

## 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

Sample ID: 142467

Type: RLSSS

















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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:

```

*****
*          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
*
*****

```

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 "M" = Manually accepted  
"E" = Manually edited "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
					uCi/GR	uCi/GR	%Error
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	-----
PB-212	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	-----
	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	-----
PB-214	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	-----
	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 uCi/GR	Decay Corr uCi/GR	1-Sigma %Error
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