

# Health Physics Sample Records

Sample ID: 142463

Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 06 STARYARD SURVEY PT 34

## 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 07:51

Comments:

## Origin

Mat. Size/Volume: 1928 GRAMS

Docmnt/MO/Act #:

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

Description: STARYARD SURVEY PT 34

## Collection

Sample Tech: DYNES, WILLIAM J

Sample Date: 05/29/14 12:55

Count Time: 900 (secs.)

Tritium Req: No

Sample Size/Volume: 1928 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: 140529BD 06 STARYARD SURVEY PT 34

**Analysis**

Geometry	MCA ID	Quant.	Units	Method	FP/AP	Lab	Analysis By	Date	Mod ID	Mod Date
C_1L_marinelli_sand_	30371	1928	GR		.000		PARK, MICHAEL C	06/05/14 16:13		
Isotope	Mode	Activity	Activity Uncert.	LLD/MDA	% Abund.	Atom. No.	Comments	Mod Id	Mod Date	
0 K-40	NT	0.00001287	1.31E-6	<input type="checkbox"/>	88.352%	40				
0 PB-212	NT	4.271E-7	1.129E-7	<input type="checkbox"/>	2.932%	212				
0 BI-214	NT	3.985E-7	1.031E-7	<input type="checkbox"/>	2.736%	214				
0 PB-214	NT	8.712E-7	1.633E-7	<input type="checkbox"/>	5.981%	214				
0 BE-7	AP	1.4764E-7		<input checked="" type="checkbox"/>	0.000%	7				
0 MN-54	AP	9.7528E-8		<input checked="" type="checkbox"/>	0.000%	54				
0 MN-56	AP	9.1565E-8		<input checked="" type="checkbox"/>	0.000%	56				
0 CO-57	AP	7.606E-8		<input checked="" type="checkbox"/>	0.000%	57				
0 CO-58	AP	9.1809E-8		<input checked="" type="checkbox"/>	0.000%	58				
0 CO-60	AP	3.4793E-8		<input checked="" type="checkbox"/>	0.000%	60				
0 SB-124	AP	7.3347E-8		<input checked="" type="checkbox"/>	0.000%	124				
0 SB-125	FP	2.1666E-7		<input checked="" type="checkbox"/>	0.000%	125				
0 CS-134	FP	7.9789E-8		<input checked="" type="checkbox"/>	0.000%	134				
0 CS-137	FP	1.1611E-7		<input checked="" type="checkbox"/>	0.000%	137				

**Analysis Review**

Re-Analyze: No

Lic Rad Mat Present: No

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:31

Hp Eng Rvw Req'd: Yes

Rad Mat Present: Yes

HP Notified Name:

Comments:

## Health Physics Sample Records

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Type: RLSSS

Type Detail: SAND

Status: APPROVED

Rasterized:

Description: 140529BD 06 STARYARD SURVEY PT 34

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### Review/Approve

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#### HP Eng Review

Reviewed: COOPER, TERRY L

Date: 06/10/14 13:32

Comments: 338 keV peak is Ac-228

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#### Disposition

Disposition: OTHER

Result: Sample contains only natural isotopes

Remarks:

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#### Final Approval

Approved: COOPER, TERRY L

Date: 06/10/14 13:32

Comments:

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*****
*          SONGS                      HEALTH PHYSICS REPORT          5-JUN-2014 16:08  *
*-----*
*                >>>> SAMPLE PARAMETERS <<<<<                *
*
* Title       : 140529BD 06 STARYARD SURVEY PT 34                *
*
* ID          : 30371                      Acquisition date: 5-JUN-2014 16:04:57. *
* Start Time : 5-JUN-2014 16:04:00.                    *
* Stop Time  : 5-JUN-2014 16:04:00.                    Counting System   : U2GSP      *
* Quantity   : 1.92800E+03 GR                      IHPS Sample Number: 142463 *
* Geometry   : C_1L_marinelli_sand_1                Analysis Library  : HP_NATURAL *
*                               Operator: MICHAEL PARK *
*-----*
*                >>>> C #41-TP11750A PARAMETERS <<<<<                *
*
* Elapsed Live Time : 0 00:03:00.46 Calibration      : 5-JUN-2014 08:14: *
* Elapsed Real Time  : 0 00:03:00.51 Energy Offset   : -1.39807E-01 *
* Deadtime           : 0.0% Energy Slope            : 4.99820E-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	238.67	49	28	1.44	477.77	473	13	26.4	1.17E+00	PB-212
1	295.09	38	3	2.31	590.65	586	11	18.7	8.03E-01	PB-214
1	338.35	19	4	1.57	677.18	673	9	30.6	3.21E-01	
1	351.85	49	3	1.61	704.19	697	13	17.5	1.21E+00	PB-214
1	609.45	24	7	1.32	1219.48	1215	8	25.9	8.60E-01	BI-214
1	1460.84	98	0	1.96	2922.21	2917	11	10.2	5.32E-01	K-40

Summary of Nuclide Activity  
Sample ID : 30371

Page : 2  
Acquisition date : 5-JUN-2014 16:04:57

Total number of lines in spectrum 6  
Number of unidentified lines 0  
Number of lines tentatively identified by NID 6 100.00%

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	1.287E-05	1.287E-05	0.131E-05	10.17	A
PB-212	10.64H	1.00	4.259E-07	4.271E-07	1.129E-07	26.43	A
BI-214	19.90M	1.09	3.660E-07	3.985E-07	1.031E-07	25.86	A
PB-214	26.80M	1.07	8.178E-07	8.712E-07	1.633E-07	18.74	A
Total Activity :			1.448E-05	1.457E-05			

Grand Total Activity : 1.448E-05 1.457E-05

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

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

Unidentified Energy Lines  
Sample ID : 30371

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Acquisition date : 5-JUN-2014 16:04:57

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	338.35	19	4	1.57	677.18	673	9	1.03E-01	30.6	1.73E+00	T

Flags: "T" = Tentatively associated

Interference Report  
Sample ID : 30371

Page : 4  
Acquisition date : 5-JUN-2014 16:04:57

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	98	10.67*	5.560E-01	1.287E-05	1.287E-05	10.17
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	49	43.60*	2.055E+00	4.259E-07	4.271E-07	26.43
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	24	46.10*	1.112E+00	3.660E-07	3.985E-07	25.86
	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	-----
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	-----	
PB-214	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	38	19.20*	1.858E+00	8.178E-07	8.712E-07	18.74
	351.87	49	37.10	1.686E+00	6.033E-07	6.428E-07	17.53
	785.83	-----	1.09	8.674E-01	-----	Line Not Found	-----
839.00	-----	0.59	8.122E-01	-----	Line Not Found	-----	

Flag: "\*" = Keyline



Minimum Detectable Activity Report  
Sample ID : 30371

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Acquisition date : 5-JUN-2014 16:04:57

Nuclide	Bckgnd Sum	Energy (keV)	MDA (uCi/GR)
BE-7	0.	477.61	1.4764E-07
MN-54	3.	834.83	9.7528E-08
MN-56	2.	846.81	9.1565E-08
CO-57	14.	122.06	7.6060E-08
CO-58	2.	810.79	9.1809E-08
CO-60	0.	1173.24	3.4793E-08
SB-124	3.	602.73	7.3347E-08
SB-125	4.	427.88	2.1666E-07
CS-134	3.	604.71	7.9789E-08
CS-137	5.	661.66	1.1611E-07