

Health Physics Sample Records

Sample ID: 142467

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140530BD 04 STARYARD SURVEY PT 38

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: 06/04/14 08:10

Comments:

Origin

Mat. Size/Volume: 2037 GRAMS

Docmnt/MO/Act #:

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

Description: STARYARD SURVEY PT 38

Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/30/14 08:50

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 2237 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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Status: APPROVED

Rasterized:

Description: 140530BD 04 STARYARD SURVEY PT 38

Analysis

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
B_1L_marinelli_sand_	30361	2237	GR		.000		PARK, MICHAEL C	06/05/14 15:33		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 K-40	NT	0.00001234	1.37E-6	┌	84.855%	40				
0 TL-208	NT	2.384E-7	6.51E-8	┌	1.639%	208				
0 PB-212	NT	3.916E-7	7.75E-8	┌	2.693%	212				
0 BI-214	NT	3.442E-7	9.62E-8	┌	2.367%	214				
0 PB-214	NT	5.876E-7	1.979E-7	┌	4.041%	214				
0 AC-228	NT	6.406E-7	1.547E-7	┌	4.405%	228				
0 BE-7	AP	7.9175E-7		√	0.000%	7				
0 MN-54	AP	9.5191E-8		√	0.000%	54				
0 MN-56	AP	8.8823E-8		√	0.000%	56				
0 CO-57	AP	8.9188E-8		√	0.000%	57				
0 CO-58	AP	9.2968E-8		√	0.000%	58				
0 CO-60	AP	1.0256E-7		√	0.000%	60				
0 SB-124	AP	7.1207E-8		√	0.000%	124				
0 SB-125	FP	2.3926E-7		√	0.000%	125				
0 CS-134	FP	5.6712E-8		√	0.000%	134				
0 CS-137	FP	9.6985E-8		√	0.000%	137				

Analysis Review

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:36

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

Health Physics Sample Records

Sample ID: 142467

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140530BD 04 STARYARD SURVEY PT 38

Review/Approve

HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:36

Comments:

Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 13:36

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 15:30  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*-----*
* Title       : 140530BD 04 STARYARD SURVEY PT 38                *
* ID          : 30361                      Acquisition date: 5-JUN-2014 15:27:45. *
* Start Time : 5-JUN-2014 15:27:00.                      *
* Stop Time  : 5-JUN-2014 15:27:00.                      Counting System : U2GSP      *
* Quantity   : 2.23700E+03 GR                      IHPS Sample Number: 142467 *
* Geometry   : B_1L_marinelli_sand_1                Analysis Library : HP_NATURAL *
*                               Operator: MICHAEL PARK                *
*-----*
*                >>>> B #42-TP11663A PARAMETERS <<<<<                *
*-----*
* Elapsed Live Time : 0 00:03:00.43 Calibration      : 5-JUN-2014 08:35: *
* Elapsed Real Time : 0 00:03:00.48 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
1	77.21	39	17	1.29	155.39	153	6	23.3	1.47E+00	BI-214 PB-212 PB-214
1	238.65	46	14	1.35	478.22	475	7	19.8	1.61E+00	PB-212
1	294.89	25	15	1.82	590.69	587	10	33.7	1.05E+00	PB-214
1	338.18	18	2	1.38	677.27	674	8	27.1	3.09E-01	AC-228
1	352.21	39	5	1.75	705.32	700	10	19.3	3.76E-01	PB-214
1	582.66	17	2	1.80	1166.17	1162	8	27.3	2.66E-01	TL-208
1	609.41	19	2	1.95	1219.65	1214	10	28.0	1.54E+00	BI-214
1	911.65	17	0	2.25	1824.08	1819	11	24.1	4.12E-01	AC-228
1	1460.87	83	0	2.51	2922.43	2917	12	11.1	9.54E-01	K-40

Summary of Nuclide Activity
Sample ID : 30361

Page : 2
Acquisition date : 5-JUN-2014 15:27:45

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	1.234E-05	1.234E-05	0.137E-05	11.06	A
TL-208	3.05M	1.64	1.452E-07	2.384E-07	0.651E-07	27.32	A
PB-212	10.64H	1.00	3.907E-07	3.916E-07	0.775E-07	19.79	A
BI-214	19.90M	1.08	3.182E-07	3.442E-07	0.962E-07	27.95	A
PB-214	26.80M	1.06	5.543E-07	5.876E-07	1.979E-07	33.68	A
AC-228	6.13H	1.00	6.379E-07	6.406E-07	1.547E-07	24.14	A
Total Activity :			1.439E-05	1.455E-05			

Grand Total Activity : 1.439E-05 1.455E-05

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

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

Unidentified Energy Lines
Sample ID : 30361

Page : 3
Acquisition date : 5-JUN-2014 15:27:45

None

Flags: "T" = Tentatively associated

Interference Report
Sample ID : 30361

Page : 4
Acquisition date : 5-JUN-2014 15:27:45

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	83	10.67*	4.211E-01	1.234E-05	1.234E-05	11.06
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	-----	21.60	1.035E+00	-----	Line Not Found	-----
	583.02	17	86.00*	9.204E-01	1.452E-07	2.384E-07	27.32
	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		39	17.70	1.243E+00	1.194E-06	1.197E-06	23.31
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		46	43.60*	1.804E+00	3.907E-07	3.916E-07	19.79
300.03		-----	3.34	1.562E+00	-----	Line Not Found	-----
BI-214	76.86	39	0.58	1.243E+00	3.643E-05	3.940E-05	23.31
	79.29	-----	0.97	1.320E+00	-----	Line Not Found	-----
	609.31	19	46.10*	8.832E-01	3.182E-07	3.442E-07	27.95
	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	-----
	PB-214	1764.49	-----	15.90	4.128E-01	-----	Line Not Found
1847.41		-----	2.12	4.187E-01	-----	Line Not Found	-----
53.17		-----	1.10	2.929E-01	-----	Line Not Found	-----
74.81		-----	6.52	1.150E+00	-----	Line Not Found	-----
77.11		39	11.00	1.243E+00	1.921E-06	2.036E-06	23.31
87.19		-----	3.88	1.579E+00	-----	Line Not Found	-----
90.13		-----	1.15	1.662E+00	-----	Line Not Found	-----
241.92		-----	7.46	1.790E+00	-----	Line Not Found	-----
258.94		-----	0.55	1.718E+00	-----	Line Not Found	-----
295.09		25	19.20*	1.580E+00	5.543E-07	5.876E-07	33.68
351.87		39	37.10	1.394E+00	5.054E-07	5.358E-07	19.25
785.83	-----	1.09	6.925E-01	-----	Line Not Found	-----	
839.00	-----	0.59	6.497E-01	-----	Line Not Found	-----	

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected Decay Corr		1-Sigma
					uCi/GR	uCi/GR	
AC-228	89.96	-----	3.40	1.657E+00	-----	Line Not Found	-----
	93.35	-----	5.60	1.743E+00	-----	Line Not Found	-----
	99.55	-----	1.30	1.876E+00	-----	Line Not Found	-----
	105.36	-----	2.00	1.973E+00	-----	Line Not Found	-----
	108.99	-----	0.67	2.021E+00	-----	Line Not Found	-----
	129.03	-----	2.90	2.163E+00	-----	Line Not Found	-----
	153.89	-----	0.84	2.160E+00	-----	Line Not Found	-----
	209.39	-----	4.10	1.937E+00	-----	Line Not Found	-----
	216.24	-----	0.80	1.905E+00	-----	Line Not Found	-----
	270.26	-----	3.80	1.673E+00	-----	Line Not Found	-----
	328.07	-----	3.50	1.468E+00	-----	Line Not Found	-----
	338.42	18	12.40	1.436E+00	6.943E-07	6.972E-07	27.08
	340.94	-----	0.52	1.428E+00	-----	Line Not Found	-----
	409.62	-----	2.20	1.243E+00	-----	Line Not Found	-----
	463.10	-----	4.60	1.125E+00	-----	Line Not Found	-----
	562.65	-----	1.01	9.501E-01	-----	Line Not Found	-----
	581.52	-----	3.00	9.221E-01	-----	Line Not Found	-----
	726.63	-----	0.87	7.472E-01	-----	Line Not Found	-----
	755.28	-----	1.32	7.197E-01	-----	Line Not Found	-----
	772.28	-----	1.09	7.043E-01	-----	Line Not Found	-----
	782.12	-----	0.59	6.956E-01	-----	Line Not Found	-----
	794.79	-----	4.60	6.848E-01	-----	Line Not Found	-----
	830.59	-----	0.63	6.561E-01	-----	Line Not Found	-----
	835.60	-----	1.71	6.523E-01	-----	Line Not Found	-----
	840.44	-----	0.94	6.486E-01	-----	Line Not Found	-----
	904.29	-----	0.89	6.044E-01	-----	Line Not Found	-----
	911.16	17	29.00*	5.998E-01	6.379E-07	6.406E-07	24.14
	964.64	-----	5.80	5.686E-01	-----	Line Not Found	-----
	968.97	-----	17.40	5.663E-01	-----	Line Not Found	-----
	1246.60	-----	0.57	4.593E-01	-----	Line Not Found	-----
	1459.19	-----	1.06	4.213E-01	-----	Line Not Found	-----
	1496.00	-----	1.05	4.176E-01	-----	Line Not Found	-----
	1501.44	-----	0.58	4.172E-01	-----	Line Not Found	-----
	1580.30	-----	0.71	4.121E-01	-----	Line Not Found	-----
	1588.23	-----	3.60	4.118E-01	-----	Line Not Found	-----
	1630.47	-----	1.95	4.106E-01	-----	Line Not Found	-----
	1638.10	-----	0.54	4.105E-01	-----	Line Not Found	-----

Flag: "*" = Keyline

Minimum Detectable Activity Report
Sample ID : 30361

Page : 7
Acquisition date : 5-JUN-2014 15:27:45

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	5.	477.61	7.9175E-07
MN-54	2.	834.83	9.5191E-08
MN-56	1.	846.81	8.8823E-08
CO-57	22.	122.06	8.9188E-08
CO-58	2.	810.79	9.2968E-08
CO-60	1.	1332.50	1.0256E-07
SB-124	2.	602.73	7.1207E-08
SB-125	0.	635.89	2.3926E-07
CS-134	1.	604.71	5.6712E-08
CS-137	3.	661.66	9.6985E-08