	-----	Line Not Found	-----
	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		69	43.60*	2.055E+00	5.313E-07	5.323E-07	17.53
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	32	46.10*	1.112E+00	4.296E-07	4.563E-07	25.20
	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	-----
PB-214	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	-----
	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	34	19.20*	1.858E+00	6.550E-07	6.850E-07	19.03
	351.87	42	37.10	1.687E+00	4.672E-07	4.887E-07	19.31
	785.83	-----	1.09	8.674E-01	-----	Line Not Found	-----
839.00	-----	0.59	8.122E-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	2.051E+00	-----	Line Not Found	-----
	93.35	-----	5.60	2.124E+00	-----	Line Not Found	-----
	99.55	-----	1.30	2.229E+00	-----	Line Not Found	-----
	105.36	-----	2.00	2.301E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.335E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.414E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.377E+00	-----	Line Not Found	-----
	209.39	-----	4.10	2.168E+00	-----	Line Not Found	-----
	216.24	-----	0.80	2.141E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.941E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.756E+00	-----	Line Not Found	-----
	338.42	13	12.40	1.725E+00	4.124E-07	4.137E-07	46.55
	340.94	-----	0.52	1.718E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.531E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.401E+00	-----	Line Not Found	-----
	562.65	-----	1.01	1.195E+00	-----	Line Not Found	-----
	581.52	-----	3.00	1.160E+00	-----	Line Not Found	-----
	726.63	-----	0.87	9.382E-01	-----	Line Not Found	-----
	755.28	-----	1.32	9.027E-01	-----	Line Not Found	-----
	772.28	-----	1.09	8.827E-01	-----	Line Not Found	-----
	782.12	-----	0.59	8.716E-01	-----	Line Not Found	-----
	794.79	-----	4.60	8.576E-01	-----	Line Not Found	-----
	830.59	-----	0.63	8.205E-01	-----	Line Not Found	-----
	835.60	-----	1.71	8.155E-01	-----	Line Not Found	-----
	840.44	-----	0.94	8.108E-01	-----	Line Not Found	-----
	904.29	-----	0.89	7.542E-01	-----	Line Not Found	-----
	911.16	26	29.00*	7.486E-01	8.198E-07	8.225E-07	22.73
	964.64	-----	5.80	7.091E-01	-----	Line Not Found	-----
	968.97	-----	17.40	7.061E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	5.825E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	5.560E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	5.563E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	5.565E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	5.624E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	5.634E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	5.696E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	5.709E-01	-----	Line Not Found	-----

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30422

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Acquisition date : 9-JUN-2014 20:17:14

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	6.	477.61	6.8760E-07
MN-54	2.	834.83	7.8889E-08
MN-56	2.	846.81	8.1524E-08
CO-57	13.	122.06	6.5035E-08
CO-58	1.	810.79	6.0999E-08
CO-60	1.	1332.50	9.0202E-08
SB-124	0.	1690.98	6.8431E-08
SB-125	6.	427.88	2.2988E-07
CS-134	2.	795.87	8.8027E-08
CS-137	5.	661.66	1.0562E-07